



## Board of Directors

---

**MEETING DATE: JULY 26, 2024**



**Increasing and accelerating investment  
into Connecticut's green economy.**



## Board of Directors

<b>Lonnie Reed</b> Chair	<b>Hank Webster</b> Vice Chair Connecticut Department of Energy and Environmental Protection (DEEP)
<b>Matthew Ranelli</b> Secretary Partner Shipman & Goodwin	<b>Kim Mooers</b> State Treasurers Office State of Connecticut
<b>Thomas Flynn</b> Managing Member Coral Drive Partners	<b>DECD - TBD</b>
<b>Adrienne Farrar Houel</b> President and CEO Greater Bridgeport Community Enterprises, Inc.	<b>Dominick Grant</b> Director of Investments Dirt Capital Partners
<b>John Harrity</b> Chair CT Roundtable on Climate and Jobs	<b>Brenda Watson</b> Executive Director North Hartford Partnership
<b>Joanne Wozniak-Brown</b> Office of Policy and Management (OPM)	<b>TBD</b>



July 23, 2024

Dear Connecticut Green Bank Board of Directors:

We have a **regular meeting** of the Board of Directors for 2024 scheduled for **Friday, July 26, 2024 from 9:00-11:00 a.m.**

Please take note, for those of you that want to be at the meeting in-person, we will have space at our offices for you to join. Otherwise, this will be an online meeting.

For the agenda, we have the following:

- **Consent Agenda** – we have several items on the consent agenda, including:

- Meeting Minutes of June 21, 2024
- Progress to Targets for FY24 for Financing Programs, Incentive Programs, and Investments
- Board of Directors and Committee Reports for FY24
- Energy Storage Solutions – Revisions to Prior Approved Incentives

In addition to the items requiring resolution, there are also documents that you might be interested in perusing that are report outs or updates, including:

- Under \$500,000 and No More in Aggregate than \$1,000,000 – Staff Approved Financing Programs projects
- Overview of Requests for Approvals for PSAs Over \$75,000 for FY24 per Operating Procedures
- RMI Study – called Cleantech Revolution that we wanted to share with you because of its useful insights into the future of clean energy

- **Comprehensive Plan Recommendations and Updates** – redline revisions to the Comprehensive Plan for FY25

- **Financing Program Updates and Recommendations** – if time allows, an FY24 progress to targets update, and several transaction recommendations, including:

- ~~C-PACE transaction in Danbury~~
- ~~Department of Corrections York fuel cell~~
- DECD Manufacturing Innovation Fund grant for Green Gain

- **Investment Updates and Recommendations** – if time allows, an FY24 progress to targets update, and several investment recommendations, including the following transactions:

- Smart-E Loan: Program Rates Adjustment
  - Smart-E Loan: Capital for Change Funding Facility Modification
  - Budderfly – Medium Term Funding Facility Modification
  - SHREC Warehouse – Line of Credit Renewal
  - *PosiGen – Proposed Investment to Support DOE LPO-SEFI Application*
  - Green Bank Capital Solutions – PosiGen Extension of ESS Facility
  - *Green Bank Strategic Selection – Scale Microgrid Solutions for Bridgeport Fuel Cell Funding Facility*
- **Incentive Programs Updates and Recommendations** – if time allows, an FY24 progress to targets update.
  - **Environmental Infrastructure Programs Updates and Recommendations** – if time allows, an FY24 progress to targets update.
  - **Other Business** – including the following:
    - SustainableCT
    - Greenhouse Gas Reduction Fund: National Clean Investment Fund – New Hampshire and Puerto Rico
    - Other Business

Please note, those items *underlined, italicized, and highlighted* above, are materials coming by the close of business on Tuesday, July 23, 2024.

Have a great weekend ahead!

Appreciatively,



Bryan Garcia  
President and CEO



## **REVISED AGENDA**

Board of Directors of the  
Connecticut Green Bank  
75 Charter Oak Avenue  
Hartford, CT 06106

Friday, July 26, 2024  
9:00 a.m.– 11:00 a.m.

Dial In: (860) 924-7736  
Phone Conference ID: 791 290 488#  
[+1 860-924-7736,,791290488#](tel:+18609247736,791290488#)

Staff Invited: Sergio Carrillo, Mackey Dykes, Brian Farnen, Bryan Garcia, Bert Hunter, Jane Murphy, Eric Shrago, and Leigh Whelpton

1. Call to Order
2. Public Comments – 5 minutes
3. Consent Agenda – 5 minutes
4. Comprehensive Plan Recommendations and Updates – 5 minutes
5. Financing Programs Updates and Recommendations – 15 minutes
  - a. FY 2024 Report Out – Financing Programs
  - ~~b. C-PAGE Transaction – Danbury~~
  - b. Department of Corrections – York Fuel Cell Project
  - c. DECD's Manufacturing Innovation Fund – From Energy On the Line to Green Gain
6. Investment Updates and Recommendations – 60 minutes
  - a. FY 2024 Report Out – Investments
  - b. Smart-E Loan – Program Rates Adjustment
  - c. Smart-E Loan – Capital for Change Funding Facility Modification
  - d. Budderfly – Medium Term Funding Facility Modification
  - e. SHREC Warehouse – Line of Credit Renewal
  - f. PosiGen – Proposed Investment to Support DOE LPO-SEFI Application
  - g. Green Bank Capital Solutions – PosiGen – Extension of ESS Funding Facility
  - h. Green Bank Strategic Selection – Scale Microgrid Solutions – Bridgeport Fuel Cell Funding Facility
7. Incentive Programs Updates and Recommendations – 5 minutes

- a. FY 2024 Report Out – Incentive Programs
- 8. Environmental Infrastructure Program Updates and Recommendations – 5 minutes
  - a. FY 2024 Report Out – Environmental infrastructure Programs
- 9. Other Business – 20 minutes
  - a. Sustainable CT
  - b. Greenhouse Gas Reduction Fund – National Clean Investment Fund: New Hampshire and Puerto Rico Partners
  - c. Other Business
- 10. Adjourn

[Click here to join the meeting](#)

Teams Meeting ID: 212 223 335 781

Passcode: Cj9DwY

Dial In: [+1 860-924-7736,,791290488#](#)

Phone Conference ID: 791 290 488#

***Next Regular Meeting: Friday, October 18, 2024 from 9:00-11:00 a.m.  
Colonel Albert Pope Room at the  
Connecticut Green Bank, 75 Charter Oak Avenue, Hartford***



Board of Directors of the  
Connecticut Green Bank  
75 Charter Oak Avenue  
Hartford, CT 06106

Friday, July 26, 2024  
9:00 a.m.– 11:00 a.m.

Dial In: (860) 924-7736  
Phone Conference ID: 791 290 488#  
[+1 860-924-7736,,791290488#](tel:+18609247736791290488)

Staff Invited: Sergio Carrillo, Mackey Dykes, Brian Farnen, Bryan Garcia, Bert Hunter, Jane Murphy, Eric Shrago, and Leigh Whelpton

1. Call to Order
2. Public Comments – 5 minutes
3. Consent Agenda – 5 minutes

#### **Resolution #1**

Motion to approve the meeting minutes of the Board of Directors for June 21, 2024.

#### **Resolution #2**

**WHEREAS**, in July of 2011, the Connecticut General Assembly passed Public Act 11-80 (the Act), "AN ACT CONCERNING THE ESTABLISHMENT OF THE DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION AND PLANNING FOR CONNECTICUT'S ENERGY FUTURE," which created the Connecticut Green Bank (the "Green Bank") to develop programs to finance and otherwise support clean energy investment per the definition of clean energy in Connecticut General Statutes Section 16-245n(a);

**WHEREAS**, in July 2021, Governor Ned Lamont signed "An Act Concerning Climate Change Adaptation" into law, which expanded the scope of the Green Bank beyond "clean energy" to include "environmental infrastructure;"

**WHEREAS**, the Board of Directors of the Connecticut Green Bank approved a Comprehensive Plan for FY 2024 including approving annual budgets and targets for FY 2024.

**NOW**, therefore be it:

**RESOLVED**, that Board has reviewed and approved the Progress to Targets and Activity in Vulnerable Communities memo dated July 19, 2024, which provides an overview of the performance of the Incentive Programs, Financing Programs, and Investments with respect to their FY 2024 targets.

### **Resolution #3**

**WHEREAS**, in July of 2011, the Connecticut General Assembly passed Public Act 11-80 (the Act), "AN ACT CONCERNING THE ESTABLISHMENT OF THE DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION AND PLANNING FOR CONNECTICUT'S ENERGY FUTURE," which created the Connecticut Green Bank (the "Green Bank") and vests the power in a Board of Directors comprised of eleven voting and one non-voting member; and

**WHEREAS**, the structure of the Board of Directors is governed by the bylaws of the Connecticut Green Bank, including, but not limited to, its powers, meetings, committees, and other matters.

**NOW**, therefore be it:

**RESOLVED**, that Board has reviewed and approved the Overview of Compliance Reporting and the Board of Directors and Committees for FY 2024 memo dated July 26, 2024, prepared by staff, which provides a summary report of the FY 2024 governance of the Board of Directors and its Committees of the Connecticut Green Bank.

### **Resolution #4**

**WHEREAS**, in its June 24, 2022 meeting the Connecticut Green Bank Board of Directors (Board) approved the implementation of an Upfront Incentive Project Approval procedures ("Procedures") for non-residential projects under the Energy Storage Solutions Program (Program) with an estimated upfront incentive payment greater than \$500,000 and procedures for less than \$500,000;

**WHEREAS**, as part of the approved Procedures, Green Bank staff shall present Program projects via the consent agenda utilizing a standard form Tear Sheet process described in the memorandum to the Board dated June 24, 2022;

**WHEREAS**, in its December 9, 2002 meeting the Board approved updated Procedures to better align with the Program process;

**WHEREAS**, the Deployment Committee previously approved on May 22, 2024 fourteen non-residential projects sought by Honeywell International (the "Projects") consistent with the approved Procedures;

**NOW**, therefore be it:

**RESOLVED**, that the Board of Directors hereby re-approves the Projects in an amount not-to-exceed \$10,830,628 consistent with the approved Procedures; and

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver any and all documents and regulatory filings as they shall deem necessary and desirable to effect the above-mentioned incentives consistent with the Procedures.

4. Comprehensive Plan Recommendations and Updates – 5 minutes

**Resolution #5**

**WHEREAS**, per Connecticut General Statutes 16-245n, the Green Bank must (a) develop a comprehensive plan to foster the growth, development and commercialization of clean energy sources, related enterprises and stimulate demand clean energy and deployment of clean energy sources that serve end use customers in this state, and (b) develop a comprehensive plan to foster the growth, development, commercialization and, where applicable, preservation of environmental infrastructure and related enterprises.

**NOW**, therefore be it:

**RESOLVED**, that Board has reviewed and approved the revisions to the Comprehensive Plan as revised in a memo dated July 19, 2024 and as presented to the Board on July 26, 2024.

5. Financing Programs Updates and Recommendations – 15 minutes

- a. FY 2024 Report Out – Financing Programs
- b. Department of Corrections – York Fuel Cell Project

**Resolution # 6**

**WHEREAS**, Connecticut Green Bank (“Green Bank”) staff has been working with the Department of Correction to develop a fuel cell project at York Correctional Institution (“Project”);

**WHEREAS**, Green Bank has been providing assistance in site feasibility analysis and facilitating a procurement process for the development and ownership of the Project; and

**WHEREAS**, Green Bank has identified a partner through a competitive process to construct, finance and own the Project.

**NOW**, therefore be it:

**RESOLVED**, that the Board of Directors (“Board”) of the Green Bank approves and authorizes the President of Green Bank; and any other duly authorized officer of Green Bank to execute and deliver, any contract or other legal instrument necessary to develop the Project materially consistent with this memorandum to the Board dated July 23, 2024; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents as they shall deem necessary and desirable to effect the above-mentioned legal instruments.

- c. DECD’s Manufacturing Innovation Fund – From Energy On the Line to Green Gain

**Resolution #7**

**WHEREAS**, Green Bank supports the Connecticut manufacturing community in their pursuit of solutions to issues of energy, sustainability, and resiliency;

**WHEREAS**, Green Bank offers products and programs including C-PACE, SBEA, and Energy Storage Solutions that support Connecticut’s manufacturing community; and,



**WHEREAS**, the Manufacturing Innovation Fund has approved \$355,000 in funding with \$115,000 to support administrative costs and technical support and \$240,000 for vouchers for the grant program as such program is described in the Memo dated July 19, 2024, submitted to the board (the “Manufacturing Innovation Fund Sustainable Business Pilot: GreenGain Program”).

**NOW**, therefore be it:

**RESOLVED**, that the Board approves staff’s request to enter a Memorandum of Understanding with the Department of Economic and Community Development in an amount not to exceed \$355,000 for funding for the GreenGain Program;

**RESOLVED**, that the Board approves staff’s request to enter into a Professional Services Agreement with the Connecticut Sustainable Business Council in an amount not to exceed \$355,000 to administer the GreenGain Program and develop all policies and guidelines as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII given the special capabilities, strategic importance, urgency and timeliness, and multi-phase characteristics of the GreenGain program; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all any documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument or instruments.

6. Investment Updates and Recommendations – 60 minutes

- a. FY 2024 Report Out – Investments
- b. Smart-E Loan – Program Rates Adjustment

**Resolution #8**

**WHEREAS**, the Deployment Committee of the Board of Directors (the “Board”) of the Green Bank (then known as the “Clean Energy Finance and Investment Authority”) on November 30, 2012 approved the establishment of the Smart-E Loan product (then called “CT HELPs”, the “Smart-E Program”);

**WHEREAS**, since approval by the Deployment Committee, the Smart-E Loan program has been expanded by the Board in partnership with Connecticut community banks and credit unions (the “Program Lenders”);

**WHEREAS**, as a condition to participation in the Smart-E Program, Program Lenders enter into a financing program agreement (the “Program Agreement”) with the Green Bank concerning terms, conditions, roles and responsibilities of the Program Lenders and the Green Bank;

**WHEREAS**, one of the terms in the Program Agreement is the establishment of “not to exceed” loan rates (“Program Loan Interest Rates”), whereby the Program Lenders agree to not exceed the interest rates established pursuant to the Program Agreement for Smart-E Loans they provide for their customers;

**WHEREAS**, the Program Agreement establishes that such Program Loan Interest Rates can be changed by the Board of Directors of the Green Bank;

**WHEREAS**, after many years of low and stable interest rates, the Federal Reserve Board of the United States has materially increased interest rates for federal funds and instituted other restrictive monetary policies which have resulted in substantial increases in interest rates for loans to households and businesses as well as interest rates on deposits by which Program Lenders obtain funding for their loans, including Smart-E Loans;

**WHEREAS**, without an increase in Program Loan Interest Rates, Program Lenders are at increased stress to continue lending at the posted Smart-E interest rate and may need to suspend their participation in the Smart-E Program or withdraw from the program;

**WHEREAS**, such withdrawal or suspension would be detrimental to the Smart-E Program goals to make available funding for households seeking to undertake clean energy investments for their homes;

**WHEREAS**, after considerable discussion with Program Lenders, Green Bank staff has determined that it is appropriate to recommend to the Board for approval modification of the Program Loan Interest Rates as set forth in a memorandum to the Board dated July 19, 2024;

**NOW**, therefore be it:

**RESOLVED**, that the Board approves the recommendation by the staff to increase Smart-E Loan Program Loan Interest Rates as set forth in a memorandum to the Board dated July 19, 2024 (the “Board Memo”);

**RESOLVED**, that the President of the Green Bank; and any other duly authorized officer of the Green Bank, is authorized to execute and deliver, any contract or other legal instrument necessary to effect the modification of the Smart-E Loan Program Loan Interest Rates materially consistent with the Board Memo; and

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument.

c. Smart-E Loan – Capital for Change Funding Facility Modification

**Resolution #9**

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) entered into a Smart-E Loan program financing agreement with Capital for Change (“C4C”);

**WHEREAS**, C4C is the largest Smart-E lender on the Green Bank Smart-E platform;

**WHEREAS**, C4C and Green Bank have an existing medium term loan facility to C4C’s CEEFCo subsidiary to fund C4C’s Smart-E Loan and other residential energy efficiency loan portfolio growth and C4C’s executive leadership has requested a refinancing of said facility as explained in the memorandum dated July 19, 2024 to the Green Board (the “Revolving Facility Memo”); and

**WHEREAS**, Green Bank staff recommends approval by the Board for an new short term revolving loan facility for C4C/ CEEFCo (the “CEEFCo Revolving Loan”) in order to refinance existing indebtedness from Amalgamated Bank and Green Bank in partnership with Webster Bank and M&T Bank as explained in the Revolving Facility Memo.

**NOW**, therefore be it:

**RESOLVED**, that the Board approves the CEEFCo Revolving Loan in an amount of up to \$25 million in capital from the Green Bank balance sheet in support of energy efficiency and Smart-E Loans in partnership with Webster Bank and M&T Bank generally consistent with the Revolving Facility Memo as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII given the special capabilities, strategic importance, urgency and timeliness, and multi-phase characteristics of the CEEFCo Revolving Loan transaction;

**RESOLVED**, that the President of the Green Bank; and any other duly authorized officer of the Green Bank, is authorized to execute and deliver, any contract or other legal instrument necessary to effect the CEEFCo Revolving Loan on such terms and conditions as are materially consistent with the Modification Memo; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument.

d. Budderfly – Medium Term Funding Facility Modification

**Resolution #10**

**RESOLVED**, that the Connecticut Green Bank (“Green Bank”) is authorized to enter into a subordination agreement with working capital lenders to Budderfly, Inc. regarding Green Bank’s existing \$5,000,000 term facility, together with any ancillary documentation in respect of same, as more fully explained in the memorandum to the Green Bank Board of Directors (the “Board”) dated July 19, 2024; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and negotiate and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned legal instruments.

e. SHREC Warehouse – Line of Credit Renewal

**Resolution #11**

**WHEREAS**, the Company intends to enter into a Fifth Amendment to Credit Agreement (the “**Fifth Amendment**”), which amends the Credit Agreement dated as of July 31, 2019, as amended by that certain First Amendment to Credit Agreement and Other Loan Documents dated July 28, 2020, and by that certain Second Amendment to the Credit Agreement and Other Loan Documents dated July 30, 2021, and by that certain Third Amendment to the Credit Agreement and Other Loan Documents dated August 24, 2022, and by that certain Fourth Amendment to the Credit Agreement and Other Loan Documents dated July 28, 2023 (collectively, the “**Credit Agreement**”) with Webster Bank, National Association (“**Webster**”), as Administrative Agent (in such capacity, as “**Agent**”) and as a lender and Liberty Bank, as Lead Arranger and as a lender (Webster and Liberty Bank, in their capacities as lenders, are referenced to herein collectively as, “**Webster-Liberty**”), whereby Webster-Liberty have made available to the Company a Five Million and 00/100 Dollar (\$5,000,000) secured revolving line of credit, with a Five Million and 00/100 Dollar (\$5,000,000) uncommitted accordion feature (“**Loan**”) for the purpose of financing the Tranche 5-2021 and Tranche 6-2022 (as defined in the Credit Agreement) Solar Home Renewable Energy Credit program (“**Tranche 5-2021 SHRECs**” and “**Tranche 6-2022 SHRECs**” respectively);

**WHEREAS**, the Company and Green Bank have requested that Webster-Liberty and Agent

modify the Loan and the terms of the Credit Agreement pursuant to the Fifth Amendment, in order to, among other things, extend the term of the Loan;

**WHEREAS**, to induce Webster-Liberty to continue to extend the Loan to the Company, Green Bank shall continue to guarantee the Loan pursuant to the Guaranty Agreement dated as of July 31, 2019 made by Green Bank in favor of Agent (the "**Guaranty**");

**WHEREAS**, along with a general repayment obligation by the Company, Agent and/or Webster-Liberty are secured by, and the Company and the Green Bank are authorized to secure the Loan and the Guaranty by, among other things, granting to Agent and/or Webster-Liberty (i) a first priority security interest in all assets of the Company, (ii) a collateral assignment of and security interest in all of the Company's and the Green Bank's right, title and interest in the Tranche 5-2021 SHRECs and Tranche 6-2022 SHRECs and all rights and obligations relating thereunder under those certain Master Purchase Agreements for the Purchase and Sale of Solar Home Renewable Energy Credits by and between the Green Bank and each of The Connecticut Light & Power Company d/b/a Eversource Energy and The United Illuminating Company each dated February 7, 2017, each as amended by those certain First Amendments, dated July 30, 2018, as further amended by those certain Second Amendments, dated April 1, 2020, (as further amended from time to time, the "**MPAs**"), which collateral assignment and security interest shall include any and all rights to payment of money under the MPAs with respect to Tranche 5-2021 and Tranche 6-2022 SHRECs and those other attributes and rights associated with the Tranche 5-2021 and Tranche 6-2022 SHRECs, (iii) a collateral assignment of all of the right, title and interest in that certain Sale and Contribution Agreement by and between Green Bank and the Company, dated as of the date of the closing of the Loan, including without limitation, any security interest created under the Sale and Contribution Agreement, and (iv) a security interest in the MPA Collection Account, the Webster Interest Reserve Account and the Liberty Interest Reserve Account (the security interests listed in (i)-(iv) hereof, together, the "**SHREC Collateral**"); and,

**WHEREAS**, Webster-Liberty has requested and the staff of Green Bank has recommended that the Board provide these resolutions approving the renewal and extension of the Loan and the Green Bank's guarantee thereof in accordance with the terms of the Fifth Amendment.

**NOW**, therefore be it:

**RESOLVED**, that the Board of the Green Bank hereby authorizes, ratifies and approves the Loan, as modified, from Webster-Liberty to the Company pursuant to the terms of the Fifth Amendment and any ancillary documentation and authorizes, ratifies, directs and approves the Company's and the Green Bank's entering into the Fifth Amendment and any ancillary documentation to which it is a party and of each other contract or instrument to be executed and delivered by the Company and the Green Bank in connection with the transactions contemplated by the Fifth Amendment;

**RESOLVED**, that the Board of the Green Bank hereby reauthorizes, ratifies and reaffirms the Green Bank's obligations under the Guaranty;

**RESOLVED**, that each of the Company and the Green Bank be and it hereby is, authorized to continue to secure the Loan and the Guaranty by, among other things, granting to Agent and/or Webster-Liberty a first priority security interest in and to the Company's property, including, without limitation the SHREC Collateral;

**RESOLVED**, that the Board hereby authorizes, directs, ratifies and approves Green Bank's and

the Company's execution, delivery and performance of the Fifth Amendment and any ancillary documentation and all of the Green Bank's and the Company's obligations under the Fifth Amendment and any ancillary documentation;

**RESOLVED**, that the actions of Bryan Garcia in his capacity as the President and Chief Executive Officer of Green Bank ("**Garcia**"), Roberto Hunter in his capacity as the Chief Investment Officer of Green Bank ("**Hunter**") and Brian Farnen in his capacity as General Counsel and Chief Legal Officer of Green Bank ("**Farnen**"; and together with Garcia and Hunter, each an "**Authorized Signatory**"), are hereby ratified and approved with regard to the negotiation, finalization, execution and delivery, on behalf of Green Bank and the Company, of the Fifth Amendment and any ancillary documentation and any other agreements that they deemed necessary and appropriate to carry out the foregoing objectives of Green Bank and/or the Company, and any other agreements, contracts, legal instruments or documents as they deemed necessary or appropriate and in the interests of Green Bank and/or the Company in order to carry out the intent and accomplish the purpose of the foregoing resolutions are hereby ratified and approved;

**RESOLVED**, that the Authorized Signatories be, hereby are, acting singly, authorized, empowered and directed, for and on behalf of the Green Bank and the Company (in the Green Bank's capacity as the sole member of the Company), to execute and deliver the Fifth Amendment and the other Modification Documents; and,

**RESOLVED**, that any other actions taken by any Authorized Signatory are hereby approved and ratified to the extent that such Authorized Signatory or Authorized Signatories have deemed such actions necessary, appropriate and desirable to effect the above-mentioned legal instrument or instruments.

f. PosiGen – Proposed Investment to Support DOE LPO-SEFI Application

#### **Resolution #12**

**WHEREAS**, the Connecticut Green Bank ("Green Bank") has an existing partnership with PosiGen, PBC (together with its affiliates and subsidiaries, "PosiGen") to support PosiGen in delivering a solar lease (including battery storage) and energy efficiency financing offering to LMI households in Connecticut;

**WHEREAS**, the Green Bank Board of Directors (the "Board") previously authorized Building a syndication to support a \$1 billion term loan facility with the U.S. Department of Energy's Loan Programs Office ("LPO") under the Title 17 State Energy Financing Institutions ("SEFI") program (broadly, "LPO Term Loan");

**WHEREAS**, PosiGen is now in the process advancing its loan application with the Loan Programs Office for the LPO Term Loan, inclusive of \$100 million SEFI participation through a syndication of SEFI, which has been supported by the Green Bank in a letter dated June 11, 2024;

**WHEREAS**, PosiGen's repayment performance on its existing obligations remains consistent and satisfactory; and,

**WHEREAS**, that the Board had previously authorized the Green Bank to extend multiple facilities with a cap of \$25 million, excluding the Connecticut performance based incentive term loans and excluding third-party participation.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank may advance a term loan as part of a SEFI syndication to PosiGen for the purchase of solar and battery energy storage systems in support of the LPO Term Loan with the Green Bank participation not exceeding \$25 million on the terms substantially similar to those described in the Board Memo;

**RESOLVED**, that the overall limit on PosiGen financings through the Green Bank will be increased to \$30 million, inclusive of Green Bank participation in the SEFI facility presented in this memo, excluding Connecticut PBI Term Loans, and excluding third-party participation;

**RESOLVED**, staff is authorized to finalize loan terms, support due diligence LPO (including its consultants, agents, and related departments), coordinate with other SEFIs in various stages of loan development, and conduct internal due diligence; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and negotiate and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned legal instruments.

g. Green Bank Capital Solutions – PosiGen – Extension of ESS Funding Facility

### **Resolution #13**

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) has an existing partnership with PosiGen, Inc. (together with its affiliates and subsidiaries, “PosiGen”) to support PosiGen in delivering a solar lease and energy efficiency financing offering to LMI households in Connecticut;

**WHEREAS**, PosiGen’s program has expanded offerings to LMI households in Connecticut to include an affordable battery energy storage system (“BESS”) option that will provide the customer backup power during a power outage and will reduce peak demand on the electric distribution system, as more fully explained in a memorandum dated July 17, 2024 to the Green Bank Board of Directors (the “Board Memo”);

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank may extend the working capital line to PosiGen for the purchase of battery energy storage systems (ESS) for a term of one year and changes to the related term loan facility for the ESS as may be required to accommodate the extension of the working capital line (such as an extension of the availability period and ultimate maturity date), otherwise following terms substantially similar to those described in the original working capital line agreement, as well as decisions approved by the Board since the approval of the working capital line and term loan in support of ESS;

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and negotiate and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned legal instruments.

- h. Green Bank Strategic Selection – Scale Microgrid Solutions – Bridgeport Fuel Cell Funding Facility

#### **Resolution #14**

**WHEREAS**, in accordance with (1) the statutory mandate of the Connecticut Green Bank (“Green Bank”) to foster the growth, development, and deployment of clean energy sources that serve end-use customers in the State of Connecticut, (2) the State’s Comprehensive Energy Strategy (“CES”) and Integrated Resources Plan (“IRP”), and (3) Green Bank’s Comprehensive Plan in reference to the CES and IRP, Green Bank continuously aims to develop financing tools to further drive private capital investment into clean energy projects;

**WHEREAS**, Microgrid Solutions LLC (“Scale”) and Investec have requested financing in support of private capital from the Green Bank to purchase, finance, and construct a 9.66-megawatt Fuel Cell and Thermal Loop project (the “Project”) in Bridgeport, Connecticut;

**WHEREAS**, Green Bank provided a pre-development loan to NuPower to develop the Project, which will now be repaid when the Project is sold to Scale;

**WHEREAS**, Scale and Investec have structured credit facilities whereby the Green Bank would participate on an equivalent security basis with other senior lenders;

**WHEREAS**, staff has considered the merits of the credit facilities and the ability of the project and finance stakeholders to construct, operate and maintain the facility, support the obligations under the credit facilities throughout their respective terms, and as set forth in the due diligence memorandum dated July 19, 2024 (the “Board Memo”), has recommended this support be in the form of funding not to exceed \$10,000,000, secured by all project assets, contracts and revenues as described in the Board Memo; and,

**WHEREAS**, staff has proposed donating a portion of the yield on the transaction to the South End Neighborhood Revitalization Zone (SE-NRZ) (or another worthy party if the SE-NRZ is unable to receive the donation), as set forth in the Board Memo.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board of Directors (the “Board”) hereby approves the applicants Capital Solutions Proposal for Green Bank’s participation in the credit facilities in an amount not to exceed \$10,000,000;

**RESOLVED**, that the Board hereby approves donating a portion of the yield on the transaction to the SE-NRZ (or another worthy nonprofit or government entity) as set forth in the Board Memo;

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer is authorized to take appropriate actions to participate in the credit facilities in an amount not to exceed \$10,000,000 in with terms and conditions consistent with the Board Memo, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 180 days from the date of authorization by the Board; and,



**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned Term Loan and participation.

7. Incentive Programs Updates and Recommendations – 5 minutes

a. FY 2024 Report Out – Incentive Programs

8. Environmental Infrastructure Program Updates and Recommendations – 5 minutes

a. FY 2024 Report Out – Environmental infrastructure Programs

9. Other Business – 20 minutes

a. Sustainable CT

**Resolution #15**

**WHEREAS**, the Comprehensive Plan and FY 2025 budget identify Sustainable CT as a partner of the Connecticut Green Bank (“Green Bank”), including an allocation of \$200,000 from the FY 2025 Marketing budget;

**WHEREAS**, the Green Bank staff has submitted to the Green Bank Board of Directors (the “Board”) a proposal for Green Bank to enter into a grant agreement with Sustainable CT for \$200,000 for programmatic purposes in order to increase our impact by applying the green bank model through Sustainable CT’s programs as explained in a memorandum to the Board dated July 19, 2024;

**WHEREAS**, Sustainable CT satisfies all criteria of the Strategic Selection and Award process of Green Bank operating procedures, namely: (1) special capabilities, (2) uniqueness, (3) strategic selection, (4) multiphase, follow-on investment and (5) urgency and timeliness;

**WHEREAS**, Green Bank staff recommends that the Board approve a grant between the Green Bank and Sustainable CT, generally in accordance with memorandum summarizing the grant to the Board in a memorandum dated July 19, 2024; and,

**WHEREAS**, Green Bank would benefit from Sustainable CT’s public awareness and engagement program to increase participation in and development of Green Bank’s incentive and financing programs, especially those in development for environmental infrastructure. Through the partnership, Green Bank and Sustainable CT are driving investment in projects in communities throughout the state.

**NOW**, therefore be it:

**RESOLVED**, that the Board approves Green Bank staff to enter into a grant agreement with Sustainable CT as a strategic selection;

**RESOLVED**, that the President, Chief Investment Officer and General Counsel of Green Bank, and any other duly authorized officer of Green Bank, is authorized to execute and deliver on behalf of Green Bank any of the definitive agreements related to the Sustainable CT grant agreement and any other agreement, contract, legal instrument or document as he or she shall

deem necessary or appropriate and in the interests of Green Bank and the ratepayers in order to carry out the intent and accomplish the purpose of the foregoing resolutions; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all any documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument or instruments.

- b. Greenhouse Gas Reduction Fund – National Clean Investment Fund: New Hampshire and Puerto Rico Partners

### **Resolution #16**

**WHEREAS**, within the Inflation Reduction Act of 2022 (“IRA”) there is a \$27 billion Greenhouse Gas Reduction Fund “GGRF” inclusive of a \$14 billion National Clean Investment Fund (“NCIF”) modelled after the Green Bank;

**WHEREAS**, the Coalition for Green Capital (“CGC”), a 501(c)3 nonprofit organization, applied for a grant through the GGRF NCIF on October 12, 2023 in the amount of \$10 billion, and inclusive of eighteen (18) Subgrantees, including the Green Bank;

**WHEREAS**, the Green Bank’s part of the CGC application included resources in support of financing projects in Connecticut, as well as additional resources that would be administered by the Green Bank on behalf of the New Hampshire Community Loan Fund and Puerto Rico Green Energy Trust (“the Participants”) as outlined in the memo to the Board of Directors of the Green Bank (“the Board”) on June 14, 2024;

**WHEREAS**, at the June 21, 2024 meeting of the Board, the Board approved of the Green Bank negotiating terms with the Participants with the intention to bring back such contract or term sheet back to the Board for approval as a Strategic Selection;

**NOW**, therefore be it:

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank is authorized to execute and deliver definitive documentation with the Participants as Financial Intermediary Subrecipients to CGC’s winning GGRF NCIF award as outlined in this memo dated July 19, 2024 and materially consistent with the attached draft term sheet, and as he or she shall deem to be in the interests of the Green Bank;

**RESOLVED**, that the Board hereby approves of the Green Bank executing a contract with the Participants as a Financial Intermediary Subrecipient to CGC’s winning GGRF NCIF award as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII given the special capabilities, strategic importance, urgency and timeliness, and multi-phase characteristics of a contract with the Participants; and

**RESOLVED**, that the duly authorized Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned legal instruments.

- c. Other Business

10. Adjourn

[Click here to join the meeting](#)

Teams Meeting ID: 212 223 335 781

Passcode: Cj9DwY

Dial In: [+1 860-924-7736,,791290488#](tel:+18609247736791290488)

Phone Conference ID: 791 290 488#

***Next Regular Meeting: Friday, October 18, 2024 from 9:00-11:00 a.m.  
Colonel Albert Pope Room at the  
Connecticut Green Bank, 75 Charter Oak Avenue, Hartford***



**BOARD OF DIRECTORS OF THE  
CONNECTICUT GREEN BANK**  
Regular Meeting Minutes

Friday, June 21, 2024  
9:00 a.m. – 12:00 p.m.

A regular meeting of the Board of Directors of the **Connecticut Green Bank** (the “Green Bank”) was held on June 21, 2024.

Board Members Present: Adrienne Farrar Houël, Dominick Grant, John Harrity, Kimberly Mooers, Matthew Ranelli, Lonnie Reed, Hank Webster, Joanna Wozniak-Brown

Board Members Absent: Thomas Flynn, Robert Hotaling, Brenda Watson

Staff Attending: David Beech, Priyank Bhakta, Joe Buonannata, Larry Campana, Sergio Carrillo, James Desantos, Catherine Duncan, Mackey Dykes, Emma Ellis, Bryan Garcia, Sara Harari, Bert Hunter, Matthew King, Stefanie Keohane, Alex Kovtunencko, Stephanie Layman, Alysse Lembo-Buzzelli, Cheryl Lumpkin, Jane Murphy, Derek Nong, Sara Pyne, Juli Reventos, Ariel Schneider, Eric Shrago, Dan Smith, Lawrence Taylor, Mary Vigil, Leigh Whelpton

Others present: None

**1. Call to Order**

- Lonnie Reed called the meeting to order at 9:03 am.

**2. Public Comments**

- No public comments.

**3. Consent Agenda**

**a. Meeting Minutes of April 26, 2024**

**Resolution #1**

Motion to approve the meeting minutes of the Board of Directors for April 26, 2024.

**b. Director-Level Position Descriptions**

- John Harrity asked about the reporting structure for some of the positions and

## Subject to Changes and Deletions

clarification was given by Mackey Dykes and Eric Shrago.

### **Resolution #2**

Motion to approve the position descriptions for the Director of Accounting and Reporting, Director of Marketing and Communications, Director of Program Development and Origination, and Director of Transaction Management and C-PACE Administration.

**Upon a motion made by John Harrity and seconded by Hank Webster, the Board of Directors voted to approve Resolutions 1 and 2. None opposed and Kimberly Mooers abstained. Motion approved.**

#### **4. Committee Recommendations and Updates**

##### **a. Budget, Operations, and Compensation Committee**

##### **i. Proposed FY 2025 Targets, Budget, and Investments**

- Eric Shrago summarized the proposed targets for the Financing Programs. Overall, the FY2025 targets are 563 projects, over \$71 million in capital deployed, and 7.47 MW of capital installed across all Financing Programs such as CPACE, the Marketplace Assistance programs, PPA, and SBEA. He summarized the Incentive Programs and Environmental Infrastructure targets. Overall, the FY2025 Incentive Programs targets are 1830 projects, over \$55 million in capital deployed, and 16.42 MW of capacity installed across ESS (Residential and C&I) and Smart-E. Overall, the FY2025 Environmental Infrastructure targets are 21 projects and \$2.1 million in capital deployed across Smart-E and Capital Solutions. They are predominantly for resiliency measures. CPACE has no goals for resiliency as the guidelines are still being developed and there isn't a good estimate for market uptake yet. He then summarized the targets for Investments. The Investments goals for FY2025 include 9 projects and \$17.2 million in capital deployed for various projects such as PPA recapitalization and Capital Solutions, though other projects such as EV Busses are also being explored. For the Green Bank as an organization overall, the FY2025 goals are 2,402 projects, nearly \$172 million in capital deployed and 23.89 MW of capacity installed.

- Lonnie Reed asked for clarification that the staff will return to the Board and BOC Committee ask projects develop further and Eric Shrago responded yes, there will be active communication to Board members regarding projects.

- John Harrity commented on the significance of the FY2025 targets to combatting climate change.

- Eric Shrago reviewed the budget revenues. Overall revenues are increasing by 25%; public funds are staying the same but earned revenue is increasing, including through interest income from new investments in FY24. Bryan Garcia added that in regards to public revenues, the fact that they are stagnating or declining is a positive result as it shows that consumers are becoming more efficient at utilizing energy despite a growing economy.

- Kimberly Mooers asked for clarification about the increase from grant funding. Eric Shrago responded with more information about the awards from the Greenhouse Gas Reduction Fund (GGRF) and Department of Economic Community Development (DECD).

- Matthew Ranelli asked for clarification about the growth predominantly coming from grant income and interest income, and whether that is viewed as troubling or not.

- Eric Shrago responded that interest income is the main source of income from projects and is not interest sitting in a bank account. It's more reflective of project growth.

## Subject to Changes and Deletions

- Eric Shrago reviewed the proposed expenses, dividing them into personnel expenses and non-personnel related expenses. Personnel expenses, such as compensation and benefits, its increasing, however the other expenses are decreasing. He explained the various types of new positions and personnel needs due to the expanding needs of the Green Bank. He reviewed the various non-personnel expense categories which are overall decreasing.
- Eric Shrago reviewed the list of Strategic Partners for FY 2025.
  - Matthew Ranelli questioned if the decrease for Inclusive Prosperity Capital is structured based on the contract with them or if it is reflective of a decrease in their activity and Eric Shrago responded it is due to a contractual, structured decrease.
  - Matthew Ranelli asked for an explanation in the large increase to C-TEC Solar and if they have projects before the Green Bank, if there is an ethical disclosure required as they are a Strategic Partner. Eric Shrago responded that projects coming before the Green Bank and this RFP are two separate things. For their presented projects they are acting as a developer of solar but the RFP as a Strategic Partner is to service systems owned by the Green Bank. Matthew Ranelli asked about the perception of impropriety because of this Strategic Selection and Eric Shrago stated it can be discussed further but it doesn't appear that there would be a conflict due to the Green Bank's work with many other developers and the selection for this through multiple RFPs.
  - Matthew Ranelli asked about AEC Solar's and DCS's activities. Eric Shrago responded there is a perception of a large increase as there was nothing in the FY2024 budget because the spending was at a subsidiary level with Solar Lease 2, CEFIA Holdings, or CEFIA Solar Services. Matthew Ranelli asked if there was a reason they were moved to the Green Bank's budget sheet and Eric Shrago responded that it was for better tracking. It may not have been budgeted for previously, but it still was being monitored from a governance and bylaws perspective, so tracking became difficult.
  - Matthew Ranelli asked about Carahsoft's and Sourceone's RFPs as they were performed by someone else and has been a point of note by the Auditors. Eric Shrago responded that he is very comfortable with the process done for Carahsoft and that every state agency has access to it. Mackey Dykes responded that he is not sure of the process, but Sourceone was under contract with the DOC and because of their work around the fuel cell they were deemed the best selection. As well, DOC requested that Sourceone stay in place for the construction portion of the process, and he offered to investigate it further. Matthew Ranelli commented that he just wants to be sure that the diligence is thorough for when the Auditors examine it.
  - John Harrity commented that the preferential treatment for Strategic Partners seemed part of the point as they were deemed extremely reliable and do good work. Eric Shrago noted that it isn't preferential treatment, as the Strategic Partners have been selected through a competitive process, and for future endeavors would not receive favoritism but being on the Strategic Partners list does mean the staff has done diligence into the quality of their work previously and so there is some familiarity and comfort there. The group discussed the nature of Strategic Partners and any possible perceived issues of impropriety further.

### **Resolution #3**

**WHEREAS**, Section 5.2.2 of the Bylaws of the Connecticut Green Bank's requires the recommendation of the Budget, Operations, and Compensation Committee (Committee) of the annual budget to the Connecticut Green Bank Board of Directors;

**WHEREAS**, on June 5, 2024, the Committee recommended the adoption of these targets and budget for FY2025 and the professional services agreements (PSAs) listed below;



## Subject to Changes and Deletions

**NOW**, therefore be it:

**WHEREAS**, the Board of Directors authorizes Green Bank staff to enter into new or extend existing professional services agreements (PSAs) with the following, contingent upon a competitive bid process having occurred in the last three years (except Inclusive Prosperity Capital and Carahsoft):

- I. New Charter Technologies, LLC
- II. Alter Domus (formerly Cortland)
- III. Inclusive Prosperity Capital
- IV. DNV
- V. Guidehouse (formerly Navigant) (2)
- VI. PKF O'Connor Davies
- VII. CliftonLarsonAllen
- VIII. C-TEC Solar, LLC
- IX. GO, LLC
- X. Craftsman Technologies
- XI. Strategic Environmental Associates
- XII. Carahsoft
- XIII. AEC Solar
- XIV. DCS
- XV. AlsoEnergy
- XVI. Sourceone

For fiscal year 2025 with the amounts of each PSA not to exceed the applicable approved budget line item.

**RESOLVED**, that the Green Bank Board hereby approves: (1) the FY2025 Targets and Budget.

**Upon a motion made by John Harrity and seconded by Matthew Ranelli, the Board of Directors voted to approve Resolution 3. None opposed or abstained. Motion approved unanimously.**

### **b. Audit, Compliance, and Governance Committee**

#### **i. Legislative Session – 2024 in Review**

- James Desantos summarized the recent legislative session and reviewed several of the Public Acts which were passed for Clean Energy and Environmental Infrastructure. He reviewed the next steps of the legislative process including the 2024 report out, 2025 pre-session, and outstanding issues between 2024 and 2025.
  - Lonnie Reed asked if specific climate change bills would be addressed in the special session and James Desantos responded no, despite efforts to have it be included.
- Bryan Garcia added that SB11 has the potential to have far reaching impacts and the Green Bank is ready to support it and Joanna Wozniak-Brown's efforts to build it more.



**5. Financing Programs Updates and Recommendations**  
**a. C-PACE Resilience Guidelines Updates**

- Mackey Dykes presented history to the adjustment to the C-PACE resilience guidelines especially in relation to the SIR requirement and roof resiliency measures. As well, the adjustment today is in relation to the Green Bank's role as an administrator and does not affect decisions related to its role as a lender.
- Alysse Lembo-Buzzelli summarized the program's roof improvements as a resiliency measure and potential loophole issue for those seeking a standalone roof replacement or improvement without being related to an additional energy improvement project. She summarized the addition of the FORTIFIED Roof Standards in order to demonstrate a minimum level of resilience.
  - John Harrity asked about the resiliency qualifications regarding retaining walls and Alysse Lembo-Buzzelli responded that his example could qualify and what research would be required to accept that type of project. John Harrity commented his displeasure to allow that kind of project as it isn't directly related to combating climate change. Mackey Dykes responded that he hears the sentiment and clarified that this resolution does not require the Green Bank to use its funds for any of this, as this resolution is purely from the administrative role and the Green Bank is statutorily required to develop the framework since C-PACE expanded.
  - Matthew Ranelli commented to be careful in literature and be clear that approval in this project does not negate the need for local and DEEP permits. He also commented for a future discussion to determine when projects should come for this type of approval, whether it be before permitting or after. Mackey Dykes agreed.

**Resolution #4**

**WHEREAS**, Conn. Gen. Stat. Section 16a-40g (the "Authorizing Statute") authorizes what has come to be known as the Commercial Property Assessed Clean Energy Program ("C-PACE"), the Authorizing Statute designates the Connecticut Green Bank ("Green Bank") as the state-wide administrator of the program;

**WHEREAS**, the Authorizing Statute charges Green Bank to develop program guidelines (the "Program Guidelines") governing the terms and conditions under which state and third-party financing may be made available to C-PACE;

**WHEREAS**, Green Bank staff drafted proposed changes to the Program Guidelines and Appendix O; and,

**WHEREAS**, the proposed changes to the Program Guidelines, went through a thirty-day public comment period in accordance with Conn. Gen. Stat. Section 1-120 et seq, and received no comments, as more particularly described in that memorandum to the Board dated June 18, 2024 (the "Memorandum").

**NOW**, therefore be it:

**RESOLVED**, the Green Bank Board of Directors (the "Board") approves the proposed changes to Program Guidelines, substantially in the form of attached to the Memorandum; and,

## Subject to Changes and Deletions

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to affect the above-mentioned Program Guidelines.

**Upon a motion made by Matthew Ranelli and seconded by Hank Webster, the Board of Directors voted to approve Resolution 4. None opposed or abstained. Motion approved unanimously.**

### 6. Incentive Programs Updates and Recommendations

- Sara Pyne gave an update to the projects previously discussed in May which included a fossil fuel generator removal. As well she briefly summarized the 6 projects being presented today.

#### a. Batch #1 – C-Power

##### i. ESS Transaction – ESS-00991 – Town of Guilford (High School)

- Matthew King summarized the project details for a 1927 kW / 3584 kWh Tesla Megapack project through CPower expected to be installed by 2027 with a total upfront incentive of \$481,750.
  - John Harrity commented that he hopes this project can be used as an educational opportunity for the students at the school that this project is being installed.

### Resolution #5

**WHEREAS**, in its June 24, 2022 meeting the Connecticut Green Bank Board of Directors (Board) approved the implementation of an Upfront Incentive Project Approval procedures ("Procedures") for non-residential projects under the Energy Storage Solutions Program (Program) with an estimated upfront incentive payment greater than \$500,000 and procedures for less than \$500,000;

**WHEREAS**, as part of the approved Procedures, Green Bank staff shall present Program projects via the consent agenda utilizing a standard form Tear Sheet process described in the memorandum to the Board dated June 24, 2022; and,

**WHEREAS**, in its December 9, 2002 meeting the Board approved updated Procedures to better align with the Program process.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board hereby approves the estimated upfront incentives sought by CPower for one non-residential project individually under \$500,000, totaling \$485,750 consistent with the approved Procedures; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver any and all documents and regulatory filings as they shall deem necessary and desirable to affect the above-mentioned incentives consistent with the Procedures.

**Upon a motion made by John Harrity and seconded by Kimberly Mooers, the Board of**

## Subject to Changes and Deletions

**Directors voted to approve Resolution 5. None opposed or abstained. Motion approved unanimously.**

**b. Batch #2 – Scale Microgrid Solutions**

- i. ESS Transaction – ESS-01031 – Windsor Locks**
- ii. ESS Transaction – ESS-01043 – Windsor**
- iii. ESS Transaction – ESS-01044 – Windsor**
- iv. ESS Transaction – ESS-01045 – Windsor**
- v. ESS Transaction – ESS-01046 – Windsor**

- Matthew King summarized the project details for the five ESS transactions through Scale Microgrid Solutions which is for an aggregate 7708 kW / 15416 kWh Tesla Megapack project and a 1927 kW / 3854 kWh Tesla Megapack project, all expected to be installed by 2027 with a total upfront incentive of \$1,927,000.

### **Resolution #6**

**WHEREAS**, in its June 24, 2022 meeting the Connecticut Green Bank Board of Directors (Board) approved the implementation of an Upfront Incentive Project Approval procedures (“Procedures”) for non-residential projects under the Energy Storage Solutions Program (Program) with an estimated upfront incentive payment greater than \$500,000 and procedures for less than \$500,000;

**WHEREAS**, as part of the approved Procedures, Green Bank staff shall present Program projects via the consent agenda utilizing a standard form Tear Sheet process described in the memorandum to the Board dated June 24, 2022; and,

**WHEREAS**, in its December 9, 2022 meeting the Board approved updated Procedures to better align with the Program process.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board hereby approves the estimated upfront incentives sought by Scale Microgrid Solutions for five non-residential projects individually under \$500,000, totaling \$2,002,000 consistent with the approved Procedures; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver any and all documents and regulatory filings as they shall deem necessary and desirable to affect the above-mentioned incentives consistent with the Procedures.

**Upon a motion made by John Harrity and seconded by Hank Webster, the Board of Directors voted to approve Resolution 6. None opposed and Matthew Ranelli abstained. Motion approved.**

## **7. Investment Updates and Recommendations**

**a. Smart-E Loan – Linked Deposit Pilot Extension and Expansion**

- Bert Hunter summarized the Smart-E Linked Deposit Pilot history, context, and proposed

## Subject to Changes and Deletions

limit increase to \$3.5 million and authority to continue with the pilot until June 30, 2025.

### **Resolution # 7**

**WHEREAS**, the Connecticut Green Bank ("Green Bank") has established the Smart-E Loan program with financing agreements with various credit unions, community banks and a community development financial institution;

**WHEREAS**, pursuant to approval by the Green Bank Deployment Committee in May 2023, the Green Bank commenced a pilot linked deposits program (the "Linked Deposits Pilot") with a Smart-E lender as described in the memorandum to the Deployment Committee dated May 19, 2023 (the "Linked Deposit Pilot Memo");

**WHEREAS**, pursuant to the approval by the Green Bank Deployment Committee in May 2024, the Green Bank raised the Linked Deposit Pilot "not to exceed" amount from \$2,000,000 to 2,500,000; and,

**WHEREAS**, the Linked Deposits Pilot has been a success and per request by the participating institution, Green Bank staff recommends approval by the Green Bank Board of Directors ("Board") to extend the Linked Deposit Pilot program to June 30, 2025 and raise the "not to exceed" amount from \$2,500,000 to 3,500,000;

**NOW**, therefore be it:

**RESOLVED**, that the Board approves of the extension of the Linked Deposit Pilot to June 30, 2025 and an increase in the "not to exceed" amount from \$2,500,000 to \$3,500,000, to be implemented as described in the Linked Deposit Pilot Memorandum dated June 18, 2024;

**RESOLVED**, that the President of the Green Bank; and any other duly authorized officer of the Green Bank, is authorized to execute and deliver, any contract or other legal instrument necessary to affect the Linked Deposit Pilot on such terms and conditions as are materially consistent with the Linked Deposit Pilot Memorandum; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents as they shall deem necessary and desirable to affect the above-mentioned legal instruments.

**Upon a motion made by Matthew Ranelli and seconded by Adrienne Farrar Houël, the Board of Directors voted to approve Resolution 7. None opposed or abstained. Motion approved unanimously.**

### **b. Smart-E Loan – Capital for Change Funding Facility**

- Bert Hunter summarized the history of the Capital for Change Funding Facility and proposal to recapitalize the facility for Smart-E and EE loans in the form of a \$10 million increase in Green Bank funds to the facility alongside Amalgamated Bank's \$15 million increase in funding. The Green Bank will remain in a subordinated position and at a 4% interest rate.

### **Resolution #8**



## Subject to Changes and Deletions

**WHEREAS**, the Connecticut Green Bank ("Green Bank") entered into a Smart-E Loan program financing agreement with Capital for Change ("C4C");

**WHEREAS**, C4C is the largest Smart-E lender on the Green Bank Smart-E platform;

**WHEREAS**, C4C and Green Bank have an existing medium term loan facility to C4C's CEEFCo subsidiary to fund C4C's Smart-E Loan and other residential energy efficiency loan portfolio growth and C4C's executive leadership has requested a refinancing of said facility as explained in the memorandum dated June 18, 2024 to the Green Board (the "Revolving Facility Memo"); and

**WHEREAS**, Green Bank staff recommends approval by the Board for a new short term revolving loan facility for C4C/ CEEFCo (the "CEEFCo Revolving Loan") in order to refinance existing indebtedness from Amalgamated Bank and Green Bank in partnership with Webster Bank and M&T Bank as explained in the Revolving Facility Memo.

**NOW**, therefore be it:

**RESOLVED**, that the Board approves the CEEFCo Revolving Loan in an amount of up to \$25 million in capital from the Green Bank balance sheet in support of energy efficiency and Smart-E Loans in partnership with Webster Bank and M&T Bank generally consistent with the Revolving Facility Memo as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII given the special capabilities, strategic importance, urgency and timeliness, and multi-phase characteristics of the CEEFCo Revolving Loan transaction;

**RESOLVED**, that the President of the Green Bank; and any other duly authorized officer of the Green Bank, is authorized to execute and deliver, any contract or other legal instrument necessary to affect the CEEFCo Revolving Loan on such terms and conditions as are materially consistent with the Modification Memo; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents as they shall deem necessary and desirable to affect the above-mentioned legal instrument.

**Upon a motion made by Hank Webster and seconded by John Harrity, the Board of Directors voted to approve Resolution 8. None opposed or abstained. Motion approved unanimously.**

### **c. Green Liberty Notes – Extension**

- David Beech summarized the Green Liberty Notes history, recent award by CESA of the State Leadership in Clean Energy Award, and the proposed extension for another year and \$350,000 quarterly issuances. Bert Hunter added that the Green Bank has investors in about 40 different states.
  - Matthew Ranelli asked for clarification about some wording within the Resolution and David Beech responded that if the bonds were issued directly by the Green Bank and not CEFIA Holdings, then they would not be able to be crowd-funded securities. Also, they would be under the municipal bond market which would not allow for the low-denomination investments.

## Subject to Changes and Deletions

### **Resolution #9**

**WHEREAS**, at the July 2021 meeting of the Connecticut Green Bank ("Green Bank") Board of Directors ("Board"), the Board authorized staff to enter into an agreement (the "Issuer Agreement") with Raise Green, Inc. an entity registered with and approved by the Securities and Exchange Commission (the "SEC") as a crowdfunding funding portal, to issue bonds in an amount not to exceed \$2,000,000 under the SEC's Regulation Crowdfunding;

**WHEREAS**, subsequently, the Green Bank launched and closed 6 Crowdfunding issuances named "Green Liberty Notes";

**WHEREAS**, at the June 2023 meeting of the Green Bank Board, the Board authorized staff to issue four additional bonds in quarterly issuances not to exceed \$350,000 and in a total program amount not to exceed \$2,705,000 under the SEC's Regulation Crowdfunding regulations;

**WHEREAS**, subsequently, the Green Bank launched and closed 4 additional Crowdfunding issuances named "Green Liberty Notes";

**WHEREAS**, staff has cultivated investor demand and managed investor relations, principal and interest repayment and reinvestment, capitalization table management, accounting, and all other operational and legal requirements of the program; and,

**WHEREAS**, staff wishes to build on the successes of the program, which include eight consecutive oversubscribed issuances, and ensure that new investors have the opportunity to invest in the Green Bank's efforts to fight climate change in Connecticut.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank is authorized to modify its existing agreement (the "Issuer Agreement") with Raise Green, Inc. an entity registered with and approved by the SEC as a crowdfunding funding portal, to issue bonds in an amount not to exceed \$4,105,000, in quarterly issuances not to exceed \$250,000 for the first six issuances and \$350,000 for the subsequent eight issuances (the "Bonds") under the SEC's Regulation Crowdfunding regulations. The Bonds shall be issued by a subsidiary of CEFIA Holdings and shall be issued by and for the sole purposes of the subsidiary, and shall not be issued by or on behalf of the Green Bank. The proceeds of the Bonds shall be used by the subsidiary to acquire certain loans under the Small Business Energy Advantage program (the "Loans"), and to pay the costs of issuance on the Bonds;

**RESOLVED**, that the payment of debt service on the Bonds shall be made solely from the revenues from the Loans and other revenues available to the subsidiary. CEFIA Holdings and/the Green Bank are authorized to assign and transfer all or any portion of their rights in the Loans to the subsidiary as security for the payment of the Bonds and the interest thereon. The Green Bank shall not guarantee or pledge any other revenues for the payment of debt service on the Bonds;

**RESOLVED**, that in connection with the Bonds, the President and any Officer of Green Bank (each, an "Authorized Representative") be, and each of them acting individually hereby is, authorized and directed in the name and on behalf of the Green Bank, to prepare and deliver, or cause to be prepared and delivered, the Issuer Agreement with Raise Green and any other

## Subject to Changes and Deletions

documents required under the SEC's Regulation Crowdfunding, including a Form C, a Subscription Agreement, a Note and any other documents or instruments necessary to complete the Bond issuance, in such form and with such changes, insertions and omissions as may be approved by an Authorized Representative, as he or she deems advisable for the purpose of issuing the Bonds (collectively, the "Financing Documents") and the execution and delivery of said Financing Documents shall be conclusive evidence of any approval required by this Resolution; and,

**RESOLVED**, that to the extent that any act, action, filing, undertaking, execution or delivery authorized or contemplated by this Resolution has been previously accomplished, all of the same are hereby ratified, confirmed, accepted, approved and adopted by the Board as if such actions had been presented to the Board for its approval before any such action's being taken, agreement being executed and delivered, or filing being effected.

**Upon a motion made by Matthew Ranelli and seconded by Hank Webster, the Board of Directors voted to approve Resolution 9. None opposed or abstained. Motion approved unanimously.**

### **d. Green Bank Capital Solutions – RFP Revisions to include Environmental Infrastructure**

- Leigh Whelpton summarized the history of the Capital Solutions Open Rolling RFP program and proposed revision to include Environmental Infrastructure in alignment with the Green Bank's expanded authority as per Public Act 21-115.
  - Adrienne Farrar Houël asked about the relationship between this program and resiliency hubs. Leigh Whelpton responded that a resiliency hub could be considered through Capital Solutions and Eric Shrago added that with the expansion may allow for more to be done.

### **Resolution #10**

**WHEREAS**, on December 17, 2019, the Connecticut Green Bank ("Green Bank") Board of Directors ("Board") approved of an Open RFP (a.k.a., Green Bank Capital Solutions) to provide access by project developers and capital providers / investors to Green Bank capital that will catalyze investment which – but for the Green Bank's participation – would either not happen or be realized at a much slower pace or with less impact;

**WHEREAS**, the mission of Green Bank was expanded through Connecticut Public Act 21-115 in June 2021 to include "environmental infrastructure" as defined in statute as structures, facilities, systems, services and improvement projects related to (A) water, (B) waste and recycling, (C) climate adaptation and resiliency, (D) agriculture, (E) land conservation, (F) parks and recreation, and (G) environmental markets, including, but not limited to, carbon offsets and ecosystem services;

**WHEREAS**, the FY22, FY23, and FY24 Comprehensive Plans of the Green Bank outline successive processes to develop its environmental infrastructure business unit and recognizes the needed intermediary role for the Green Bank between capital markets and public policy related to environmental infrastructure;



## Subject to Changes and Deletions

**WHEREAS**, the FY24 Comprehensive Plan of the Green Bank set a target to “launch or expand existing products inclusive of key outcomes” to support environmental infrastructure measures;

**WHEREAS**, in implementing the Operating Procedures of the Green Bank, staff has developed, and the Board has approved, Green Bank Capital Solutions as an Open Request for Proposals (“Open RFP”) to solicit project developers for consideration of financing by the Green Bank;

**WHEREAS**, the staff of the Green Bank have drafted a Capital Solutions Open RFP as it would expand from “Clean Energy” to also include “Environmental Infrastructure” Investment which it presented to and received a recommendation of approval from the Deployment Committee of the Green Bank; and;

**WHEREAS**, that the Deployment Committee recommended for approval to the Green Bank Board the Capital Solutions Open RFP for Clean Energy and Environmental Infrastructure on May 22, 2024.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board approves of the Capital Solutions Open RFP for Clean Energy and Environmental Infrastructure as described in the June 14, 2024 memorandum to the Green Bank Board.

**Upon a motion made by Kimberly Mooers and seconded by Dominick Grant, the Board of Directors voted to approve Resolution 10. None opposed or abstained. Motion approved unanimously.**

### **8. Other Business**

#### **a. Greenhouse Gas Reduction Fund – National Clean Investment Fund: Coalition for Green Capital Subgrantee**

- Bryan Garcia introduced Stefanie Keohane, the new Associate Director of the GGRF, and he summarized the history of the GGRF, Coalition for Green Capital, and the NCIF. He noted that New Hampshire and Puerto Rico are a component of the Connecticut subaward. He noted there is a disputer within the GGRF, who was an applicant who was not selected for an award for either the NCIF nor the CCIA, and the EPA as a result will work to obligate 50% of the funds until the dispute is resolved.

- Bryan Garcia reviewed the various areas and programs for the NCIF's funding, including the EPA's priority funding areas. He reviewed the EPA and CGC timeline for conditions and sub-awardee agreements.

- Dominick Grant congratulated those who worked on the applications and asked how insulated the grant programs are from potential future changes in congress or the White House, and if there is any ability to claw-back funds even after they've been obligated. Bryan Garcia responded that the challenge that one of the outstanding terms being worked through has to do with payments. Currently how the payment system would work is the Treasury would deposit the funds into an ASAP account, which is an automated standard account payable app. To make that system resilient to potential future changes in political leadership, the EPA is working with the awardees to

## Subject to Changes and Deletions

essentially create a fiscal agent to protect those funds for the purposes under which the statute intended.

- Lonnie Reed commented about the disputer being a credit union from Texas. Bryan Garcia responded that this situation is a party that is disputing the EPA's decisions on the winners and is being monitored closely to ensure the appropriate resources come to Connecticut.

### **Resolution #11**

**WHEREAS**, on July 6, 2021, Governor Lamont signed the passage of Public Act 21-115 "An Act Concerning Climate Change Adaptation," which includes the expansion of scope of the Connecticut Green Bank ("Green Bank") beyond clean energy to include environmental infrastructure, as well as the creation of an Environmental Infrastructure Fund, that may receive federal funds as may become available to the state for environmental infrastructure investments;

**WHEREAS**, within the Inflation Reduction Act of 2022 ("IRA") there is a \$27 billion Greenhouse Gas Reduction Fund "GGRF" inclusive of a \$14 billion National Clean Investment Fund ("NCIF") modelled after the Green Bank;

**WHEREAS**, the Coalition for Green Capital ("CGC"), a 501(c)3 nonprofit organization, applied for a grant through the GGRF NCIF on October 12, 2023 in the amount of \$10 billion, and inclusive of eighteen (18) Subgrantees, including the Green Bank;

**WHEREAS**, the Green Bank's part of the CGC application included resources in support of financing projects in Connecticut, as well as additional resources that would be administered by the Green Bank on behalf of the New Hampshire Community Loan Fund and Puerto Rico Green Energy Trust ("the Participants") as outlined in the memo to the Board of Directors of the Green Bank ("the Board") on June 14, 2024;

**WHEREAS**, the EPA officially notified CGC of its winning application on April 4, 2024 in the amount of \$5 billion – a 50% reduction from its original application – and CGC subsequently submitted to the EPA a revised workplan and budget;

**WHEREAS**, CGC applied a pro rata reduction of 50% from the original application submitted to the EPA to the Subgrantee allocation in the revised workplan and budget; and,

**WHEREAS**, some the funds received by Green Bank from CGC under its NCIF award, may be deposited (if permitted under applicable rules and regulations) within the Environmental Infrastructure Fund or otherwise used to fund Environmental Infrastructure project;

**NOW**, therefore be it:

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank is authorized to execute and deliver the contract with CGC as a Subgrantee to the winning GGRF NCIF award as outlined in this memo dated June 14, 2024, and as he or she shall deem to be in the interests of the Green Bank;

**RESOLVED**, that the Board hereby approves of the Green Bank executing a contract with CGC as a Subgrantee to the winning GGRF NCIF award;

## Subject to Changes and Deletions

**RESOLVED**, that the Board hereby approves of the Green Bank negotiating contracts with the Participants and are instructed to bring such contracts back to the Board for approval as a Strategic Selection; and,

**RESOLVED**, that the duly authorized Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to affect the above-mentioned legal instruments.

**Upon a motion made by Dominick Grant and seconded by Matthew Ranelli, the Board of Directors voted to approve Resolution 11. None opposed or abstained. Motion approved unanimously.**

### 9. Adjourn

**Upon a motion made by Matthew Ranelli and seconded by Adrienne Farrar Houël, the Board of Directors meeting adjourned at 11:17 am.**

Respectfully submitted,

---

Lonnie Reed, Chairperson



# Memo

**To:** Connecticut Green Bank Board of Directors

**From:** Eric Shrago (VP of Operations)

**CC:** Sergio Carrillo (Managing Director of Incentive Programs), Mackey Dykes (Vice President of Financing Programs and Officer), Bryan Garcia (President and CEO), and Bert Hunter (EVP and CIO)

**Date:** July 19, 2024

**Re:** Fiscal Year 2024 Progress to Targets and Activity in Vulnerable Communities through Q4 - Preliminary

The following memo outlines Connecticut Green Bank (CGB) progress to targets and capital deployed, including investments in vulnerable communities<sup>1</sup> for Fiscal Year (FY) 2024 as of June 30, 2024.

**Organization**

The following is progress to targets for the organization, including Financing and Incentive Programs, as well as Investments – see Tables 1 and 2.

**Table 1. CGB Totals Progress to Targets**

Progress to Targets			Progress to Targets			Progress to Targets		
Actual	Target	% of Target	Actual	Target	% of Tar...	Actual	Target	% of Target
2,096	1,868	112.2%	\$431,096,541	\$110,893,102	388.7%	132.4	27.5	481.4%

**Table 2. CGB Totals Vulnerable Communities (excluding SBEA)**

Vulnerable Community (excluding SBEA)					Vulnerable				Total			
Vintage Vulnerable Community YearFiscal	Capital Deployed	% of Total Capital Deployed	# Projects	% of Total Projects	Capital Deployed	% of Total Capital Deployed	# Projects	% of Total Projects	Capital Deployed	% of Total Capital Deployed	# Projects	% of Total Projects
2024	\$185,132,329	44.54%	1,052	70.23%	\$230,541,631	55.46%	446	29.77%	\$415,673,960	100.00%	1,498	100.00%

<sup>1</sup> CGB Performance Metrics Power BI data source as of 7/15/2024: <https://app.powerbi.com/groups/289235dd-d77d-4043-8dae-d232a51a116a/reports/dcec3754-1e52-4c0c-b579-cfa7df20379c/ReportSection3a1e4346c50856c3c008>

## Financing Programs

The following is progress to targets for the Financing Programs – see Tables 3 and 4.

**Table 3. Financing Programs Progress to Targets**

### Progress to Targets

ProgramSegment	Project Counter Actual	Project Counter Target	% of Target	Capital Deployed Actual	Capital Deployed Target	% of Target	MW Actual	MW Target	% of Target
Financing	626	509	123.0%	\$107,784,809	\$43,548,000	247.5%	9.4	4.7	200.3%

### Progress to Targets

Program2	Project Counter Actual	Project Counter Target	% of Target	Capital Deployed Actual	Capital Deployed Target	% of Target	MW Actual	MW Target	% of Target
Commercial Lease	7	10	70.0%	\$9,967,808	\$10,650,000	93.6%	4.9	4.7	103.9%
CPACE	21	19	110.5%	\$82,394,420	\$21,170,000	389.2%	4.5	0.0	
Multi-Family Term		3			\$300,000			0.3	
SBEA	598	480	124.6%	\$15,422,581	\$11,728,000	131.5%	0.0	0.0	

**Table 4. Financing Programs Vulnerable Communities (excluding SBEA)**

### Vulnerable Community (excluding SBEA)

Vintage Vulnerable Community	Not Vulnerable				Vulnerable				Total			
ProgramSegment	Capital Deployed	% of Total	# Projects	% of Total	Capital Deployed	% of Total	# Projects	% of Total	Capital Deployed	% of Total	# Projects	% of Total
Financing	\$77,084,745	83.46%	13	46.43%	\$15,277,483	16.54%	15	53.57%	\$92,362,228	100.00%	28	100.00%

### Vulnerable Community (excluding SBEA)

Vintage Vulnerable Community	Not Vulnerable				Vulnerable				Total			
ProgramName	Capital Deployed	% of Total	# Projects	% of Total	Capital Deployed	% of Total	# Projects	% of Total	Capital Deployed	% of Total	# Projects	% of Total
Commercial Lease	\$3,888,101	39.01%	4	57.14%	\$6,079,707	60.99%	3	42.86%	\$9,967,808	100.00%	7	100.00%
CPACE	\$73,196,644	88.84%	9	42.86%	\$9,197,776	11.16%	12	57.14%	\$82,394,420	100.00%	21	100.00%



## Incentive Programs

The following is progress to targets for the Incentive Programs – see Tables 5 through 7.

**Table 5. Incentive Programs Progress to Targets**

### Progress to Targets

ProgramSegment	Project Counter Actual	Project Counter Target	% of Target	Capital Deployed Actual	Capital Deployed Target	% of Target	MW Actual	MW Target	% of Target
Incentive	1,469	1,359	108.1%	\$224,253,482	\$57,345,102	391.1%	106.2	22.8	465.6%

### Progress to Targets

Program2	Project Counter Actual	Project Counter Target	% of Target	Capital Deployed Actual	Capital Deployed Target	% of Target	MW Actual	MW Target	% of Target
Energy Storage Solutions - Commercial	44	15	293.3%	\$191,672,681	\$30,441,176	629.6%	103.0	20.7	497.5%
Energy Storage Solutions - Residential	150	150	100.0%	\$5,183,697	\$4,800,000	108.0%	1.4	1.0	138.1%
Smart-E	1,275	1,204	105.9%	\$27,397,104	\$22,423,925	122.2%	1.8	0.9	200.7%

**Table 6. Incentive Programs Vulnerable Communities**

### Vulnerable Community

Vintage Vulnerable Community ProgramSegment	Not Vulnerable		Vulnerable		Total		Total		Total		Total	
	Capital Deployed	% of Total	# Projects	% of Total	Capital Deployed	% of Total	# Projects	% of Total	Capital Deployed	% of Total	# Projects	% of Total
Incentive	\$108,047,584	48.18%	1,039	70.73%	\$116,205,899	51.82%	430	29.27%	\$224,253,482	100.00%	1,469	100.00%

### Vulnerable Community

Vintage Vulnerable Community ProgramName	Not Vulnerable		Vulnerable		Total		Total		Total		Total	
	Capital Deployed	% of Total	# Projects	% of Total	Capital Deployed	% of Total	# Projects	% of Total	Capital Deployed	% of Total	# Projects	% of Total
Energy Storage Solutions - Commercial	\$83,526,377	43.58%	19	43.18%	\$108,146,304	56.42%	25	56.82%	\$191,672,681	100.00%	44	100.00%
Energy Storage Solutions - Residential	\$4,251,670	82.02%	120	80.00%	\$932,027	17.98%	30	20.00%	\$5,183,697	100.00%	150	100.00%
Smart-E	\$20,269,537	73.98%	900	70.59%	\$7,127,568	26.02%	375	29.41%	\$27,397,104	100.00%	1,275	100.00%

**Table 7. Current Reporting Periods for Smart-E Lenders**

lender_name	Latest file_date
Capital For Change	6/30/2024
CorePlus Federal Credit Union	6/30/2024
Eastern Connecticut Savings Bank	6/30/2024
First National Bank of Suffield	6/30/2024
Ion Bank	6/30/2024
Liberty Bank	12/31/2023
Mutual Security Credit Union	6/30/2024
Nutmeg State Financial Credit Union	6/30/2024
Patriot Bank	6/30/2024
Thomaston Savings Bank	6/30/2024
Union Savings Bank	6/30/2024
Workers Federal Credit Union	6/30/2024

## Investments

The following is progress to targets for Investments – see Tables 8 and 9.

**Table 8. Investment Programs Progress to Targets**

### Progress to Targets

Program2	Project Counter Actual	Project Counter Target	% of Target	Capital Deployed Actual	Capital Deployed Target	% of Target	MW Actual	MW Target	% of Target
Strategic	1	0		\$99,058,250	\$10,000,000	990.6%	16.8	0.0	

**Table 9. Investment Programs Vulnerable Communities**

### Vulnerable Community

Vintage Vulnerable Community	Vulnerable	Total							
ProgramSegment	Capital Deployed	% of Total	# Projects	% of Total	Capital Deployed	% of Total	# Projects	% of Total	
Investment	\$99,058,250	100.00%	1	100.00%	\$99,058,250	100.00%	1	100.00%	

### Vulnerable Community

Vintage Vulnerable Community	Vulnerable	Total							
ProgramName	Capital Deployed	% of Total	# Projects	% of Total	Capital Deployed	% of Total	# Projects	% of Total	
Strategic	\$99,058,250	100.00%	1	100.00%	\$99,058,250	100.00%	1	100.00%	

In addition to the above fuel cell transaction, the board of directors approved of 24 other financing transactions or authorizations that will deploy capital in the green economy in Connecticut. These transactions will use an estimated \$45 million of Green Bank capital and will return approximately \$12 million in interest income over the life of these investments.

## Resolutions

**WHEREAS**, in July of 2011, the Connecticut General Assembly passed Public Act 11-80 (the Act), “AN ACT CONCERNING THE ESTABLISHMENT OF THE DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION AND PLANNING FOR CONNECTICUT’S ENERGY FUTURE,” which created the Connecticut Green Bank (the “Green Bank”) to develop programs to finance and otherwise support clean energy investment per the definition of clean energy in Connecticut General Statutes Section 16-245n(a);

**WHEREAS**, in July 2021, Governor Ned Lamont signed “An Act Concerning Climate Change Adaptation” into law, which expanded the scope of the Green Bank beyond “clean energy” to include “environmental infrastructure;”

**WHEREAS**, the Board of Directors of the Connecticut Green Bank approved a Comprehensive Plan for FY 2024 including approving annual budgets and targets for FY 2024.

**NOW**, therefore be it:

**RESOLVED**, that Board has reviewed and approved the Progress to Targets and Activity in Vulnerable Communities memo dated July 19, 2024, which provides an overview of the performance of the Incentive Programs, Financing Programs, and Investments with respect to their FY 2024 targets.





# Memo

**To:** Board of Directors of the Connecticut Green Bank

**From:** Brian Farnen, VP, CLO and General Counsel

**Date:** July 19, 2024

**Re:** Overview of Compliance Reporting and the Board of Directors and Committees for FY 2024

## Overview

This memo provides a summary report of the FY 2024 governance as it pertains to the Board of Directors and its Committees.

This summary report also includes status of Statement of Financial Interest (SFI) filing requirements, report filings that are statutorily required by the Connecticut General Assembly for the Connecticut Green Bank (Green Bank), and review of governance documents (i.e., bylaws, operating procedures, etc.).

Pursuant to Section 16-245n of the General Statutes of Connecticut, the powers of the Green Bank are vested in and exercised by the Board of Directors that is comprised by up to eleven voting and one non-voting member, each with knowledge and expertise in matters related to the purpose of the organization (see Table 1).

**Table 1. Composition of the Board of Directors of the Green Bank in FY 2024**

Position	Name	Status (as of 06-30-24)	Voting
Commissioner of DECD (or designee)	Robert Hotaling	Ex Officio	Yes
Commissioner of DEEP (or designee)	Hank Webster	Ex Officio	Yes
State Treasurer (or designee)	Kim Mooers <sup>1</sup>	Appointed	Yes
Commissioner of OPM (or designee)	Joanna Wozniak-Brown	Ex Officio	Yes
Finance of Renewable Energy	Adrienne Farrar Houël	Appointed	Yes
Finance of Renewable Energy	Dominick Grant	Appointed	Yes
Labor Organization	John Harrity	Appointed	Yes
R&D or Manufacturing	Lonnie Reed	Appointed	Yes
Investment Fund Management	OPEN POSITION	Appointed <sup>2</sup>	Yes
Environmental Organization	Matthew Ranelli	Appointed	Yes
Finance or Deployment	Tom Flynn	Appointed	Yes

<sup>1</sup> As of June 5, 2024, Kim Mooers has been designated to represent the State Treasurer on the Board of Directors, which position was previously held by Bettina Bronisz.

<sup>2</sup> As of April 2023, Laura Hoydick is no longer a board member. Position remains open.

Residential or Low Income	Brenda Watson	Appointed	Yes
President of the Green Bank	Bryan Garcia	Ex Officio	No

### Board of Directors

The Board of Directors of the Green Bank is comprised of twelve (12) ex officio and appointed voting members, and one (1) ex officio non-voting member. A quorum for a meeting of the Board of Directors has seven (7) voting members at each meeting.

The leadership of the Board of Directors, includes:

- **Chair** – Lonnie Reed
- **Vice Chair**–Hank Webster, DEEP
- **Secretary** – Matthew Ranelli, Partner at Shipman and Goodwin
- **Staff Lead** – Bryan Garcia, President and CEO

For FY 2024, the Board of Directors of the Green Bank met eight (8) times, seven of which were regularly scheduled meetings, and one of which was a special meeting (see Table 2).

**Table 2. Summary of Board of Directors Meetings for FY 2024**

<b>Date</b>	<b>Regular or Special Meeting</b>	<b>Attendees / % Attendance</b>	<b># of Resolutions Approved<sup>3</sup></b>
July 21, 2023	Regular	9 / 81%	14
August 3, 2023	Special	8 / 72%	2
October 20, 2023	Regular	10 / 90%	10
December 15, 2023	Regular	9 / 81%	11
January 26, 2024	Regular	10 / 90%	9
March 15, 2024	Regular	10 / 90%	6
April 26, 2024	Regular	9 / 81% <sup>4</sup>	1
June 21, 2024	Regular	8 / 72%	10
<b>Total</b>	7 Regular Meetings 1 Special Meeting <b>8 Total Meetings</b>	82% <b>82%</b>	63 <b>63</b>

Overall, the attendance for each meeting established a quorum – 7 of the 12 voting members present – in order to enable business decisions, and on average there were 9 members present at each meeting.

For a link to the materials from the Board of Directors meetings that is publicly accessible – [click here](#).

### *Statement of Financial Interest*

It is required by state ethics laws that senior-level staff (i.e., Director level and above) and members of the Board of Directors annually file a Statement of Financial Interest (SFI). With respect to the

<sup>3</sup> Excludes approval of meeting minutes and adjournment.

<sup>4</sup> Calculation of percentage adjusted to account for Laura Hoydick's departure, which created a vacancy on the Board.

2023 SFI filing – required by May 1, 2024, the OSE received the following from the Connecticut Green Bank (see Table 3):

**Table 3. Summary of State of Financial Interest Filings with the Office of State Ethics for CY 2022**

	<b>Number of SFIs Submitted</b>	<b>% Submitted on Time and Electronic</b>
Senior Staff	7	100%
Board of Directors	8	100%

Of the fifteen (15) SFI filings by Senior Staff and the Board of Directors, all were filed online. On May 23, 2024, the Office of State Ethics sent out their May newsletter in which they congratulated us for being one of seventy-one (71) agencies that “earned the distinction of 100% timely compliance.”

### **Audit, Compliance and Governance Committee**

The Audit, Compliance and Governance Committee (ACG Committee) of the Green Bank is comprised of four (4) ex officio and appointed voting members. A quorum for a meeting of the ACG Committee is three (3) voting members at each meeting. Note that if there are not enough voting members of the ACG Committee present at a meeting, then the Chair and/or Vice Chair of the Connecticut Green Bank can participate in the meeting to establish a quorum. The leadership of the ACG Committee, includes:

- **Chair** – Tom Flynn, Managing Partner, Coral Drive Partners, LLC
- **Members** – Lonnie Reed, Matthew Ranelli, Joanna Wozniak-Brown
- **Staff Lead** – Brian Farnen, CLO and General Counsel

For FY 2024, the ACG Committee of the Connecticut Green Bank met three (3) times, all regularly scheduled meetings. (See Table 4).

**Table 4. Summary of Audit, Compliance and Governance Committee Meetings for FY 2024**

<b>Date</b>	<b>Regular or Special Meeting</b>	<b>Attendees / % Attendance</b>	<b># of Resolutions Approved</b>
October 10, 2023	Regular	3 / 75%	4
January 16, 2024	Regular	3 / 75%	1
May 14, 2024	Regular	3 / 75%	0
<b>Total</b>	<b>3 total meetings</b>	<b>Avg. 75%</b>	<b>5</b>

The attendance established a quorum with at least 3 voting members present – in order to enable business decisions.

For a link to the materials from the ACG Committee meetings that is publicly accessible – [click here](#).

### *Review of Governance Documents and Statutory Reporting*

With respect to annual review of governance documents and statutory reporting, the following applies:

- Annual review by the ACG Committee of the Governance Documents (i.e., Bylaws, Operating Procedures, and Statement of Purpose) completed on October 10, 2023, Brian Farnen recommended no changes.
- Statutory Responsibilities and Reporting Checklist attached hereto as Exhibit A for continuous reporting tracking.

---

### **Budget Operations and Compensation Committee**

The Budget Operations and Compensation Committee (BOC Committee) is comprised of five (5) ex officio and appointed voting members. A quorum for a meeting of the BOC Committee is three (3) voting members at each meeting. Note that if there are not enough voting members of the BOC Committee present at a meeting, then the Chair and/or Vice Chair of the Green Bank can participate in the meeting to establish a quorum. The leadership of the BOC Committee, includes:

- **Chair** – John Harrity, Labor Union Representative (designated as the Chair by the former Chair of the Board Catherine Smith)
- **Members** – Lonnie Reed, Brenda Watson, Adrienne Farrar Houël, Robert Hotaling
- **Staff Lead** – Eric Shrago, Vice President of Operations

For FY 2024, the BOC Committee of the Green Bank met two (2) times, and all were regularly scheduled (see Table 5). Two (2) regularly scheduled meetings, on May 8, 2024, and June 12, 2024, were cancelled.

**Table 5. Summary of Budget Operations and Compensation Committee Meetings for FY 2023**

<b>Date</b>	<b>Regular or Special Meeting</b>	<b>Attendees / % Attendance</b>	<b># of Resolutions Approved</b>
January 17, 2024	Regular	3 / 60%	1
June 5, 2024	Regular	5 / 100%	1
<b>Total</b>	<b>2 Total Meetings</b>	<b>Avg. 80%</b>	<b>2</b>

Attendance at each of the BOC Committee meetings established a quorum – 3 voting members present – in order to enable business decisions.

For a link to the materials from the BOC Committee meetings that is publicly accessible – [click here](#).

---

### **Deployment Committee**

The Deployment Committee of the Green Bank is comprised of six (6) ex officio and appointed voting members. A quorum for a meeting of the Deployment Committee is four (4) voting members at each meeting. Note that if there are not enough voting members of the Deployment Committee present at a meeting, then the Chair and/or Vice Chair of the Green Bank can participate in the meeting to establish a quorum. The leadership of the Deployment Committee, includes:

- **Chair** – Hank Webster, DEEP Designees

- **Members** – Lonnie Reed, Matthew Ranelli, Dominick Grant, Sarah Sanders (replaced by Bettina Bronisz), and Robert Hotaling
- **Staff Lead** – Bryan Garcia, President and CEO, and Bert Hunter, EVP and CIO

For FY 2024, the Deployment Committee of the Green Bank met five (5) times, four of which were regularly scheduled and one meeting being specially scheduled (see Table 6).

**Table 6. Summary of Deployment Committee Meetings for FY 2024**

<b>Date</b>	<b>Regular or Special Meeting</b>	<b>Attendees / % Attendance</b>	<b># of Resolutions Approved</b>
September 20, 2023	Regular	6 / 100%	1
November 15, 2023	Regular	5 / 83%	1
December 15, 2023	Special	6 / 100%	1
February 21, 2024	Regular	6 / 100%	1
May 22, 2024	Regular	5 / 83%	10
<b>Total</b>	<b>5 Total Meetings</b>	<b>Avg. 93%</b>	<b>14</b>

Overall, the attendance for each meeting established a quorum – 4 of the 6 voting members present – in order to enable business decisions.

For a link to the materials from the Deployment Committee meetings that is publicly accessible – [click here](#).

### **Joint Committee of the EEB and the CGB**

Section 16-245m(d)(2) of the Connecticut General Statutes created a Joint Committee of the Energy Efficiency Board (EEB) and the Connecticut Green Bank. Per bylaws established and approved by the EEB and the Green Bank, the Joint Committee is comprised of four (4) appointed and voting members, one (1) ex officio and voting member, and four (4) ex officio and non-voting members. A quorum for a meeting of the Joint Committee is three (3) voting members at each meeting. The leadership of the Joint Committee, includes:

- **Chair** – Brenda Watson, Executive Director, Operation Fuel, Lonnie Reed<sup>5</sup> and John Harrity, CT Roundtable on Climate and Jobs (voting, Green Bank designees)
- **Vice Chair** – Hank Webster, DEEP (voting)
- **Secretary** – Bryan Garcia, Connecticut Green Bank (non-voting)
- **Green Bank Members** – Bryan Garcia (non-voting) and Bert Hunter (non-voting)

<sup>5</sup> Voting for first two committee meetings, non-voting for third committee meeting.

- **Staff Lead** – Bryan Garcia, President and CEO of the Connecticut Green Bank

For FY 2024, the Joint Committee of the EEB and the Green Bank met two (2) times, including two (2) regularly scheduled meetings (see Table 7). Two (2) regularly scheduled meetings, on September 27, 2023, and June 20, 2024, were canceled.

**Table 7. Summary of Joint Committee Meetings for FY 2024**

<b>Date</b>	<b>Regular or Special Meeting</b>	<b>Attendees / % Attendance Voting (CGB)</b>	<b>Attendees / % Attendance Non-Voting (CGB)</b>
December 20, 2023	Regular	2 / 50%	3 / 100%
March 20, 2024	Regular	3 / 75%	2 / 66%
<b>Total</b>	<b>2 Total Meeting</b>	<b>Avg. 62%</b>	<b>Avg. 83%</b>

Overall, the attendance for each meeting established a quorum – 3 of the 4 voting members present – in order to enable business decisions, and on average there were 4 members present at each meeting.

For a link to the materials from the Joint Committee meetings that is publicly accessible – [click here](#).

---

## **RESOLUTIONS**

**WHEREAS**, in July of 2011, the Connecticut General Assembly passed Public Act 11-80 (the Act), “AN ACT CONCERNING THE ESTABLISHMENT OF THE DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION AND PLANNING FOR CONNECTICUT’S ENERGY FUTURE,” which created the Connecticut Green Bank (the “Green Bank”) and vests the power in a Board of Directors comprised of eleven voting and one non-voting member; and

**WHEREAS**, the structure of the Board of Directors is governed by the bylaws of the Connecticut Green Bank, including, but not limited to, its powers, meetings, committees, and other matters.

**NOW**, therefore be it:

**RESOLVED**, that Board has reviewed and approved the Overview of Compliance Reporting and the Board of Directors and Committees for FY 2024 memo dated July 26, 2024, prepared by staff, which provides a summary report of the FY 2024 governance of the Board of Directors and its Committees of the Connecticut Green Bank.

## Exhibit A

Checklist of Statutorily Required Reports																					
Quarterly Cash Flow		Quarterly Human Resources		Sec. 1-123		REEEFA Bonding		SCRF Notice		RSIP		Annual Report		Board Meetings			OpenCT Checkbook Data to Comptroller		Board Diversity		
Quarter End	Submitted	Quarter End	Submitted	Due	Submitted	Due	Submitted	Reason Required	Submitted	Due	Submitted	Due	Submitted	Held	Type	Held	Type	Requested by	Delivered	Due	Submitted
9/30/13	3/14/14	10/1/13	6/17/14	1/1/15	12/30/14	1/1/13	2/8/13	CSCU deal	12/1/17	1/1/14	-	1/1/15	12/30/14	12/16/15	regular	2/22/19	regular	1/15/19	1/10/19	10/1/19	9/25/19
12/31/13	3/14/14	1/1/14	6/17/14	1/1/16	12/31/15	1/1/14	1/15/14	CSCU, Meriden	11/30/18	1/1/17	1/30/17	1/1/16	12/31/15	1/15/16	regular	3/29/19	regular	2/1/20	1/31/20	10/1/21	9/14/21
3/31/14	4/21/15	4/1/14	6/17/14	1/1/17	12/29/16	1/1/15	3/15/15	CSCU, Meriden	12/30/19	1/1/19	1/11/19	1/1/17	10/17/16	2/26/16	special	4/26/19	regular	3/15/21	3/15/21		
6/30/14	4/21/15	7/1/14	8/5/14	1/1/18	12/27/17	1/1/16	12/23/15	SHREC	12/7/20	1/1/21	12/31/20	1/1/18	12/1/17	3/3/16	special	6/28/19	regular	3/31/22	3/31/22		
9/30/14	6/16/16	10/1/14	10/2/14	1/1/19	12/31/18	1/1/17	12/15/16	4 certificates	11/24/21	1/1/23	12/29/22	1/1/19	1/11/19	4/22/16	regular	7/18/19	regular	3/31/23	3/29/23		
12/31/14	6/16/16	1/1/15	1/12/15	1/1/20	12/31/19	1/1/18	12/1/17	4 certificates	11/24/22	1/1/20	12/27/19	1/1/20	12/27/19	6/17/16	regular	9/12/19	regular	3/15/24	3/15/2024		
3/31/15	6/16/16	4/1/15	4/12/15	1/1/21	12/30/20	1/1/19	12/31/18	3 Certificates	11/21/23	1/1/21	12/31/20	1/1/21	12/31/20	7/6/16	special	10/25/19	regular				
6/30/15	6/16/16	7/1/15	7/9/15	1/1/22	12/29/21	1/2/19	12/30/19			1/1/22	12/29/21	1/1/22	12/29/21	7/22/16	regular	11/20/19	special				
9/30/15	5/31/16	10/1/15	10/9/15	1/1/23	12/30/22	1/3/21	12/30/20			1/1/23	12/20/22	1/1/23	12/20/22	10/21/16	regular	12/20/19	regular				
12/31/15	5/31/16	1/1/16	1/8/16	1/1/24	12/20/23	1/4/22	12/29/21			1/1/24	12/30/22	1/1/24	12/18/23	12/16/16	regular	1/24/20	regular				
3/31/16	5/31/16	4/1/16	3/31/16			1/1/23	12/30/22							1/5/17	special	3/25/20	regular				
6/30/16	8/10/16	7/1/16	7/5/16			1/1/24	12/18/23							1/20/17	regular	4/24/20	regular				
9/30/16	11/8/16	10/1/16	10/5/16											3/10/17	special	6/26/20	regular				
12/31/16	2/23/17	1/1/17	2/21/17											4/28/17	regular	7/24/20	regular				
3/31/17	5/10/17	4/1/17	4/10/17											6/9/17	special	9/23/20	special				
6/30/17	8/9/17	7/1/17	7/1/17											6/23/17	regular	10/23/20	regular				
9/30/17	12/21/17	10/1/17	10/6/17											7/21/17	regular	12/18/20	regular				
12/31/17	2/28/18	1/1/18	1/9/18											9/28/17	regular	1/22/21	regular				
3/31/18	5/17/18	4/1/18	4/2/18											10/3/17	special	3/26/21	regular				
6/30/18	9/5/18	7/1/18	7/5/18											10/20/17	regular	4/6/21	special				
9/30/18	11/28/18	10/1/18	10/3/18											11/6/17	special	4/23/21	regular				
12/31/18	7/11/19	1/1/19	1/3/19											11/13/17	special	6/25/21	regular				
3/31/19	9/23/19	4/1/19	4/1/19											12/1/17	special	7/23/21	regular				
6/30/19	9/23/19	7/1/19	7/1/19											12/15/17	regular	10/22/21	regular				
9/30/19	12/27/19	10/1/19	10/1/19											1/26/18	regular	12/17/21	regular				
12/31/19	3/26/20	1/1/20	1/3/20											2/15/18	special	1/21/22	regular				
3/31/20	6/22/20	4/1/20	4/3/20											4/3/18	regular	3/25/22	regular				
6/30/20	9/28/20	7/1/20	7/7/20											4/27/18	regular	4/22/22	regular				
9/30/20	12/18/20	10/1/20	10/9/20											5/25/18	special	6/24/22	regular				
12/31/20	3/11/21	1/1/21	1/11/21											6/13/18	regular	7/22/22	regular				
3/31/21	6/22/21	4/1/21	4/1/21											6/28/18	regular	7/28/22	special				
6/30/21	9/23/21	7/1/21	6/30/21											7/27/18	regular	10/21/22	regular				
9/30/21	12/28/21	10/1/21	9/30/21											8/21/18	special	12/16/22	regular				
12/31/21	3/11/22	1/1/22	1/11/22											9/18/18	special	1/20/23	regular				
3/31/22	6/23/22	4/1/22	4/1/22											10/26/18	regular	3/17/23	regular				
6/30/22	9/30/22	7/1/22	7/12/22											12/14/18	regular	4/21/23	regular				
9/30/22	12/29/22	10/1/22	10/2/22													6/23/23	regular				
12/31/22	3/28/23	1/1/23	12/29/22													7/21/23	regular				
3/31/23	6/22/23	4/1/23	4/3/23													8/3/23	special				
6/30/23	9/27/23	7/1/23	7/2/23													10/20/23	regular				
9/30/23	12/19/23	10/1/23	9/30/23													12/20/2023	regular				
12/31/23	3/7/24	1/1/24	12/29/23													1/26/2024	regular				
		4/1/24	3/31/24													3/15/2024	regular				
																4/26/2024	regular				
																6/21/2024	regular				



# Memo

**To:** Connecticut Green Bank Board of Directors

**From:** Ed Kranich (Senior Manager of Incentive Programs), Sergio Carrillo (Managing Director of Incentive Programs), and Bryan Garcia (President and CEO)

**Cc:** Mackey Dykes, Brian Farnen, Bert Hunter, Jane Murphy, and Eric Shrago

**Date:** July 19, 2024

**Re:** Energy Storage Solutions Program – Restatement of Upfront Incentives

---

The Energy Storage Solutions (ESS) Program was established by the Public Utilities Regulatory Authority (PURA) in Docket No. 17-12-03RE03, PURA Investigation into Distribution System Planning of the Electric Distribution Companies – Electric Storage. In its Final Decision<sup>1</sup> in this docket, issued July 28, 2021, PURA appointed The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource), The United Illuminating Company (UI), and the Connecticut Green Bank (Green Bank) as co-administrators of the Program.<sup>2</sup>

The Green Bank's responsibilities include customer enrollment, administration of the upfront incentive, marketing and promotion, and data aggregation and publication to support evaluation, measurement, and verification, among others.

## A. Original Approval of Upfront Incentives by Deployment Committee

On May 22, 2024, the Incentive Programs Team presented to the Deployment Committee 29 battery storage projects seeking upfront incentives for their participation in the Energy Storage Solutions (ESS) Program. The aggregate incentive amount of those 29 projects totaled \$20.3 million.

Among those 29 projects, there were 14 projects proposed by Honeywell International, Inc. for the deployment of 28 MW of battery storage capacity at Walmart stores throughout the state. Each project will supply backup power to a Walmart store, which can act as a resilience hub in event of an outage. Additionally, five of the sites are located in Underserved Communities.

Table 1 below shows the list of Honeywell projects whose upfront incentive were approved during the May 22 Deployment Committee meeting.

---

<sup>1</sup> <https://tinyurl.com/2p8v4cwa>

<sup>2</sup> It should also be noted that with the passage of Public Act 21-53 "An Act Concerning Energy Storage," that PURA shall solicit input from DEEP, OCC, EDC's, and the Green Bank in developing energy storage system programs, and may select DEEP, EDC's, Green Bank, a third party, or any combination thereof to implement one or more programs for electric storage resources as directed by PURA.



Project Number	Contractor Account	Utility	City	Annual Peak Demand (kW)	Total System Power (kW)	System Energy Capacity (kWh)	Total Battery Cost	Estimated Upfront Incentive	Expected Install Year
ESS-00963	Honeywell International, Inc.	Eversource	Manchester	530.3	2,000.0	5,590.0	\$5,660,460	\$698,750	2027
ESS-00997	Honeywell International, Inc.	Eversource	Windham	591.7	2,000.0	5,590.0	\$5,660,460	\$698,750	2027
ESS-00998	Honeywell International, Inc.	UI	Shelton	604.8	2,000.0	5,590.0	\$5,660,460	\$698,750	2027
ESS-01000	Honeywell International, Inc.	Eversource	East Windsor	569.6	2,000.0	5,590.0	\$5,660,460	\$698,750	2027
ESS-01007	Honeywell International, Inc.	Eversource	Lisbon	650.7	2,000.0	5,590.0	\$5,660,460	\$698,750	2027
ESS-01009	Honeywell International, Inc.	Eversource	Brooklyn	545.8	2,000.0	5,590.0	\$5,660,460	\$698,750	2027
ESS-00993	Honeywell International, Inc.	Eversource	Putnam	388.3	2,000.0	5,590.0	\$5,660,460	\$829,766	2027
ESS-00999	Honeywell International, Inc.	Eversource	Branford	309.9	2,000.0	5,590.0	\$5,660,460	\$829,766	2027
ESS-01001	Honeywell International, Inc.	Eversource	Naugatuck	476.7	2,000.0	5,590.0	\$5,660,460	\$829,766	2027
ESS-01002	Honeywell International, Inc.	Eversource	Cromwell	493.3	2,000.0	5,590.0	\$5,660,460	\$829,766	2027
ESS-01003	Honeywell International, Inc.	Eversource	Waterford	385.8	2,000.0	5,590.0	\$5,660,460	\$829,766	2027
ESS-01005	Honeywell International, Inc.	UI	Stratford	291.8	2,000.0	5,590.0	\$5,660,460	\$829,766	2027
ESS-01006	Honeywell International, Inc.	Eversource	Bristol	336.7	2,000.0	5,590.0	\$5,660,460	\$829,766	2027
ESS-01008	Honeywell International, Inc.	Eversource	Rocky Hill	267.8	2,000.0	5,590.0	\$5,660,460	\$829,766	2027
				<b>28,000.0</b>	<b>78,260.0</b>	<b>\$10,830,628</b>			

Table 1. Estimated Upfront Incentives

## B. Restatement of previously approved upfront incentives

Once a battery storage project is submitted to the Green Bank, the Incentive Programs Team works closely with project developers to advance the projects and, given that these projects are generally in the early stages of project development, changes in scope are due to occur and common.

Upon further due diligence by the Green Bank, there have been project scope changes that affect the calculation of upfront incentives for 9 of the 14 projects originally proposed by Honeywell.

Table 2 below shows the original and restated upfront incentives for the 9 projects referenced above:

Project Number	Contractor Account	DC Approved Incentive	Revised Incentive Amount	Difference
ESS-00963	Honeywell International, Inc.	\$698,750	\$559,000	\$139,750
ESS-00998	Honeywell International, Inc.	\$698,750	\$559,000	\$139,750
ESS-01000	Honeywell International, Inc.	\$698,750	\$559,000	\$139,750
ESS-01001	Honeywell International, Inc.	\$829,766	\$663,813	\$165,953
ESS-01002	Honeywell International, Inc.	\$829,766	\$663,813	\$165,953
ESS-01003	Honeywell International, Inc.	\$829,766	\$663,813	\$165,953
ESS-01005	Honeywell International, Inc.	\$829,766	\$663,813	\$165,953
ESS-01006	Honeywell International, Inc.	\$829,766	\$663,813	\$165,953
ESS-01007	Honeywell International, Inc.	\$698,750	\$559,000	\$139,750
<b>Incentive Reduction</b>				<b>\$1,388,765</b>

Table 2. Restated Upfront Incentives

The impact of the revised upfront incentives is a reduction of \$1,388,765 in the incentive amount reserved for Honeywell.

### **C. Approval of upfront incentives with a not-to-exceed amount**

Realizing that battery storage project scope changes do occur and are common in early development, Green Bank staff would want to propose a modification to the original resolution to allow for scope changes in the early stages of project development

### **D. Proposed Resolution**

**WHEREAS**, in its June 24, 2022 meeting the Connecticut Green Bank Board of Directors (Board) approved the implementation of an Upfront Incentive Project Approval procedures ("Procedures") for non-residential projects under the Energy Storage Solutions Program (Program) with an estimated upfront incentive payment greater than \$500,000 and procedures for less than \$500,000;

**WHEREAS**, as part of the approved Procedures, Green Bank staff shall present Program projects via the consent agenda utilizing a standard form Tear Sheet process described in the memorandum to the Board dated June 24, 2022;

**WHEREAS**, in its December 9, 2002 meeting the Board approved updated Procedures to better align with the Program process;

**WHEREAS**, the Deployment Committee previously approved on May 22, 2024 fourteen non-residential projects sought by Honeywell International (the "Projects") consistent with the approved Procedures;

**NOW**, therefore be it:

**RESOLVED**, that the Board of Directors hereby re-approves the Projects in an amount not-to-exceed \$10,830,628 consistent with the approved Procedures; and

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver any and all documents and regulatory filings as they shall deem necessary and desirable to effect the above-mentioned incentives consistent with the Procedures.



# Memo

**To:** Board of Directors of the Connecticut Green Bank – Deployment Committee of the Connecticut Green Bank

**From:** Sergio Carrillo (Managing Director of Incentive Programs), Mackey Dykes (VP of Incentive Programs and Officer), Bryan Garcia (President and CEO), and Bert Hunter (EVP and CIO)

**CC:** Brian Farnen (General Counsel and CLO), Jane Murphy (EVP of Finance and Administration), and Eric Shrago (VP of Operations)

**Date:** July 19, 2024

**Re:** Approval of Financing Programs and Energy Storage Solutions Projects Funding Requests below \$500,000 and No More in Aggregate than \$1,000,000 – Update

---

At the October 20, 2017 Board of Directors (Board) meeting of the Connecticut Green Bank (“Green Bank”) it was resolved that the Board approves the authorization of Green Bank staff to evaluate and approve funding requests less than \$500,000 which are pursuant to an established formal approval process requiring the signature of a Green Bank officer, consistent with the Comprehensive Plan, approved within Green Bank’s fiscal budget and in an aggregate amount not to exceed \$1,000,000 from the date of the last Deployment Committee meeting.

The Green Bank Board further revised the approval process to create separate aggregate amounts for the Financing and Energy Storage Solutions (“ESS”) programs as described in the memorandum to the Board dated January 19, 2024.

This memo provides an update on Financing Programs and ESS project funding requests below \$500,000 that were evaluated and approved. During this period, for Financing Programs, one project was evaluated and approved for funding in an aggregate amount of approximately \$197,162. And, during this period, for ESS, no projects were evaluated and approved for funding.

If members of the Board or committee would be interested in the internal documentation of the review and approval process Green Bank staff and officers go through, then please request it.

---

## Summary

Property Information		
Property Address	261 River Street, Bridgeport	
Municipality	Bridgeport	
Property Owner	WR River LLC	
Type of Building	Industrial	
Building Size (sf)	25,470	
Year of Build / Most Recent Renovation	1946	
Environmental Screening Report	[REDACTED]	
Project Information		
Proposed Project Description	66.9 kw DC - Solar PV system	
Energy Contractor	[REDACTED]	
Objective Function	26.18 kBTU / ratepayer dollar at risk	
Projected Energy Savings (mmBTU)		Total
	First Year	271
	Over EUL	5,162
Estimated Cost Savings (incl. ZRECs/Tariff and tax benefits)	First Year (including tax benefits)	\$107,528
	Over EUL	\$395,576
Financial Metrics		
Proposed C-PACE Assessment	\$197,163	
Term Duration (years)	20 years	
Term Rate	5.25% annually	
Construction Rate	5.00% annually	
Annual C-PACE Assessment	\$16,041	
Average DSCR	[REDACTED]	
Savings-to-Investment Ratio	1.23x	
Lien-to-Value (LiTV)	[REDACTED]	
Loan-to-Value (LTV)	[REDACTED]	
Appraisal Value <sup>1</sup>	[REDACTED]	
Mortgage Lender Consent	Received [REDACTED]	

<sup>1</sup> Staff estimated value of \$[REDACTED] was derived using Projected NOI and CoStar Cap Rate data (see memorandum for explanation of absence of appraisal) + 50% of the project investment hard costs.

# Memo

**To:** Board of Directors of the Connecticut Green Bank

**From:** Brian Farnen, Blaire Backman, and Bryan Garcia

**Date:** July 19, 2024

**Re:** Overview of Requests for Approvals for Professional Services Agreements over \$75,000 for FY2024 per Operating Procedures

---

## Overview

This memo provides a summary report of the requested approvals for those Professional Services Agreement (“PSA”) with a not-to-exceed amount of over \$75,000 in the 2024 fiscal year (“FY2024”). This approval process is outlined in Section IX (ii) of the Connecticut Green Bank (“Green Bank”) Operating Procedures, as follows:

“(ii) for such contracts requiring an expenditure by the Green Bank over seventy-five thousand dollars (\$75,000) and up to and including one hundred fifty thousand dollars (\$150,000) over a period of one (1) fiscal year, the President and the Chairperson must both approve the expenditure, and (iii) for such contracts requiring an expenditure by the Green Bank of over one hundred fifty thousand dollars (\$150,000), such contract shall, whenever possible, be awarded on the basis of a process of competitive negotiation where proposals are solicited from at least three (3) qualified parties. To the extent permitted by any contract for administrative support and services between the Green Bank and Connecticut Innovations, Incorporated, professional services may also be provided by consultants and professionals selected by and under contract to Connecticut Innovations, Incorporated, subject to appropriate cost sharing. The provisions of Section 1-127 of the General Statutes shall apply to the engagement of auditors by the Green Bank”.

Green Bank staff requested a total of forty-one (41) PSAs, or amendments to existing PSAs, with not-to-exceed amounts over the \$75,000 threshold for FY2024<sup>1</sup>, for a total amount of \$8,943,011.82. Approval for twenty-eight (28) of the forty-one (41) were requested, and subsequently granted, by Lonnie Reed, Board Chair. The others all gained approval of the full Board of Directors, as either a one-time approval or as strategic selections for FY2024 at the 6/23/2023 BOD meeting or at subsequent meetings of the Board (see Table 2). This number is up from that of FY23 by \$415,471.54 when approval was sought for forty (40) PSAs and/or amendments over \$75,000, for a total amount of \$8,527,540.28, with fifteen (18) being approved by direct request of BOD Chair Lonnie Reed and approval for the remaining nineteen (22) being granted by the full Board. A breakdown of the agreements for FY2024 follows.

### **Table 1. FY 2024 PSAs over \$75,000 approved by BOD Chair Lonnie Reed**

---

<sup>1</sup> Including multiple PSAs with the same Consultant having *aggregate* not-to-exceed amounts over the \$75,000 threshold for FY24.

Date	Agreement	Division / Program	Original PSA Amount	Amount Amended By
6/28/2023	AlsoEnergy (Locus) Resi PSA 5813 1 <sup>st</sup> Amendment <sup>2</sup>	S&I - RSIP	<b>\$1,000,000<sup>3</sup></b>	\$75,000
7/1/2023	AlsoEnergy (Locus) Resi PSA 5939	S&I - RSIP	\$1,000,000	
7/1/2023	AlsoEnergy (Locus) Comm PSA 5940	S&I - RSIP	\$33,000	
7/1/2023	Justeco Limited (L. Della Pesca) PSA 5933	CI&I - SL2 & CEFIA Holdings	\$170,000	
7/11/2023	Carahsoft (SalesForce & Pardot POs) 1 <sup>st</sup> Amendment	Marketing	<b>\$108,099.76</b>	\$15,301.92
7/26/2023	C-TEC Solar PSA 5770 1 <sup>st</sup> Amendment	S&I – RSIP	<b>\$70,000</b>	\$20,000
7/26/2023	C-TEC Solar PSA 5771 1 <sup>st</sup> Amendment	S&I – RSIP	<b>\$380,000</b>	\$150,000
7/27/2023	CSW, LLC PSA 5848 1 <sup>st</sup> Amendment	CI&I – CPACE	<b>\$308,000</b>	N/A <sup>4</sup>
8/1/2023	C-TEC Solar PSA 5770 2 <sup>nd</sup> Amendment	Program	<b>\$90,000</b>	\$10,000
8/1/2023	C-TEC Solar PSA 5771 2 <sup>nd</sup> Amendment	Program	<b>\$530,000</b>	\$166,000
9/7/2023	C-TEC Solar PSA 5889 1 <sup>st</sup> Amendment	Program	<b>\$500,00</b>	N/A
10/1/2023	C-TEC Solar PSA 5952	Program	\$70,000	
10/1/2023	C-TEC Solar PSA 5953	Program	\$560,000	
10/11/2023	Kevala PSA 5882 1 <sup>st</sup> Amendment	S&I – RSIP	<b>\$190,000</b>	\$50,000
10/23/2023	CSW, LLC PSA 5958	CI&I – CPACE	\$600,000	
11/1/2023	CliftonLarsonAllen PSA 5969	General Op	\$46,700	
11/1/2023	CliftonLarsonAllen PSA 5969	General Op	\$37,200	
11/6/2023	Strategic Environmental Associates PSA 5876 1 <sup>st</sup> Amendment	Marketing	<b>\$240,000</b>	\$80,000
1/3/2024	Clean Energy Counsel LLP 5967	Legal	\$100,000	
1/8/2024	Carahsoft (SalesForce & Pardot POs)	Marketing	\$71,626.25	
2/1/2024	CliftonLarsonAllen PSA 5991	General Op	\$17,000	
2/29/2024	Strategic Enviornmental Associates 5876 2 <sup>nd</sup> Amendment	Marketing	<b>\$320,000</b>	\$320,000

<sup>2</sup> PSA Amendment dated 6/28/2023 included in FY24 calculations as it was approved by Lonnie on 7/31/2023 and payments to Consultant thereunder commenced during FY24.

<sup>3</sup> Highlighted amounts are for illustrative purposes *only* and are not included in calculations, as they pertain to 1. original PSA amounts for FY23 PSAs amended during FY23=4 or 2. Original corresponding PSA NTE figure was under 75k for PSA Amendment approved in FY24 or 3. Figure is already accounted for within this memo.

<sup>4</sup> Amendment modifying non-monetary terms of PSA, though still approved by Lonnie as NTE exceeded 75k at time of Amendment

3/5/2024	C-Tec Solar PSA 5944 1 <sup>st</sup> Amendment	Program	\$149,000	\$325,000	
3/14/2024	Power Advisory LLC 5981	Program	\$150,000		
5/1/2024	C-Tec Solar PSA 5944 2 <sup>nd</sup> Amendment	Program	\$474,000	\$650,000	
5/1/2024	C-Tec Solar PSA 5952 1 <sup>st</sup> Amendment	Program	\$70,000	\$50,000	
5/1/2024	C-Tec Solar PSA 5953 1 <sup>st</sup> Amendment	Program	\$560,000	\$325,000	
5/28/2024	GO LLC PSA 5900 1 <sup>st</sup> Amendment	Marketing	\$600,000	\$80,000	
		<b>Total</b>	<b>\$2,855,526.25</b>	<b>\$2,316,301.92</b>	<b>\$5,171,828.17</b>

**Table 2. FY 2024 PSAs over \$75,000 approved by Green Bank BOD**

Date	Agreement	Division / Program	Original PSA Amount	Amount Amended By	
7/1/2023	Adnet Technologies PSA 5895	General Ops	\$439,512.65		
7/1/2023	Clean Power Research PSA 5931	S&I - RSIP	\$149,944		
7/1/2023	Cortland Capital Market Services PSA 5887	CI&I - CPACE	\$145,473		
7/1/2023	Craftsman Technology Group LLC PSA 5934	Marketing	\$280,000		
7/1/2023	CTEC Solar PSA 5889	S&I - RSIP	\$500,000		
7/1/2023	CTEC Solar PSA 5944	S&I - RSIP	\$149,900	\$970,000	
7/1/2023	DNV Energy Insights USA PSA 5942	CI&I – CPACE	\$112,200		
7/1/2023	Guidehouse PSA 5935	General Ops	\$250,000		
7/1/2023	GO LLC	Marketing	\$600,000	\$80,000	
7/1/2023	IPC - Smart-E (A&R) PSA 5410 1 <sup>st</sup> Amendment	Resi - Smart-E	\$237,717 <sup>5</sup>		
7/1/2023	IPC - MF (A&R) PSA 5411 1 <sup>st</sup> Amendment	Resi - MF	\$230,586		
7/1/2023	IPC - Commercial Solar (A&R) PSA 5412 1 <sup>st</sup> Amendment	Resi - SL	\$556,362		
7/27/2023	CTEC Solar PSA 5941	S&I - RSIP	19,289.00		
6/21/2024	PKF O'Connor Davies PSA 5997	General Op	\$84,200		
6/21/2024	PKF O'Connor Davies PSA 5998	General Op	\$16,000		
		<b>Total:</b>	<b>\$3,771,183.65</b>		<b>\$3,770,283.65</b>

<sup>5</sup> IPC NTE for FY 2024 *only*. Multi-year totals since commencement of 7/2/2021 Amended and Restated PSAs (FYs 2022-2024) are as follows: 5410-\$1,791,387; 5411-\$2,013,079; and, 5412-\$2,771,600.





# The Cleantech Revolution

It's exponential, disruptive, and now

**Kingsmill Bond,  
Sam Butler-Sloss,  
Daan Walter**

June 2024








# Executive Summary


- **The energy system is being transformed by the exponential forces of renewables, electrification, and efficiency.**
- **The orthodox view of slow change is wrong.** New clean technologies beat old fossil commodities because clean technologies' costs fall over time on learning curves, they are universal, and they grow quickly.
- **Exponential change has been remarkable in the past decade.** Cleantech costs have fallen by up to 80 percent, while investment is up nearly tenfold and solar generation has risen twelvefold. Electricity has become the largest source of useful energy, and the deep force of efficiency has reduced energy demand by a fifth.
- **Change is led by China.** Half the growth in cleantech is from China, but exponential growth is also happening in the OECD and across the Global South as Asia electrifies.
- **Red flags across the fossil fuel system.** New fossil electricity capacity peaked in 2010, oil and gas capex in 2014, and internal combustion engine (ICE) car sales in 2017. Fossil demand peaked for industry in 2014, for buildings in 2018, most likely for electricity in 2023, and will shortly peak in transport.
- **The drivers of growth are more powerful than the barriers.** Falling cleantech costs, the energy security of eternal renewables, Chinese leadership, and a race to the top will continue to overwhelm a fragile fossil fuel system which wastes two-thirds of its primary energy and fails to pay for its externality costs.
- **So exponential growth of cleantech will continue.** By 2030, we will be installing 1,000 GW of solar a year and selling 6,000 GWh of batteries a year, making possible the COP goal of tripling renewable capacity. Electrification rates will double to 0.5% a year, and efficiency gains will increase to over 3% a year.
- **The fossil fuel system faces inexorable decline.** Renewables will drive fossil fuels out of electricity generation, electrification will push fossils out of final energy, and efficiency will reduce fossil waste. Some 75% of fossil fuel demand is exposed to rapidly growing cleantech alternatives, so stranded assets are inevitable.
- **Wider implications of change.** The goals of the Paris Agreement are feasible, and the Global South will continue to leapfrog to cleantech.
- **This is the pivot decade.** When cleantech costs become irresistible, the renewable capacity is built, fossil fuel demand reaches the end of its plateau, and the transition is priced into markets.
- **Now is the time to act.** We need to build out renewables and electrify energy use, make good bets on small modular technologies, and harvest the enormous efficiency opportunity. The direction of change is inevitable, but the speed is up to us.


# Index


-  **1 Introduction**


---
-  **2 Exponential change so far**

---
-  **3 The era of peaking demand**

---
-  **4 Why rapid change will continue**

---
-  **5 Implications for the energy system**

---
-  **6 Wider implications of the transition**

---
-  **7 What we need to do now**

# Index

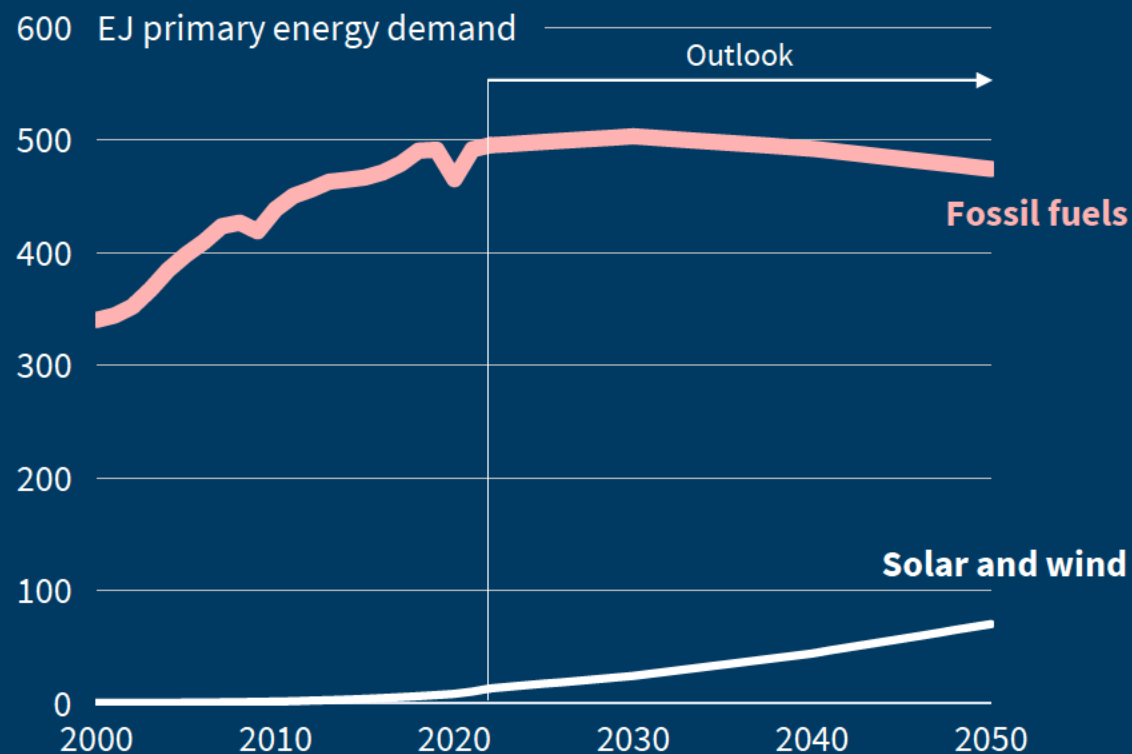
## 1 Introduction

- There are two main perspectives on the energy transition: the old incumbent view of business-as-usual; and the new insurgent view of exponential change.
- At heart this is the longstanding battle of commodities versus technologies. Design and technologies beat commodities because they enjoy learning curves and are limitless. So costs fall over time, and growth is exponential.
- New energy comes from manufactured, modular, scalable, clean technologies; old energy is from centralized, heavy, dirty commodities.
- Old energy forecasting has failed in the face of the new energy reality. Linear forecasts constrained by barriers to growth have consistently been overwhelmed by exponential change.
- There are three key levers in the energy transition: Renewables; Electrification; and Efficiency.

# The two visions of the energy future

The **old commodities** narrative of business-as-usual: reducing fossil fuel demand will be slow, expensive, and painful

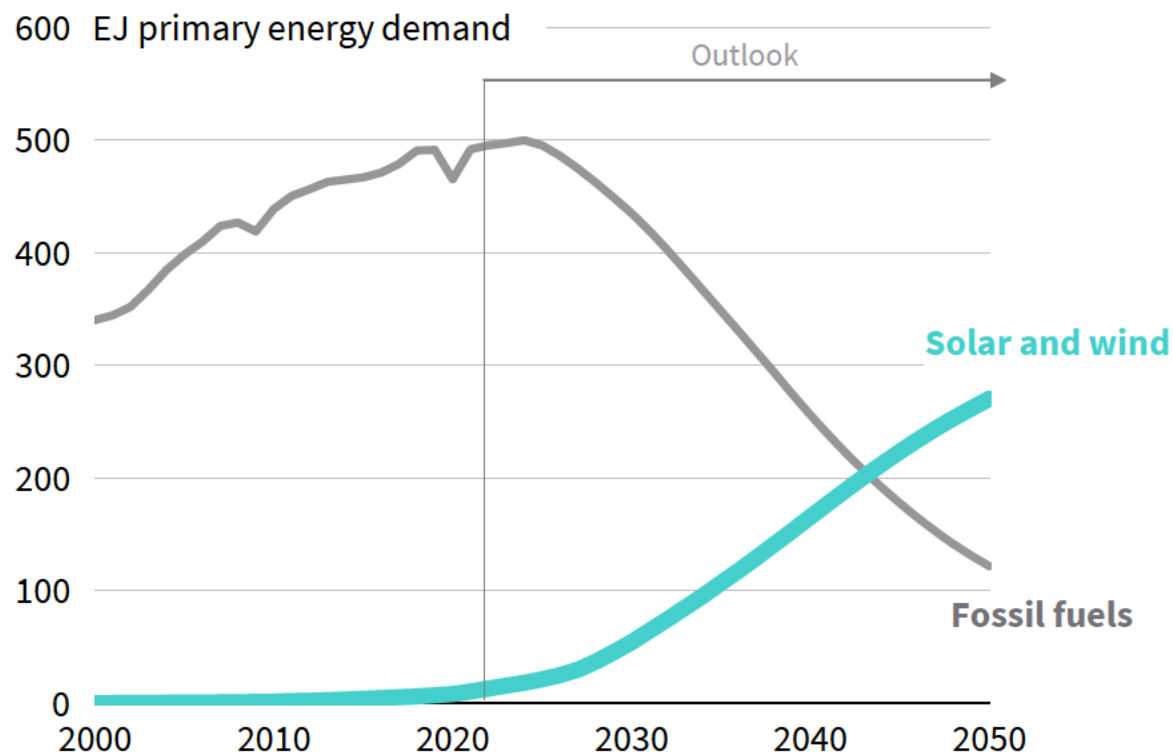
## The old guard's energy outlook



Source: Exxon Mobil Global Outlook 2023.

The **new technology** narrative of exponential and beneficial change: a shift to a cheaper, faster, and distributed energy system

## The new technology insurgent's energy outlook

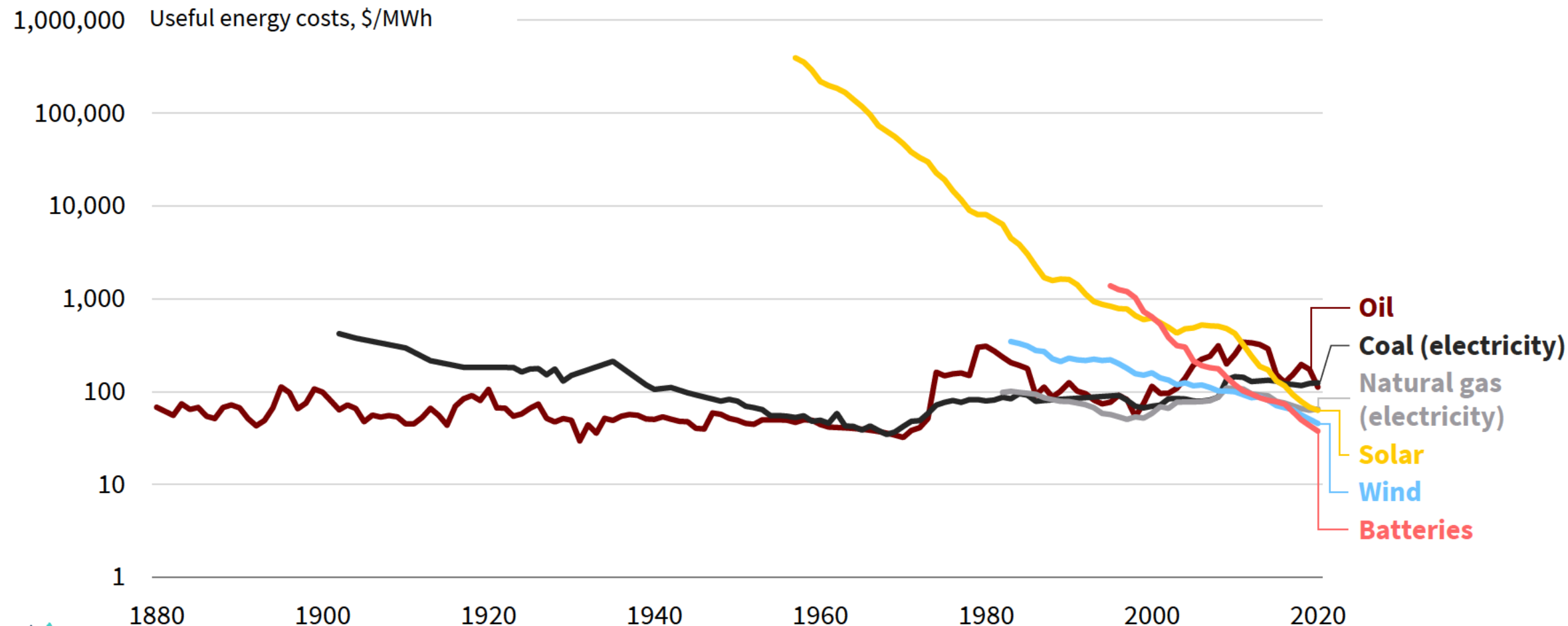


Source: Rystad Energy 1.6°C Scenario.

# Technologies beat commodities on costs

Manufactured technologies (e.g., solar and wind) enjoy cost learning curves; (fossil) commodities don't

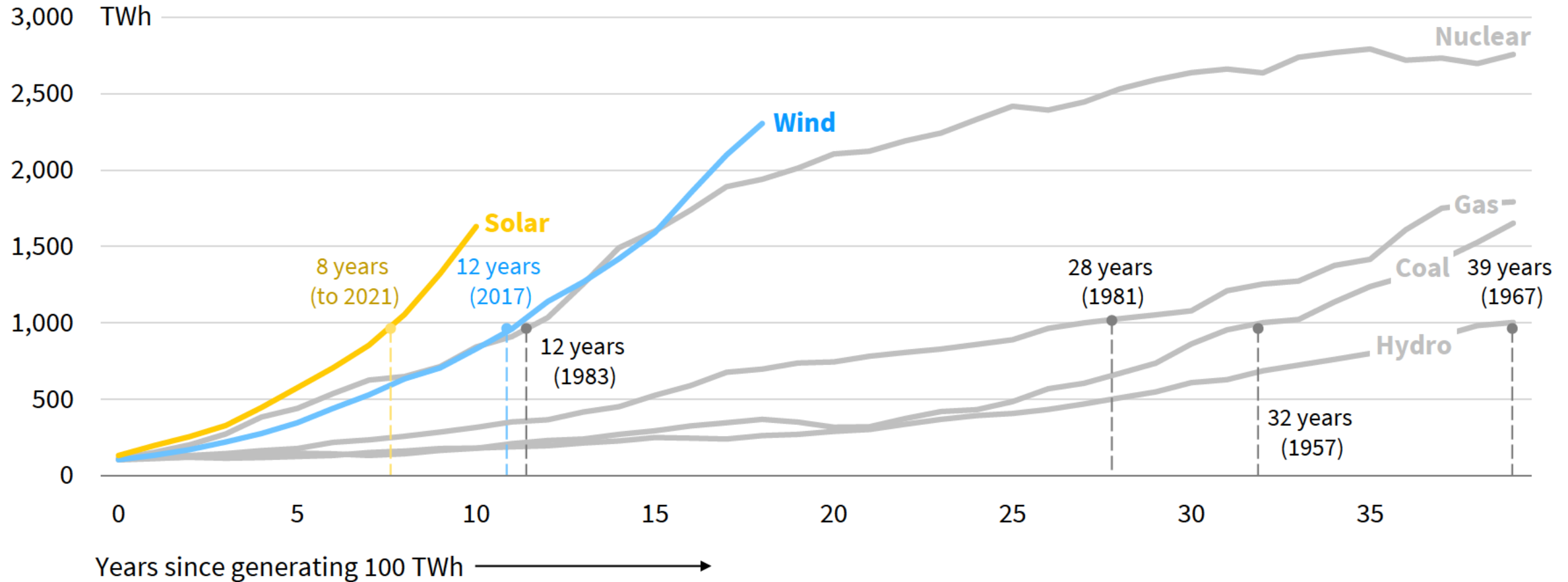
## Historical costs of energy sources



# Technologies beat commodities on speed

Manufactured technologies grow fast; commodities grow slowly

## Electricity generation after reaching 100 TWh





# New energy is fundamentally

## THE AGE OF CARBON

Finite
Fiery, heavy molecules
Geographically concentrated
Wasteful
Continuous material flow
Analogue
Trillions of dollars of annual rents to oligarchs
Malthusian commodity-based system
Concentrates power
Kills millions from air pollution
Produced the greatest externality in history <sup>1</sup>

# different to old energy

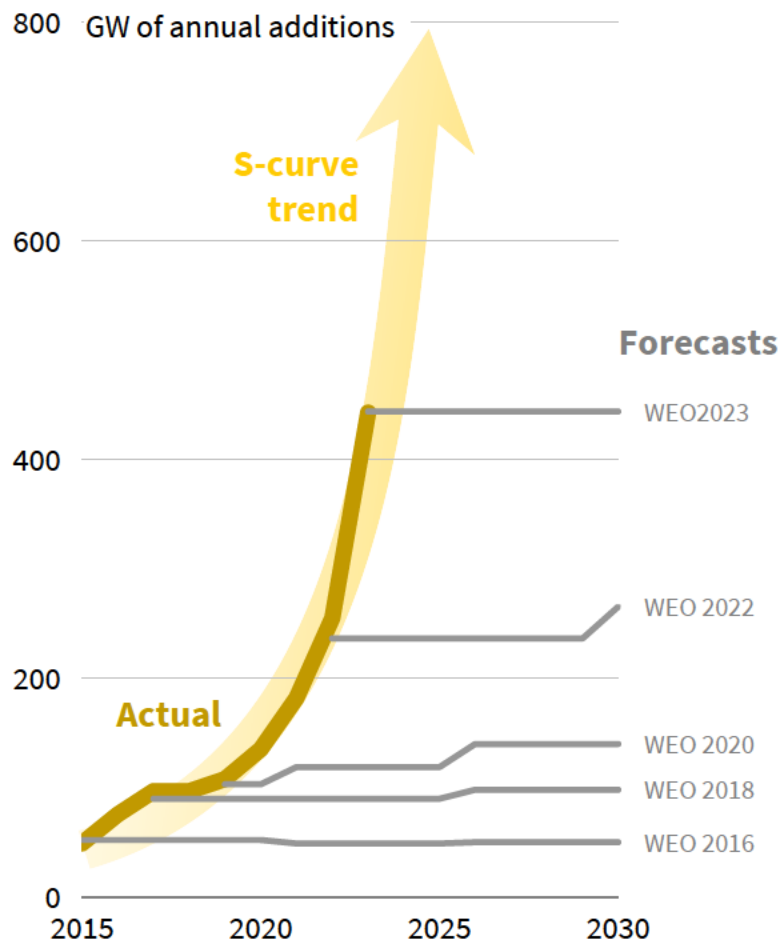
## THE AGE OF RENEWABLES

Eternal
Obedient, light electrons
Available everywhere
Efficient
Circular
Digital
No superprofits
Schumpeterian technology-based system
Localizes and distributes power
Saves millions from air pollution
100 times lower impact on nature

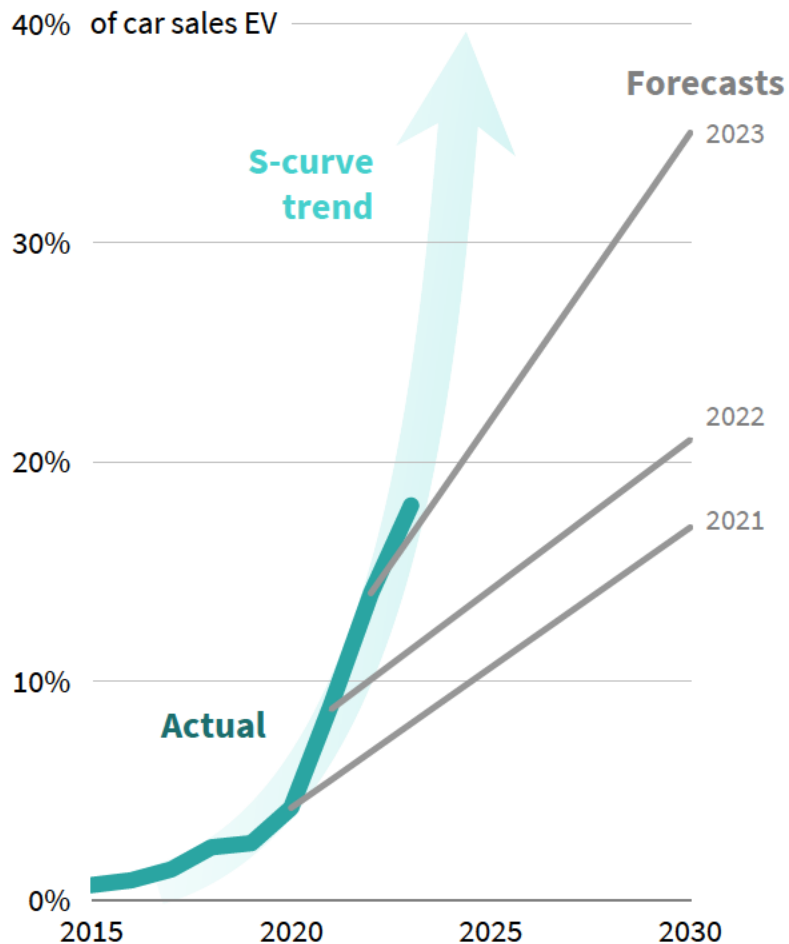
# Incumbents have underestimated the speed of change

Even neutral actors modeled in **linear** terms. But change has been exponential

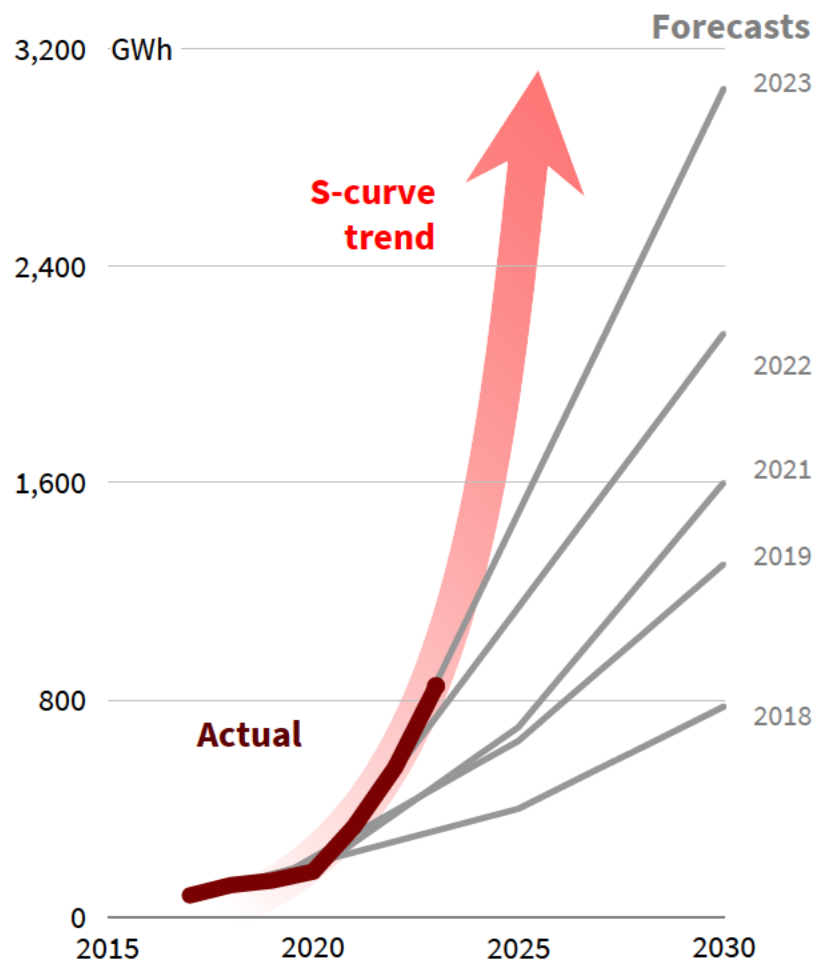
## New solar additions



## EV share of sales



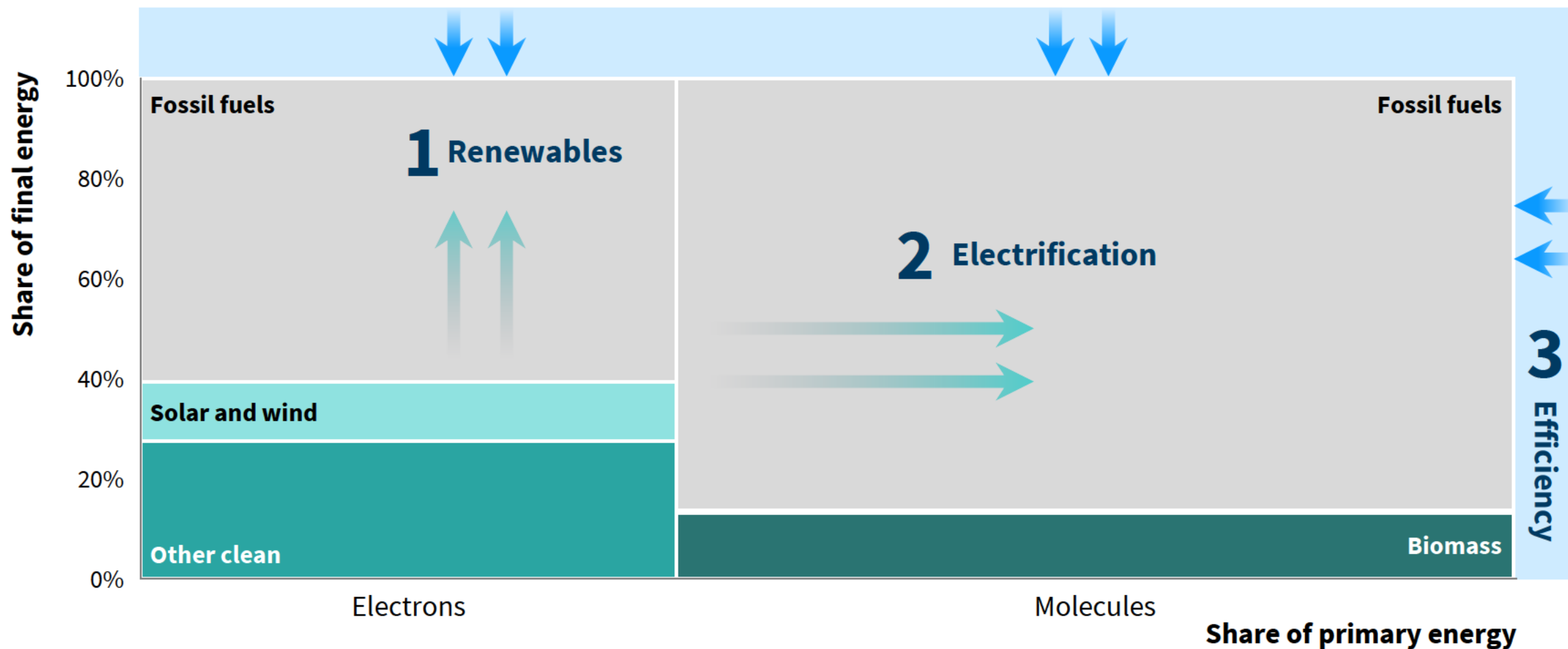
## Battery sales



# There are three big levers of change

Renewables, electrification, and efficiency are rapidly transforming the energy system

Global energy demand in 2022



# Index

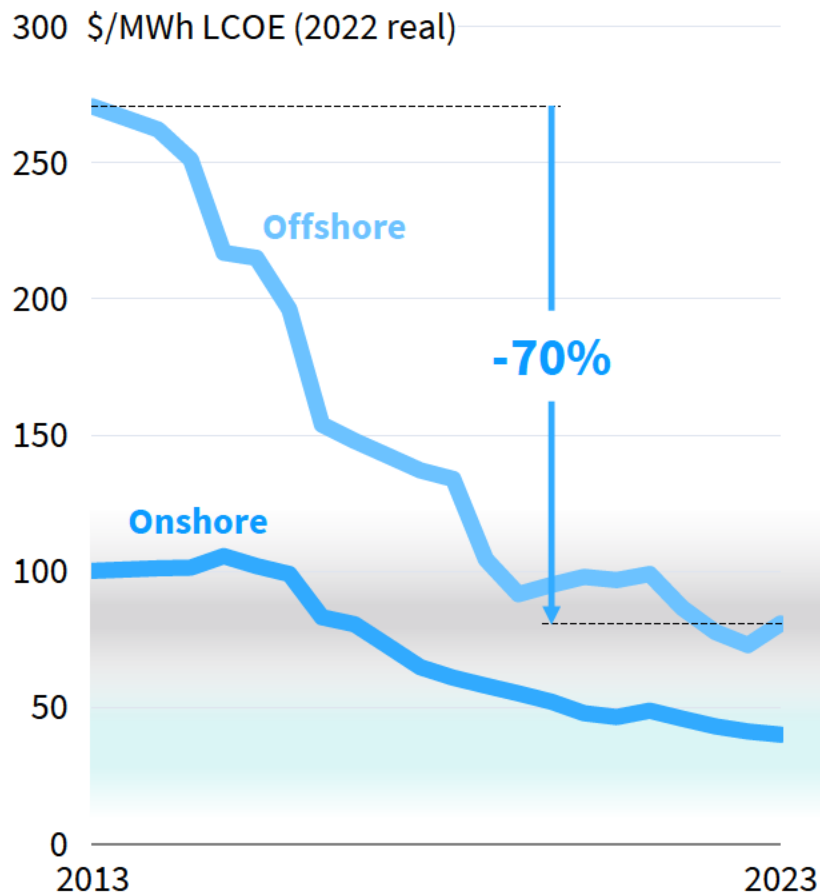
## 2 Exponential growth so far

- There is clear evidence three drivers of changes are growing exponentially: renewables, electrification, and efficiency.
- Cleantech costs fall by around 20% for every doubling in deployment and have fallen by up to 80% in a decade.
- Capital is pouring into cleantech. Getting to the first trillion of annual investment took decades; the second trillion will take only 4 years.
- Solar generation is doubling every 2-3 years and battery storage every year. Solar is poised to deploy the largest amount of generation capacity, and batteries are about to overtake pumped hydro.
- The supply chain is already in place for enough solar and batteries for net zero.
- Electricity supply has been growing inexorably for a century and is now the largest supplier of useful energy.
- Efficiency is the deep force of the energy transition, saving one fifth of total demand over the last decade.
- China leads the exponential story and is poised to be the first major electrostate. Exponential change is happening in the OECD and across the Global South as Asia leapfrogs the OECD in electrification.

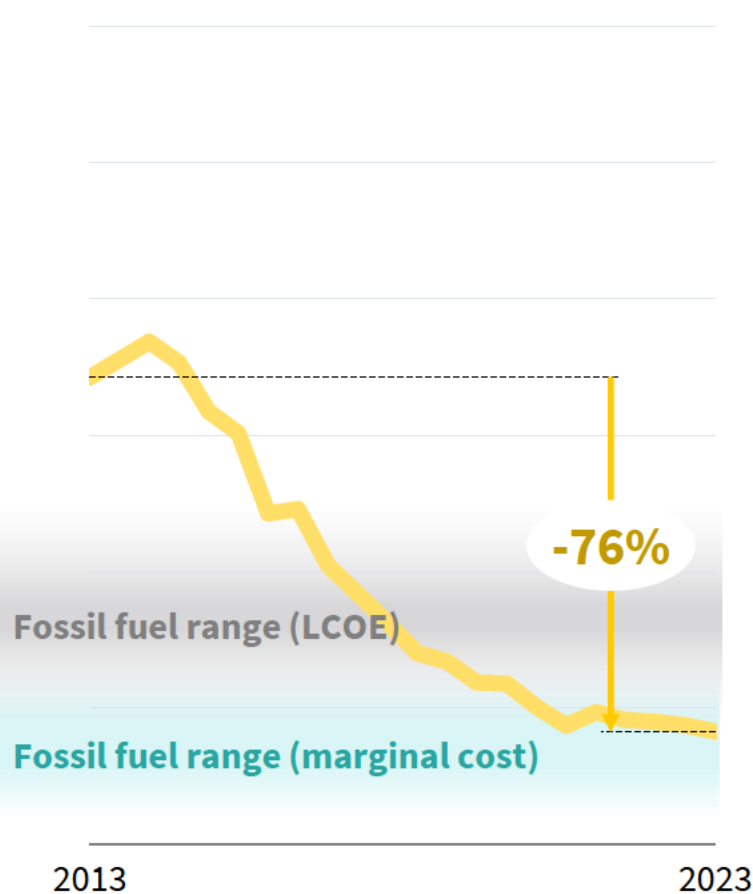
# Cleantech costs have fallen rapidly

Clean technology costs fall by around 20% for every doubling of deployment — Wright's Law

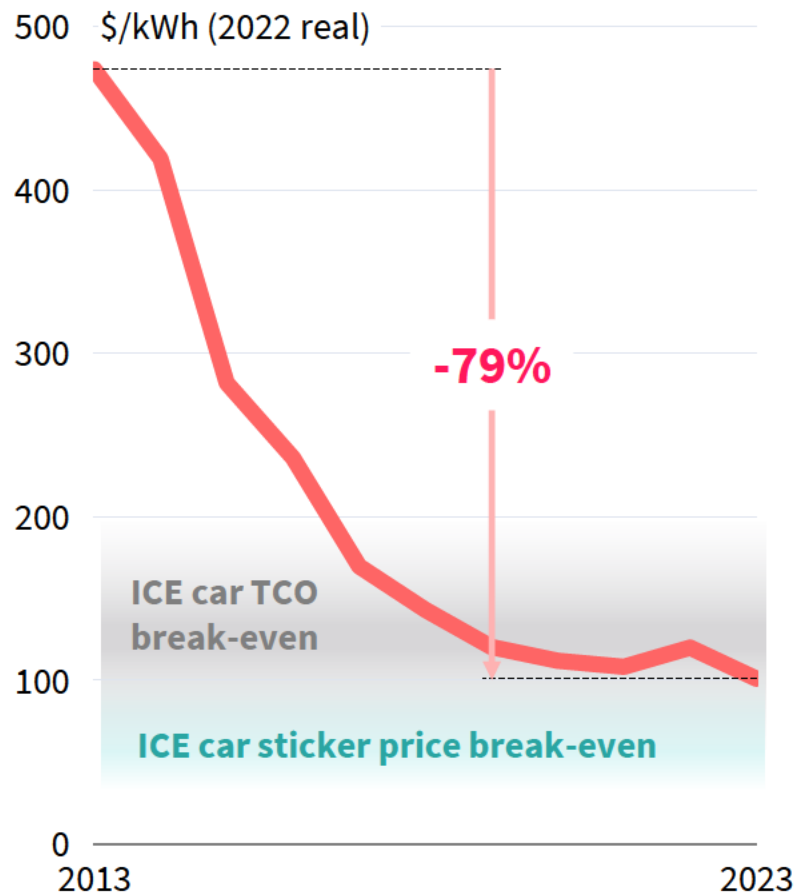
## Wind



## Solar



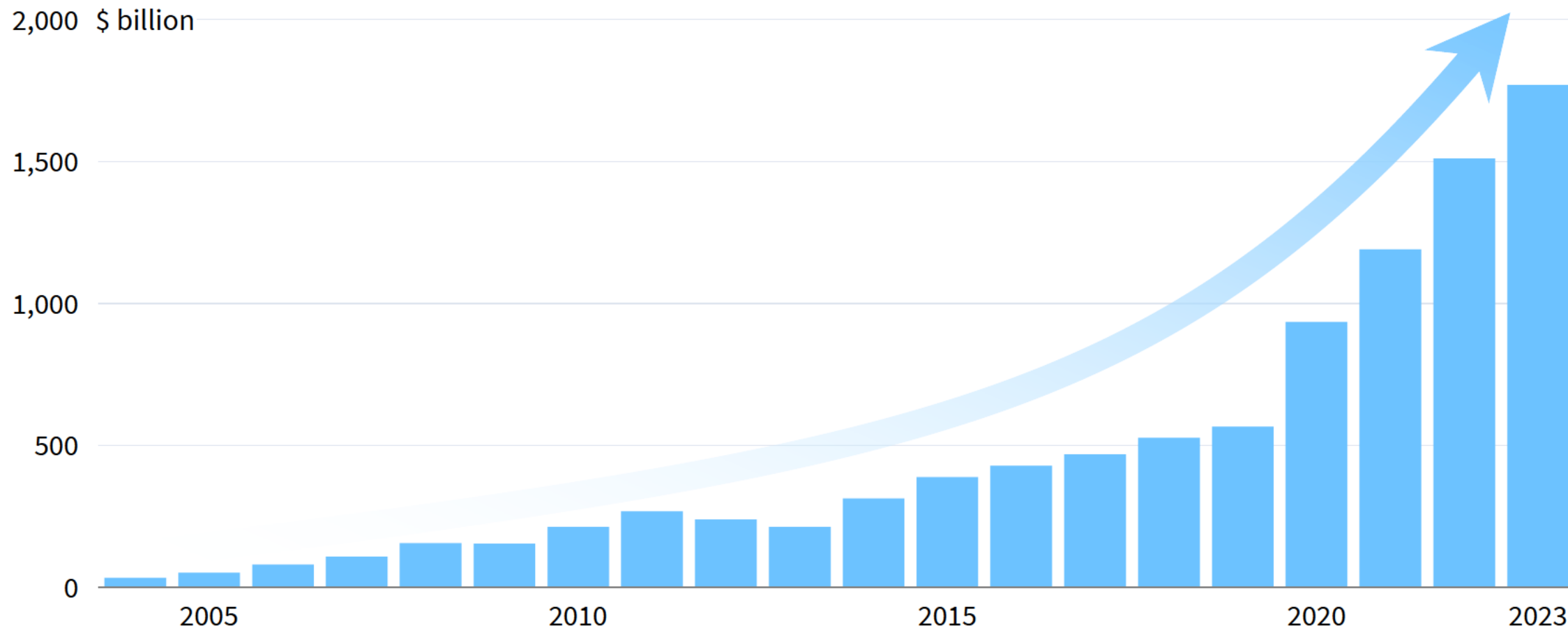
## Battery costs



# Capital has poured into cleantech

The first cleantech trillion took decades; the second trillion will happen in four years

## Cleantech investment

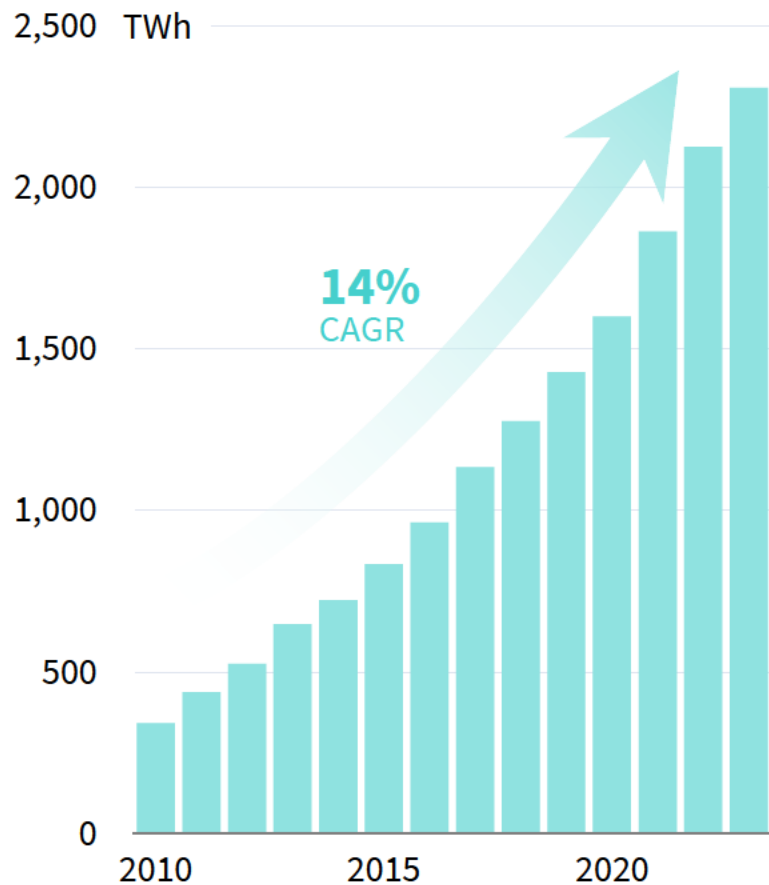




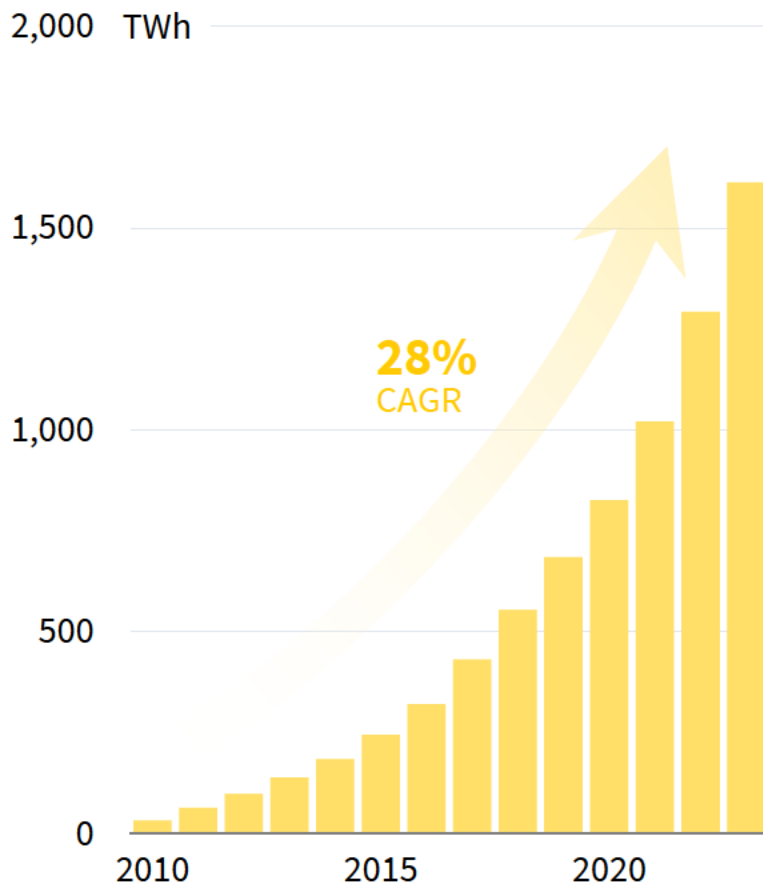
# Leading to exponential growth in renewables

Global solar generation has been doubling every 2–3 years, and battery storage capacity every year

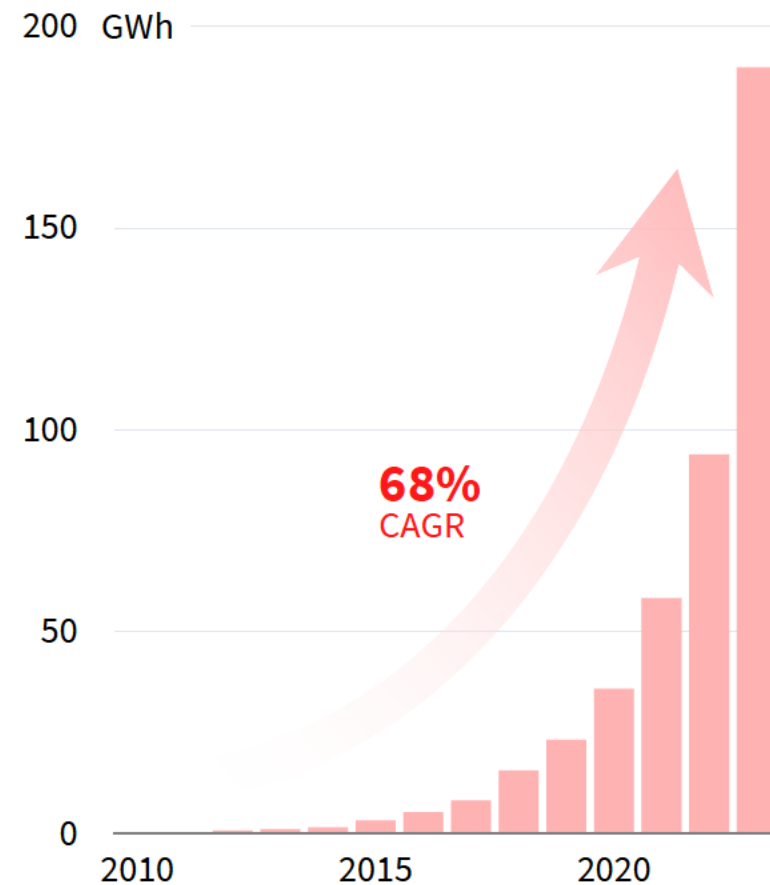
## Wind generation



## Solar generation



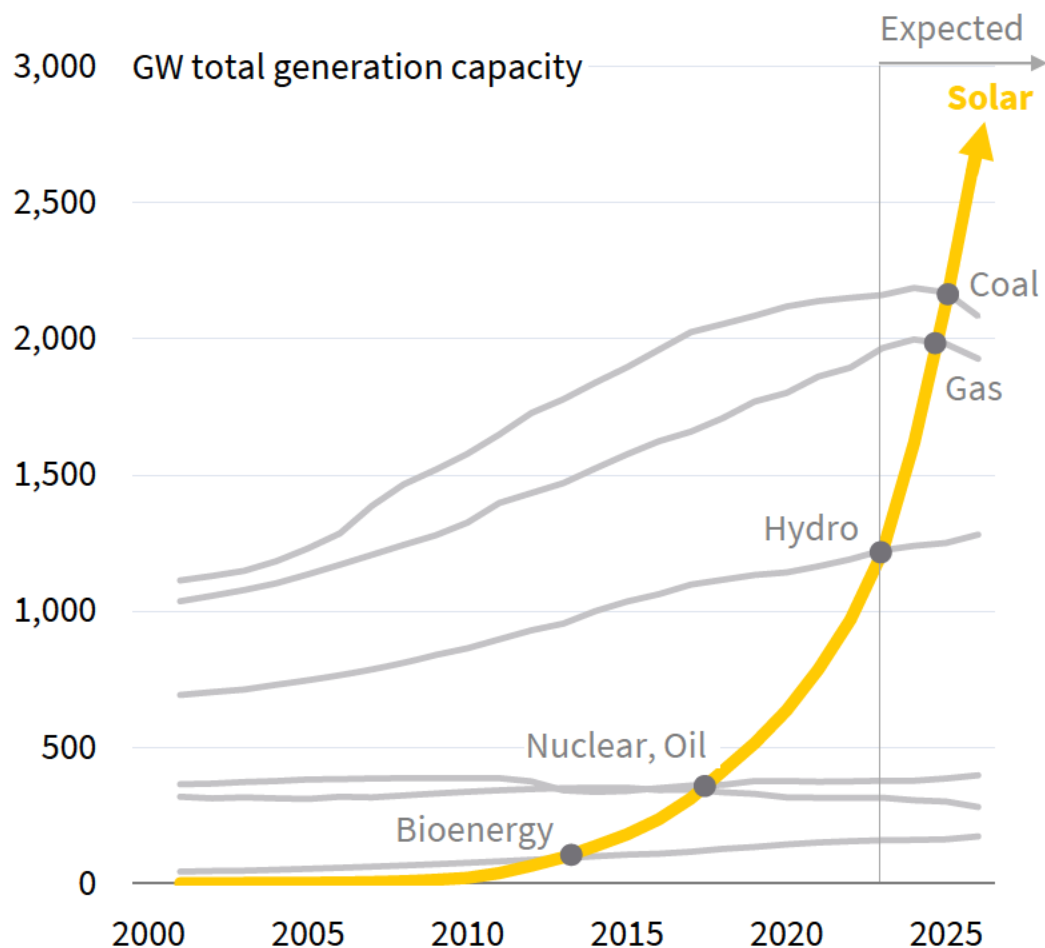
## Battery storage



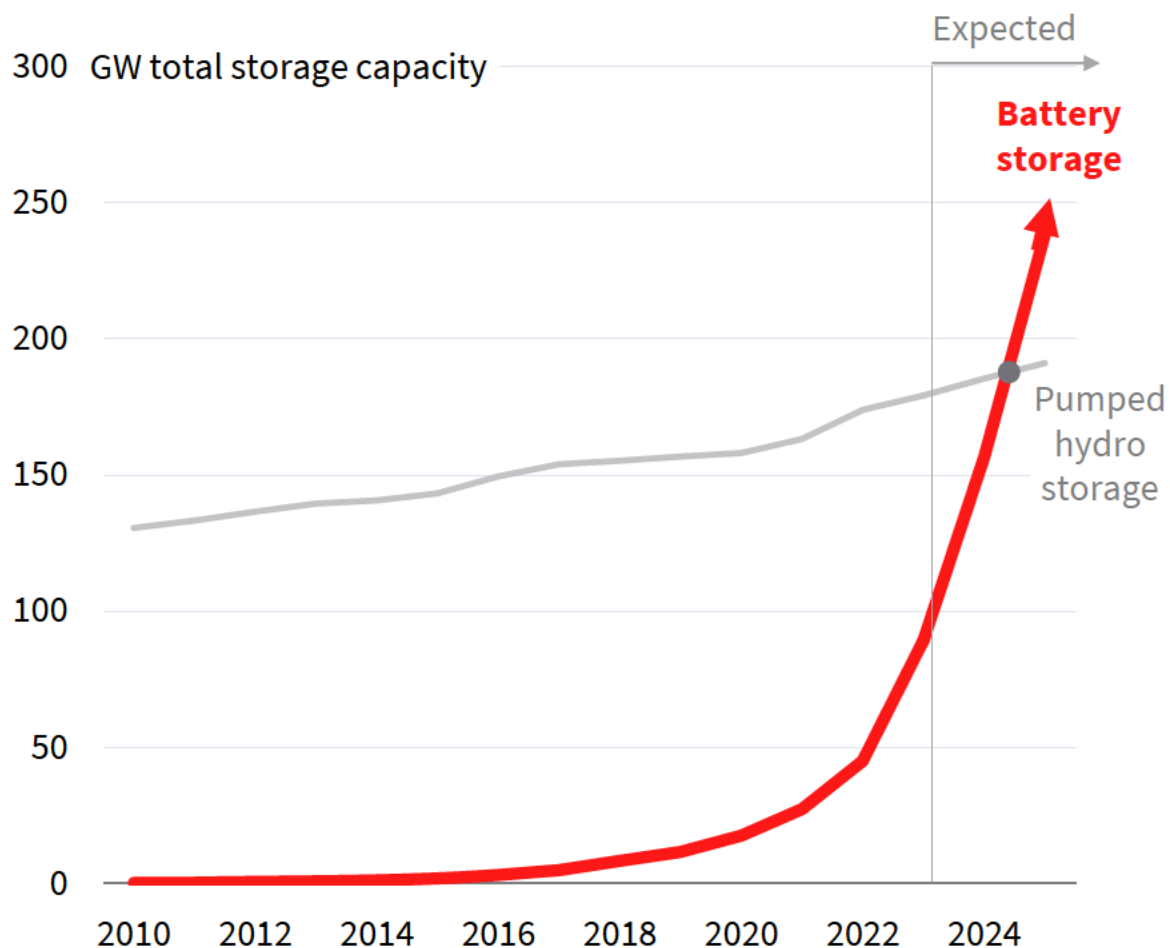
# Solar and batteries are taking over

Solar will shortly overtake every other type of capacity, and battery storage will leapfrog pumped hydro

## Solar



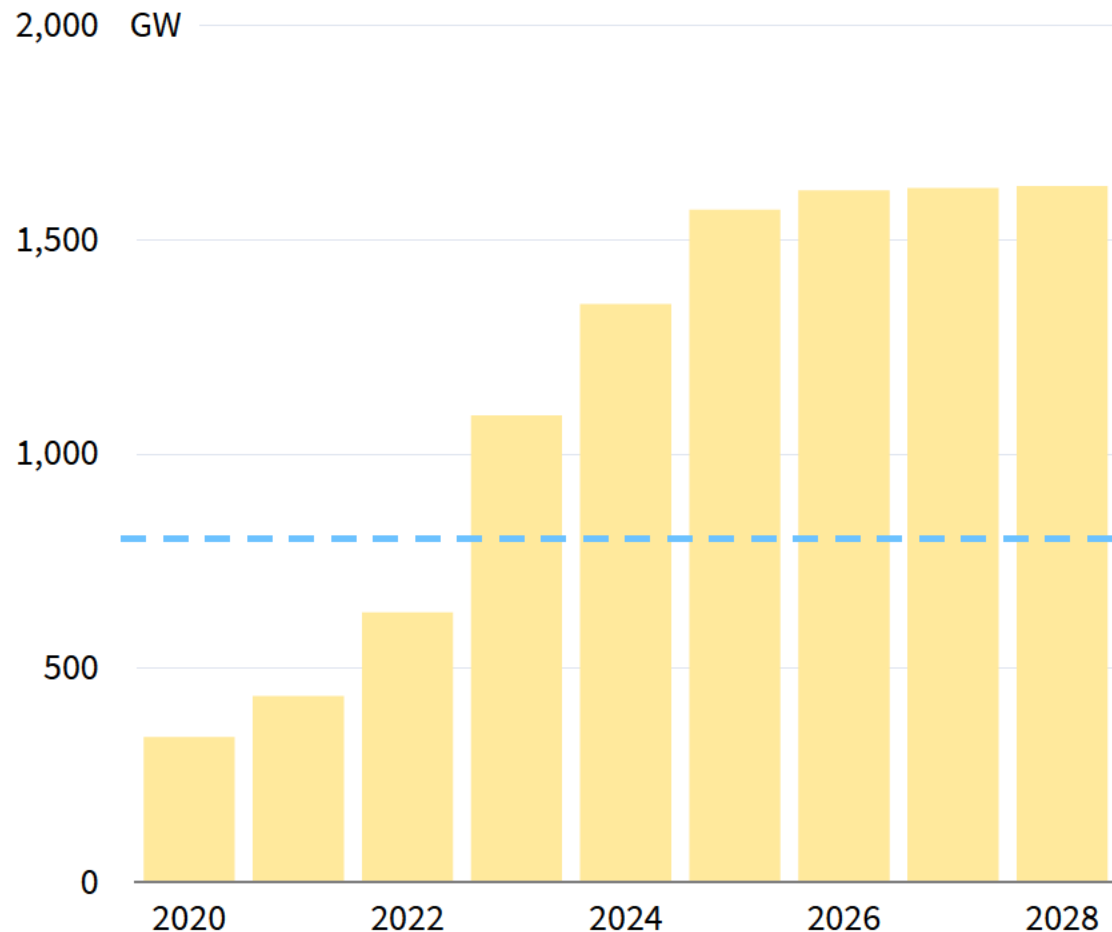
## Batteries



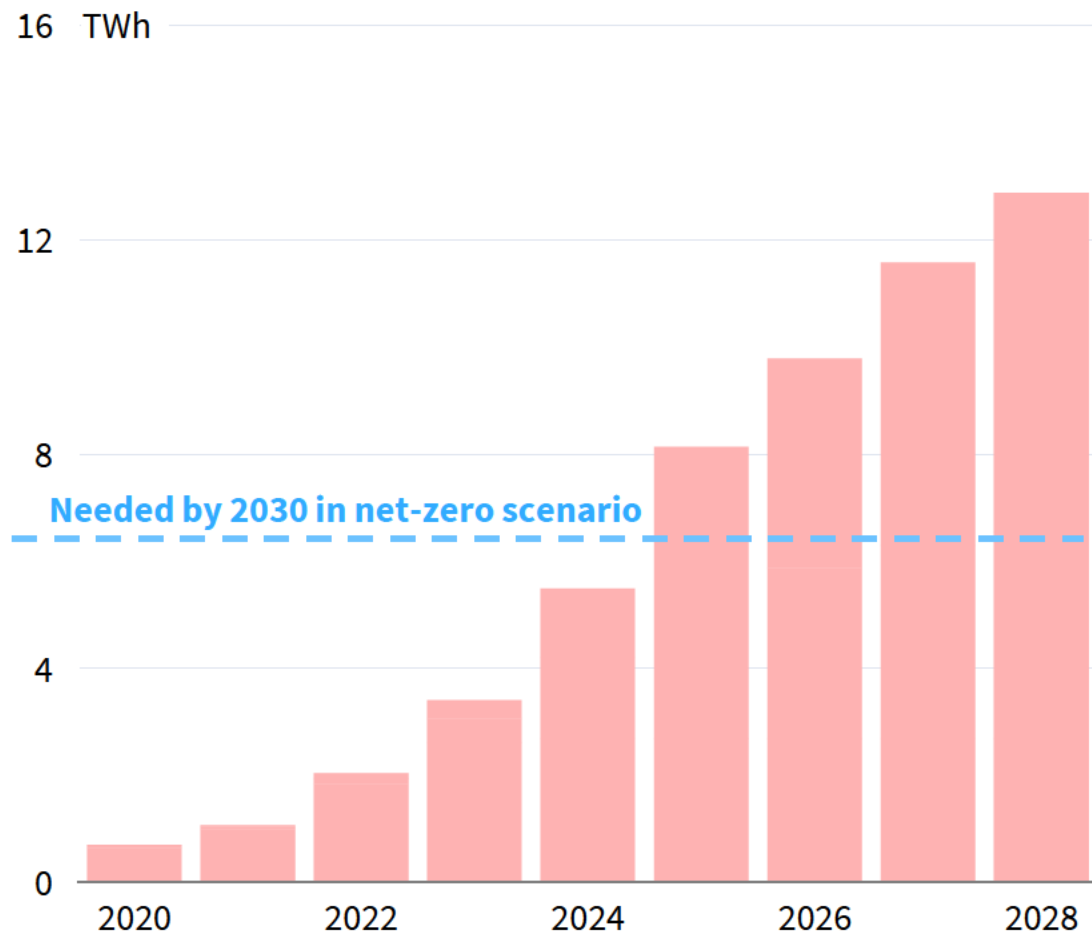
# The supply chain is in place

Companies already plan to construct more solar and battery capacity by 2030 than is needed to reach net zero

## Solar module manufacturing capacity



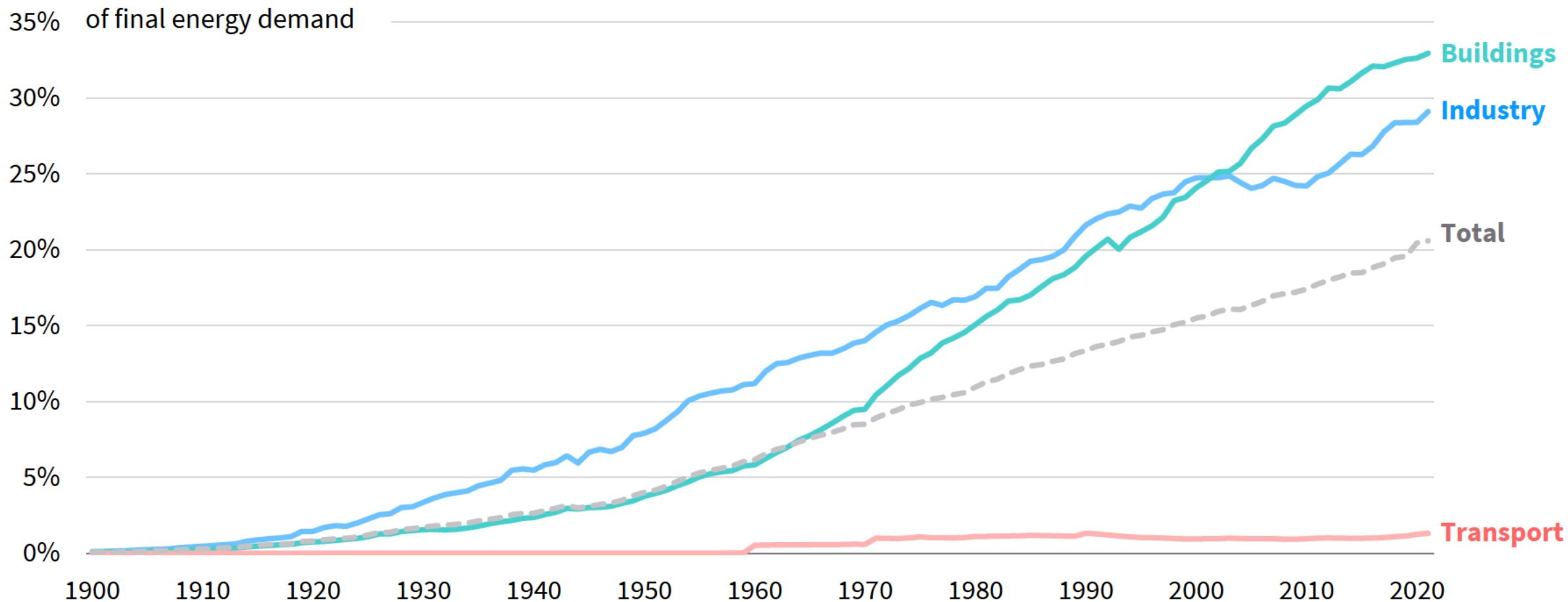
## Battery manufacturing capacity



# A century of electrification

Buildings and industry have been electrifying for 120 years; now transport joins the party

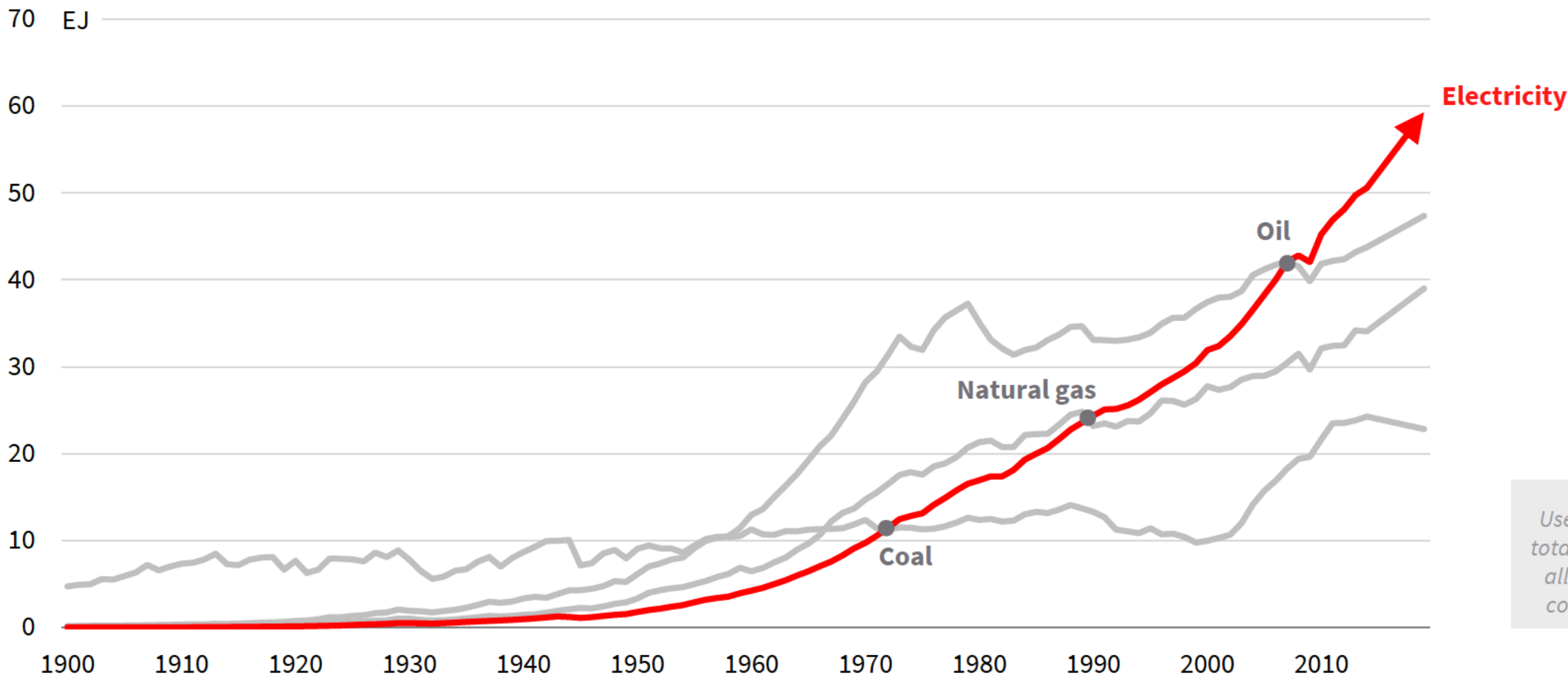
## Electricity share of final energy demand by sector




# Electricity is the new King of Energy

Electricity is the largest supplier of useful energy

## Useful energy supply

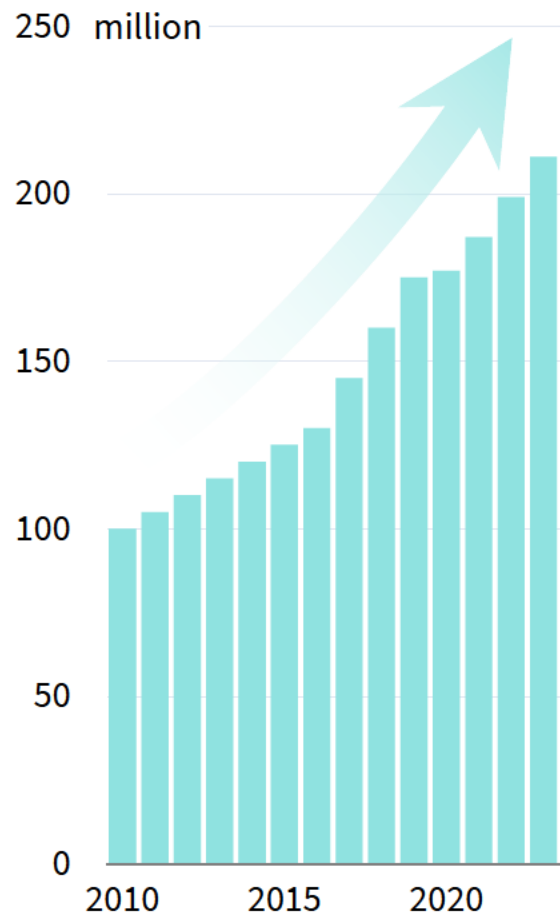


  
Useful energy is the total energy left after all processing and conversion losses.

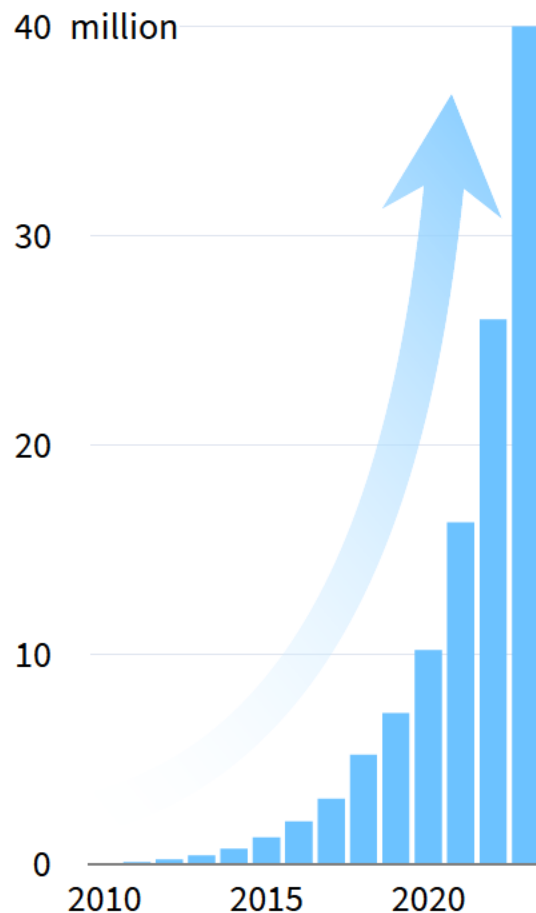
# We are poised to electrify the rest of the system

The global stock of EV cars and digital devices has been doubling every 2 years

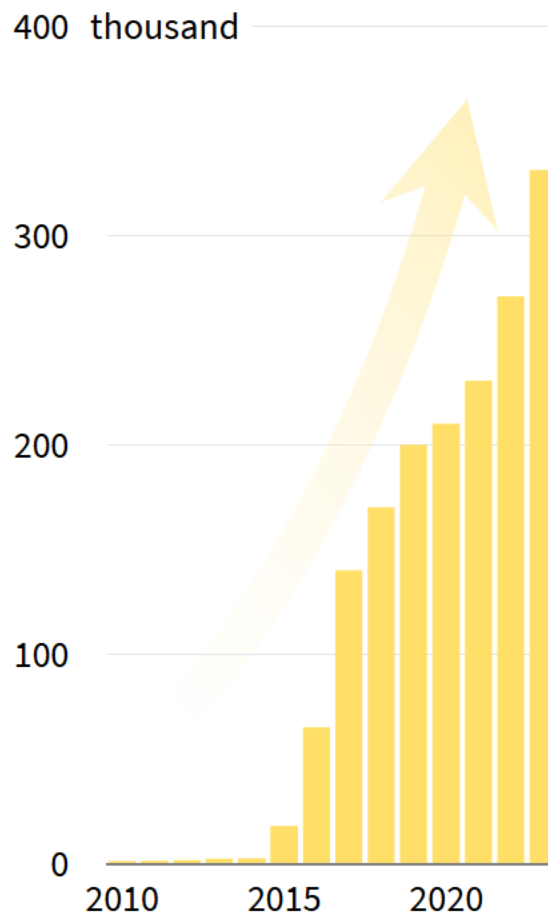
**Heat pumps**



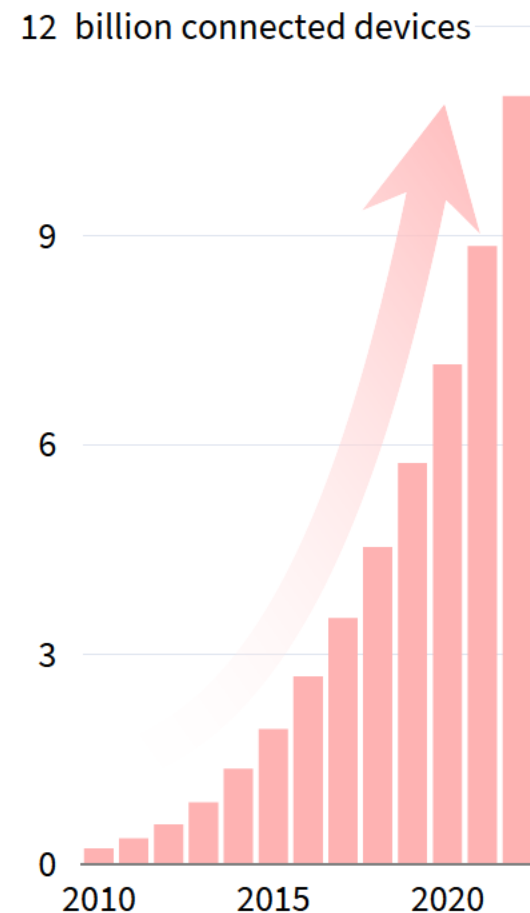
**EV cars**



**EV trucks**



**Digitally enabled automated devices**



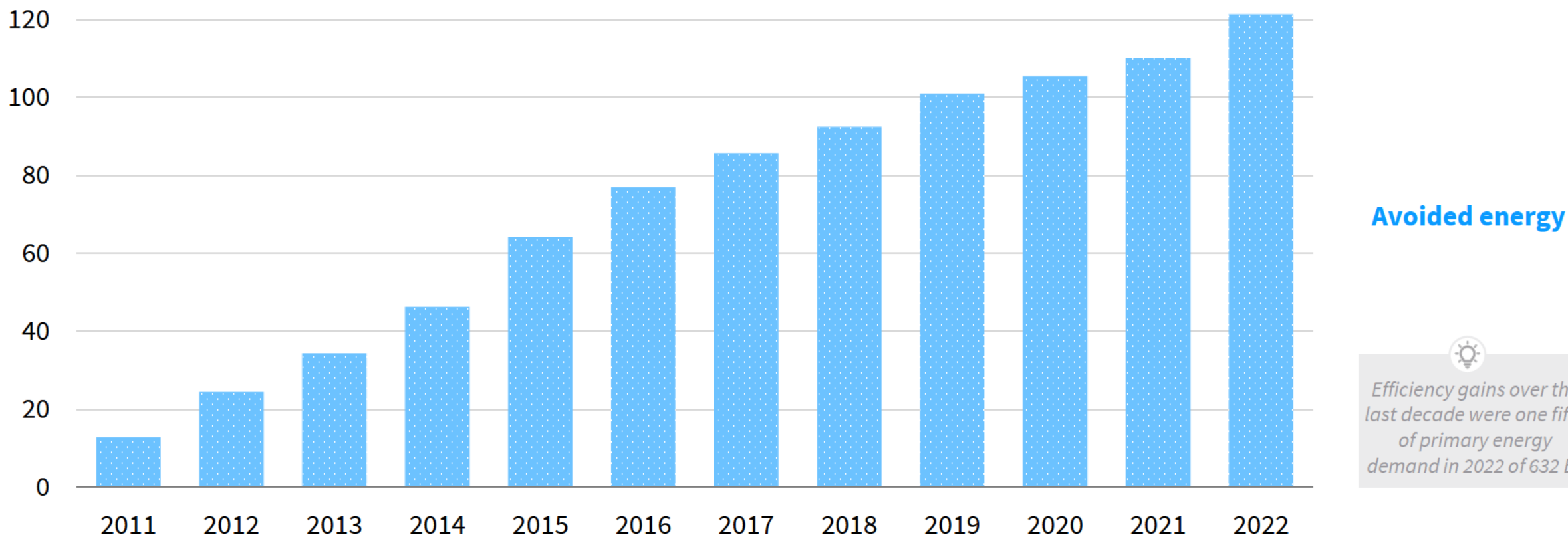


# Efficiency is the Deep Force of change

Efficiency gains since 2010 have reduced energy demand growth more than any other factor

## Efficiency gains

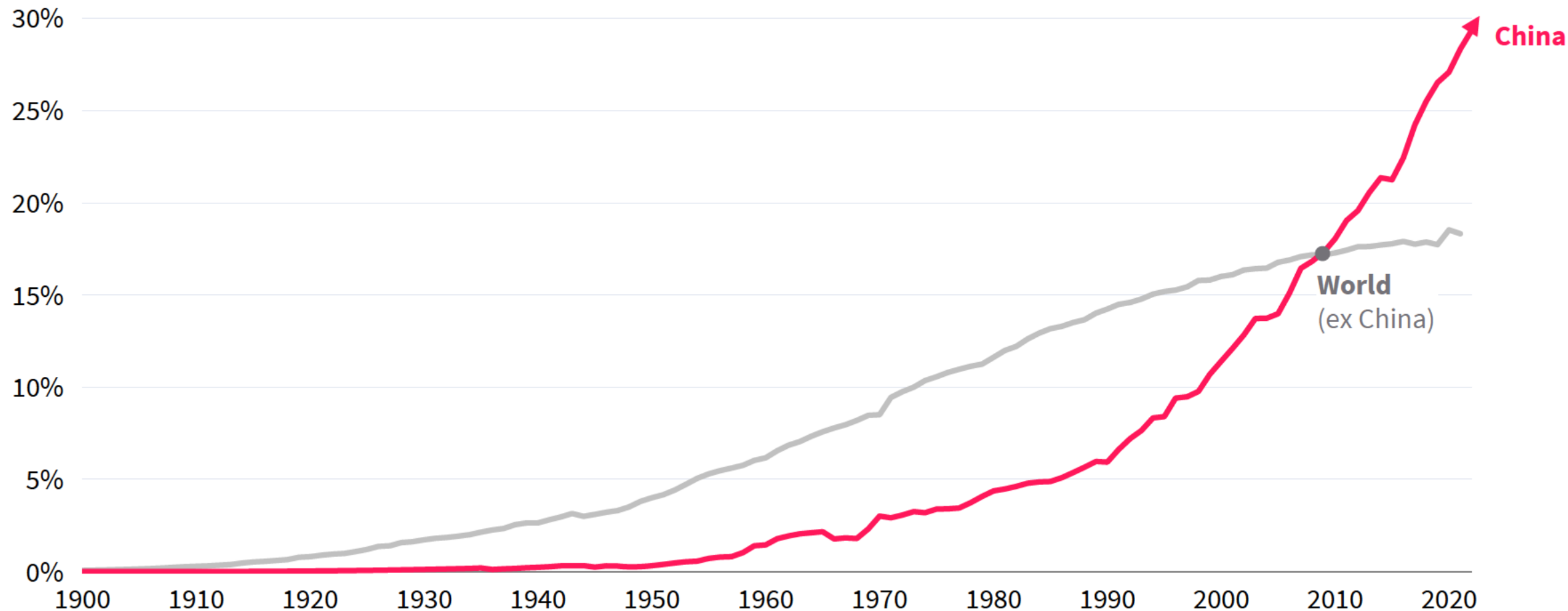
140 EJ per year avoided since 2010



# China has become the first major electrostate

China has been electrifying at 10 percentage points per decade, nine times faster than the rest of the world

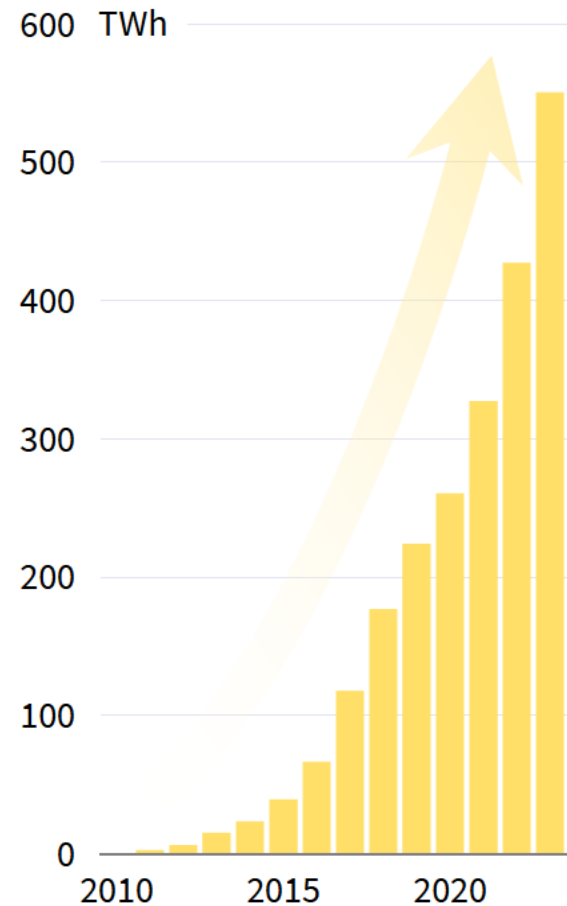
## Electricity share of final energy



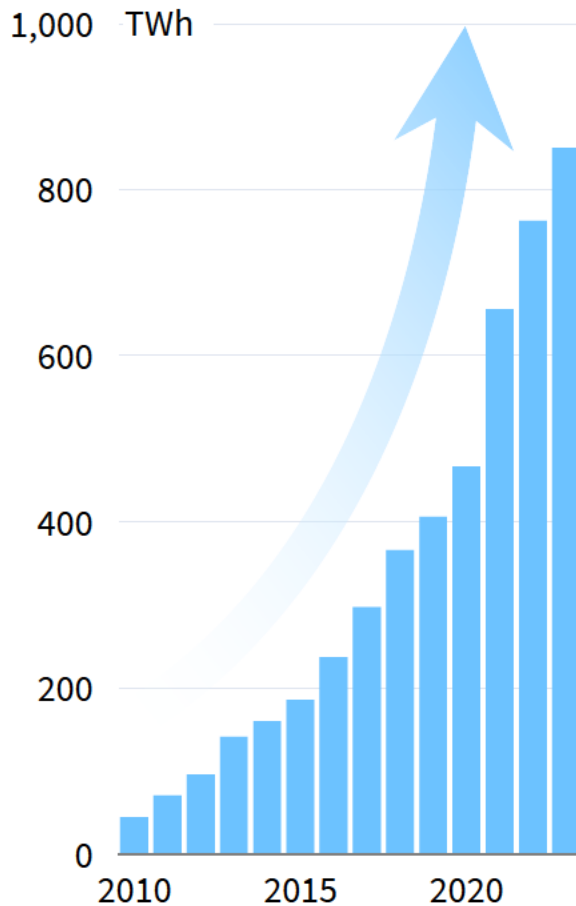
# Super-fast growth in China drives change

In a decade, solar generation increased by 35 times, wind 9 times; EVs and batteries scaled even faster

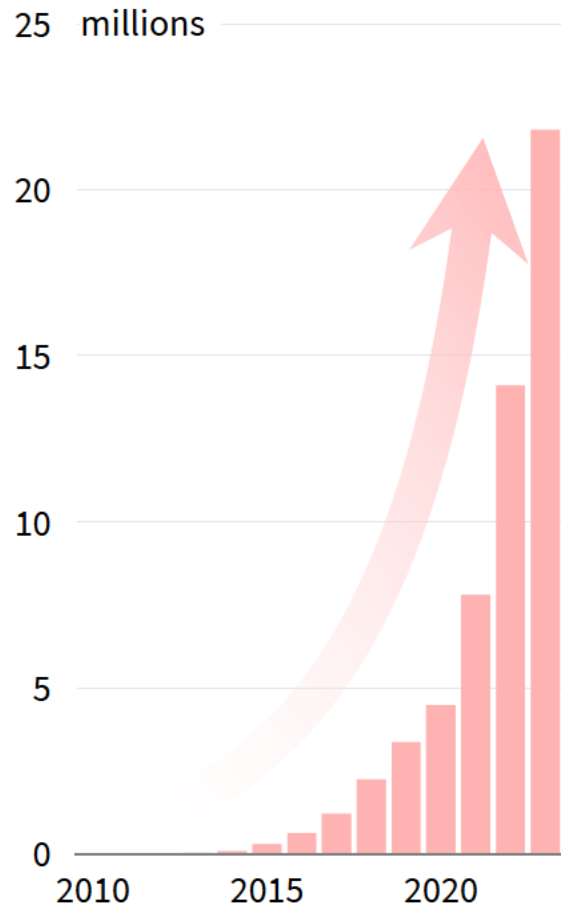
**Solar**



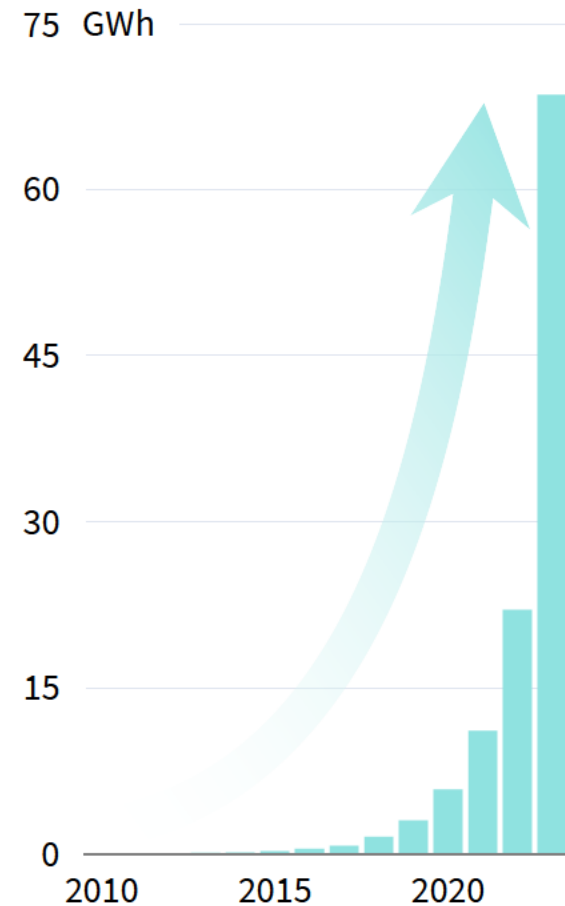
**Wind**



**EV fleet**



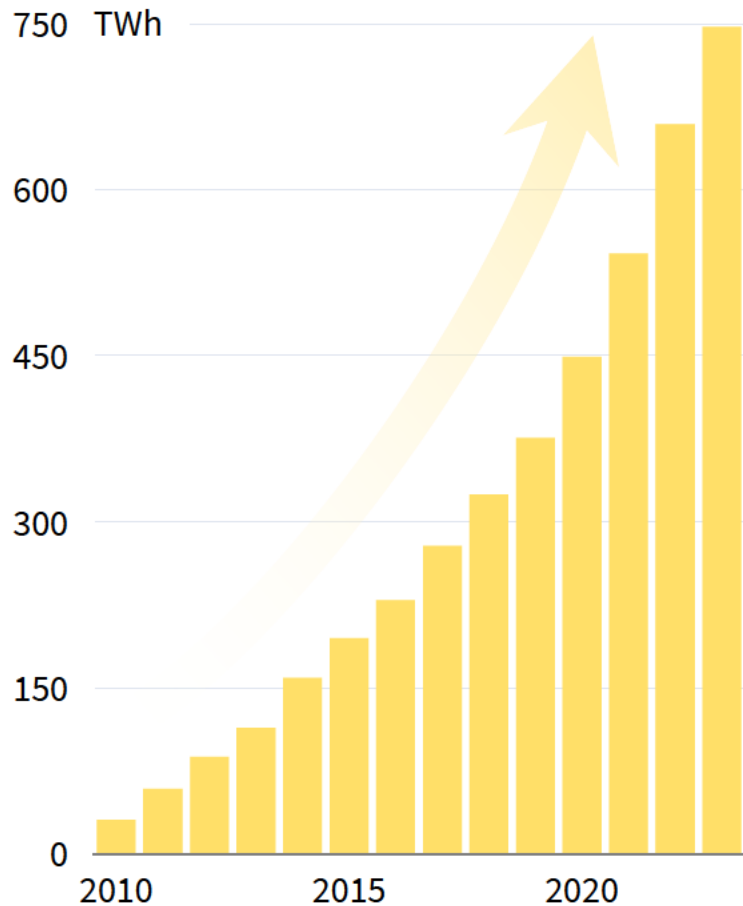
**Battery storage**



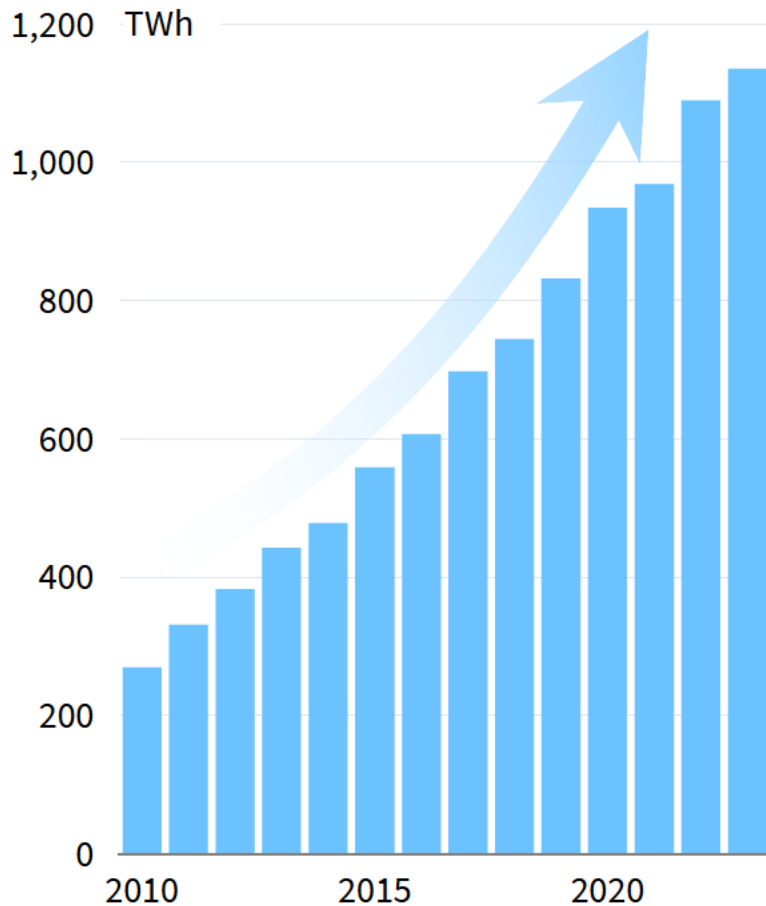
# Exponential growth is also happening in the OECD

Over the past decade, solar generation went up 7 times, wind 3 times, and EVs sales up over 50 times

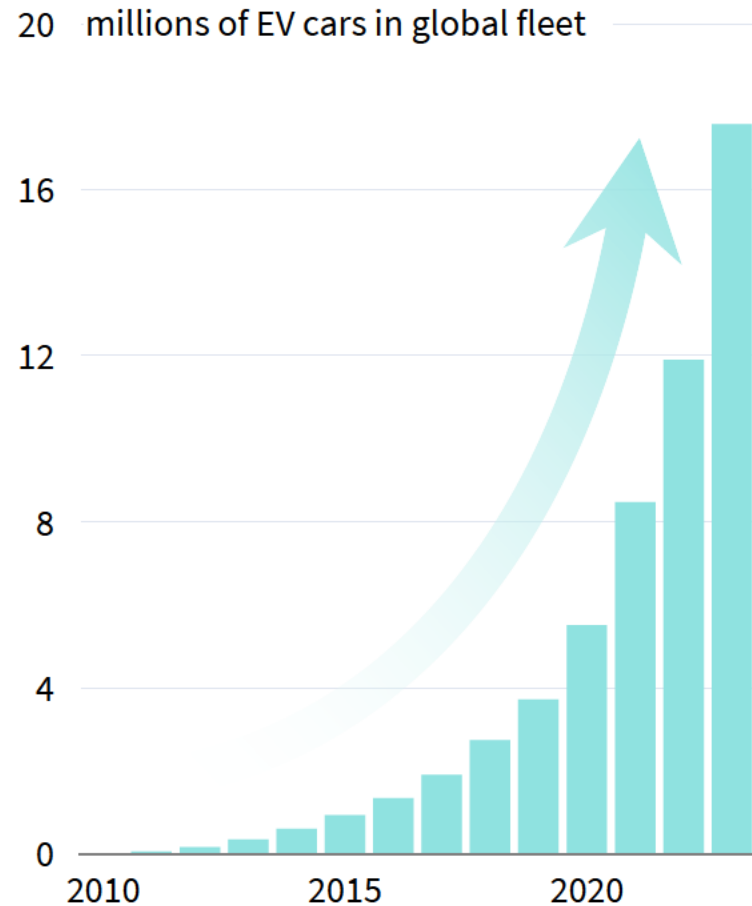
## Solar



## Wind



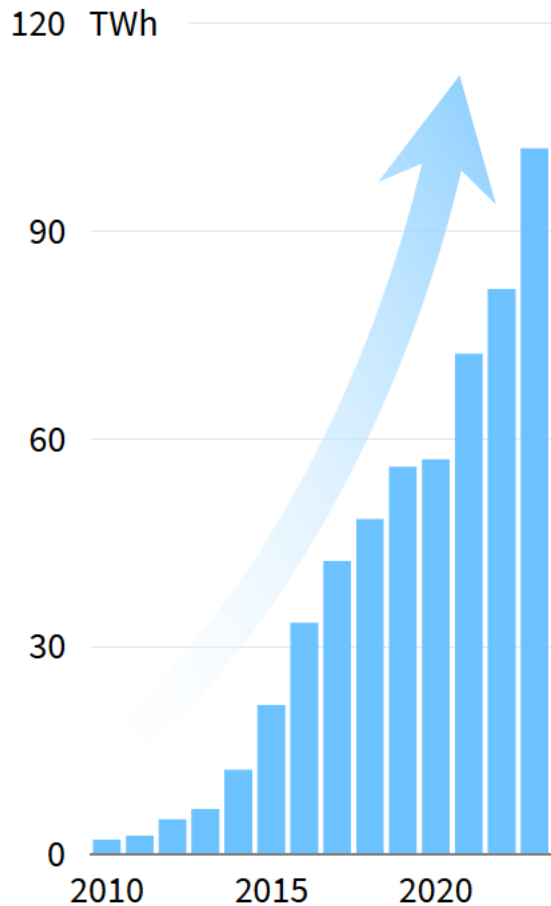
## EVs



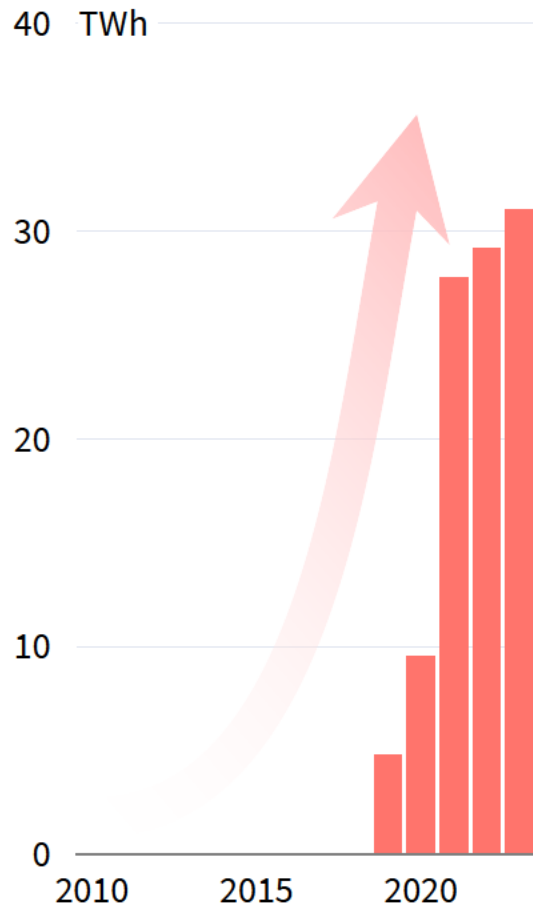
# Exponential growth in emerging economies

The adoption of superior technology is not confined to the Global North

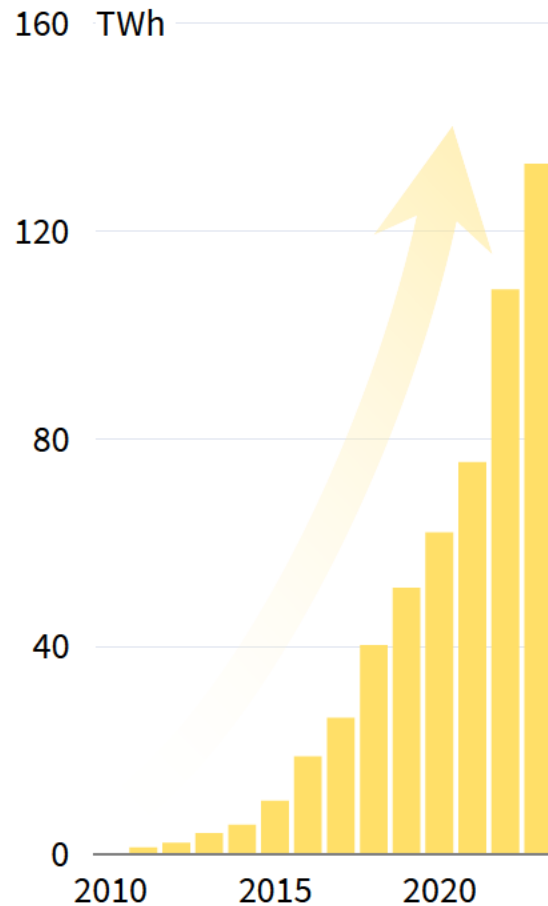
**Brazil wind**



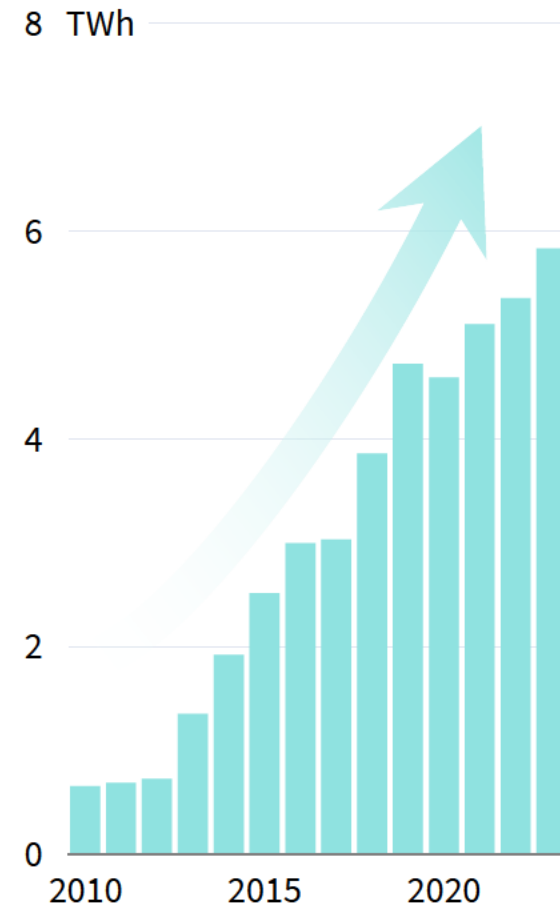
**Vietnam solar**



**India solar**



**Morocco wind**



# Electric Asia

Asia is leading the charge to electrify everything

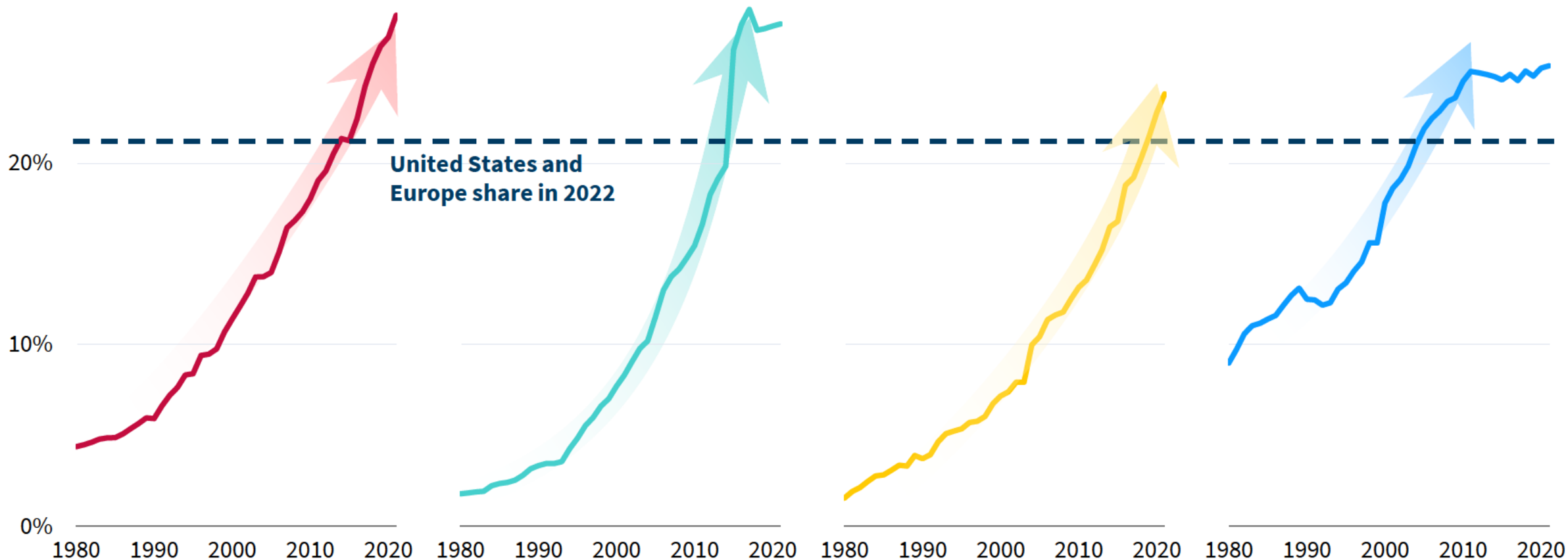
**China**

**Vietnam**

**Bangladesh**

**Korea**

30% of final energy from electricity





# Index

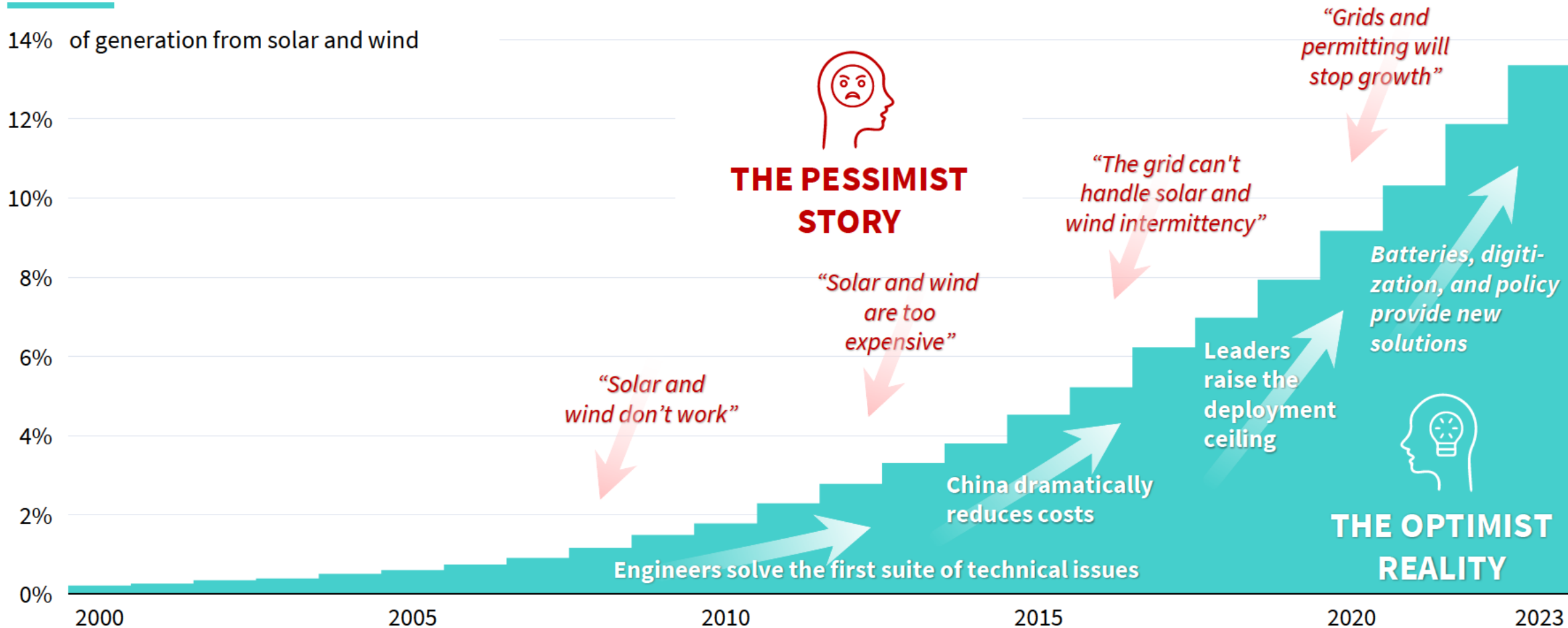
## 3 The era of peaking fossil fuel demand

- Pessimists keep raising barriers to change; optimists keep solving them.
- Early warning signals for fossils include peak new fossil fuel electricity capacity (2010), peak capex for oil and gas (2014), peak ICE demand (2017), and peak per capita fossil demand (2012–18).
- Global fossil fuel demand for industry peaked in 2014, and in buildings in 2018.
- Fossil fuel demand likely peaked in electricity in 2023 and will peak in transport before the end of the decade.
- OECD fossil fuel demand peaked in 2007, and every major area of demand has peaked in the United States.
- China is the pivot nation in the transition away from fossil fuels, and most areas of demand have clearly peaked there.
- Peaks are showing up across the Global South, from South America to South Africa and Thailand.

# Pessimists sound clever; optimists change the world

The incumbents have been predicting the end of the transition for decades

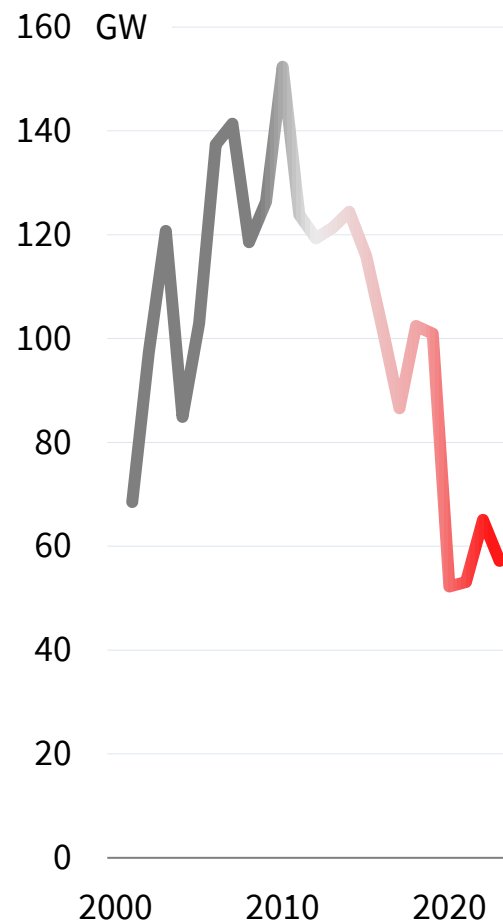
## Pessimist's and optimist's take on solar and wind uptake



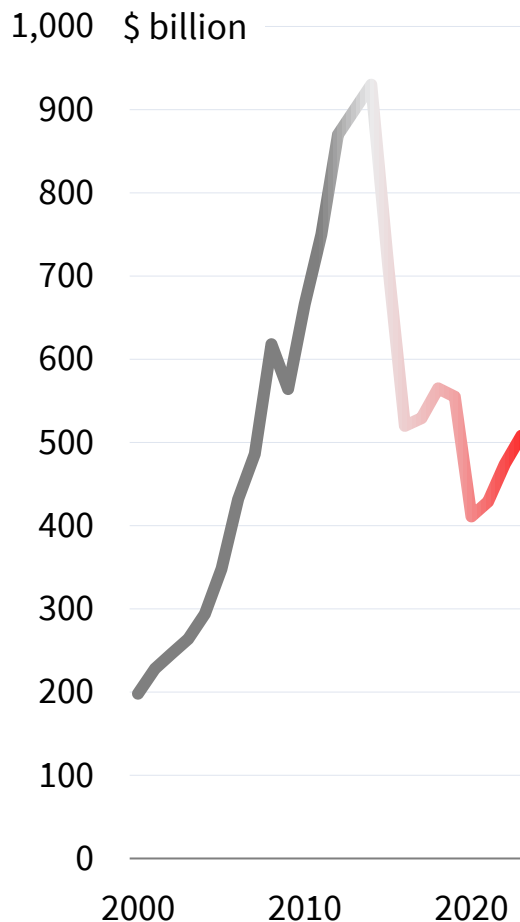
# Flashing **red** lights all over the fossil fuel system

As **growth** turns to **decline**

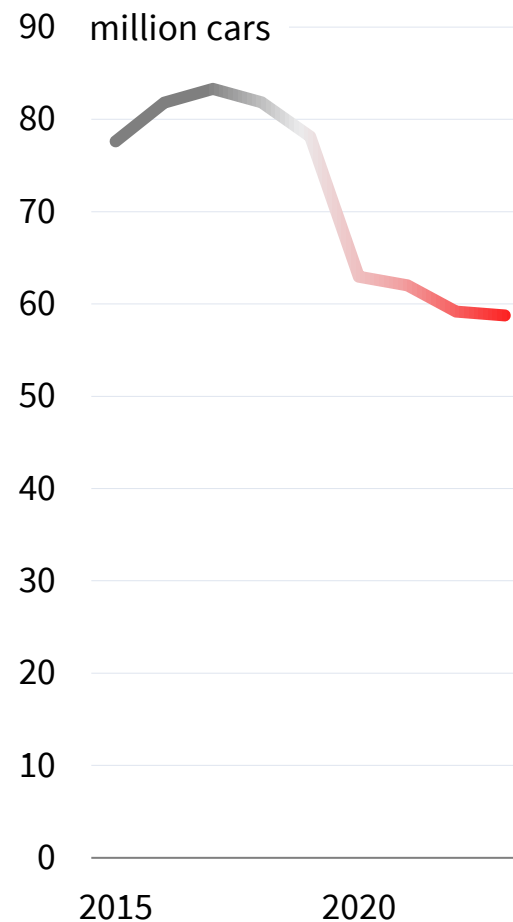
**Fossil fuel capacity additions**



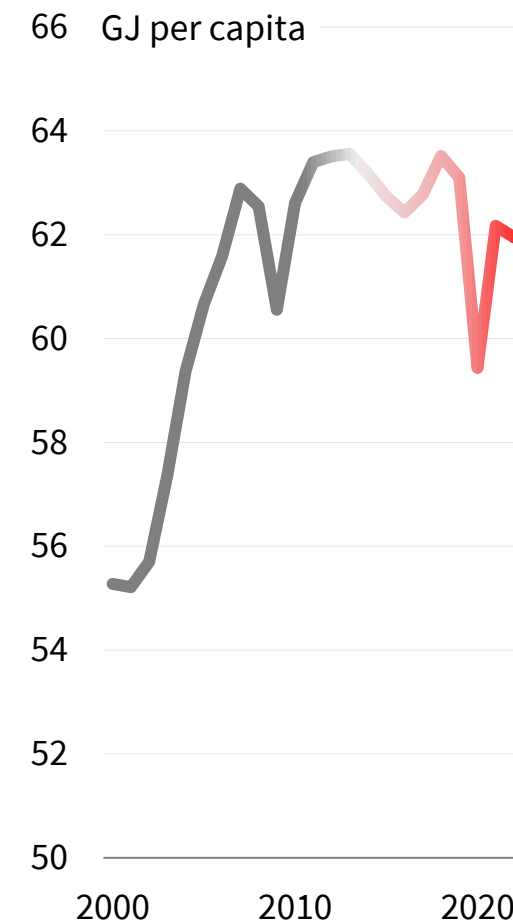
**Oil and gas capex**



**ICE sales**



**Fossil fuel demand**



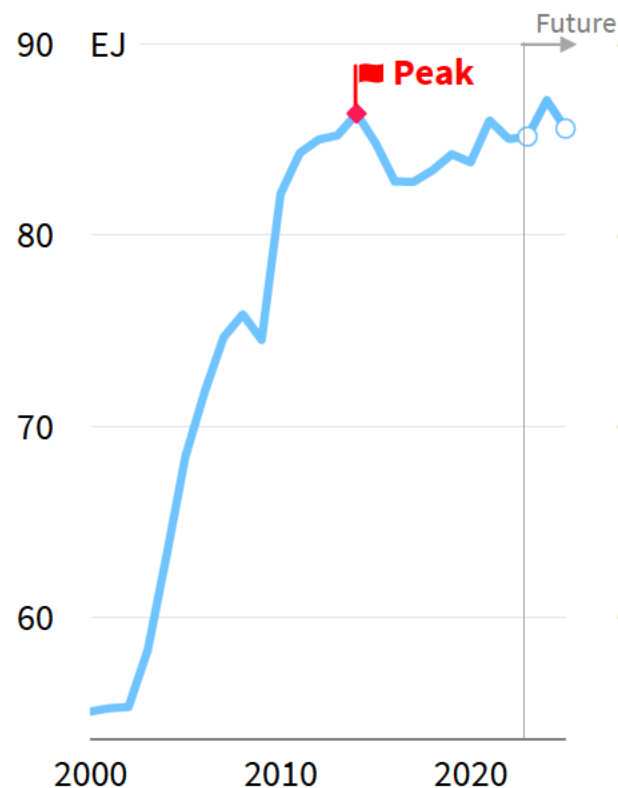
# The era of peaking fossils is here

Building and industry peak fossil fuels are behind us; electricity and transport are peaking now

## Fossil fuel demand by sector

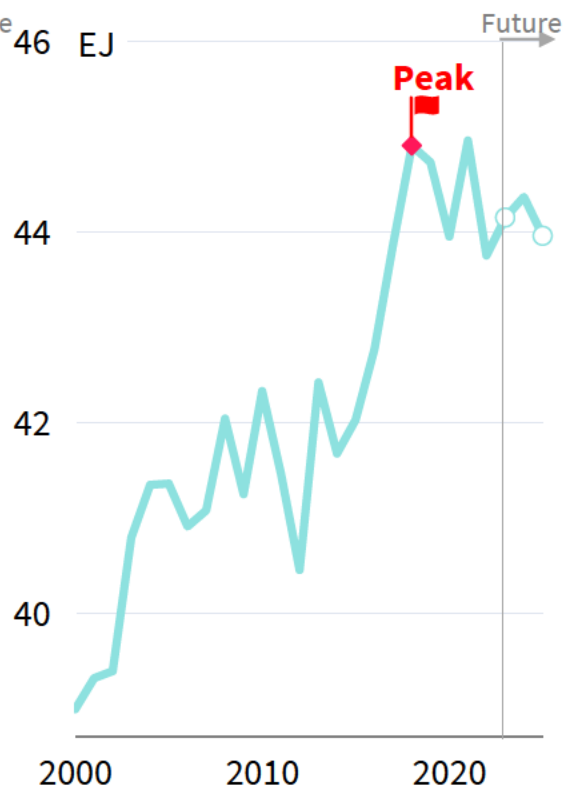
### Industry

Peaked in 2014



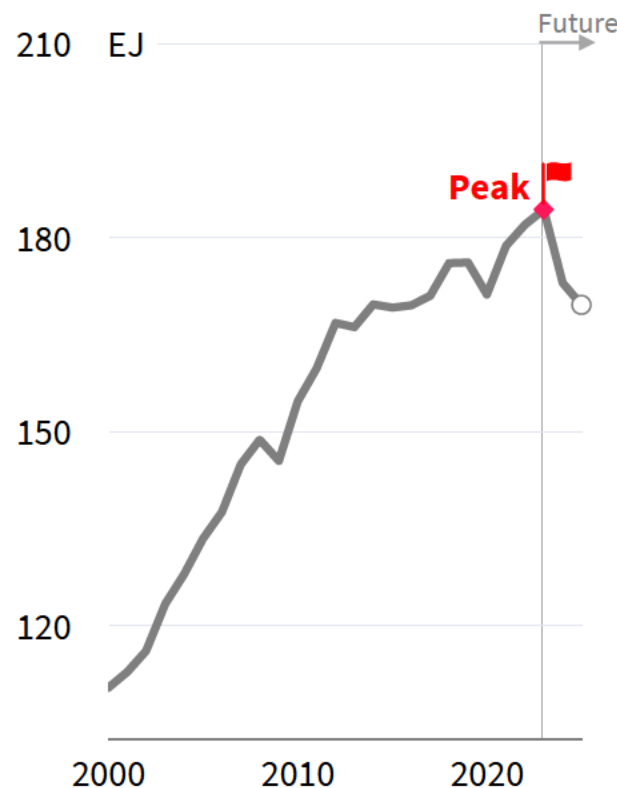
### Buildings

Peaked in 2018



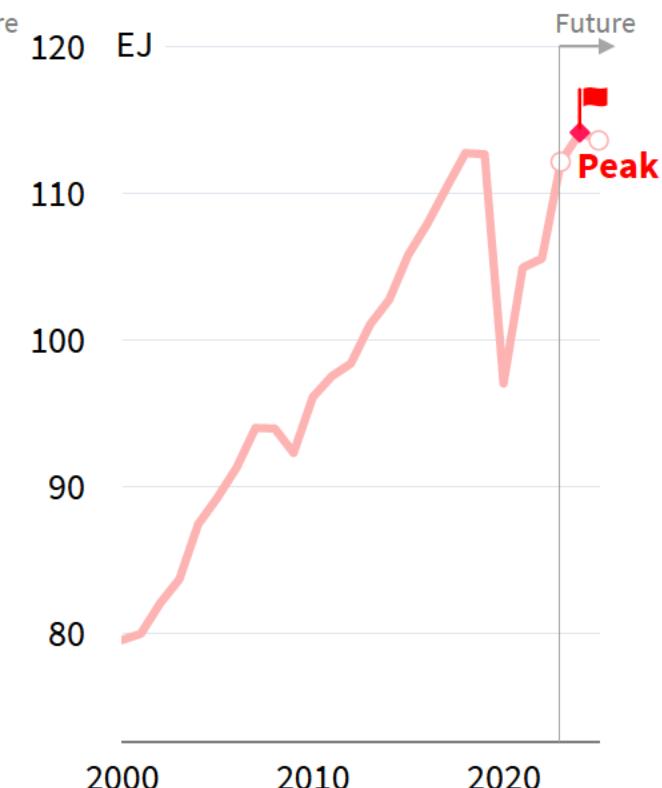
### Power and heat

Peaked in 2023



### Transport

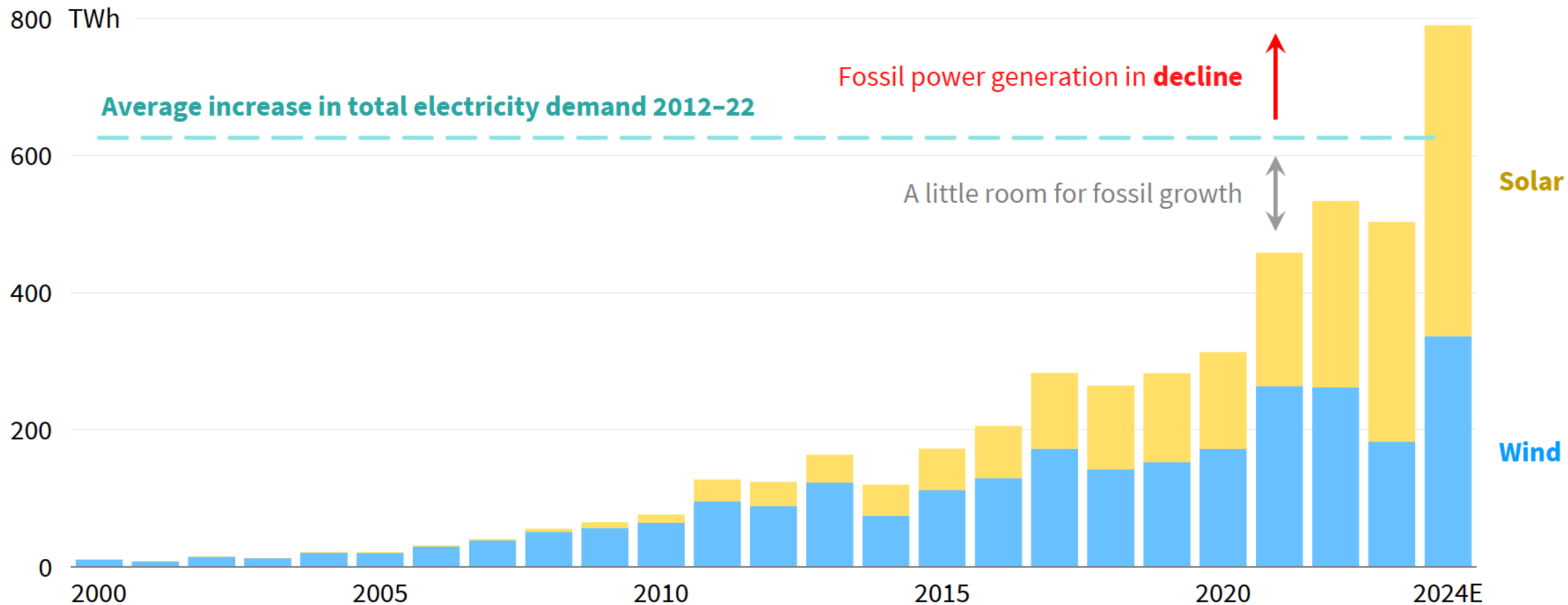
Peak imminent: 2024/25



# Peak fossil fuel demand in electricity

Solar and wind provided 500 out of 600 TWh of demand growth in 2023, and will break through average growth this year

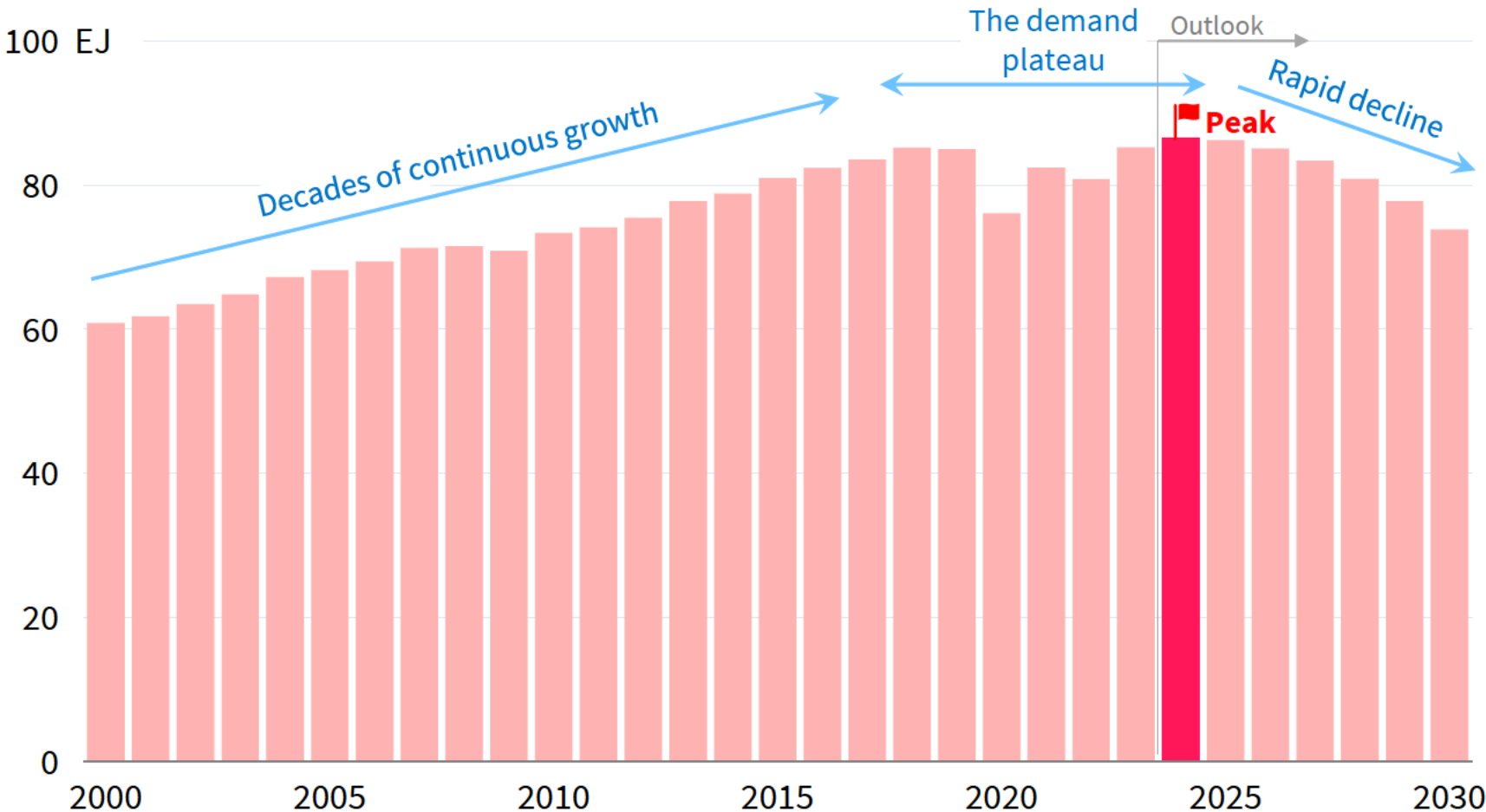
## Change in electricity generation



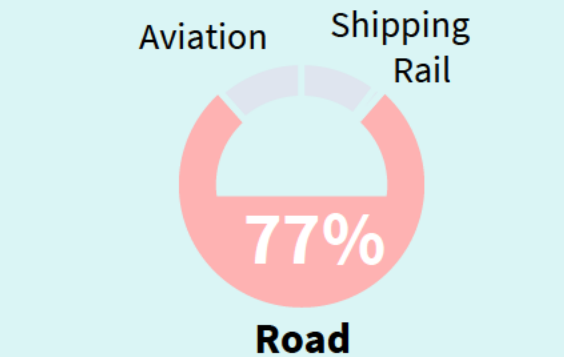
# A plateau in road oil demand

Decades of growth stagnate before turning into rapid decline

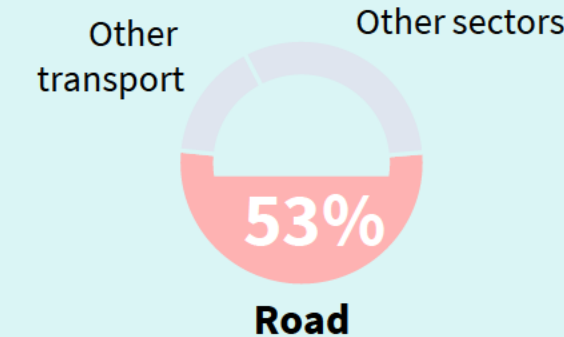
## Road oil demand



## Road share oil demand for transport, 2023



## Road share oil demand, 2023

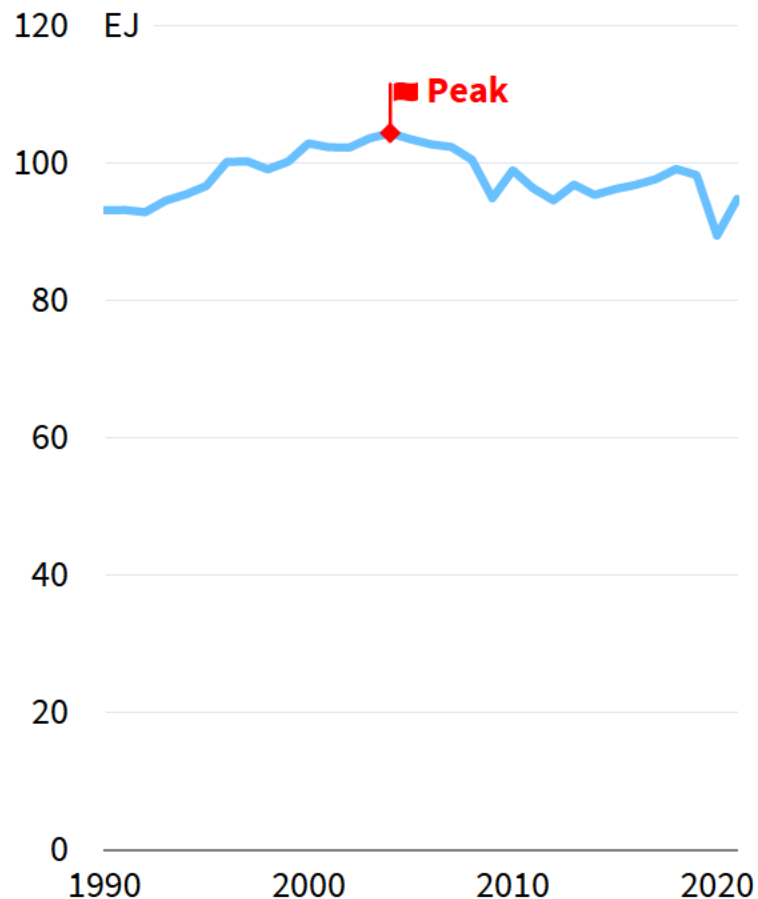




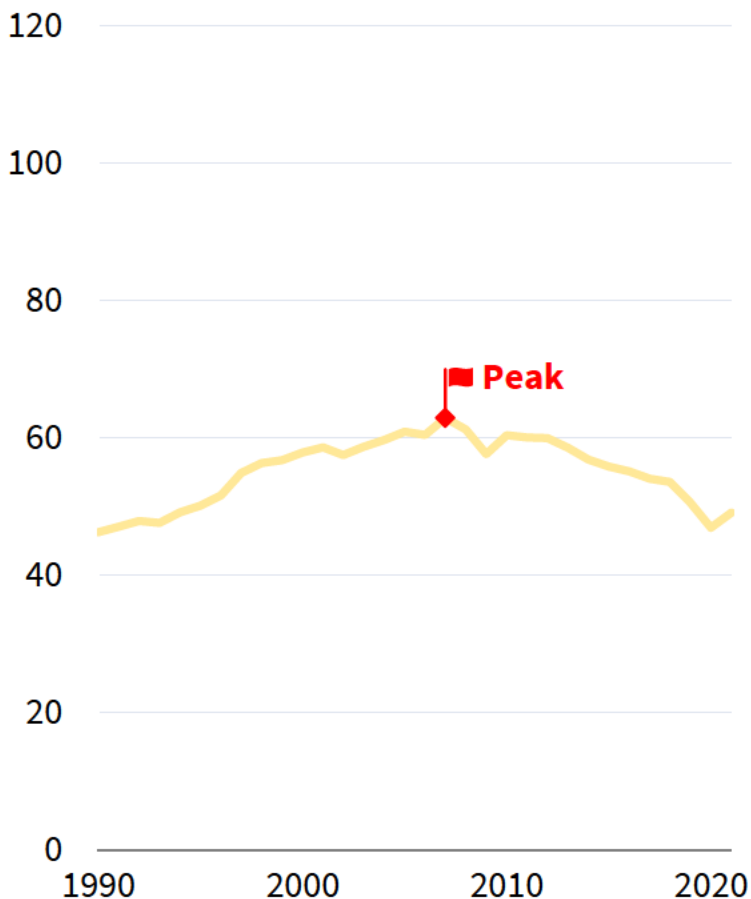
# OECD fossil fuel demand peaked a generation ago

OECD fossil fuel demand for final energy peaked in 2005 and for electricity generation in 2007

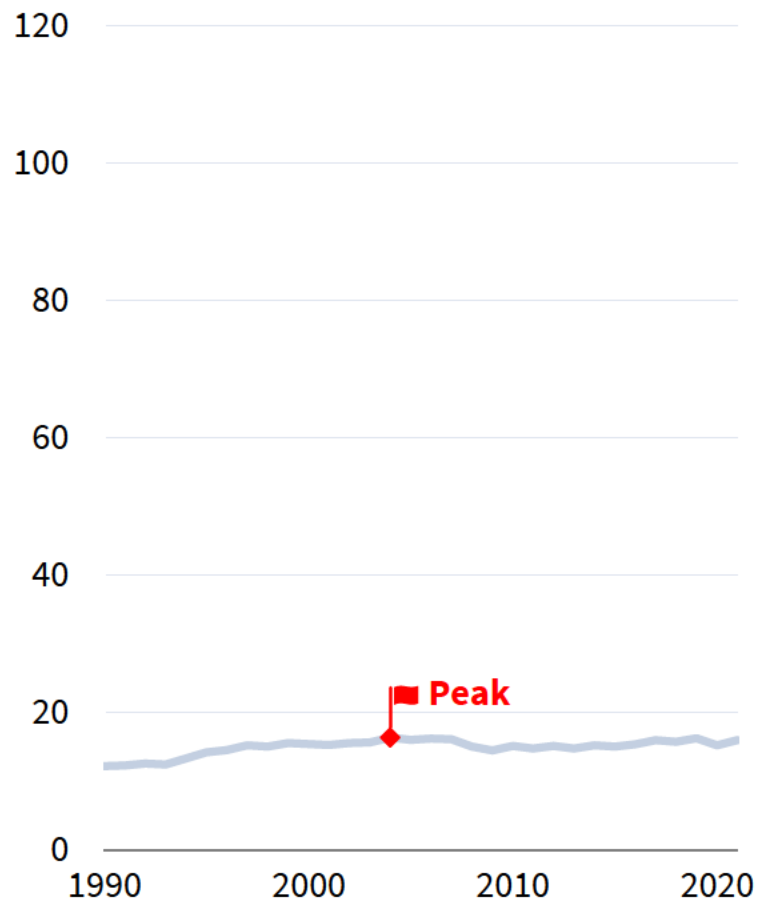
**Fossil fuels for final energy**



**Fossil fuels for electricity generation**



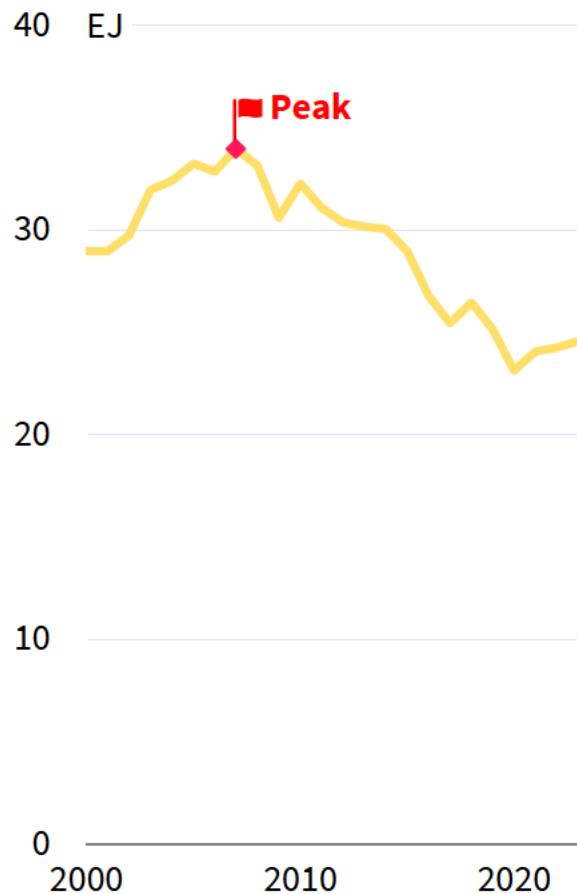
**Fossil fuels for non-energy**



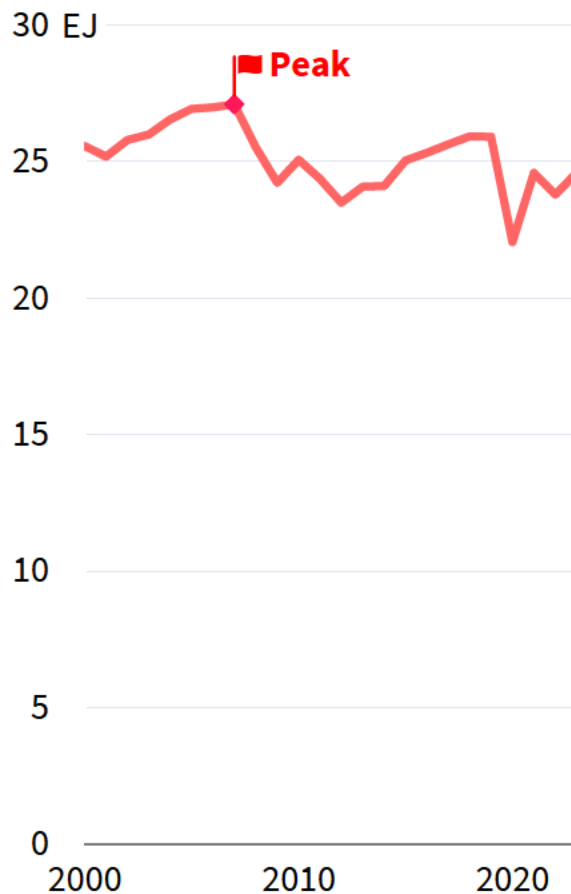
# United States — every major sector is past peak fossil demand

Fossil fuel demand across sectors peaked more than 15 years ago

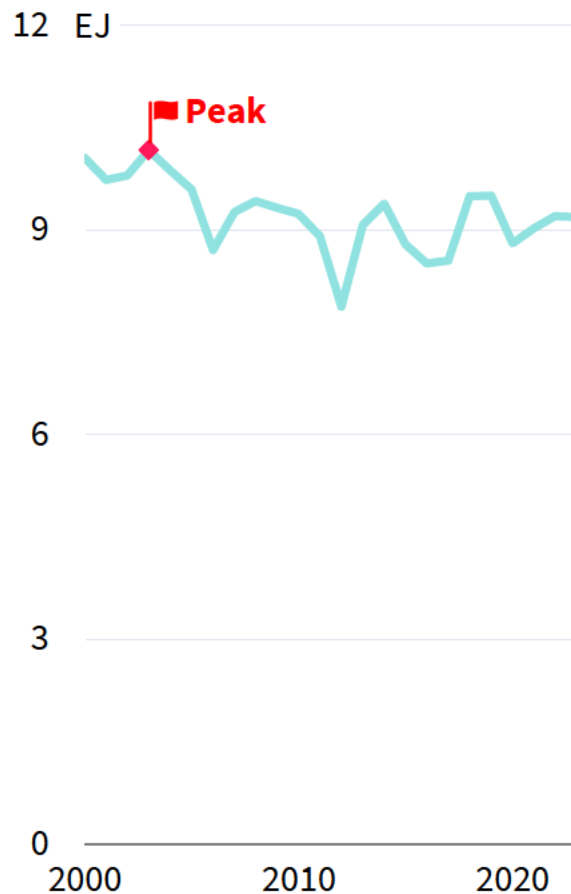
**Electricity**



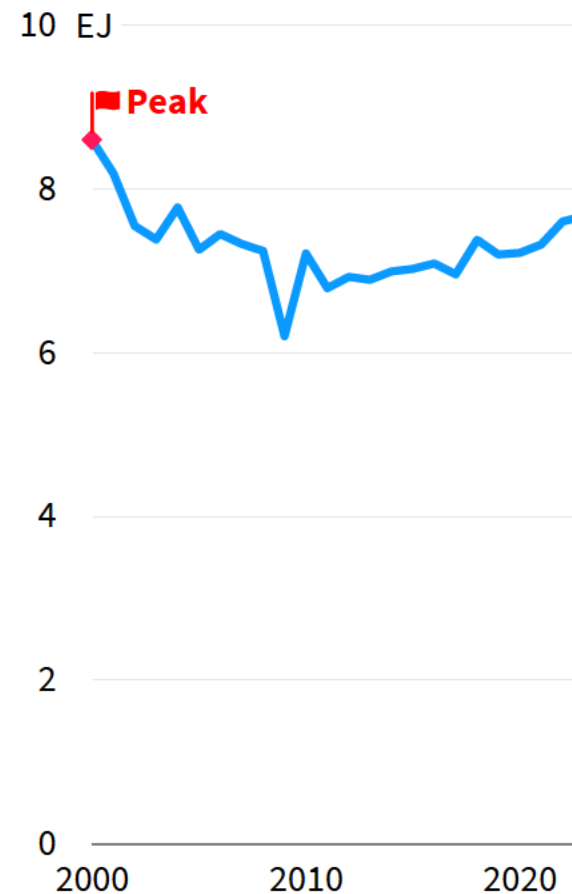
**Transport**



**Buildings**



**Industry**

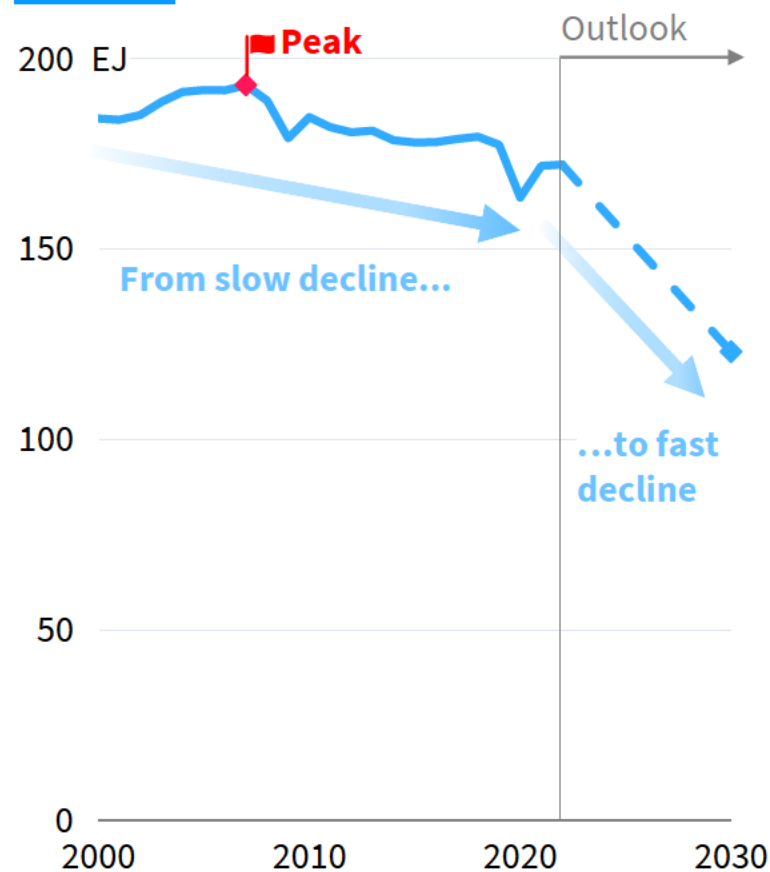


# China is the global pivot nation

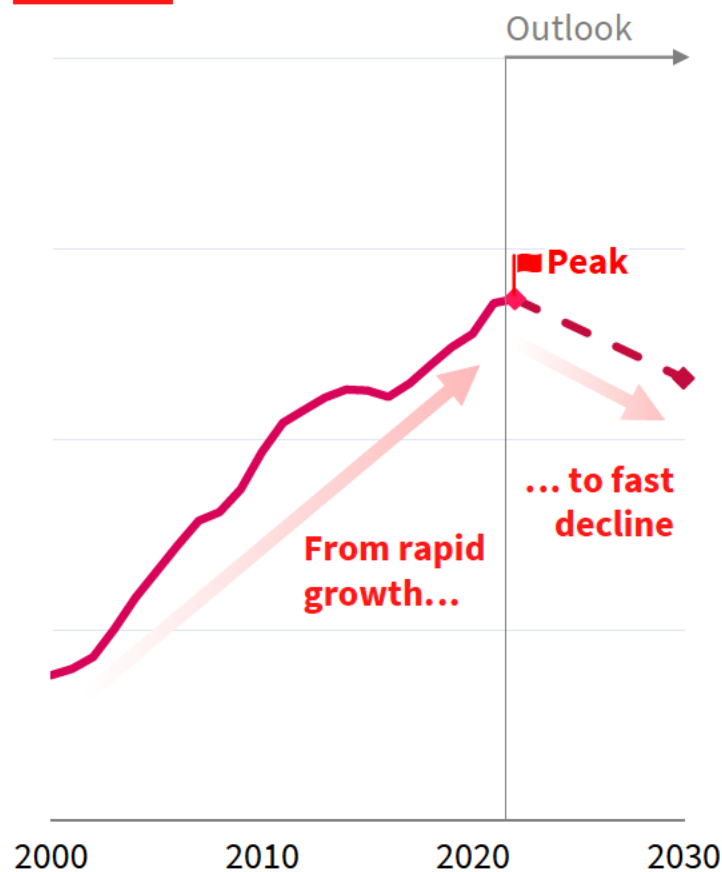
When China peaks, the world peaks

## Primary fossil fuel demand by region

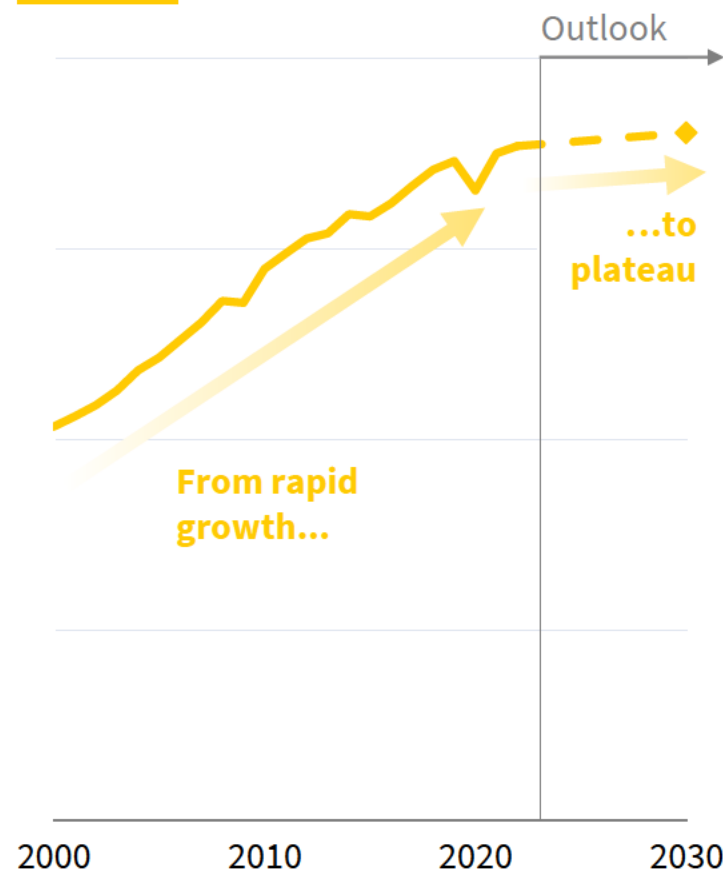
### OECD



### China



### Global South

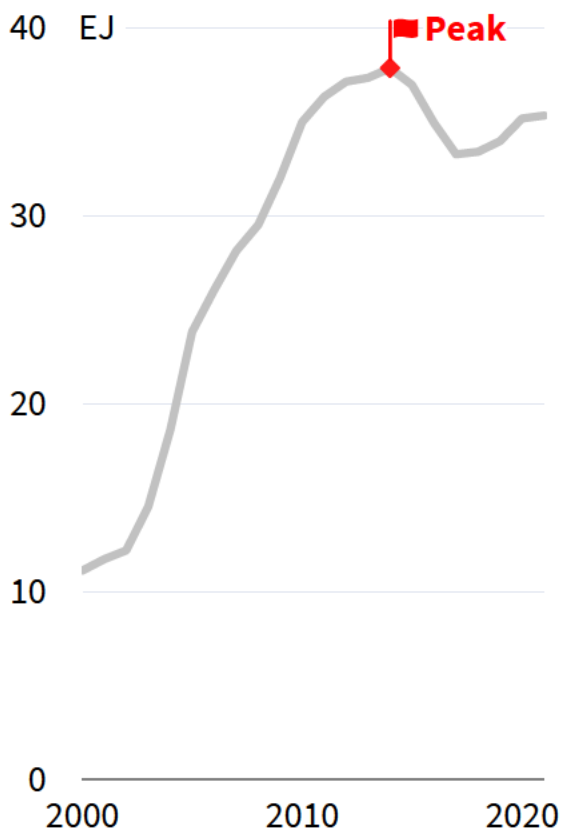


# Fossil fuel demand is peaking across the Chinese system

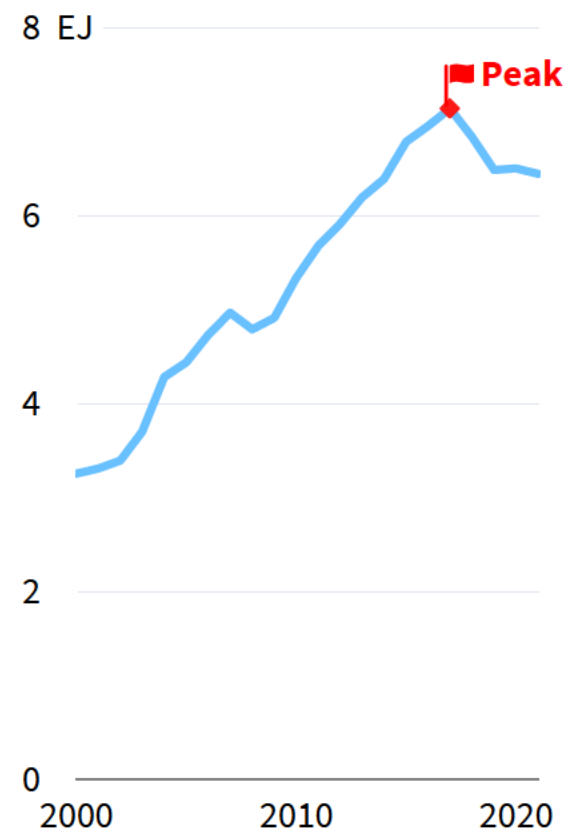
Peaks in industry and buildings are behind us, electricity peaked in 2023, and transport is coming soon

## Peaking behind us

### Fossil fuels in industry

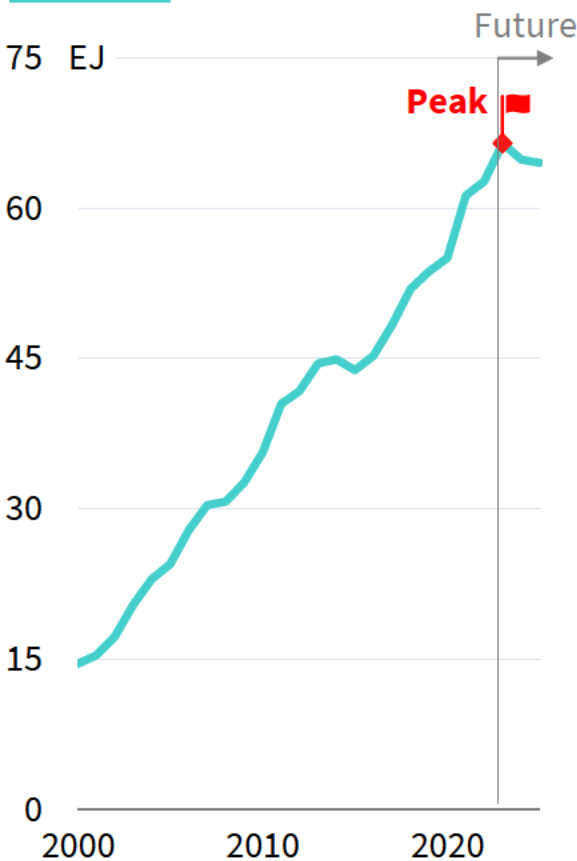


### Fossil fuels in buildings



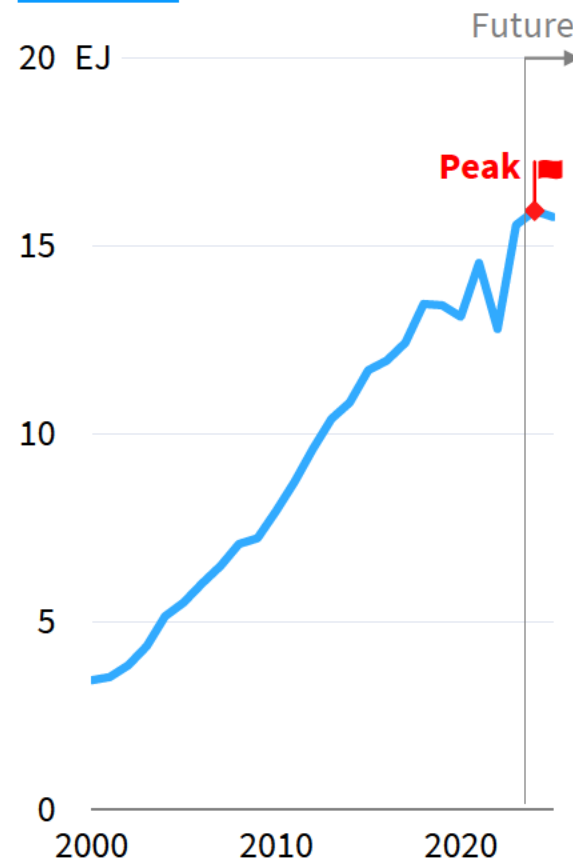
## Peaking now

### Fossil fuels in electricity



## Peaking shortly

### Fossil fuels in transport

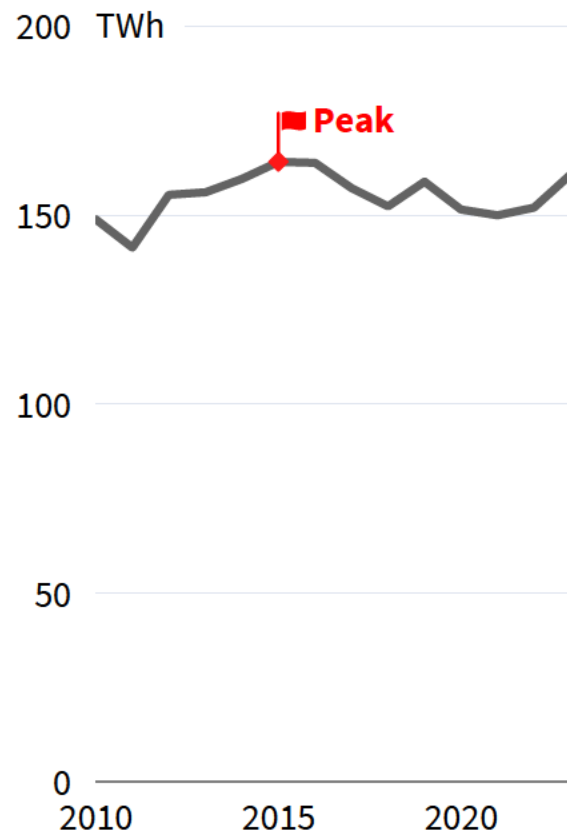


# The first fossil peaks in the Global South

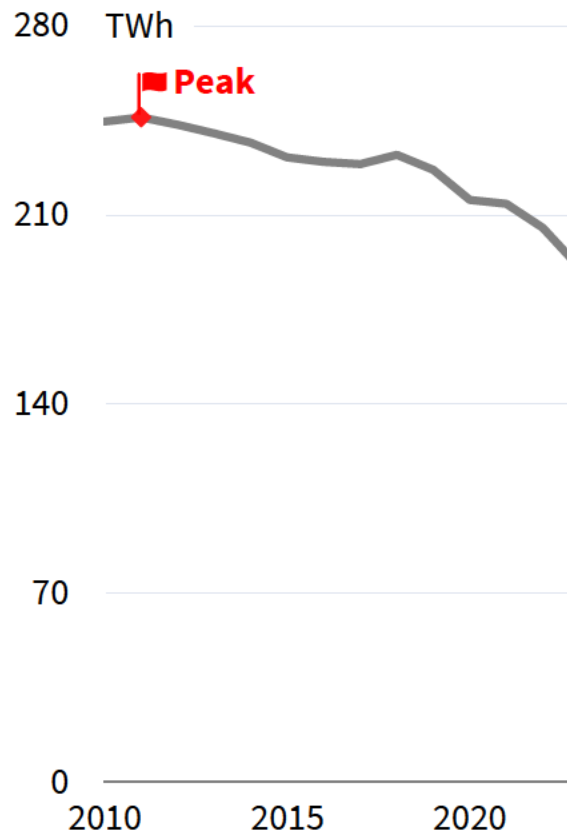
The Global South is not condemned to choose technologies the North is abandoning

## Fossil fuel generation

### Thailand



### South Africa

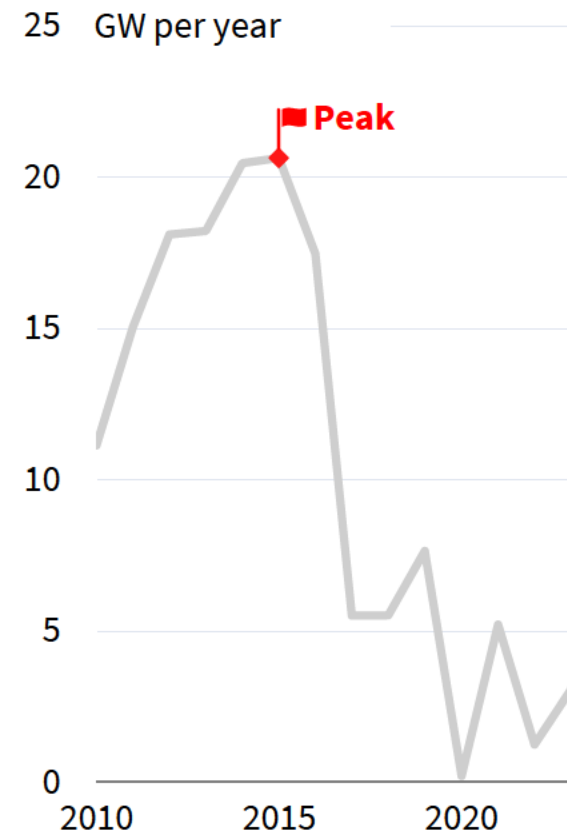


### Latin America



## Coal capacity additions

### India



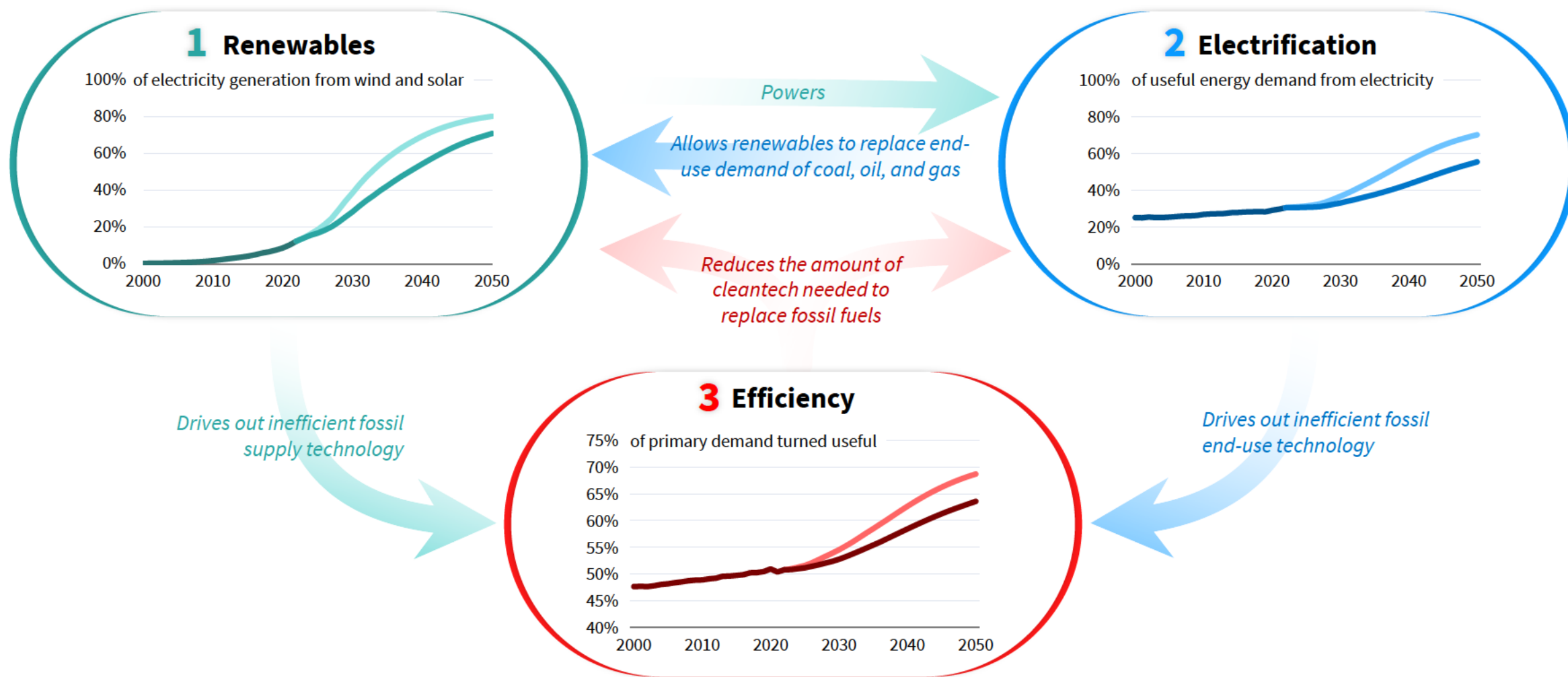
# Index

## 4 Why rapid change will continue

- The three drivers of change — renewables, electrification and efficiency — are self-reinforcing.
- Cleantech costs will keep falling at around 20% for every doubling of deployment as technology gets better and spreads around the world.
- Fossil fuels are vulnerable because they have huge unpaid externalities (up to \$7 trillion a year), get large subsidies (\$1 trillion a year), and waste two-thirds of their energy.
- Cleantech provides energy security: 86% of people live in fossil-importing countries today; renewable resources are 100 times larger than fossil fuels, and available everywhere.
- The world's largest energy consumer, China, lacks oil and gas, and cleantech is a path to leadership, clean air, and zero emissions. So, China will continue to deploy cleantech rapidly.
- There is a race to the top as others try to catch up. Cleantech is now 10% of global GDP growth, and there is a race to lead the cleantech industries of the future. Meanwhile, as the world burns, so policy pressure will rise.
- Clean technologies will continue to follow S-curves, cascading across sectors and geographies. Change at the frontier is hard, but most countries can copy the leaders.

# Three drivers of self-reinforcing change

There are positive feedback loops between renewables, electrification, and efficiency

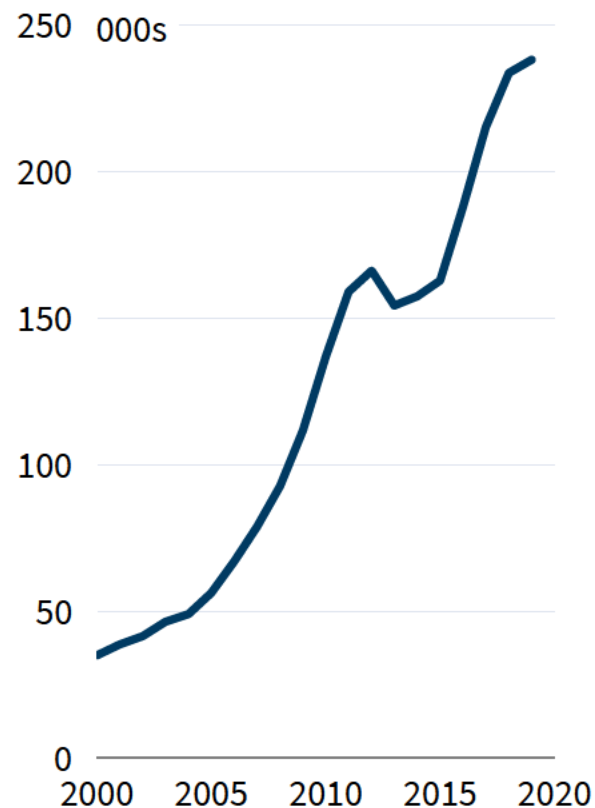




# Cleantech keeps getting better

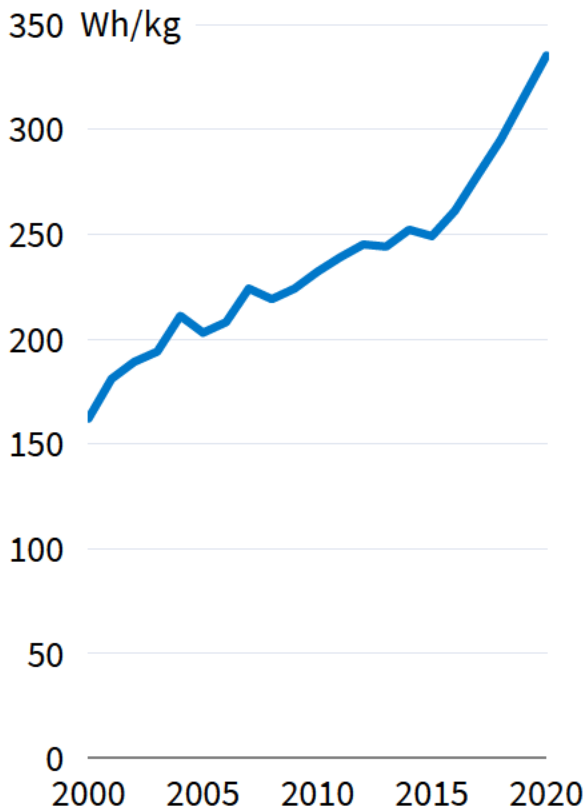
More patents, higher battery density, more solar and wind generation per unit, economies of scale, new ideas, ...

**Cleantech patents per year**



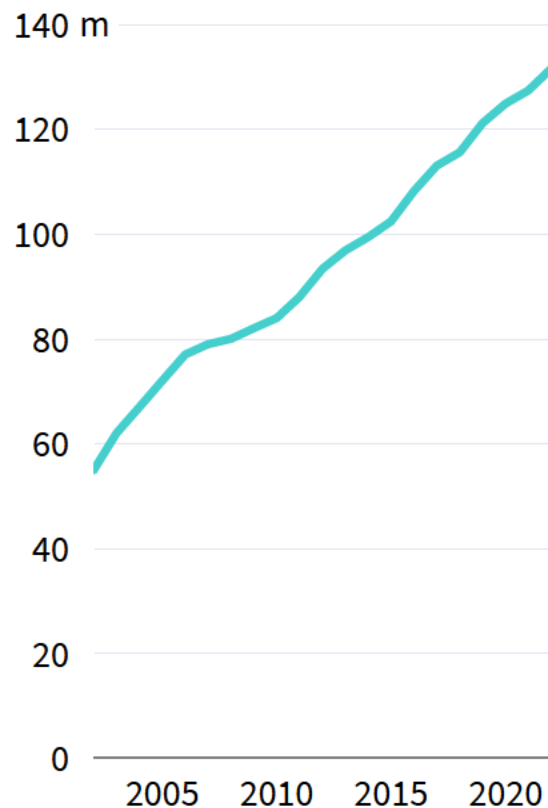
More innovation

**Top-tier battery cell density**



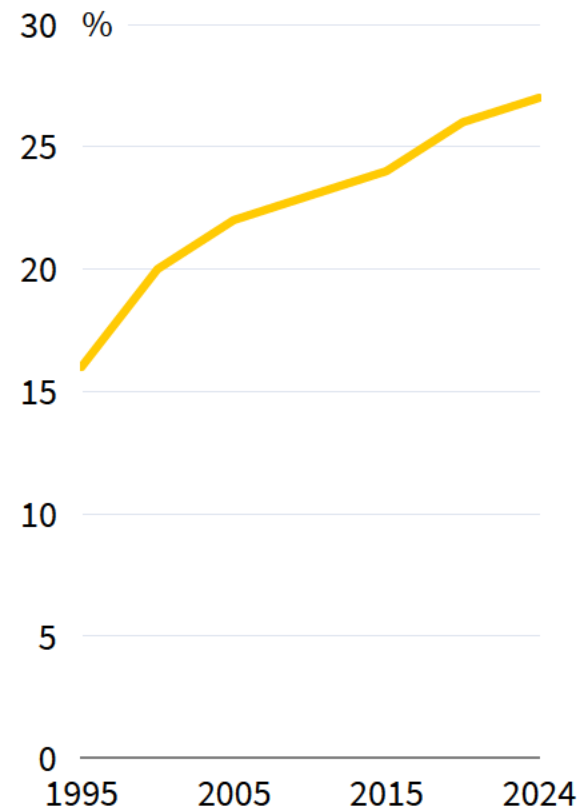
Denser batteries open up new sectors for batteries to play in

**Wind rotor diameter**



Bigger rotors reduce cost per MWh

**Solar cell efficiency**

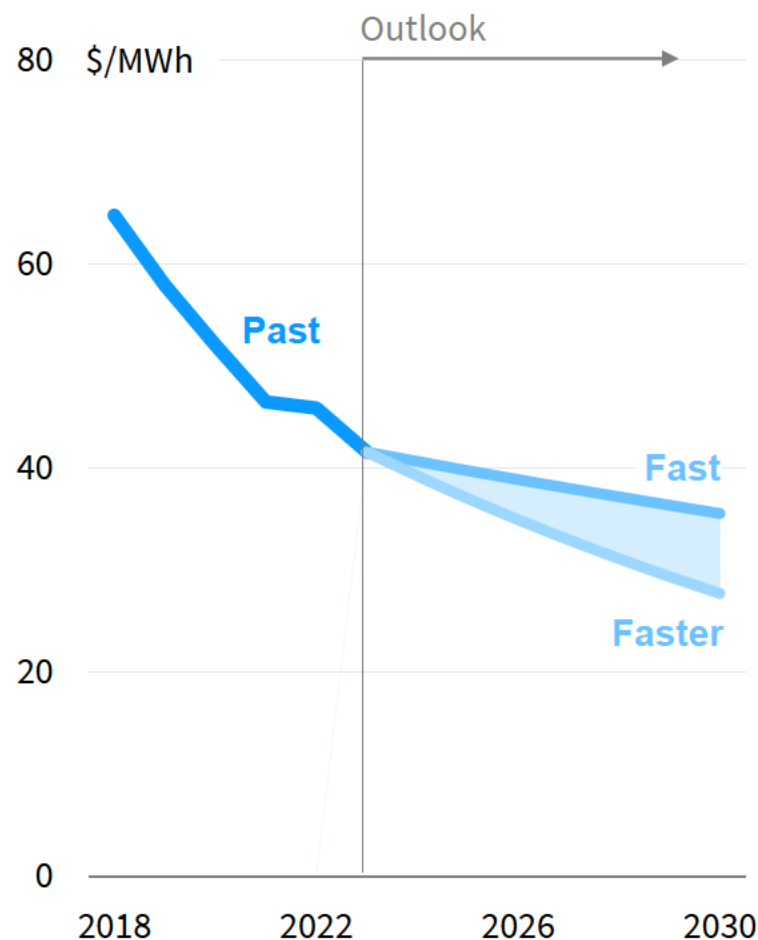


More efficient solar panels reduce cost per MWh

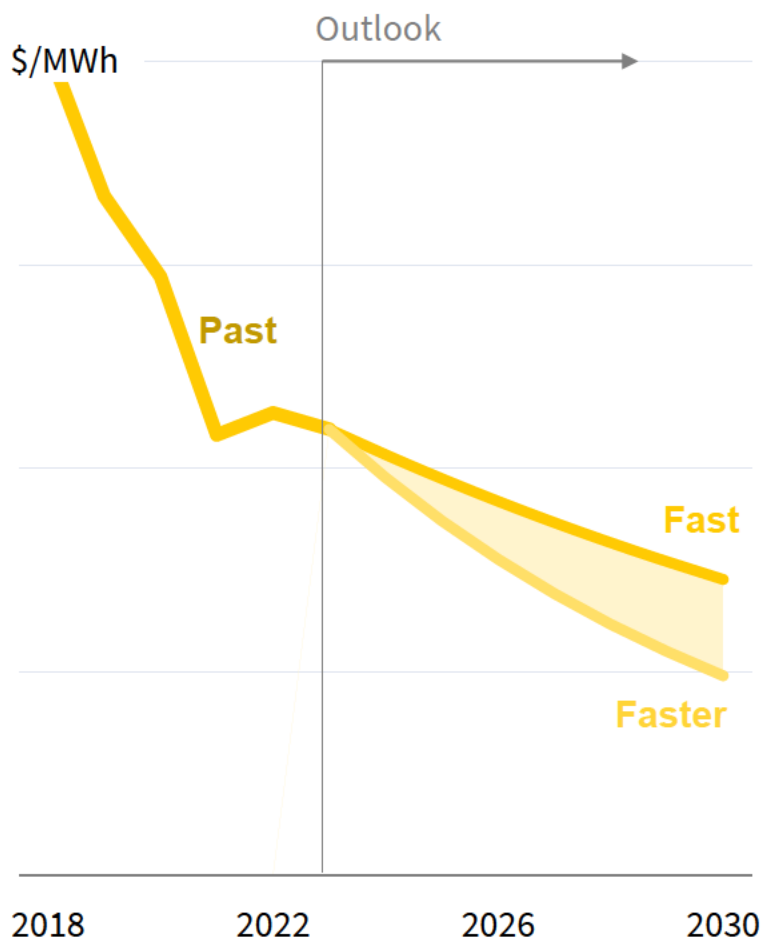
# Cleantech costs will continue to fall

Solar, the cheapest energy source in history, will halve in price by the end of the decade

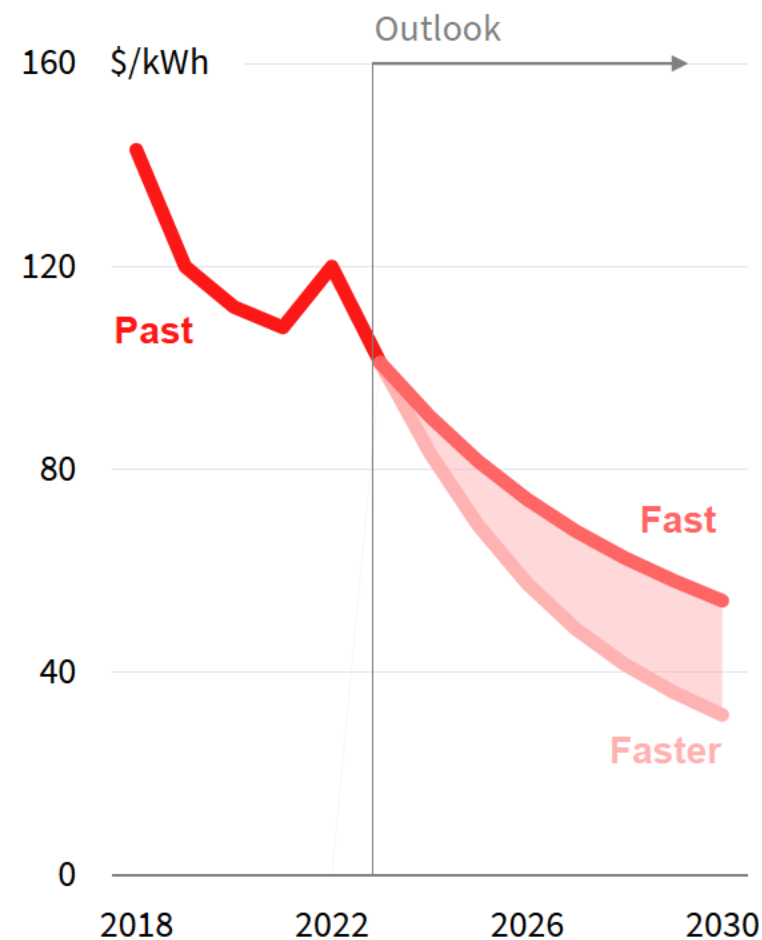
## Wind costs



## Solar costs



## Battery costs



# The fossil fuel system is fragile

Fossil fuels impose major externalities, while collecting large rents and subsidies

**\$4.6  
trillion**

In annual waste from energy efficiency losses

**86%**

of people live in fossil fuel-importing countries

**\$2  
trillion**

In annual fossil fuel rents

**5–6  
million**

Annual air pollution deaths as the result of burning fossil fuels

**\$1.3  
trillion**

In annual explicit subsidies (\$7 trillion with implicit subsidies)

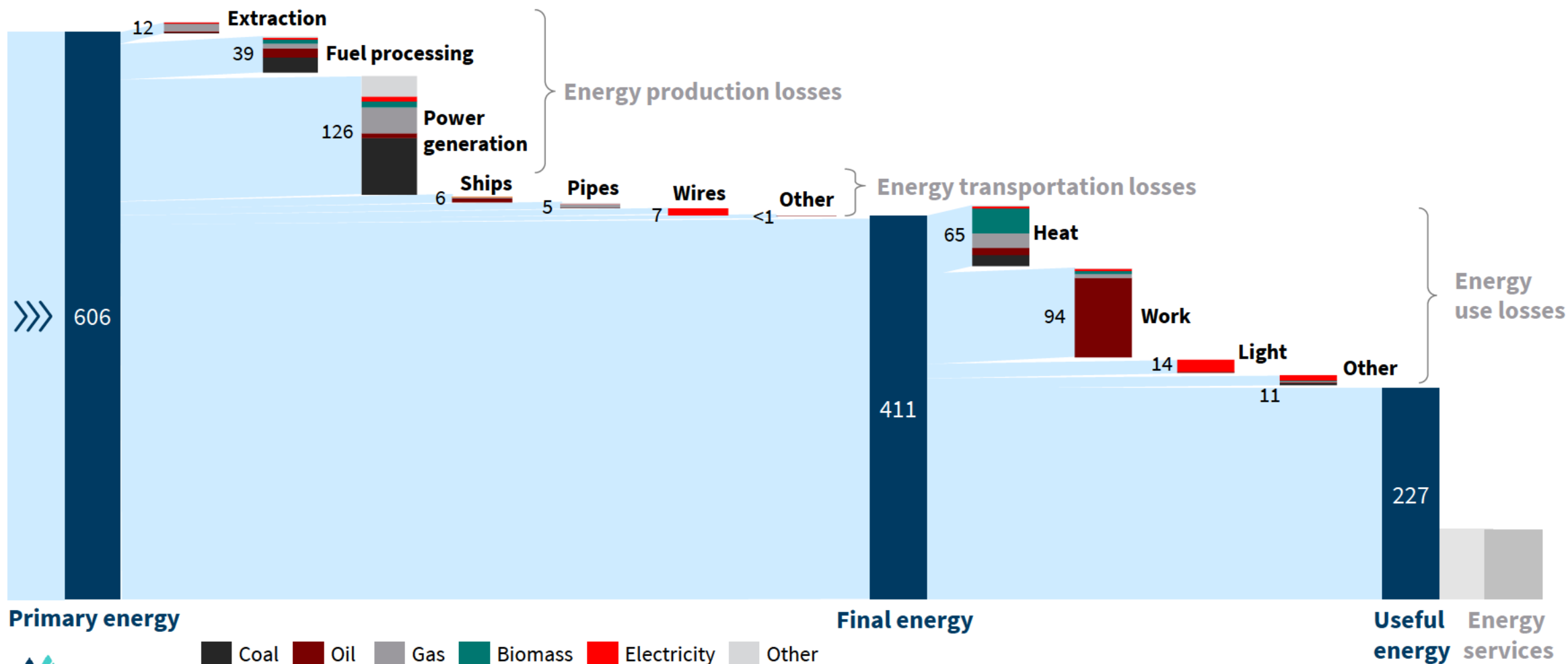
**75%**

Of greenhouse gases come from burning fossil fuels

# Fossil fuels are extremely inefficient

Two thirds of all fossil fuel primary energy is wasted in thermodynamic and system losses

Energy system flows, EJ, 2019



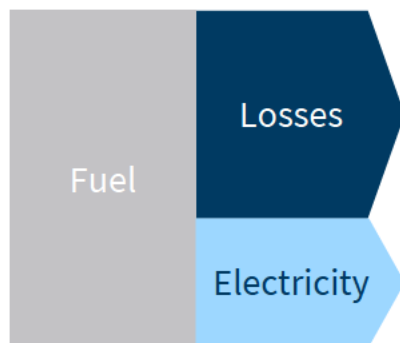
# Cleantech is 3 times more efficient

Cleantech is around 3x more efficient than fossil technologies across applications

## Energy production

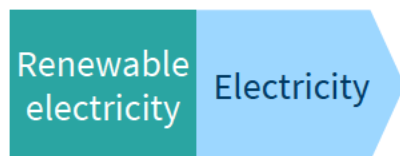
### Electricity

#### Fossil thermal



30%–40% efficiency

#### Wind and solar



100% efficiency

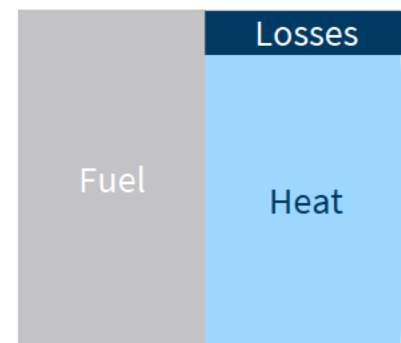
**2–3x**

as efficient

## Energy use

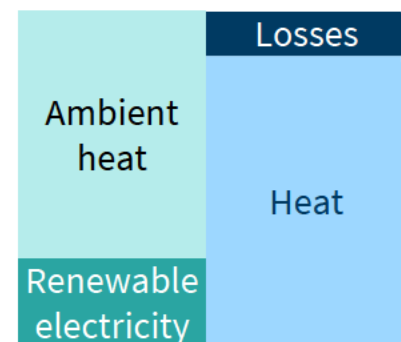
### Heating

#### Gas boiler



85% efficiency

#### Heat pump



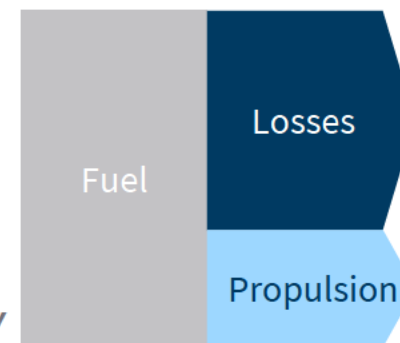
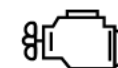
300%–400% efficiency

**3–4x**

as efficient

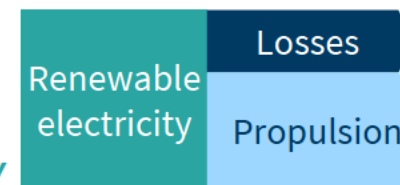
### Transport

#### Internal combustion engine



25%–40% efficiency

#### Electric vehicle



80%–90% efficiency

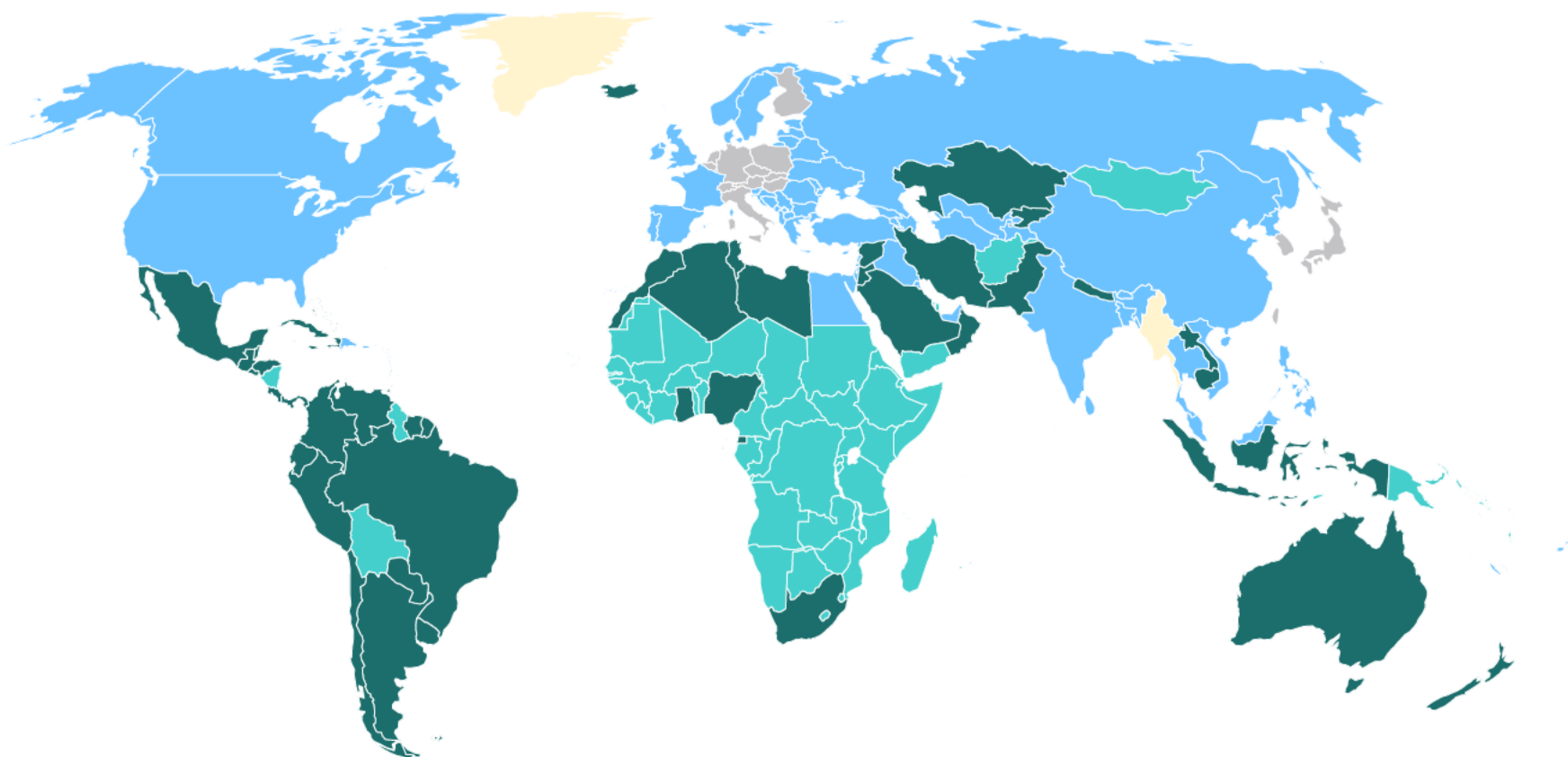
**2–4x**

as efficient

# Renewables provide energy security

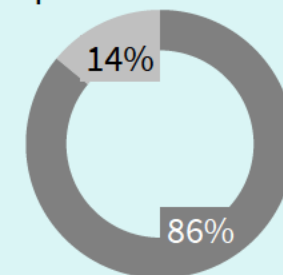
They are 100x bigger than fossil fuels, and every country has them

## Renewable potential as a multiple of energy demand



## Share of population living in countries that import fossil fuel

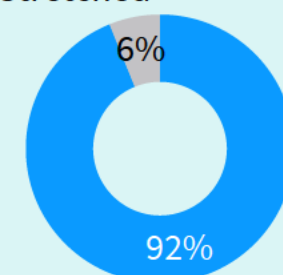
Fossil fuel exporters



Fossil fuel importers

## Share of population endowed with replete or better renewable resource

Stretched



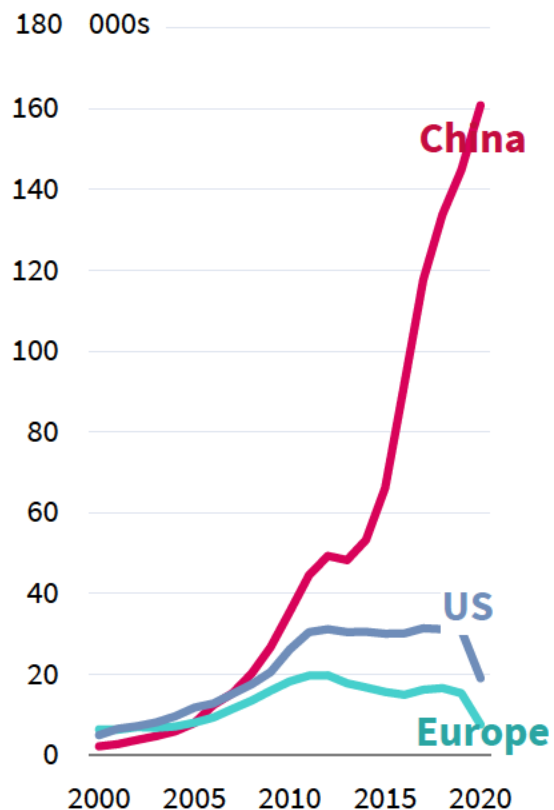
Replete to superabundant

# The world's largest energy consumer is moving fast

China is leading the way to patent, make, and deploy the energy technologies of the future

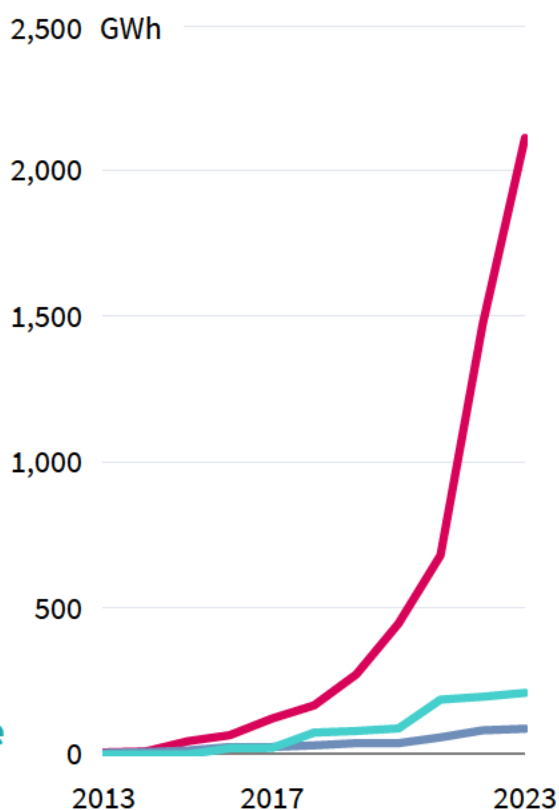
## Patent

### Clean energy patents



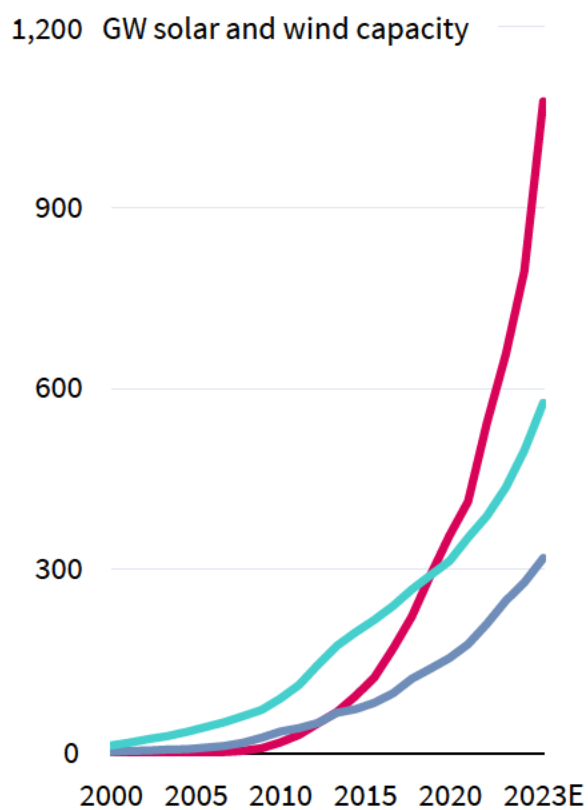
## Make

### Battery manufacturing capacity

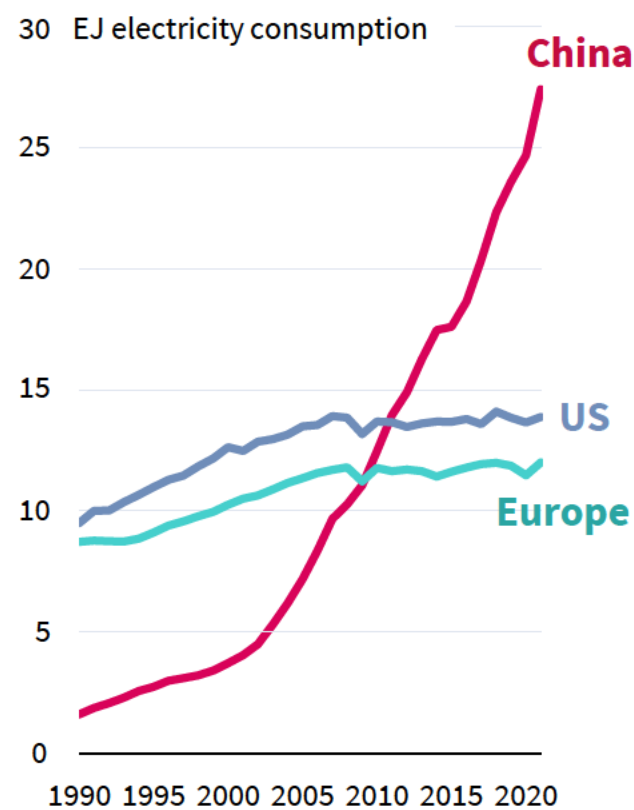


## Deploy

### Renewables



### Electrification



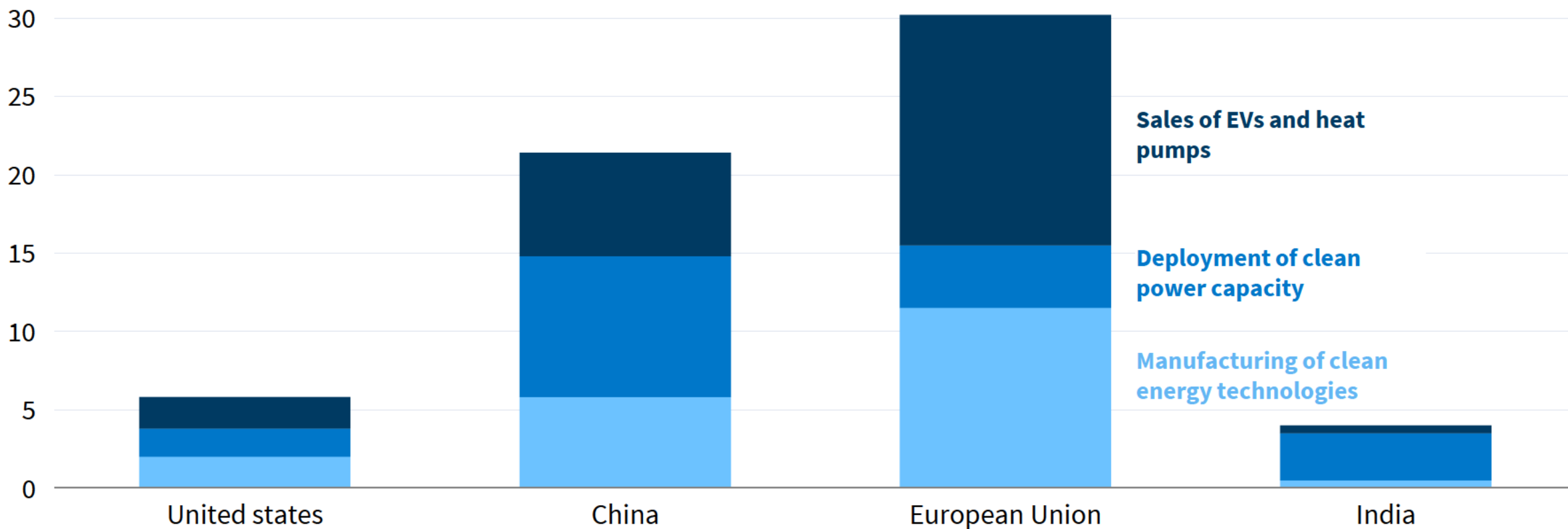


# Everyone wants a piece of the action

Cleantech is now a key driver of GDP growth all over the world

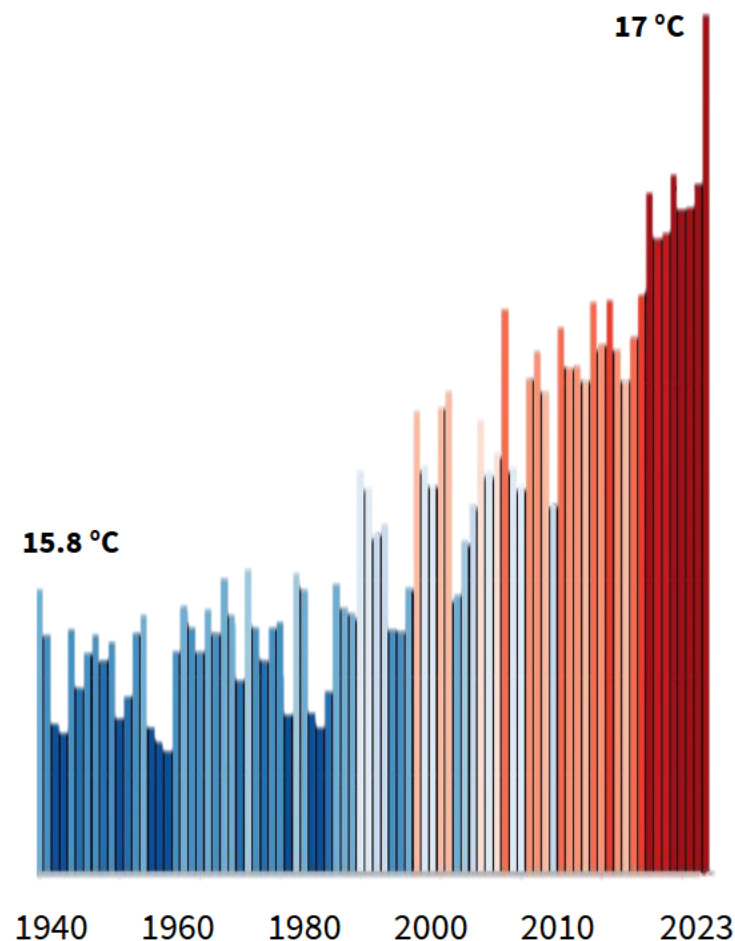
## Contribution of cleantech to GDP growth, 2023

35 % of GDP growth



# The world burns...

## Record temperatures

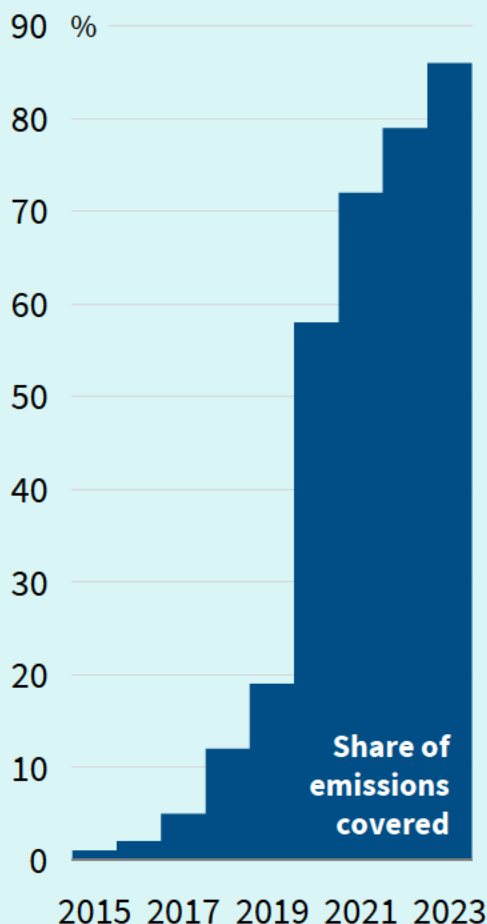


Source: C3S. Surface temperatures.

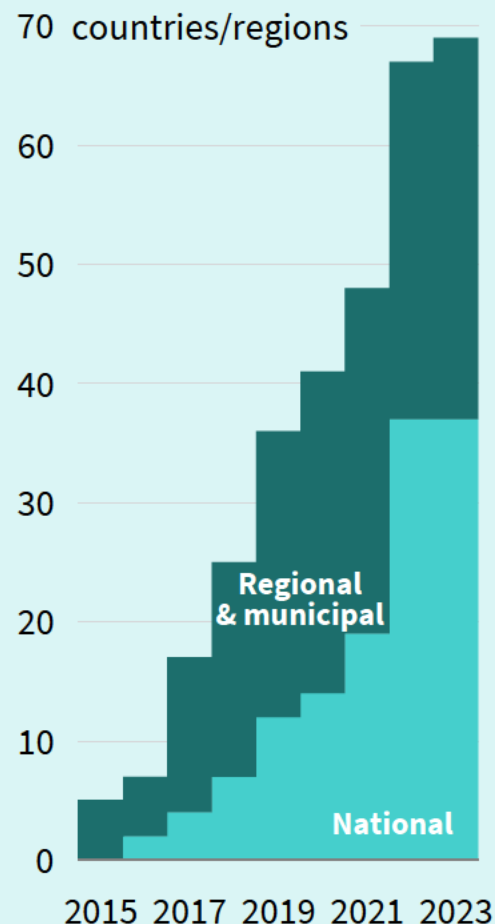
# ...so policy pressure will continue to rise

Change is not uniform, but it is relentless at a global level

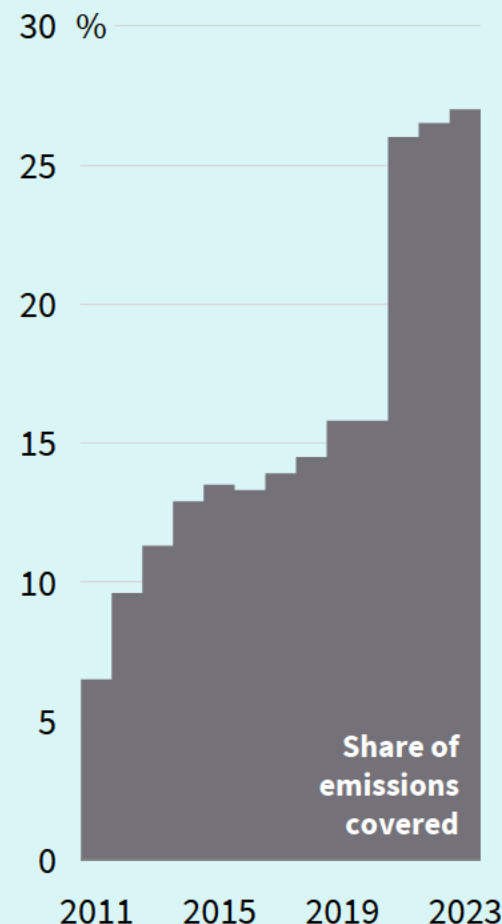
## Net-zero targets



## Combustion car bans



## Carbon prices

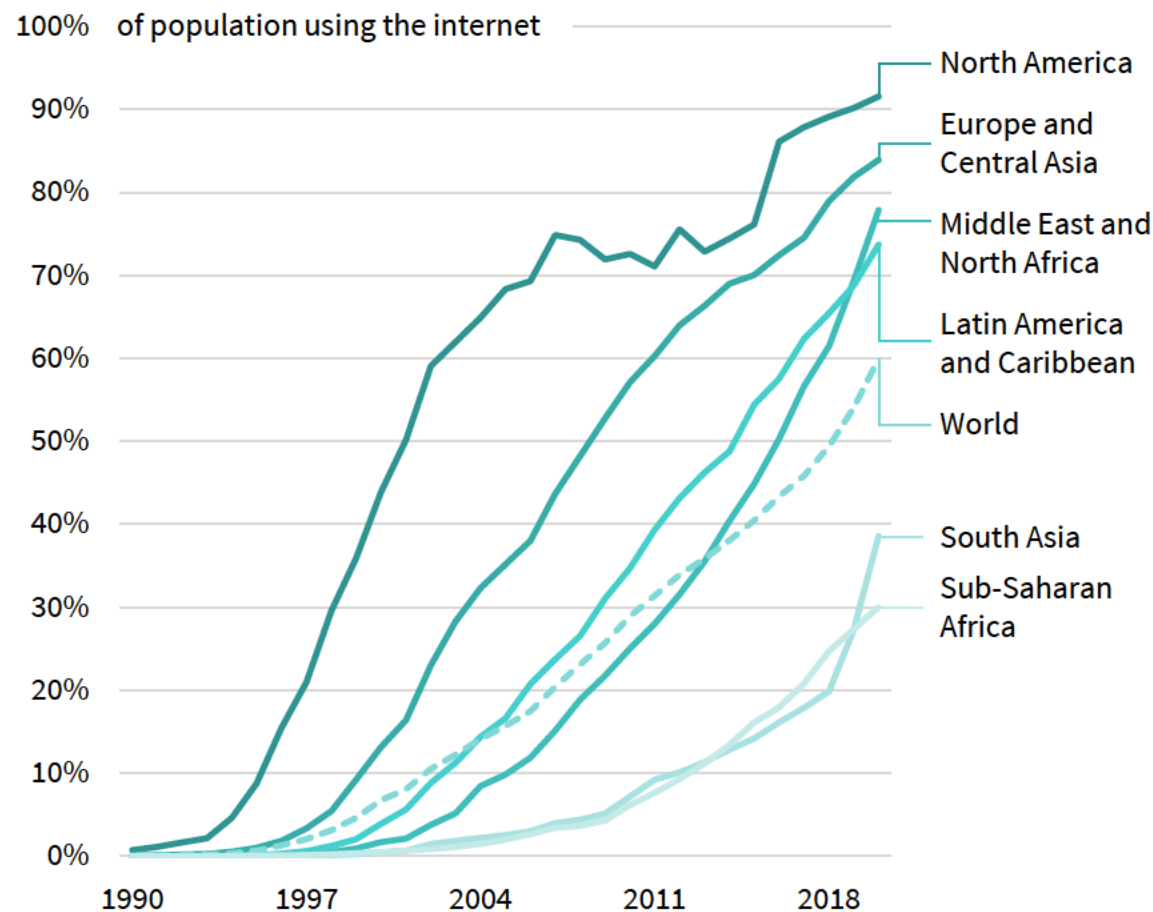


Source: IEA, BNEF, World Bank/OWID.

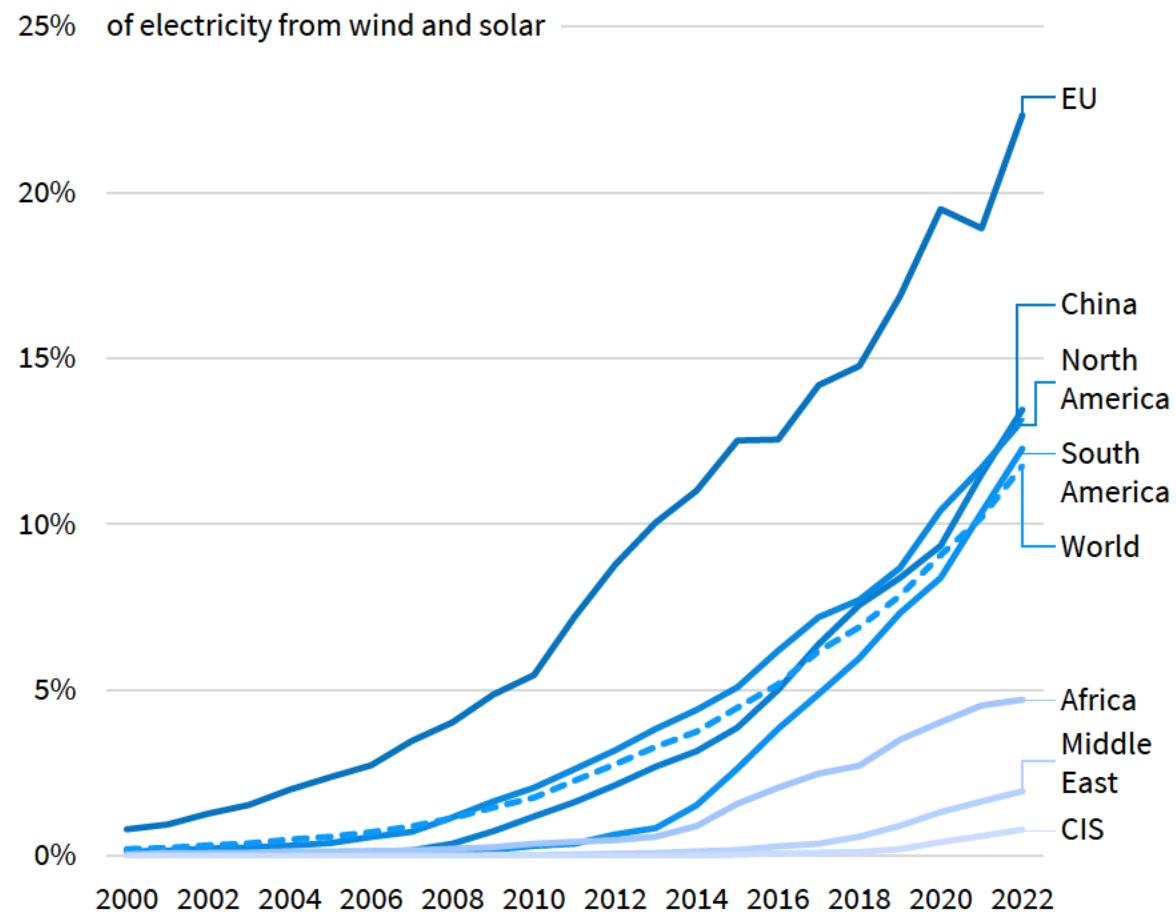
# Cleantech adoption resembles that of the internet

Adoption moves from early adopters to laggards up a series of S-curves. This time anyone can be a leader

## Share of population using the Internet



## Solar and wind as a share of generation

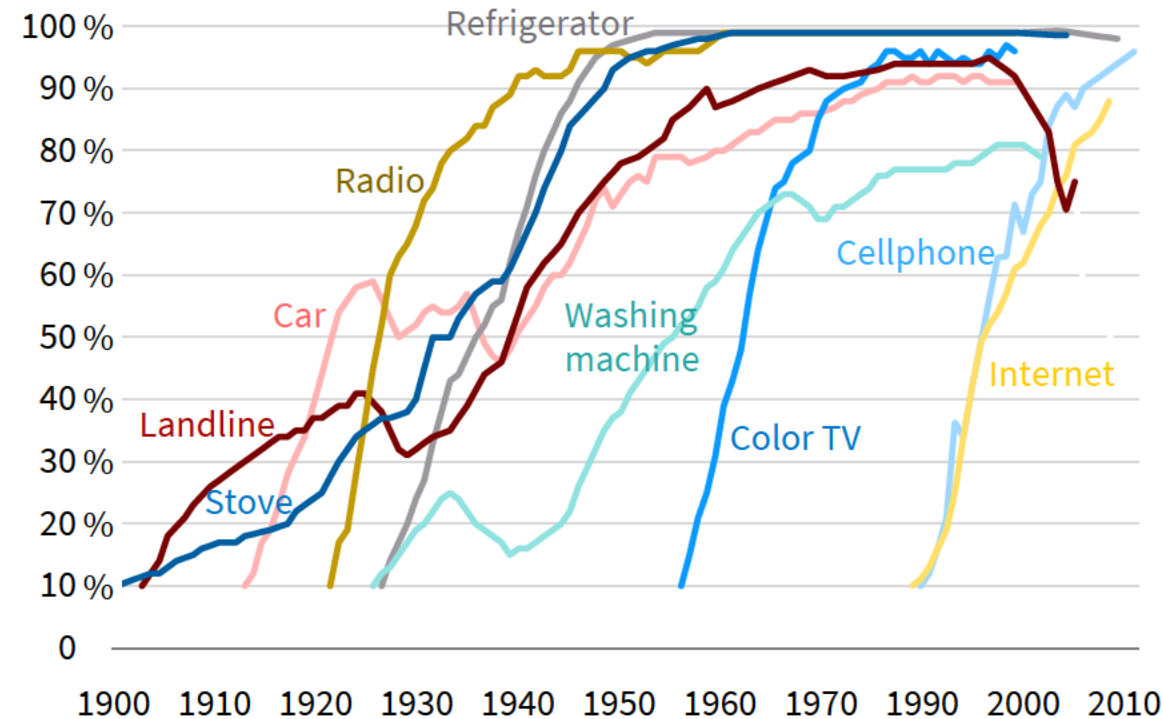


# S-curves as usual, not business as usual

We've seen this movie before. We know how technology shifts work

## Individual products

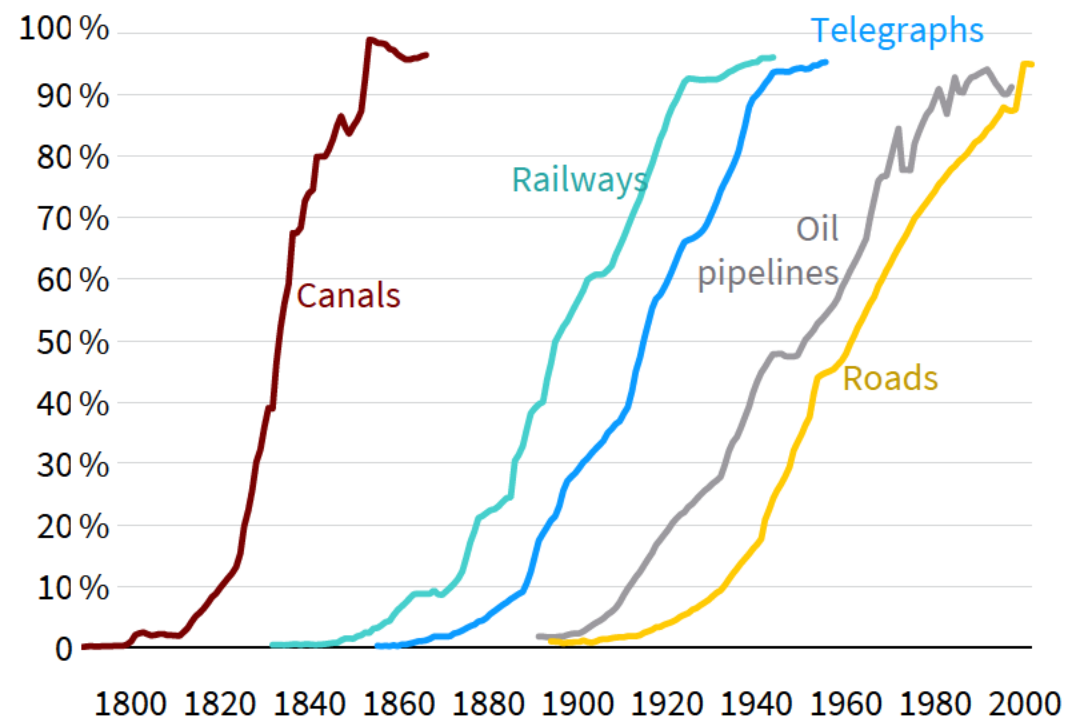
Technological adoption by household in the United States



Rapid exponential growth along S-curves is a standard characteristic of successful new technologies.

## Infrastructure systems

Share of maximum size in the United States

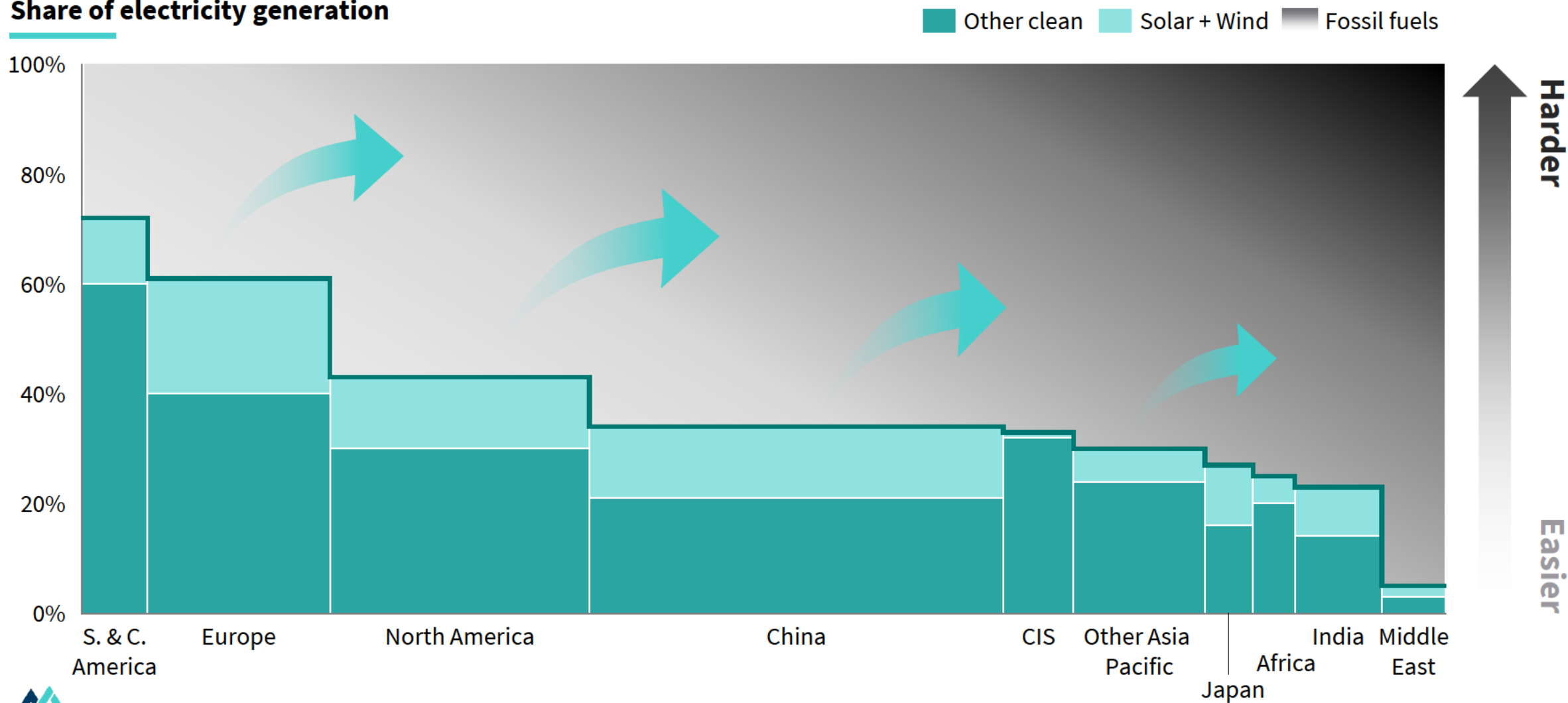


S-curve-type growth even applies to infrastructure.

# Technologies cascade across geographies

We should focus on the opportunities before our very eyes, not on potential end-game barriers

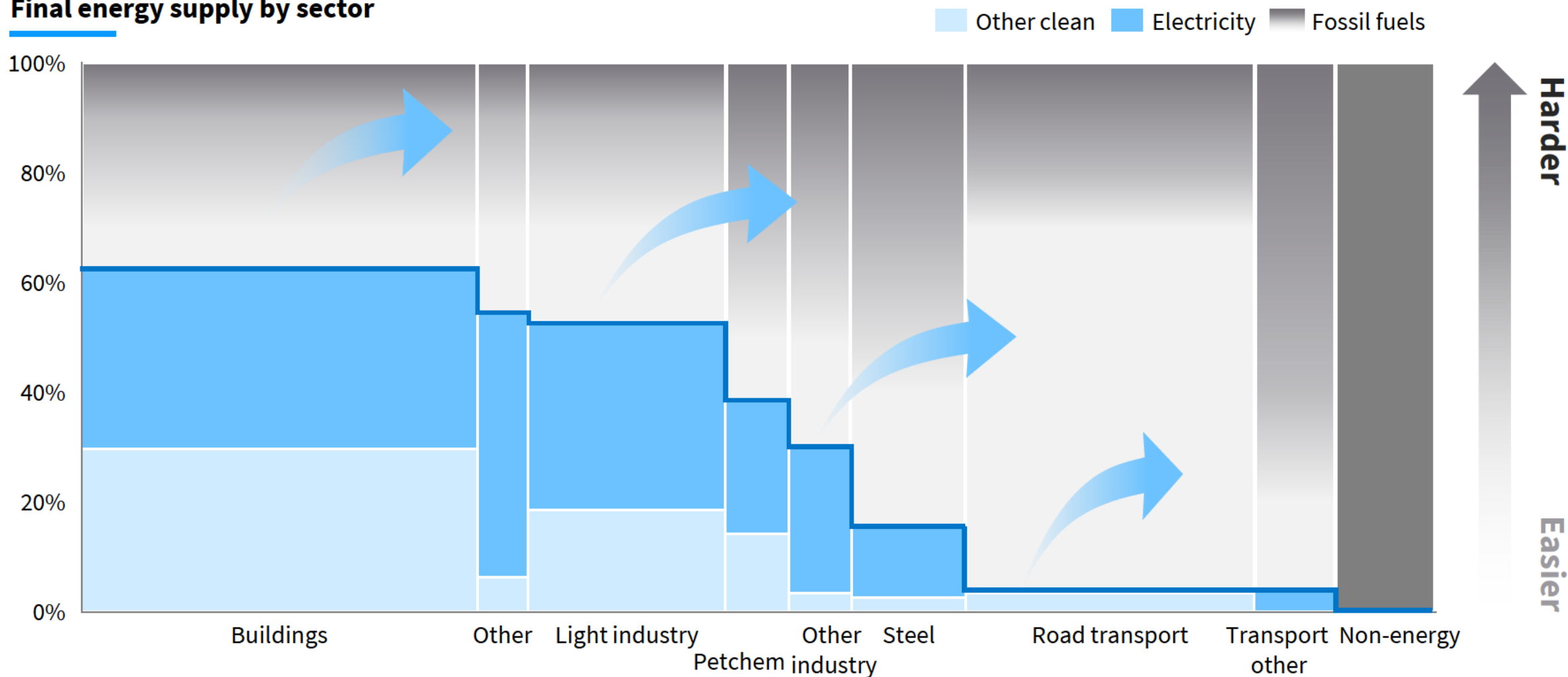
## Share of electricity generation



# Technologies cascade across sectors

Every sector has low-hanging fruit at the frontier

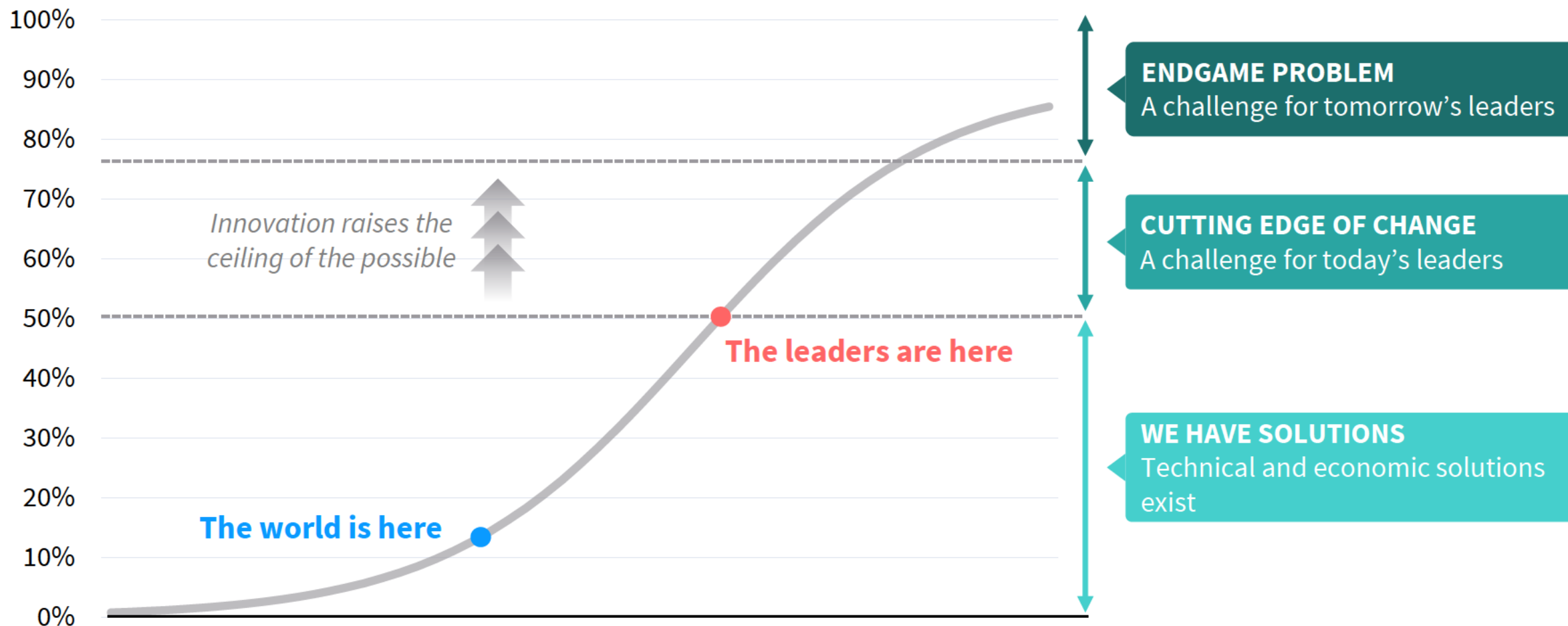
## Final energy supply by sector



# The ceiling of the possible keeps rising

Leading countries and companies keep opening up new opportunities for the rest of the world

## Solar and wind as share of electricity generation





# Index

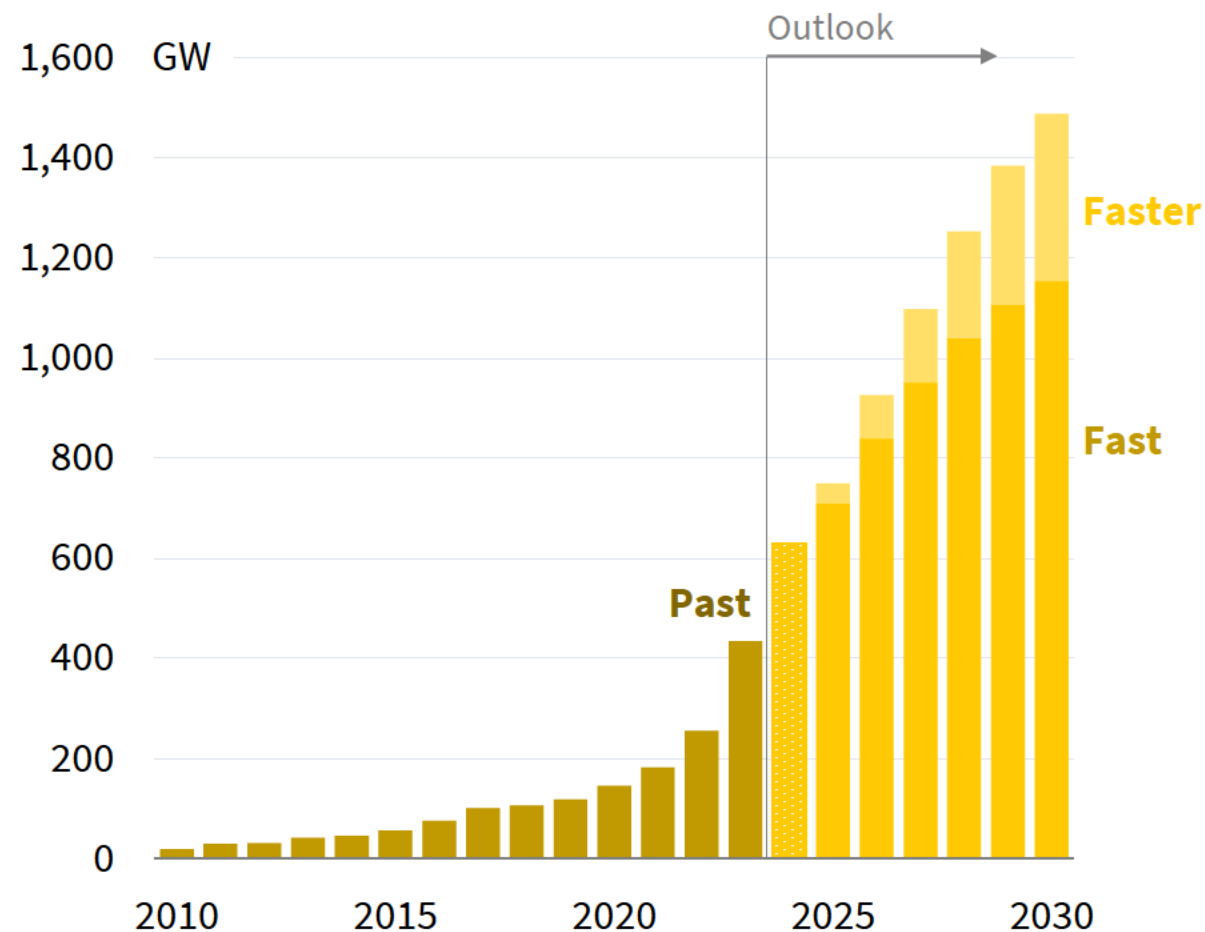
## 5 Implications for the energy system

- If change continues on S-curves, then by 2030 we expect solar sales of over 1,000 GW a year and battery sales of over 6,000 GWh a year.
- S-curves imply that by 2030 solar and wind generation will triple to over 12,000 TWh and EVs will be two-thirds of car sales.
- The annual electrification rate is likely to more than double to 0.5% in 2030 as transport joins the party, and success in China drags up electrification rates elsewhere.
- Annual efficiency gains are likely to double from the 1.5% average of the past two decades to at least 3% as the result of the rising share of renewables, electrification, and a greater focus on end-use efficiency.
- Renewables will push out fossil electricity, electrons will push out molecules, and efficiency will reduce waste. In a typical X shaped pattern.
- Over 75% of fossil fuel demand today is threatened by rapidly growing cleantech alternatives.
- Fossil fuel demand will be squeezed between efficiency and cleantech. The demand plateau will last until the end of the decade, and then clear decline will set in.

# Super-fast growth in solar and battery sales

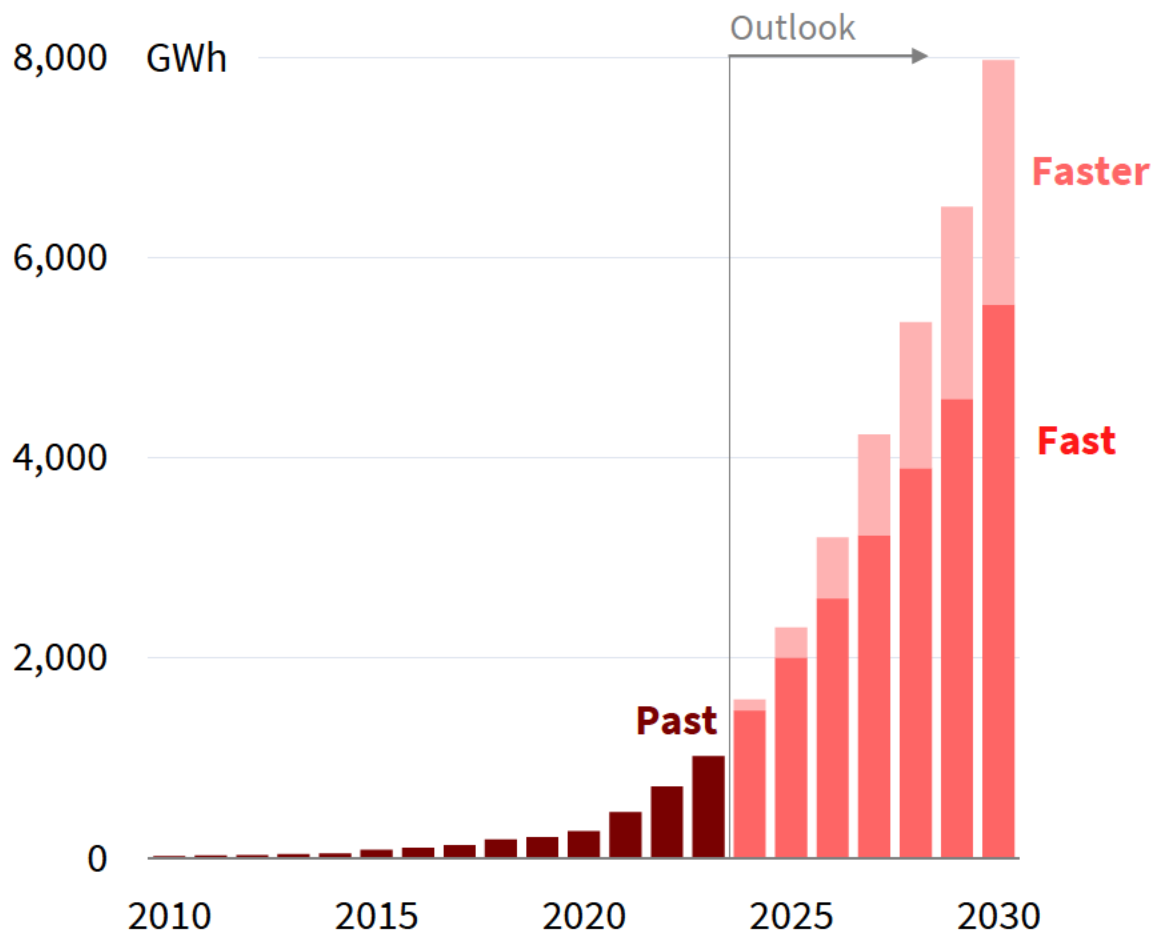
Solar sales are on track for over 1,000 GW per year by 2030

## Global solar sales



Battery sales are likely to be over 6,000 GWh a year by 2030

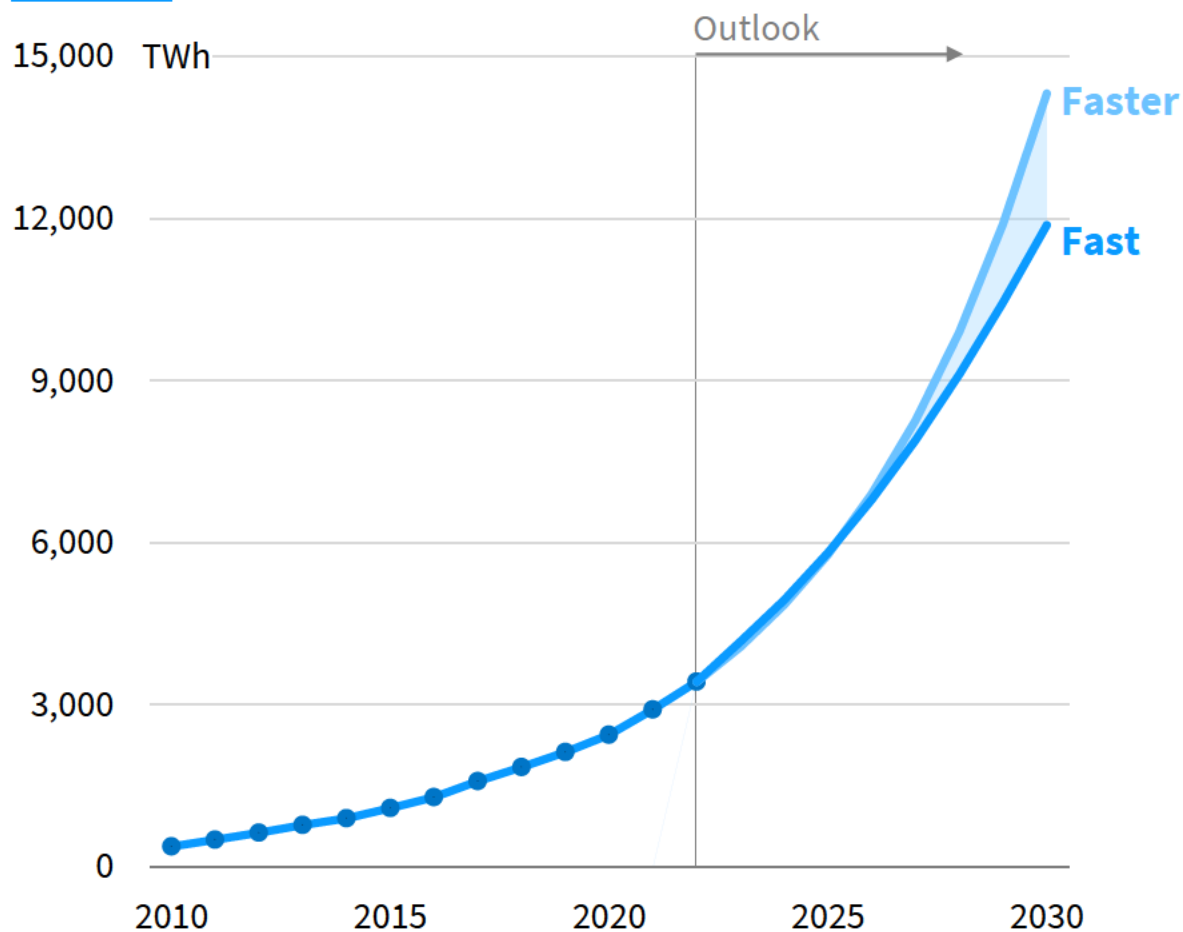
## Global battery sales



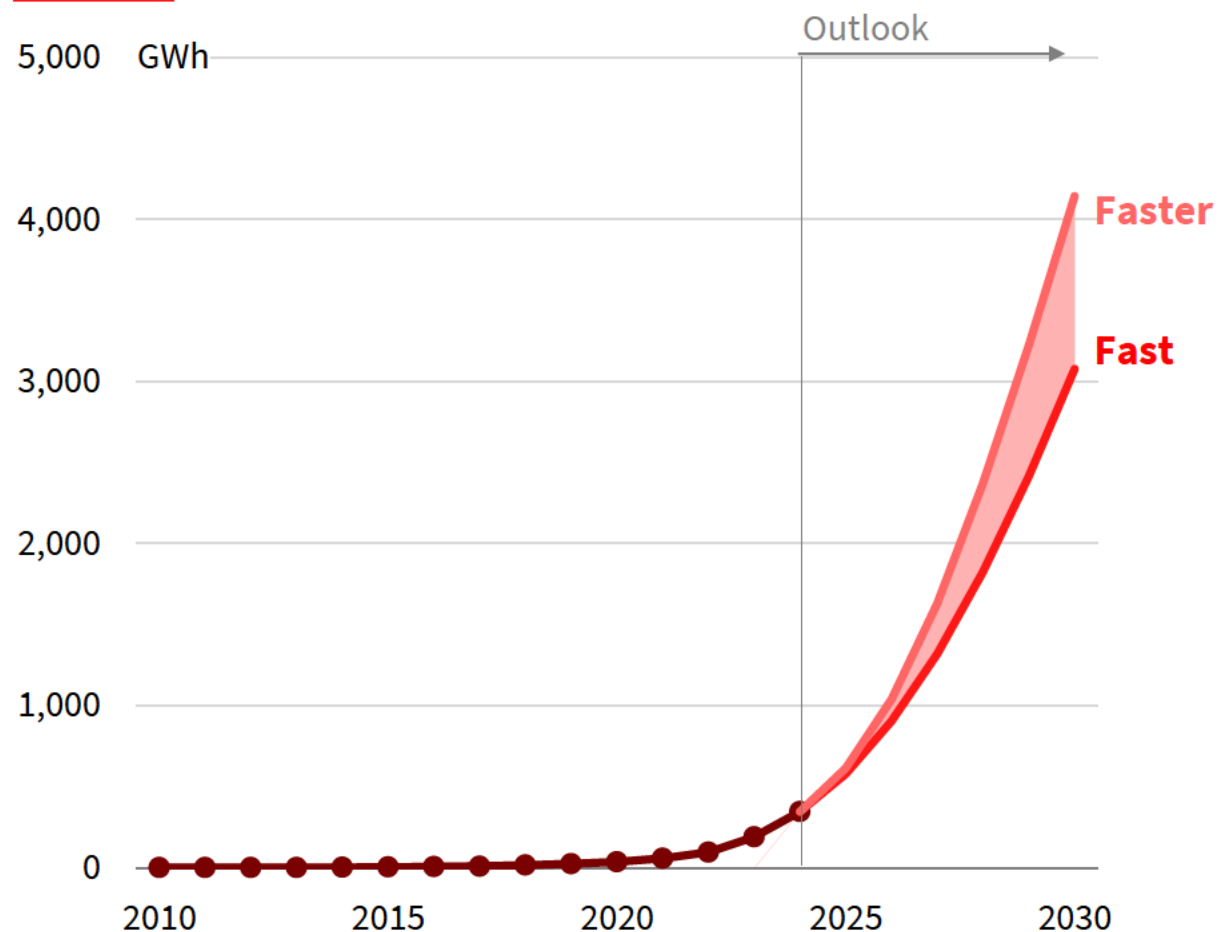
# Renewables will keep rising up their S-curves

As the renewable revolution will continue to solve barriers to change

## Solar and wind generation



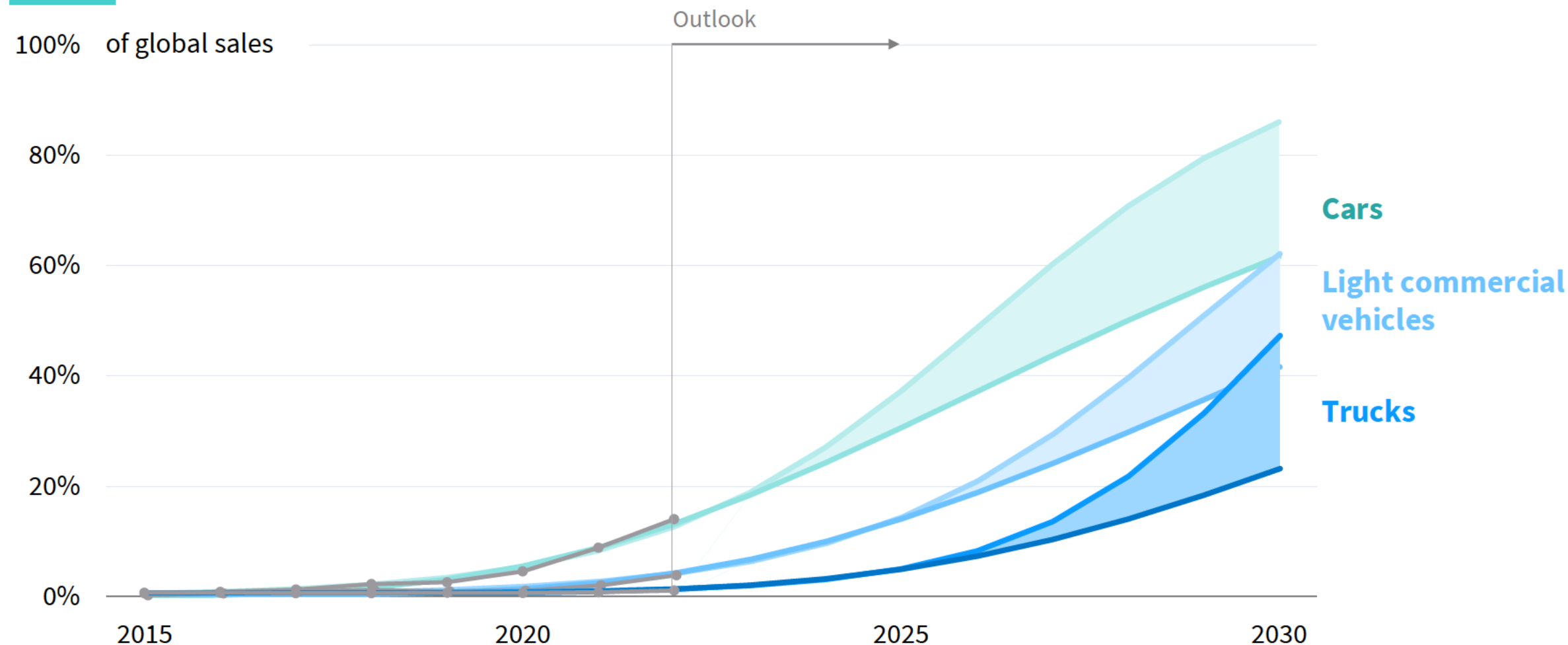
## Battery stationary storage



# The electric vehicle domino effect will continue

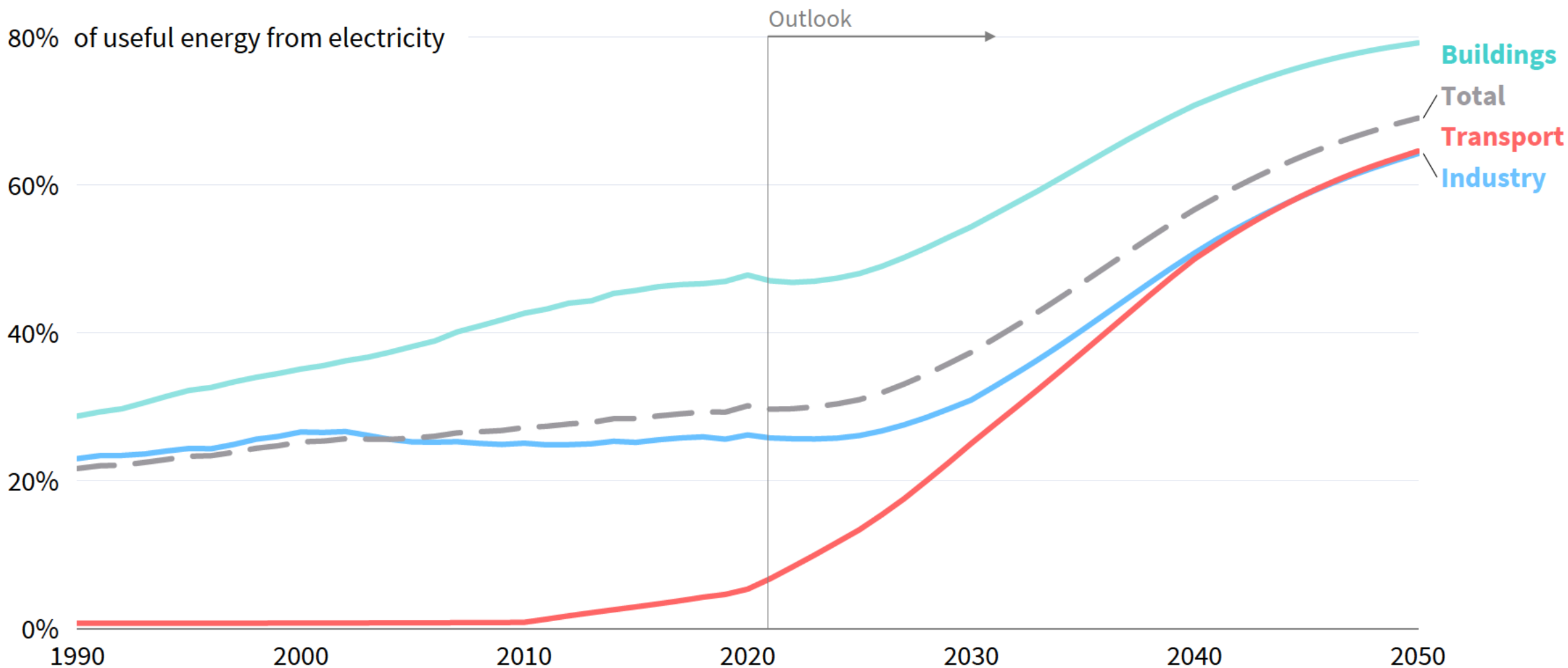
Where cars go, vans and trucks follow

## The electric vehicle domino



# Electrification will pick up speed

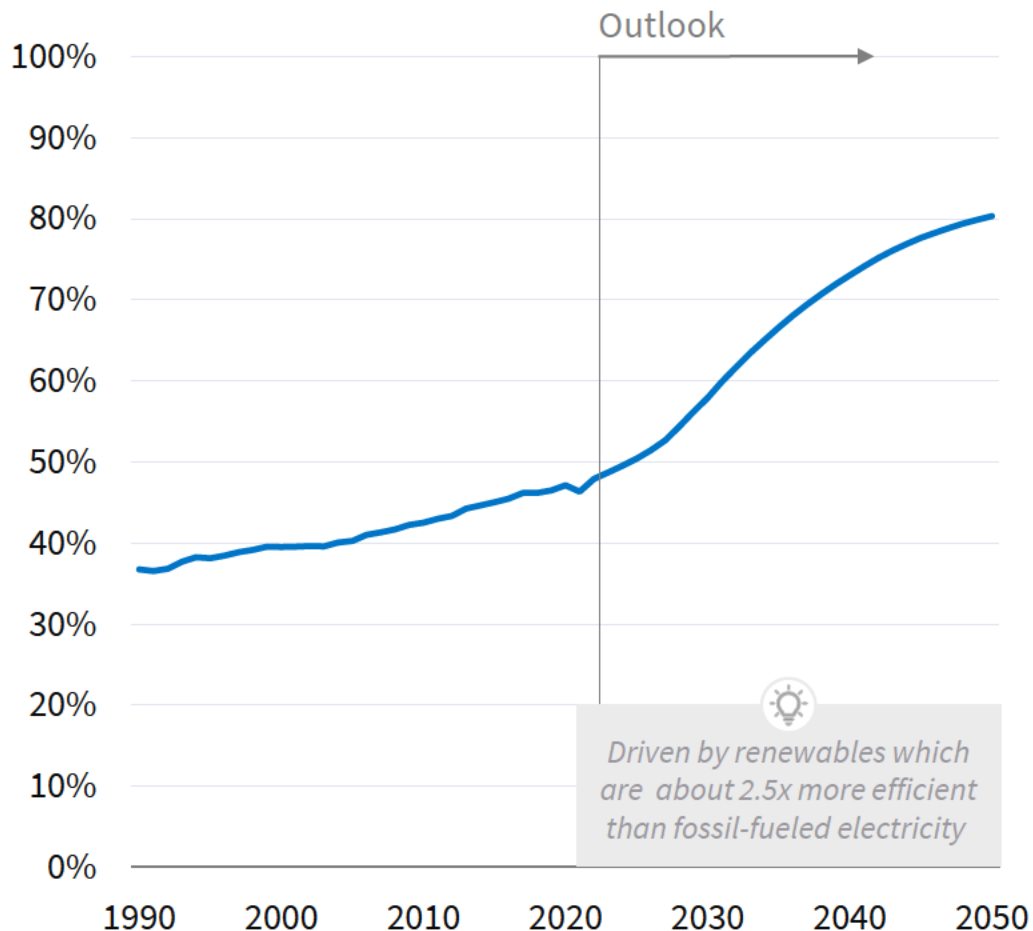
Transport is joining the party just as electrification picks up in other sectors



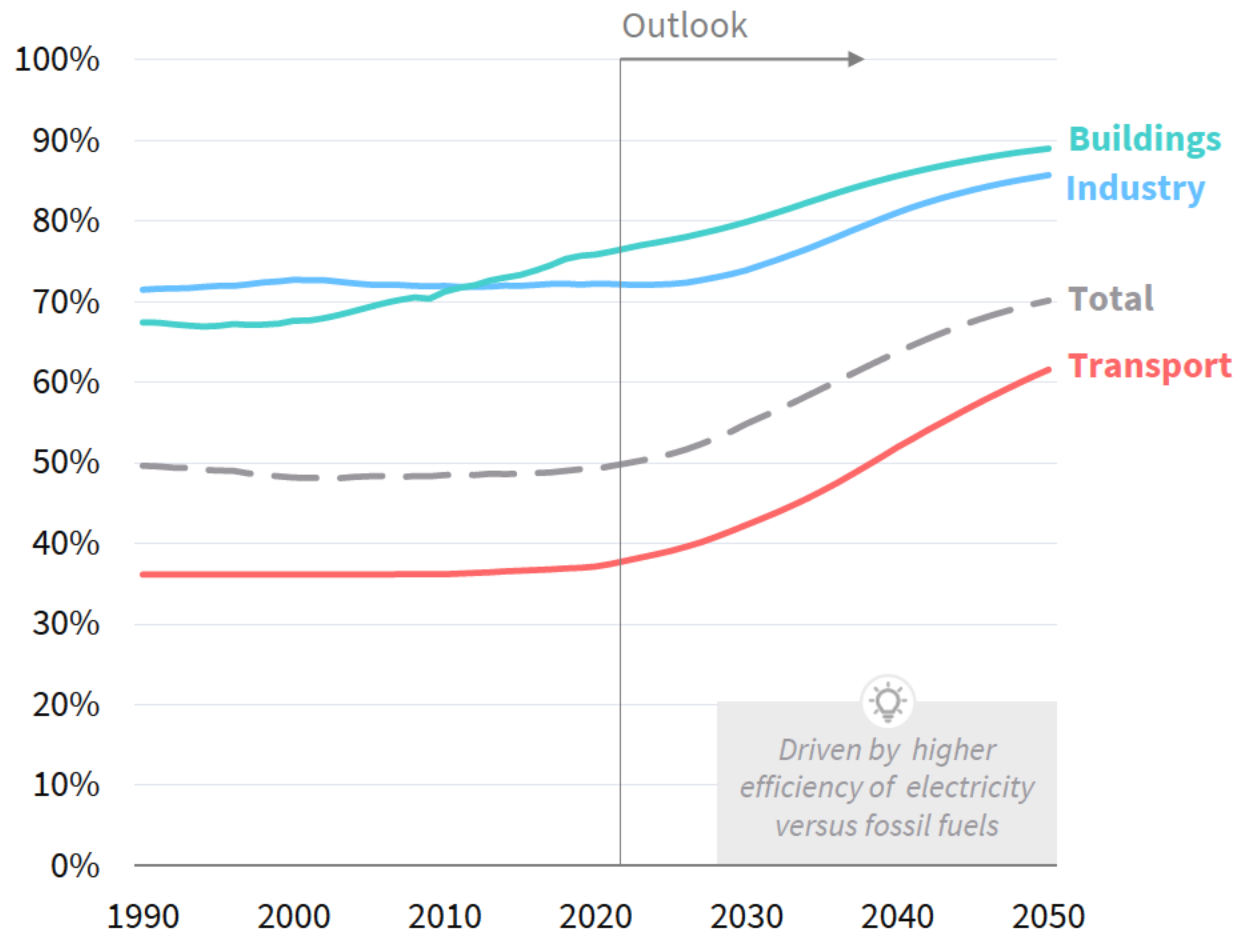
# Efficiency will be pulled up the S-curve

Faster cleantech deployment will speed up efficiency improvements

## Electricity generation efficiency



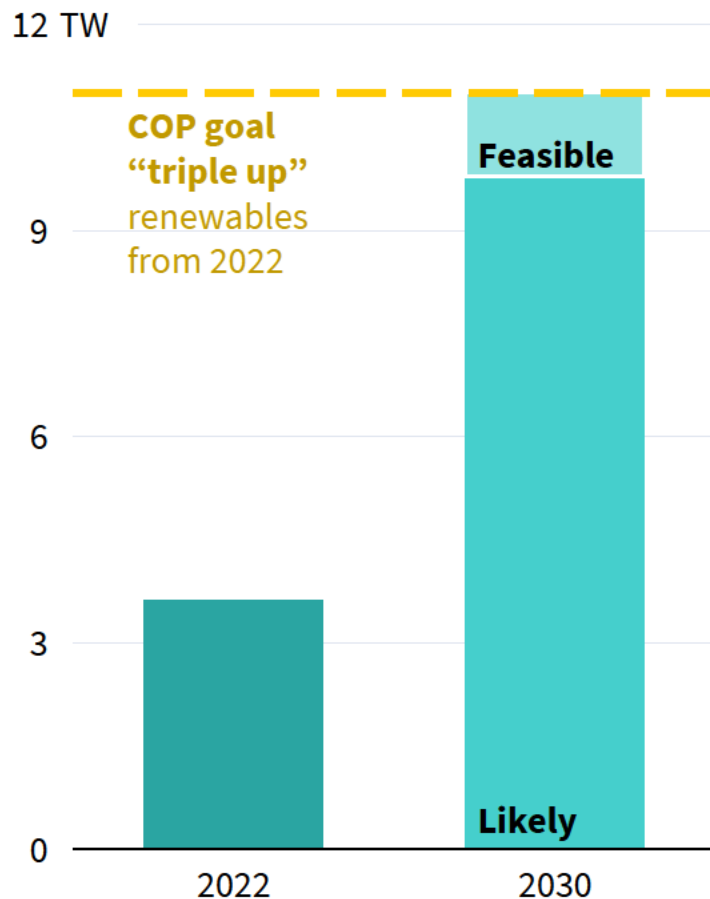
## End-sector efficiency



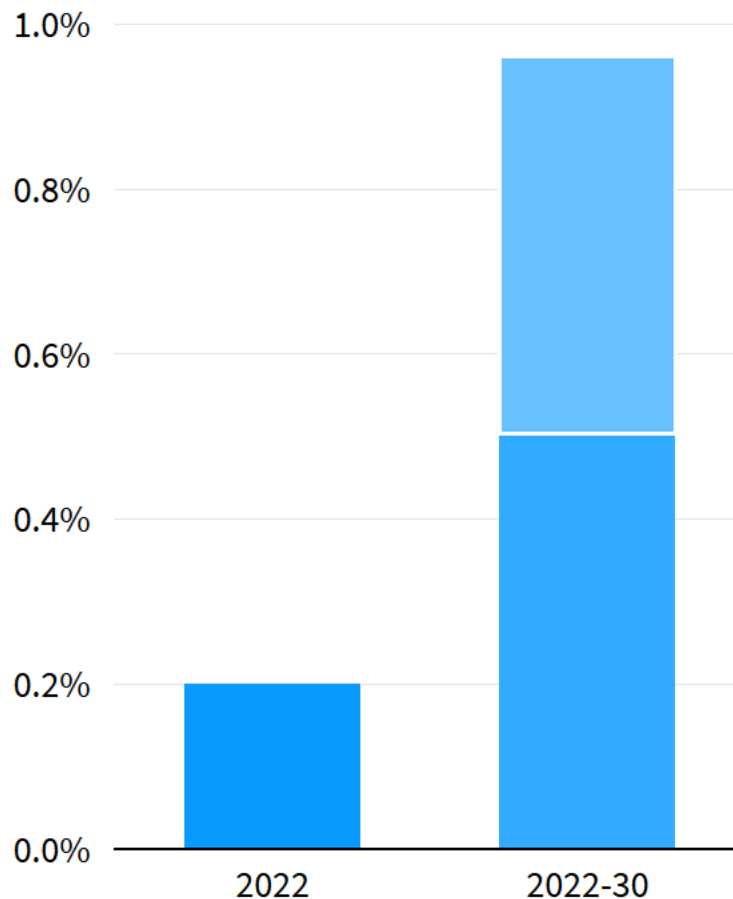
# Tripling renewables by 2030

S-curves suggest we will triple renewables, and more than double electrification and efficiency rates

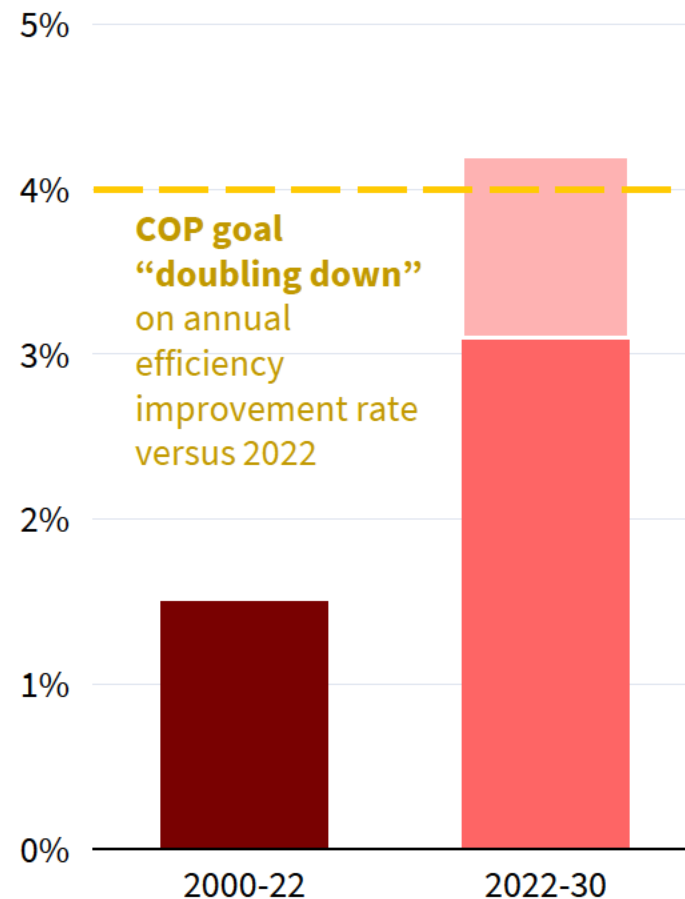
**Renewable capacity**



**Annual rate of electrification**



**Annual primary efficiency gains**

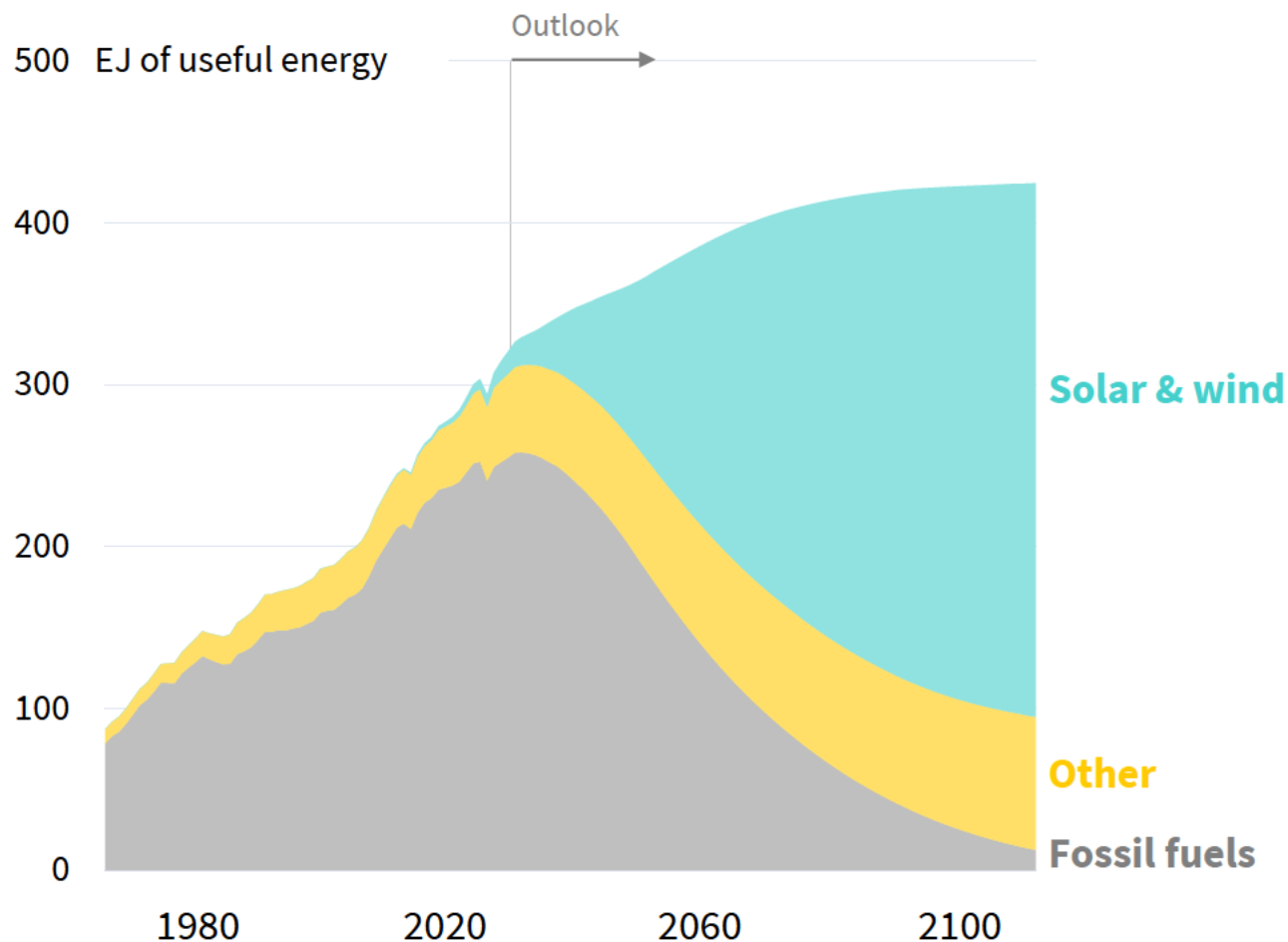




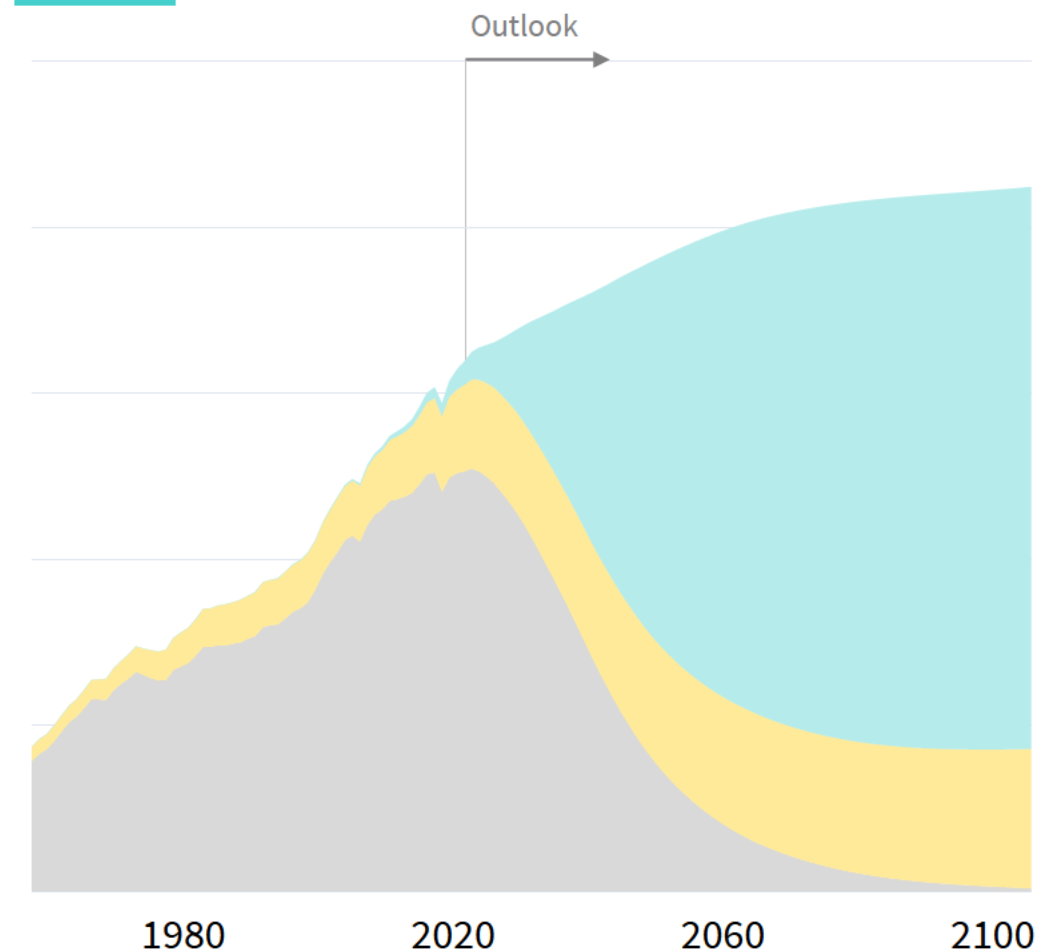
# A new energy system is coming

Fast or faster; either we are off the fossil plateau by the late 2020s or by the early 2030s

**Fast, 1.8°C**



**Faster, 1.6°C**

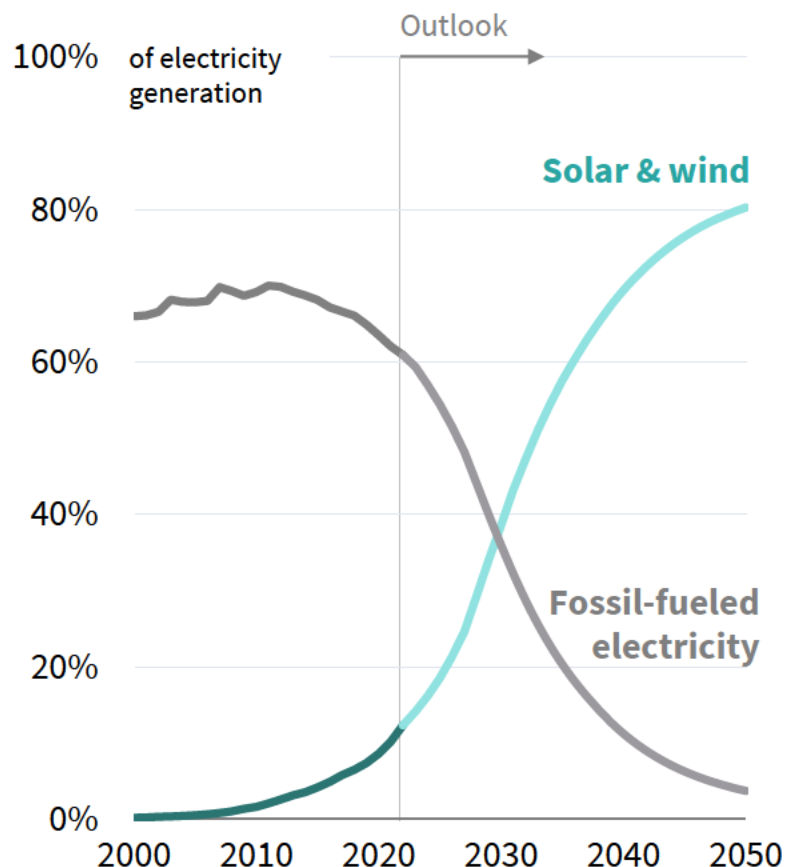


# In with the new, out with the old

Renewables push out fossil electricity, electrons push out molecules, and efficiency reduces waste

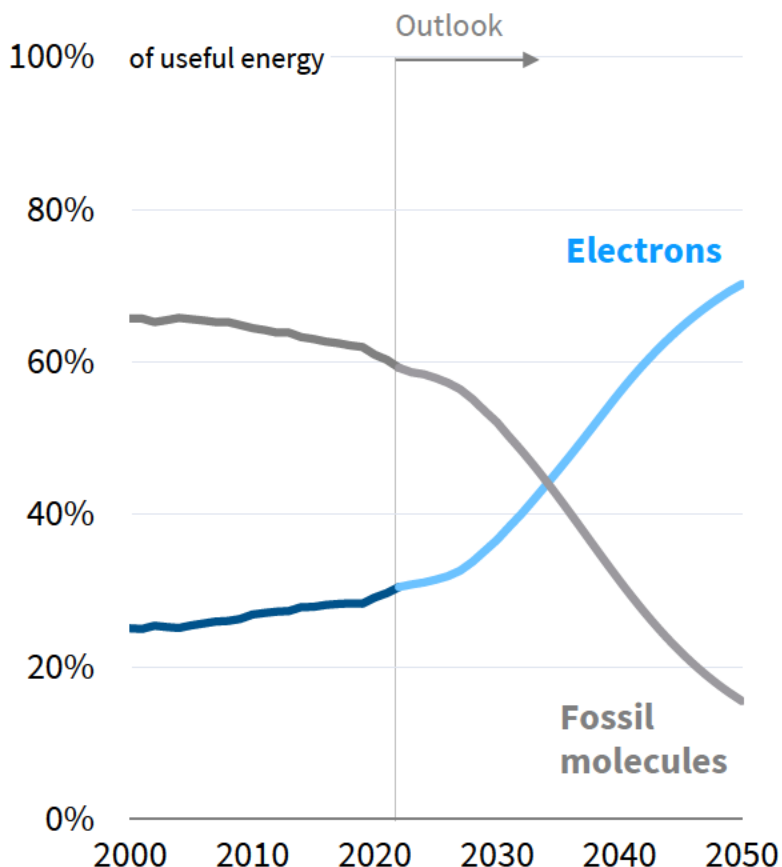
## Renewables

*Renewables beat fossil-fueled electricity*



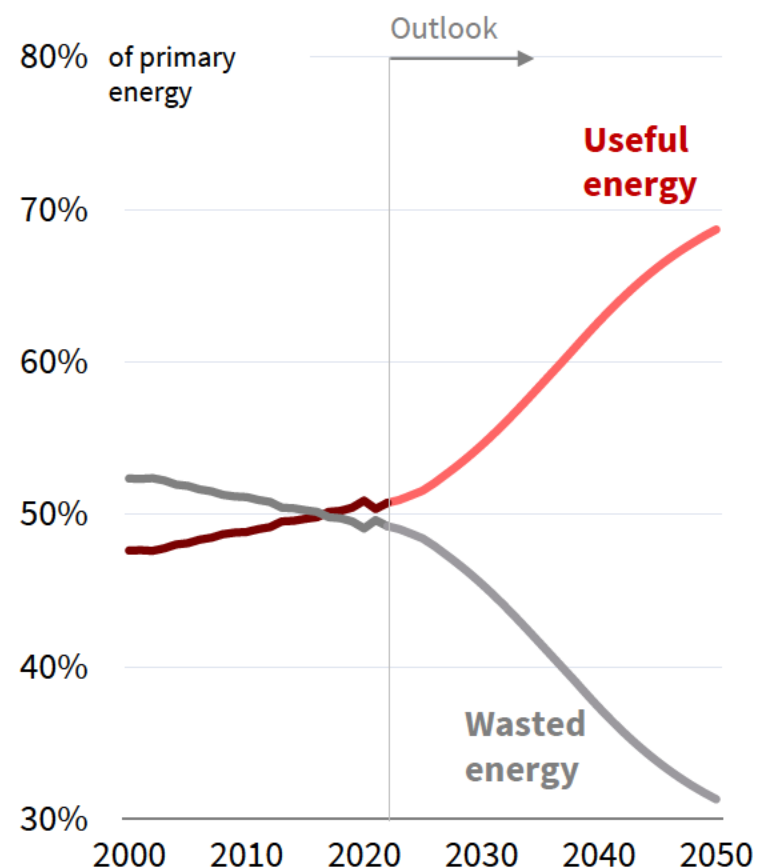
## Electrification

*Obedient electrons beat fiery molecules*



## Efficiency

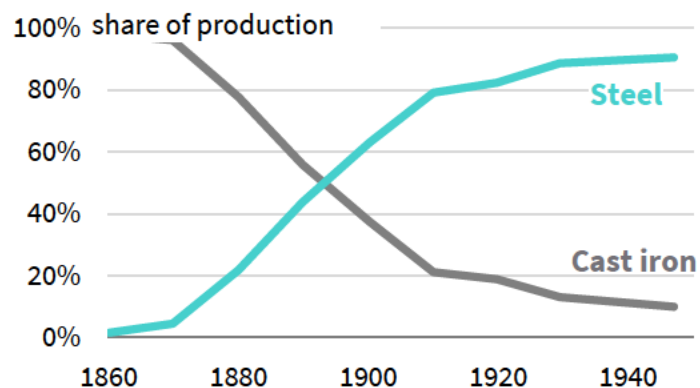
*Efficiency beats waste*



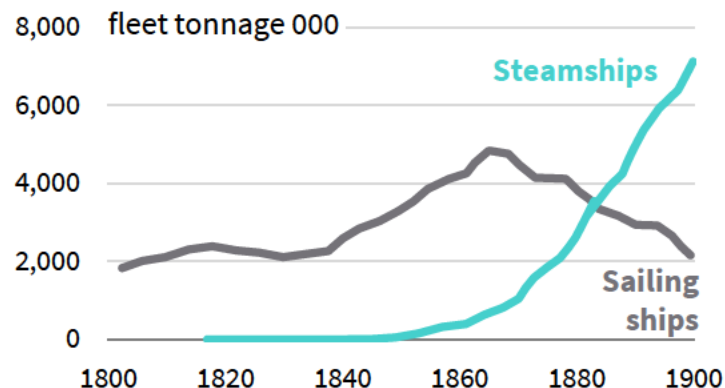
# We have seen this X shaped pattern before

An X shaped technology transition is standard so we should not be surprised

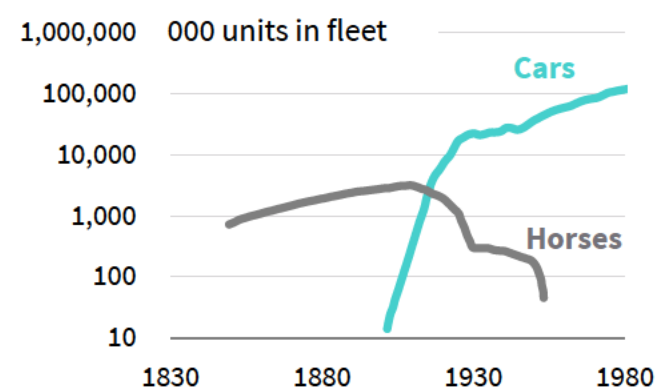
## Industry: Cast iron to steel



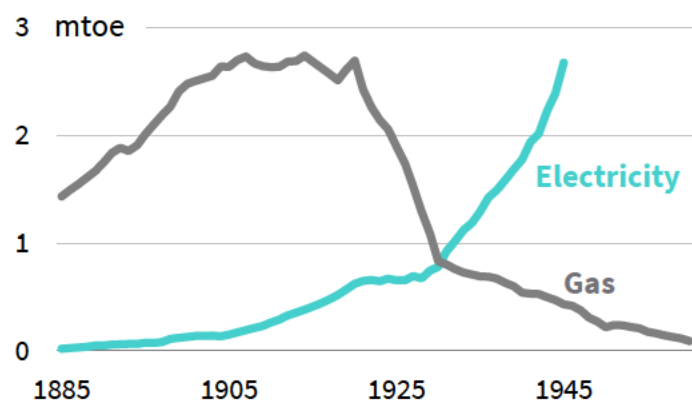
## Ships: Sailing ships to steamships



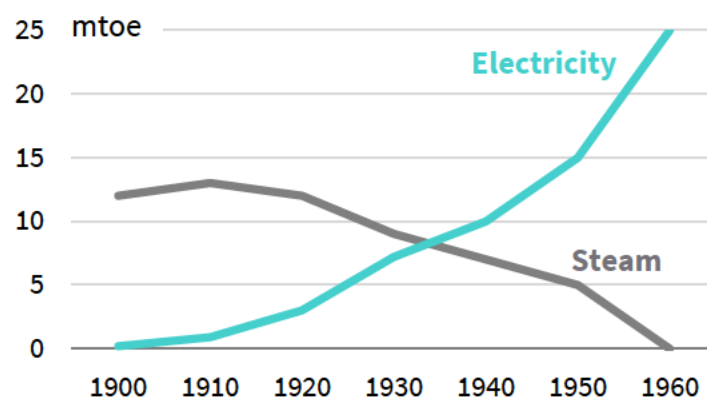
## Land transport: Horses to cars



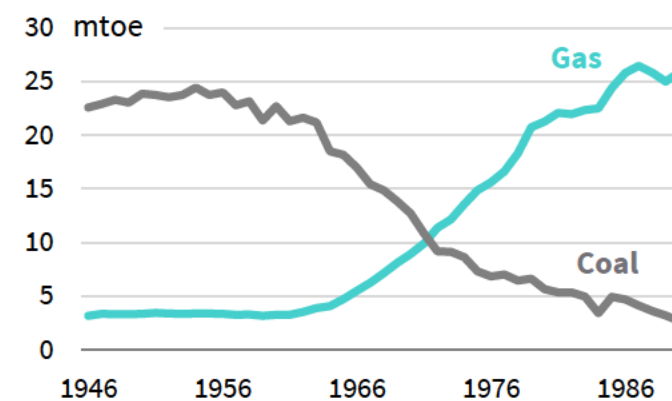
## Lighting: Gas to electricity



## Power: Steam to electricity

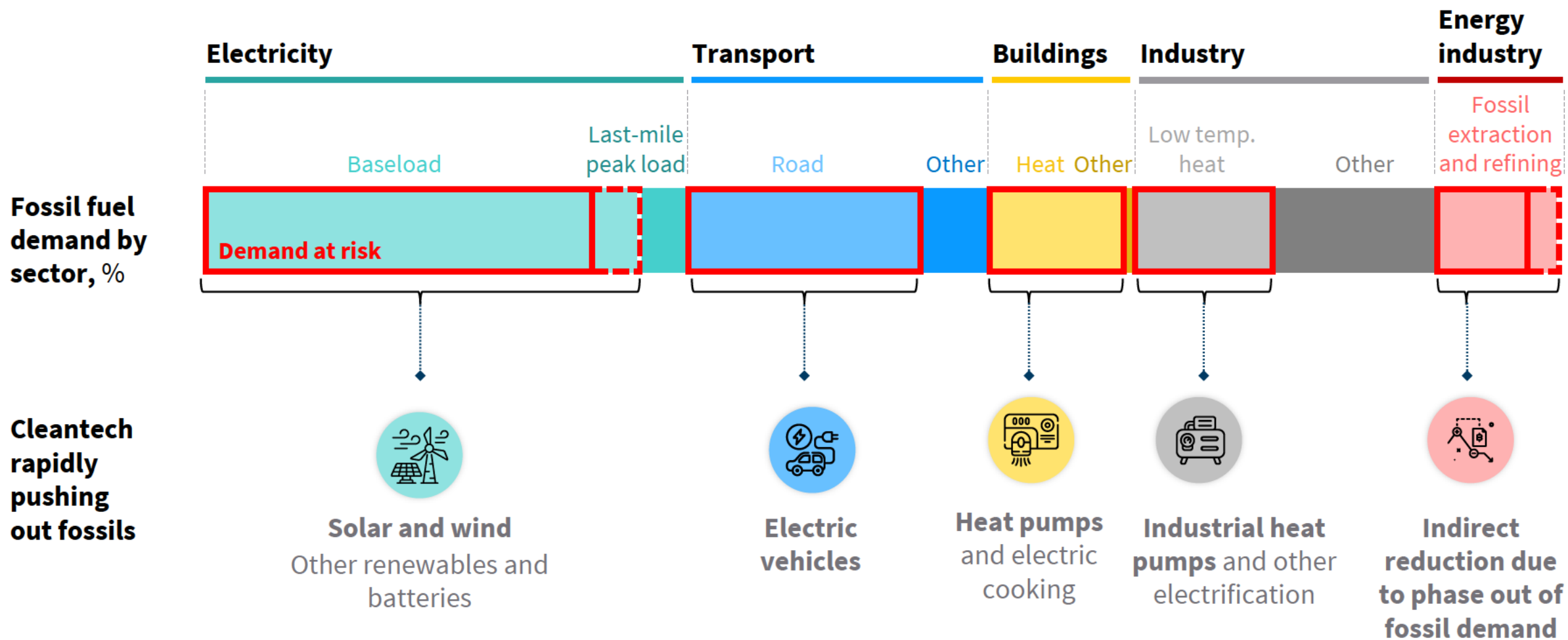


## Heat: Coal to gas



# The largest areas of fossil fuel demand are most at risk

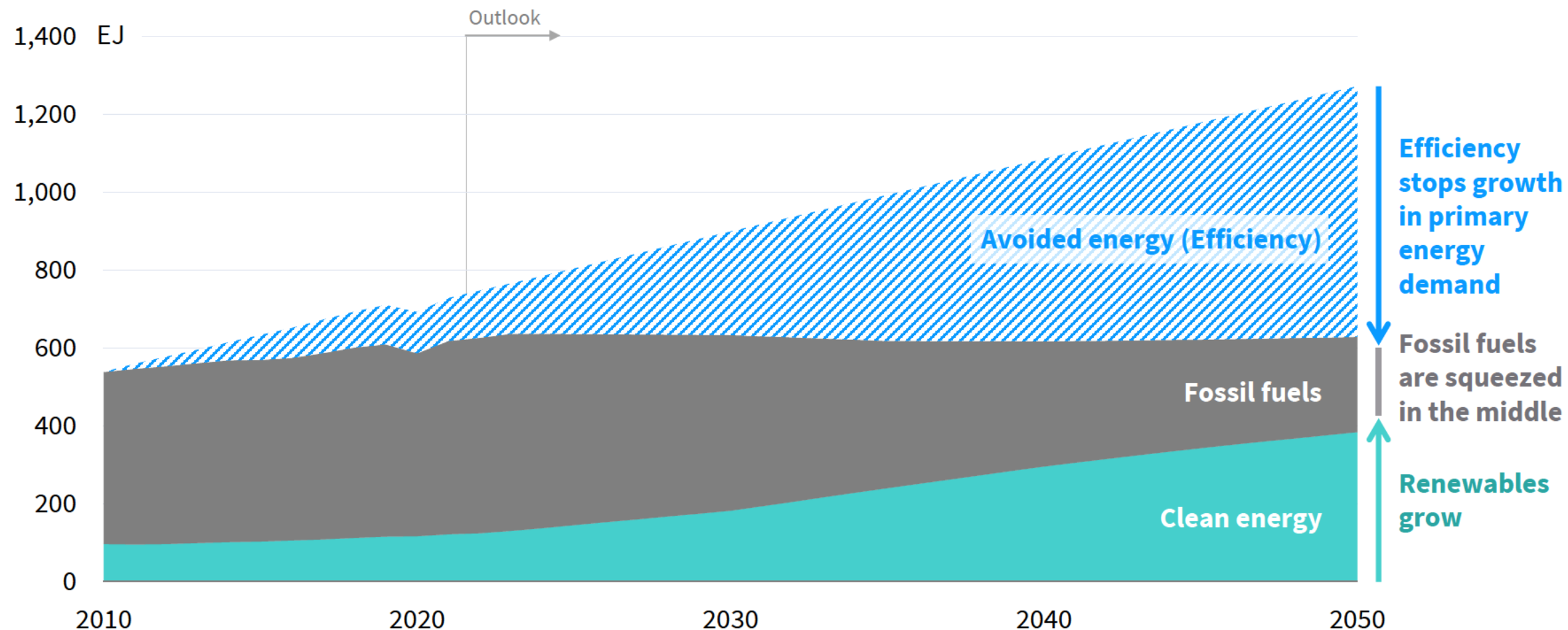
Over 75% of fossil demand today is under direct threat by exponentially growing cleantech



# Fossil fuel demand gets squeezed

The growth of cleantech and rising efficiency will squeeze out fossil fuel demand

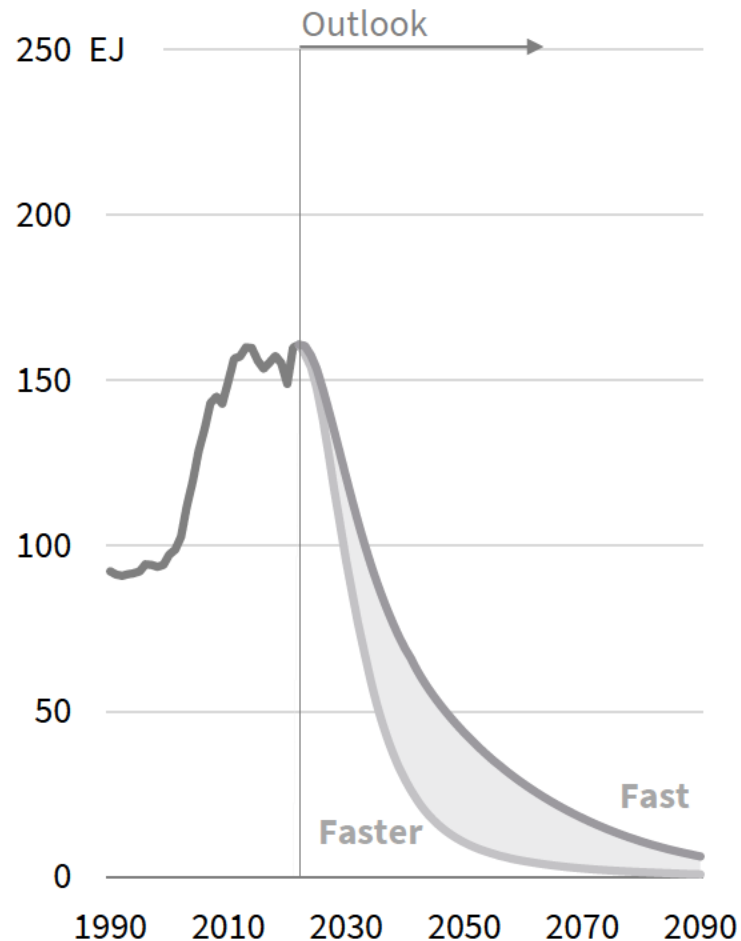
## Primary energy supply



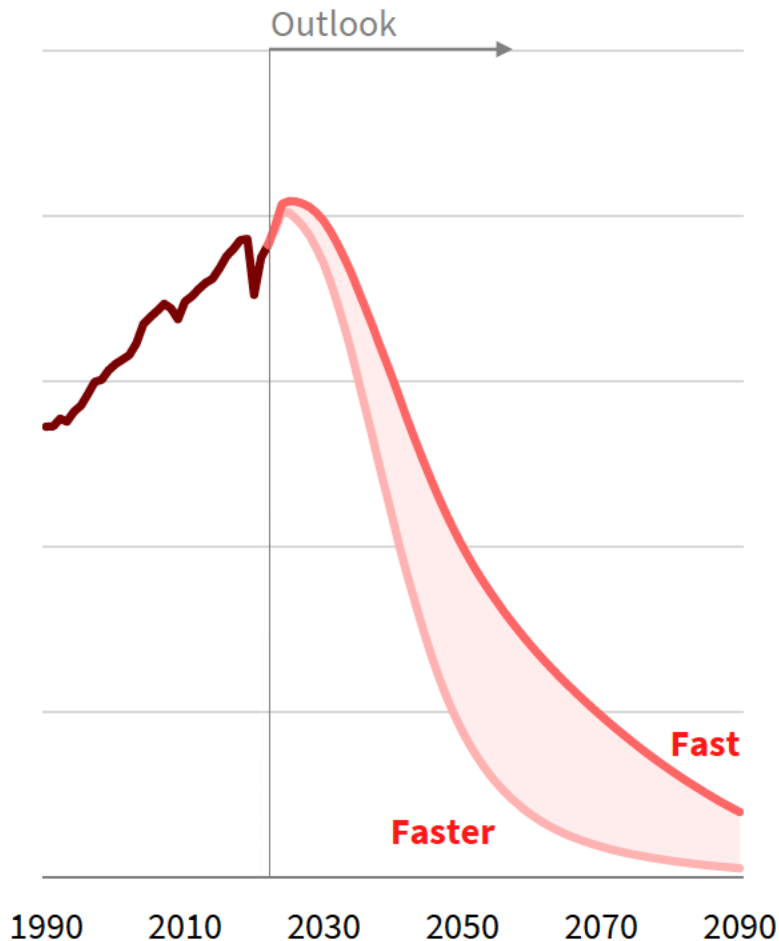
# So fossil fuel demand is on the brink of rapid decline

Fossil fuel demand faces a cliff edge. The key variable is the length of the plateau — short or very short

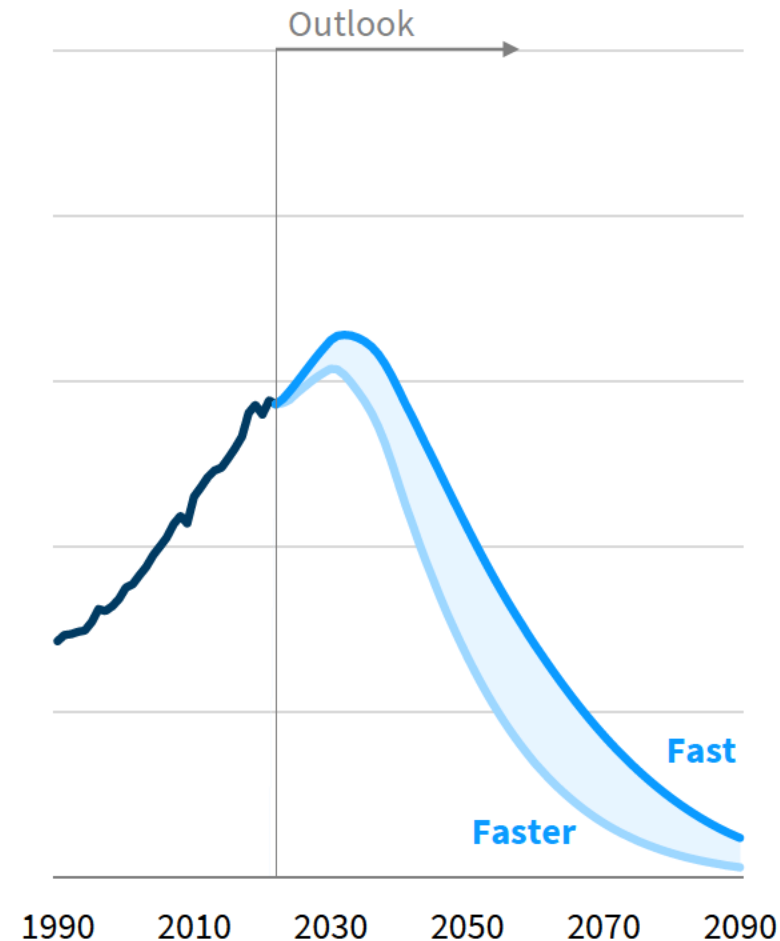
**Global coal demand**



**Global oil demand**



**Global gas demand**



# Index

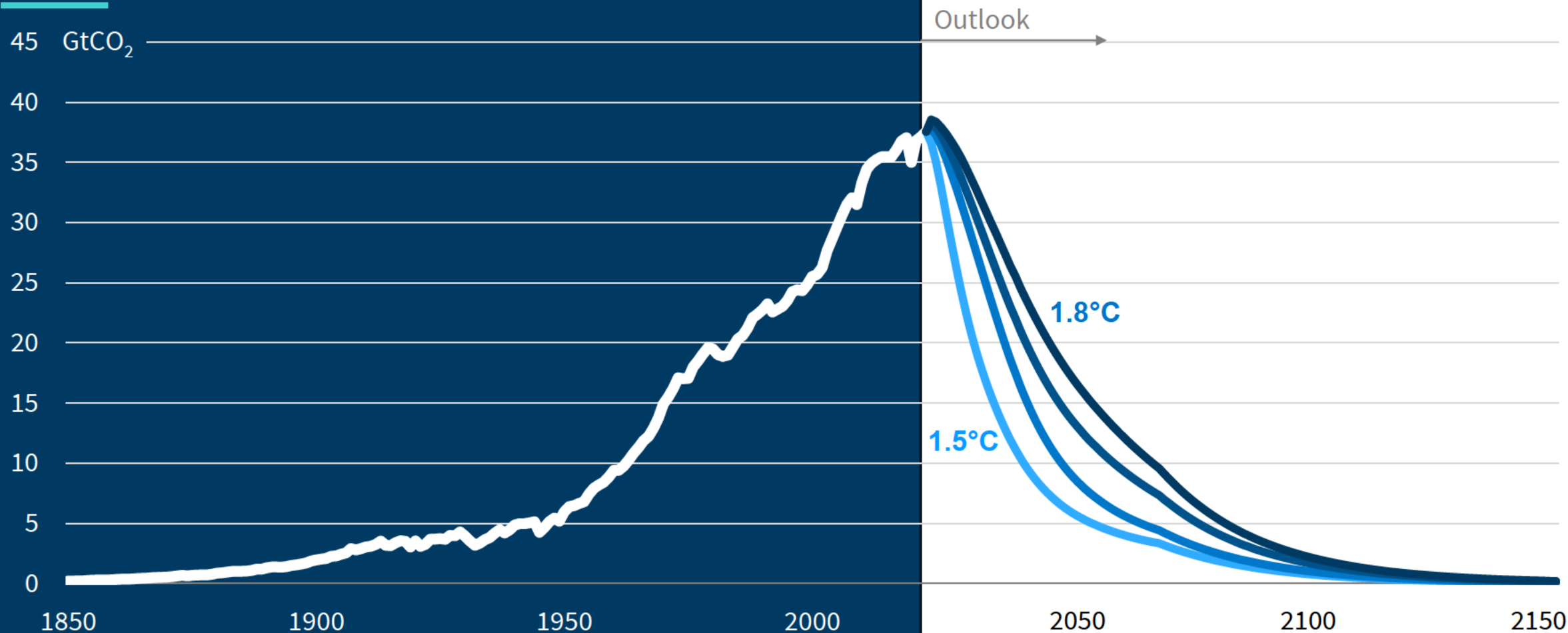
## 6 Wider implications of the transition

- Paris is achievable because we are at the pivot point in the 300-year history of fossil fuel use.
- The race for the top is on fire. A battle for leadership is taking place in every area of energy supply and demand. Competition will drive change.
- The Global South can continue to leapfrog to cleantech. Witness the success of Kenya, Barbados, Morocco, Vietnam or Bangladesh.
- We are at peak waste, so we can reduce the pressure on nature.
- The great capital reallocation will continue. Capital will shift into areas of growth and out of those in decline.
- Stranded fossil fuel assets will result from the gap between the expectations of incumbents for business-as-usual and the reality of exponential change.
- Since the fossil fuel system is huge (\$50 trillion of fixed assets), this asset stranding has profound implications for the financial system.
- As China is leading this transition, we need to benchmark to China.
- The debate will be very different by 2030 and the transition will be priced into markets.

# Paris is feasible

This is the pivot decade from growth to decline

## Global CO<sub>2</sub> emissions from energy

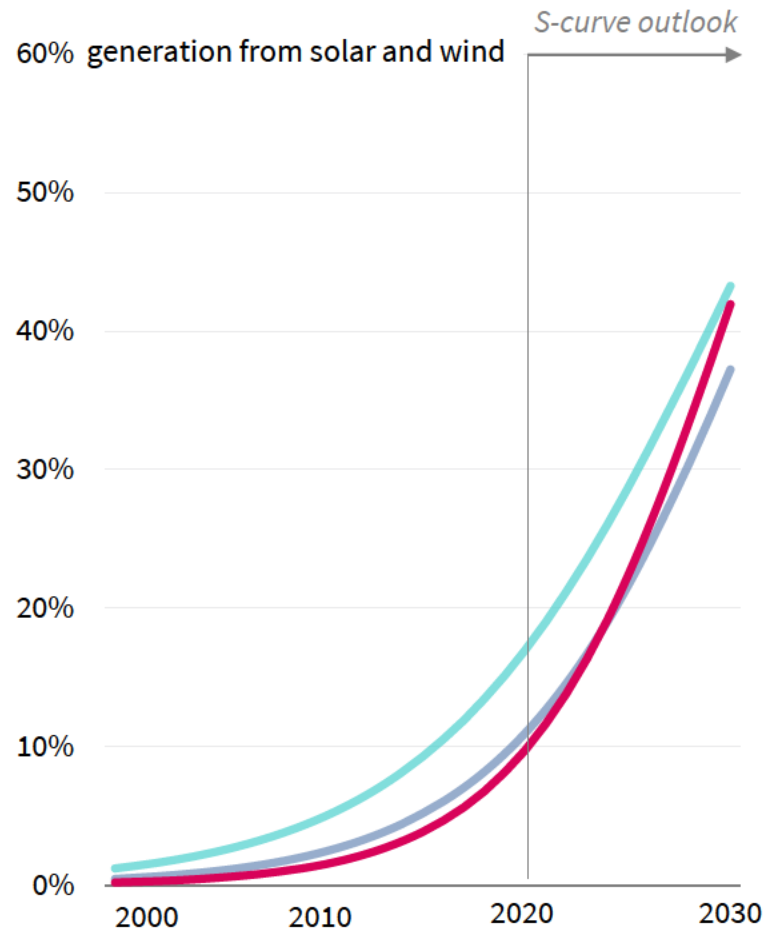




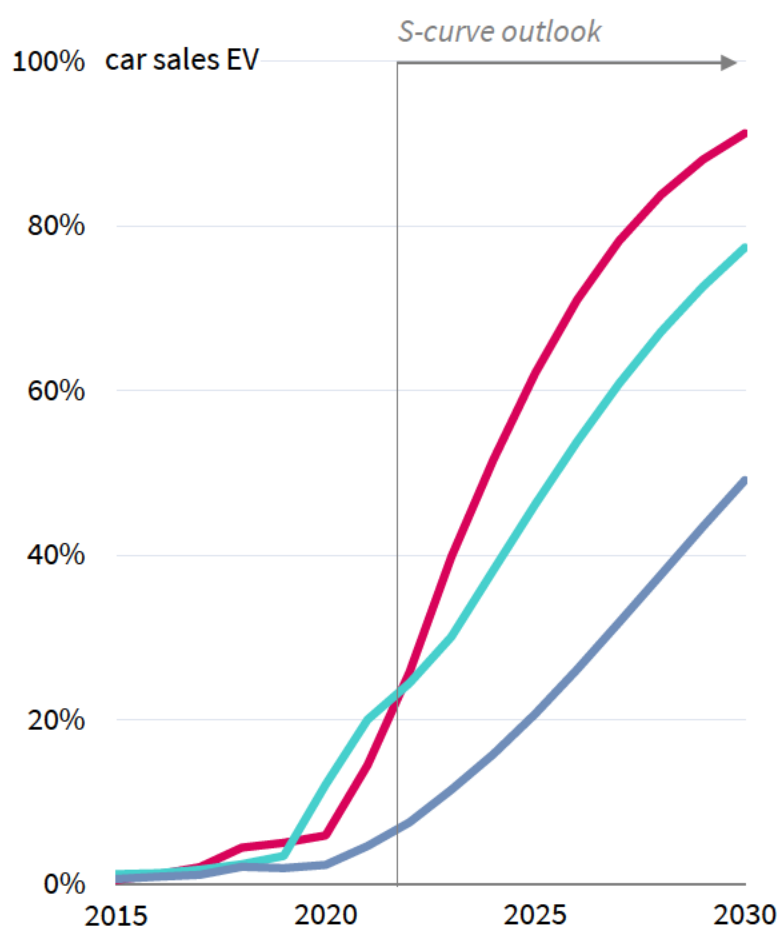
# The race for the top is on fire

Nobody wants to miss out on the technologies of the future

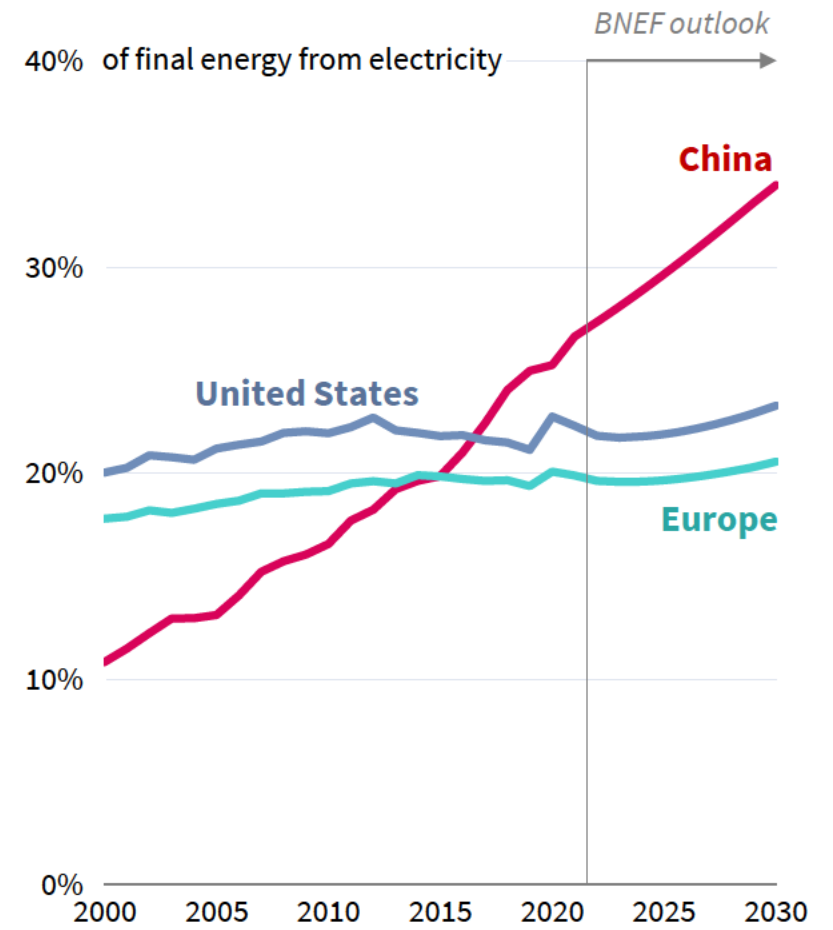
## Renewables



## Electric vehicles



## Electrification



Note: Solar, wind, and EVs in an S-curve outlook based on RMI modeling; electrification is from BNEF's ETS.

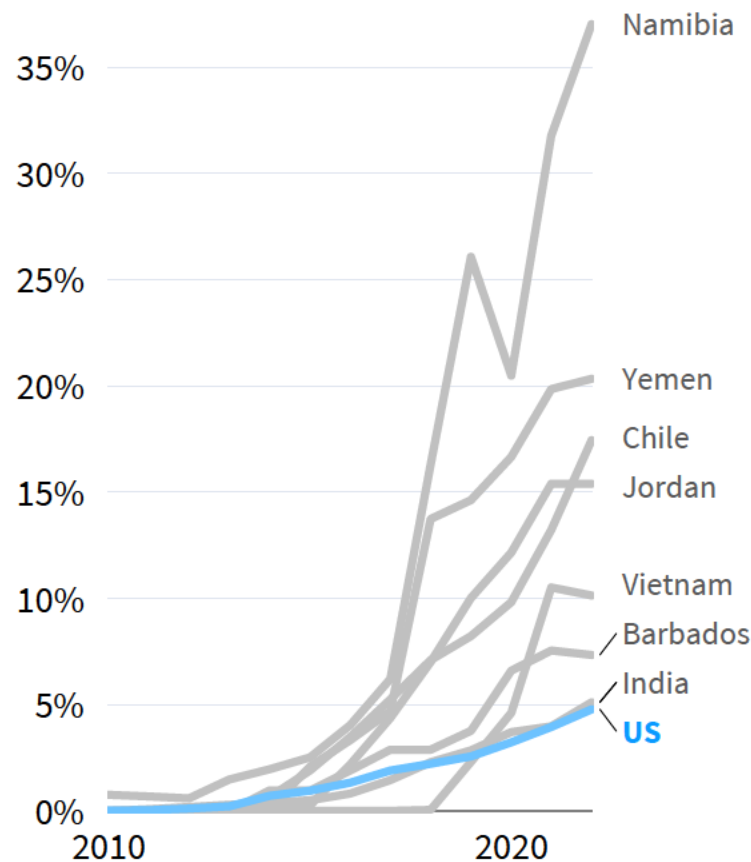
Source: Energy Institute, IEA, BNEF, RMI analyses. For more see X-Change: The Race to the Top.

# The Global South can continue to leapfrog

Falling costs open up new opportunities to bring energy to those who lack it

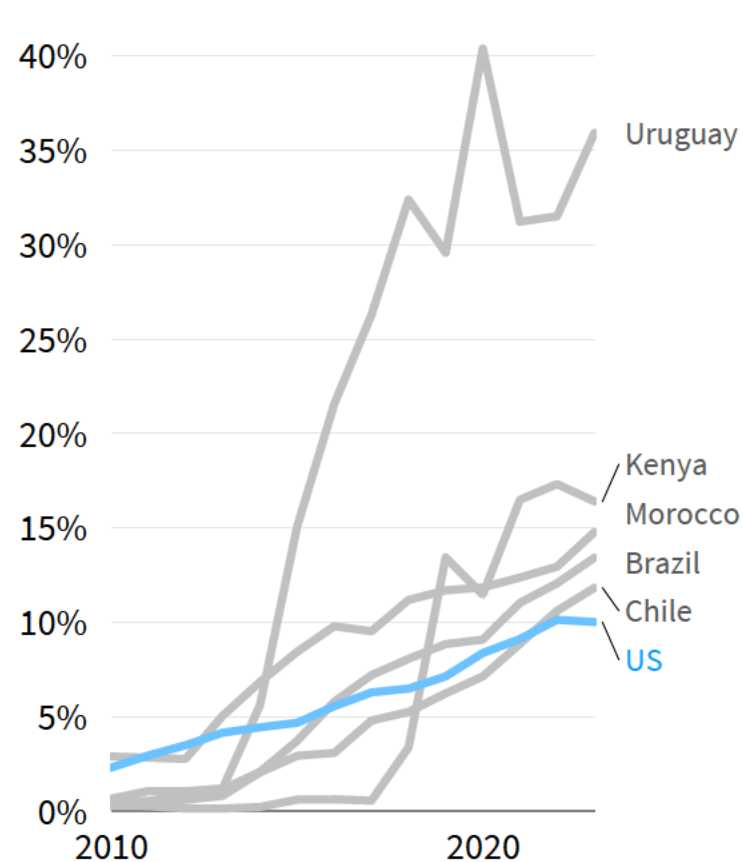
## Solar

40% of generation



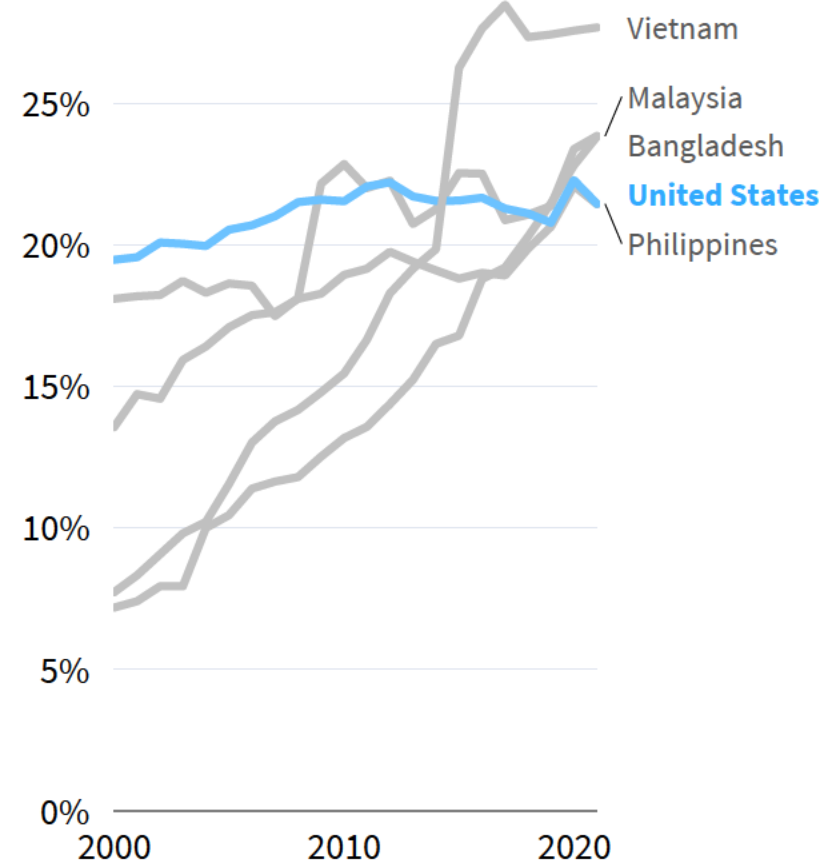
## Wind

45% of generation



## Electrification

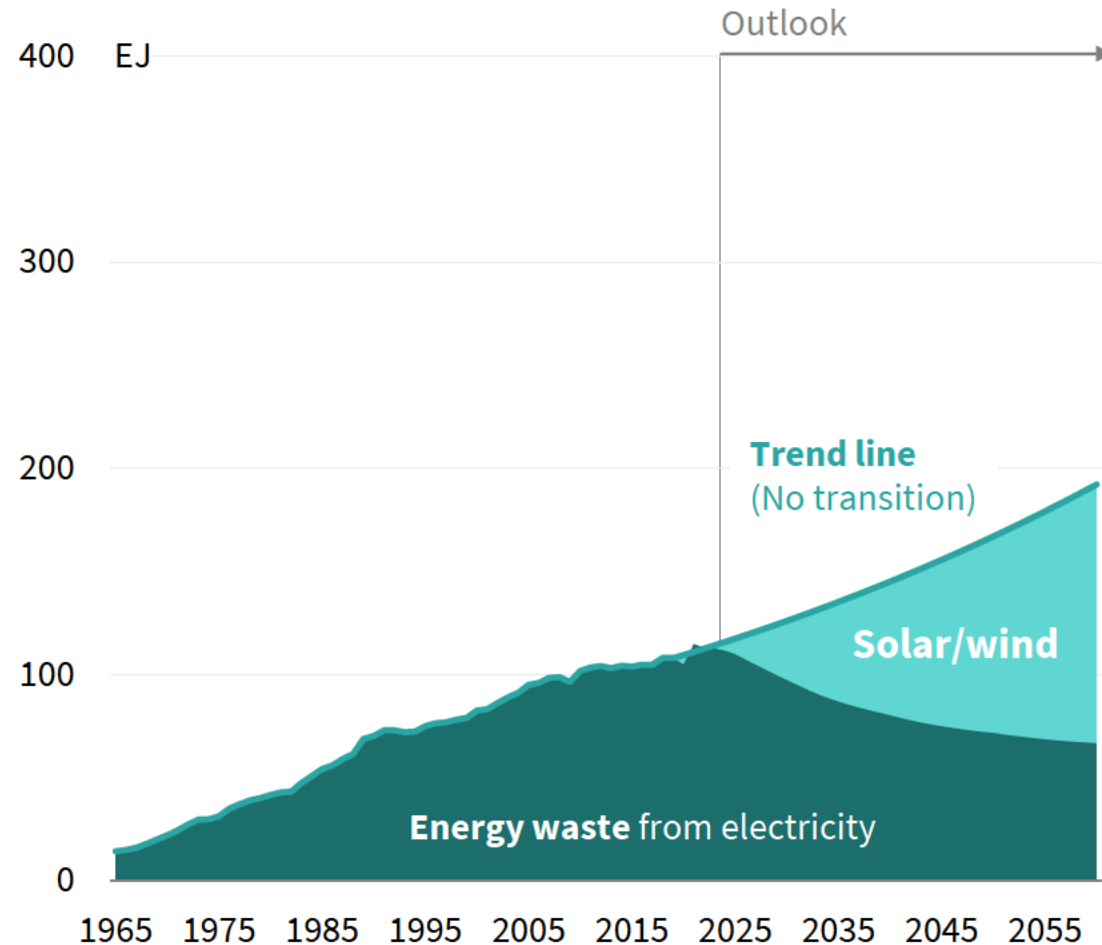
30% of final energy supply from electricity



# We are at peak waste

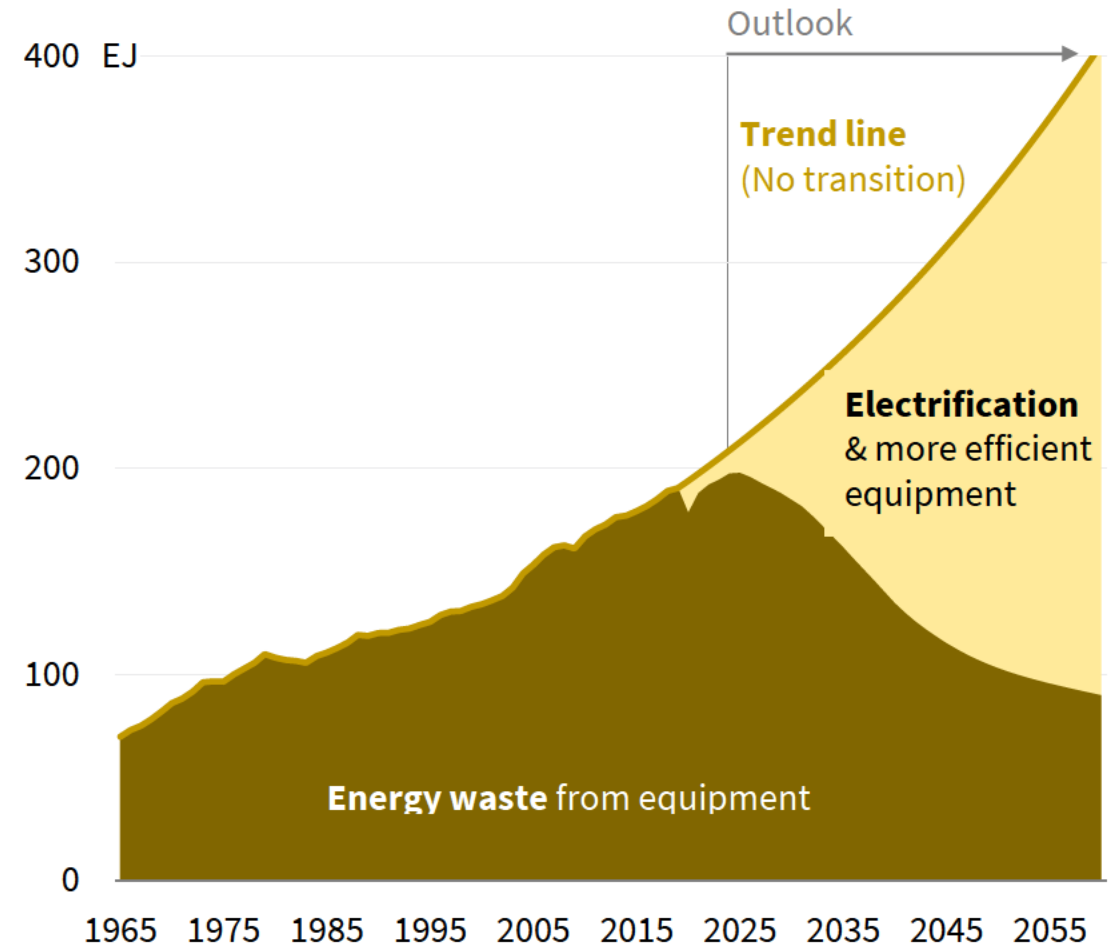
So we can massively reduce the strains of the energy system on nature

## Solar & wind reduces losses from generation



## Electrification reduces end-use losses

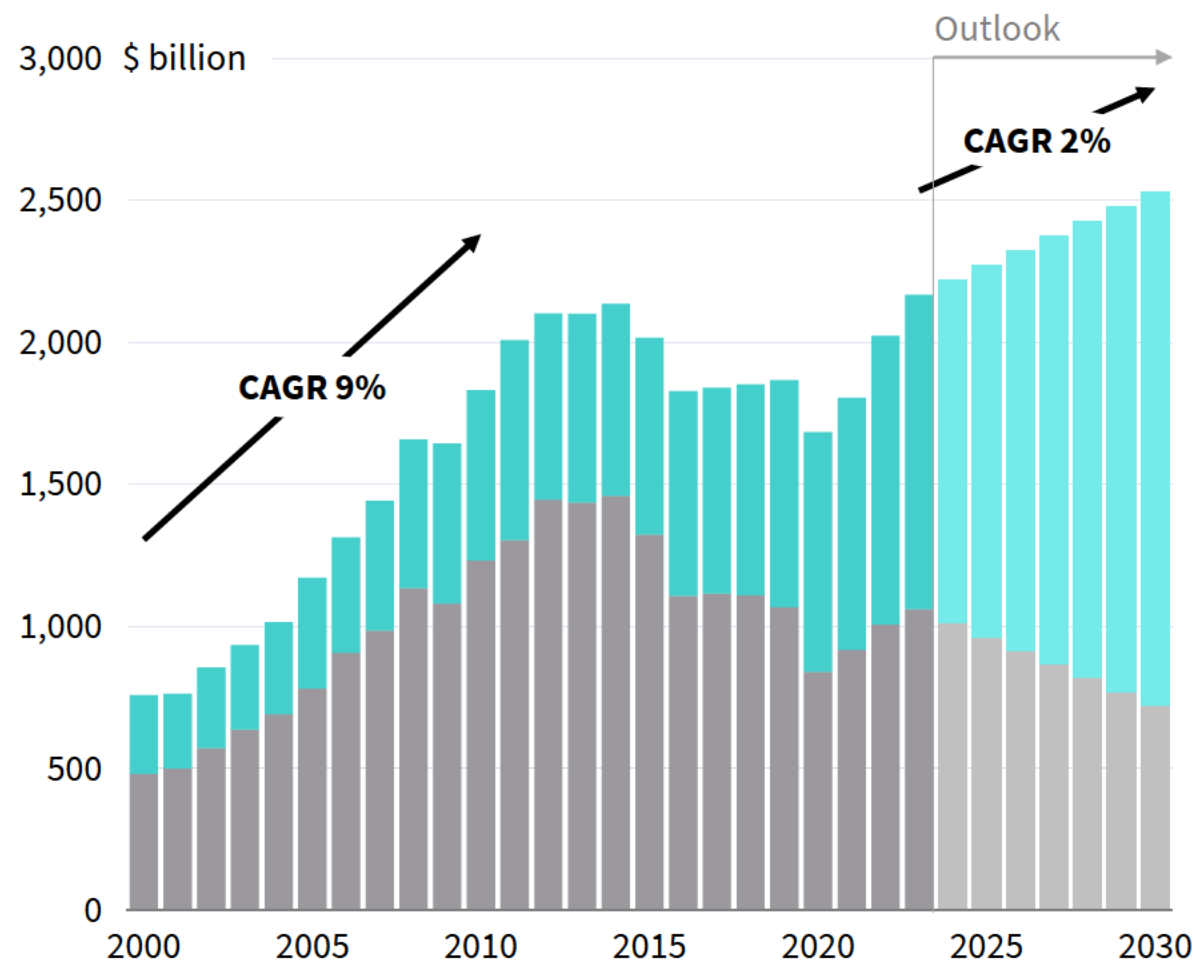
ILLUSTRATIVE



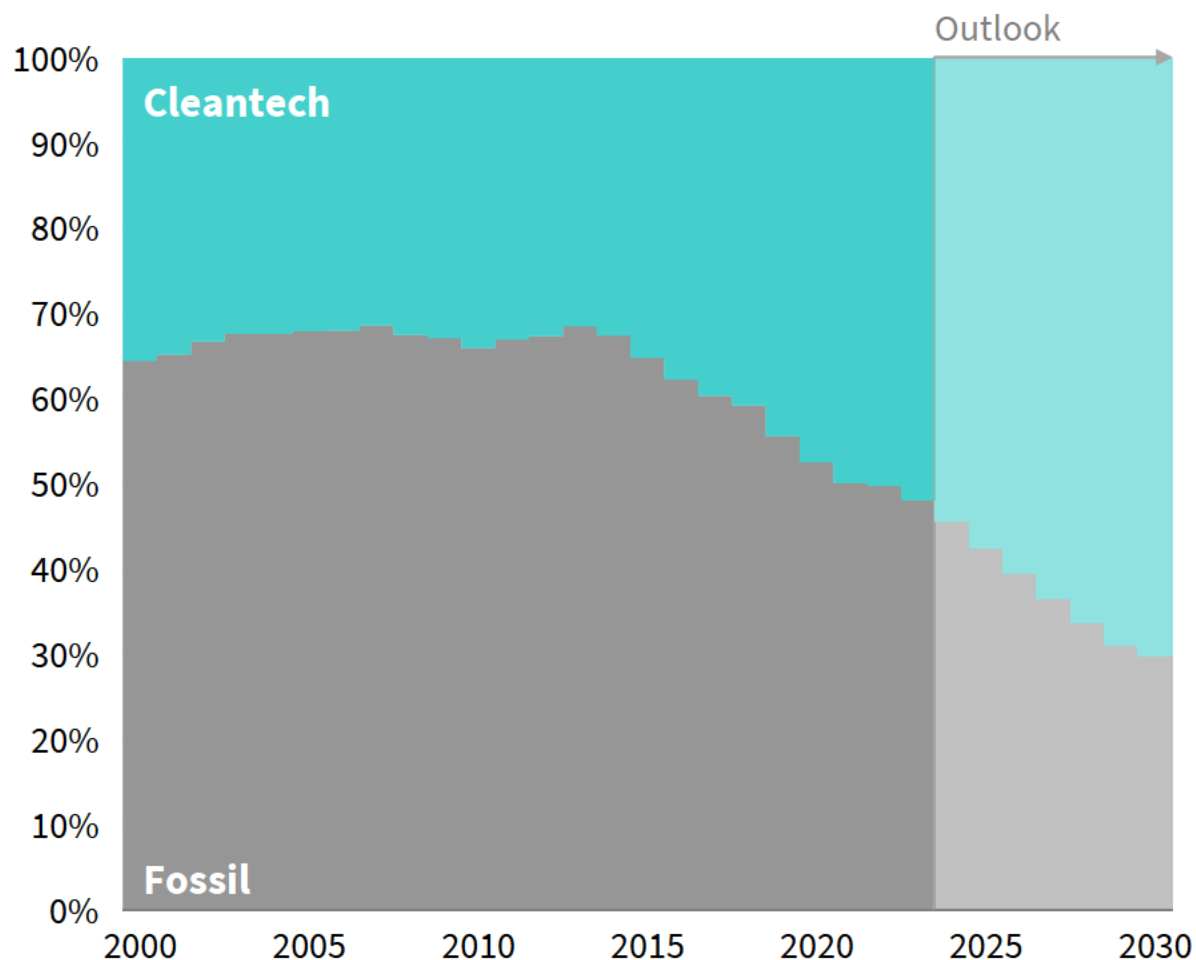
# We are halfway through a Great Capital Reallocation

The required growth in investment is achievable, and reallocation from fossil to cleantech is well underway

## Total investment in primary energy supply



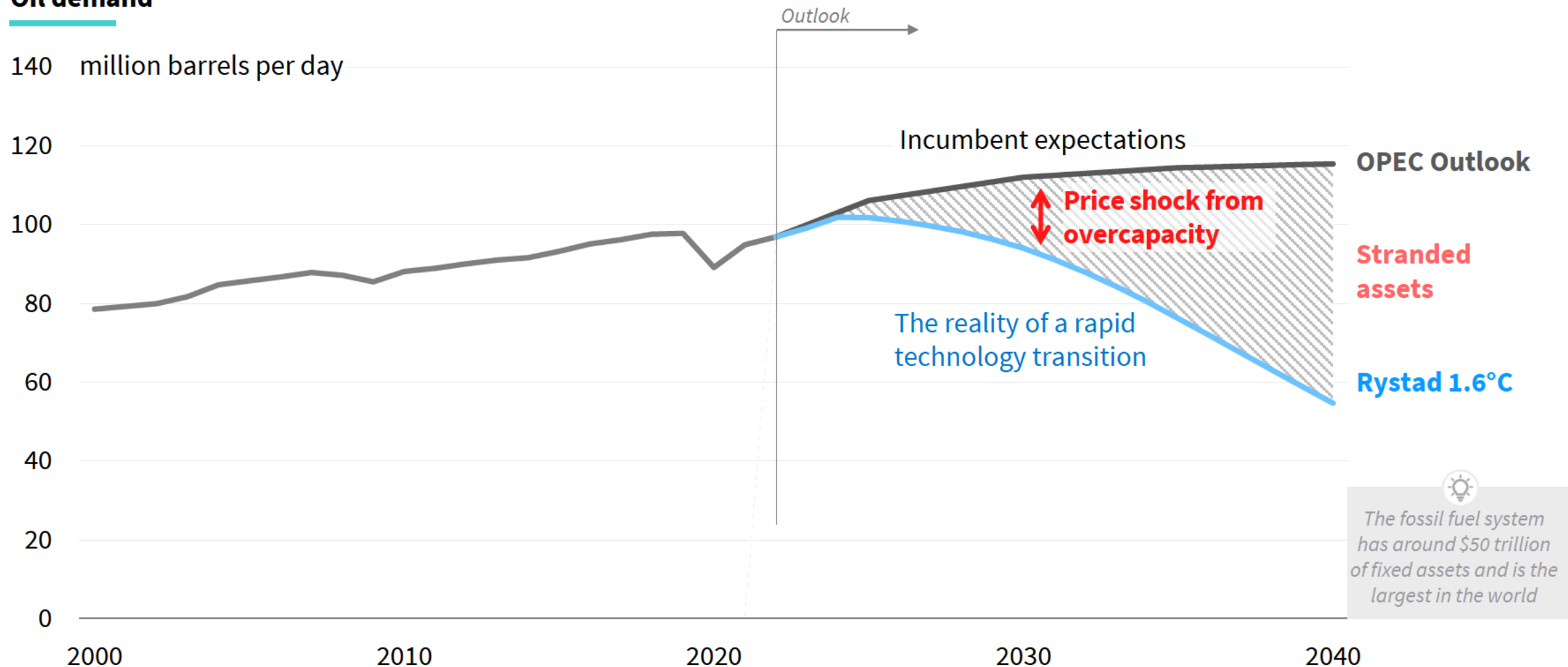
## Share of total investment



# The fossil fuel system faces trillions in stranded assets







Assets get stranded at the top of the market, and disruption is driven by price changes

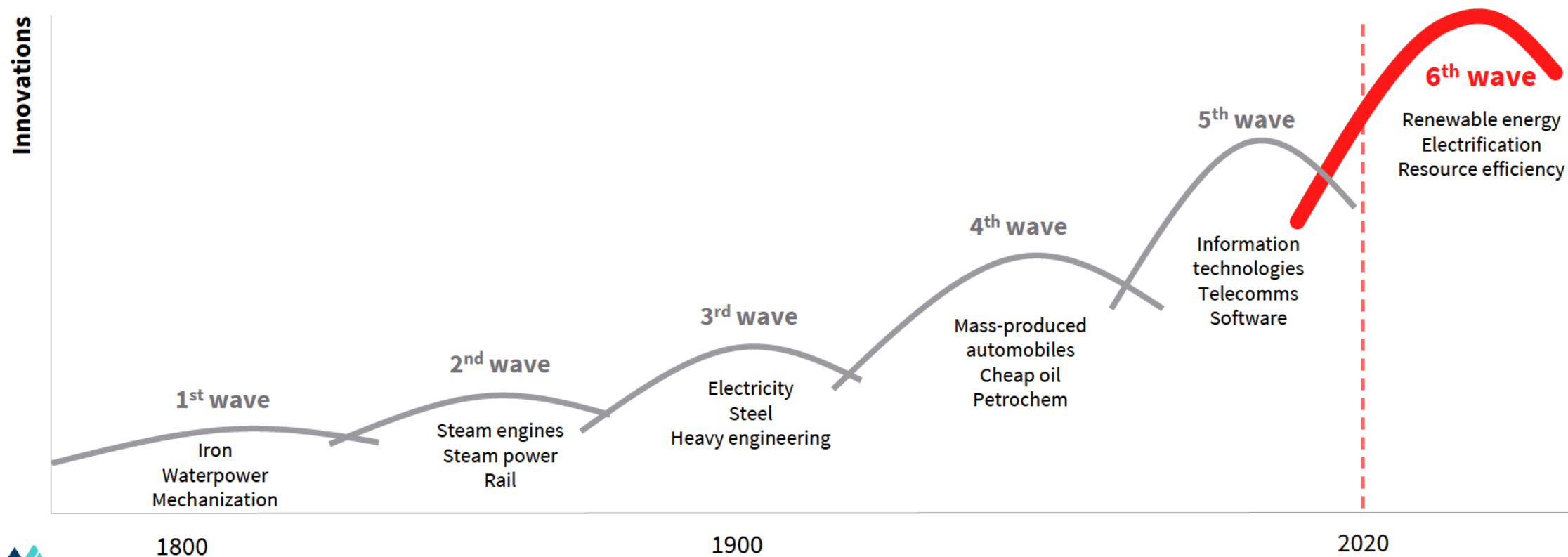
## Oil demand



# We need to change our framework of reference to China

China is leading this technology revolution, and others need to catch up or fall behind

Transition	Industrial Revolution	Age of Steam & Rail	Age of Steel & Electricity	Age of Oil & Mass production	Information Age	<b>The Renewable Age</b>
Led by						



# The debate will be very different in 2030

When the facts change, people change their minds. Repricing follows.

Area	2015	2024	2030
Cost of renewables	Expensive	Cheap	Super cheap
Societal pressure for change	Niche	Moderate	Intense
EVs	Toy for the rich	A second car for the rich	A cheaper car for all
Renewables	Grid can't take 20%	Grid can't take 70%	Leaders enjoy cheap energy
Net zero	<1% of world has targets	90% of world has targets	90% of world has plans
Global fossil fuel demand	Growth	Plateau	Decline
Hard-to-solve areas	CCS	Lots of technological solutions	Lots of commercial solutions
Geopolitics	Climate makes good speeches	Renewables nice to have	Renewables a key tool of power
United States vs. China	China pollutes too much	China makes too many climate solutions	China and United States compete
Financial markets	ESG	Carbon offsetting	Minsky Moment
Corporations	Greenwash	Green premium	Green prize

# Index

## 7 What we need to do now

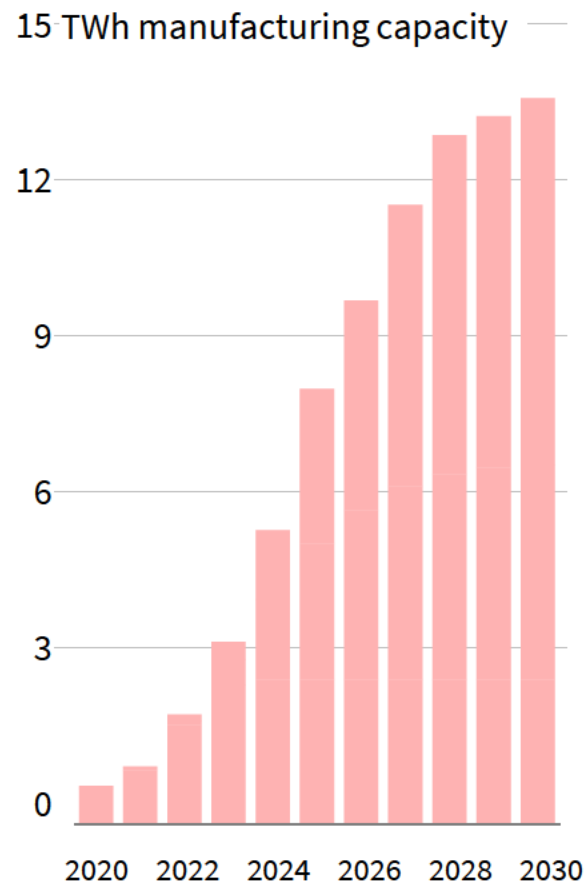
- This is the pivot decade when cleantech manufacturing capacity is built, renewables get too cheap to resist, and fossil fuel demand reaches the end of its plateau.
- Focus on the signal not the noise. We need to prepare for change, not hide behind denial.
- We need to continue building out the renewable system, speed up electrification in the OECD, and increase focus on efficiency.
- We should make good bets on solutions that work: small modular technologies and efficiency measures. Equally, we need to avoid high-cost, inefficient, and unproven bets.
- Companies need to move from tactics to strategy.
- Investors should retool for the megatheme of the energy transition.
- Energy modelers need to change their approach or become stranded experts.
- And we need to get on with it. We are in a race between climate and economic tipping points. The direction is inevitable, but speed is up to us.



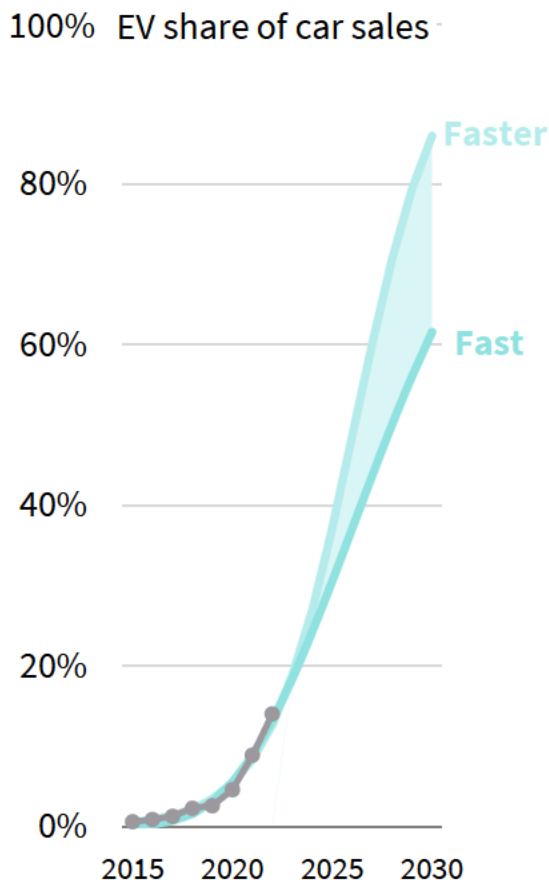
# The 2020s are the pivot decade

You snooze, you lose

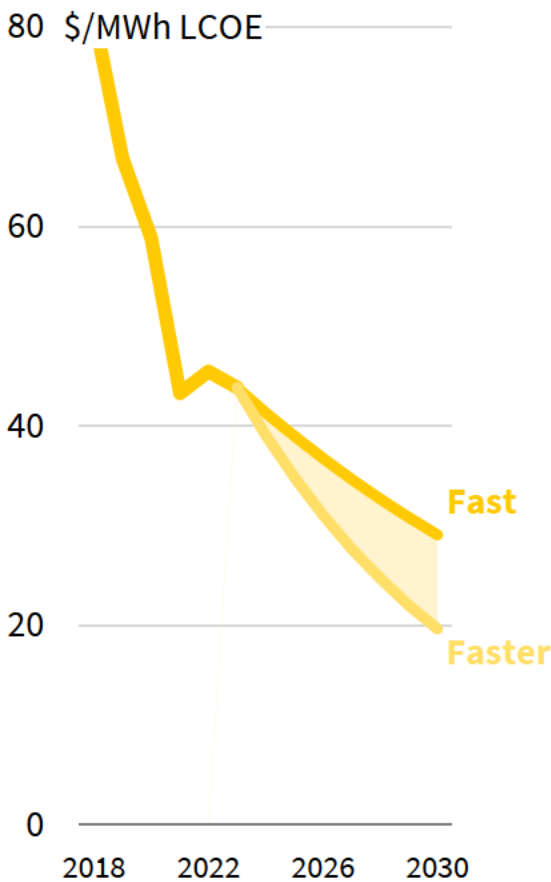
**Manufacturing capacity is built:** Batteries



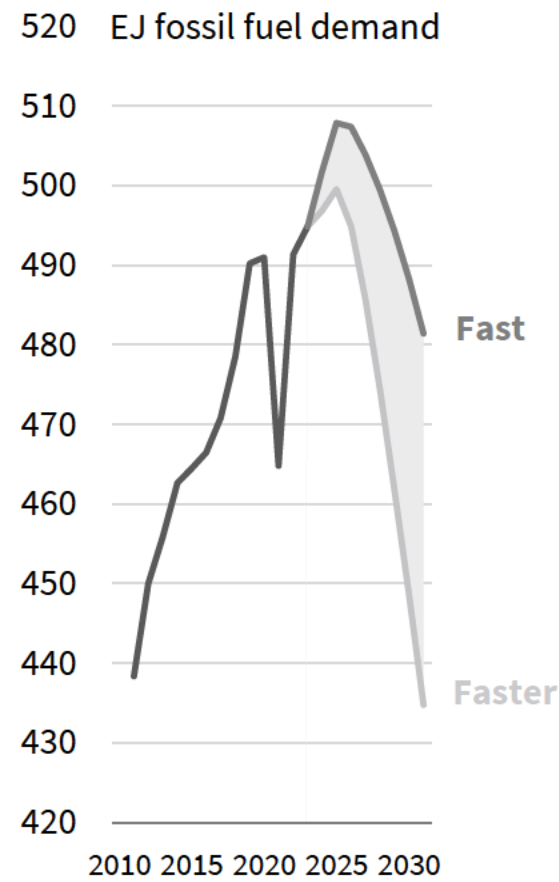
**Cleantech goes up the steep part of the S-curve:** EV



**Renewables get too cheap to resist:** Solar



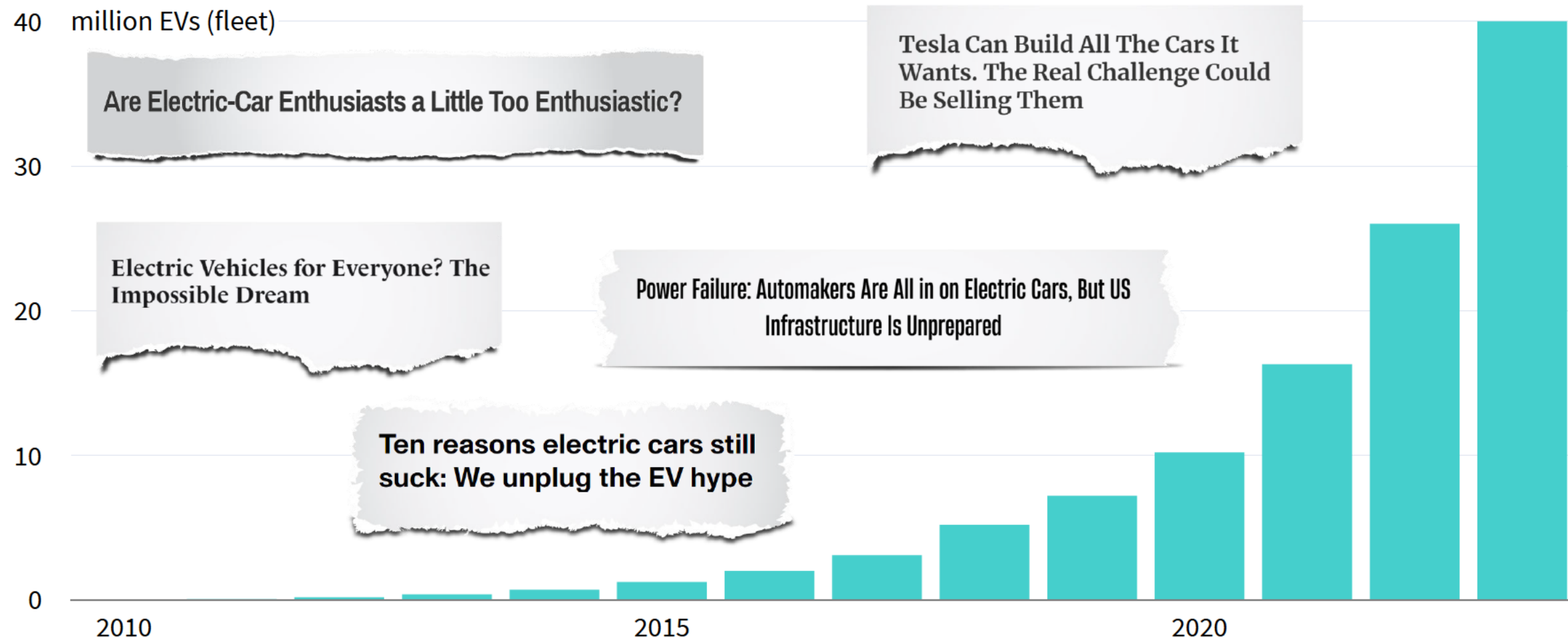
**Fossil fuel demand enters terminal decline**



# Focus on the signal not the noise

There are always barriers to change. Those who solve them get rich.

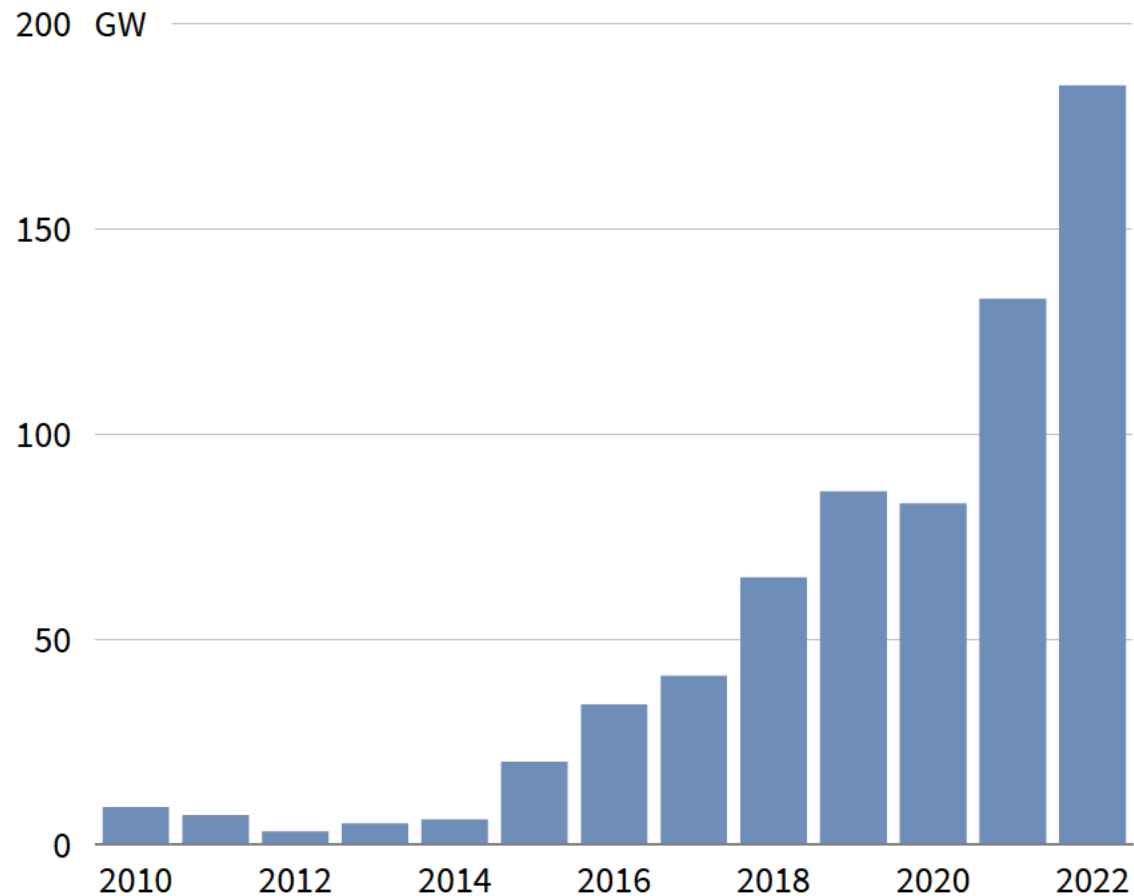
## EV adoption versus headlines



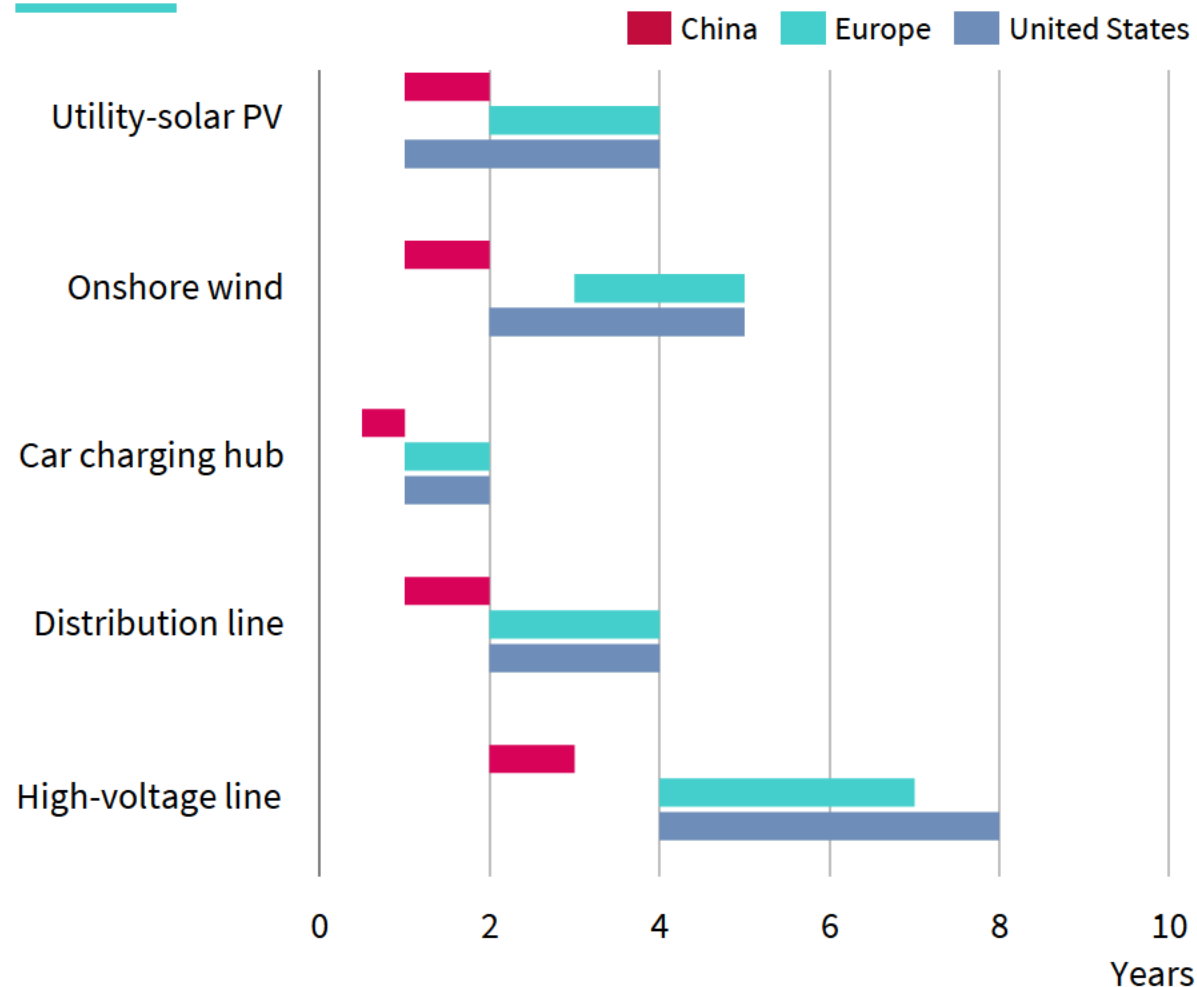
# Build, baby, build...

If you want to stay in the game, you need to deploy renewables and electrify end-use demand, and fast

## Connection queue growth in United States



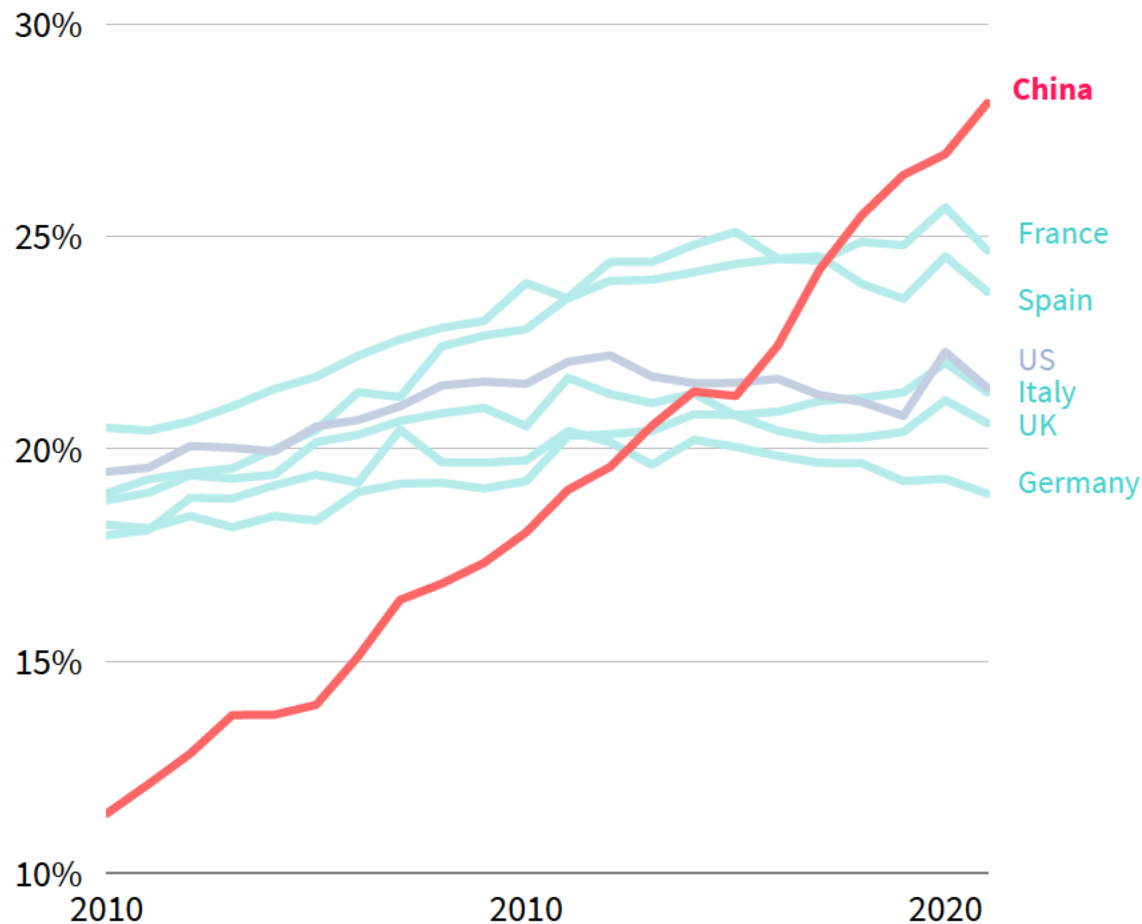
## Typical deployment time



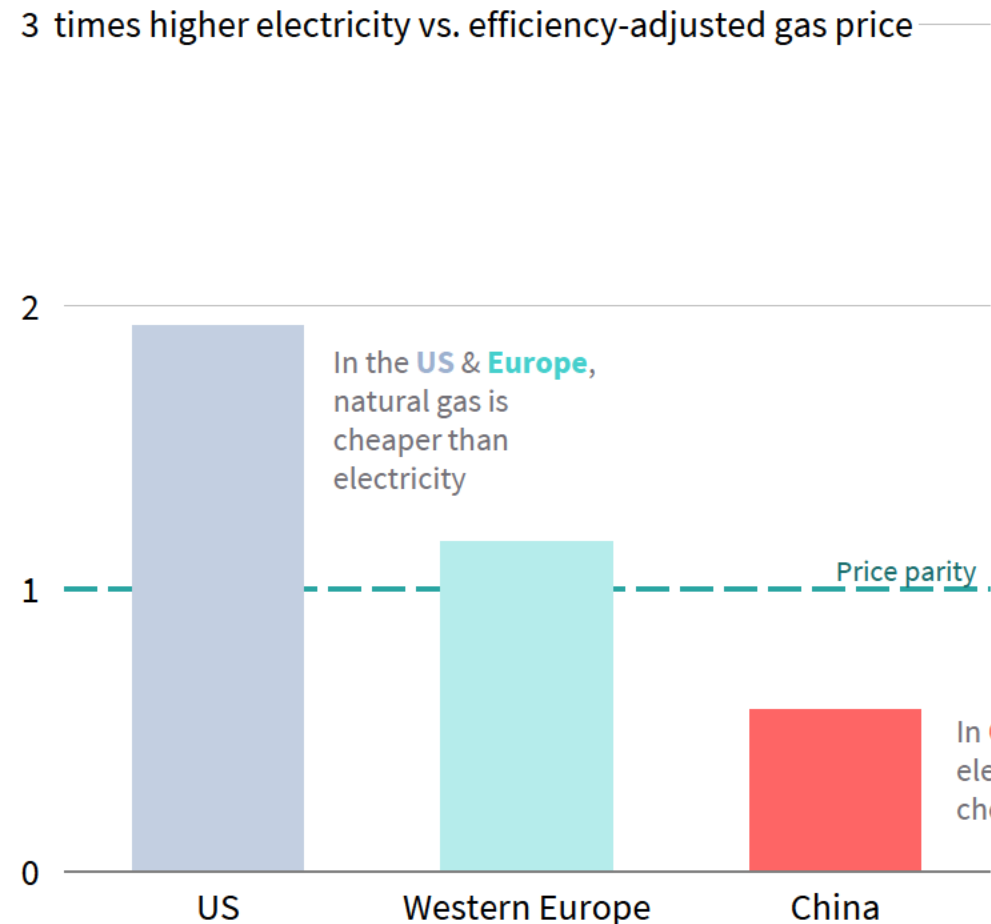
# Speed up electrification in the OECD

Redesign electricity markets to pass the low cost of renewables onto industry and households

## Electricity share of final energy

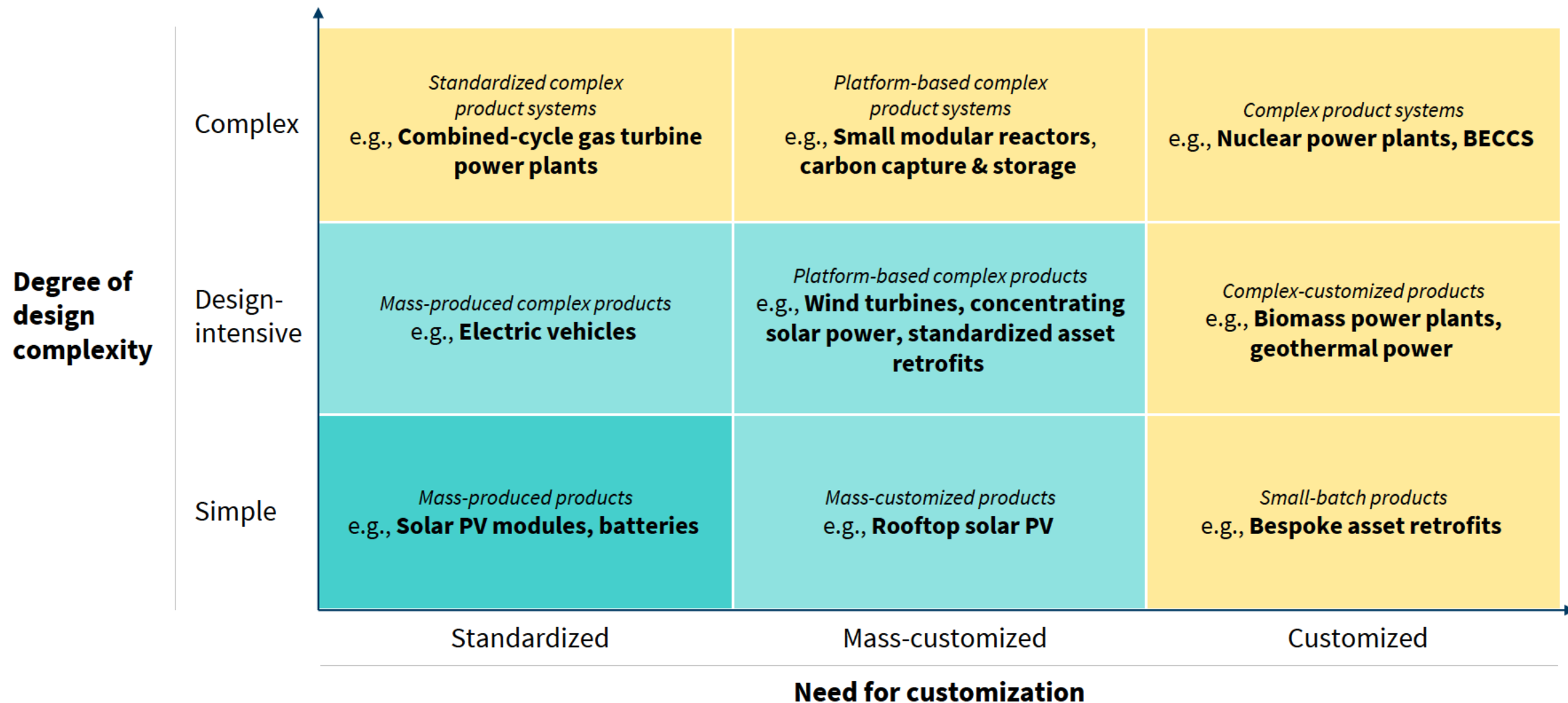


## Electricity multiple of natural gas prices in 2023



# Make good bets on the technologies of the future

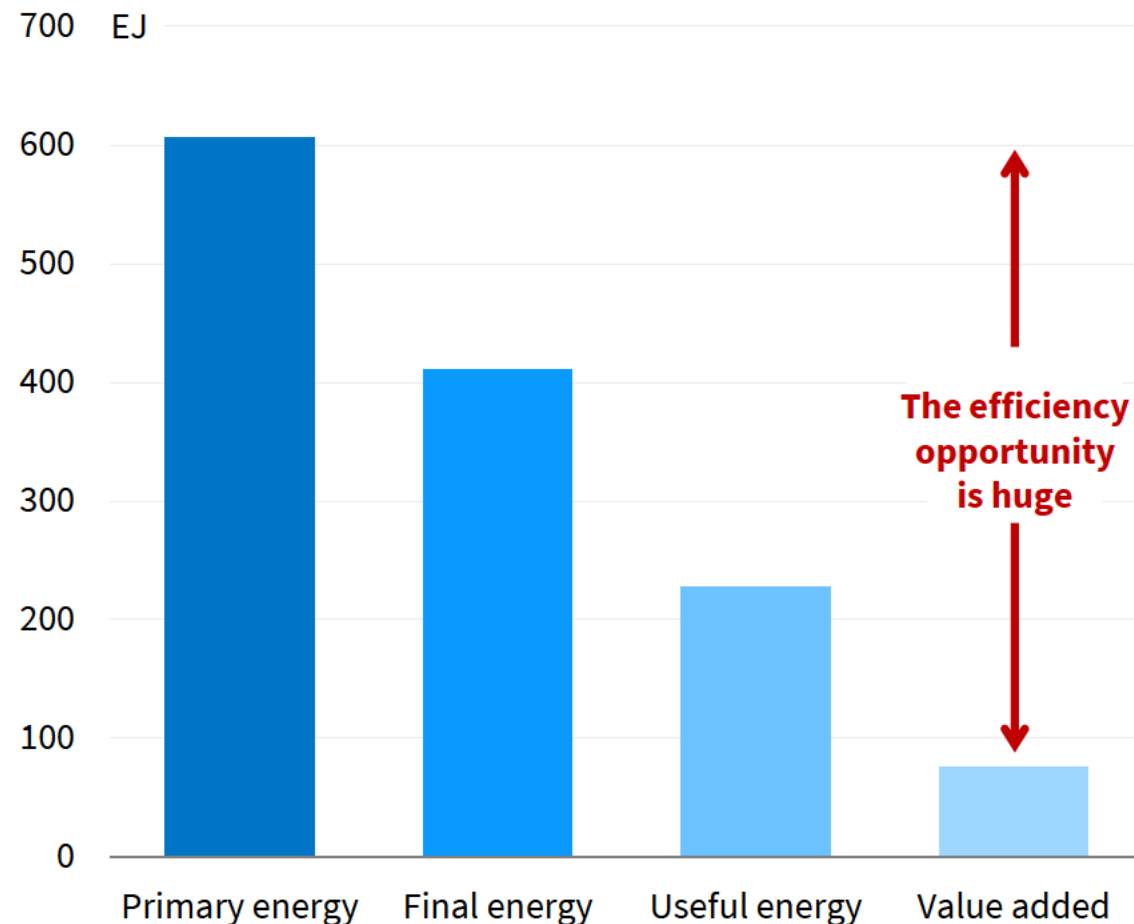
Focus on modular technologies with steep learning curves; avoid expensive and hard-to-deploy technologies



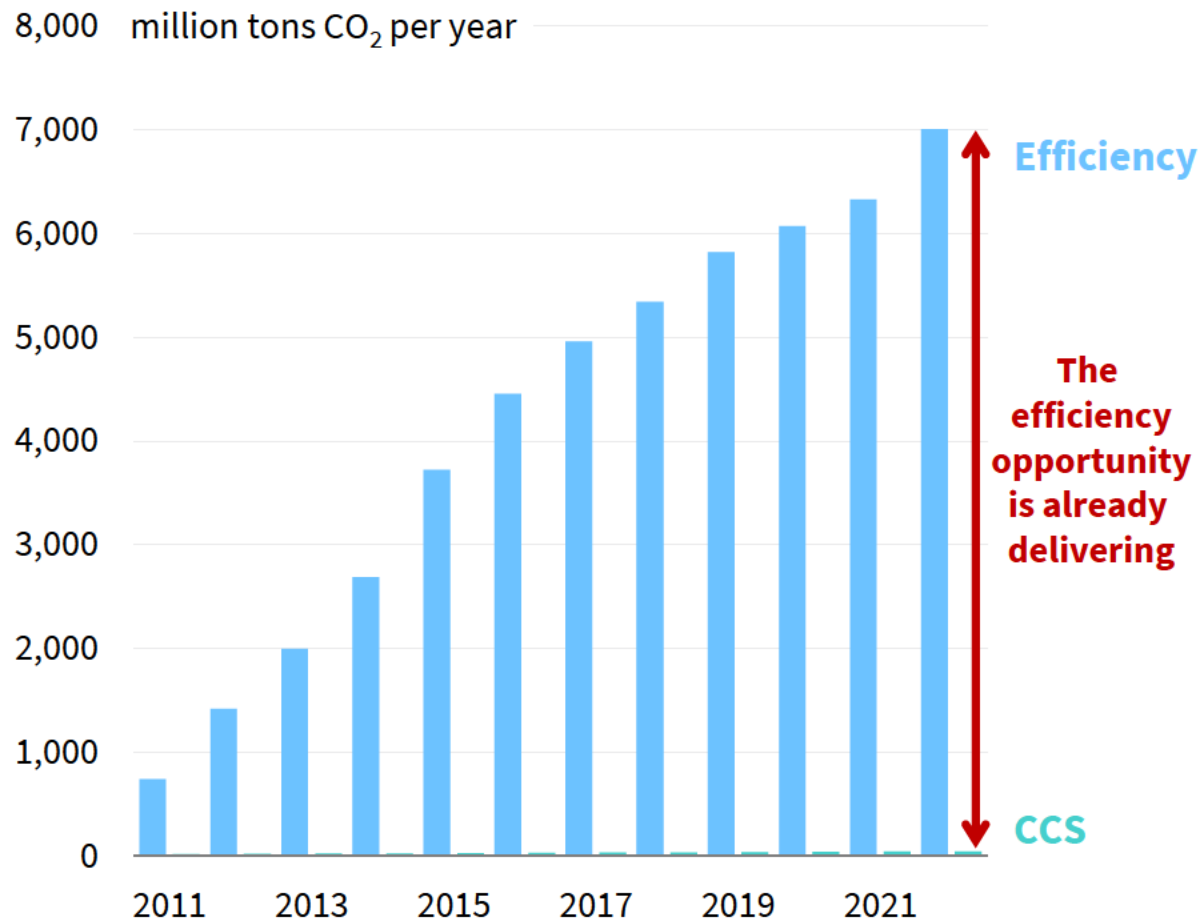
# Harvest the vast fields of efficiency

The efficiency potential is huge, and proven

## Energy demand from primary energy to value added 2019



## Emissions avoided by efficiency, in context



# Companies: time to move from tactics to strategy

The energy transition is not a box-ticking exercise

## Company types and actions

### Type

**Fossil fuel producers**

**Heavy fossil fuel users**

**Renewable companies**

**Entrepreneurs**

**Others**

### Future

Decline of core products

Need to find a new energy source

Rapid growth, rapid innovation

A brave new world of opportunities

A new environment

### What to do

Reinvention; rundown

Retool for the new energy source

Innovate and expand

Solve barriers and get rich

Rethink areas of focus



# Finance: Retool investment strategies

The energy transition is a megatheme, like the industrialization of China or the growth of the internet

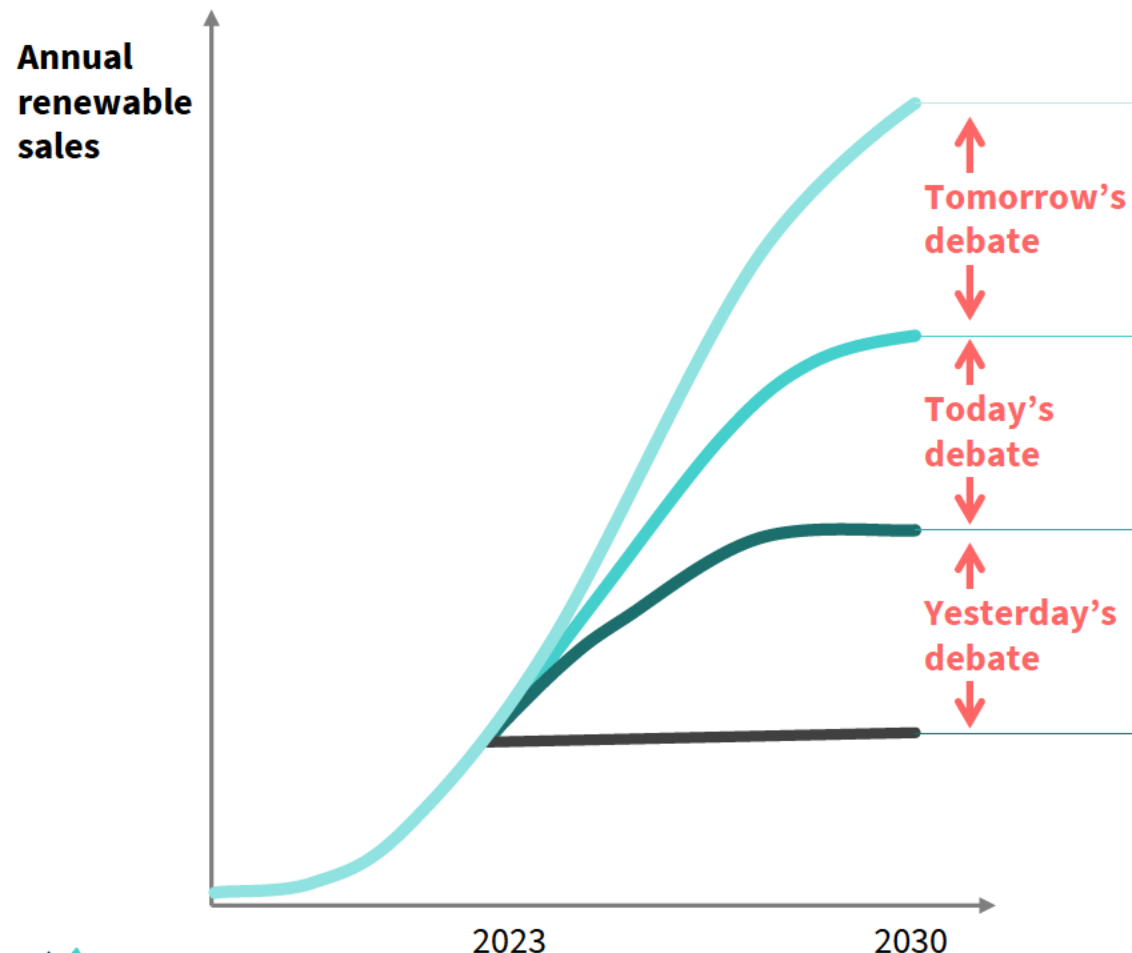




# Adjust energy models to capture reality

Incumbent modelers need to up their game or become stranded experts

## Annual renewable deployment concept chart



## Who is where?

Illustrative



..and the many tied banks and consultants

## The group



A new energy paradigm



Renewables are the future



Change is difficult, but we should try and do this

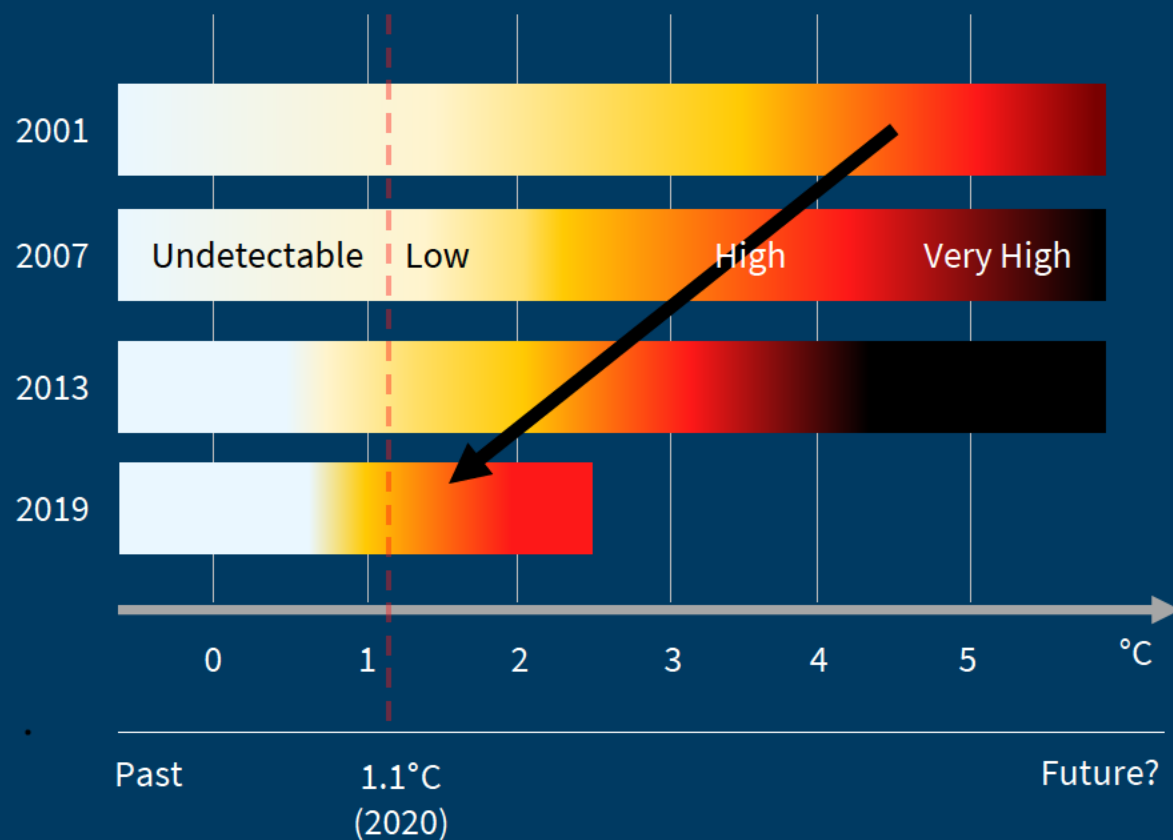


Green idealists are naïve; the world needs our fossils

# We are in a race between **climate** and **economic** tipping points

On the one hand, **climate** tipping points are coming faster than expected...

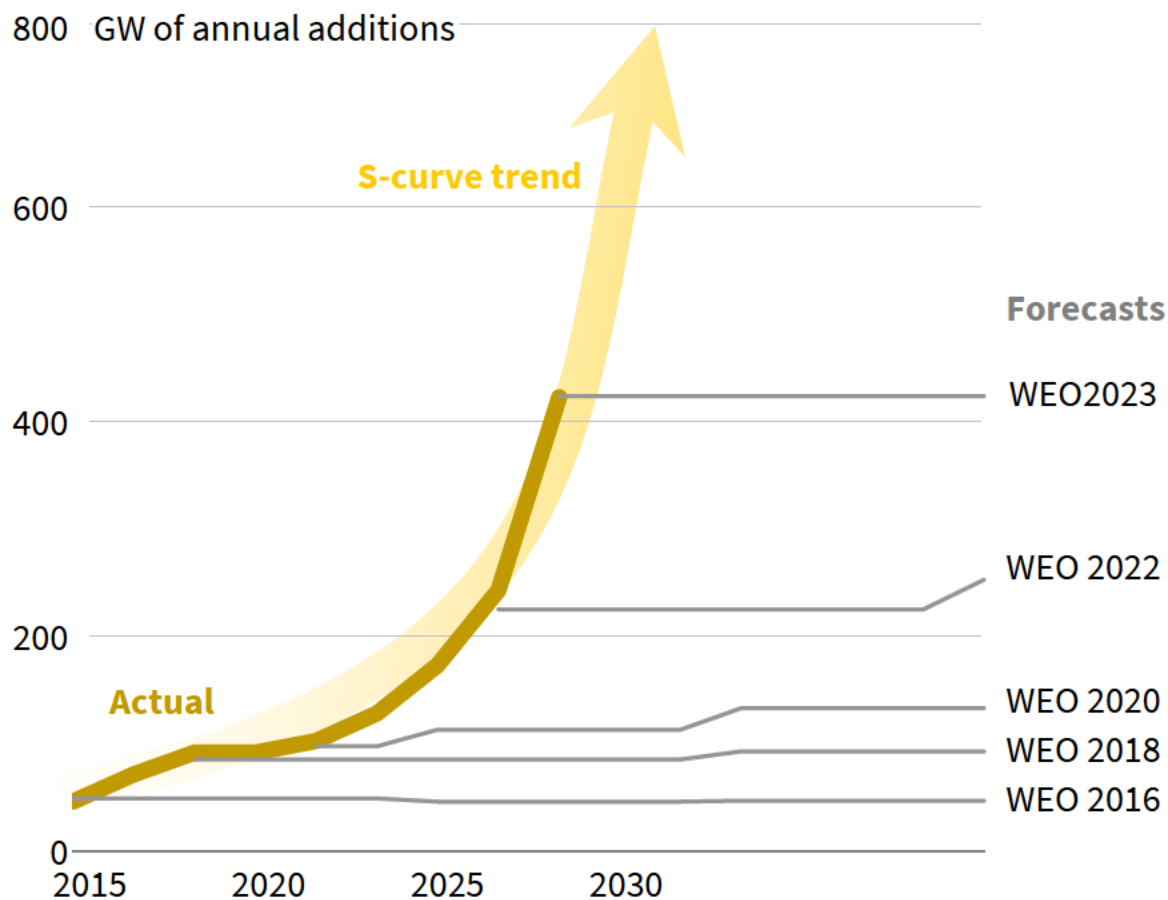
## Climate tipping points



Source: Lenton et al based on IPCC reports

...on the other hand, **climate solutions are scaling faster** than most analysts thought possible.

## Actual solar additions vs. consensus outlooks



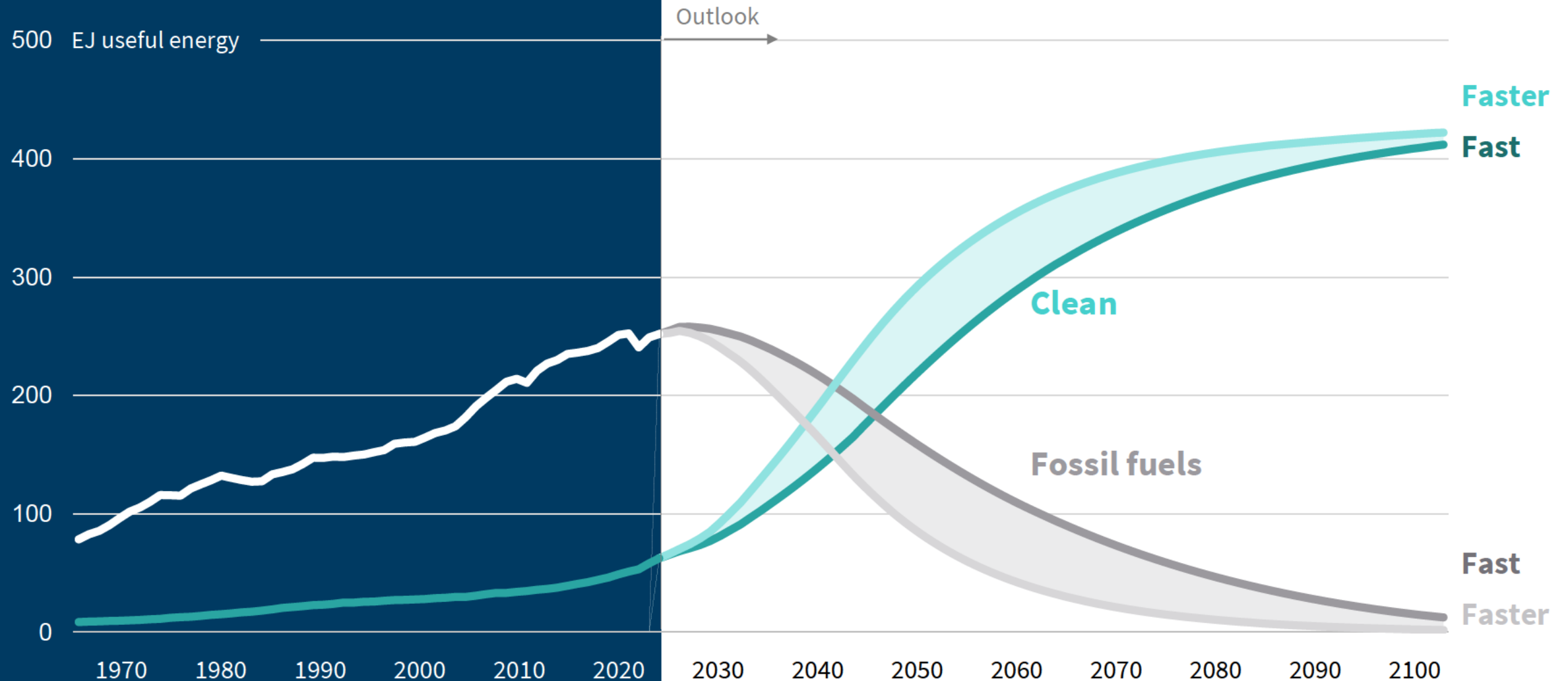
Source: IEA STEPS, BNEF actuals

# Direction is inevitable,

There is both inevitability and agency.

# but speed is up to us

As time is short there is every reason to act.



## About RMI

RMI is an independent nonprofit, founded in 1982 as Rocky Mountain Institute, that transforms global energy systems through market-driven solutions to align with a 1.5°C future and secure a clean, prosperous, zero-carbon future for all. We work in the world's most critical geographies and engage businesses, policymakers, communities, and NGOs to identify and scale energy system interventions that will cut climate pollution at least 50 percent by 2030. RMI has offices in Basalt and Boulder, Colorado; New York City; Oakland, California; Washington, D.C.; Abuja, Nigeria; and Beijing.

## Authors

**Kingsmill Bond**, [kbond@rmi.org](mailto:kbond@rmi.org)

**Sam Butler-Sloss**, [sbutlersloss@rmi.org](mailto:sbutlersloss@rmi.org)

**Daan Walter**, [daan.walter@rmi.org](mailto:daan.walter@rmi.org)

## Acknowledgments

*With thanks to: Amory Lovins, Hannah Ritchie, Joseph Zacune, Will Atkinson, Chiara Gulli, Laurens Speelman, Ita Kettleborough, and Harry Benham.*

## Related

[Sign up to our distribution list](#)

[RMI – The World Re-Energized](#)

[RMI – The Peaking Series](#)



# Memo

**To:** Board of Directors

**From:** Bryan Garcia (President and CEO)

**Cc:** Sergio Carrillo (Managing Director of Incentive Programs), Mackey Dykes (VP of Financing Programs and Officer), Brian Farnen (General Counsel and CLO), Sara Harari (Associate Director of Innovation and Senior Advisor to the President and CEO), Bert Hunter (EVP and CIO), Jane Murphy (EVP of Finance and Administration), Eric Shrago (Vice President of Operations), and Leigh Whelpton (Director of Environmental Infrastructure)

**Date:** July 19, 2024

**Re:** Comprehensive Plan – Revisions for FY25

---

The Comprehensive Plan Fiscal Years 2023 through 2025 has been updated with redline revisions.

The following is a brief summary of the edits:

- **Basic Edits** – there were a number of basic edits, including table of contents, footnotes, figures, acronyms, links, etc.;
- **Introduction** – has been updated to reflect an optimistic, yet uncertain future view given more recent political and market developments;
- **Joint Committee** – of the Energy Efficiency Board (“EEB”) and the Connecticut Green Bank (“Green Bank”) Board of Directors, is on the cusp of establishing a jointly shared goal within the Conservation and Load Management Plan (“C&LMP”) of the EEB and the Comprehensive Plan of the Green Bank focused on multifamily affordable housing and affordable rental properties that as of the draft of July 19, 2024 is:

*“To enable greater investment in and deployment of technologies (i.e., solar PV, battery storage, heat pumps, weatherization, appliances, and controls) in affordable rental single and multifamily properties to realize important benefits for tenants (e.g., reduce energy burden (i.e., no more than 6% of annual household income), increase climate resilience, reduce GHG emissions) through the Conservation & Load Management Plan of the Energy Efficiency Board and Comprehensive Plan of the Connecticut Green Bank Board of Directors, and through greater*

*coordination of incentive and financing programs from state and federal sources of capital.”*

The Joint Committee meets on Monday, July 22, 2024 to discuss this goal and make recommendations to the EEB and Green Bank Board of Directors.

- **Incentive and Financing Program Updates** – FY25 targets for Incentive and Financing Programs approved by the Board of Directors, including performance (e.g., # of projects, installed capacity, and investment);
- **Environmental Infrastructure** – proposed FY25 goals,<sup>1</sup> additional context within each area (e.g., agriculture, parks and recreation, etc.) as a result of observations made over the year with respect to strategic assessment of market readiness, and update on progress being made with respect to waste and recycling;
- **Community Engagement** – statement<sup>2</sup> and visual depicting vision on community engagement based on internal staff green storm, including importance of resilience and vulnerable communities, and recognition of the importance of Community Benefit Agreements (“CBA”) and Community Benefit Plans (“CBP”); and
- **Emerging Opportunities** – updated information on the DOE’s Loan Program Office’s State Energy Financial Institutions, EPA’s Greenhouse Gas Reduction Fund competitions, and USDA’s Rural Energy Savings Program.

We will discuss these revisions during the meeting.

## **Attachments**

1. Draft Comprehensive Plan Fiscal Years 2023 through 2025 – Redline Revisions

---

## **Resolution**

**WHEREAS**, per Connecticut General Statutes 16-245n, the Green Bank must (a) develop a comprehensive plan to foster the growth, development and commercialization of clean energy sources, related enterprises and stimulate demand clean energy and deployment of clean energy sources that serve end use customers in this state, and (b) develop a comprehensive plan to foster the growth, development, commercialization and, where applicable, preservation of environmental infrastructure and related enterprises.

---

<sup>1</sup> Expand and implement existing products, identify unique project opportunities, continuing engagement, supporting public policy that unlocks private capital investment, raising resources, market research and development, and data, targeting, and impact.

<sup>2</sup> The Green Bank builds trust and awareness within our community – especially amongst its most vulnerable members – through clear and transparent communication, education, and active listening, enabling us to understand and meet their needs. By strategically cultivating strong, collaborative, and reciprocal relationships with stakeholders, we empower them to achieve their energy, environmental and resiliency goals while advancing the mission of the Green Bank and realizing its vision of a planet protected by the love of humanity.

**NOW**, therefore be it:

**RESOLVED**, that Board has reviewed and approved the revisions to the Comprehensive Plan as revised in a memo dated July 19, 2024 and as presented to the Board on July 26, 2024.



CONNECTICUT  
**GREEN BANK**®

**Comprehensive Plan**  
**Fiscal Years 2023 through 2025**







# **Comprehensive Plan**

Fiscal Years 2023 ~~and~~ through 20254

## **Green Bonds US**

**July 2022**

**January 2023 (Revised)**

**July 2023 (Revised)**

**January 2024 (Revised)**

**July 2024 (Revised)**

# Table of Contents

<b>1. Introduction .....</b>	<b>4</b>
<b>2. Organizational Overview .....</b>	<b>7</b>
2.1 Vision Statement .....	9
2.2 Mission Statement .....	9
2.3 Goals .....	9
2.4 Definitions – Clean Energy and Environmental Infrastructure.....	10
2.5 Governance .....	10
2.6 Organizational Structure .....	1112
<b>3. Incentive Programs .....</b>	<b>13</b>
3.1 Residential Solar Investment Program and Residential Renewable Energy Solutions .....	1314
3.2 Energy Storage Solutions .....	15
3.3 EnergizeCT Smart-E Loan.....	16
3.4 Incentive Program Targets.....	16
<b>4. Financing Programs.....</b>	<b>17</b>
4.1 Commercial Property Assessed Clean Energy .....	1718
4.2 Green Bank Solar Power Purchase Agreement & Solar Roof Lease .....	18
4.3 Solar Marketplace Assistance Program (“Solar MAP”).....	18
4.4 Small Business Energy Advantage & Business Energy Advantage.....	19
4.5 Multifamily Products .....	19
4.6 Green Bank Capital Solutions.....	1920
4.7 Financing Program Targets .....	20
<b>5. Environmental Infrastructure Programs .....</b>	<b>21</b>
5.1 Confronting Climate Change and Vulnerable Communities.....	25
5.1.1 Strategy Overview .....	27
5.2 Environmental Markets – Carbon Offsets and Ecosystem Services .....	28
5.3 Land Conservation .....	29
5.4 Parks and Recreation .....	31
5.5 Agriculture.....	33
5.6 Water .....	35

5.7 Waste and Recycling .....	36
<b>6. Citizen and Community Engagement – Green Bonds US .....</b>	<b>37</b>
6.1 Green Bonds US .....	39
6.2 Green Liberty Bonds .....	40
6.3 Green Liberty Notes .....	40
6.4 Sustainable CT and Community Match Fund .....	40
6.5 Community-Based Campaigns .....	41
<b>7. Investment .....</b>	<b>43</b>
7.1 State Funds .....	43
7.2 Federal Funds .....	43
7.3 Additional Funding Sources .....	46
<b>8. Impact .....</b>	<b>46</b>
8.1 Evaluation Framework .....	46
8.2 Impact Methodologies .....	47
8.3 Green Bond Framework .....	48
<b>9. Reporting and Transparency .....</b>	<b>49</b>
9.1 Annual Comprehensive Financial Report .....	49
9.2 Annual Report .....	50
9.3 Auditors of Public Accounts .....	50
9.4 Open Connecticut and Open Quasi .....	50
<b>10. Research and Product Development .....</b>	<b>51</b>
<b>11. Budget .....</b>	<b>52</b>
11.1 FY 2023 Budget .....	52
11.2 FY 2024 Budget .....	52
11.2 FY 2025 Budget .....	52
<b>12. Glossary of Acronyms .....</b>	<b>53</b>

# 1. Introduction

Over the past three years, the United States has made a large investment into our climate future ~~an economy in transition~~. Now, it's our responsibility to seize this opportunity and create meaningful benefits for the people of Connecticut.

Although the federal government officially declared the end of the COVID-19 Public Health Emergency on May 11, 2023, the country still ripples with aftershocks. In Connecticut alone, over 1,070,000 confirmed COVID-19 cases and more than twelve thousand COVID-19 associated deaths have left a lasting mark.<sup>1</sup> The pandemic caused disruptions in global supply chains, resulting in delayed arrival of clean energy technology required for our programs. The shift to remote or hybrid work schedules became the new norm for non-frontline workers—in Connecticut twice as many employees now work from home compared to pre-pandemic times.<sup>2</sup> The shift in hiring and spending behavior led to spiraling inflation, prompting the US Federal Reserve to institute a series of interest rate hikes, raising the rate from 0.25% in March 2022 to 5.25% in May 2023.

To compound matters, international conflicts such as the Russian invasion of Ukraine have sent shockwaves through the supply chain and energy markets, causing electricity rates to rise in Connecticut. These and other emergencies have diverted political attention away from the climate crisis while increasingly frequent and violent storms, drought, wildfires and floods wreak havoc worldwide.

The most recent update from the United Nations on progress towards the Sustainable Development Goals<sup>3</sup> paints a bleak picture: to avoid the worst effects of climate change, global GHG emissions will “need to peak before 2025 and then decline by 43% by 2030, falling to net zero by 2050. Instead under current voluntary national commitments to climate action, greenhouse gas emissions will *rise* [emphasis added] by nearly 14 percent by 2030.”

The effects of anthropogenic climate change are undeniably present. We are witnessing firsthand how climate change impacts our state. Canada is currently experiencing its worst fire season in modern history. Over 20 million acres of boreal forest in Quebec have succumbed to the flames<sup>4</sup>, and the smoke has drifted south, enveloping the northeast coast in an eerie, orangey haze reminiscent of science-fiction films. While fires are a natural part of these forests' lifecycle, hotter temperatures fueled by climate change have intensified wildfires and prolonged fire seasons. In July 2023, torrential rains caused the National Weather Service to issue flood warnings along the Connecticut River as water levels surged<sup>5</sup>. Roads and ferries crossing the river were closed in anticipation of potential flash flooding or washouts.

Amidst these challenges, there have been significant positive developments in federal policy to address climate change. We have witnessed historical progress at the federal level towards changing our emissions trajectory towards 40% reduction from 2005 levels by 2030. In November 2021, the US Congress enacted the Infrastructure Investment and Jobs Act (“IIJA”),

<sup>1</sup>COVID-19 data resources | Connecticut Data

<sup>2</sup>Number of remote workers in CT has almost doubled since 2019 (ctmirror.org)

<sup>3</sup>The Sustainable Development Goals Report 2022.pdf (un.org)

<sup>4</sup>This is Canada's worst fire season in modern history—but it's not new : Short Wave : NPR

<sup>5</sup>National Weather Service flood warning for Connecticut River (courant.com)

also called the Bipartisan Infrastructure Law ("BIL"). The \$1.2 trillion act established and refunded programs to support new infrastructure over a 10-year period. The IIJA contains research and development funds for low-carbon energy technology and support for deployment of clean energy technology such as electric vehicles. In fact, the largest portion of this investment will be overseen by the Department of Transportation.<sup>6</sup>

~~Furthermore,~~ In August 2022, Congress reached a deal on budget reconciliation and enacted the Inflation Reduction Act ("IRA"). This landmark federal law which aims to curb inflation and represents the single most significant legislation to combat climate change in our nation's history. It allocates \$369 billion to help build the clean energy economy through incentives and tax credits, including the creation of a \$27 billion Greenhouse Gas Reduction Fund ("GGRF") modelled after the Connecticut Green Bank ("Green Bank").<sup>7</sup> The investment tax credits support a myriad of clean energy technologies from renewable energy, energy efficiency, and storage to electric vehicles, nuclear power, and green hydrogen. The tax credits run through 2032 and include additional benefits of 10% for "energy communities" (i.e., Metropolitan Statistical Areas such as Fairfield and New Haven Counties), of 10-20% for "low-income communities" (e.g., Bridgeport, Hartford, Waterbury), and 10% for "domestic content" (e.g., fuel cells manufactured in Connecticut). -Modelled after the Connecticut Green Bank, the GGRF funds several national climate banks through a National Clean Investment Fund ("NCIF"), networks of community lenders through a Clean Communities Investment Accelerator ("CCIA"), and a "Solar for All" initiative, to ensure that solar (including storage) reaches vulnerable communities.

Collectively, these two federal funding packages represent the largest federal commitment to addressing our changing climate in the nation's history. These Acts seek to expand America's capacity to manufacture and install technology domestically and to reduce the cost to adopt technology. They seek to achieve these goals in a way that supports workforce development, low-income families, and outreach to regions that historically haven't embraced green technology. However, as we approach the upcoming Presidential election in November and face an increasingly divided Legislative branch, the likelihood of additional federal funding to supplement the IIJA and IRA in the near term appears slim. As a result, Connecticut is actively seeking ways to maximize the federal funding it can attract.

The Green Bank has worked collaboratively with other state agencies as well as non-profit and private organizations that are applying for competitive federal funding. We participated in six different coalitions applying for funding under the GGRF. We have closely partnered with state agencies to devise effective strategies that empower customers to leverage ~~Inflation Reduction Act (IRA)~~ tax credits. This federal funding can propel Connecticut towards achieving Here in Connecticut, the Green Bank continues to seek solutions that can accelerate progress ~~towards~~ the state decarbonization goals established in the 2008 Global Warming Solutions Act ("GWSA").

Our investments have already made a measurable difference. In the ~~12-13~~ years of its existence, the Green Bank has helped avoid ~~nearly over 12-10~~ million tons of carbon dioxide

---

<sup>6</sup> [The US Bipartisan Infrastructure Law: Breaking it down | McKinsey](#)

<sup>7</sup> <https://www.ctgreenbank.com/connecticut-green-bank-the-countrys-first-state-green-bank-salutes-u-s-congress-and-president-biden-for-passage-and-signage-of-inflation-reduction-act/>

emissions (the equivalent of 2.22.4 million passenger vehicles driven for one year).<sup>8</sup> Avoiding 1 million tons of carbon dioxide emissions a year, for a state that emits nearly 35 million tons per year,<sup>9</sup> is nearly 3 percent of all emissions avoided, or over 25 percent of emissions avoided from electricity generation (and consumption).<sup>10</sup>

However, we must acknowledge that Connecticut will need to significantly accelerate annual reductions to be on track to achieve 2030 and 2050 targets set forth in the GWSA.<sup>11</sup> The 2021 Connecticut Greenhouse Gas Emissions Inventory,<sup>12</sup> released in April 2023 by the Connecticut Department of Energy and Environmental Protection ("DEEP"),<sup>13</sup> revealed that emissions estimates for 2021 are a 22 percent decrease from the 1990 baseline, but a 6 percent increase from 2020. Transportation is the highest emitting sector (i.e., 40% of emissions), with residential (i.e., 19% of emissions) and electric power (i.e., 15% of emissions) following.

In recognition of the Green Bank's successful track record of deploying green infrastructure, Governor Ned Lamont, with the support of the Governor's Council on Climate Change, signed into law Public Act 21-115 on July 6, 2021.<sup>14</sup> This act expanded the Green Bank mandate to include environmental infrastructure – a recognition that the same financing tools we have successfully leveraged to increase investment in and deployment of clean energy in Connecticut can support other environmental sectors in need of rapid transformation as well. The act includes the creation of an Environmental Infrastructure Fund which could receive federal funds (e.g., GGRF) to mobilize private investment in environmental infrastructure.

Liu Zhenmin, the United Nations Under-Secretary-General for Economic and Social Affairs, concludes his comments on the annual SDG report with the following guidance: "Nothing short of a comprehensive transformation of the international finance and debt architecture will be required to accomplish these aims..." [With nearly \\$1.3 trillion of public and private investment in global climate finance \(i.e., mitigation of greenhouse gas emissions and resilience from the impacts of climate change\) in 2022, or approximately \\$155 per person, 2 to 4 times more investment is needed – between \\$3 to \\$6 trillion per year \(i.e., \\$370 to \\$740 per person\) – to confront climate change.](#)<sup>15</sup>

Although the Green Bank is geographically limited in our ability to invest in mitigation and resilience ~~and mitigation~~ to confront climate change, we can continue to be a leader in the space and demonstrate how new financing models through public-private partnerships can drive innovative investment in our global future.<sup>16</sup> Since the Green Bank's launch in 2011 as the first state level green bank in the nation, dozens of state and local green banks have popped up both nationally and abroad. With the IIJA and the IRA in place at the federal level, and the

---

<sup>8</sup> <https://www.ctgreenbank.com/wp-content/uploads/2023/09/FY12-FY23-Green-Bank-Impact-Report-9-1-2023.pdf><https://www.ctgreenbank.com/wp-content/uploads/2022/09/FY12-FY22-CGB-ImpactReport-8242022.pdf>

<sup>9</sup> Connecticut Greenhouse Gas Inventory (Update for 1990-2021) by DEEP (April 20, 2023)

<sup>10</sup> Ibid (11)

<sup>11</sup> Reduce GHG emissions by 45% from 2001 levels by 2030 and 80% from 2001 levels by 2050

<sup>12</sup> [https://portal.ct.gov/-/media/DEEP/climatechange/1990-2021-GHG-Inventory/DEEP\\_GHG\\_Report\\_90-21\\_Final.pdf](https://portal.ct.gov/-/media/DEEP/climatechange/1990-2021-GHG-Inventory/DEEP_GHG_Report_90-21_Final.pdf)

<sup>13</sup> [https://portal.ct.gov/-/media/DEEP/climatechange/GHG\\_Emissions\\_Inventory\\_2018.pdf](https://portal.ct.gov/-/media/DEEP/climatechange/GHG_Emissions_Inventory_2018.pdf)

<sup>14</sup> An Act Concerning Climate Change Adaptation – <https://www.cga.ct.gov/2021/ACT/PA/PDF/2021PA-00115-R00HB-06441-PA.PDF>

<sup>15</sup> [Climate Policy Initiative "Landscape of Climate Finance 2021/2022"](#)

<sup>16</sup> "There's finally a national climate bank. Here's how it can make its \$27 billion go even further" in Fast Company by Ashley Stimpson (December 16, 2022)

public policies and incentives available in Connecticut, the Green Bank is poised to continue its leadership and advance its mission.

As the saying goes “think globally – act locally”. With the infusion of federal funding from the IIA and the IRA, we now have a unique opportunity to accelerate the transition to a green economy. These funds come with a welcome forcing mechanism to ensure that the benefits of this transition reach low-income families and disadvantaged communities, promoting an equitable deployment that benefits all communities in our state. According to the Rocky Mountain Institute, the first trillion dollars invested globally in cleantech took decades. The second trillion will happen in four years.<sup>17</sup> Demand for solar, storage, and electric vehicles has increased exponentially. Together, we can create a sustainable future that leaves no one behind.

## 2. Organizational Overview

The Green Bank<sup>18</sup> was established on a bipartisan basis by Governor Malloy and the Connecticut General Assembly (“CGA”) on July 1, 2011 through Public Act (“PA”) 11-80<sup>19</sup> as a quasi-public agency that supersedes the former Connecticut Clean Energy Fund (“CCEF”). On July 1, 2021, the 10<sup>th</sup> anniversary of the Green Bank, again, on a bipartisan basis, Governor Lamont and the CGA enacted PA 21-115 expanding the scope of the Green Bank beyond “clean energy” to include “environmental infrastructure”. As the nation’s first state green bank, the Green Bank leverages public funds to mobilize multiples of private investment to increase and accelerate investment in clean energy deployment and environmental infrastructure improvement in Connecticut.

The Green Bank’s statutory purposes are:

- To develop programs to finance and otherwise support clean energy and environmental infrastructure investment in residential, municipal, small business and larger commercial projects and such other programs as the Green Bank may determine;
- To support financing or other expenditures that promote investment in clean energy sources and environmental infrastructure to foster the growth, development and commercialization of clean energy sources, environmental infrastructure, and related enterprises; and
- To stimulate demand for clean energy and the deployment of clean energy sources and investment in environmental infrastructure within the state that serves end-use customers in the state.

The Green Bank’s purposes are codified in Section 16-245n(d)(1) of the Connecticut General Statutes (“CGS”) and restated in the Green Bank’s Board approved [Resolution of Purposes](#).

---

<sup>17</sup> [The Cleantech Revolution - RMI](#)

<sup>18</sup> PA 11-80 repurposed the Connecticut Clean Energy Fund (CCEF) administered by Connecticut Innovations, into a separate quasi-public organization called the Clean Energy Finance and Investment Authority (CEFIA). Per Public Act 14-94, CEFIA was renamed to the Connecticut Green Bank.

<sup>19</sup> An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut’s Energy Future – <https://www.cga.ct.gov/2011/act/pa/pdf/2011PA-00080-R00SB-01243-PA.pdf>

The Green Bank is a public policy innovation that exemplifies Connecticut's more than two-decade history of bipartisan executive and legislative branch leadership on the issue of climate change. Leadership highlights include:

- **Governor Rowland** – co-chaired the New England Governors and Eastern Canadian Premiers Conference, which established a regional commitment to reduce greenhouse gas ("GHG") emissions (i.e., 1990 levels by 2010, 10% below 1990 levels by 2020, and 80% below 2001 levels by 2050);<sup>20</sup>
- **Governor Rell** – supported PA 08-98<sup>21</sup> codifying the regional commitment into state law, appointing Gina McCarthy to be the Commissioner of the Department of Environmental Protection who would help lead the development of the Regional Greenhouse Gas Initiative ("RGGI"), later become the Administrator of the United States Environmental Protection Agency ("USEPA") under President Obama, and become the White House National Climate Advisor for President Biden;
- **Governor Malloy** – led the passage of PA 11-80 establishing DEEP, creating the Green Bank, and other policies catalyzing the market for clean energy, as well as PA 18-50<sup>22</sup> and PA 18-82<sup>23</sup> increasing the state's renewable portfolio standard ("RPS") to 40% by 2030 and establishing a midterm GHG emissions reduction target of 45% below 2001 levels by 2030, respectively; and
- **Governor Lamont** – issued his first<sup>24</sup> and third<sup>25</sup> executive orders on state "Greener Gov" for sustainability, clean energy, and climate change leadership, passing PA 21-115 expanding the scope of the Green Bank to include "environmental infrastructure," PA 22-5<sup>26</sup> including a 100% zero emission electricity target by 2040, and PA 22-25<sup>27</sup> confronting greenhouse gas emissions from the transportation sector, including 100% targets for school buses in environmental justice communities by 2030 and all communities by 2040.

The CGA has worked hand-in-hand with these Governors and the citizens of the state over the years to devise and support public policies that promote clean energy, environmental infrastructure, and lead the movement to confront climate change.<sup>28</sup>

---

<sup>20</sup> NEG-ECP Resolution 26-4 adopting the "Climate Change Action Plan 2001" (August 2001 in Westbrook, CT) – Westbrook Resolution

<sup>21</sup> An Act Concerning Connecticut Global Warming Solutions – <https://www.cga.ct.gov/2008/ACT/Pa/pdf/2008PA-00098-R00HB-05600-PA.pdf>

<sup>22</sup> An Act Concerning Connecticut's Energy Future – <https://www.cga.ct.gov/2018/act/pa/pdf/2018PA-00050-R00SB-00009-PA.pdf>

<sup>23</sup> An Act Concerning Climate Change Planning and Resiliency – <https://www.cga.ct.gov/2018/act/pa/pdf/2018PA-00082-R00SB-00007-PA.pdf>

<sup>24</sup> <https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-1.pdf>

<sup>25</sup> <https://portal.ct.gov/-/media/Office-of-the-Governor/Executive-Orders/Lamont-Executive-Orders/Executive-Order-No-3.pdf>

<sup>26</sup> An Act Concerning Climate Change Mitigation – <https://www.cga.ct.gov/2022/act/Pa/pdf/2022PA-00005-R00SB-00010-PA.PDF>

<sup>27</sup> An Act Concerning the Connecticut Clean Air Act – <https://www.cga.ct.gov/2022/ACT/PA/PDF/2022PA-00025-R00SB-00004-PA.PDF>

<sup>28</sup> Reducing greenhouse gas emissions and confronting climate change is supported by a number of public policies, including, but not limited to PA 17-3, PA 18-82, PA 19-71, Governor Lamont's Executive Orders 1 and 3, Comprehensive Energy Strategy, Governor's Council on Climate Change, and many other past acts, plans, or policies.



## 2.1 Vision Statement

...a planet protected by the love of humanity.<sup>29</sup>

## 2.2 Mission Statement

Confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, healthier, and equitable communities.

## 2.3 Goals

To achieve its vision and mission, the Green Bank has established the following three goals:

1. To leverage limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut.
2. To strengthen Connecticut's communities, especially vulnerable communities,<sup>30</sup> by making the benefits of the green economy inclusive and accessible to all individuals, families, and businesses.
3. To pursue investment strategies that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability.

The vision statement, mission statement, and goals support the implementation of Connecticut's climate change, clean energy, and environmental infrastructure policies be they statutorily required (e.g., PA 21-53),<sup>31</sup> planning (e.g., Comprehensive Energy Strategy), or regulatory (e.g., Docket No. 17-12-03RE03)<sup>32</sup> in nature.

### **Framework for an Equitable Modern Grid<sup>33</sup>**

The Public Utilities Regulatory Authority's ("PURA") Framework for an Equitable Modern Grid, seeks to (1) support, or remove barriers to, the growth of Connecticut's green economy; (2) enable a cost-effective, economy-wide transition to a decarbonized future; (3) enhance customer access to a more resilient, reliable and secure electricity commodity; and (4) advance the ongoing energy affordability dialogue in the state, particularly in underserved communities.

<sup>29</sup> Vision Statement inspired by the Innovations in American Government Awards at the Ash Center of Harvard University's Kennedy School of Government, Maya Angelou's "On the Pulse of Morning," the powerful words of Mary Evelyn Tucker on "inclusive capitalism," and the late Mother Jennifer of the Daughters of Mary of the Immaculate Conception

<sup>30</sup> Per PA 20-05, "An Act Concerning Emergency Response by Electric Distribution Companies, the Regulation of Other Public Utilities and Nexus Provisions for Certain Disaster-Related or Emergency-Related Work Performed in the State," "vulnerable communities" means populations that may be disproportionately impacted by the effects of climate change, including, but not limited to, low and moderate income communities, environmental justice communities pursuant to section 22a-20a, communities eligible for community reinvestment pursuant to section 36a-30 and the Community Reinvestment Act of 1977, 12 USC 2901 et seq., as amended from time to time, populations with increased risk and limited means to adapt to the effects of climate change, or as further defined by DEEP in consultation with community representatives.

<sup>31</sup> An Act Concerning Energy Storage – <https://www.cga.ct.gov/2021/act/Pa/pdf/2021PA-00053-R00SB-00952-PA.PDF>

<sup>32</sup> Equitable Modern Grid Initiative – Electric Storage

<sup>33</sup> <https://portal.ct.gov/PURA/Electric/Grid-Modernization/Grid-Modernization>

The Green Bank supports PURA in their efforts through participation in many of the re-openers in the equitable modern grid as a commentor, a participant and a program administrator.

## 2.4 Definitions – Clean Energy and Environmental Infrastructure

The Green Bank’s investment focus is on “clean energy” and “environmental infrastructure” as defined by CGS Section 16-245n:

- **Clean Energy** – “clean energy” means solar photovoltaic energy, solar thermal, geothermal energy, wind, ocean thermal energy, wave or tidal energy, fuel cells, landfill gas, hydropower that meets the low-impact standards of the Low-Impact Hydropower Institute, hydrogen production and hydrogen conversion technologies, low emission advanced biomass conversion technologies, alternative fuels, used for electricity generation including ethanol, biodiesel or other fuel produced in Connecticut and derived from agricultural produce, food waste or waste vegetable oil, provided the Commissioner of Energy and Environmental Protection determines that such fuels provide net reductions in GHG emissions and fossil fuel consumption, usable electricity from combined heat and power systems with waste heat recovery systems, thermal storage systems, other energy resources and emerging technologies which have significant potential for commercialization and which do not involve the combustion of coal, petroleum or petroleum products, or nuclear fission, financing of energy efficiency projects, projects that seek to deploy electric, electric hybrid, natural gas or alternative fuel vehicles and associated infrastructure, any related storage, distribution, manufacturing technologies or facilities and any Class I renewable energy source, as defined in CGS 16-1(a)(2).
- **Environmental Infrastructure** – “environmental infrastructure” means structures, facilities, systems, services and improvement projects related to (A) water, (B) waste and recycling, (C) climate adaptation and resiliency, (D) agriculture, (E) land conservation, (F) parks and recreation, and (G) environmental markets, including, but not limited to carbon offsets<sup>34</sup> and ecosystem services.<sup>35</sup>

## 2.5 Governance

Pursuant to Section 16-245n of the CGS, the powers of the Green Bank are vested in and exercised by a Board of Directors (“BOD”)<sup>36</sup> that is comprised of twelve voting and one non-voting members each with knowledge and expertise in matters related to the purpose of the organization – see Table 1.<sup>37</sup>

**Table 1. Board of Directors of the Connecticut Green Bank**

Position	Status	Appointer	Voting
----------	--------	-----------	--------

<sup>34</sup> Carbon offsets means an activity that compensates for the emission of carbon dioxide or other greenhouse gases by providing for an emission reduction elsewhere.

<sup>35</sup> Ecosystem services means benefits obtained from ecosystems, including, but not limited to, (A) provisioning services such as food and water, (B) regulating services such as floods, drought, land degradation and disease, and (C) supporting services such as soil formation and nutrient cycling.

<sup>36</sup> <https://www.ctgreenbank.com/about-us/governance/board-of-directors/>

<sup>37</sup> <https://www.ctgreenbank.com/about-us/governance/>

State Treasurer (or designee)	Ex Officio	Ex Officio	Yes
Commissioner of DEEP (or designee)	Ex Officio	Ex Officio	Yes
Commissioner of DECD (or designee)	Ex Officio	Ex Officio	Yes
Secretary of OPM (or designee)	Ex Officio	Ex Officio	Yes
Residential or Low-Income Group	Appointed	Speaker of the House	Yes
Investment Fund Management	Appointed	Minority Leader of the House	Yes
Environmental Organization	Appointed	President Pro Tempore of the Senate	Yes
Finance or Deployment of Renewable Energy	Appointed	Minority Leader of the Senate	Yes
Finance of Renewable Energy	Appointed	Governor	Yes
Finance of Renewable Energy	Appointed	Governor	Yes
Labor	Appointed	Governor	Yes
R&D or Manufacturing	Appointed	Governor	Yes
President of the Green Bank	Ex Officio	Ex Officio	No

There are four (4) committees of the BOD of the Green Bank, including Audit, Compliance, and Governance Committee ("ACG Committee"), Budget, Operations, and Compensation Committee ("BOC Committee"), Deployment Committee, and the Joint Committee of the Energy Efficiency Board ("EEB") and the Green Bank.<sup>38</sup>

### Principal Statement of the Joint Committee

To support the Joint Committee of the EEB and the Green Bank, the following is a principal statement to guide its activities:

The EEB and the Green Bank have a shared goal to implement state energy policy throughout all sectors and populations of Connecticut with continuous innovation towards greater leveraging of ratepayer funds and a uniformly positive customer experience.

The BOD of the Green Bank is governed through enabling legislation, as well as by an [Ethics Statement](#) and [Ethical Conduct Policy](#), Resolutions of Purposes, [Bylaws](#), [Joint Committee Bylaws](#), and a Comprehensive Plan. All meetings, agendas, and materials of the Green Bank's BOD and its Committees are publicly available on the organization's website.<sup>39,40</sup>

## 2.6 Organizational Structure

The Green Bank is administered by a professional staff overseeing three (3) business units, including:

- **Incentive Programs** – the Governor and the CGA from time-to-time may decide that there are certain incentive programs that they seek to have the Green Bank administer (e.g., PA 21-53). The Green Bank administers such programs with the goal of delivering

<sup>38</sup> Pursuant to CGS 16-245m(d)(2) – There shall be a joint committee of the Energy Conservation Management Board and the board of directors of the Connecticut Green Bank. The boards shall each appoint members to such joint committee. The joint committee shall examine opportunities to coordinate the programs and activities funded by the Clean Energy Fund pursuant to section 16-245n with the programs and activities contained in the plan developed under this subsection and to provide financing to increase the benefits of programs funded by the plan so as to reduce the long-term cost, environmental impacts and security risks of energy in the state. Such joint committee shall hold its first meeting on or before August 1, 2005.

<sup>39</sup> <https://www.ctgreenbank.com/about-us/governance/board-meetings/>

<sup>40</sup> <https://www.ctgreenbank.com/about-us/governance/committee-meetings/>

on the public policy objectives, while at the same time ensuring that funds invested by the Green Bank are cost recoverable.<sup>41</sup> For example, the Green Bank co-administers the Energy Storage Solutions ("ESS") program with the Electric Distribution Companies ("EDC") (i.e., Avangrid and Eversource Energy) to deploy 580 MW of behind the meter residential and non-residential battery storage systems through an upfront declining incentive block structure and ongoing performance-based incentive.

- **Financing Programs** – the Green Bank's core business is financing clean energy projects. The use of public revenues by the Green Bank (i.e., Clean Energy Fund ("CEF") and RGGI allowance proceeds) are to be invested with the expectation of principal and interest being paid back over time (i.e., earned revenues). For example, per CGS 16a-40g, the Green Bank administers the Commercial Property Assessed Clean Energy ("C-PACE") program. Through C-PACE, the Green Bank provides capital to building owners to make clean energy and resilience improvements on their properties that is paid back over time from a benefit assessment on the building owner's property tax bill. The interest earned from these types of investments, over time, is expected to cover the operational expenses and a return for the Green Bank.
- **Environmental Infrastructure Programs** – as a result of the passage of PA 21-115 expanding the scope of the Green Bank beyond "clean energy" to include "environmental infrastructure," the financing tools of the green bank model will be used to mobilize private investment in Connecticut's green economy. Raising capital for the Environmental Infrastructure Fund ("EIF") through the issuance of Green Liberty Bonds, accessing federal resources (e.g., IIJA, GGRF), and/or other means, will provide resources to invest in the modernization, decarbonization, and resilience of the state's environmental infrastructure.

These three business units – Incentive Programs, Financing Programs, and Environmental Infrastructure Programs – serve the purposes of the Green Bank. To support the business units and their investments, the Green Bank has administrative support from finance, legal, marketing and operations, [as well as innovation](#).

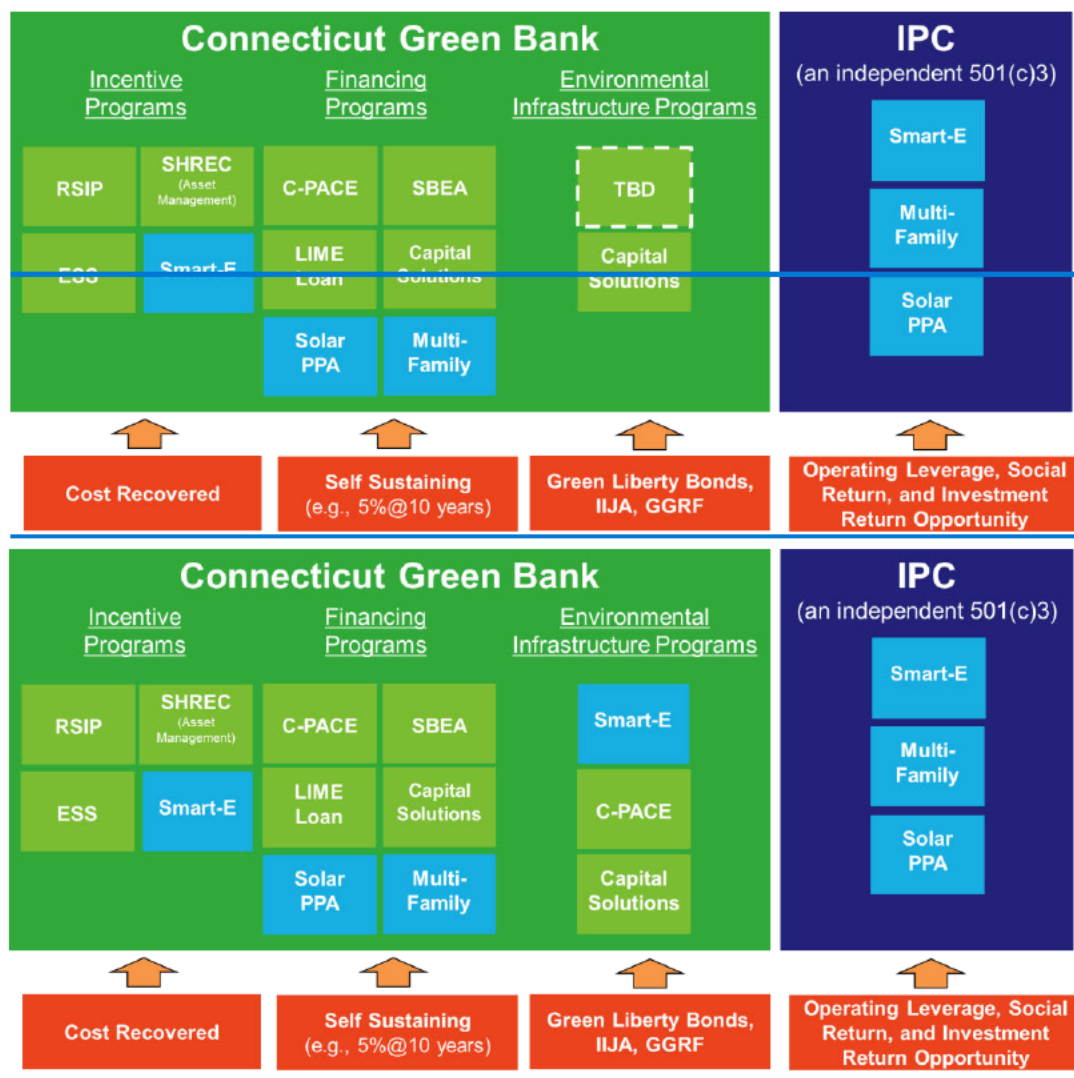
In FY19, the Green Bank, in partnership with DEEP and the Kresge Foundation, formed a nonprofit organization called Inclusive Prosperity Capital ("IPC"). The mission of IPC is to attract mission-oriented investors in underserved clean energy market segments (e.g., low-to moderate-income ("LMI") single and multifamily properties) of the green economy. Although not an affiliate, nor a component unit of the Green Bank, IPC serves an important role supporting Green Bank programs (e.g., Smart-E, Solar PPA, and Multifamily Affordable) through FY26. [Through Professional Service Agreements \("PSA"\), the Green Bank has engaged IPC since FY19, and expects the final PSA to be in FY26 as IPC becomes self-sustainable.](#)<sup>42</sup>

For an overview of the organizational structure of the Green Bank, and its partnership with IPC – see Figure 1.

<sup>41</sup> In the past, per CGS 16-245ff, the Green Bank administered the Residential Solar Investment Program ("RSIP") which resulted in [350-nearly 380](#) MW of residential solar photovoltaic system deployment between 2012 through 2021. RSIP is cost recoverable per CGS 16-245gg.

<sup>42</sup> [It should be noted that IPC was a winner of a \\$249.3MM contract with the US EPA through the Greenhouse Gas Reduction Fund's Solar for All initiative in 2024.](#)

**Figure 1. Organizational Structure of the Green Bank with Support from Inclusive Prosperity Capital**



An Employee Handbook and [Operating Procedures](#) have been approved by the BOD and serve to guide the staff to ensure that it is following proper contracting, financial assistance, and other requirements.

### 3. Incentive Programs

The Green Bank administers incentive programs, including credit enhancements (e.g., interest rate buydowns, loan loss reserves), used to deploy clean energy and environmental infrastructure, while at the same time cost recovering the expenses associated with several of these programs (i.e., CGS 16-245ff, PA 21-53) within the business unit – including, but not limited to, incentives, administrative expenses, and financing costs.

#### 3.1 Residential Solar Investment Program and Residential Renewable Energy Solutions

##### Residential Solar Investment Program



Per CGS 16-245ff, the Green Bank administered the Residential Solar Investment Program ("RSIP") to deploy 350 megawatts ("[MW](#)") of new residential solar PV systems on or before December 31, 2022, while promoting the sustained, orderly development of a local state-based solar PV industry and ensuring that solar PV systems are accessible and affordable to vulnerable communities.<sup>43</sup> As of December 31, 2022, the RSIP achieved 378 MW of deployment [from \\$1.4 billion of total investment](#), providing more than 46,300 households with access to solar PV systems, including 50% within vulnerable communities.<sup>44</sup> With the end of the RSIP policy, the focus of the Green Bank will be to manage the Solar Home Renewable Energy Credits ("SHREC") generated from the systems supported through the RSIP to recover incentives, administrative expenses, and financing costs, by selling SHRECs to the EDCs through a 15-year Master Purchase Agreement ("MPA") to pay for bonds sold to support the program. [In addition to cost recovery of the RSIP through the SHREC, the Green Bank is looking into how to manage the end-of-life of the solar PV systems as the waste is potentially heavy in weight and sizable in volume.](#)<sup>45</sup>

### Residential Renewable Energy Solutions

Starting January 1, 2022, the residential solar PV market transitioned from the RSIP and net metering to a tariff-based compensation structure.<sup>46</sup> In order to ensure the continued sustained, orderly development of the local solar industry beyond the conclusion of the RSIP, and access to such clean energy technologies by vulnerable communities, the Green Bank actively engaged in the regulatory process (i.e., Docket No. 20-07-01) overseen by PURA to establish Residential Renewable Energy Solutions ("RRES") – an EDC-administered residential renewable energy tariff program.

As a result of the Green Bank's engagement in the PURA process for the RRES, the following key program design principles were included:

- **Rate of Return** – a just, reasonable, and adequate rate of return of between 9 to 11 percent was determined (i.e., equivalent to \$0.2940/kWh in 2021 [and \\$0.3189/kWh in 2024](#)) for the 20-year tariff through the Green Bank's inclusion of an objective rate of return analysis of the RSIP;
- **HES or HES-IE Requirement** – to continue the linkage between energy efficiency and solar PV as demonstrated by the RSIP, an important objective of the Joint Committee, the Green Bank advocated for a Home Energy Solutions ("HES") or Home Energy Solutions – Income Eligible ("HES-IE") requirement as part of the RRES;
- **Additional Incentives for Vulnerable Communities** – given the success of the RSIP in reaching vulnerable communities, the Green Bank wanted to ensure that solar PV was affordable and accessible to LMI households, and thus adds for low income (i.e., \$0.0250/kWh [in 2021 and \\$0.0550 in 2024](#)) or households located in distressed

---

<sup>43</sup> Each year, from 2019 through 2022, and cumulatively from 2014 through 2021, Connecticut had the largest per capita deployment of residential solar PV in the entire northeast (i.e., New England, New Jersey, and New York) as a result of administering the RSIP (SEIA – Solar Market Insights 2022).

<sup>44</sup> "Residential Solar Investment Program – 2012-2022 Program Impact Evaluation and Future Recommendations" by Slipstream (May 3, 2023) – [click here](#).

<sup>45</sup> [1.2 million panels is equivalent to over 55 million pounds of weight and nearly 5 billion cubic inches of volume – equivalent to 4,600 African elephants \(i.e., 1,200 pounds each\) and 30 Olympic sized swimming pools \(i.e., 2.5 million liters of water\).](#)

<sup>46</sup> See CGS 16-244z and Docket No. 20-07-01

municipalities<sup>47</sup> (i.e., \$0.0125/kWh [and \\$0.0275/kWh in 2024](#)) over the 20-year tariff were determined;

- **Direct Payment** – due to the perceived risks of underwriting financing (i.e., loans, leases, or power purchase agreements (“PPAs”)) for vulnerable communities, the Green Bank advocated for direct payments of the tariff rates from the EDCs to a third-party in-part or in-whole as a way to reduce borrower risk (including perceived risk) and therefore make renewable energy more affordable and accessible to vulnerable communities. This provides a financing mechanism that would allow the Green Bank to provide investment in developers serving vulnerable communities; and
- **Affordable Housing** – as part of the Green Bank-led amendments to Section 2 of PA 21-48,<sup>48</sup> which includes “affordable housing” as part of RRES (i.e., versus Non-Residential Renewable Energy Solutions or “NRES”), and a subsequent decision by PURA in Docket No. 22-08-02, it will be easier for property owners to participate in RRES, enabling energy savings to both the property owner and its low-income tenants.

These key program design principles within the EDC-administered tariff program will improve the program’s likelihood of success in deploying no less than fifty (50) [megawatts-MW](#) of new residential solar PV a year, while ensuring that vulnerable communities have continued opportunities to reduce the burden of energy costs that they experienced through the RSIP. [It should be noted that in 2023, nearly one-hundred and twenty \(120\) MW of new residential solar PV was deployed in Connecticut – greater than Massachusetts \(i.e., 90 MW\) and not much less than New Jersey \(i.e., 147 MW\) and New York \(i.e., 181 MW\).](#)<sup>49</sup>

To support PURA in overseeing the EDC-administered RRES, the Green Bank is a consultant to the Office of Education, Outreach, and Enforcement.

### 3.2 Energy Storage Solutions

With the passage of PA 21-53 establishing a 1000 MW energy storage target by 2030, and the final decision in Docket No. 17-12-03RE03 on electric storage, the Green Bank was selected by PURA to co-administer a 580 MW behind the meter residential and non-residential battery storage incentive program with the EDCs called Energy Storage Solutions (“ESS”). The Green Bank is responsible for administering the upfront incentive, marketing the program, overseeing evaluation, measurement, and verification (“EM&V”), and fostering the sustained, orderly development of a state-based electric energy storage industry. ESS seeks to deploy battery storage systems to help families and businesses become more resilient against power outages, while reducing peak demand during summer and winter periods reducing electric rates for all ratepayers.

[As of June 30, 2024, there are 154 residential battery storage systems totaling 1.2 MW and 2 non-residential battery storage systems totaling 1.2 MW of installed capacity and \\$5.7 million of total investment. There are 72 non-residential battery storage systems totaling 150.8 MW and](#)

<sup>47</sup> [https://portal.ct.gov/DECD/Content/About\\_DECD/Research-and-Publications/02\\_Review\\_Publications/Distressed-Municipalities](https://portal.ct.gov/DECD/Content/About_DECD/Research-and-Publications/02_Review_Publications/Distressed-Municipalities)

<sup>48</sup> An Act Establishing and Energy Efficiency Retrofit Grant Program for Affordable Housing – <https://www.cga.ct.gov/2021/act/Pa/pdf/2021PA-00048-R00SB-00356-PA.PDF>

<sup>49</sup> [Solar Market Insight by Solar Energy Industry Association and Wood Mackenzie](#)

[\\$262.4 million of potential total investment that have been approved by the Green Bank and are in the interconnection queue of the EDCs as part of the development of the projects.](#)

### 3.3 EnergizeCT Smart-E Loan

The EnergizeCT Smart-E Loan ("Smart-E Loan") is a partnership between the Green Bank and local community banks and credit unions that provide easy and affordable access to capital for homeowners to finance clean energy and environmental infrastructure improvements on their properties through local contractors. The Green Bank provides credit enhancements to the participating financing institutions in the form of interest rate buydowns (i.e., from the use of federal resources and from the Green Bank balance sheet through linked deposits) and loan loss reserves (i.e., from the Green Bank balance sheet). This allows financial institutions to provide low-interest and longer-term loans to families.

In FY 2023, the Green Bank, ~~working~~[worked](#) with Connecticut Institute for Resilience and Climate Adaptation ("CIRCA"), DEEP, Connecticut Department of Public Health ("DPH"), Connecticut Insurance Department, and other stakeholders, ~~identified to~~[identify](#) additional measures (i.e., climate adaptation and resilience, water) for inclusion within the Smart-E Loan for environmental infrastructure. ~~Such measures will be included in the Smart-E Loan and made available in 2024.~~[On June 18, 2024 the Green Bank announced that climate adaptation and resilience and water measures are eligible for the Smart-E Loan.](#)

[As of June 30, 2024, 8,820 families that have received Smart-E Loan from community lenders to finance various clean energy and environmental infrastructure projects totaling \\$176.1 million of total investment.](#)

### 3.4 Incentive Program Targets

The Green Bank has set targets for its Incentive Programs business unit for FY 2023,<sup>50</sup> ~~and~~[FY 2024,<sup>51</sup> and FY 2025](#) in terms of the number of projects, total investment (i.e., public and private), and installed capacity – see Tables 2 ~~and through 43~~.

Table 2. Revised FY 2023 Targets for the Incentive Programs Business Unit

Program / Product	Projects	Total Capital Deployed (\$MM's)	Installed Capacity (kW)
Energy Storage Solutions – Residential	350	\$14.9	4,700
Energy Storage Solutions – Non-Residential	30	\$67.5	45,000
EnergizeCT Smart-E Loan	960	\$15.0	200
<b>Total</b>	<b>1,340</b>	<b>\$97.4</b>	<b>49,900</b>

[Table 3. Revised FY 2024 Targets for the Incentive Programs Business Unit](#)

Program / Product	Projects	Total Capital Deployed	Installed Capacity (kW)
-------------------	----------	------------------------	-------------------------

<sup>50</sup> Revised by the BOD on January 20, 2023

<sup>51</sup> [Revised by the BOD on January 26, 2024](#)



		(\$MM's)	
Energy Storage Solutions – Residential	150	\$4.8	1,000
Energy Storage Solutions – Non-Residential	15	\$30.4	20,700
EnergizeCT Smart-E Loan	1,204	\$22.4	900
<b>Total</b>	<b>1,359</b>	<b>\$57.3</b>	<b>22,800</b>

**Table 4. FY 2025 Targets for the Incentive Programs Business Unit**

<u>Program / Product</u>	<u>Projects</u>	<u>Total Capital Deployed</u> (\$MM's)	<u>Installed Capacity</u> (kW)
<u>Energy Storage Solutions – Residential</u>	<u>500</u>	<u>\$16.0</u>	<u>4,300</u>
<u>Energy Storage Solutions – Non-Residential</u>	<u>5</u>	<u>\$12.5</u>	<u>10,000</u>
<u>EnergizeCT Smart-E Loan</u>	<u>1,325</u>	<u>\$26.8</u>	<u>2,120</u>
<b><u>Total</u></b>	<b><u>1,830</u></b>	<b><u>\$55.3</u></b>	<b><u>16,420</u></b>

In terms of the Green Bank's vulnerable community's prioritization, the following is a goal for Incentive Programs:

- By 2025, no less than 40 percent of investment and benefits (e.g., reduction in energy burden, increase in resilience, jobs) from Incentive Programs is directed to vulnerable communities.

As a result of successfully achieving these targets, the Green Bank will reduce energy burden and increase resilience for Connecticut families and businesses, especially those in vulnerable communities, create jobs in our communities, raise tax revenues for the State of Connecticut, and reduce air pollution causing local public health problems and contributing to global climate change.

[For details on Incentive Program performance, please see the Annual Comprehensive Financial Report for FY23.](#)<sup>52</sup>

## 4. Financing Programs

The Green Bank manages financing programs. That is to say that it oversees financing programs that invest capital upfront (i.e., public revenues including CEF and RGGI) to deploy clean energy, while at the same time returning principal and interest (i.e., earned revenues) over time from the financing of projects, products, or programs to ensure the financial sustainability of the Green Bank.

### 4.1 Commercial Property Assessed Clean Energy

Per CGS 16a-40g, C-PACE enables building owners to pay for clean energy improvements over time through a voluntary benefit assessment placed by participating municipalities on their property tax bills. As of June 30, ~~2023~~2024, there have been 139 cities and towns that have opted into C-PACE. This process makes it easier for building owners to secure low-interest

<sup>52</sup> <https://www.ctgreenbank.com/wp-content/uploads/2023/10/Connecticut-Green-Bank-Annual-Comprehensive-Financial-Report-2023R.pdf>

capital for up to 25 years to fund clean energy improvements and is structured so that energy savings more than offset the benefit assessment. With the passage of PA 22-6,<sup>53</sup> resilience and electric vehicle recharging stations were added to the list of eligible measures for C-PACE.

Continuing its efforts, in FY 2024, the Green Bank, ~~working~~ worked with DEEP, CIRCA, and other stakeholders, ~~will be expanding to expand~~ C-PACE beyond clean energy to include resilience<sup>54</sup> measures. On June 18, 2024 the Green Bank announced that resilience measures are eligible for C-PACE.

As of June 30, 2024, 405 property owners have received \$349.1 million in C-PACE financing for various clean energy and environmental infrastructure projects.

## **4.2 Green Bank Solar Power Purchase Agreement & Solar Roof Lease**

The Green Bank Solar PPA and the Green Bank Solar Roof Lease are third-party ownership structures to deploy solar PV systems for commercial scale end-use customers (e.g., businesses, nonprofits, municipal and state governments, schools, affordable multifamily properties, etc.) that uses a multi-year PPAs or site lease to finance projects while either reducing energy costs for the host customer or providing a fixed annual lease payment.

As of June 30, 2024, 218 property owners have received \$145.5 million in Green Bank Solar PPA financing for 65.3 MW of solar PV projects. In FY 2025, the Green Bank Solar PPA will focus on including battery storage to increase resilience of property owners while reducing electricity rates for all ratepayers.

## **4.3 Solar Marketplace Assistance Program (“Solar MAP”)**

Supported by public policy,<sup>55</sup> the Green Bank continues to support Connecticut state agencies, municipalities, and affordable multifamily property owners in their sustainability initiatives through Solar MAP for Towns and Cities.<sup>56</sup> Many Connecticut towns, primarily smaller towns, state agencies and affordable multifamily property owners are challenged to get through the many project steps preventing them from taking advantage of clean energy. Solar MAP provides turnkey support from start to finish to make it easier for these stakeholders to identify projects that will provide savings and resiliency, to access necessary incentives and Green Bank financing, and to add much-needed capacity to manage project implementation and construction. The program administers a competitive solicitation to select a construction partner and bring more projects to the market to grow our state’s clean energy economy. Projects are bundled into portfolios to achieve economies of scale driving down project costs and delivering better savings a property owner wouldn’t experience if they acted alone. With feedback from contractors and municipalities, the Green Bank integrated additional transparency into the Programs’ status and activities and developed a clearer mission and target audience. Solar MAP

---

<sup>53</sup> An Act Concerning the Commercial Property Assessed Clean Energy Program – <https://www.cga.ct.gov/2022/act/Pa/pdf/2022PA-00006-R00SB-00093-PA.PDF>

<sup>54</sup> Per CGS 16-244aa, “resilience” means the ability to prepare for and adapt to changing conditions and withstand and recover rapidly from deliberate attacks, accidents or naturally occurring threats or incidents, including, but not limited to, threats or incidents associated with the impacts of climate change.

<sup>55</sup> CGS 16-245n “...stimulate demand for clean energy and deployment of clean energy sources that serve end use customers in the state...” (i.e., 16-245n(c)); and “...shall (i) develop separate programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects...” CGS 16-245n(d)(1)(B).

<sup>56</sup> <https://www.ctgreenbank.com/community-solutions/solar-solutions-for-communities/solar-map/>

[aims to support municipalities and other stakeholders that are underserved by the market. From a municipal standpoint, this typically means towns that are smaller in population and/or town staff without recent history of doing solar projects. The comprehensive program support and refined mission help better serve our stakeholders and the clean energy market.](#)

#### **4.43 Small Business Energy Advantage & Business Energy Advantage**

Small Business Energy Advantage ("SBEA") and Business Energy Advantage ("BEA") are Eversource Energy administered on-bill commercial energy efficiency financing programs for small and medium-sized businesses, municipalities and Connecticut state agencies. Low-cost capital is provided by Amalgamated Bank with a credit enhancement from the Green Bank (i.e., subordinated debt) and the Connecticut Energy Efficiency Fund (i.e., loan loss guaranty and interest rate buydown). SBEA and BEA enables qualifying customers to access 0% on bill financing for up to \$100,000 per site for businesses (up to a maximum of \$1,000,000), up to \$5,000,000 for municipalities, and up to \$5,000,000 per project for state facilities with no overall outstanding loan cap.

[As of June 30, 2024, 7,454 property owners have received \\$110.1 million in SBEA financing for energy efficiency projects.](#)

#### **4.54 Multifamily Products**

[In FY 2024, as a result of public policy<sup>57</sup>, the Green Bank focused its multifamily<sup>58</sup> efforts on deploying solar and storage in affordable multifamily properties. The Green Bank expanded its Solar MAP to include the affordable multifamily sector. Through this program, properties receive assistance through all steps of the solar and storage project development process, from site identification and feasibility assessments to contractor procurement and financing. Eligible property owners can finance these projects through the Green Bank Solar PPA & Lease as well as C-PACE and the Solar Loan. Solar and storage developers active in the sector can also finance their projects through these products, outside of the Solar MAP program.](#)

The Green Bank will continue to support energy efficiency through its support of the LIME product offered by Capital for Change, as well as C-PACE. [Additionally, to enable greater investment in and deployment of technologies \(i.e. solar PV, battery storage, heat pumps, weatherization, appliances, and controls\) in affordable multifamily properties, the Green Bank will continue efforts began in FY 2024 to work with the EDCs, DEEP, and the Energy Efficiency Board to better coordinate incentive and financing programs from state and federal sources of capital.](#)

#### **4.65 Green Bank Capital Solutions**

As opportunities present themselves, the Green Bank from time-to-time invests as part of a capital structure in various [clean energy](#) projects (e.g., fuel cell, hydropower, food and farm waste to energy). These projects are selected based on the opportunity to expand the organization's experience with specific technologies, advance economic development in a specific locale, or to drive adoption of clean energy that would otherwise not occur, while also earning a rate of return.

---

<sup>57</sup> [Public Act 21-48 and Docket No. 22-08-02](#)

<sup>58</sup> [Buildings with 5 or more units](#)

#### 4.76 Financing Program Targets

The Green Bank has set targets for its Financing Programs business unit for FY 2023 ~~and through~~ FY 2025<sup>54</sup> in terms of the number of projects, total investment (i.e., public and private), and installed capacity – see Tables ~~54 and through 75~~.

**Table 5. Revised FY 2023 Targets for the Financing Programs Business Unit**

Program / Product	Projects	Total Capital Deployed (\$MM's)	Green Bank Capital Deployed (\$MM's)	Installed Capacity (kW)
Commercial PACE	23	\$31.0	\$7.0	-
Green Bank Solar PPA	19	\$13.7	\$2.7	7,600
Small Business Energy Advantage	839	\$18.6	\$3.7	-
Multifamily Term Loan	6	\$1.4	-	600
Multifamily Health and Safety	1	\$0.9	-	-
<b>Total</b>	<b>882</b>	<b>\$64.2</b>	<b>\$13.4</b>	<b>7,600</b>

**Table 6. Revised FY 2024 Targets for the Financing Programs Business Unit**

Program / Product	Projects	Total Capital Deployed (\$MM's)	Green Bank Capital Deployed (\$MM's)	Installed Capacity (kW)
Commercial PACE	19	\$21.2	\$7.7	-
Green Bank Solar PPA	10	\$10.7	\$6.5	4,700
Small Business Energy Advantage	480	\$11.7	\$2.3	-
Multifamily Term Loan	3	\$0.3	\$0.3	300
<b>Total</b>	<b>515</b>	<b>\$49.0</b>	<b>\$21.1</b>	<b>8,200</b>

**Table 7. FY 2025 Targets for the Financing Programs Business Unit**

Program / Product	Projects	Total Capital Deployed (\$MM's)	Green Bank Capital Committed <sup>59</sup> (\$MM's)	Installed Capacity (kW)
Commercial PACE	23	\$32.2	\$14.7	-
Marketplace Assistance Program	8	\$17.4	\$11.2	7,470
Green Bank Solar PPA	14	\$9.2	\$4.3	-
Small Business Energy Advantage	518	\$12.6	\$2.5	-
<b>Total</b>	<b>563</b>	<b>\$71.4</b>	<b>\$32.8</b>	<b>7,470</b>

In terms of the Green Bank's vulnerable communities prioritization, the following is a goal for Financing Programs:

<sup>59</sup> The Green Bank has clarified our targets and in FY 2025 is using the term Green Bank Capital Committed, where we are looking to commit to using funds from our balance sheet towards specific programs and projects. This is an important metric to track as it is indicative of our growth and progress toward achieving financial sustainability.

- By 2025, no less than 40 percent of investment and benefits (e.g., reduction in energy burden, increase in resilience, jobs) from Financing Programs is directed to vulnerable communities.

The capital provided by the Green Bank, which is a portion of the total investment, is expected to yield a return commensurate with the financial sustainability objectives of the organization and business unit.

As a result of successfully achieving these targets, the Green Bank will contribute to its financial sustainability, and also reduce the energy burden and increase resilience for Connecticut families and businesses, especially those in vulnerable communities, create jobs in our communities, raise tax revenues for the State of Connecticut, and reduce air pollution that cause local public health problems and global climate change.

[For details on Financing Program performance, please see the Annual Comprehensive Financial Report for FY23.](#)<sup>60</sup>

## 5. Environmental Infrastructure Programs

Following the passage of PA 21-115 in June of 2021, the Green Bank began the process of policy assessment and development for environmental infrastructure in FY 2022, including:

- **Governance Amendments** – revising various governance documents including the Resolution of Purpose, Bylaws, and Operating Procedures;
- **Assessing Bond Potential** – investigating the potential for Green Liberty Bonds to be issued to raise proceeds for environmental infrastructure investment, including fifty (50) year maturity terms;
- **Developing Products** – expanding the ability for the Smart-E Loan to support environmental infrastructure projects for single family property owners and C-PACE to support resilience projects for multifamily and commercial property owners;
- **Stakeholder Engagement** – initiating outreach to public, private, nonprofit, and academic stakeholder organizations to introduce the Green Bank, understand public policies and targets, identify funding opportunities, market potential, investment requirements, and financing models, and metrics for environmental infrastructure; and
- **Strategic Retreat** – engaging members of the BOD, staff, and key stakeholders in an offsite strategic retreat to expand the scope of the Green Bank to mobilize private investment in environmental infrastructure.<sup>61,62</sup>

As a result of these efforts in FY 2022, the Green Bank ~~makes~~made the following observations with respect to environmental infrastructure:

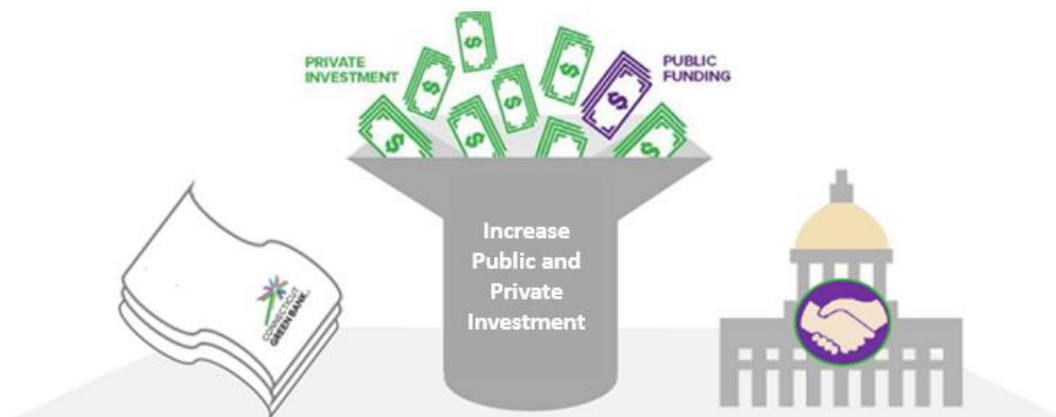
<sup>60</sup> <https://www.ctgreenbank.com/wp-content/uploads/2023/10/Connecticut-Green-Bank-Annual-Comprehensive-Financial-Report-2023R.pdf>

<sup>61</sup> <https://www.ctgreenbank.com/wp-content/uploads/2022/07/2022-Strategic-Retreat-Report.pdf>

<sup>62</sup> <https://www.youtube.com/watch?v=6V3wwMcaUvU>

1. **Market Intermediary Role** – as is the case with respect to “clean energy,” the Green Bank has a role to play as a market intermediary for “environmental infrastructure” – see Figure 2. Given the ambitious nature of public policies with respect to environmental infrastructure (e.g., 21% open space by 2023), and the need to mobilize and attract private investment to achieve the policy objectives (e.g., \$1.5 billion of additional public and/or private investment needed to achieve the open space target), there is a need for an intermediary role for the Green Bank between capital markets and public policy.

Figure 2. Market Intermediary Role - Capital Markets and Public Policy



2. **Better Market Signals** – again, as is the case with respect to “clean energy” (e.g., zero emission renewable energy credits), there is a need for public policy to send better market signals to unlock and mobilize private capital investment in “environmental infrastructure”. For example, beyond “sticks” (e.g., regulation and enforcement requiring producers of food waste to transport their waste to an anaerobic digester per PA 11-127), there need to also be associated “carrots” (e.g., virtual net metering, low emission renewable energy credits, renewable natural gas) in order to enable private investment in “environmental infrastructure”. A strong market signal public policy for green and blue infrastructure is Maryland’s Conservation Finance Act of 2022 and the pay-for-success contracts for certain environmental outcomes.<sup>63</sup>
3. **Appropriately Priced Capital** – if public policy in Connecticut is designed to reduce risks (including perceived risks), then attracting and mobilizing appropriately priced private capital (e.g., lower interest rates, longer terms) must ensue. The Green Bank can access affordable private capital through the issuance of Green Liberty Bonds, which can be paid back over 50 years (or the useful life of the asset) and whose proceeds can be invested in environmental infrastructure.
4. **Community Engagement** – there is a continuous need to not only engage public, private, nonprofit and academic stakeholders, but also municipal, councils of government, and other community-level officials. Empowering impacted communities, especially vulnerable communities, through near-term engagement (i.e., informing, consulting, and involving) to long-term engagement (i.e., collaborating and

<sup>63</sup> <https://mgaleg.maryland.gov/mgawebbsite/Legislation/Details/sb0348?ys=2022RS>



empowering) is vital to identifying needs to support the development of programs and the success of investments in projects to achieve their intended impacts.

5. **Vulnerable Communities** – with a key goal to “strengthen Connecticut’s communities, especially vulnerable communities, by making the benefits of the green economy inclusive and accessible to all individuals, families, and businesses,” as is the goal for “clean energy,” the Green Bank will ensure that by the end of 2025 no less than 40 percent of investment and benefits (e.g., jobs) in “environmental infrastructure” are directed to vulnerable communities.

In FY 2023, the Green Bank continued ~~its to make~~ progress developing its environmental infrastructure business unit and programs by:

- **Building the Team** – hiring several critical positions including the Manager of Community Engagement and Director of Environmental Infrastructure, as well as qualifying a suite of contractors to support the work of the business unit;
- **Continuing Engagement** – wrapping up stakeholder outreach for water, and continuing engagement of municipal and regional governments, especially those in vulnerable communities (e.g., Bridgeport, Hartford);
- **Raising Resources** – identifying and realizing opportunities for federal (i.e., GGRF) and foundation (i.e., Robert Wood Johnson Foundation) funding, and developing the Green Liberty Bonds to raise proceeds from the issuance of bonds to provide capital for investment;
- **Launching New Products** – developing existing financing products for clean energy (i.e., Smart-E Loan, C-PACE) to support environmental infrastructure measures; and
- **Conducting Research and Development** – continuing to identify research opportunities to develop markets for carbon offsets and ecosystem services for the purposes of generating revenues from projects as a result of Green Bank investments.

In FY 2024, the Green Bank ~~will~~ continued to make steady progress developing its environmental infrastructure business unit and programs including, but not limited to:

- **Strategic Assessment of Market Readiness** – ~~identification-identified~~ and ~~synthesis synthesized of~~ market conditions, readiness, and opportunities across sectors, including resources needed to develop, expand, or launch new programs and markets;
- **Continuing to Build the Team** – ~~identification-identified~~ critical positions and/or contractual support services to implement programs and opportunities based on the strategic assessment;
- **Continuing Engagement** – ~~initiating-initiated~~ stakeholder outreach for waste and recycling, ~~continuing-continued~~ engagement of municipal and regional governments, especially those in vulnerable communities;

- **Explore Stakeholder Advisory Committee** – explored the formation of an Environmental Infrastructure Stakeholder Advisory Committee to engage various state agencies to act as liaisons to the Green Bank.<sup>64</sup> Considered other important engagement or advisory opportunities with strategic organizations, stakeholders, and/or municipalities;
- **Raising Resources** – ~~identifying~~identified, ~~seekingsought~~, and ~~receiving-received~~ funding ~~opportunities~~ from federal (e.g., IIJA, IRA, GGRF) and foundation (e.g., grants, program related investments (“PRIs”)) ~~channels~~. In 2024, develop and issue Green Liberty Bonds to raise proceeds to provide capital for investment (e.g., revolving loan fund);
- **Launching or Expanding Existing Products Inclusive of Key Outcomes** – develop and launch existing financing products for clean energy (i.e., Smart-E Loan, C-PACE) to support environmental infrastructure measures. Assessed and created additional clean energy incentive and financing product expansion opportunities in alignment with strategic assessment (i.e., [Green Bank Capital Solutions](#)); and
- **Continue Conducting Research and Development** – continued to identify research and development opportunities for the purposes of generating revenues, including environmental market revenues (e.g., carbon offsets, ecosystem services) from projects as a result of Green Bank investments.

In FY 2025, the Green Bank will implement the following within its environmental infrastructure business unit, including, but not limited to:

- **Expand and Implement Existing Products** - following the launches of existing products (i.e., Smart-E Loan, C-PACE) inclusive of environmental infrastructure measures (e.g., resilience, water) in FY 2024, continue measure expansion and support for market development of such measures while also identifying and collecting information to support the development of impact metrics.
- **Identify Unique Project Opportunities** - launch Green Bank Capital Solutions, inclusive of environmental infrastructure measures, in FY 2025, by promoting the open RFP program, building a pipeline of project opportunities, creating proposal evaluation criteria, and investing in project opportunities where appropriate.
- **Continuing Engagement** - finalize the “Waste and Recycling” primer, and support community engagement relative to environmental infrastructure. Continue engagement of municipal and regional governments, especially those supporting vulnerable communities, to understand their needs in terms of environmental infrastructure.
- **Support Public Policy that Unlocks Private Capital Investment** - support existing or advance new public policies that mobilize private capital investment in and deployment of environmental infrastructure.

<sup>64</sup> Per Section 5.3 Advisory Committees within its bylaws, the Green Bank may form advisory committees to advise and assist the Board or management in the performance of its statutory responsibilities.

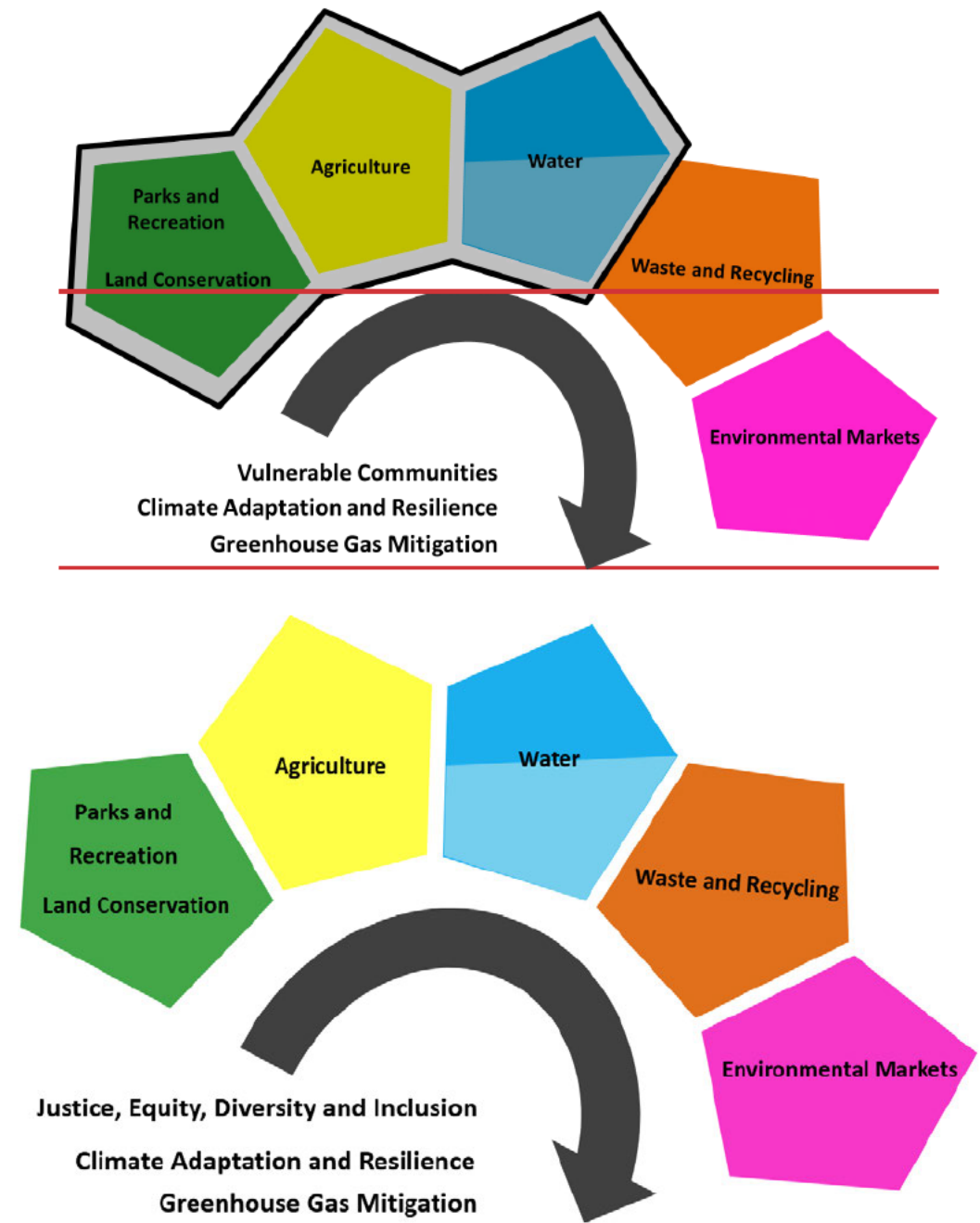


- **Raising Resources** – identifying, pursuing, and receiving opportunities and partnerships for federal and foundation funds (e.g., grants, program related investments) and private capital resources. In FY 2025, determine the ability for Green Liberty Bonds for environmental infrastructure (i.e., up to 50 year bonds) to raise proceeds to provide capital for investment (e.g., revolving loan fund).
- **Market Research and Development** - continue to identify research and development opportunities for the purposes of supporting public policies that enable private capital investment, identifying project and programmatic opportunities, and generating revenues, especially from environmental markets (i.e., carbon offsets, ecosystem services).
- **Data, Targeting, and Impact** - assemble data (e.g., resilience opportunity areas, vulnerable communities, etc.) to target the promotion of products and programs for environmental infrastructure investments. Helping to optimize impact across Environmental Infrastructure sectors and key performance indicators (KPIs).

## 5.1 Confronting Climate Change and Vulnerable Communities

Given the mission of the Green Bank, investments in environmental infrastructure must seek to confront climate change (i.e., mitigate GHG emissions and increase resilience against its impacts) and increase investment in vulnerable communities – see Figure 3. The combination of land conservation, parks and recreation, agriculture, and water – together – “green infrastructure” or “nature based solutions” – provide an opportunity for the Green Bank, in partnership with public, private, nonprofit, municipal and other stakeholders, to mobilize investment. The umbrella of Environmental Infrastructure sectors guides the Green Bank’s efforts to mobilize investment in concert with public, private, nonprofit, municipal and other stakeholders.

Figure 3. Confronting Climate Change and Enabling Investment in Vulnerable Communities through Environmental Infrastructure



Through stakeholder engagement, the Green Bank recognizes the opportunity for investment in nature-based solutions that protect land and water from loss, improve management of natural resources for productive use in the economy, and restore native cover – all of which help Connecticut confront climate change – see Figure 4.

Figure 4. Nature-Based Solutions and Green Infrastructure



In terms of the Green Bank’s vulnerable communities prioritization, the following is a goal for Environmental Infrastructure Programs:

- By 2025, no less than 40 percent of investment and benefits (e.g., reduction in air and water pollution, increase in resilience, public health improvement, jobs) from Environmental Infrastructure Programs is directed to vulnerable communities.

### 5.1.1 Strategy Overview

As the Green Bank initiates its Environmental Infrastructure efforts, there is a need to accelerate the pace at which the team can begin to provide financial solutions to the market while allowing for flexibility to learn more about each sector. The Environmental Infrastructure team created a three-part strategy to balance near-term product and investment opportunities alongside longer-term program and market development. The strategy was also envisioned to leverage existing staff resources and to build on respected program brand names and market awareness. This strategy is to:

- 1) **Expand Program Offerings:** include Environmental Infrastructure measures in existing programs such as Smart-E (i.e., climate resilient and adaptation and water measures) and C-PACE (i.e., resilience)
- 2) **Pursue Bespoke Opportunities:** expand and leverage Green Bank Capital Solutions Open Rolling Request for Proposals for Environmental Infrastructure projects
- 3) **Develop Strategic Programs:** determine longer-term strategic program design opportunities

**Figure 5. Environmental Infrastructure Strategy**



[As the Green Bank has worked to define a strategic approach to the expansive scope of Environmental Infrastructure, it has been important to maintain a broad aperture of financing tools and investment strategies for Environmental Markets, Land Conservation, Parks and Recreation, Agriculture, Water, and Waste and Recycling. Each of these sectors have many potentially viable investment strategies. The team has engaged in conversation, participated in working groups, developed new partnerships, and performed other stakeholder engagement activities to better understand near-term program design opportunities and longer-term market and program development needs.](#)

[The following is a succinct breakdown of each area of environmental infrastructure, including links to more detailed guides or primers based on stakeholder outreach.](#)

## 5.2 Environmental Markets – Carbon Offsets and Ecosystem Services

Carbon offsets are measurable outcomes from carbon sequestration activities, traded in voluntary (e.g., requiring verification and certification) and compliance (e.g., RGGI) markets, whereby regulations, sustainability priorities, and public relations are motivators for buyers and sellers. Ecosystem services are the benefits people obtain from ecosystems,<sup>65</sup> [and when measured, not only demonstrate social and environmental benefits, but also, in some cases, produce environmental market revenues from the investment in and deployment of environmental infrastructure.](#) Fundamentally, ecosystem services markets are designed to embed the positive benefits (e.g., public health, resilience) and negative impacts (e.g., GHG emissions) of individuals on natural resources into market-based systems which financially incentivize environmental stewardship, conservation, and rehabilitation of natural ecosystems.

Environmental infrastructure projects that involve carbon offsets and ecosystem services can be quantified and sold in markets to generate additional earned revenues from the projects.

<sup>65</sup> Provisioning services (e.g., food, water, fuel, wood), supporting services (e.g., nutrient cycling, soil formation, habitat provision, primary production), regulating services (e.g., climate regulation, flood regulation, water purification), and cultural (e.g., spiritual, aesthetic, educational, and recreational).

At present, for example, the Green Bank has developed a carbon offset methodology VM0038<sup>66</sup> and VMD0049<sup>67</sup> published under the Verified Carbon Standard ("VCS") Program, administered by the nonprofit Verra. This methodology allows those with the rights to electric vehicle charging infrastructure to earn carbon credits based on vehicle charging activity.

This project is a third-party aggregation, with the Green Bank as the sole project proponent, and all partners assigning to the Green Bank the rights and title to the environmental attributes of electric vehicle ("EV") charging transactions, so that the associated data sets may be converted into carbon offsets to make verifiable, permanent and liquid (tradable) claims of emissions avoidance.

The Green Bank led the development of this methodology with several partners going back to 2016 and worked with a consortium of partners<sup>68</sup> to submit for credits in 2021 for activity from 2016-2021.<sup>69</sup> Credits were certified, verified, and minted in the fall of 2022 and monetized in the spring of 2023. The Green Bank is currently preparing to file for activity for calendar years 2021 and 2022 and expects to file for credits on behalf of its partners going forward for the life of the project, through 2041.

Though ecosystem services have been part of multiple discussions on opportunities for Green Bank engagement, the Environmental Infrastructure team has not developed a specific strategy or priority opportunity to engage across Environmental Markets. In FY 2025, the Environmental Infrastructure team will continue to incorporate ecosystem service markets into broader project and program design opportunities as appropriate while also exploring project financing and program design opportunities with ecosystem service registries and project development partners.

For the basics on environmental markets, see Guide – Environmental Markets.<sup>70</sup>

### 5.3 Land Conservation

Nature-based solutions such as protecting intact lands from loss (e.g., forestlands, wetlands), improving the management of working lands (e.g., sustainably certified timberlands), and restoring native land cover, including coastlines, can both mitigate GHG emissions that cause climate change (e.g., forest carbon sequestration) and increase resilience against the impacts of climate change (e.g., flood protection).

The following is the market potential for land conservation from the perspective of forestland – see Table 86.

<sup>66</sup> <https://verra.org/methodologies/vm0038-methodology-for-electric-vehicle-charging-systems-v1-0/>

<sup>67</sup> <https://verra.org/methodologies/vmd0049-activity-method-for-determining-additionality-of-electric-vehicle-charging-systems-v1-0/>

<sup>68</sup> Partners include: AmpUp, Blink Dominion Energy, EV Match, EV Structure, Exelon, Opconnect, OptiWatt, and UGO. We have been facilitated by the expertise brought by the Climate Neutral Business Network.

<sup>69</sup> <https://verra.org/new-methodology-for-ev-charging-systems-approved/>

<sup>70</sup> [https://www.ctgreenbank.com/wp-content/uploads/2023/04/Environmental-Infrastructure\\_Environmental-Markets-Guide\\_062323.pdf](https://www.ctgreenbank.com/wp-content/uploads/2023/04/Environmental-Infrastructure_Environmental-Markets-Guide_062323.pdf)

**Table 8. Market Potential for Land Conservation in Connecticut based on Forest Land**

<b>3,205,762 Acres Land in Connecticut</b>				
<b>1,869,761 Acres Forest Land</b>			<b>1,336,001 Acres Non-Forest Land</b>	
<b>298,994 Acres</b> Protected Core Forests	<b>568,857 Acres</b> Unprotected Core Forest	<b>1,001,910 Acres</b> Non-Core Forest	<b>1,130,000 Acres</b> Urban Area	<b>206,001 Acres</b> Other Non- Urban and Non- Forest

To retain the multiple benefits that forests provide, there is a “no net loss of forest” policy goal.

The following is a breakdown of the land conservation target outlined in the CGS 23-8<sup>71</sup> – see Table 9<sup>72</sup>.

**Table 9. Progress Towards the Open Space Land Target in Connecticut (as of December 31, 2019)**

<b>3,205,762 Acres Land in Connecticut</b>								
<b>320,576 Acres State Goal (@10%)</b>				<b>352,634 Acres Partner Goal (@≥11%)</b>				<b>2,532,552 Acres No Land Conservation (@79%)</b>
<b>175,000 Acres</b> State Forests <sup>72</sup>	<b>36,000 Acres</b> State Parks <sup>73</sup>	<b>46,000 Acres</b> Wildlife Area and Other <sup>74</sup>	<b>63,500 Acres</b> left to achieve target	<b>84,000 Acres</b> Cities and Towns	<b>99,000 Acres</b> Water Companies	<b>66,000 Acres</b> Non- Profit Land Trusts	<b>104,000 Acres</b> left to achieve target	

Of the open space goal of 21% by 2023 (i.e., 673,210 acres), approximately 510,249 acres are conserved (as of December 31, 2019), or 76% of the open space goal comprising 261,806 acres of state (i.e., 82% of the 10% state target) and 248,953 acres of partner (i.e., 71% of the partner target) – leaving an estimated 162,451 acres of open space left to achieve. If the average land acquisition cost is \$9,000 per acre, then approximately \$1.5 billion of public and private investment in land conservation would be needed to acquire and protect over 160,000 acres of open space in order to achieve the 21% target.

As the Green Bank looks to increase and accelerate private investment in land conservation, it will be exploring the following financing tools, including, but not limited to:

- Carbon offset markets
- Ecosystem services markets
- Pay-for-Performance
- Buy-Protect-Sell Revolving Loan Fund
  - Predevelopment Financing
  - Bridge Financing

<sup>71</sup> State goal for open space acquisition – <https://law.iustia.com/codes/connecticut/2012/title-23/chapter-447/section-23-8/>

<sup>72</sup> 33 locations

<sup>73</sup> 107 locations

<sup>74</sup> Including wildlife management areas, fish hatcheries, flood control, natural area preserve, water access, wildlife sanctuaries, and other



- Eco-Labeling (e.g., FSC Certified)
- Green Liberty Bonds
- Traditional Debt Financing
- Forest Investment Fund

Based on learnings to date and also aligned with the agriculture sector priority opportunities, a revolving loan fund for land conservation, restoration, and stewardship is a priority opportunity for the Green Bank to engage across the land conservation sector, especially for projects and acres facing high development pressure and risk of conversion to incompatible use.

For further details on the market opportunity, see Primer – Land Conservation.<sup>75</sup>

## 5.4 Parks and Recreation

Infrastructure investments in parks and recreation can both mitigate the GHG emissions that cause climate change (e.g., carbon sinks from urban tree canopy cover) and increase resilience against the impacts of climate change (e.g., stormwater management through urban parks, improve public health).

The following is a breakdown of the market potential for parks and recreation from the perspective of active<sup>76</sup> and passive<sup>77</sup> outdoor recreation facilities, and on “land” or “water” based activities from the Statewide Comprehensive Outdoor Recreation Plan (“SCORP”) – see Table 810.

Table 10. Outdoor Recreation Facilities in Connecticut (2005)

Outdoor Recreation Type	# of Facilities	DIRPS <sup>78</sup> per 10,000 Residents	Ownership		
			Statewide Average	Municipal Average	Other Average
Active – Land	4,788	1.4	4%	77%	20%
Active – Water	137	0.4	2%	69%	30%
Passive – Land	1,957	1.0	27%	46%	27%
Passive – Water	1,130	1.1	22%	45%	33%
<b>Total</b>	<b>8,012</b>	<b>1.2</b>	<b>14%</b>	<b>62%</b>	<b>24%</b>

The Trust for Public Land’s (“TPL”) ParkScore Index is a comprehensive rating system to measure how cities are meeting the needs for parks.<sup>79</sup> In an effort to assess ParkScore, the following data are for Connecticut’s “Top 10” most populated municipalities with respect to park access – see Table 119.

<sup>75</sup> [https://www.ctgreenbank.com/wp-content/uploads/2023/01/Environmental-Infrastructure\\_Land-Conservation\\_Oct-16-2022.pdf](https://www.ctgreenbank.com/wp-content/uploads/2023/01/Environmental-Infrastructure_Land-Conservation_Oct-16-2022.pdf)

<sup>76</sup> Active outdoor recreation facilities based on 2005 data (X – #) and 2017 use frequency index data, if available (# – Y), include fields, courts, and courses for baseball and softball (984 – 16.0), basketball (645 – 23.0), football (154 – 10.0), golf (125 – 13.6), multi-use (624), soccer (495 – 14.6), tennis (384 – 11.2), and volleyball (74 – 23.0), as well as playgrounds (1,065), swimming pools (137 – 60.9), and winter sports (238 – 9.3)

<sup>77</sup> Passive outdoor recreation facilities based on 2005 data (X – #) and 2017 use frequency index data, if available (# – Y) include access to sites for beaches (176 – 60.1), boating (285 – 10.9), camping (88 – 13.5), fishing (669 – 19.0), gardens (109), historic landmarks (99 – 35.9), hunting (88 – 3.5), picnics (677), and trails (896 – 102.8)

<sup>78</sup> Discrete Identifiable Recreation Places

<sup>79</sup> The “% of Land as Parks,” “# of Parks,” and “10-Minute Walk” data were used from TPL’s ParkScore data set.

**Table 11. "Top 10" Most Populated Municipalities in Connecticut and ParkScore**

City	Population	Acres	% Land as Parks	Acres of Land as Parks	Acres of Parks per 10,000 Residents	# of Parks	Parks per 10,000 Residents	10-Minute Walk
Hartford	121,203	11,136	9%	1,002	83	218	18.0	99%
New Haven	130,764	11,968	12%	1,436	110	128	9.8	96%
West Hartford	63,063	13,952	20%	2,790	442	48	7.6	82%
Stamford	129,302	24,064	5%	1,203	93	54	4.2	74%
New Britain	72,303	8,576	7%	600	83	23	3.2	73%
Bridgeport	143,653	10,304	7%	721	50	35	2.4	73%
Waterbury	106,458	18,240	6%	1,094	103	30	2.8	60%
Norwalk	88,326	14,656	3%	440	50	45	5.1	55%
Bristol	59,639	16,896	4%	676	113	20	3.4	51%
Danbury	84,732	26,880	5%	1,344	159	17	2.0	37%

The quality of parks is difficult to discern. To better understand the quality of parks, TPL partnered with the Urban Resources Institute ("URI") to compare New Haven against the nation's most populous cities on five (5) categories reflective of an excellent city park system: Acreage,<sup>80</sup> Access,<sup>81</sup> Investment,<sup>82</sup> Amenities,<sup>83</sup> and Equity<sup>84</sup> – see Table 12.<sup>85</sup>

**Table 12. TPL and URI Analysis of New Haven Compared to Other Cities**

City	Overall	Acreage	Access	Investment	Amenities	Equity
New Haven, CT	60	36	95	35	71	65
Hartford, CT	59	44	95	40	44	73
Boston, MA	-	47	100	79	65	79
Baltimore, MD	-	25	81	68	40	83
Buffalo, NY	-	25	85	47	61	64

The TPL-URI research also delves deeper into the twenty (20) neighborhoods of New Haven to collect data with respect to population, acres of parks, and acres per 1,000 population, as well as demographic data including income and people of color. Based on data from TPL from 14,000 cities, parks that serve low-income households are four (4) times as crowded as parks

<sup>80</sup> Acreage score indicates the relative abundance of large 'destination' parks, which include large natural areas that provide critical mental health as well as climate and conservation benefits.

<sup>81</sup> Access score indicates the percentage of the city's residents that live within a walkable half-mile of a park – the average distance that most people are willing to walk to reach a destination.

<sup>82</sup> Investment score indicates the relative financial health of a city's park system, which is essential to ensuring parks are maintained at a high level for all to enjoy.

<sup>83</sup> Amenities score indicates the relative abundance of six park activities popular among a multi-generational cross-section of user groups (i.e., playgrounds, basketball courts, dog parks, senior and recreation center, splashpads, and permanent restrooms).

<sup>84</sup> Equity score indicates how fairly parks and park space are distributed within a city, including percentage of people of color and low-income households within a 10-minute walk of a park, and comparison of the amount of park space between neighborhoods by race and income.

<sup>85</sup> For example, a score of 90 means that the municipality is within the top 90 percent across the country.



that serve high-income households, and parks that serve people of color are five (5) times as crowded as parks that serve majority-white populations.<sup>86</sup> Such analyses in municipalities across Connecticut could elucidate opportunities for areas of improvement, including improving the public health of residents (e.g., reducing urban heat island effects) with access to parks and the economic development impact of property values within proximity to parks. Through its research and development efforts, the Green Bank has supported TPL and other community-based nonprofits to conduct a similar assessment for Hartford, the birth and burial place of Frederick Law Olmstead.

As the Green Bank looks to increase and accelerate private investment in parks and recreation, it will be exploring the following financing tools, including, but not limited to:

- Carbon offset markets
- Ecosystem services markets (e.g., Park Rx)
- Pay-for-Performance
- Green Liberty Bonds
- Tax Increment Financing
- Buy-Protect-Sell Revolving Loan Fund
  - Predevelopment Financing
  - Bridge Financing
  - Traditional Debt Financing

Based on learnings to date, one of the most promising opportunities for the Green Bank to engage across the Parks & Recreation sector could be through bridge lending or working capital facilities for high impact community projects. The Environmental Infrastructure team will continue exploring how to bring financing methodologies to park projects while pursuing potential opportunities with project sponsors through Capital Solutions.

For further details on the market opportunity, see Primer – Parks and Recreation.<sup>87</sup>

## 5.5 Agriculture

Nature-based solutions such as protecting farmlands from loss and improving farming practices, can both mitigate GHG emissions that cause climate change (e.g., climate smart agriculture) and increase resilience against the impacts of climate change (e.g., flood protection).

The following is a breakdown of the market potential for “agriculture” (i.e., farmland), including other natural forms of land cover (i.e., forestland and wetlands) – see Table 13<sup>1</sup>.

Table 13. Land Cover in Connecticut (2015)

3,179,253 Acres Land and Water in Connecticut				
921,827 Acres Developed Land <sup>88</sup>	233,847 Acres Farmland 7%	1,873,471 Acres Forestland <sup>89</sup> 59%	129,153 Acres Wetlands <sup>90</sup> 4%	20,955 Acres Other Lands <sup>91</sup> 1%

<sup>86</sup> “The Heat is On” by The Trust for Public Lands

<sup>87</sup> [https://www.ctgreenbank.com/wp-content/uploads/2023/01/Environmental-Infrastructure\\_Parks-and-Recreation\\_Oct-16-2022.pdf](https://www.ctgreenbank.com/wp-content/uploads/2023/01/Environmental-Infrastructure_Parks-and-Recreation_Oct-16-2022.pdf)

<sup>88</sup> Includes “Developed,” “Turf & Grass,” and “Other Grasses” classifications

<sup>89</sup> Includes “Deciduous Forest,” “Coniferous Forest,” “Forested Wetland,” and “Utility-Rights-of-Way (Forest)” classifications

<sup>90</sup> Includes “Water,” “Non-Forested Wetlands,” and “Tidal Wetlands” classifications

<sup>91</sup> Includes “Barren” classification

29%				
-----	--	--	--	--

More than 70% of Connecticut's land is farmland, forestland, or wetland. From 2001 through 2016, approximately 6% of the state's farmland was converted to urban or low-density residential development – placing the state in the top three nationally in percent of farmland lost to development.<sup>92</sup>

The long-term goal of the Farmland Preservation Program, which was set back in the 1980's, is to preserve 130,000 acres of farmland – see Table 142.

**Table 142. Progress Towards the Farmland Preservation Program Target in Connecticut**

<b>3,205,762 Acres Land in Connecticut</b>				
<b>381,539 Acres<sup>93</sup></b> Farmland				<b>2,824,223 Acres</b> Non-Farmland
<b>148,609 Acres</b> Farmland	<b>113,355 Acres</b> Woodland	<b>31,923 Acres</b> Pastureland	<b>87,652 Acres</b> Other <sup>94</sup>	
<b>130,000 Acres Preserved Farmland Goal</b>				
<b>48,744 Acres</b> Preserved		<b>81,256 Acres</b> Not Preserved		

As of October 2020, the Farmland Preservation Program has protected nearly 49,000 acres on 418 farms with agricultural conservation easements – leaving 81,000 acres of farmland left to preserve.<sup>95</sup> If the average real estate value of an acre of farmland in Connecticut in 2019 was \$12,200, and Purchasing Development Rights ("PDR") is 30-50% of value, then between \$300 to \$500 MM of public investment (e.g., through the Connecticut Department of Agriculture ("DoAg") and/or USDA-Natural Resources Conservation Service ("NRCS")) would be needed to protect 81,000 acres of farmland to achieve the 130,000 acres of farmland preserved target.

As the Green Bank looks to increase and accelerate private investment in agriculture, it will be exploring the following financing tools, including, but not limited to:

- Carbon offset markets
- Ecosystem services markets
- Pay-for-Performance
- Eco-Labeling (e.g., Connecticut Grown)
- Green Liberty Bonds
- Linked Deposits
- Buy-Protect-Sell Revolving Loan Fund
  - Predevelopment Financing
  - Bridge Financing
  - Traditional Debt Financing
- Farmland Investment Fund
- Loan Guarantees (e.g., Smart-E Loan)

<sup>92</sup> "Planning for Agriculture – A Guide for Connecticut Municipalities: Emerging Agricultural Trends" by the American Farmland Trust and Connecticut Department of Agriculture (2020 Edition) (Page 19)

<sup>93</sup> USDA Economic Research Service – 2017 data

<sup>94</sup> Land in house lots, ponds, roads, wasteland, etc.

<sup>95</sup> Connecticut Department of Agriculture, Farmland Preservation Programs Report (January 2022)

Based on learnings to date, and in alignment with the land conservation sector priority opportunity, one of the most promising financing tools for the Green Bank to explore across the agriculture sector is a flexible revolving loan fund structure that could support project activities and business improvements across multiple components of the sustainable and regenerative agricultural value and supply chains. These include climate-smart commodity production, farm and forestland conservation, infrastructure modernization and supply chains sustainability improvements, renewable energy integration, and ecosystem service generation.

This exploration is influenced through an evolving partnership with the Connecticut Department of Agriculture (“DoAg”) on joint priorities, and in consideration of the proven revenue streams and viable lending models for farmland acquisition and business lending for increased climate resilience across the agricultural sector.

For further details on the market opportunity, see Primer – Agriculture.<sup>96</sup>

## 5.6 Water

Water infrastructure and market opportunities in Connecticut are complex. Water is managed through several state agencies (i.e., DEEP, DPH), including issuing green bonds by the Office of the Treasurer, and federal departments (i.e., EPA).

Per PA 21-115, there are several boundaries with respect to what the Green Bank can do with respect to water, including:

- **Environmental Infrastructure Fund** – may not receive funds from the Clean Water Fund pursuant to sections 22a-475 to 22a-438f, or funds collected from a water company as defined in section 25-32a; and
- **Apply for Federal Assistance** – may not apply directly or through a subsidiary to be eligible for federal grant assistance under the Clean Water Act, 33 USC 1251 et seq., nor the Safe Drinking Water Act, 42 USC 300f et seq., without the approval of the State Treasurer, Commissioner of Energy and Environmental Protection, and Commissioner of Public Health.

As a result of these restrictions, and since Connecticut’s State Revolving Fund (“SRF”) hasn’t invested in green infrastructure,<sup>97</sup> the Green Bank will focus its efforts on nature-based solutions (e.g., land conservation) and stormwater (e.g., green roofs), as well as its financing programs (e.g., Smart-E Loan, C-PACE) to help end-use customers improve water on their property. It should be noted that within PA 21-115, that municipalities can create stormwater authorities.

As a result of climate change, there is increased possibilities of instream (i.e., ecological, recreational) and out-of-stream (i.e., drinking, industry, agriculture, energy needs) water shortages from droughts as a result of heat waves, flooding as a result of rain bombs, and other adverse local impacts. These impacts are likely to impact vulnerable communities first and worst, as evidenced by recent flooding impacts on stormwater systems.<sup>98</sup>

<sup>96</sup> [https://www.ctgreenbank.com/wp-content/uploads/2023/01/Environmental-Infrastructure\\_Agriculture\\_Oct-16-2022a.pdf](https://www.ctgreenbank.com/wp-content/uploads/2023/01/Environmental-Infrastructure_Agriculture_Oct-16-2022a.pdf)

<sup>97</sup> Hansen, K., Thomas, T., Vo, S., Berven, K., Moudgalya, P., Vedachalam, S. (2022). Financing Green Stormwater and Natural Infrastructure with Clean Water State Revolving Funds. by the Environmental Policy Innovation Center – EPIC. (pp 11)

<sup>98</sup> “Hartford to Get \$85M for Sewage System Fix” by Deidre Montague in the Hartford Courant (June 27, 2023)

As the Green Bank looks to increase and accelerate private investment in water, in collaboration with its state agency partners, it will be exploring the following financing tools, including, but not limited to:

- Ecosystem services markets
- Pay-for-Performance
- Green Liberty Bonds
- Linked Deposits
- Loan Guarantees (e.g., Smart-E Loan)
- Buy-Protect-Sell Revolving Loan Fund
  - Predevelopment Financing
  - Bridge Financing
  - Traditional Debt Financing

Based on learnings to date, one of the most promising near-term opportunities for the Green Bank to engage across the Water sector is to explore a Linked Deposit program to facilitate access to lower-cost Smart-E loans for resilience and water measures, especially among residents in vulnerable communities impacted by, or at risk of, flooding and extreme weather. This approach is envisioned as a catalyst for a deployment model for Smart-E and Capital Solutions that aligns with the Environmental Infrastructure team's priority program design and investment criteria.

For further details on the market opportunity, see Primer – Water.<sup>99</sup>

## **5.7 Waste and Recycling**

In FY 2024, and continuing into FY 2025, the Green Bank is pursuing a three-part strategy to develop its primer and begin to engage on waste and recycling, including:

1. **Collective Responsibility** – assessing existing products used in solar and battery storage installation and establishing a “collective responsibility” to reuse, recycle, and dispose.
2. **Scale-Up Solutions** – continuation of solutions to organic waste management including the pilot program launched by the Green Bank (i.e., anaerobic digestors and combined heat and power) to address food (e.g., Quantum Biopower) and farm (e.g., Fort Hill Farms) waste to energy through investment in anaerobic digester infrastructure.
3. **Support the State** – supporting DEEP goals for waste management and recycling per Public Act 23-170.

As organics are a leading waste stream for Connecticut, it should be noted that the Green Bank is a leading financier of food waste<sup>100</sup> and farm waste<sup>101</sup> to energy projects that utilize anaerobic digesters and combined heat and power to reduce methane and produce renewable natural gas for onsite clean energy.

The Green Bank Waste and Recycling Primer is anticipated for release in 2025 and will highlight key public policy objectives, existing funding programs and sources of financing, and a set of

---

<sup>99</sup> [https://www.ctgreenbank.com/wp-content/uploads/2023/04/Environmental-Infrastructure\\_Water\\_Primer\\_062323.pdf](https://www.ctgreenbank.com/wp-content/uploads/2023/04/Environmental-Infrastructure_Water_Primer_062323.pdf)

<sup>100</sup> Quantum Biopower – <http://www.quantumbiopower.com/>

<sup>101</sup> Fort Hill Farm – <https://aggridenergy.com/fort-hill-ag-grid-digester/>

[opportunities for further exploration aligned with the Green Bank’s Waste and Recycling strategy.](#)

## **6. Citizen and Community Engagement – Green Bonds US**

The Green Bank, and its predecessor the CCEF, have a long-standing history of community engagement in Connecticut. In 2002, the CCEF partnered with six private foundations<sup>102</sup> to co-found SmartPower – which launched the 20 percent by 2010 campaign and led the administration of the CCEF’s EPA award-winning Connecticut Clean Energy Communities Program to engage citizens in signing-up to purchase clean energy.<sup>103</sup> Then in 2013, the Green Bank launched a series of Solarize campaigns in communities across the state in partnership with SmartPower and the Yale Center for Business and the Environment to help citizens install solar PV on their homes,<sup>104</sup> while also advancing the SunShot Initiative of the U.S. Department of Energy (“USDOE”) in partnership with the Clean Energy States Alliance through projects that reduce soft-costs for solar PV (i.e., customer acquisition, permitting, and financing) and provide better access to solar PV for LMI households.

Citizen and community engagement have been in the DNA of the Green Bank since its inception. In 2022, in collaboration with the Greater Bridgeport Community Enterprises and Operation Fuel, the Green Bank continued its efforts to learn more about community engagement by seeking to understand the importance of community benefit agreements through the Communities Local Energy Action Plan (“Communities LEAP”) pilot program of the DOE.<sup>105</sup> The Green Bank is reaching citizens and communities through various ways including green bonds, community match funds, community-based campaigns, municipal assistance programs, and eventually community benefit agreements.

[In FY 2024, the staff of the Green Bank came together to renew the organization’s commitment to community engagement coalescing around the following statement:](#)

### **Statement on Community Engagement**

[The Green Bank builds trust and awareness within our community – especially amongst its most vulnerable members – through clear and transparent communication, education, and active listening, enabling us to understand and meet their needs. By strategically cultivating strong, collaborative, and reciprocal relationships with stakeholders, we empower them to achieve their energy, environmental and resiliency goals while](#)

<sup>102</sup> Emily Hall Tremain Foundation, The John Merck Fund, Pew Charitable Trust, The Oak Foundation, Rockefeller Brothers Fund, and Sordna Foundation

<sup>103</sup> “Climate Policy and Voluntary Initiatives: An Evaluation of the Connecticut Clean Energy Communities Program,” by Matthew Kotchen for the National Bureau of Economic Research (Working Paper 16117).

<sup>104</sup> “Solarize Your Community: An Evidence-Based Guide for Accelerating the Adoption of Residential Solar” by the Yale Center for Business and the Environment.

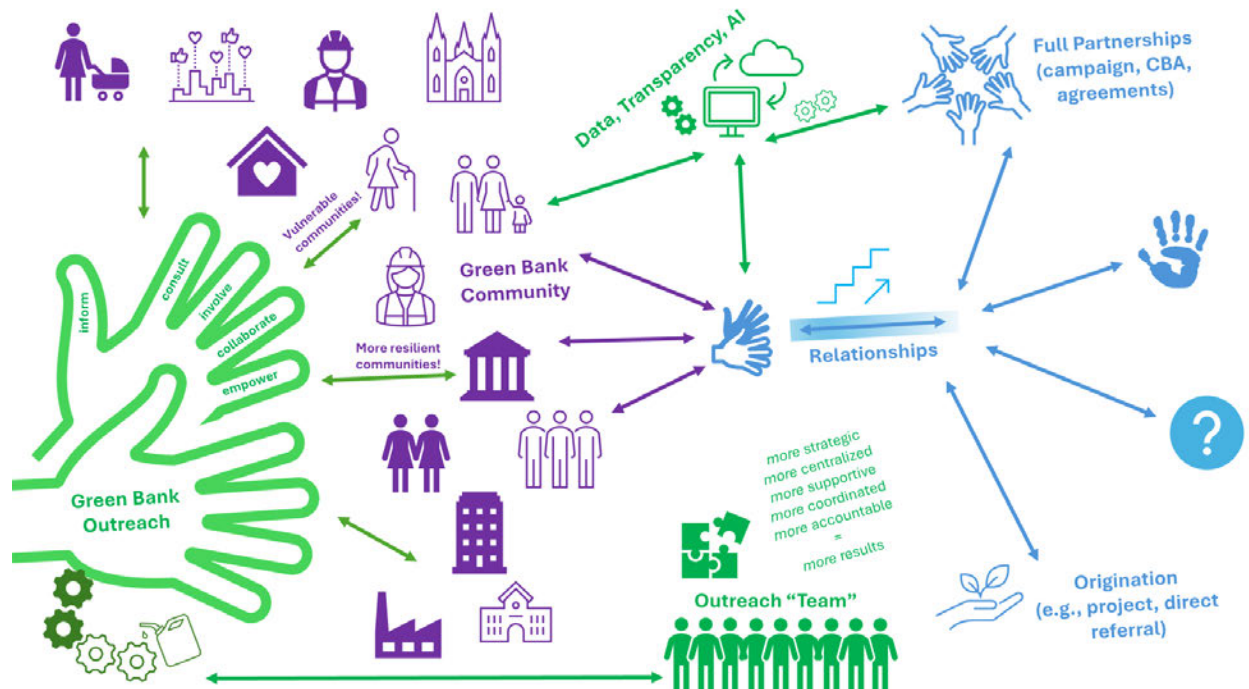
<sup>105</sup> <https://www.energy.gov/communitiesLEAP/communities-leap>



advancing the mission of the Green Bank and realizing its vision of a planet protected by the love of humanity.

In addition to the statement, the staff designed a visual image depicting a vision for the Green Bank's commitment to community engagement – see Figure 6.

Figure 56. Connecticut Green Bank Vision for Community Engagement



Under this premise, we expect to continue the below efforts but to also play a more active and intentional role with those in our community, helping to identify issues and projects while breaking down barriers. Community engagement will follow a framework to inform, consult, involve, collaborate, and empower our community, with the goal of developing relationships that lead to desired outcomes – ultimately originating Green Bank transactions that lead to the financing of projects that help community members, especially those in vulnerable communities, achieve their energy, environmental and resiliency goals.

We also recognize the need to be more thoughtful and strategic in our approach to community engagement – including leveraging technology (e.g., Salesforce, Artificial Intelligence), achieving deeper internal coordination and consistency, mapping and identifying stakeholder groups and gaps in outreach, developing annual outreach plans, and identifying and implementing the necessary resources to serve our community (especially vulnerable communities). Developing an approach to achieving these goals will be an integral part of the Green Bank's outreach work.

## 6.1 Green Bonds US

Whether through markets or within communities, the Green Bank is bringing people together and strengthening the bonds we share with one another. As the name of the Comprehensive Plan suggests – “Green Bonds US” seeks to promote a simple but critically important message; green, the environment, bonds us, brings us together, the environment unites us. The simple slogan combines the financial tool of green bonds that are being sold to retail investors across the United States with a unifying message that humanity and the environment are inextricably linked.

CGS Section 16-245n(d)(1)(C) is the enabling statute that allows the Green Bank to issue revenue bonds for up to 25 years for clean energy and 50 years for environmental infrastructure projects to support its purposes. Green Bonds are bonds whose proceeds are used for projects or activities with environmental or climate benefits, most usually climate change mitigation and adaptation. Research shows that citizens across the US, including Connecticut, are interested in seeing their investments go towards green projects – see Table 15.<sup>106</sup>

Table 15. Green Project Types of Interest by Private Investors by Location

Green Project Types	Composite	National	Connecticut	Connecticut with Solar
Clean Water	68.8%	71.4%	68.6%	54.2%
Waste Reduction and Recycling	53.1%	51.0%	53.8%	63.9%
Rooftop Solar	48.5%	45.3%	46.0%	75.3%
Home Energy Efficiency	42.7%	40.1%	41.8%	61.4%
Electric Vehicles	32.7%	30.6%	32.6%	45.8%
Land Conservation	39.6%	37.1%	40.6%	51.2%
Agriculture	37.2%	36.0%	39.6%	37.3%
Parks and Recreation	31.8%	31.5%	32.6%	31.3%
Climate Adaptation and Resiliency	30.9%	29.2%	32.0%	38.0%

To enable everyday citizens with an opportunity to invest in the green economy, the Green Bank created two fixed income securities – Green Liberty Bonds and Green Liberty Notes, which have three features:

1. **Use of Proceeds** – funds raised from the bonds must go towards projects that support the Paris Agreement (i.e., mitigation of GHG emissions or adaptation to the impacts of climate change);
2. **Retail Accessible** – like the Series-E War Bonds of the 1940’s, bonds must be small denomination (i.e., less than \$1,000) and available to everyday retail investors; and
3. **Independently Certified and Verified** – due to the expectation by retail investors that the use of proceeds will go towards projects that support the Paris Agreement, the bonds must be independently certified and verified as green.

<sup>106</sup> 2022 Brand Awareness Digital Survey by Great Blue for the Connecticut Green Bank (October 2022)

## 6.2 Green Liberty Bonds

In April of 2019, the Green Bank issued \$38.6 million in green asset backed securities – its first rated debt issuance and the first ever solar asset-backed security (“ABS”) transaction by a green bank. The issuance was certified by Kestrel Verifiers and independently assessed by Climate Action Reserve. In July 2020, the Green Bank issued \$16.8 million in a Special Capital Reserve Fund (“SCRF”) backed Green Liberty Bond that was Climate Bond Certified. And in April 2021, the Green Bank sold out \$25 million in Green Liberty Bonds drawing four times as much demand as could be fulfilled from retail investors in Connecticut and across the U.S., as well as institutional investors interested in sustainability investments.

In March and December of 2020, and June of 2022, the Green Bank’s Green Liberty Bonds were awarded for innovation and green bond structure by Environmental Finance, The Bond Buyer, and Clean Energy States Alliance respectively.

The Green Bank will look towards its Green Liberty Bonds, and ability to use SCRF, to support its clean energy and environmental infrastructure efforts.

For more information on Green Liberty Bonds, visit [www.greenlibertybonds.com](http://www.greenlibertybonds.com)

## 6.3 Green Liberty Notes

In January of 2022, the Green Bank, in collaboration with Raise Green, began a two-year campaign to raise \$2 million by providing an opportunity for citizens to invest as little as \$100 to confront climate change. Issuances are anticipated quarterly. Of the six (6) issuances through FY23, four were sold out resulting in an extension for a third year and an increase per quarterly issuance from \$250,000 to \$350,000. Investment by everyday citizens in Green Liberty Notes supports Eversource’s SBEA program, administered through the Conservation and Load Management Plan, which helps small businesses reduce their energy consumption through deploying energy efficient equipment. As a result of the climate benefits associated with this program, the offering was reviewed and verified for its environmental attributes by Kestrel Verifiers.

To attract more investors, the program offers one-year maturity notes, with \$100 minimums, that are easy to purchase through an online platform without a broker. The Green Liberty Notes were created as an investment companion to Green Liberty Bonds, which have been offered in \$1,000 minimums to retail and institutional investors through brokerage firms. [In the future, the Green Bank seeks to identify more ways to partner with Raise Green to increase community engagement while advancing market transformation in green investing.](#)

For more information on Green Liberty Notes, visit [www.greenlibertynotes.com](http://www.greenlibertynotes.com)

## 6.4 Sustainable CT and Community Match Fund

The strategic partnership between Sustainable CT<sup>107</sup> and the Green Bank is focused on the following key priorities:

- Driving investment in projects in our communities, with a goal to accelerate over time;

---

<sup>107</sup> <https://sustainablect.org/>



- Community-level engagement, from project origination through financing, that is inclusive, diverse, and “knitted”;
- Creating a structure that harnesses all types of capital for impact – from donations to investment;
- Developing a business model that covers the cost of the program; and
- Creating a measurable impact, both qualitative and quantitative.

Sustainable CT’s voluntary certification program<sup>108</sup> for Connecticut’s cities and towns provides thirteen (13) action areas (e.g., inclusive and equitable communities, well stewarded land and natural resources, renewable and efficient energy) to achieve bronze, silver, or gold status, including a climate leader designation. The Green Bank works closely with Sustainable CT to encourage local actions that are consistent with the respective missions of the organizations. In FY24, the Green Bank will focus<sup>ed</sup> on working with Sustainable CT to expand its support for modernizing environmental infrastructure.

Also, in collaboration with Patronicity, Sustainable CT has developed a community matching grant platform to raise capital in support of local projects that provide individuals, families, and businesses with funding opportunities to make an impact on sustainability in their communities. This online crowdfunding platform enables citizen leaders to have access to financial resources (i.e., matching grants) that they need to support local sustainability projects.

[In FY 2025, The Green Bank is looking to sponsor a yearlong fellowship at Sustainable CT so that the fellow can partner with the Green Bank and communities to further the awareness of Green Bank offerings.](#)

For more information on Sustainable CT’s Community Match Fund, visit <https://www.patronicity.com/sustainablect>

## 6.5 Community-Based Campaigns

The Green Bank has once again partnered with the Yale School of the Environment,<sup>109</sup> to support USDOE-funded Solar Energy Evolution and Diffusion Study 3 (“SEEDS 3”). SEEDS 3 research builds on nearly a decade of work investigating the peer-to-peer effects of solar PV adoption – how do prospective solar PV customers make the decision to adopt and how do people talk to each other about going solar. Professor Gillingham developed a community-based solar adoption strategy that accelerated the adoption of solar in Connecticut through various Solarize campaigns.<sup>110</sup>

SEEDS 3 expands on this work to investigate the co-adoption of solar, storage, and electric vehicles. The Green Bank will support Professor Gillingham as he initiates and runs community-based solar plus storage campaigns over the next two years. We will leverage the learnings that these campaigns create to refine our storage marketing messages to assist ESS in achieving its goals.

<sup>108</sup> <https://sustainablect.org/actions-certifications>

<sup>109</sup> Professor Ken Gillingham and the Yale Center for Business and the Environment

<sup>110</sup> <https://cbey.yale.edu/our-stories/lessons-learned-from-solarize-campaigns-in-connecticut>

In addition to this work, the Green Bank is actively pursuing other community-based campaigns, such as one in partnership with the Blue Hill Civic Association, that will help educate us and those in our community about clean energy and resiliency. We are also educating ourselves more broadly with regard to Community Benefit Agreements ("CBA")<sup>111</sup> and Community Benefit Plans ("CBP")<sup>112</sup> and will potentially seek to leverage such agreements and structures in the future, including through the use of AI to support vulnerable communities. The Green Bank recognizes that community-based campaigns reduce barriers to adoption – including awareness and education, contractor selection, cost and accessibility of financing, etc. - and will seek to identify areas where these campaigns would serve the community and address gaps.

## **6.6 Municipal Assistance Programs**

~~Supported by public policy,<sup>113</sup> the Green Bank continues to support municipalities in their sustainability initiatives through the Solar Marketplace Assistance Program<sup>AP</sup> for Towns and Cities ("Solar MAP").<sup>114</sup> Many Connecticut towns, primarily smaller towns, are challenged to get through the many project steps preventing them from taking advantage of clean energy. Solar MAP provides turnkey support from start to finish to make it easier for towns to identify projects that will provide savings and resiliency, to access necessary incentives and Green Bank financing, and to add much needed capacity to manage project implementation and construction. The program administers a competitive solicitation to select a construction partner and bring more projects to the market to grow our state's clean energy economy. Projects are bundled into portfolios to achieve economies of scale driving down project costs and delivering better savings a town wouldn't experience if they acted alone. With feedback from contractors and municipalities, the Green Bank integrated additional transparency into the Programs' status and activities and developed a clearer mission and target audience. Solar MAP aims to support municipalities that are underserved by the market, typically towns that are smaller in population and/or town staff without recent history of doing solar projects. The comprehensive program support and refined mission help better serve municipalities and the clean energy market.~~

---

<sup>111</sup> CBAs are strategic vehicles for community improvement, while benefiting private sector developers and both state and local governments. They are not zero-sum instruments. They are legal agreements between community benefit groups and developers, stipulating the benefits a developer agrees to fund or furnish, in exchange for community support of a project. Benefits can include commitments to hire directly from a community, contributions to economic trust funds, local workforce training guarantees and more. <https://www.energy.gov/justice/community-benefit-agreement-cba-toolkit>

<sup>112</sup> CBPs are based on a set of four core policy priorities:

1. Engaging communities and labor;
2. Investing in America's workers through quality jobs;
3. Advancing diversity, equity, inclusion, and accessibility through recruitment and training; and
4. Implementing Justice40, which directs 40% of the overall benefits of certain Federal investments to flow to disadvantaged communities.

These key principles, when incorporated comprehensively into project proposals and applications and executed upon, will help ensure broadly shared prosperity in the clean energy transition. The Department of Energy (DOE) requires Community Benefits Plans (CBPs) as part of all Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA) funding opportunity announcements (FOAs) and loan applications. <https://www.energy.gov/infrastructure/about-community-benefits-plans>

<sup>113</sup> CGS 16-245n "...stimulate demand for clean energy and deployment of clean energy sources that serve end-use customers in the state..." (i.e., 16-245n(c)); and "...shall (i) develop separate programs to finance and otherwise support clean energy investment in residential, municipal, small business and larger commercial projects..." CGS 16-245n(d)(1)(B).

<sup>114</sup> <https://www.ctgreenbank.com/community-solutions/solar-solutions-for-communities/solar-map/>

## 7. Investment

The Green Bank pursues investments that advance market transformation in green investing while supporting the organization's pursuit of financial sustainability. With the mission to confront climate change, the Green Bank leverages limited public resources to scale-up and mobilize private capital investment in the green economy of Connecticut.

### 7.1 State Funds

The Green Bank receives public revenues from a number of sources that are leveraged to mobilize multiples of private capital investment in the green economy of Connecticut.

#### **System Benefit Charge**

As its primary source of public revenues, the Green Bank through CGS 16-245n(b) receives a 1 mill per kilowatt-hour surcharge called the Renewable Energy Investment Fund or Clean Energy Fund ("CEF") from ratepayers of Eversource Energy and Avangrid. The CEF has been in existence since Connecticut deregulated its electric industry in the late 1990s.<sup>115</sup><sup>116</sup> On average, households contribute between \$7-\$10 a year for the CEF, aggregating to about \$25 million per year, which the Green Bank leverages to attract multiples of private capital investment in clean energy through its Financing Programs.

#### **Regional Greenhouse Gas Emission Allowance Proceeds**

As a secondary source of public revenues, the Green Bank receives a portion (i.e., 23%) of Connecticut's RGGI allowance proceeds through CGS 22a-174(f)(6)(B). The Green Bank invests RGGI proceeds to finance clean energy projects through its Financing Programs. It should be noted that with the passage of PA 22-25, that allowance proceeds received in excess of \$5.2 million from the Green Bank's portion of RGGI, are to be directed to DEEP for the purposes of supporting electric school buses in environmental justice communities.

### 7.2 Federal Funds

The Green Bank receives public revenues through a number of past, current, and future sources<sup>117</sup> of federal funds as well that it leverages to scale-up and mobilize private capital investment in the green economy of Connecticut.

#### **American Recovery and Reinvestment Act**

Through the American Recovery and Reinvestment Act ("ARRA") the CCEF received \$20 million for its programs and initiatives. After nearly \$12 million of those funds were invested as grants, the Green Bank repurposed and invested the remaining \$8.2 million in financing programs. With ~~\$600,000~~250,000 of ARRA funds left,<sup>118</sup> the Green Bank invested ~~over \$7.6~~nearly \$8.0

---

<sup>115</sup> PA 98-28 An Act Concerning Electric Restructuring – <https://www.cga.ct.gov/ps98/act/pa/1998pa-00028-r00hb-05005-pa.htm>

<sup>116</sup> The Clean Energy Fund should not be mistaken with the Conservation Adjustment Mechanism (or the Conservation and Loan Management Fund), which is administered by the EDCs

<sup>117</sup> ~~There have been ongoing public policy proposals at the national level that the Connecticut Green Bank has been a part of to create a US Green Bank. If such a public policy were passed, then the Connecticut Green Bank would have access to significant federal funds to leverage to scale up and mobilize private capital investment in the green economy of Connecticut.~~

<sup>118</sup> As of June 30, ~~2022~~2023

million of ARRA funds to attract and mobilize \$~~167~~<sup>232</sup> million of public and private investment in residential clean energy financing programs.<sup>119</sup>

### **Infrastructure Investment and Jobs Act**

As a result of the IIJA, significant federal resources are being made available to local and state governments through formula grants, and through competitive requests for proposals from budget allocations across many federal agencies. The Green Bank has been an active participant in the various federal agency public engagement processes under the IIJA and IRA.<sup>120</sup>

The Green Bank will compete for and pursue federal funding opportunities to support its programs, where appropriate, including:

- **Department of Energy's Loan Program Office**<sup>121</sup> – on March 25, 2022, the Loan Program Office ("LPO") of the DOE presented to the Board of Directors of the Green Bank,<sup>122</sup> and the Green Bank subsequently followed with public comments to the DOE on July 1, 2022.<sup>123</sup> Specifically, the LPO presented the new State Energy Financing Institutions ("SEFI") provisions within the IIJA that amended Title 17 to (1) include projects receiving financial support or credit enhancements from SEFIs as eligible projects, and (2) clarifies that such projects do not require "new or significantly improved technologies" to qualify.<sup>124</sup> As defined by the DOE-LPO, the Green Bank is a SEFI – and, on September 29, 2023, the Green Bank received official notification from the DOE that it is a SEFI.

Subsequently, through the passage of the IRA, a congressional appropriation for Title 17 ensued, which triggered the expansion of the LPO's authority including enabling SEFI. LPO can now augment state-administered clean energy programs, providing additional financial support to projects that align federal energy priorities with those of U.S. states like Connecticut. Qualifying project participation may include equity, loan loss reserves, co-lending (i.e., by the SEFI providing debt financing which may be pari-passu with or subordinate to LPO funding or financial support), and other financing mechanisms for eligible technologies such as renewable energy, energy efficiency, fuel cells, hydrogen, energy storage, and more.

The Connecticut Green Bank, in collaboration with other states (e.g., New York Green Bank, Massachusetts Community Climate Bank or the Rhode Island Infrastructure Bank), can individually or collectively apply to the LPO or support other proposals submitted to the LPO through SEFI to leverage federal funding to mobilize private deployment of eligible technologies.

<sup>119</sup> <https://www.ctgreenbank.com/wp-content/uploads/2024/03/CGB-ARRA-Infographic-March-2024.pdf><https://www.ctgreenbank.com/wp-content/uploads/2023/01/CGB-ARRA-Infographic-Jan-2023.pdf>

<sup>120</sup> <https://www.ctgreenbank.com/engagement-on-iija-ira/>

<sup>121</sup> It should be noted that the President and CEO of the Connecticut Green Bank voluntarily served on the Biden-Harris Transition Team following the November 2019 elections and was assigned to the DOE team and responsible for ascertaining the LPO.

<sup>122</sup> <https://www.youtube.com/watch?v=TPb7AHRWFhg>

<sup>123</sup> [https://www.ctgreenbank.com/wp-content/uploads/2022/12/3\\_DOE\\_LPO\\_Title-XVII\\_CT-Green-Bank\\_Public-Comments\\_070122.pdf](https://www.ctgreenbank.com/wp-content/uploads/2022/12/3_DOE_LPO_Title-XVII_CT-Green-Bank_Public-Comments_070122.pdf)

<sup>124</sup> <https://www.energy.gov/lpo/state-energy-financing-institutions-sefi-supported-projects>

## **Inflation Reduction Act**

As a result of IRA, significant federal resources are being made available through investment tax credits (e.g., 25D Residential Clean Energy Credit, 48 Energy Investment Tax Credit) and other resources including the GGRF. These tax credits, along with their associated adders (i.e., energy communities, low-income, domestic content), are consistent with the Green Bank's efforts to mobilize investment in vulnerable communities through its various incentive and financing programs.

The Green Bank, [as a subrecipient of other lead applicant proposals](#), ~~will~~ competed for and [pursue-won several](#) federal funding opportunities to support its programs, ~~where appropriate~~, including:

- **Greenhouse Gas Reduction Fund** – \$27 billion GGRF modelled after the Green Bank, comprising:
  - **Solar for All** – \$7 billion competition that ~~will~~ provided ~~up to~~ 60 grants to states, tribes, municipalities and nonprofits to expand the number of low-income and disadvantaged communities for investment in residential and community solar, as well as associated storage and other enabling upgrades (e.g., new roof, electric panels, energy efficiency). [Supported DEEP's winning "Project SunBridge" application of \\$62.5 million with a focus on increasing investment in and deployment of solar + storage for multifamily affordable housing.](#)
  - **Clean Communities Investment Accelerator** ("CCIA") – \$6 billion competition that ~~will~~ funded [52-7](#) hub nonprofits with the plans and capabilities to rapidly build the clean financing capacity of specific networks of public, quasi-public, and nonprofit community lenders to ensure that households, small businesses, schools, and community institutions in low-income and disadvantaged communities have access to financing. [Supported Justice Climate Fund's winning application of \\$940 million with a focus on minority depository institutions.](#)
  - **National Clean Investment Fund** ("NCIF") – \$14 billion competition that ~~will~~ funded [2-3](#) national nonprofits that will partner with private capital providers to deliver financing at scale to businesses, communities, community lenders, and others. [Supported Coalition for Green Capital's winning application of \\$5 billion, including \\$94 million of support through the Green Bank with a focus on increasing investment in and deployment of clean energy and environmental infrastructure through green infrastructure, green school buses, green resilience hubs, green school buildings, green municipal and commercial buildings, and green homes.](#)<sup>125</sup>

---

<sup>125</sup> It should be noted that within the Connecticut Green Bank's proposal to the Coalition for Green Capital, that New Hampshire (i.e., \$14.9MM) and Puerto Rico (i.e., \$37.8MM) are also included as participants (i.e., to receive low-cost debt financing) alongside Connecticut (i.e., \$40.8MM).

The Green Bank's federal competitive funding priority is the GGRF. The Green Bank has been actively involved in all public engagement aspects of the GGRF.<sup>126</sup> and as a result, will be receiving significant funding through several lead applicants (i.e., DEEP and Coalition for Green Capital).

### **United States Department of Agriculture**

The Green Bank has applied to the United States Department of Agriculture ("USDA") to seek access to low-cost and long-term federal loan funds for the deployment of clean energy in rural communities.<sup>127</sup> through the Rural Energy Savings Program ("RESP"). The USDA has vast lending authority under the Rural Electrification Act of 1936, which enables direct loans, project financing and loan guarantees to a variety of borrowers.

## **7.3 Additional Funding Sources**

Per CGS 16-245n, additional funding sources include, but are not limited to:

- Charitable gifts, grants, contributions as well as loans from individuals, corporations, university endowments and philanthropic foundations;
- Earnings and interest derived from financing support activities for clean energy projects backed by the Connecticut Green Bank;
- If it qualifies as a CDFI under Section 4702 of the United States Code, funding from the CDFI Fund administered by the United States Department of Treasury, as well as loans from and investments by depository institutions seeking to comply with their obligations under the United States Community Reinvestment Act of 1977; and
- Contracts with private sources to raise capital.

## **8. Impact**

The Green Bank's evaluation efforts seek to understand how the increase in investment and deployment of clean energy and environmental infrastructure supported through the Green Bank, result in benefits to society. To that end, the Green Bank has devised an Evaluation Framework and Impact Methodologies for various societal benefits.

### **8.1 Evaluation Framework**

The Green Bank has established an Evaluation Framework to guide the assessment, monitoring and reporting of the program impacts and processes, including, but not limited to energy savings and clean energy production and the resulting societal impacts or benefits arising from clean energy investment.<sup>128</sup> This framework focuses primarily on assessing the market transformation the Green Bank is enabling, including:

---

<sup>126</sup> <http://www.ctgreenbank.com/ggrf/>

<sup>127</sup> "Rural" communities are defined by a population bound and the various limits depend on the program; at the broadest, "rural" may be considered a town that has a population not greater than 50,000 people. Despite its positioning in a mostly-developed corridor, we estimate Connecticut would have 69% of towns eligible at the 20,000-person limit and 89% of towns at the 50,000-person limit.

<sup>128</sup> <https://ctgreenbank.com/wp-content/uploads/2017/02/CTGreenBank-Evaluation-Framework-July-2016.pdf>

- **Supply of Capital** – including affordable interest rates, longer term maturity options, improved underwriting standards, etc.
- **Consumer Demand** – increasing the number of projects, increasing the comprehensiveness of projects, etc.
- **Financing Performance Data and Risk Profile** – making data publicly available to reduce perceived technology risks by current or potential private investors.
- **Societal Impact** – the benefits society receives from more investment in and deployment of clean energy.

With the goal of pursuing investment strategies that advance market transformation in green investing, the Green Bank's evaluation framework provides the foundation for determining the impact it is supporting in Connecticut and beyond across the four (4) "E's" (i.e., E<sup>4</sup>) – including Economy, Environment, Energy, and Equity.<sup>129</sup>

The Evaluation Framework will have to be revised, over time, to include environmental infrastructure, as well as the important role Green Liberty Bonds play in raising capital for investments.

## 8.2 Impact Methodologies

To support the implementation of the Evaluation Framework, the Green Bank, working with various public sector organizations, has developed methodologies that estimate the impact from the investment, installation and operation of clean energy projects, including:

- **Jobs** – working in consultation with the Connecticut Department of Economic and Community Development ("DECD"), through the work of Guidehouse (formerly Navigant), the Green Bank devised a methodology that takes investment in clean energy to reasonably estimate the direct, indirect, and induced job-years resulting from clean energy deployment.<sup>130</sup>
- **Tax Revenues** – working in consultation with the Connecticut Department of Revenue Services ("DRS"), through the work of Guidehouse, the Green Bank devised a methodology that takes investment in clean energy to reasonably estimate the individual income, corporate, sales, and property tax revenues from clean energy deployment.<sup>131</sup>
- **Environmental Protection** – working in consultation with the USEPA and DEEP, the Green Bank devised a methodology that takes the reduction in consumption of energy and increase in the production of clean energy to reasonably estimate the air emission reductions (i.e., CO<sub>2</sub>, NO<sub>x</sub>, SO<sub>2</sub>, and PM<sub>2.5</sub>) resulting from clean energy deployment.<sup>132</sup>

<sup>129</sup> <https://www.ctgreenbank.com/wp-content/uploads/2023/09/FY12-FY23-Green-Bank-Impact-Report-9-1-2023.pdf><https://www.ctgreenbank.com/wp-content/uploads/2022/09/FY12-FY22-CGB-ImpactReport-8242022.pdf>

<sup>130</sup> <https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB-DECD-Jobs-Study-Fact-Sheet.pdf>

<sup>131</sup> <https://www.ctgreenbank.com/wp-content/uploads/2018/09/CGB-Eval-Tax-Methodology-7-24-18.pdf>

<sup>132</sup> <https://www.ctgreenbank.com/wp-content/uploads/2018/01/CGB-Eval-IMPACT-091917-Bv2.pdf>



- **Public Health Improvement** – working in consultation with the USEPA, DEEP, and DPH, the Green Bank devised a methodology that takes air emission reductions to reasonably estimate the public health benefits (e.g., reduced hospitalizations, reduced sick days, etc.) and associated savings to society resulting from clean energy deployment.<sup>133</sup>
- **Equity** – with the passage of PA 20-05, the Green Bank devised a methodology that takes the definition of “vulnerable communities” to track progress towards the goal of ensuring that no less than 40 percent of investment from its programs are directed to vulnerable communities by 2025.<sup>134</sup>
- **Energy Burden** – working in consultation with DEEP and PURA, the Green Bank devised a methodology that takes actual solar PV production data from meters compared against contractual lease and PPA prices and electricity rates, to estimate the energy burden reduction from financing solar PV.<sup>135</sup>

Each year, the Green Bank develops additional methodologies that value the impact the Green Bank is helping create in Connecticut and all of society. For more information on the Green Bank’s impact methodologies, visit the Impact page of the website.<sup>136</sup>

In time, additional impact methodologies will be developed for environmental infrastructure.

### 8.3 Green Bond Framework

The Green Bank’s Green Bond Framework<sup>137</sup> provides a structure in which the Green Bank can more efficiently and effectively support its efforts to raise capital and deploy more clean energy and environmental infrastructure through the issuance of green bonds.

Connecticut has been at the forefront of state-level efforts to combat the threat of global climate change. In order to increase investment, the Green Bank will use its statutory authority (i.e., CGS 16-245kk) to issue bonds, including green bonds. These are key to sourcing capital for clean energy and environmental infrastructure projects and providing a way for all residents, businesses, and institutions of Connecticut to invest in growing our green economy.

The framework sets out how the Green Bank proposes to use its Master Trust Indenture (“MTI”) in a manner consistent with its purpose and provide the transparency and disclosures investors require to make investment decisions through green bonds. This framework is specifically intended for the MTI approved and adopted April 22, 2020, which establishes the purposes for which the Green Bank may issue green bonds or other public debt. The Framework is established in accordance with the Climate Bonds Initiative (“CBI”) Standard and adheres to the Green Bond Principles issued by the International Capital Market Association.

The Green Bond Framework will have to be revised, over time, to include environmental infrastructure.

<sup>133</sup> <https://www.ctgreenbank.com/wp-content/uploads/2018/03/CGB-Eval-PUBLICHEALTH-1-25-18-new.pdf>

<sup>134</sup> <https://www.ctgreenbank.com/wp-content/uploads/2022/07/Equity-Investment-in-Vulnerable-Communities.pdf>

<sup>135</sup> <https://www.ctgreenbank.com/wp-content/uploads/2022/07/CGB-Eval-Solar-Methodology-combined-6-8-2021-final.pdf>

<sup>136</sup> <https://www.ctgreenbank.com/strategy-impact/evaluations/>

<sup>137</sup> <https://ctgreenbank.com/wp-content/uploads/2020/04/CGB-Green-Bond-Framework-final-4-22-2020.pdf>

## 9. Reporting and Transparency

The Green Bank has extensive reporting on its financial management and societal impact through various mechanisms. As a recipient of public revenues (i.e., CEF and RGGI allowance proceeds), the Green Bank believes that complete transparency is important to ensure the public's continued trust in serving its purpose. The Green Bank reports to the Governor's Office (i.e., Office of Policy and Management ("OPM")), various committees of cognizance within the CGA (i.e., energy & technology, commerce, environment, and banking), and other departments (e.g., DEEP, Office of Fiscal Analysis).

### 9.1 Annual Comprehensive Financial Report

An Annual Comprehensive Financial Report ("ACFR") is a set of government financing statements that includes the financial report of a state, municipal or other government entity that complies with the accounting requirements promulgated by the Governmental Accounting Standards Board ("GASB"). GASB provides standards for the content of an ACFR in its annually updated publication *Codification of Governmental Accounting and Financial Reporting Standards*. An ACFR is compiled by a public agency's accounting staff and audited by an external American Institute of Certified Public Accountants ("AICPA") certified accounting firm utilizing GASB requirements. It is composed of three sections – Introductory, Financial, and Statistical. The independent audit of the ACFR is not intended to include an assessment of the financial health of participating governments, but rather to ensure that users of their financial statements have the information they need to make those assessments themselves.<sup>138</sup>

To date, the Green Bank has issued ~~nine-ten~~ (109) ACFR's, including:

- [Fiscal Year Ended June 30, 2014 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2015 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2016 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2017 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2018 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2019 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2020 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2021 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2022 \(Certificate of Achievement\)](#)
- [Fiscal Year Ended June 30, 2023](#)

As the "gold standard" in government reporting, the ACFR is the mechanism the Green Bank uses to report its fiscal year financial, investment, and impact performance to its stakeholders. For each of its ~~eight-nine~~ years filing the ACFR with the Government Finance Officers

---

<sup>138</sup> The Government Finance Officers Association (GFOA), founded in 1906, represents public finance officials throughout the United States and Canada. GFOA's mission is to enhance and promote the professional management of governmental financial resources by identifying, developing, and advancing fiscal strategies, policies, and practices for the public benefit. GFOA established the Certificate of Achievement for Excellent in Financial Reporting Program in 1945 to encourage and assist state and local governments to go beyond the minimum requirements of generally accepted accounting principles to prepare CAFRs that evidence the spirit of transparency and full disclosure and then to recognize individual governments that succeed in achieving that goal.

Association the Green Bank has received a Certificate of Achievement for Excellence in Financial Reporting.<sup>139</sup>

## 9.2 Annual Report

Beyond the ACFR, the annual reports of the Green Bank are compiled by the marketing staff and include consolidated financial statement information and narratives of various program achievements in a condensed format that can be widely distributed.

To date, the Green Bank has issued ~~eleven~~ twelve (12) annual reports, including:

- [Fiscal Year 2012 Annual Report](#)
- [Fiscal Year 2013 Annual Report](#)
- [Fiscal Year 2014 Annual Report](#)
- [Fiscal Year 2015 Annual Report](#)
- [Fiscal Year 2016 Annual Report](#)
- [Fiscal Year 2017 Annual Report](#)
- [Fiscal Year 2018 Annual Report](#)
- [Fiscal Year 2019 Annual Report](#)
- [Fiscal Year 2020 Annual Report](#)
- [Fiscal Year 2021 Annual Report](#)
- [Fiscal Year 2022 Annual Report](#)
- [Fiscal Year 2023 Annual Report](#)

## 9.3 Auditors of Public Accounts

The office of the Auditors of Public Accounts (“APA”) is a legislative agency of the State of Connecticut whose primary mission is to conduct audits of all state agencies, including quasi-public agencies. Included in such audits is an annual Statewide Single Audit of the State of Connecticut to meet federal requirements. The office is under the direction of two state auditors appointed by the state legislature. The APA audited certain operations of the Green Bank in fulfillment of its duties under Sections 1-122 and Section 2-90 of the CGS

To date, the APA has conducted ~~four~~ five (5) audits, including:

- [Fiscal Years 2012 and 2013](#)
- [Fiscal Years 2014 and 2015](#)
- [Fiscal Years 2016 and 2017](#)
- [Fiscal Years 2018 and 2019](#)
- [Fiscal Years 2020 and 2021](#)

## 9.4 Open Connecticut and Open Quasi

Open Connecticut centralizes state financial information to make it easier to follow state dollars. In Connecticut quasi-public agencies are required to submit annual reports to the legislature, including a summary of their activities and financial information. In addition to that, the Comptroller’s Office requested that quasi-public agencies voluntarily provide payroll and checkbook-level vendor payment data for display on Open Connecticut. The Green Bank, which was among the first quasi-public organizations to participate, has voluntarily submitted this

---

<sup>139</sup> GAO has yet to designate the FY 2023 ~~32~~ ACFR with a Certificate of Achievement

information since the inception of Open Connecticut.<sup>140</sup> In June of 2020, the Comptroller launched Open Quasi, which provides payroll and checkbook level data for all quasi-public organizations in Connecticut.

For more information, go to <https://openquasi.ct.gov/>

## 10. Research and Product Development

As the Green Bank implements its Comprehensive Plan, there will be ongoing efforts to develop market opportunities for future green investments. With the lessons being learned and best practices being discovered in the green economy, the Green Bank's ability to deliver more societal benefits requires understanding potential opportunities and the development of pilot programs and initiatives to increase and measure impact, including, for example:

- **Ecosystems Services** – increasing understanding of ecosystem services values from environmental infrastructure, will help to identify opportunities to mobilize private investment to maximize GHG emissions reductions and resiliency against climate change. Ongoing support of research studies to understand the value of ecosystem services from environmental infrastructure ([e.g., public health](#)) is important.
- **Carbon Offsets** – continuing to increase understanding of carbon offsets,<sup>141</sup> recognizing their importance within environmental infrastructure (e.g., forest carbon, climate-smart agriculture) and the potential to generate revenues in support of projects, there is need for ongoing support of research studies to understand carbon offset markets [and their accessibility for energy efficiency projects](#).
- **Resiliency** – in its efforts to advance resilience, the Green Bank working with DEEP, Insurance Department, and CIRCA, will seek to better understand labelling (e.g., FORTIFIED by the Insurance Institute for Business and Home Safety), direct install measures, and other programs (e.g., adapting Solarize campaigns to Ruggedize campaigns). To continue to develop ESS, research and pilots for [public health and affordable housing, as well as](#) vehicle to grid ("V2G") may also be pursued.
- **Electric School Buses** – per Public Act 22-25, the Green Bank supported contract extensions for electric school buses ("ESB") and financial support through RGGI for vouchers in support of ESB deployment in environmental justice communities through the Connecticut Hydrogen and Electric Automobile Purchase Rebate ("CHEAPR") program. Support for the deployment of ESBs and electric vehicle supply equipment ("EVSE") will enable increased private investment to support the 100% zero emission ESB goals for 2030 (i.e., environmental justice communities) and 2040 (i.e., all communities).

---

<sup>140</sup> <https://openquasi.ct.gov/>

<sup>141</sup> Verified Carbon Standard – VM0038 Methodology for Electric Vehicle Charging Systems (V1.0) – <https://verra.org/methodology/vm0038-methodology-for-electric-vehicle-charging-systems-v1-0/>

- **Hydrogen** – per Special Act 22-8,<sup>142</sup> and consistent with the definition of “clean energy” under CGS 16-245n, the Green Bank ~~is~~ was chair of the task force ~~to that~~ studied hydrogen power,<sup>143</sup> and led to the passage of Public Act 23-156 “An Act Implementing Recommendations of the Hydrogen Task Force”. Recognizing the importance of “green hydrogen” to Connecticut’s fuel cell industry, there may be the need for research on the sources, infrastructure, and uses related to hydrogen.
- **Impact Methodologies** – building on the Green Bank’s leading impact methodologies for “clean energy,” efforts will be undertaken to develop impact methodologies for “environmental infrastructure”.
- **Battery Recycling** – as the co-administrator of the 580 MW Energy Storage Solutions program, understanding the implications, challenges, and opportunities for battery recycling (e.g., lithium-ion batteries) and end-of-life is important.
- **Artificial Intelligence** – undertake research to identify the challenges and opportunities posed by Artificial Intelligence (“AI”) in terms of the Green Bank’s operations and mission.

The Green Bank’s research product development efforts are intended to open-up new market channels for private investment in Connecticut’s green economy through studies, pilot projects, and other initiatives that have the potential for expanding the impact of the Green Bank.

## 11. Budget

### 11.1 FY 2023 Budget

For the details on the FY 2023 budget– [click here](#).

For details on the FY 2023 revised budget – [click here](#).

### 11.2 FY 2024 Budget

For the details on the FY 2024 budget– [click here](#).

For details on the FY 2024 revised budget – [click here](#).

### 11.2 FY 2025 Budget

For the details on the FY 2025 budget– [click here](#).

<sup>142</sup> An Act Establishing a Task Force to Study Hydrogen Power – <https://www.cga.ct.gov/2022/ACT/SA/PDF/2022SA-00008-R00HB-05200-SA.PDF>

<sup>143</sup> <https://www.ctgreenbank.com/hydrogen-task-force/>

## 12. Glossary of Acronyms

ABS	Asset-Backed Security
ACFR	Annual Comprehensive Financial Report
ACG Committee	Audit, Compliance, and Governance Committee
AICPA	American Institute of Certified Public Accountants
AI	Artificial Intelligence
APA	Auditors of Public Accounts
ARRA	American Recovery and Reinvestment Act
BEA	Business Energy Advantage
BIL	Bipartisan Infrastructure Law
BOC Committee	Budget, Operations, and Compensation Committee
BOD	Board of Directors
CCIA	Clean Communities Investment Accelerator
CEF	Clean Energy Fund (or Renewable Energy Investment Fund)
CBI	Climate Bonds Initiative
CCEF	Connecticut Clean Energy Fund
CDFI	Community Development Financial Institution
CEF	Clean Energy Fund
CGA	Connecticut General Assembly
CGS	Connecticut General Statutes
CHEAPR	Connecticut Hydrogen and Electric Automobile Purchase Rebate
CIRCA	Connecticut Institute for Resilience and Climate Adaptation
C-PACE	Commercial Property Assessed Clean Energy
<a href="#">CBA</a>	<a href="#">Community Benefit Agreement</a>
<a href="#">CBP</a>	<a href="#">Community Benefit Plan</a>
DECD	Department of Economic and Community Development
DEEP	Department of Energy and Environmental Protection
DoAg	Department of Agriculture
DPH	Department of Public Health
DRS	Department of Revenue Services
EDC	Electric Distribution Company
ESB	Electric School Bus
EEB	Energy Efficiency Board
EIF	Environmental Infrastructure Fund
ESS	Energy Storage Solutions
EM&V	Evaluation, Measurement, and Verification
EVSE	Electric Vehicle Supply Equipment
GASB	Governmental Accounting Standards Board
GHG	Greenhouse Gas Emissions
GGRF	Greenhouse Gas Reduction Fund
GWSA	Global Warming Solutions Act
HES	Home Energy Solutions
HES-IE	Home Energy Solutions – Income Eligible
IPC	Inclusive Prosperity Capital
IIJA	Infrastructure Investments and Jobs Act

IRA	Inflation Reduction Act
LMI	Low-to-Moderate Income
MPA	Master Purchase Agreement
MTI	Master Trust Indenture
<a href="#">MW</a>	<a href="#">Megawatts</a>
NCIF	National Clean Investment Fund
NRCS	Natural Resources Conservation Service
NRES	Non-Residential Renewable Energy Solutions
OPM	Office of Policy and Management
PA	Public Act
PDR	Purchasing Development Rights
PPA	Power Purchase Agreement
PRI	Program Related Investment
<a href="#">PSA</a>	<a href="#">Professional Service Agreement</a>
PURA	Public Utilities Regulatory Authority
RGGI	Regional Greenhouse Gas Initiative
RPS	Renewable Portfolio Standard
RRES	Residential Renewable Energy Solutions
RSIP	Residential Solar Investment Program
<a href="#">RESP</a>	<a href="#">Rural Energy Savings Program</a>
SBEA	Small Business Energy Advantage
SCORP	Statewide Comprehensive Outdoor Recreation Plan
SCRF	Special Capital Reserve Fund
SHREC	Solar Home Renewable Energy Credit
SRF	State Revolving Fund
TPL	Trust for Public Land
URI	Urban Resources Institute
USDA	U.S. Department of Agriculture
USDOE	U.S. Department of Energy
USEPA	United States Environmental Protection Agency
V2G	Vehicle to Grid





HARVARD Kennedy School

**ASH CENTER**

for Democratic Governance  
and Innovation

75 Charter Oak Ave., Suite 1 - 103, Hartford, CT 06106 • 700 Canal Street, 5th Floor, Stamford, CT 06902

Call 860.563.0015 | [ctgreenbank.com](http://ctgreenbank.com) | [greenlibertybonds.com](http://greenlibertybonds.com)

1/24

# Memo

**To:** Board of Directors of the Connecticut Green Bank

**From:** Mackey Dykes, Vice President of Financing Programs and Officer

**Cc:** Bryan Garcia, President and CEO, Brian Farnen, General Counsel and Chief Legal Officer and Bert Hunter, Chief Investment Officer, Alex Kovtunen, Deputy General Counsel

**Date:** July 23, 2024

**Re:** Department of Correction – York Correctional Institution Fuel Cell

---

## Introduction

At the request of the Department of Correction (“DOC”), the Green Bank sought to leverage the solar project deployment framework for state projects developed over the last few years for a fuel cell installation at York Correctional Institution (“York”). Green Bank has since worked with DOC to develop the opportunity and identify a project partner and owner through a request for proposals (“RFP”). Staff is requesting authority to sign a power purchase agreement (“PPA”) with DOC that would be transferred to the RFP winner.

## Background

York is located in Niantic and is the only state prison for women, housing a maximum of 1,500 inmates. Due to the large electrical and heat needs at the facility, DOC began exploring a fuel cell installation years ago. They hired SourceOne, an engineering firm now known as Veolia, to conduct a feasibility study for a fuel cell. That study found a technical and financial opportunity for a project. DOC then approached the Green Bank to adapt the state solar deployment program now known as Solar MAP to deploy this fuel cell project. Working with DOC and other state agency partners, Green Bank determined that the procurement, documentation and financing framework of Solar MAP could be used for the fuel cell project at York.

Green Bank hired Veolia to assist with preparing and issuing an RFP for the fuel cell installation at York, which was informed by the feasibility study they had conducted. This RFP was released in May of 2022 and received two proposals, from Fuel Cell Energy and HyAxiom, Inc. (“HyAxiom”). HyAxiom, formerly known as Doosan Fuel Cell America, Inc and a subsidiary of Doosan Corporation, was selected as the RFP winner. Their proposal outlined the York project would be owned by another Doosan Corporation subsidiary, Doosan Energy Services America and would be the counterparty to the PPA. HyAxiom proposed installing two of its PureCell Model 400 units to supply both electricity and heat to York for a PPA rate of \$0.0543/kwh. This represents an average annual savings to DOC of \$527,000 with an expected savings of \$10.5m over the 20-year term of the PPA.

## **Green Bank Role**

Staff is requesting that the Green Bank play a similar role in this transaction as it does in solar projects with the State, with one key difference. For solar projects, the Green Bank solicits bids from engineering, procurement, and construction (“EPC”) firms to design, permit, and construct the project. The Green Bank signs the PPA with the State and runs a separate RFP for the long-term ownership of the project. This puts the Green Bank in the position of overseeing the development, including portions of the EPC, of the projects for a period of time, which it is equipped to do given its extensive solar experience. However, for this fuel cell project, the Green Bank would play a more limited and streamlined procurement role. With the RFP for both financing and construction combined into one and with the Green Bank lacking project development experience for fuel cells, the Green Bank would sign the PPA with the State and then assign or sell the PPA to the selected proposer’s project ownership entity. The Green Bank plays this same intermediary role as the initial counterparty to the PPA with the State as part of the streamlined procurement process worked out with the State during the creation of the Solar MAP program.

Similar to the State solar projects, Green Bank anticipates providing debt to the fuel cell owner. Attractive debt terms were offered in the RFP and HyAxiom indicated in their proposal that they intended to make use of the Green Bank debt. Staff will come back to the board for approval of Green Bank financing, if discussions with the project owner progress positively.

## **Recommendation**

Green Bank staff requests the Board of Directors authorizes it to:

- 1) Enter into the PPA, License and associated energy offtake and development agreements with the State associated with the fuel cell project at York; and
- 2) Sell and transfer the PPA and other associated project assets and enter into contracts associated with the sale and transfer of such assets, including recovering any costs incurred by the Green Bank in the development of Project.

There is minimal financial risk associated with these actions. Green Bank will merely serve as an intermediary role in the procurement process of the project contracts with all project costs borne by the project’s eventual owner. Green Bank has incurred costs out of its program budget associated with developing and issuing the RFP which will be recouped in the sale of the project.

## **Resolution**

**WHEREAS**, Connecticut Green Bank (“Green Bank”) staff has been working with the Department of Correction to develop a fuel cell project at York Correctional Institution (“Project”);

**WHEREAS**, Green Bank has been providing assistance in site feasibility analysis and facilitating a procurement process for the development and ownership of the Project; and

**WHEREAS**, Green Bank has identified a partner through a competitive process to construct, finance and own the Project.

**NOW**, therefore be it:

**RESOLVED**, that the Board of Directors (“Board”) of the Green Bank approves and authorizes the President of Green Bank; and any other duly authorized officer of Green Bank to execute and deliver, any contract or other legal instrument necessary to develop the Project materially consistent with this memorandum to the Board dated July 23, 2024; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents as they shall deem necessary and desirable to effect the above-mentioned legal instruments.

Submitted by: Mackey Dykes, VP of Financing Programs and Officer Programs

# Memo

**To:** Connecticut Green Bank Board of Directors

**From:** Robert Schmitt, Associate Director, Marketing & Outreach

**Cc:** Bryan Garcia, President & CEO; Mackey Dykes, Vice President of Financing Programs; Brian Farnen, General Counsel & Chief Legal Officer; Eric Shrago, Vice President of Operations

**Date:** July 19, 2024

**Re:** Manufacturing Innovation Fund Sustainable Business Pilot: GreenGain Program

---

Manufacturers in Connecticut are faced with many challenges when it comes to sustainability. Not only are they feeling pressure from rising energy costs, exasperated by the energy-intensive nature of their business, but they are also feeling pressure from their customers who seek to work with companies who demonstrate their commitment to responsible business standards. To remain competitive, manufacturers need tools and resources to address these issues. The Connecticut Green Bank ("Green Bank") has supported manufacturers in reducing their energy costs for years – including 30 manufacturing companies through its Energy on the Line program – and recognizes the burden this sector of the business community experiences from rising costs and increasing regulatory and market pressures – see Attachment A.

Through an innovative partnership with the Department of Economic and Community Development ("DECD") through its Manufacturing Innovation Fund ("MIF"), Connecticut Sustainable Business Council ("CTSBC") and the Green Bank, there is a unique opportunity to continue to support Connecticut's manufacturing community with both outreach & education and funding that supports the development of projects related to manufacturer's energy, resiliency and sustainability challenges. This opportunity, called GreenGain, led by the CTSBC builds off the Green Bank's experience and success working with MIF on the Energy on the Line program and leverages CTSBC's unique role in the business community as an advocate, convener and problem solver.

To fund this initiative, the MIF has approved \$355,000 in funding for GreenGain to support administrative costs, technical support and a voucher program, administered by the CTSBC and overseen by the Green Bank. The Green Bank seeks to leverage this opportunity to build stronger relationships with Connecticut's manufacturing community and to enable the CTSBC to provide critical training & mentoring by administering the program on the Green Bank's behalf. The Green Bank expects this effort will increase awareness and adoption of

its financing and incentive programs, without risking ratepayer dollars, whilst providing critical support to the manufacturing community in addressing their energy, sustainability and resiliency needs. Manufacturers have consistently accessed C-PACE financing, driving investment in the program

### **Energy on the Line**

Between 2016 and 2023, Energy on the Line grants helped manufacturers across Connecticut invest in solar and energy efficiency. With the manufacturing sector having significant energy consumption and facing high energy costs, this program was critically important to manufacturers facing high energy and operating costs. Energy on the Line was funded by MIF and the program was administered by the Green Bank.

Manufacturers who closed on C-PACE financing were eligible to receive an upfront grant of up to \$40,000, calculated based on the equivalent of the net present value of a 1% interest rate reduction on their total amount financed.

This partnership distributed \$672,508 in MIF dollars which resulted in:

- 30 manufacturing companies have completed 25 solar PV and 7 energy efficiency projects.
- \$11,026,504 in total C-PACE financing
- 3214 kW of solar PV deployed.
- 405,078 million BTU in energy savings

Following the conclusion of this successful partnership, the MIF and Green Bank identified a need for continued engagement with the manufacturing community, especially to support them in addressing their concerns around energy costs and efficiency, and other sustainability topics. Since originally launching the program, the Green Bank's potential offerings for manufacturers has grown with C-PACE expanding to include new construction, electric vehicle infrastructure and resiliency, and the organization broadly expanding its scope to include environmental infrastructure.

However, Green Bank staff identified several challenges to administering a follow-up initiative to Energy on the Line. While the Green Bank's C-PACE program was an effective tool for many manufacturers, manufacturers needed more general support in developing efficiency projects or addressing other sustainability and energy concerns which extended the length of the original program and made it challenging to expend funds expeditiously. This required significant staff time and directly tying funds to C-PACE financing meant many manufacturers who needed support but might be better suited for other programs (e.g., Small Business Energy Advantage ("SBEA")) were not able to access funds. The ideal follow-up program would be more agnostic of participation in Green Bank financing programs while still supporting growth, innovation and progress amongst manufacturers in these areas where Green Bank has expertise and interest. It would also have a reduced burden on Green Bank staff resources, but still support MIF's needs to work with a trusted partner and expert in the area of energy and sustainability in conducting outreach.

## Connecticut Sustainable Business Council

The CTSBC is an independent non-profit organization that brings together the state's sustainable business leaders. Their mission is to "engage and educate a cross-sector business community in building a sustainable economy in Connecticut." The Green Bank has supported this organization since it was founded in 2016, both through memberships and through supporting educational engagements with their community. Mackey Dykes, Vice President of Financing Programs served on the Board of Directors from 2016 to 2024. Peter Ludwig, Senior Manager of Market Engagement stepped into this role in 2024.

As an independent non-profit, CTSBC is uniquely positioned to engage Connecticut's business community. CTSBC approached the Green Bank about partnering to conduct outreach to manufacturers across the State, providing them with subject matter expertise and financial resources to address efficiency and resiliency issues. CTSBC was building a coalition of partners to support in the education, training, and consulting needed to offer this outreach and identified the Green Bank as a fiscal and educational partner.

## GreenGain Program

CTSBC proposed to MIF a 1-year pilot program called GreenGain – see Attachment B. The purpose of the program is to "provide access to training, subject matter expertise and financial resources to help small manufacturing companies merge energy efficiency and resilience with economic gains." This program concept has been created and developed by CTSBC.

The program has four components:

- 1) **Training:** Training is delivered each month by subject matter experts. Companies such as Assa Abloy, Barnes Group and Stanley Black and Decker will serve as case studies and guest speakers. In between, a digital learning platform will house instructional videos, templates, tools and additional resources.
- 2) **Implementation and Mentoring:** Consulting, along with a corporate mentorship program that matches participating manufacturers with large manufacturers that will lend time and expertise to help participants implement what they learn from the training.
- 3) **Vouchers:** The voucher program provides matching funds to manufacturers seeking to implement energy efficiency equipment upgrades, renewable energy projects and battery storage. It also includes funding for energy audits and assessments to determine projects with the highest ROI.
- 4) **Outreach:** Outreach will consist of emails, social media posts and phone calls to the target audience. Partnerships with industry associations, chambers of commerce and other groups such as IAC that also target manufacturers. GreenGain leadership will speak at industry conferences and participate in webinars to boost recruitment. We will leverage a robust network of businesses and industry associations in Connecticut such as CT Sustainable Business Council, New Haven Chamber of Commerce,



Minority Business Development Council, UCONN Industrial Investment Center, and the manufacturing industry groups in the state.

The following Key Performance Indicators were outlined in the proposal:

- The number of manufacturers that apply.
- The number of manufacturers that participate.
- Average company size.
- Geographic location (county).
- Total hours of training delivered.
- Total hours of mentorship delivered.
- Total funding provided.
- Anecdotal information such as company testimonials.

CTSBC identified the Green Bank as an educational partner and subject matter expert with opportunities to communicate the benefits and values of our financing programs throughout the program. In addition, they have identified outreach partners with previous C-PACE and Energy on the Line experience to support in the implementation of the program and support of the program. As a previous recipient of MIF funding, strategically partnering with the Green Bank to oversee the program's implementation while also providing its subject matter expertise created a unique opportunity for CTSBC to strengthen their proposal for funding.

Green Bank would enter into a Memorandum of Understanding with MIF in order to receive and disburse the funding for GreenGain. GreenGain would be administered by CTSBC under a Professional Services Agreement ("PSA") with the Green Bank, who would oversee the implementation. CTSBC would offer training and mentoring, conduct outreach, offer technical support, and coordinate with MIF on the approval of vouchers that adhere to the program's policies and guidelines and on all reporting. The Green Bank would regularly engage with CTSBC and ensure that all policies, guidelines and administration of the program are consistent with the terms of its MOU with the DECD as well as Green Bank's mission and values.

CTSBC also identified the Green Bank as a fiscal and program implementation partner based on our experience with MIF and the successful Energy on the Line program. In effect, this results in a program that meets the Green Bank's goals of following-up on the Energy on the Line program, but with little staff time required, and allowing manufacturers more flexibility in addressing their needs. It also allows MIF to continue addressing the needs of manufacturers while leveraging the Green Bank's network and expertise, by empowering the Green Bank to financially administer the program and work with CTSBC to execute on outreach and engagement.

To fund this initiative, the MIF has approved \$355,000 in funding to CTSBC through the Green Bank with \$115,000 to support administrative costs and technical support (with CTSBC making additional in-kind contributions) and \$240,000 for the voucher program.

## Benefits

For the Green Bank, the GreenGain initiative fills a market need for support of the manufacturing community in Connecticut, while addressing the Green Bank's concerns over the resource-intensive needs of running an outreach campaign. It also allows for an approach that meets manufacturers where they are, providing the services and support they need based on their size and the energy and sustainability issues they are addressing. It is also done without use of the Green Bank funds and, because CTSBC will administer the program, this will be achieved with minimal Green Bank staff time.

By serving this role, the Green Bank is able to engage closely with the CTSBC team and ensure that GreenGain supports our goals and initiatives. Development efforts and educational initiatives through this program should lead to positive outcomes, including manufacturers accessing financing products like C-PACE or SBEA, while also helping manufacturers achieve other actions needed on their journey's too be more sustainable and resilient (e.g., preliminary energy assessments and engineering). Without the Green Bank's support and involvement, such a program is unlikely to happen, leaving a significant gap in the market. The Green Bank's support will raise our brand's profile amongst this critically important sector of Connecticut's business community and support manufacturers in addressing the issues they face. It will enable the CTSBC to support this community and for MIF to provide continuity in its program offerings around issues of energy and sustainability.

## Strategic Selection

The selection of CTSBC for the administration of the GreenGain program falls within the parameters of a strategic selection, subject to Board approval, for the reasons outlined below.

- **Special Capabilities** – CTSBC designed and developed a proposal for the GreenGain program based on their experience working with Connecticut's business community and identifying a unique opportunity to partner with the MIF. They sought the support of the Green Bank and other partners in order to bring this concept to market. MIF has approved \$355,000 in funding based on the program proposal CTSBC has developed contingent upon the Green Bank playing a fiscal role and overseeing the program. The opportunity to invest these funds in outreach to the manufacturing community is contingent upon the Green Bank selecting CTSBC to administer the program they developed.
- **Strategic Importance** – Connecticut has a rich manufacturing history, and manufacturing continues to be an important sector of the State's economy. Connecticut's manufacturing community feels the burden of increasing and fluctuating energy costs more than most industries. At the same time, they are also experiencing pressure from their customers and as members of supply chains to adopt more responsible business standards. The Green Bank was partnered with the MIF from 2016 through 2023 to support this community through the Energy on the Line program, the conclusion of which represents a gap in serving this critical sector of the

market. The GreenGain program will continue to support a market sector which drove over \$11M in C-PACE financing from 2016-2024.

- **Urgency and Timeliness** – The Green Bank and MIF ended the Energy on the Line program in 2022. MIF does not currently have any programs for the manufacturing community, disproportionately impacted by the pressures of energy costs and under increasing scrutiny from customers looking for responsible business standards, that address the areas of energy, sustainability, and resiliency. Launching the GreenGain program will close this gap expediently, supporting this critical sector of the Connecticut economy. Lastly, MIF has already approved the GreenGain program proposed by CTSBC.
- **Multiphase Project** - Successful execution of the GreenGain program will result in increased awareness and education of Green Bank offerings and could lead to transactions including C-PACE financing or use of other Green Bank products. If the GreenGain program proves effective in achieving the goals of MIF and the Green Bank, it could lead to additional funding from MIF to expand or continue the program.

## **Recommendation**

Green Bank staff recommends the Board approve the Green Bank entering a Memorandum of Understanding with DECD to receive \$355,000 from the Manufacturing Innovation Fund.

Further, staff recommend that the Board approve of the Green Bank entering a PSA with CTSBC, as a Strategic Selection, to administer the GreenGain program. The Green Bank would enter into this PSA solely for the purposes of flowing down DECD funds and to have a contractual relationship with the administrating entity.

## **Resolutions**

**WHEREAS**, Green Bank supports the Connecticut manufacturing community in their pursuit of solutions to issues of energy, sustainability, and resiliency; and

**WHEREAS**, Green Bank offers products and programs including C-PACE, SBEA, and Energy Storage Solutions that support Connecticut's manufacturing community; and

**WHEREAS**, the Manufacturing Innovation Fund has approved \$355,000 in funding with \$115,000 to support administrative costs and technical support and \$240,000 for vouchers for the grant program as such program is described in the Memo dated July 19, 2024, submitted to the board (the "Manufacturing Innovation Fund Sustainable Business Pilot: GreenGain Program").

**NOW**, therefore be it:

**RESOLVED**, that the Board approves staff's request to enter a Memorandum of Understanding with the Department of Economic and Community Development in an amount not to exceed \$355,000 for funding for the GreenGain Program; and

**RESOLVED**, that the Board approves staff's request to enter into a Professional Services Agreement with the Connecticut Sustainable Business Council in an amount not to exceed \$355,000 to administer the GreenGain Program and develop all policies and guidelines as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII given the special capabilities, strategic importance, urgency and timeliness, and multi-phase characteristics of the GreenGain program.

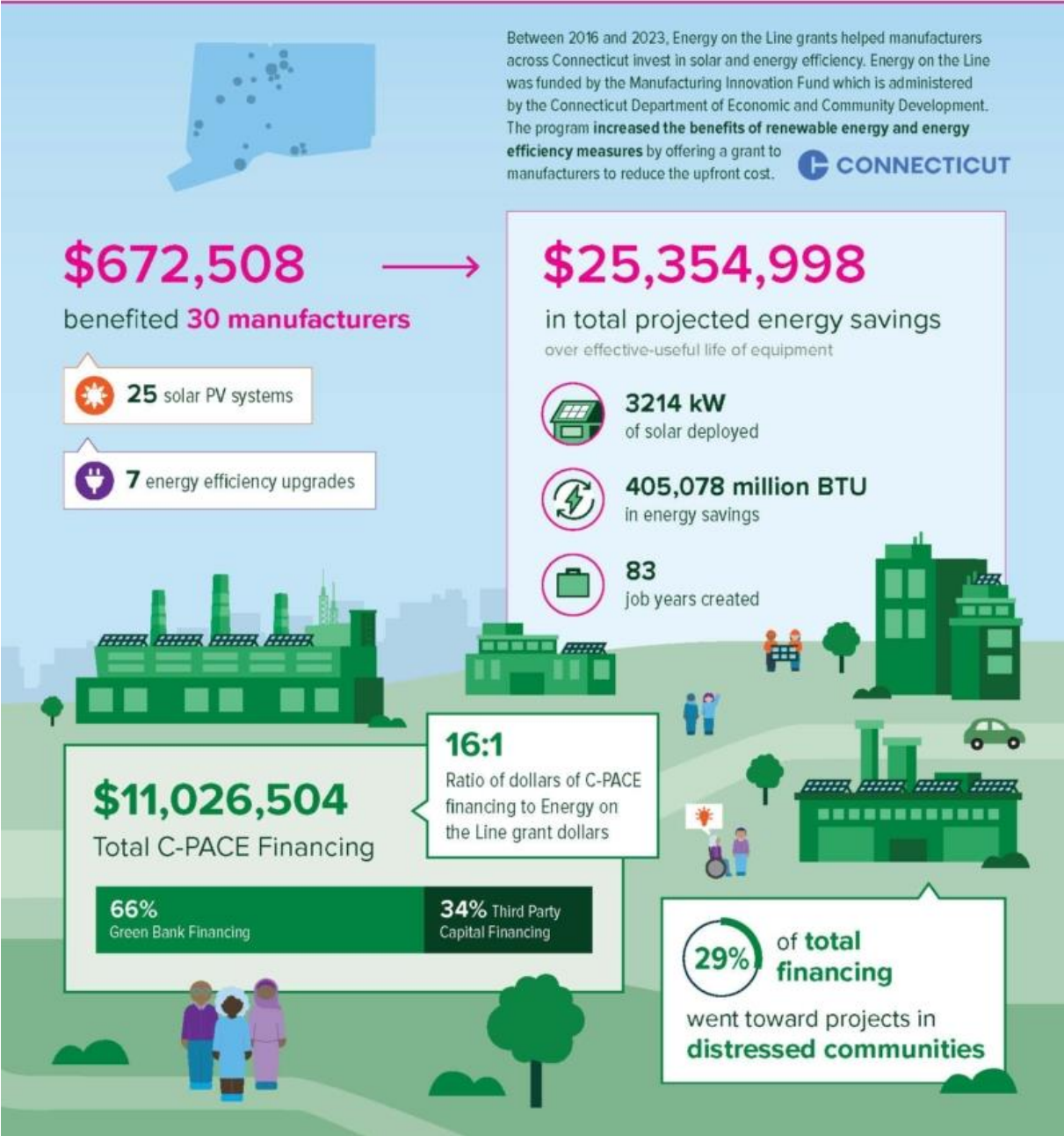
**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all any documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument or instruments.

Submitted by: Robert Schmitt, Associate Director, Marketing & Outreach

Attachment A



Energy on the Line





The L.C. Doane Company will save **more than \$55,000** in energy costs this year.

#### Energy Upgrade

200 kW roof mounted solar photovoltaic system

#### Project Energy Savings

\$1.47 million over the life of the upgrades

"As a government subcontractor in the defense industry, it is essential to keep our own lights on. While manufacturing occurs under our roof, the power source is created from above. As we continue to expand, so does our roof!"

*Bill Psillos, Vice President*



Stencil Ease will save **more than \$20,000** in energy costs this year.

#### Energy Upgrade

72 kW roof mounted solar photovoltaic system

#### Project Energy Savings

\$400,000 over the life of the upgrades



Organization Name	Municipality	Total C-PACE Financing	Grant Amount	Project Description
The L.C. Doane Company	Essex	\$1,094,500.74	\$40,000.00	☀️ 201.96 kW solar & roof
Sterling Engineering	Barkhamsted	\$934,553.00	\$40,000.00	☀️ 293.76 kW solar & roof
Watertown Plastics	Watertown	\$692,752.30	\$40,000.00	☀️ 280 kW solar
KTI, Inc.	East Windsor	\$609,281.65	\$40,000.00	☀️ 267 kW solar
KR Grinding	New Britain	\$566,933.62	\$38,650.38	☀️ 204.8 kW solar
Viking Kitchen	New Britain	\$522,660.90	\$35,632.10	☀️ 204.8 kW solar
Precision Metal Products, Inc.	Milford	\$470,977.80	\$40,000.00	☀️ 216.2 kW solar
Glenbrook Industrial Park	Stamford	\$413,980.69	\$35,402.90	☀️ 135 kW solar & roof
Plastonics	Hartford	\$406,526.58	\$27,598.75	☀️ 99.7 kW solar & roof 💡 Lighting, Windows, Air Sealing
Progressive Sheet Metal	South Windsor	\$394,578.54	\$24,313.00	
– First Phase		\$189,852.75	\$11,698.00	☀️ 36.8 kW solar
– Second Phase		\$204,725.79	\$12,615.00	☀️ 32.8 kW solar & roof
La Pietra	Brookfield	\$393,336.78	\$26,703.24	☀️ 135 kW solar 💡 LED Lighting
Defeo Manufacturing	Brookfield	\$390,926.53	\$25,729.13	☀️ 64.75 kW solar
New England Airfoil Products	Farmington	\$377,457.94	\$25,287.57	💡 LED lighting, Catalyst EMS
Metal Finishing Technologies	Bristol	\$370,650.53	\$17,606.17	💡 New electrical, new modern waste water
Bella Fabrics	Bethel	\$357,359.89	\$24,351.61	☀️ 128.8 kW solar
Bausch Advanced Technologies	Clinton	\$316,761.05	\$21,504.63	☀️ 137.1 kW solar
Ferazzoli Imports	Middletown	\$289,193.10	\$18,701.97	☀️ 125 kW solar
Pyramisa Marble & Granite LLC	East Hartford	\$268,599.28	\$22,724.00	☀️ 110.76 kW solar
Rome Fastener Corporation	Milford	\$257,275.04	\$12,426.14	☀️ 56.1 kW solar & roof
DLZ Architectural Millwork	Hartford	\$253,544.79	\$21,481.33	☀️ 98.28 kW solar & roof
Action Air Systems	Manchester	\$249,804.36	\$12,095.12	☀️ 61.1 kW solar
4-6 New Park Road	East Windsor	\$245,252.27	\$11,891.95	☀️ 113 kW solar
Gold Bond Mattress	Hartford	\$221,931.04	\$15,036.88	💡 LED Lighting
Stencil Ease	Old Saybrook	\$207,102.87	\$14,080.55	☀️ 72.8 kW solar
Bausch Technologies	Clinton	\$180,684.76	\$4,745.11	💡 Lighting, HVAC
Burmco Inc.	North Haven	\$153,844.22	\$14,209.00	☀️ 44.1 kW solar & roof
Royal Screw Machine Products	Bristol	\$129,731.52	\$6,217.68	💡 High efficiency compressor with VFD, LED lighting, windows, roof & insulation
Richard Manufacturing Co.	Milford	\$115,593.48	\$8,043.32	☀️ 44.16 kW solar
CT Boiler	West Hartford	\$75,089.06	\$3,598.84	☀️ 28.1 kW solar
Watertown Plastics	Watertown	\$65,620.32	\$4,476.94	☀️ 22.4 kW solar
<b>Totals</b>		<b>\$11,026,504.65</b>	<b>\$672,508.34</b>	

## **Attachment B**

### **GreenGain: Energy Efficiency and Eco-Actions for Small CT Manufactures (Pilot Program)**

*This program provides access to training, subject matter expertise and financial resources to help small manufacturing companies merge energy efficiency and resilience with economic gains.*

**Why GreenGain?** A CT manufacturer with 25 employees recently faced a dilemma: submit an Ecovadis rating or lose one of its biggest clients. Another small manufacturer is being required by its OEM to disclose its scope 1 and 2 greenhouse gas emissions and doesn't know where to start. Another manufacturer struggles to fill a critical skills gap to remain competitive in a rapidly changing marketplace.

**Target Audience** Employees from EHS, facilities, operations, finance and | marketing/communications, owners and upper management of small manufacturing companies.

**Training** Training is delivered each month by subject matter experts. Larger manufacturers will serve as case studies and guest speakers. In between training sessions, a digital learning platform will house instructional videos, templates, tools and additional resources.

**Implementation** Consulting is provided, along with a corporate mentorship program that matches participating manufacturers with large manufacturers that will lend time and expertise helps participants implement what they learn from the training.

**Voucher** The voucher program provides matching funds to manufacturers seeking to implement energy efficiency equipment upgrades, renewable energy projects and battery storage. It also includes funding for energy audits and assessments to determine projects with the highest ROI.

#### **Voucher Process:**

- Applicant completes requirements and submits screening form and funding request



- Requests are reviewed by CTSBC and qualifying applications are sent to MIF for review and approval.
- Funds are disbursed to the applicant.
- Data is captured to track the impacts of funds.

**Outreach Plan** Beginning with MIF Regional Sector Partners, outreach will consist of emails, social media posts and phone calls to the target audience. Partnerships with industry associations, chambers of commerce and other groups such as MIF Regional Sector Partners and IAC that also target manufacturers. GREENGAIN leadership will speak at industry conferences and participate in webinars to boost recruitment. We will leverage a robust network of businesses and industry associations in Connecticut such as CT Sustainable Business

Council, New Haven Chamber of Commerce, Minority Business Development Council, UCONN Industrial Investment Center, and the manufacturing industry groups in the state.

#### **Partnerships and Lead**

The **Connecticut Sustainable Business Council** (CTSBC) is a non profit business association whose members include corporations, and medium and small enterprises. CTSBC will lead and manage the program.

**Connecticut Green Bank** is a quasi-state agency with experience supporting the Connecticut manufacturing community in reducing their energy costs through C-PACE. The Green Bank will provide training and financing for manufacturers in need of capital to make improvements.

**Factory of the Future** will provide program development, instructional and technical support to participants. Mitch Kennedy has more than 15 years experience providing 45 manufacturing companies in Connecticut with sustainability, resilience and lean manufacturing training.

**Carbonhound** will provide training, tools and low-cost actions for companies wanting to track their carbon footprint. Carbonhound has also offered to track the collective carbon emissions generated by participants of the program.

**Eversource and Avangrid** will provide training and resources for companies wanting to implement energy efficiency into operations.

#### **Estimated Timeline**

**June - September** - Program development, promotion and recruitment

**October** – Kick-Off Session

**November** - Creating a GREENGAIN Road Map for Your Company

**December** - Operational Efficiencies for Sustainable Manufacturing

**January** - How and Why to Track Your Carbon Footprint

**February** - ESG Risk Identification and Management

**March** - Leveraging Programs and Incentives

**April** - Understanding New Standards and Reporting Requirements

**May** - Creating Resilient Supply Chains

**June** - Addressing the Skills Gap

**Late June** - Completion Certificates and In-person Celebration

1. **KPIs**

2. The number of manufacturers that apply.
3. The number of manufacturers that participate.
4. Average company size.
5. Geographic location (county).
6. Total hours of training delivered.
7. Total hours of mentorship delivered.
8. Total \$funding provided.
9. Total \$ invested by companies.
10. Anecdotal information such as company testimonials.

GREENGAIN PILOT PROGRAM BUDGET					
Category	Cost	In Kind	\$ Contribution	Total	% of Total
<b>Administrative</b>					
Salaries	\$85,000		\$(7,500)		
Fringe	\$3,000				
Outreach/Marketing	\$8,500	\$(4,500)			
<b>Total Admin</b>	<b>\$96,500</b>	<b>\$(4,500)</b>	<b>\$(7,500)</b>	<b>\$84,500</b>	<b>19.6%</b>
<b>Technical Support</b>					
Training	\$20,000		\$(5,000)		
Consultation	\$17,000	\$(6,000)			
Digital Learning Platform	\$4,500				
Mentorship	\$52,500	\$(52,500)			
<b>Total Technical Support</b>	<b>\$94,000</b>	<b>\$(58,500)</b>	<b>\$(5,000)</b>	<b>\$30,500</b>	<b>7.1%</b>
<b>Implementation: Voucher Program</b>					
Grants for 12-15 companies with 15-20K per voucher with 1:1 match for consulting, tools and/or equipment.	\$240,000				
<b>Total Implementation</b>	<b>\$240,000</b>			<b>\$240,000</b>	<b>67.6%</b>
<b>Total Program Cost</b>	<b>\$430,500</b>			<b>\$355,000</b>	
<b>MIF Request</b>				<b>\$355,000</b>	<b>82%</b>



# Memo

**To:** Connecticut Green Bank ("Green Bank") Smart-E Team  
**From:** Bert Hunter, EVP & CIO; Eric Shrago, VP of Operations & Ralph Mesite, Inclusive Prosperity Capital (Smart-E Loan Program Manager)  
**CC:** Bryan Garcia, President and CEO; Sergio Carrillo, Managing Director of Incentive Programs, Brian Farnen, General Counsel and CLO; Jane Murphy, EVP of Finance & Administration  
**Date:** July 19, 2024  
**Re:** Smart-E Loan Program: Interest Rate Review and Proposal for Certain Increases

---

## Background

The Smart-E Loan program is the flagship residential loan program for the Connecticut Green Bank ("Green Bank") and works by providing a group of community lenders with marketing for a trusted and recognized brand, technical support and an innovative "second loss" credit backstop provided by the Green Bank in return for these community lenders agreeing to certain uniform terms and conditions for these residential unsecured loans to homeowners seeking to make energy efficiency, solar and, more recently, resiliency improvements to their homes. One of these uniform terms is adherence by the lenders to "not to exceed" interest rates for loans with maturities from 5 years to 20 years (although loans with maturities from 5 years to 10 years have consistently been the most popular with homeowners).

The Smart-E program has been very successful – as reflected here (\$171MM lifetime investment):

<b>Market Segment</b>	<b>Residential Single Family</b> (Credit Enhancement – IRB, LLR)
<b>Product Summary</b>	Partnership with thirteen (13) local community banks and credit union to provide easy access to affordable financing for comprehensive clean energy measures, including H&S. 5-20-year terms at “ <b>not to exceed</b> ” rates ranging from <b>5.99-7.49%</b> for \$500-\$75,000 of borrowing.
<b>Support Needed</b>	<ul style="list-style-type: none"> <li>Provide 2<sup>nd</sup> Loan Loss Reserve (LLR) up to 7.5% of losses Class A and 15.0% of losses Class B</li> </ul>
<b>CT Results (through FY24)</b>	8,820 projects for \$171.2 MM investment, 13 MW solar PV, over 85% projects have EE



In July 2023, as a result of multiple increases in the federal funds interest rate by the Federal Reserve Board which at that time had resulted in increases in interest rates generally, Green Bank staff recommended, and the Board approved (July 2023) the first ever increase in these “not to exceed” interest rates – shown here:

Term	Original Smart-E Rate	Smart-E Rate 9/1/23
5 Years	4.49%	5.99% (+1.50%)
7 Years	4.99%	5.99% (+1.00%)
10 Years	5.99%	6.99% (+1.00%)
12 Years	6.99%	7.49% (+0.50%)
15 Years	6.99%	7.49% (+0.50%)
20 Years	6.99%	7.49% (+0.50%)

- For most lenders, and even with the 2023 increase, the Smart-E loan rate is lower than ALL unsecured loan products in their organization (and many secured products, like car loans or home equity lines of credit)
- The increase in interest rates paid on deposit (savings accounts, CDs, time deposits, etc.) has put significant pressure on loan rate margins
  - This is particularly true of the 5 and 7 year terms where the lender’s margin between its cost of funds and the yield on these Smart-E loans is <1.00% (typically one would see a margin of from 3% to 4%)
- Without a further increase in Smart-E loan interest rates, this successful Green Bank program risks losing its lenders since margins on loans have narrowed to unsustainably low levels.

For the reasons set forth below, staff is requesting a further adjustment in the Smart-E program's "not to exceed" interest rates to be put into effect September 1, 2024. Staff has reviewed these interest rate proposals with the existing lender group and their feedback was positive and encouraging.

### Interest Rate Context

The Smart-E program's "not to exceed" interest rates were established in 2013 when the Federal Reserve Board (FRB) "Federal Funds" Target Interest Rate upper bound was 0.25%. According to the FRB:

***The fed funds market is an unsecured, mostly overnight, over-the-counter funding market among banks and government-sponsored enterprises (GSEs). [...] ...the [Federal Open Markets Committee] FOMC adjusts interest rates by setting a target range for the fed funds rate that reflects the appropriate stance of monetary policy to achieve its longer-run objectives of price stability and maximum employment. Changes in the fed funds target range are the primary means through which the FOMC implements monetary policy.***

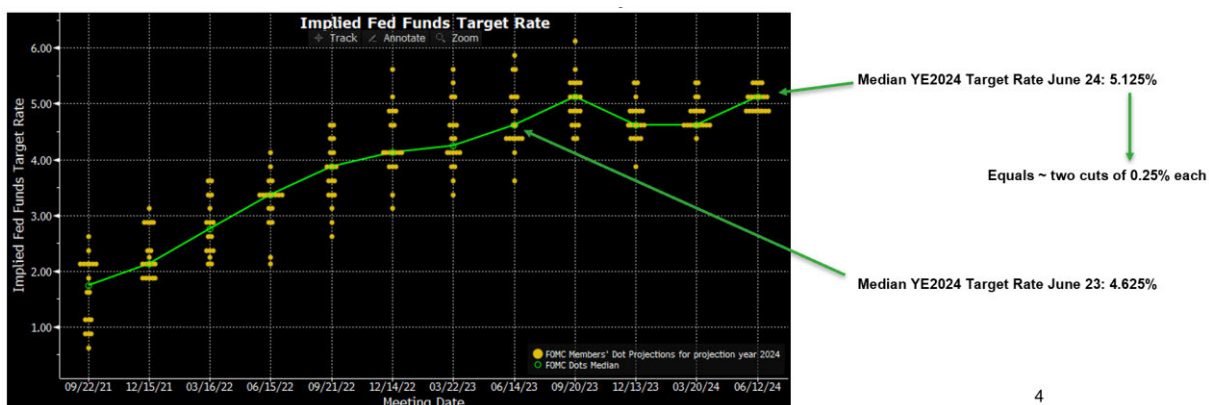
Over the years, the FOMC has raised (known as a tightening cycle) and lowered (known as an easing cycle) interest rates to achieve its longer run objectives of price stability and maximum employment (often referred to as the "dual mandate" of the Federal Reserve). During a prior FOMC "tightening cycle" – ***the FOMC raised this target rate to 2.50% in 9 policy actions over 36 months*** from Dec 2015 – Dec 2018. At the time, Smart-E Lenders grew uncomfortable but tolerated the increase as the FRB held that level for only about 7 months before easing policy starting in July 2019.

Eight months later, in March 2020, the FOMC responded to the economic panic and collapse due to the COVID-19 pandemic by dropping the Target Rate upper bound to 0.25%, back to its levels seen at the beginning of the Smart-E program.

Two years later, the FOMC responded to COVID-induced inflationary pressures (a result of supply chain dislocations and increased consumer demand for products stoked by fiscal stimulus globally as governments sought to keep their economies afloat) by ***raising the upper bound to 2.50% in 4 rate hikes over 4 months*** from Mar 2022 – July 2022. So what previously took the FOMC 3 years to achieve in its prior tightening cycle was accomplished in a mere few months. The FOMC continued tightening policy with 7 additional rate hikes over the next year – rising to 5.50% in July 2023 where it sits today (vs. 0.25% in 2013 when the Smart-E program started).

These increases started to strain the Smart-E community lenders who saw their deposit costs rise along with these policy interest rates. Responding to concerns from one significant lender, staff proposed, and the Deployment Committee approved, the Linked Deposits pilot in May 2023. Responding to these increases and concerns raised later by all Smart-E lenders, staff requested and the Board approved in July 2023 an increase to the Smart-E program's NTE rates, which were made effective Sept 1, 2023 (as shown above).

As 2023 was drawing to a close, the FOMC and the capital markets grew optimistic that interest rate policy would soon become more accommodative in 2024. But by the early spring 2024, owing to rising inflationary signs, the FOMC started to signal that the FOMC would require “much more evidence” before interest rates would be lowered ... a so-called “higher for longer” policy stance. This shift in policy is evidenced by a reversal of FOMC members’ “dot projections” in June 2024 for year end 2024 (the dot projections are a quarterly depiction of the expectations of the members of the FOMC for interest rates in the years ahead):



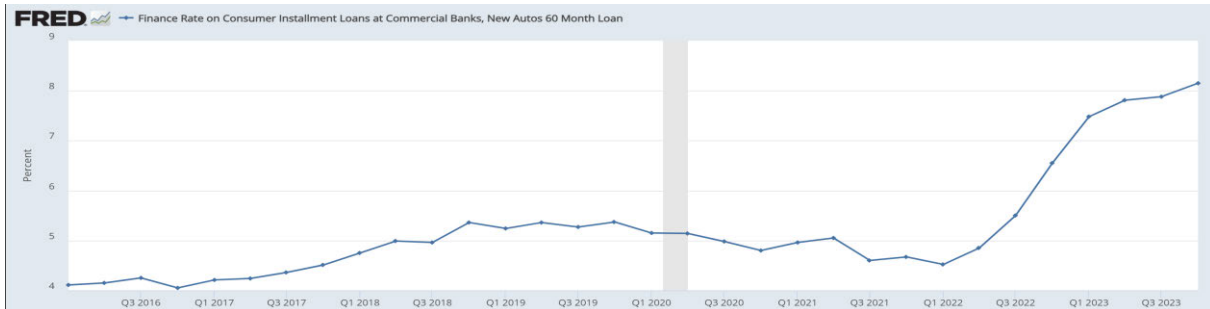
4

The interpretation of the chart above is that the median expectation of the members of the FOMC is now for 2 reductions in interest rates of 0.25% each by year end 2024, rather than 3 which was the expectation in December through the March FOMC meeting. Many members of the Federal Reserve Board were even messaging that one reduction could prove difficult if additional evidence that progress toward lower inflation was forthcoming.

To put these projections in a longer frame (2024 – 2026 and “longer run”), we see the FOMC’s most recent (June 2024) forecast median expectation for the Fed Funds target interest rate at YE 2025 is 3.625% and 3.125% for YE 2026 - which is 0.25% higher than at the start of 2024 – evidencing more of a “higher interest rates for longer” policy stance by the FOMC. Even with gradual easing of interest rates over 2 years, by year end 2026, interest rates are still expected to be higher at that point (more than 2 years from now) than they were in 2019 by about 3%.



This higher interest rate policy stance has had a significant impact on interest rates for businesses and consumers. The Prime Rate, a typical benchmark for business loans and home equity lines of credit, has increased from 3.25% in the spring of 2020 to 8.50% today. Home mortgages were being offered at less than 3% in 2021 and are now hovering at 7% after peaking around 8% a few months ago. Car loans for 5 years are around 8% today vs 4-1/2% a few years ago – shown here:



After carefully considering this interest rate context, staff believes it is in the best interests of the program to provide a further increase to our Smart-E “not to exceed” interest rates while we remain in the elevated interest rate environment. The new interest rate proposal is as follows (increases highlighted):

Term	Sept 23 Smart-E Rate	Sept 24 Smart-E Rate	Increase	\$10,000 Project Pmt/Mo Old	\$10,000 Project Pmt/Mo New	Monthly Payment % change
5 Years	5.99%	6.99%	1.00%	\$193.28	\$197.96	2.4%
7 Years	5.99%	6.99%	1.00%	\$146.04	\$150.88	3.3%
10 Years	6.99%	6.99%	n/c	\$116.06	\$116.06	n/c
12 Years	7.49%	7.49%	n/c	\$105.47	\$105.47	n/c
15 Years	7.49%	7.99%	0.50%	\$92.64	\$95.51	3.1%
20 Years	7.49%	7.99%	0.50%	\$80.50	\$83.58	3.8%

The proposal elevates the shorter maturity loans more than the longer maturities due to the greater pressure on lender cost of funds, particularly for these maturities.

The Smart-E program has prided itself on having affordable interest rates. We note that even with these increases, particularly at the shorter maturities, loan costs are not appreciably increased and compare favorably to other consumer interest rates.

At the same time, these increases over time, as market interest rates fall, will enable Smart-E lenders to compete for incremental business by offering lower interest rates as interest rate levels subside.

If interest rates do subside for a prolonged period of time after the Federal Reserve changes its tight monetary policy stance, staff will consider adjustments to its not-to-exceed interest rate levels.

## **RESOLUTIONS**

**WHEREAS**, the Deployment Committee of the Board of Directors (the “Board”) of the Green Bank (then known as the “Clean Energy Finance and Investment Authority”) on November 30, 2012 approved the establishment of the Smart-E Loan product (then called “CT HELPs”, the “Smart-E Program”);

**WHEREAS**, since approval by the Deployment Committee, the Smart-E Loan program has been expanded by the Board in partnership with Connecticut community banks and credit unions (the “Program Lenders”);

**WHEREAS**, as a condition to participation in the Smart-E Program, Program Lenders enter into a financing program agreement (the “Program Agreement”) with the Green Bank concerning terms, conditions, roles and responsibilities of the Program Lenders and the Green Bank;

**WHEREAS**, one of the terms in the Program Agreement is the establishment of “not to exceed” loan rates (“Program Loan Interest Rates”), whereby the Program Lenders agree to not exceed the interest rates established pursuant to the Program Agreement for Smart-E Loans they provide for their customers;

**WHEREAS**, the Program Agreement establishes that such Program Loan Interest Rates can be changed by the Board of Directors of the Green Bank;

**WHEREAS**, after many years of low and stable interest rates, the Federal Reserve Board of the United States has materially increased interest rates for federal funds and instituted other restrictive monetary policies which have resulted in substantial increases in interest rates for loans to households and businesses as well as interest rates on deposits by which Program Lenders obtain funding for their loans, including Smart-E Loans;

**WHEREAS**, without an increase in Program Loan Interest Rates, Program Lenders are at increased stress to continue lending at the posted Smart-E interest rate and may need to suspend their participation in the Smart-E Program or withdraw from the program;

**WHEREAS**, such withdrawal or suspension would be detrimental to the Smart-E Program goals to make available funding for households seeking to undertake clean energy investments for their homes;

**WHEREAS**, after considerable discussion with Program Lenders, Green Bank staff has determined that it is appropriate to recommend to the Board for approval modification of the Program Loan Interest Rates as set forth in a memorandum to the Board dated July 19, 2024;

**NOW, THEREFORE BE IT:**

**RESOLVED**, that the Board approves the recommendation by the staff to increase Smart-E Loan Program Loan Interest Rates as set forth in a memorandum to the Board dated July 19, 2024 (the “Board Memo”);

**RESOLVED**, that the President of the Green Bank; and any other duly authorized officer of the Green Bank, is authorized to execute and deliver, any contract or other legal instrument necessary to effect the modification of the Smart-E Loan Program Loan Interest Rates materially consistent with the Board Memo; and

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument.

Submitted by: Bert Hunter, EVP & CIO, Eric Shrago, VP of Operations & Ralph Mesite, Inclusive Prosperity Capital (Smart-E Loan Program Manager)



---

# Memo

**To:** Connecticut Green Bank ("Green Bank") Board of Directors (the "Board")

**From:** Bert Hunter, EVP & Chief Investment Officer; Fiona Stewart, Senior Manager, Investments

**CC:** Bryan Garcia, President and CEO; Brian Farnen, General Counsel and CLO; Jane Murphy, EVP of Finance & Administration

**Date:** July 19, 2024

**Re:** Facility Refinancing Update / Approval Revision  
Capital 4 Change ("C4C") for \$25M Medium Term Revolving Loan (secured & subordinated) to CEEFCo (100%-owned subsidiary of C4C) or C4C for Funding CEEFCo's investment in Energy Efficiency Loans (including Smart-E Loans) in partnership with Webster Bank and M&T Bank

---

## Update

At the June 21, 2024 meeting of the Connecticut Green Bank (the "Green Bank") Board of Directors (the "Board"), the Board approved a Green Bank short term revolving credit facility for C4C / CEEFCo in partnership with Webster Bank ("Webster") and M&T Bank who would collectively provide up to \$30 million and Green Bank would provide up to \$25 million, pro-rata with the Green Bank being subordinated to Webster and M&T. The facilities of the three lenders were approved on the basis of a 364-day facility for Webster / M&T capital requirements. In negotiations with Webster and M&T, some of the \$30 million might be reallocated by the lenders for a general purpose facility for C4C (i.e., not related to Smart-E loans). Accordingly, staff returns to the Board with the following modification requests:

- First, Green Bank's approval is to be modified to permit co-lending with Webster and M&T provided Webster and M&T lend at least an amount equal to Green Bank. While it is expected that Webster and M&T will collectively commit at least \$25 million to C4C/CEEFCo, some other amount may be determined (higher or lower). Whatever the case, Green Bank will commit an amount that would not exceed the Webster and M&T collective commitment, with the Green Bank remaining subordinated (no change for the existing approval) and advances will be made pro-rata (again, no change from the existing approval).
- Second, while the Webster and M&T commitments are for 364 days for bank capital requirements, and is subject to renewal, the Green Bank has no such requirement. Accordingly, and in line with what Green Bank provided in partnership with Amalgamated Bank, Green Bank seeks to have its commitment extended to three years. This extension will limit the possible upheaval that could result if either Webster or M&T (or both) should not renew their commitments in a year's time.

- All other conditions to lending would remain the same as approved. The balance of the memorandum below (which was presented in June) is redlined to reflect these adjustments.

## Background

At the October 20, 2023 meeting of the \Green Bank Board, the Board approved a \$15M Medium Term Revolving Loan (secured & subordinated, the “New Revolving Loan”) to CEEFCo (a 100%-owned subsidiary of Capital for Change (“C4C”)) for Funding CEEFCo’s investment in Energy Efficiency Loans (mostly Smart-E Loans) in partnership with Amalgamated Bank which has provided \$15 million in funding senior to Green Bank (for a total of \$30 million). The New Revolving Loan was a result of funding needed by C4C, historically the Green Bank’s largest Smart-E lender to cope with expanding demand for the Smart-E Loan product. Unlike other Smart-E lenders, C4C is a Community Development Financial Institution, or CDFI as they are more commonly called, and is not a depository institution like the Green Bank’s other Smart-E lenders. Unlike these other Smart-E lenders which can rely on consumer and commercial deposits, aside from its equity base, C4C must source nearly every dollar it lends from capital raised from private capital (typically banks) and public capital (such as the Green Bank and the CDFI Fund run by the US Treasury). The Community Development Financial Institutions Program under the United States Treasury actively works to provide access to the one quarter of American households that do not have a bank account or rely on costly payday lenders and check-cashing outlets. Also, this U.S. Treasury program seeks to supply capital to many small businesses and critical community development projects that lack access to the capital investment necessary to spark economic growth in their communities. By regulation, at least 60 percent of CDFI financing activities must be targeted to one or more low- and moderate-income (LMI) populations or underserved communities.<sup>1</sup> C4C is the largest CDFI in the state of Connecticut and has been a program partner of the Green Bank for more than a decade.

Notwithstanding the increase in the Green Bank/Amalgamated facility to \$30 million approved by the Board, it was seen as a “stop gap” measure until a larger facility could be sourced. Amalgamated Bank, due to its credit limitations, is unable to offer a larger facility to C4C (hence the \$5 million stop-gap increase in the facility approved by the Board of the Green Bank in October 2023). After several months of discussion, two of the largest mid-tier regional banks, Webster Bank and M&T Bank, have teamed together with Green Bank to propose additional capital: While the final amounts are still being negotiated, Green Bank seeks approval for up to \$10 million of additional Green Bank capital. While it is expected that Webster and M&T will collectively commit at least \$25 million to C4C/CEEFCo, some other amount may be determined (higher or lower). Whatever the case, the ultimate Green Bank commitment (a) will not exceed \$25 million (up from the existing \$15 million), (b) will be in an amount that would not exceed the Webster and M&T collective commitment, and (c) as with the Amalgamated facility, would be subordinated to Webster and M&T. Should Webster and M&T commit not less than \$25 million, the resulting \$50 million facility would provide enough capital to enable C4C to restart lending operations in this valuable Green Bank program and provide adequate time (approximately 2 years) for C4C and Green Bank to explore longer term funding arrangements (such as a pooled loan bond issuance). Staff supports the proposal from Webster and M&T, and supports the requested increase in funding from Green Bank (up to an additional \$10 million) and is submitting this request to the Board for approval.

---

<sup>1</sup> <https://www.fdic.gov/resources/bankers/affordable-mortgage-lending-center/guide/part-1-docs/cdfi-overview.pdf> (page 80)

## Summary of Request for Approval

CEEFCo requests a refinancing of CEEFCo's existing \$30 million credit facility with the Green Bank and Amalgamated Bank. Demand for SMART-E loans is growing beyond what was anticipated due to several factors outlined below. CEEFCo is requesting an additional \$10M from Green Bank, which would establish a new loan facility with a total capacity of public and private capital, expected to total \$50 to \$55 million (under negotiation, but see term sheet from Webster and M&T Bank attached as Appendix A). Currently, Green Bank provides \$15 million (50%) of the overall \$30M facility with Amalgamated providing 50% (\$15 million). As proposed, at the closing of the loan facility, Webster and M&T Bank would collectively advance \$18 million (\$9 million each) to repay Amalgamated its \$15 million loan outstanding and to provide additional capital to CEEFCo / C4C against the pool of eligible Smart-E loans. Thereafter, Webster and M&T Bank would collectively provide not less than 50% of each advance request by CEEFCo / C4C ), with a not to exceed amount of up to \$30 million and Green Bank would provide not more than 50%, with a not to exceed amount of \$25 million subordinated to Webster and M&T Bank. The loans will be able to "revolve" with CEEFCo / C4C being able to pay down loans outstanding or draw or redraw against eligible collateral. CEEFCo has maintained a flawless interest payment and principal repayment record.

Looking forward to the Inflation Reduction Act incentives which would be implemented by the US government and CT state government in 2025, Green Bank and C4C agree it is reasonable to assume loan demand would increase further supported by incentives and rebates.

## HEAT Loans vs. SMART-E Demand

A decline in EnergizeCT (Eversource & United Illuminating) HEAT Loans due to the 1:1 savings ratio calculation requirement has shifted higher demand for Smart-E loans. The Heat Loan, which is ending at the end of this calendar year, has a legislative mandate requiring the monthly loan payment to be offset by the expected monthly heating savings from the new system upgrade. This was originally designed primarily for oil to gas conversions, and the shift toward prioritizing heat pump technology that runs on electricity has resulted in less projects being able to meet the ratio. As explained by C4C, the recent increases in the cost of electricity in our state have been the primary driver in this - most heat pump projects do not have projected savings as compared to heating with natural gas, oil, or propane. This ratio represents the "ability to repay" compliance component of lending to consumers since credit is not reviewed for this product. This volume shift overall has affected the demand for Smart-E in two ways - both in loan numbers as well as in volume. As heat pump projects often exceed the \$15,000 limit for the HEAT Loan, previously Smart-E would make up the difference. Recently, these projects are frequently not qualifying at all for HEAT Loans, the full projects are shifting to Smart-E rather than simply a portion. Demand shift to SMART-E is expected to continue once C4C restarts its participation in Smart-E.

## CEEFCo Funding Background

- As of December 2023, CEEFCo's capital sources from Green Bank and Amalgamated have been fully drawn (\$30 million).
- Loan fundings before the pause averaged \$1 million to \$1.2 million per month. Therefore, the additional \$25 million in capital is expected to last about 2 years – to early 2026.

Connecticut Energy Efficiency Finance Company (CEEFCo)-Third Party Capitalization				
Non-Equity Loan Capital Sources	Original Amount	Cost of Funds (Existing)	Maturity	Recourse
Webster Bank & M&T Bank (Senior) – proposed	\$30,000,000	6.30%	364 days	Yes
Connecticut Green Bank (Subordinate) - proposed	\$25,000,000	4.00%	364 days	Yes
<b>Total</b>	<b>\$55,000,000</b>	Blended 5.25%		

As submitted, the Webster and M&T facility will mature 364 days from the closing date, but with the expectation that the lenders will consider (but are not required) to renew the facility for additional 364 day periods. Having a facility that matures in less than one year affords the private capital lenders favorable capital reserve requirements which enables the lenders to offer an interest rate that is less than otherwise would be charged, in this case the Secured Overnight Financing Rate (SOFR) plus 1% (in recent weeks SOFR has been 5.30% for a total rate of 6.30% at present). Green Bank would continue the existing rate on its loan at 4% and, similar to its original facility with Amalgamated Bank, would expire in three years. The borrowing base would not exceed the existing Amalgamated / Green Bank arrangement, so outstanding loan balances from the combined loans of Green Bank, Webster and M&T would not exceed 90% of the balances of the underlying loans. Overall, the pricing negotiated results in a blended cost of funds to CEEFCo of approximately 5.25% (previously 5% (blended) with Amalgamated and Green Bank funding).

As a refresher, C4C (formerly, the Connecticut Housing Investment Fund), in partnership with the Green Bank, provides loans to Connecticut single family property owners seeking to finance solar PV and other clean energy systems and energy efficiency upgrades under Green Bank's Smart-E loan program.<sup>2</sup> C4C is Green Bank's largest and most active Smart-E lender with over 3,300 loans outstanding with an original originated amount of over \$55 million (remaining balance \$38.5 million).

### C4C Financial Condition

C4C is in good financial health. Represented below is the parent-level company on a consolidated basis. CEEFCo loan quality is good with approximately 1.0% of loans outstanding in the >90 days past due category – roughly in line with energy efficiency loans more generally, and lower than the rate of 1.1% one year ago. These delinquencies are more than supported by the level of C4C equity (approximately \$14.3 million).

<sup>2</sup> Pursuant to the Green Bank Sustainability Plan passed by the Board in December 2017 and to a Professional Services Agreement, beginning August 3, 2018, certain aspects of the Smart-E Loan program are being managed by Inclusive Prosperity Capital, Inc. ("IPC")



**CAPITAL FOR CHANGE, INC. AND AFFILIATES**

Combined Statements of Financial Position  
March 31, 2023 and 2022

<b>Assets</b>	<b>2023</b>	<b>2022</b>
<b>Current Assets:</b>		
Cash	\$ 2,721,951	\$ 3,001,296
Accounts receivable, net	1,730,029	1,541,191
Interest receivable	454,870	462,592
Current portion of loans receivable	8,126,831	17,291,952
Other current assets	86,671	94,863
Total current assets	<u>13,120,352</u>	<u>22,391,894</u>
<b>Other Assets:</b>		
Restricted cash	14,273,182	13,332,088
Investments	1,294,294	1,151,275
Loans receivable, net	76,652,926	60,588,929
Total other assets	<u>92,220,402</u>	<u>75,072,292</u>
<b>Property and Equipment</b>		
Land	241,686	241,686
Building and improvements	3,368,023	3,297,153
Furniture and equipment	1,525,228	1,449,340
	<u>5,134,937</u>	<u>4,988,179</u>
Less - accumulated depreciation	1,657,866	1,453,602
Net property and equipment	<u>3,477,071</u>	<u>3,534,577</u>
Total assets	<u>\$ 108,817,825</u>	<u>\$ 100,998,763</u>
<b>Liabilities and Net Assets</b>		
<b>Current Liabilities:</b>		
Current portion of notes payable	\$ 3,893,076	\$ 5,232,741
Current portion of equity equivalent notes payable	1,300,000	-
Accounts payable and accrued expenses	549,830	763,223
Accrued interest payable	90,305	90,467
Total current liabilities	<u>5,833,211</u>	<u>6,086,431</u>
<b>Long-Term Liabilities:</b>		
Conditional advances	5,007,167	5,082,920
Loan escrows liability	2,960,276	3,303,972
Funds held for others	994,703	962,566
Deferred interest and other revenue	1,721,491	1,997,353
Notes payable, net	52,638,353	43,816,518
Equity equivalent notes payable	4,850,000	6,100,000
Total long-term liabilities	<u>68,171,990</u>	<u>61,263,329</u>
Total liabilities	<u>74,005,201</u>	<u>67,349,760</u>
<b>Net Assets:</b>		
Without donor restrictions:		
Operating	11,181,032	10,814,185
Equity in property and equipment	2,068,652	2,075,437
Board designated	1,030,804	1,077,563
Total without donor restrictions	<u>14,280,488</u>	<u>13,967,185</u>
With donor restrictions	20,532,136	19,681,818
Total net assets	<u>34,812,624</u>	<u>33,649,003</u>
Total liabilities and net assets	<u>\$ 108,817,825</u>	<u>\$ 100,998,763</u>

**CAPITAL FOR CHANGE, INC. AND AFFILIATES**

Combined Statements of Activities Without Donor Restrictions  
For the Years Ended March 31, 2023 and 2022

	<u>2023</u>	<u>2022</u>
<b>Revenues:</b>		
Earned revenue:		
Financial revenue:		
Interest on loans	\$ 4,013,333	\$ 3,924,269
Investment return, net	(45,000)	(27,177)
Less - net loan loss provision	(1,072,650)	(1,068,188)
Less - interest expense	(2,265,657)	(1,750,576)
Net financial revenue	630,026	1,078,328
Loan servicing fees	1,487,484	1,417,508
Loan origination and other fees	1,129,579	1,005,996
Total earned revenue	3,247,089	3,501,832
Public support:		
Government grants and contracts	925,897	4,637,566
Other grants and contributions	38,911	133,995
Net assets released from purpose restrictions	2,083,435	534,826
Total public support	3,048,243	5,306,387
Total revenues	6,295,332	8,808,219
<b>Expenses:</b>		
Program	5,131,425	5,059,197
General and administrative	627,262	895,602
Fundraising	223,342	251,722
Total expenses	5,982,029	6,206,521
Changes in net assets without donor restrictions	\$ 313,303	\$ 2,601,698

## Strategic Selection

This transaction falls within the parameters of a strategic selection, subject to Board approval, for the reasons outlined below.

- **Special Capabilities** – CEEFCo has nearly a decade of experience as a Smart-E lender and is the largest Smart-E lender by number of loans and dollar value outstanding. It has deep experience in the Connecticut market with Smart-E contractors across several energy efficiency products in addition to the Smart-E Loan, such as the Heat Loan.
- **Strategic Importance** – The revolving loan facility represents a continuation of a business relationship with a counterparty that Green Bank has successfully and smoothly transacted with in the past and in partnership with Webster, who has teamed with M&T Bank. M&T Bank is known to the Green Bank through the PosiGen transaction and our C-PACE program where they have provided consent for C-PACE.
- **Urgency and Timeliness** – Green Bank seeks to deploy capital in mission-driven transactions with appropriate levels of risk and return. This transaction meets this criteria and C4C has expressed the need to close as soon as possible so it may restart Smart-E lending activities; and
- **Multiphase Project** - Successful execution of the revolving loan would represent a follow-on transaction from that which closed originally in Q2 of FY2020 (albeit with a different senior lender) and will make use of the loan documentation previously agreed between parties.

## Request

Green Bank staff requests:

Approval for an increase in Green Bank's existing revolving credit facility relationship with C4C's CEEFCo subsidiary from a maximum of up to \$15 million to a maximum of \$25 million secured and subordinated short term revolving loan in partnership with Webster Bank and M&T Bank (with Green Bank funding not to exceed 50% of advances and Webster Bank and M&T Bank funding comprising not less than 50% of advances) which will satisfy C4C/CEEFCo's funding needs for energy efficiency and Smart-E loans booked by CEEFCo ("CEEFCo Revolving Loan"). The CEEFCo Revolving Loan provided by Green Bank will be a three year medium term revolving loan facility with an interest rate of not less than 4% (the rate being earned today). As proposed, while the primary source of repayment for the CEEFCo Revolving Loan will be the proceeds from consumer loan payments of the CEEFCo loan portfolio and CEEFCo equity, but the facility may also benefit from a lien on unrestricted assets of C4C and CEEFCo (final arrangements under negotiation).

## Green Bank Financial Statements

How is the project investment accounted for on the balance sheet?

Green Bank's advances lead to a reduction in cash and cash equivalents on the asset side of the Green Bank's balance sheet and a concomitant increase in medium-term loans.

## Resolutions

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) entered into a Smart-E Loan program financing agreement with Capital for Change (“C4C”);

**WHEREAS**, C4C is the largest Smart-E lender on the Green Bank Smart-E platform;

**WHEREAS**, C4C and Green Bank have an existing medium term loan facility to C4C’s CEEFCo subsidiary to fund C4C’s Smart-E Loan and other residential energy efficiency loan portfolio growth and C4C’s executive leadership has requested a refinancing of said facility as explained in the memorandum dated July 19, 2024 to the Green Board (the “Revolving Facility Memo”); and

**WHEREAS**, Green Bank staff recommends approval by the Board for an new short term revolving loan facility for C4C/ CEEFCo (the “CEEFCo Revolving Loan”) in order to refinance existing indebtedness from Amalgamated Bank and Green Bank in partnership with Webster Bank and M&T Bank as explained in the Revolving Facility Memo.

**NOW**, therefore be it:

**RESOLVED**, that the Board approves the CEEFCo Revolving Loan in an amount of up to \$25 million in capital from the Green Bank balance sheet in support of energy efficiency and Smart-E Loans in partnership with Webster Bank and M&T Bank generally consistent with the Revolving Facility Memo as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII given the special capabilities, strategic importance, urgency and timeliness, and multi-phase characteristics of the CEEFCo Revolving Loan transaction;

**RESOLVED**, that the President of the Green Bank; and any other duly authorized officer of the Green Bank, is authorized to execute and deliver, any contract or other legal instrument necessary to effect the CEEFCo Revolving Loan on such terms and conditions as are materially consistent with the Modification Memo; and

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument.

Submitted by: Bryan Garcia, President; CEO and Bert Hunter, EVP and CIO and Fiona Stewart, Senior Manager, Investments

## Appendix A



June 3, 2024

### Capital for Change, Inc. Summary of Terms and Conditions

This letter provides an outline of the terms and conditions under which Webster Bank, National Association ("Webster Bank") would consider providing up to \$15,000,000 in revolving credit facilities in a total \$55,000,000 revolver led by Webster Bank to Capital for Change, Inc. ("C4C") and/or its 100%-owned subsidiary, CEEFCo ("CEEFCo"). The terms and conditions summarized below are provided for discussion purposes only. They do not represent an offer, agreement, or commitment from Webster Bank, National Association to provide financing, nor are they all-inclusive. The terms and conditions contained herein are subject to satisfactory completion of due diligence, internal credit approval and such other conditions as may be required by Webster Bank.

**Borrowers:** C4C and CEEFCo

**Lender(s):** Webster Bank and M&T Bank ("M&T Bank"), as Senior Lenders and The Connecticut Green Bank ("CGB"), as Subordinated Lender.

**Lead Arranger/  
Administrative Agent:** Webster Bank.

**Credit Facility:** Up to total \$55,000,000 Revolver, as described below: Webster Bank, as Lead Arranger and Administrative Agent in a \$55,000,000 364-day revolving line of credit facility to C4C and CEEFCo.

- 0% Loans limited to no greater than 5% of total outstanding loans.
- "Eligible Accounts" shall include SMART-E loans which are outstanding and less than 90 days past due from their invoice date, and shall exclude any account deemed ineligible by the Required Lenders in their sole discretion.

**Senior Loan Amount:** \$15,000,000 commitment each from Webster Bank, and M&T Bank, for a 364-day, interest only, Senior Revolving Line of Credit to the Borrower.

**Subordinated  
Loan Amount:** \$25,000,000 commitment from CGB for subordinated financing.

- Subordinated Lender to pay the first 1.5% of Loan Loss from the SMART-E program.

**Use of Proceeds:** Loan proceeds shall be used by the Borrowers solely to (i) refinance existing indebtedness of CEEFCo and (ii) make loans under Connecticut Green Bank's SMART-E energy loan program to make energy efficiency improvements to owner occupied Connecticut 1-4 family residences.



<b>Required Lenders:</b>	Webster Bank and M&T Bank (together, "Required Lenders")
<b>Amortization:</b>	Bullet Maturity. Interest Only prior to maturity.
<b>Maturity:</b>	364-days from closing.
<b>Interest Rate:</b>	1-month Term SOFR plus 100bps or Base Rate.  <i>Base Rate is defined as the higher of The Wall Street Journal Prime Rate or the Federal Funds Rate plus 100 bps.</i>
	<b>SWAP Option: TBD</b>  <ul style="list-style-type: none"> <li>• Interest calculated on 360 Actual Days.</li> </ul>
<b>Commitment Fee:</b>	100 bps of the Total Commitment of \$30,000,000 to be shared equally by Webster Bank and M&T Bank.
<b>Unused Facility Fee:</b>	50bps, payable quarterly.
<b>Security:</b>	(i) assignment of C4C's and CEEFCo's respective rights and remedies under and with respect to all SMART-E loans made using proceeds of this loan and (ii) lien on all unrestricted assets of C4C and CEEFCo.
<b>Debt Service Reserves:</b>	The greater of a minimum of \$1.5M or 9 mos. of the maximum annual interest due in the next 12 mos. Reserve account to be held at M&T Bank
<b>Depository Operating Accounts:</b>	The prior operating accounts held with Amalgamated Bank, N.A. and any operating accounts related to this facility to be held at Webster Bank.
<b>Eligible Loan Pool:</b>	SMART-E loans to Borrowers meeting the criteria of the loan program and its guidelines. <ul style="list-style-type: none"> <li>• Minimum FICO score of 580 for loans of \$25,000 or less and 640 for loans of \$26,000 or greater.</li> <li>• Maintenance of a Minimum Weighted Average FICO score of 675 or better for the Eligible Loan pool.</li> </ul>
<b>Disbursement Requests:</b>	The Administrative Agent must receive Disbursement Requests at least 5 days before the requested date of disbursement. <ul style="list-style-type: none"> <li>• Each Lender to disburse their equal and proportionate share of any Borrowing Request to the Administrative Agent for disbursement to the Borrower pursuant to customary funding mechanisms.</li> </ul>

<b>Covenants:</b>	<ol style="list-style-type: none"> <li>1. Minimum Net Unrestricted Assets: Borrower will not permit unrestricted net assets of C4C to fall below \$10,000,000 at any time.</li> <li>2. Minimum Days Cash-On-Hand: <math>\geq 90</math> days.</li> <li>3. Maximum Charge-off limit not to exceed 4% for SMART-E loan pool.</li> </ol>
<b>Other Covenants:</b>	Usual and customary affirmative and negative covenants regarding maintenance of corporate existence, payment of taxes (if any), additional indebtedness limitations, operating leases, liens, distributions and dividends, capital expenditures, mergers, dispositions and acquisitions of assets, investments, maintenance of appropriate insurance, etc.
<b>Other:</b>	Legal opinion satisfactory to the Administrative Agent and the Required Lenders
<b>Loan Documents:</b>	Standard and customary for a transaction of this nature and as required by the Required Lenders.
<b>Financial Reporting:</b>	Standard and customary for a transaction of this nature and as required by the Required Lenders.
<b>Borrower</b>	
<b>Covenant Certificate:</b>	Standard and customary for a transaction of this nature and as required by the Administrative Agent.
	All financial statements shall be accompanied by a covenant compliance certificate.
<b>Expenses:</b>	Standard and customary for a transaction of this nature and as required by the Administrative Agent.
<b>Governing Law:</b>	<b>State of Connecticut.</b>



**MARKETING RELEASE:** The Borrower acknowledges and agrees that Webster Bank may share certain information relating to the transaction contemplated hereby with standard industry database companies (such as Thompson, Reuters Loan Pricing Corporation, Standard Poor's LCD and Portfolio Management Data) in accordance with customary industry practice.

In connection with the transaction, Webster Bank may wish to create a tombstone advertisement, a brief press release as well as certain promotional materials describing the details of this transaction in written, electronic or other medium. The Borrower will have the opportunity to review, edit and approve the tombstone, advertisement and /or press release prior to publication.

We appreciate the opportunity to present this term sheet to you. If these terms and conditions are acceptable to you, please sign this letter in the space provided below and return a signed original to Webster Bank by June 28, 2024.

Sincerely,

**Webster Bank, National Association**

By:   
Lawrence D. Jones  
Title:   
Managing Director

**M&T Bank, National Association**

By:   
Ken Ngoopes  
Title: Vice President

75 Charter Oak Avenue, Hartford, Connecticut 06106  
T: 860.563.0015  
[www.ctgreenbank.com](http://www.ctgreenbank.com)



## Medium Term Funding Facility Modification

### July 19, 2024



**Document Purpose:** This document contains background information and due diligence for the subordination of the Connecticut Green Bank's existing \$5.0 million funding facility for Budderfly, Inc. created through the Connecticut Green Bank's Capital Solutions Open RFP program and approved on April 22<sup>nd</sup>, 2022. The information herein is provided to the Connecticut Green Bank Board of Directors for the purposes of reviewing and approving recommendations made by the staff of the Connecticut Green Bank.

In some cases, this package may contain, among other things, trade secrets and commercial or financial information given to the Connecticut Green Bank in confidence and should be excluded under C.G.S. §1-210(b) and §16-245n(D) from any public disclosure under the Connecticut Freedom of Information Act. If such information is included in this package, it will be noted as confidential.

# Memo

**To:** Connecticut Green Bank Board of Directors

**From:** Larry Campana, Associate Director, Investments & Derek Nong, Graduate Summer Associate, Investments

**Cc:** Bryan Garcia, President and CEO; Bert Hunter, EVP of Investments and CIO; Brian Farnen, General Counsel and CLO; Mackey Dykes, VP Financing Programs and Officer; Jane Murphy, EVP Finance & Administration

**Date:** July 19, 2024

**Re:** Budderfly, Inc.'s \$5,000,000 Loan Subordination

---

## Summary

Budderfly, Inc., is a Connecticut based company ("Budderfly") with a \$5.0M 6-year term loan (\$4.17 million outstanding and fully performing) with the Connecticut Green Bank ("Green Bank") approved by the Board of Directors (the "Board") in April 2022 (see attachment A). To support further growth, Budderfly is now seeking an additional [REDACTED] working capital senior facility from Mizzen Capital and CT Innovations, which would require the Green Bank and other senior lenders (Mizzen Capital and CT Innovations) to subordinate their existing term loans. The new working capital facility would be senior 1<sup>st</sup> lien against Budderfly's existing inventory, and pari-passu on all non-inventory assets.

Budderfly, with its corporate headquarters and central operations in Shelton CT, was founded in September 2017 is an Energy-as-a-Service (EaaS) provider which targets commercial and industrial customers, primarily franchised quick service restaurants and consumer retail, enabling them to realize savings with no upfront investment and manage their energy use through a user-friendly and proprietary cloud-based technology platform. The company is growing rapidly, with nearly 4,500 installations from Connecticut to California, and a trailing 2-year revenue growth of 178% (to more than [REDACTED] in top line revenues). In July 2022, Partners Group, a leading global private equity firm, purchased a [REDACTED], further accelerating its continued growth.

## Updates and Background

In April 2022, the Green Bank approved a \$5.0M funding facility to Budderfly, supporting them in working capital needs, primarily to finance bulk purchases of HVAC equipment, a core component of their business model that reduces the upfront cost of retrofits.

As the company continued to scale, Budderfly has switched to utilize a special-purpose vehicle (SPV) which would own all projects that exceed certain performance requirements. Under this new model, Budderfly will continue to purchase and install energy efficient equipment at no-cost to the customer, verify the energy savings, and then sell the completed project and associated dollar

benefits to the SPV. Utilizing the SPV enhances working capital efficiency and enables securitization of well-performing projects under existing securitization financing facilities explained below.

Since April 2022, the previous board memo, Budderfly has raised additional funding to support its growth.

- In July 2022, Budderfly raised [REDACTED] stake. The founder/management continues to own the remaining [REDACTED] Connecticut Green Bank also holds warrants associated with its working capital debt investment.
- In January 2024, Budderfly raised [REDACTED] option from Nuveen and Vantage. This securitization debt is tied to and secured by the SPV.

In May 2024, Budderfly identified a cash gap in working capital due to fewer-than-expected SPV-ready projects, higher-than-expected investments at customer sites, and additional deposits required for HVAC purchases. Budderfly considered alternative funding sources such as additional equity, or reducing installations, but was able to secure an additional \$25M working capital facility from existing lenders. The proceeds from this facility will be used for 3 purposes:

- 1) Funding additional projects to allow Budderfly to continue growing and increase recurring revenue. Due to the nature of Budderfly's business model, the more retrofit projects it undergoes, the more upfront capital Budderfly requires.
- 2) Providing down-payments for bulk orders of HVAC inventory (typically [REDACTED]), resulting in lower per-unit costs and lower lead times. Budderfly is negotiating with additional suppliers that will further improve the equipment ordering process.
- 3) Covering the gap between completion of energy saving measures and utility invoices when dollar savings are realized and demonstrated (typically 6 weeks).

The new facility will be sufficient to fund costs until next year, when Budderfly expects to close additional financing from the US Department of Energy Loan Production Office (LPO) State Energy Financing Institution (SEFI) facility being arranged with LPO, Green Bank (one of the first SEFIs recognized by LPO) and other SEFIs (see more on this below). Mizzen Capital and CT Innovations, both existing senior lenders have agreed to provide this facility, contingent on subordination of existing senior lenders on inventory assets, including an existing [REDACTED] Mizzen Capital facility, a \$[REDACTED] CT Innovations facility and the Green Bank term loan ([REDACTED] million outstanding). See Proposed Debt Structure section below for further details.

## Analysis of Financials

Budderfly's balance sheet indicates the capital-intensive nature of its business, with its asset growth fueled via external debt and equity. Its current ratio remains strong, at 3.02x in 2023, and 4.08x in 2022, highlighting its near-term stability and healthy cash balance on hand. The bulk of Budderfly's assets come from on-hand inventory, prepaid cash deposits to equipment/HVAC vendors, installed energy efficient equipment, and intangible assets. Budderfly's primary liabilities come from notes payable, specifically the existing working capital facility, as well as the new private debt facility.

Budderfly continues to perform strongly with compounding revenue growth and expanding margins, leading to positive EBITDA by Q3 2024. Topline revenues surpassed [REDACTED] million in 2023 and are projected to grow to [REDACTED] by 2026. Within the same timeframe, gross profit (total

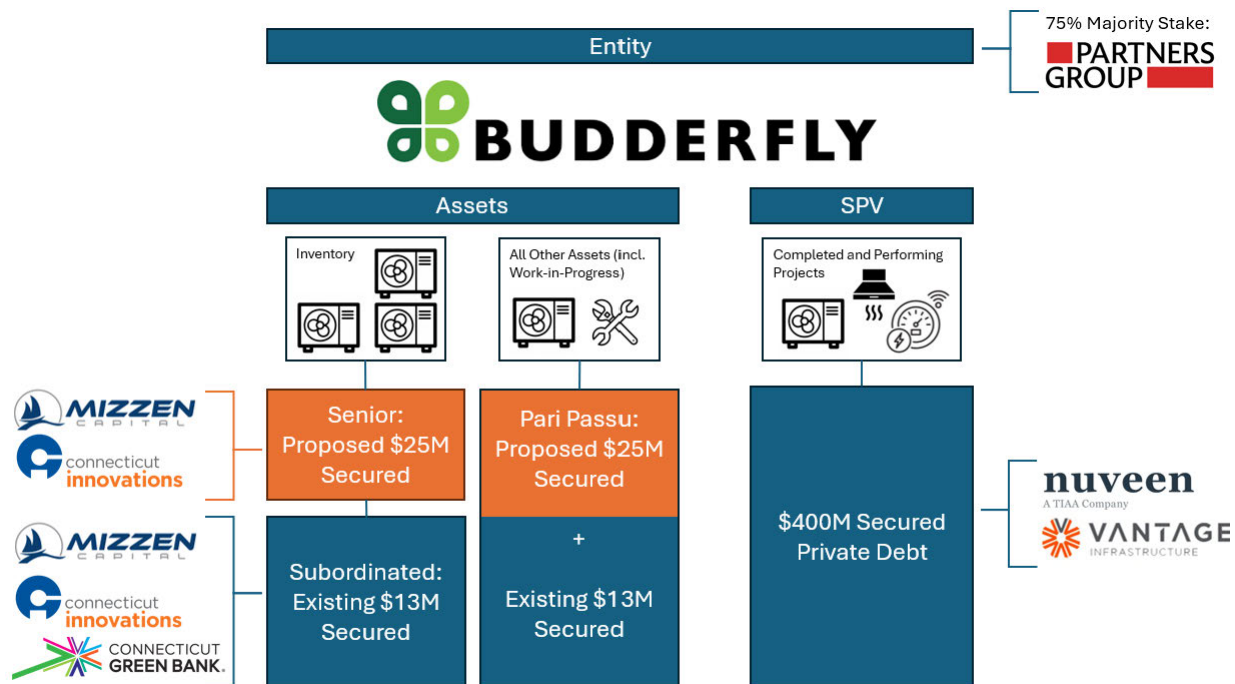
4

In addition to the Green Bank's existing [REDACTED] million secured facility, Budderfly's 2 other senior secured facilities are [REDACTED] from CT Innovations, and [REDACTED] from Mizzen Capital. In total, this represents a \$ [REDACTED] against Budderfly's existing assets of \$ [REDACTED].

## Proposed Debt Structure

5





The new [REDACTED] facility would have senior 1<sup>st</sup> lien claims on all inventory, subordinating the Green Bank and other lenders' existing facility. However, the new facility would be pari-passu with the existing facility on all other assets. As Budderfly would be using the [REDACTED] to cover down payments on purchased inventory, this structure balances existing lenders' interest with new lenders' increased exposure. The Green Bank Staff view this as an equitable arrangement, particularly because the new lenders are already existing lenders. Budderfly currently has [REDACTED] inventory as collateral, prior to any new ordering, so Staff view this facility as highly secure.

Since April 2022, the last board memo, there have been 2 additional changes in Budderfly's secured creditors.

- Balance Point and CT Innovations had an existing \$[REDACTED] 1<sup>st</sup> lien senior secured note, with the Green Bank entering as a 2<sup>nd</sup> lien secured creditor. In July 2022, this note was fully repaid using the equity investment from Partners Group, and the lenders no longer have any claim to the secured assets.
- Connecticut's Department of Economic Community Development (DECD) had also previously provided a [REDACTED] lien senior secured note. The DECD note is being forgiven over time as Budderfly hires additional workers in Connecticut. The loan has been fully defeased with cash collateral.

As a result of these changes, the Green Bank and other 2<sup>nd</sup> lien secured creditors (Mizzen Capital and CT Innovations) currently have highest priority security on Budderfly's inventory and other assets. The new proposed facility would subordinate part of the Green Bank's claim on assets (i.e., to inventory) and restore the Green Bank as a 2<sup>nd</sup> lien lender (and as stated the existing CI and Mizzen claims on assets are to be similarly subordinated on the inventory being financed with the new working capital loan). Green Bank Staff believe that the benefits to Budderfly's overall financial flexibility offered by this new facility outweighs the additional risks of subordination. We also take



comfort in having worked with Mizzen’s principals over many years on various clean energy projects and CT Innovation’s role as a working capital lender alongside Mizzen.

### **Further Considerations**

The Green Bank is currently supporting Budderfly as it applies for [REDACTED] Department of Energy’s Loan Program Office (LPO) as a State Energy Financing Institution (SEFI) supported project. Staff believes that this increase in capital, coupled with additional support from the LPO will continue to decrease Budderfly’s risk as it scales and continues to provide energy efficient retrofits throughout the State of Connecticut and the United States. With this [REDACTED] facility, Budderfly’s cost of capital will decrease, enabling the company to expand its business model across additional existing client types as well as new building types and service lines.

### **Conclusion**

This proposal is a continuation of the Green Bank’s ongoing support to Budderfly, which has proven itself to be a reliable partner in advancing the Green Bank’s mission. Since April 2022, Budderfly has continued to achieve or surpass its stated targets. The proposed subordination enables Budderfly to continue its expected growth trajectory, achieve profitability, and expand sustainably. Approval in subordination to allow for the new senior [REDACTED] capital facility is recommended.

### **Resolutions**

**RESOLVED**, that the Connecticut Green Bank (“Green Bank”) is authorized to enter into a subordination agreement with working capital lenders to Budderfly, Inc. regarding Green Bank’s existing \$5,000,000 term facility, together with any ancillary documentation in respect of same, as more fully explained in the memorandum to the Green Bank Board of Directors (the “Board”) dated July 19, 2024; and

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and negotiate and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned legal instruments.

Submitted by: Bert Hunter, EVP and CIO, Larry Campana, Associate Director, Investments, and Derek Nong, Graduate Summer Associate, Investments.



## **Line of Credit Renewal**

### **A Funding Facility for Connecticut Green Bank Revolving Line of Credit Warehouse Funding Facility Secured by SHRECs July 19, 2024**

**Document Purpose:** This document contains background information and due diligence on a proposed revolving line of credit warehouse funding facility for the Connecticut Green Bank which is presently being provided by Webster Bank and Liberty Bank, but subject to renewal upon its existing expiration date of July 26, 2024. The information herein is provided to the Connecticut Green Bank Board of Directors for the purposes of reviewing and approving recommendations made by the staff of the Connecticut Green Bank.

In some cases, this package may contain, among other things, trade secrets and commercial or financial information given to the Connecticut Green Bank in confidence and should be excluded under C.G.S. §1-210(b) and §16-245n(D) from any public disclosure under the Connecticut Freedom of Information Act. If such information is included in this package, it will be noted as confidential.

# Memo

**To:** Connecticut Green Bank Board of Directors

**From:** Bert Hunter, EVP and CIO and David Beech, Senior Manager, Investments

**CC:** Bryan Garcia, President and CEO; Brian Farnen, General Counsel and CLO; Eric Shrago, Vice President of Operations, Jane Murphy, Executive Vice President of Finance and Administration; Sergio Carrillo, Managing Director of Incentive Programs

**Date:** July 19, 2024

**Re:** SHREC Warehouse Funding Facility Renewal

---

## Background

Connecticut Green Bank (the “Green Bank”) commenced a green bond issuing program in 2019. The Green Bank made issuances in 2019, 2020, and 2021, each of which were secured by receivables from Eversource and United Illuminating in respect of the Solar Home Renewable Energy Credit (“SHREC”) program, which supported the implementation of the Residential Solar Investment Program (“RSIP”). The SHREC receivables are grouped into tranches according to the vintage of the underlying SHRECs. The “asset backed security” green bond issuance of 2019 was secured by Tranche 1 and 2 SHREC receivables, the 2020 special capital reserve fund (SCRF)<sup>1</sup>-backed inaugural Green Liberty Bond was secured by Tranche 3, and the second Green Liberty Bond issued on Earth Day in 2021 being secured by Tranche 4 – see Table 1 for overview of SHREC program.

*Table 1. Overview of SHRECs Produced from the Implementation of the RSIP*

Tranche	# of RSIP Projects	Installed Capacity of RSIP Projects (kW <sub>DC</sub> )	SHREC Price
1	6,796	49,212	\$50
2	7,258	59,824	\$49
3	4,818	39,294	\$48
4	6,957	59,349	\$47
5	7,264	61,904	\$35
6	3,501	31,624	\$34
<b>Total</b>	<b>36,594</b>	<b>301,207</b>	

---

<sup>1</sup> A SCRF is a debt service reserve fund approved by the Connecticut Office of the Treasurer that is set up at the time the bonds are issued, in an amount equal to the lesser of either one year's principal and interest on the bonds or ten percent of the issue. If the borrower makes the scheduled debt service payments, the interest earnings on the reserve fund will pay the interest on the bonds that created it and the principal will go to retire the final maturity of the bond issue. If the borrower is unable to pay all or part of the scheduled debt service payments, the reserve may be drawn upon to pay debt service. The reserve provides up to a year's adjustment time to deal with a revenue shortfall. When the SCRF has been drawn down in part or completely, a draw on the General Fund is authorized and the reserve is fully restored. The draw on the General Fund is deemed to be appropriated and is not subject to the constitutional or statutory appropriations cap. All that is required is a certification by the issuing authority of the amount required. If draws on a SCRF continue, the annual draws on the General Fund required to refill it also continue.

In the period between issuing green bonds, the Green Bank utilizes a short-term revolving credit warehouse facility (the “Warehouse”), which is secured by the Tranche(s) that will later be removed as collateral for the Warehouse and used instead to secure the green bonds. The Warehouse facility size has varied depending on the size of the Tranche(s) securing it in the period in question. For the year ended July 26, 2024, it is a \$5M facility (expandable to \$10M at Green Bank request and subject to approval by the Warehouse Lenders (defined below)), secured by Tranche 5 and Tranche 6 SHREC receivables.

The Warehouse, a joint financing facility with two Connecticut banks (Webster Bank and Liberty Bank, collectively “Warehouse Lenders”) provided at the present time to a special purpose vehicle (“SPV”) of the Green Bank, was originally approved by the Board at its June 28, 2018 meeting. It had a term of one year with interest-only payments (i.e., no required repayment of principal except at facility maturity). The Board approved renewal of the Warehouse, i.e., extension for an additional one year period, at its July 18<sup>th</sup>, 2019, July 24<sup>th</sup>, 2020, July 23<sup>rd</sup>, 2021, June 24, 2022, and June 16, 2023 meetings.

### **Warehouse Renewal**

Staff recommends continued utilization of this Warehouse facility that (a) provides a bridge to the next bond issuance (expected to be in calendar year 2025) and (b) enhances liquidity and allows the Green Bank to meet its significant obligations in a flexible manner (e.g., can draw and repay as needed). Staff is bringing forward for approval a 1-year renewal of the Warehouse (to July 31<sup>st</sup>, 2025) on the terms identical in all material respects to the term sheet submitted to the Board for the existing Warehouse (Appendix A). The key terms that are being brought forward to this renewal facility are noted below:

1. Advances under the Warehouse facility are secured by a pledge of the SHREC receivables.
2. In addition to the pledge of the SHREC receivables, as is the case under the existing Warehouse, the Green Bank will continue to provide guaranty of repayment of the advances to the SPV by the Warehouse Lenders.
3. The interest rate remains 1 month term SOFR + 2.40% which equates to 7.74% as at July 9, 2024. (the rate was 7.49% when the warehouse was brought to the board in 2023)
4. The facility size remains \$5M, but as is the case today will include an accordion feature allowing it to be upsized to \$10M if required.
5. Collateral in the form of Tranche 5 & 6 SHREC receivables.
6. As before, there is a \$75,000 facility fee and an unused fee of 0.50% per annum on any portion of the Warehouse that is fully committed (i.e., initially \$5M) but not utilized.
7. Other key economic terms (interest-only payments (i.e., no required repayment of principal except at facility maturity)) remain the same as before.

**Staff requests approval by the Board to move forward with renewing and amending the warehouse funding facility and approve resolutions in respect of approval by the Green Bank as well as separate resolutions in respect of approval by SHREC WAREHOUSE 1 LLC, the wholly-owned subsidiary of Green Bank, as borrower under the Warehouse facility.**

## Resolution

All of the members of the Board of Directors (the “**Board**”) of the Connecticut Green Bank, a quasi-governmental agency of the State of Connecticut (the “**Green Bank**”), which is the sole member of SHREC Warehouse 1 LLC, Connecticut limited liability company (the “**Company**”), hereby consent to and adopt the following resolutions for and on behalf of the Green Bank and, in the Green Bank’s capacity as the sole member of the Company, for and on behalf of the Company:

**WHEREAS**, the Company intends to enter into a Fifth Amendment to Credit Agreement (the “**Fifth Amendment**”), which amends the Credit Agreement dated as of July 31, 2019, as amended by that certain First Amendment to Credit Agreement and Other Loan Documents dated July 28, 2020, and by that certain Second Amendment to the Credit Agreement and Other Loan Documents dated July 30, 2021, and by that certain Third Amendment to the Credit Agreement and Other Loan Documents dated August 24, 2022, and by that certain Fourth Amendment to the Credit Agreement and Other Loan Documents dated July 28, 2023 (collectively, the “**Credit Agreement**”) with Webster Bank, National Association (“**Webster**”), as Administrative Agent (in such capacity, as “**Agent**”) and as a lender and Liberty Bank, as Lead Arranger and as a lender (Webster and Liberty Bank, in their capacities as lenders, are referenced to herein collectively as, “**Webster-Liberty**”), whereby Webster-Liberty have made available to the Company a Five Million and 00/100 Dollar (\$5,000,000) secured revolving line of credit, with a Five Million and 00/100 Dollar (\$5,000,000) uncommitted accordion feature (“**Loan**”) for the purpose of financing the Tranche 5-2021 and Tranche 6-2022 (as defined in the Credit Agreement) Solar Home Renewable Energy Credit program (“**Tranche 5-2021 SHRECs**” and “**Tranche 6-2022 SHRECs**” respectively);

**WHEREAS**, the Company and Green Bank have requested that Webster-Liberty and Agent modify the Loan and the terms of the Credit Agreement pursuant to the Fifth Amendment, in order to, among other things, extend the term of the Loan;

**WHEREAS**, to induce Webster-Liberty to continue to extend the Loan to the Company, Green Bank shall continue to guarantee the Loan pursuant to the Guaranty Agreement dated as of July 31, 2019 made by Green Bank in favor of Agent (the “**Guaranty**”);

**WHEREAS**, along with a general repayment obligation by the Company, Agent and/or Webster-Liberty are secured by, and the Company and the Green Bank are authorized to secure the Loan and the Guaranty by, among other things, granting to Agent and/or Webster-Liberty (i) a first priority security interest in all assets of the Company, (ii) a collateral assignment of and security interest in all of the Company’s and the Green Bank’s right, title and interest in the Tranche 5-2021 SHRECs and Tranche 6-2022 SHRECs and all rights and obligations relating thereunder under those certain Master Purchase Agreements for the Purchase and Sale of Solar Home Renewable Energy Credits by and between the Green Bank and each of The Connecticut Light & Power Company d/b/a Eversource Energy and The United Illuminating Company each dated February 7, 2017, each as amended by those certain First Amendments, dated July 30, 2018, as further amended by those certain Second Amendments, dated April 1, 2020, (as further amended from time to time, the “**MPAs**”), which collateral assignment and security interest shall include any and all rights to payment of money under the MPAs with respect to Tranche 5-2021 and Tranche 6-2022 SHRECs and those other attributes and rights associated with the Tranche 5-2021 and Tranche 6-2022 SHRECs, (iii) a collateral assignment of all of the right, title and interest in that certain Sale and Contribution Agreement by and between Green Bank and the Company, dated as of the date of the closing of the Loan,

including without limitation, any security interest created under the Sale and Contribution Agreement, and (iv) a security interest in the MPA Collection Account, the Webster Interest Reserve Account and the Liberty Interest Reserve Account (the security interests listed in (i)-(iv) hereof, together, the "**SHREC Collateral**"); and,

**WHEREAS**, Webster-Liberty has requested and the staff of Green Bank has recommended that the Board provide these resolutions approving the renewal and extension of the Loan and the Green Bank's guarantee thereof in accordance with the terms of the Fifth Amendment.

**NOW**, therefore be it:

**RESOLVED**, that the Board of the Green Bank hereby authorizes, ratifies and approves the Loan, as modified, from Webster-Liberty to the Company pursuant to the terms of the Fifth Amendment and any ancillary documentation and authorizes, ratifies, directs and approves the Company's and the Green Bank's entering into the Fifth Amendment and any ancillary documentation to which it is a party and of each other contract or instrument to be executed and delivered by the Company and the Green Bank in connection with the transactions contemplated by the Fifth Amendment;

**RESOLVED**, that the Board of the Green Bank hereby reauthorizes, ratifies and reaffirms the Green Bank's obligations under the Guaranty;

**RESOLVED**, that each of the Company and the Green Bank be and it hereby is, authorized to continue to secure the Loan and the Guaranty by, among other things, granting to Agent and/or Webster-Liberty a first priority security interest in and to the Company's property, including, without limitation the SHREC Collateral;

**RESOLVED**, that the Board hereby authorizes, directs, ratifies and approves Green Bank's and the Company's execution, delivery and performance of the Fifth Amendment and any ancillary documentation and all of the Green Bank's and the Company's obligations under the Fifth Amendment and any ancillary documentation;

**RESOLVED**, that the actions of Bryan Garcia in his capacity as the President and Chief Executive Officer of Green Bank ("**Garcia**"), Roberto Hunter in his capacity as the Chief Investment Officer of Green Bank ("**Hunter**") and Brian Farnen in his capacity as General Counsel and Chief Legal Officer of Green Bank ("**Farnen**"; and together with Garcia and Hunter, each an "**Authorized Signatory**"), are hereby ratified and approved with regard to the negotiation, finalization, execution and delivery, on behalf of Green Bank and the Company, of the Fifth Amendment and any ancillary documentation and any other agreements that they deemed necessary and appropriate to carry out the foregoing objectives of Green Bank and/or the Company, and any other agreements, contracts, legal instruments or documents as they deemed necessary or appropriate and in the interests of Green Bank and/or the Company in order to carry out the intent and accomplish the purpose of the foregoing resolutions are hereby ratified and approved;

**RESOLVED**, that the Authorized Signatories be, hereby are, acting singly, authorized, empowered and directed, for and on behalf of the Green Bank and the Company (in the Green Bank's capacity as the sole member of the Company), to execute and deliver the Fifth Amendment and the other Modification Documents; and,

**RESOLVED**, that any other actions taken by any Authorized Signatory are hereby approved and ratified to the extent that such Authorized Signatory or Authorized Signatories have deemed such actions necessary, appropriate and desirable to effect the above-mentioned legal instrument or instruments.



## Appendix A

### Term Sheet - summary

SHREC Warehouse 1, LLC, (a special purpose vehicle wholly owned by the Connecticut Green Bank – hereinafter “**Company**” or “**Borrower**”) has applied to Webster Bank, National Association (“**Webster**”) and Liberty Bank (“**Liberty**” – each of Webster and Liberty a “**Bank**” and together the “**Banks**”) for up to \$5,000,000 of loans (the “**Loan**”).

<b>Borrower</b>	SHREC Warehouse 1, LLC – a special purpose vehicle and direct wholly owned “single member” LLC subsidiary of the Connecticut Green Bank
<b>Guarantor</b>	The Connecticut Green Bank (“ <b>Guarantor</b> ”)
<b>Credit Facility</b>	Revolving Line of Credit not the exceed \$5,000,000 with uncommitted accordion feature for up to an additional \$5,000,000. The accordion feature is subject to final approval review by the Banks, prior to the exercise of this feature.
<b>Use of Proceeds</b>	For working capital purposes of the Guarantor and to make incentive payments under the Guarantor’s Residential Solar Investment Program (RSIP); and bridge finance the securitization of Tranches 5 & 6.
<b>Facility Maturity</b>	364 days from closing (the “ <b>Maturity Date</b> ”).
<b>Interest Rate</b>	Variable based on 1 month Term SOFR rate plus 2.40%.
<b>Payment</b>	Monthly interest payments with any principal and remaining interest due at the earlier of the Maturity Date or sale of the collateral.
<b>Unused Fee</b>	Half of 1% payable monthly in arrears.
<b>Commitment Fee</b>	\$75,000 payable at closing, with 50% due to each Bank.
<b>Security</b>	First priority lien on all assets of the Borrower. Guarantor or Borrower shall collaterally assign to the Banks (i) its rights in respect of each SHREC Tranche 5 and 6; (ii) its rights in each SHREC MPA (shared with existing SHREC noteholders under the SHREC 2019-1 ABS securitization; (iii) full and unconditional guarantee of payment from Connecticut Green Bank and any rights of payment guarantee under state statutes; and (iv) assignment of the Guarantor’s membership interest in the Borrower.
<b>Debt Service Reserve</b>	Minimum of \$100,000 at all times and increasing in value commensurate with the amount in borrowed funds and not to exceed \$300,000.
<b>Deposit Accounts</b>	The Borrower will maintain all of its primary operating accounts at the Agent Bank.
<b>Loan Documents</b>	The Loan Documents shall contain representations and warranties, conditions precedent to closing, affirmative and negative covenants, and events of default as are customary for loans of this size, type and purpose.
<b>Financial Reporting</b>	<p>Audited financial statements of the Borrower and Guarantor to be submitted within 120 days of each fiscal year end and tax returns within 15 days of filing. All financial statements will be prepared in accordance with GAAP or GASB consistently applied and accompanied by an unqualified statement from an independent certified public accountant (such independent certified public accountant shall be acceptable to the Banks).</p> <p>Within 45 days after the close of the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> fiscal quarters, unaudited financial statements of the Borrower and Guarantor.</p>

	All financial statements shall be accompanied by a covenant compliance certificate.
<b>Expenses</b>	The Borrower agrees to reimburse each Bank for its reasonable attorneys' fees and expenses.
<b>Governing Law</b>	State of Connecticut

75 Charter Oak Avenue, Hartford, Connecticut 06106  
T: 860.563.0015  
[www.ctgreenbank.com](http://www.ctgreenbank.com)

## PosiGen

### Capital Solutions SEFI Syndication Term Loan Facility

July 23, 2024



**Document Contents:** This document contains background information and due diligence on new and existing credit facilities for PosiGen, PBC (“PosiGen”) collateralized by residential solar PV facilities located within and outside of Connecticut and by the future performance-based incentive (“PBI”) payments PosiGen will earn from various residential solar PV projects in Connecticut. The information herein is provided to the Connecticut Green Bank Board of Directors for the purposes of reviewing and approving recommendations made by the staff of the Connecticut Green Bank.

In some cases, this package may contain, among other things, trade secrets and commercial or financial information given to the Connecticut Green Bank in confidence and should be excluded under C.G.S. §1-210(b) and §16-245n(D) from any public disclosure under the Connecticut Freedom of Information Act. If such information is included in this package, it will be noted as confidential.

# Capital Solutions Investment Memo

**To:** Connecticut Green Bank Board of Directors  
**CC:** Bryan Garcia, President and CEO; Jane Murphy, Executive Vice President Finance and Administration; Brian Farnen, General Counsel and CLO; Eric Shrago, Vice President of Operations; Sergio Carrillo, Managing Director of Incentive Programs  
**From:** Larry Campana, Associate Director of Investments; Priyank Bhakta, Associate Director of Investments; David Beech, Senior Manager of Investments; Bert Hunter, EVP and CIO  
**Date:** July 23, 2024  
**Re:** PosiGen Back Leverage via US DOE Loan Program Office SEFI Program

---

## LPO Update

As the Board may recall from the presentation in March 2022,<sup>1</sup> the DOE announced new opportunities for projects funded by “State Energy Financing Institutions” or “SEFIs,” thereby waiving the innovative technology requirement in Title 17 for projects receiving financial support or credit enhancements from a SEFI. The Connecticut Green Bank (“Green Bank”) was among the first group of 10 organizations to receive SEFI status<sup>2</sup>, which allows it to support LPO projects. Staff presented to the Board’s Deployment Committee to create a unique Capital Solutions Request for Proposal category, focused solely on this new opportunity to finance projects in collaboration with DOE LPO and other SEFI organizations. The Capital Solutions SEFI draft document has been sent for comment to the LPO and the supporting Memo is attached hereto as **Exhibit A**.

PosiGen Public Benefit Corporation ((together with its subsidiaries, “PosiGen”)<sup>3</sup> has made significant progress in advancing an application with LPO for a [REDACTED] term loan facility [REDACTED] SEFI participation, contemplated to be led by the Green Bank with expected participation by the Green Bank pari passu with LPO and with a Green Bank contribution max of [REDACTED] the benefit of shifting from Green Bank’s subordinated position under the much smaller Brookfield facility to being senior with LPO under the substantially larger LPO SEFI facility). An outline of major terms is attached hereto as **Exhibit B**.

With respect to the LPO process, key achievements and next steps are as follows:

---

<sup>1</sup> <https://www.youtube.com/watch?v=TPb7AHRWFhg&t=6300s>

<sup>2</sup> <https://www.evergreenaction.com/memos/transformational-clean-energy-opportunity-for-states>

<sup>3</sup> Public Benefit Corporation

- Part 1 application submitted (April 2023)
- Part 2 application submitted (August 2023)
- LPO invitation to due diligence (October 2023)
- Contracting with LPO's third-party advisors (January 2024)
- Due diligence (Q1 2024)
- Interagency process / conditional commitment (July 2024)
- Financial close (Q4 2024)

PosiGen is seeking a loan guarantee from the U.S. Department of Energy (DOE) under the Title 17 Clean Energy Financing Program, as administered by the Loan Programs Office (LPO). The mission of LPO is to be the premier public financing partner that accelerates high-impact energy and manufacturing investments to advance the clean energy transition. The Bipartisan Infrastructure Law amended LPO's Title 17 to permit projects that reduce greenhouse gas emissions without employing innovative technology to qualify for loans, provided they receive "meaningful financial support or credit enhancements from recognized State Energy Financing Institution (SEFIs)"<sup>1</sup>. This significant change, enacted by Congress, aims to broaden access to debt financing for projects deploying established clean energy technologies, such as those proposed in PosiGen's Project, described below. PosiGen is devoted to democratizing access to solar energy in disadvantaged communities and accomplishing the goals aligned in the Biden Administration's Justice40 initiative<sup>2</sup>.

PosiGen is seeking a \$ [REDACTED] from SEFIs to build out [REDACTED] solar photovoltaic systems across 13 states with 60-70% of those in Low Income and Disadvantaged Communities (LIDACs). The Company is seeking a 25-year term loan whereby LPO and SEFIs invest pari-passu to finance PosiGen's 'Solar For All' customer leases, which aim to broaden access to home electrification by removing financial barriers.

As part of the LPO process, PosiGen has had to demonstrate eligibility and viability along technical, commercial, legal, financial, and environmental fronts. During the Part I stage, PosiGen was required to establish SEFI eligibility in order to exempt the Project from needing to meet technology innovativeness requirements. In April 2023, PosiGen submitted their Part I Application, which addressed eligibility, provided an overview of their technology, and included certain legal and regulatory information. Subsequently, PosiGen was asked to provide LPO with existing financing arrangements, including the Connecticut Green Bank Credit Agreement. For Part II, PosiGen demonstrated readiness to proceed into deeper programmatic, technical, environmental, and financial evaluation. This application, submitted in September 2023, included third-party reports from technical, insurance, and market advisors. Further, PosiGen provided a financial model, demonstrating a reasonable prospect of loan repayment. PosiGen also included

a community benefits plan and environmental information sufficient to allow LPO to determine that the entirety of the Project qualified as a categorical exclusion, the lowest level of National Environmental Policy Act (NEPA) review.

In October 2023, PosiGen received a Formal Invitation to Due Diligence, demonstrating LPO's confidence that PosiGen's proposal meets the Title 17 programmatic requirements and Justice40 policy objectives. During this stage, LPO procured their own technical, financial, and market advisors, as well as outside counsel. On July 2, 2024, PosiGen received the initial draft of the Long Form Term Sheet from LPO. PosiGen and LPO continue to progress through commercial diligence and underwriting, targeting a conditional commitment and ultimately financial close of the loan facility in Q4 2024.

Staff has provided updates to the Board with accompanying memorandum during this process including Green Bank Term Loan Facility Modification Request (January 26, 2024), Green Bank Equity Investment Modification Memorandum (March 8, 2024), Proposal for SEFI Syndication Supporting PosiGen's LPO Term Loan (April 19, 2024) and excerpts from each were used in this memo as a comprehensive update and analysis.

Green Bank staff have been in contact with LPO leadership as PosiGen has navigated the process to date, including providing feedback on terms and structure. The facility as contemplated would be a significant win for the company and the LMI households whom they serve, as well as a strong demonstration of Green Bank leadership in unlocking innovative low-cost DOE LPO capital to advance the "equity and access" agenda of clean energy for all, with national implications.

## Background

On April 9, 2024, PosiGen formally amended its first lien asset-backed facility (the "FLCF") with Brookfield Asset Management ("Brookfield") by adding [REDACTED] capacity, raising the total FLCF capacity to [REDACTED], and expanded the use of funds to include work-in-progress ("WIP") systems. As part of the upside, the Green Bank increased its "2nd lien" facility subordinated to Brookfield (the "second lien credit facility", or "SLCF") by [REDACTED] increasing the total SLCF commitment to [REDACTED] which includes participants of [REDACTED] and the PBI facility of [REDACTED] (which is defeased with a sweep of PBI revenues paid by the Green Bank (to itself) and with a face amount of exposure for the PBI facility down to [REDACTED]). A summary of Amendments to the SLCF was compiled by staff and attached as **Exhibit C**.

The FLCF/SLCF upside was completed to lower PosiGen's cost of funding work-in-progress systems, and to accommodate PosiGen's growth in Connecticut and other states while PosiGen pursues a new [REDACTED] term loan facility with the U.S. Department of Energy's Loan Programs Office ("LPO") under the Title 17 SEFI program

(broadly, “LPO Term Loan”). PosiGen has continued to advance negotiations with the LPO. Closing is anticipated in late Q4 2024.

PosiGen has also organized a consortium of SEFIs - including New York State Energy Research and Development Authority (NYSERDA), and New Jersey Economic Development Authority (NJEDA) – which have expressed interest in co-investing along with the Green Bank into PosiGen to satisfy the “SEFI Participation” requirements of the Title 17 program. Due to state-specific programmatic restrictions, SEFIs have wide-ranging investment approval processes before fund disbursement and underwriting criteria pertinent to portfolio composition. Given the Green Bank’s long-standing knowledge of PosiGen’s business model and the credit risks, the Green Bank staff believe there is a unique opportunity to serve a leadership role in coordinating SEFIs interested in building a financing relationship with PosiGen.

PosiGen and Green Bank staff have discussed various financing structures to meet the objectives of:

- (1) providing “meaningful financial support or credit enhancements” from SEFIs as required by Title 17;
- (2) coordinating underwriting parameters from an expanding group of SEFIs to invite new SEFI participation across a multi-state approach;
- (3) support a “catalytic effect” of driving financial capital towards energy improvements for residential buildings for LMI households.

Overall, the Green Bank’s direct exposure to PosiGen (that is, total funded capital) as of July 2024 is approximately \$29 million (\$23 million net of the defeased PBI loans), summarized as follows:

Updated July 5, 2024

Facility (millions)	Security Position		

- (1) Excluding participants
- (2) Excluding PBI (defeased with PBIs)



PosiGen is current on all obligations to the Green Bank, including making good and consistent progress in amortizing the PBI loan via a cash sweep in line with the underlying documentation, and is continuing to both expand its presence in Connecticut (including beyond Bridgeport and Hartford, to recently opening a new office in Danbury) and deliver on its commitments to serve LMI customers across the state.

### Syndicate Structure

Under the proposed terms of the LPO Term Loan, SEFI participation will be structured as a \$[REDACTED] loan facility *pari passu* with the [REDACTED] term loan facility loaned by the LPO. Green Bank participation in this structure represents an improvement from the subordinated position under the SLCF facility subordinated to the 1<sup>st</sup> lien Brookfield facility. The Green Bank also recognizes the benefit of PosiGen's repayment of the Tax Equity Bridge Loan and a portion of the SCLF facility as part of the conversion into the LPO Term Loan.

As noted by PosiGen leadership, the SEFI participation figure is established on the basis of the lesser of [REDACTED] of total eligible project costs, currently estimated at [REDACTED] participation outstrips the term loan financing capacity of any individual SEFI, thereby requiring coordination amongst a consortium of SEFIs, which advances the LPO's policy objective of catalyzing SEFI involvement across a multi-state approach, but also creates loan administration challenges with intercreditor rights and mismatched underwriting restrictions.

Given the Green Bank's familiarity with PosiGen's operating history, the Green Bank is prepared to serve the role as a syndicate lead across participating State Energy Financing Institutions (SEFIs) to establish the "meaningful financial support" from SEFIs as required by Title 17.

The Green Bank proposes a SEFI syndication structure, whereby the Green Bank acts as the primary lender to PosiGen and coordinates participatory capital from additional SEFIs and mission-aligned investors to mobilize the necessary capital to meet the SEFI participation threshold.

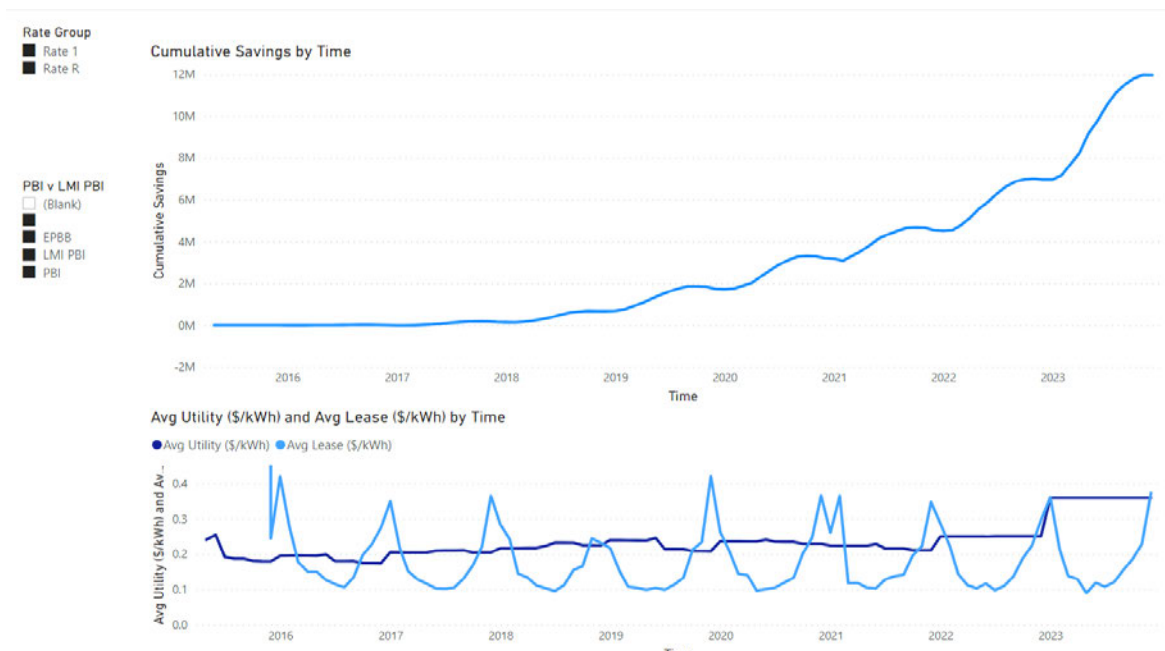
The Board has previously approved staff to continue development of a SEFI Syndication structure, whereby the Green Bank acts as the primary lender to PosiGen and coordinates participatory capital from additional SEFIs and mission-aligned investors to mobilize the necessary [REDACTED] participation threshold. The Green Bank expects to advance term loans pro-rata alongside the LPO to best support PosiGen's growth trajectory, and syndicate term loan capital amongst participatory

capital from other SEFIs (and other institutional capital in accordance with applicable LPO guidelines).

Green Bank's net exposure under the SEFI Syndication would be affected by the ability of participating SEFIs to advance funds to the Green Bank, in effect incurring counterparty risk with quasi-public lending institutions similar to the Green Bank. The Green Bank can mitigate this risk by maintaining the right to substitute syndication participants, and as has been made clear to the Board in prior discussions about this SEFI transaction, Green Bank's SEFI exposure would be capped at [REDACTED], pari passu with LPO. Staff sent a Memorandum to the Board regarding "State Energy Financing Institution (SEFI) Syndication Supporting PosiGen's LPO Term Loan" which is attached as **Exhibit D**.

### Connecticut Impact and Growth

During the PosiGen/Green Bank "Solar for All" campaign during the RSIP, considerable economic, environmental and customer savings impact was achieved which continues today under the residential renewable energy solutions (RRES) program administered by the EDCs. Under the RSIP installed systems, we track system performance which reduces energy burden for the families that lease the 4,500+ systems the Green Bank supported through RSIP and "Solar for All". We can see when electric rates went up in 2023 because of inflationary pressures caused by War in the Ukraine and over-reliance of Connecticut on natural gas power plants (that drove residential tariff prices sharply higher), that the savings increased nearly two-fold. Solar became a hedge protecting low-income families against rising energy prices. They saved \$5MM in 2023 – or about \$1,100 vs. \$2.5MM in 2022 – or about \$560 – shown here:



We push these accomplishments to the public via social media – captured at the following link: <https://www.youtube.com/watch?v=TnOWjdczjfE>



### U.S. Department of Energy Loan Programs Office

Due to PosiGen's growth in Connecticut and other states, the company is advancing towards closing a new term loan facility with the U.S. Department of Energy's Loan Programs Office SEFI program. This transaction between PosiGen, LPO, and Green Bank (as a SEFI), would be the first-of-its-kind in the country demonstrating how federal resources, in partnership with SEFI's, can expand investment in and deployment of solar, storage, and energy efficiency in vulnerable communities across the country.

PosiGen currently has an installed base of approximately 25,000 lease customers, of whom nearly 25% are in Connecticut. (This translates into approximately 6,000+ Connecticut customers with [REDACTED] + on a present value basis, discounted at 6% which far exceeds the Green Bank's investment in the overall facility.) The company projects 2024 growth to add roughly 50% to its deployed base, as it continues to grow through both its organically originated business as well as through mission-aligned channel partners who are now taking advantage of PosiGen's financing and support to serve previously excluded customers.

Staff recommends the Board consider our proposed exposure in light of:

- (a) the consistent payment performance of the borrower to date,
- (b) ongoing good cash flow coverage of debt service obligations, and the
- (c) satisfactory credit performance of the underlying cash-flowing leases against 25,000 residential projects.

By way of summary, the below chart lays out Green Bank funding facilities currently in place (as of July 5, 2024) vs. as proposed herein:

Facility (millions)	Security Position	Facilities/ Exposure (1)	Cap Link Description	Current Balances	Anticipated 12/31/2024 Exposure With SEFI
████	████ ████████	████		████	████
████████ ████████	████	████	████ ████████	████	████████
████████ ████████ ████████	████	████ ████	████ ████████	████ ████	████ ████
████████	████████	████	████ ████ ████████	████	████████
████	████ ████				████ ████████ ████
████████		████		████	████
████████ ████		████		████	████
████		████		████	████

(1) Excluding participants

(2) Excluding PBI (defeased with PBIs)

Green Bank has established a hard cap of ██████ (excluding the defeased PBI loan), PosiGen is required to manage the overall availability under this cap (i.e., Green Bank outstandings under the SLCF Term Loan, the tax equity bridge and the ESS facility (working capital and term loan)). At the present time, the SLCF is a term loan, whereby funds can be drawn according to the borrowing base criteria. The SLCF does not allow for debt to be drawn by PosiGen, repaid, and then drawn again in the future. The Board had made a one-time exception to this arrangement in the past. This is notable currently, as significant activities are forecasted within each of these facilities (all through Green Bank and also participants) and other facilities with other organizations. In particular, staff foresees scenarios with future SEFIs participating in the LPO facility, presented in this current memo, which have not been identified which

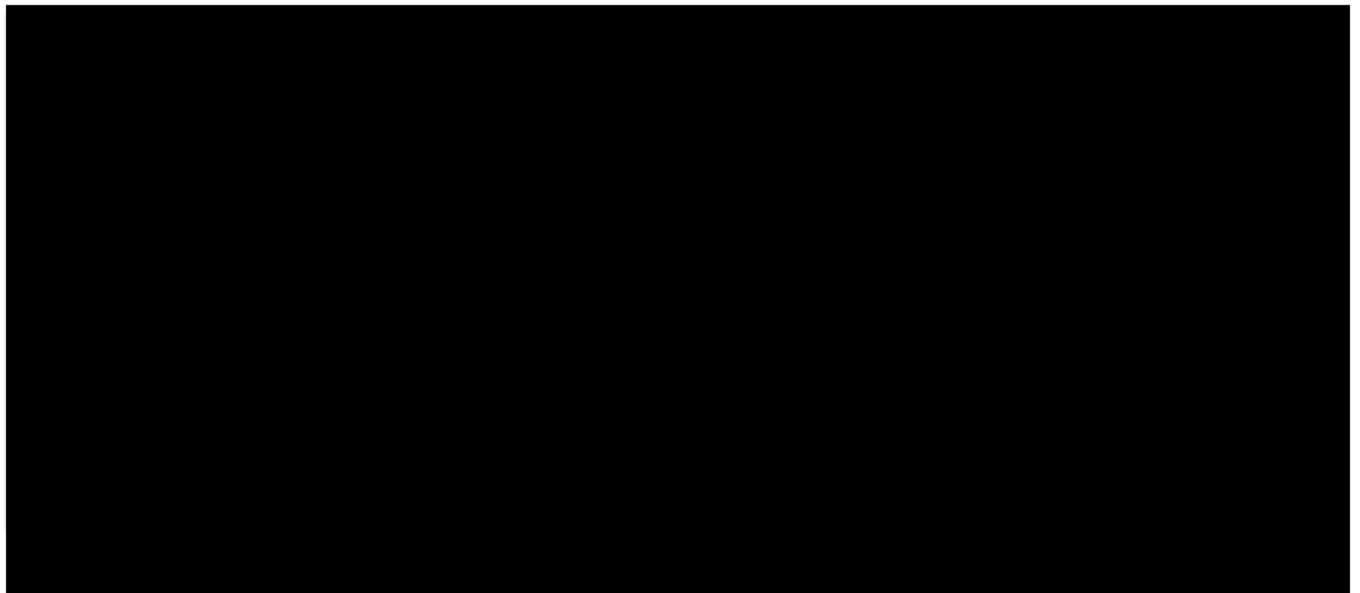
could produce short and medium-term capital gaps. A solution to these gaps could be to change the structure of the SLCF to allow for a “revolving” line-of-credit where PosiGen could pay off the facility and draw upon it in the future. Accordingly, staff is requesting such flexibility as it will facilitate more effective credit exposure management as new SEFIs join the proposed SEFI facility.

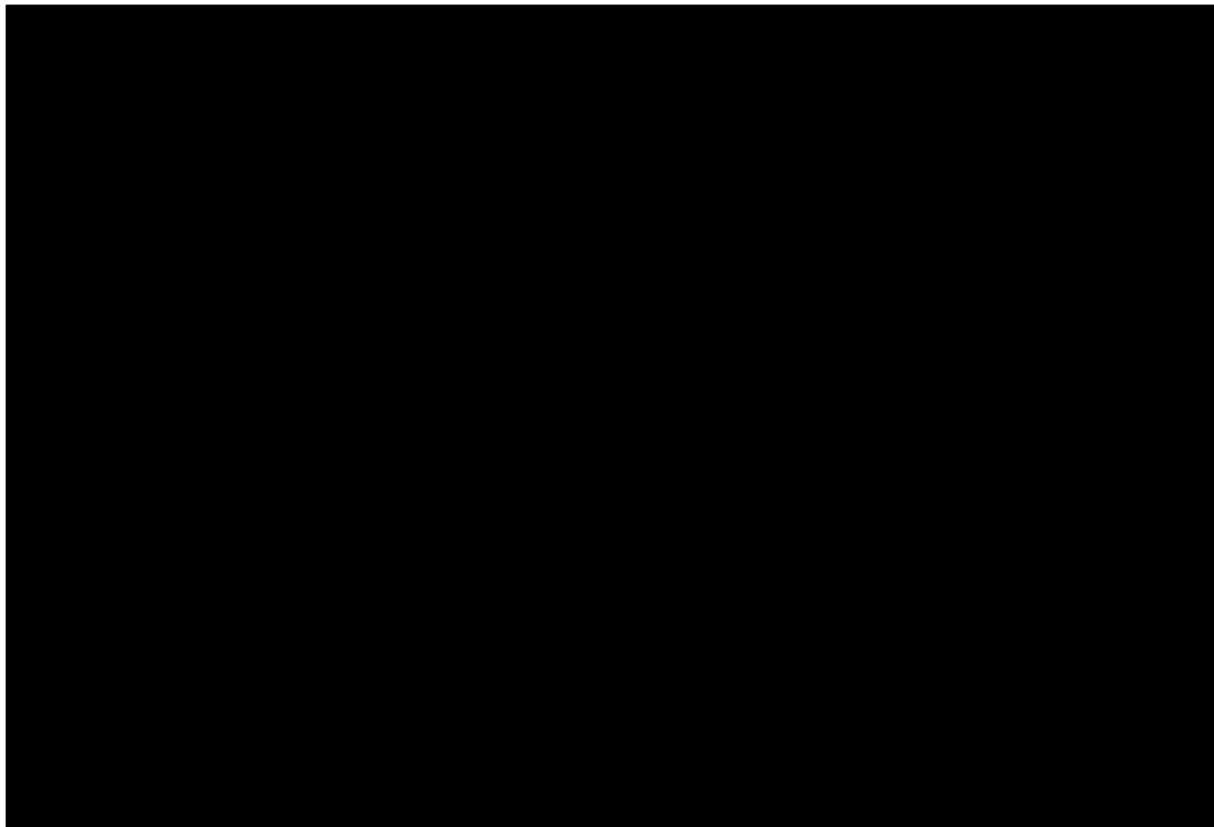
### **Risk Assessment**

With the approval being sought today by staff, Green Bank’s overall facility exposure would increase from a maximum cap of [REDACTED] (plus the defeased [REDACTED] where Green Bank sweeps PBI funds to itself). At the same time, Green Bank’s exposure is well diversified and structured. PosiGen’s portfolio performance remained strong throughout 2023 and 2024, and the company’s lease offer aligns well with customers’ benefits of electric bill savings, which are only increasing with higher rates from Eversource & UI. Moving from the current Green Bank portfolio into the proposed LPO facility will move to a larger facility, with more diversified assets as security and senior with the LPO, which will lower the investment risk to the Green Bank.

Portfolio statistics reflect continued high rates of collection as well as adequate debt service coverage.

### **PosiGen’s Collection Figures in 2023:**





**Capital Flow Diagram:**

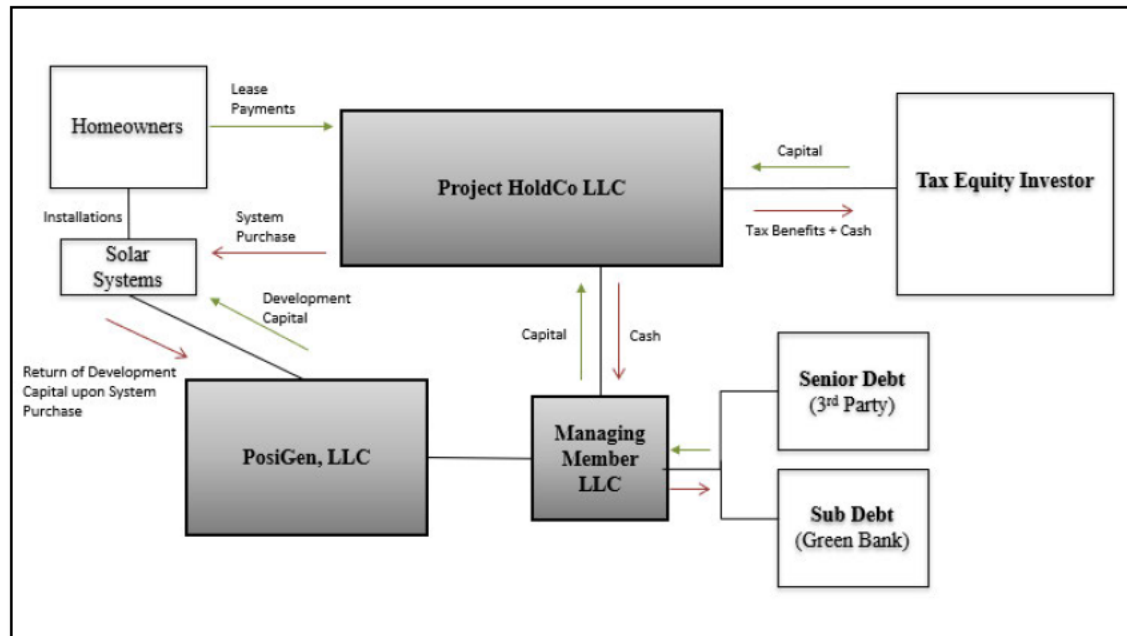
The Capital Flow Diagram for the current Green Bank Second Lien Credit Facility is similar to the structure proposed with the Loan Programs Office and State Energy Financing Institutions facility. The economics of the individual projects remain unchanged. The most significant differences are in the (current) SLCF, the Green Bank is subordinate to Senior Debt and the total number of projects will be larger in the LPO facility. Both these differences will decrease risk to the Green Bank in the new loan.

---

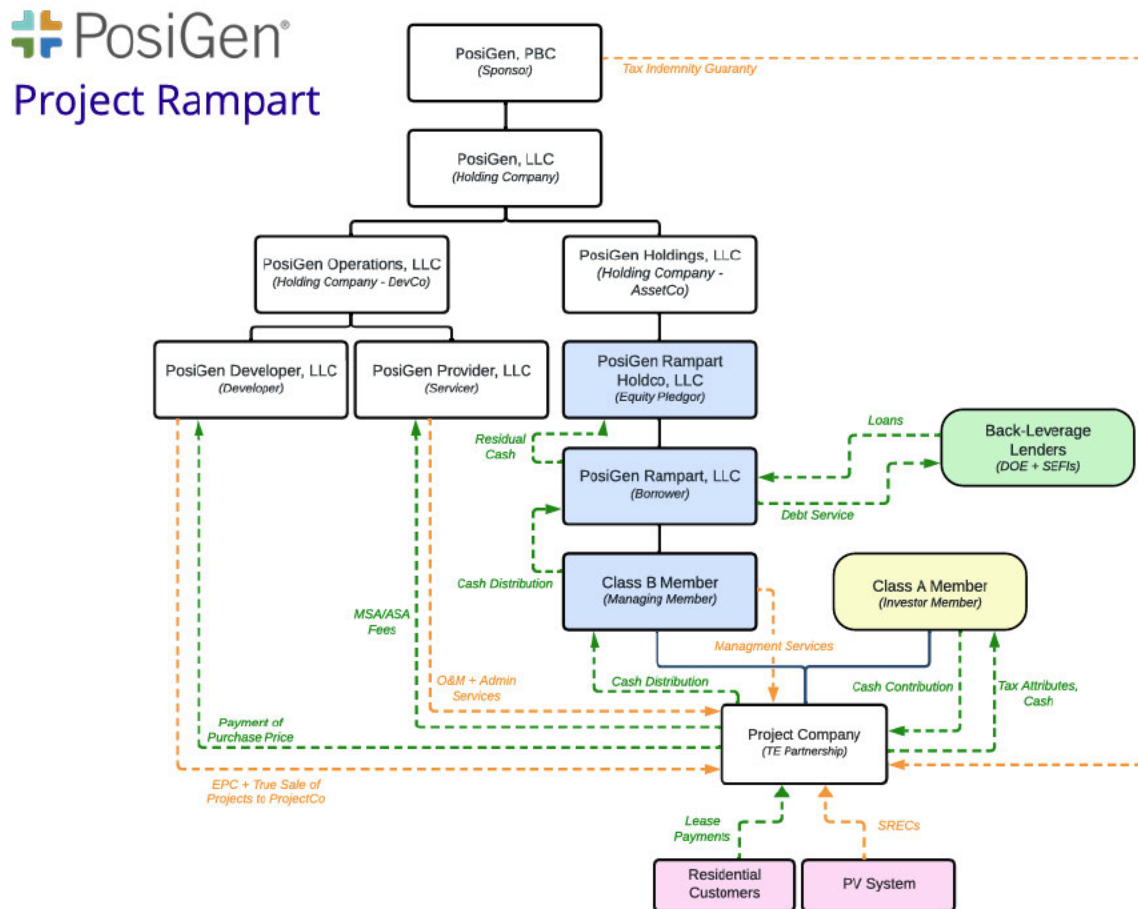
<sup>4</sup> Debt Service Coverage Ratio (DSCR) compares a company's operating income to its debt obligations for the given period (in the case above, for Q3 2023 to Q1 2024). A DSCR above 1.0 indicates a company is generating sufficient income to meet its debt obligation.



## Capital Flow Diagram, Current

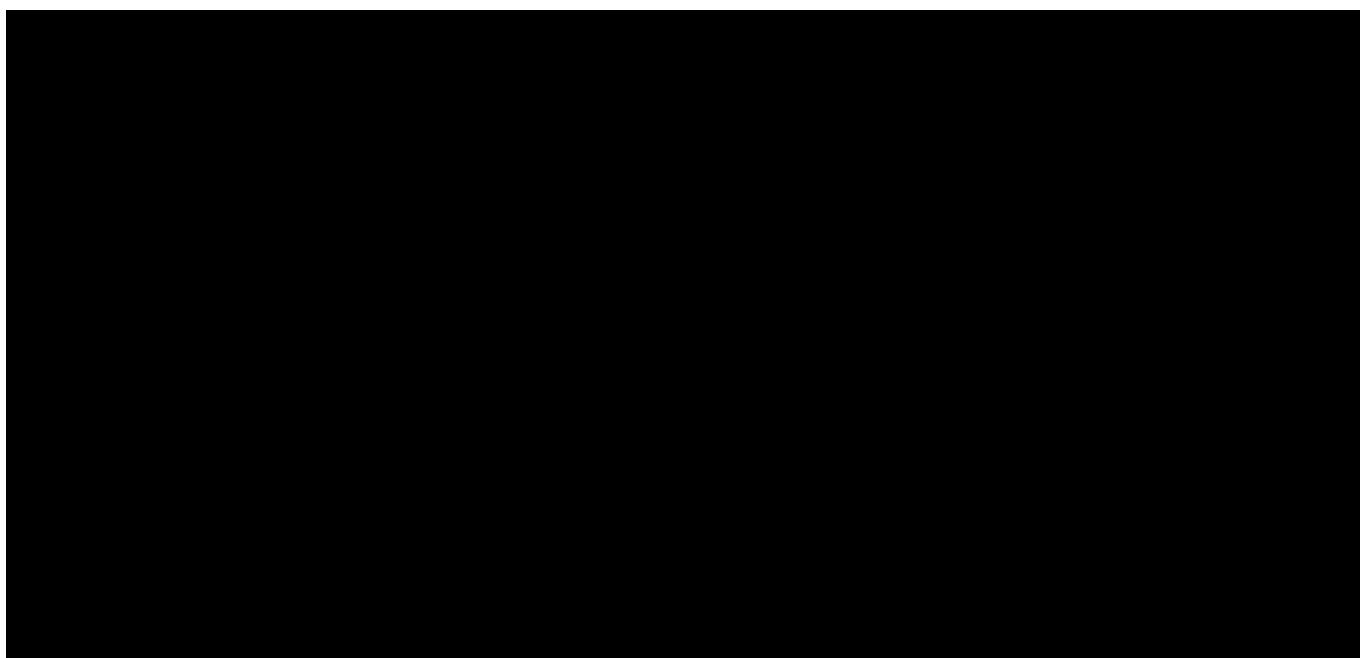


## Capital Flow Diagram, Proposed (LPO with SEFI Syndication)





The tenor of the loan facility is 25 years. All participants are paid proportionately to their outstanding loan balance. The facility in aggregate (as well as individual participants, LPO and each SEFI ) will have amortization payments (interest and principal) which will bring the loan balance to zero. In the current financial model proposed by PosiGen to LPO and the SEFI syndication, the loan principal will be paid from PosiGen over 24 years. With this schedule, Connecticut Green Bank, the LPO, and all the participating SEFI will receive principal payments over the during of the loan equaling their cumulative draw, in addition to interest, which will bring the loan balance to \$0 in 2049.



Staff analyzed a full set of current and historical financials. Representative documents are attached hereto as **Exhibit E**.

A portion of the LPO and SEFI loan proceeds would be used to repay the Brookfield first-lien and Green Bank second-lien warehouse facility in order to transfer 27,000 operating solar systems to the long-term LPO/SEFI loan facility. The repayment of Green Bank second-lien facility will further demonstrate PosiGen's responsible utilization of Green Bank financing. Furthermore, the Green Bank's participation as a pari-passu lender with the LPO effectively improves the security position of the Green Bank in the Project Rampart facility.

[REDACTED]

SEFI Leverage with LPO:	10:1
SEFI Leverage with all other capital:	19:1

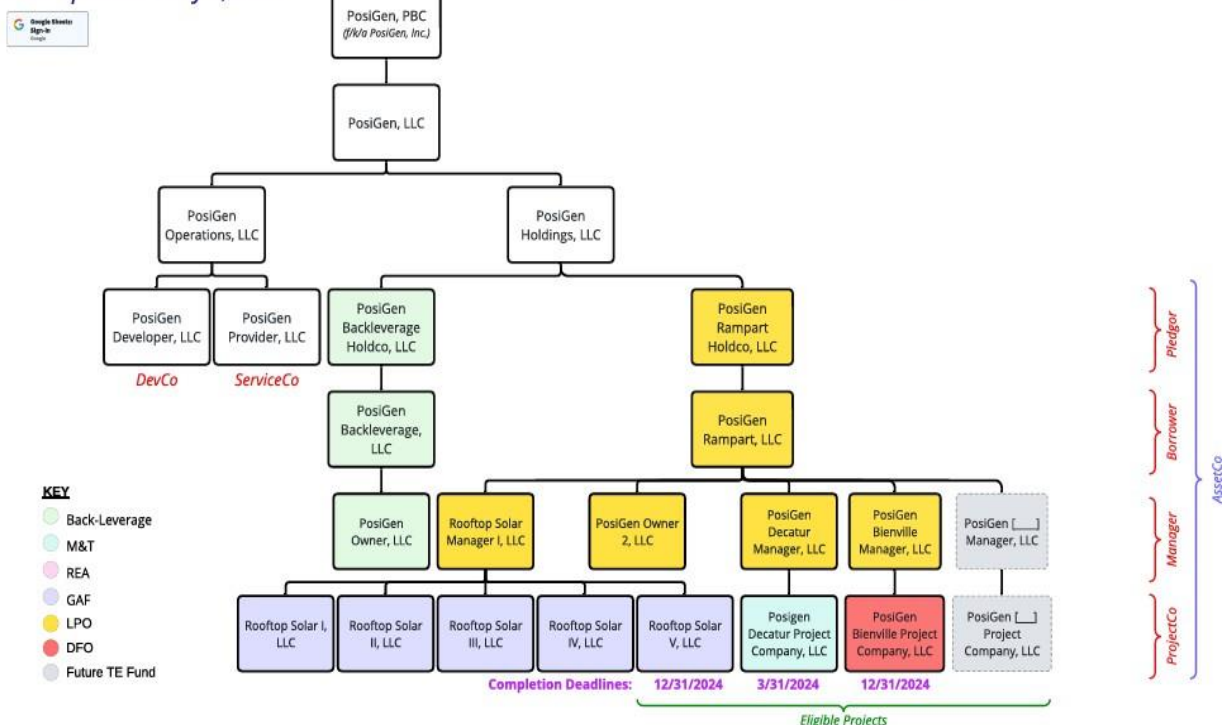
### Capital Solutions

PosiGen has applied for up to [REDACTED] through the Green Bank Capital Solutions Program, with [REDACTED] SEFIs other than Green Bank). The full Capital Solutions application is attached hereto as **Exhibit F**. Staff contacted the 3 professional references via videoconference. All 3 provided positive feedback with some specific comments highlighting good growth, refining processes in regards to ITC adders, additional capital investment, retained focus on LMI, and positive balance sheet strength.

Staff has analyzed the opportunity through the program Evaluation Matrix attached as **Exhibit G**. Green Bank has invested with PosiGen since 2015. The company has consistently aligned closely with the goals of the Green Bank including clean energy investment, supporting LMI communities, and creating predictable cash flow from its projects. Throughout our relationship, the company has increased its size, developed its management team, improve its balance sheet, and grown its capital. The company continues to meet and exceed its financial and impact goals. Evaluation score is 25 out of 24 from a “bonus point” for “project benefits LMI or underserved communities.”

## Entity Org Chart - Project Rampart Pro Forma

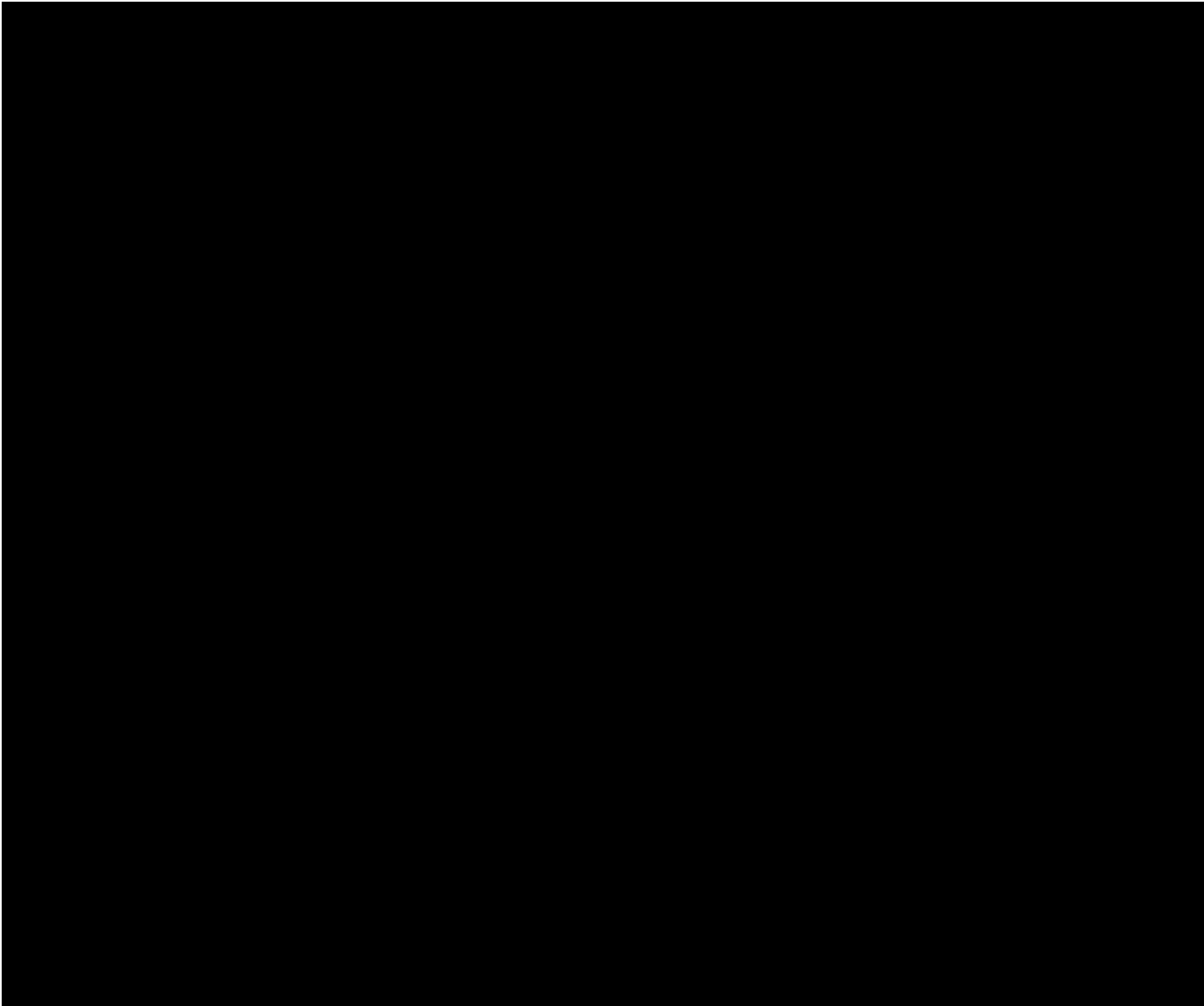
Last Updated: May 1, 2024



## Portfolio Exposure

An analysis was completed to determine the portfolio exposure to the Green Bank, given the significant amount of the proposed facility. Projections were made for the next 5 years by state and by source of funds. A state 5-year forecast detail is included as **Exhibit H** and a portfolio exposure assessment is attached hereto as **Exhibit I**.

Connecticut currently ranks second amongst states with PosiGen installed systems. 5-year projections show significant continued investment. Despite the smaller size of Connecticut, at the end of 5 years, the capacity in kW is projected to rank 6<sup>th</sup> among states with PosiGen. For number of installed systems, the company forecasts more than triple the cumulative capacity in Connecticut in 2028 as compared to through the end of 2023. This projected growth, and its increased rate of implementation, would be catalyzed by the \$1.1 billion facility proposed in this Memo. Connecticut would be a notable beneficiary of this term debt facility.



PosiGen provided a 5-year plan which staff used to analyze the Green Bank's portfolio exposure under the proposed facility. A large pipeline of current projects in the forecast shows a significant drawdown of the proposed facility within the first year of closing.

██ are drawn and invested in solar projects as forecasted within the first 2 years of closing (2024-2025, as currently modeled). The Green Banks' participation would be limited to the ██████████ SEFI portion, and of that would be limited to its commitment of ██████████

██ other participants, including the LPO, in this case, 2024-2025 as modeled.

Furthermore, and perhaps most notably, Green Bank exposure is limited to the ██████  
██████████ proposed in this memorandum for its position drawn on non-PBI facilities. In

summary, the net cap increase would be raised \$5 million and the total investment (i.e., total cash advanced) from Green Bank to PosiGen from its current (Baseline) position to 2025, or at a time when all funds are deployed, is approximately \$7 million in additional invested capital. Not being requested at this time, but which staff wishes to flag to the Board, is that the Green Bank expects to be able to use EPA “Solar for All” (SFA) funds for LMI families in Connecticut and we may ask the Board to increase the exposure cap by such SFA funds since this is incremental, but restricted capital to be made available to the Green Bank by the EPA.

### Pricing Differential

Staff proposes to finance up to the [REDACTED] PBI facilities). This amount of funding exceeds the proportion of investment in Connecticut (15.7%) compared to the overall facility. Staff recommends this excess capital to compensate for states which are projected to have new projects built by PosiGen but either do not have a SEFI in the respective state or the SEFI does not current have capital or authority to deploy capital. Connecticut Green Bank investment is essential for the success of the project (one of the criteria for Capital Solutions evaluation). Notwithstanding the prior comments, leverage created by the LPO debt and PosiGen equity create a favorable pool of assets in Connecticut relative to the amount of debt invested by Green Bank. As proposed, the Green Bank's [REDACTED] investment will create [REDACTED] Connecticut solar assets (approximately 12:1 ratio).

Staff has proposed an additional arrangement to compensate the capital in excess of the proportional share. The LPO has proposed a rate equal to [REDACTED] Connecticut has proposed a [REDACTED] risk premium for capital proportionate to the facility investment in each respective state and a [REDACTED] differential premium for excess capital contributed by a SEFI. All the terms for LPO and SEFI are currently under negotiation. The differential premium serves a dual purpose to both compensate the Green Bank for its excess investment and encourage PosiGen to actively recruit new SEFIs participation to lower its cost of capital. In illustration of this rate calculation, including a hypothetical paydown whereby a SEFI assumes a [REDACTED] portion of Connecticut Green Bank's investment is shown below.



### Recommendation

In partnership with the Green Bank, PosiGen has continued to make Connecticut a leader in the equitable deployment of clean energy. The company's model (based on underwriting to customer savings rather than FICO or income thresholds) is increasingly gaining acceptance in the market, but public-private investment partnerships continue to be critical to supporting growth and achieving scale. As such, Green Bank staff recommends approval of a [REDACTED] as a participant in a SEFI Syndication to support a [REDACTED] (including SEFI participation) LPO DOE loan. At the same time, Green Bank will manage exposure by placing an overall "hard cap" of [REDACTED]. If any of the terms and conditions materially change or evolve, staff will bring back this proposal at a later Board meeting.

### Resolutions

**WHEREAS**, the Connecticut Green Bank ("Green Bank") has an existing partnership with PosiGen, PBC (together with its affiliates and subsidiaries, "PosiGen") to support PosiGen in delivering a solar lease (including battery storage) and energy efficiency financing offering to LMI households in Connecticut;

**WHEREAS**, the Green Bank Board of Directors (the "Board") previously authorized Building a syndication to support a [REDACTED] loan facility with the U.S. Department of Energy's Loan Programs Office ("LPO") under the Title 17 State Energy Financing Institutions ("SEFI") program (broadly, "LPO Term Loan");

**WHEREAS**, PosiGen is now in the process advancing its loan application with the Loan Programs Office for the LPO Term Loan, inclusive of [REDACTED] participation through a syndication of SEFI, which has been supported by the Green Bank in a letter dated June 11, 2024;

**WHEREAS**, PosiGen's repayment performance on its existing obligations remains consistent and satisfactory; and,

**WHEREAS**, that the Board had previously authorized the Green Bank to extend multiple facilities with a cap of [REDACTED] excluding the Connecticut performance based incentive term loans and excluding third-party participation.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank may advance a term loan as part of a SEFI syndication to PosiGen for the purchase of solar and battery energy storage systems in [REDACTED] million on the terms substantially similar to those described in the Board Memo;

**RESOLVED**, that the overall limit on PosiGen financings through the Green Bank will be increased to [REDACTED], inclusive of Green Bank participation in the SEFI facility presented in this memo, excluding Connecticut PBI Term Loans, and excluding third-party participation;

**RESOLVED**, staff is authorized to finalize loan terms, support due diligence LPO (including its consultants, agents, and related departments), coordinate with other SEFIs in various stages of loan development, and conduct internal due diligence; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and negotiate and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned legal instruments.

Submitted by: Bert Hunter, EVP and CIO



**Exhibit A**  
**Expanded process proposed for Green Bank Capital Solutions**

# Memo

**To:** Connecticut Green Bank Deployment Committee

**From:** Larry Campana, Associate Director, Investments

**Cc:** Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Mackey Dykes, VP Financing Programs and Officer

**Date:** February 21, 2024

**Re:** Expanded process proposed for Green Bank Capital Solutions for State Energy Financing Institutions ("SEFI") Applicants to the Loan Programs Office ("LPO") of the U.S. Department of Energy

---

## Background

The majority of projects considered and approved at the Connecticut Green Bank ("Green Bank") are programmatic (e.g., C-PACE, Energy Storage Solutions).<sup>1</sup> For projects that do not meet programmatic criteria, Green Bank Capital Solutions ("GBCS") was approved by the Green Bank Board of Directors (the "Board") to allow for review, competitive selection, and award through an Open RFP process. Proposals are accepted on a rolling basis for financing through an evaluation process conducted by the Investments team and approved by the Board. Successful project examples through the GBCS Open RFP are PosiGen and Budderfly.

## Capital Solutions Update

Recent federal policy changes have been made which create opportunities for the Green Bank to expand GBCS to access substantial federal funding for Connecticut. As noted in the Green Bank's Comprehensive Plan,<sup>2</sup> the Infrastructure Investment and Jobs Act ("IIJA") modified requirements under Title 17 for Department of Energy financing through the LPO to allow for an exemption of commercial technology requirements for applicants obtaining support for their financing proposal from SEFIs. The Green Bank was among the first organizations to be recognized by the LPO as a SEFI. Developer/Applicants would have to demonstrate Meaningful Financial Support<sup>3</sup> from a SEFI to access Title 17 resources. For further details, please see the attached two-page fact sheet on Title 17 Clean Energy Financing Program.

To accommodate project developers seeking to partner with the Green Bank as a SEFI, and to consider Meaningful Financial Support to such proposed projects, the staff of the Green Bank is seeking to develop a SEFI Investment Open RFP for GBCS – see draft "Open Request for Proposals for SEFI Investment".

As GBCS Open RFP is a Board approved Green Bank program, any modification requires staff to submit material programmatic changes, like what is contemplated here, to the Board for its consideration and approval. Accordingly, staff brings forward to the Deployment Committee, as the preliminary step in consideration and approval by the Board, the proposed modification to GBCS Open RFP process. This process provides an additional channel for review, considering the unique requirements of the DOE-LPO-SEFI program. Approval is recommended.

## Resolutions

**WHEREAS**, on March 25, 2022, the U.S. Department of Energy's ("DOE") Loan Program Office ("LPO") presented to the Board of Directors of the Connecticut Green Bank ("Green Bank") new provisions within the Infrastructure Investment and Jobs Act in support of State Energy Financing Institutions ("SEFI") such as green banks;

**WHEREAS**, on September 29, 2023, the DOE designated the Green Bank as an official SEFI;

**WHEREAS**, the Comprehensive Plan of the Green Bank acknowledges its status as a SEFI, and recognizes that there will be opportunities to pursue federal funding to support its programs, as well as the public policies of Connecticut that confront climate change;

**WHEREAS**, in implementing the Operating Procedures of the Green Bank, staff has developed, and the Board of Directors has approved, Green Bank Capital Solutions ("GBCS") as an Open Request for Proposals ("Open RFP") to solicit project developers for consideration of financing by the Green Bank; and

**WHEREAS**, the staff of the Green Bank have drafted a GBCS Open RFP as it would apply to SEFI Investment for discussion with the Deployment Committee of the Green Bank

**NOW**, therefore be it:

**RESOLVED**, that the Deployment Committee requests that staff seek comment from the DOE LPO SEFI team on the draft GBCS Open RFP for SEFI Investment; and

**RESOLVED**, that the Deployment Committee requests that the staff come back to the full Board of Directors of the Green Bank at a future meeting for review and approval of the final GBCS Open RFP for SEFI Investment.

.....

## Additional Resources

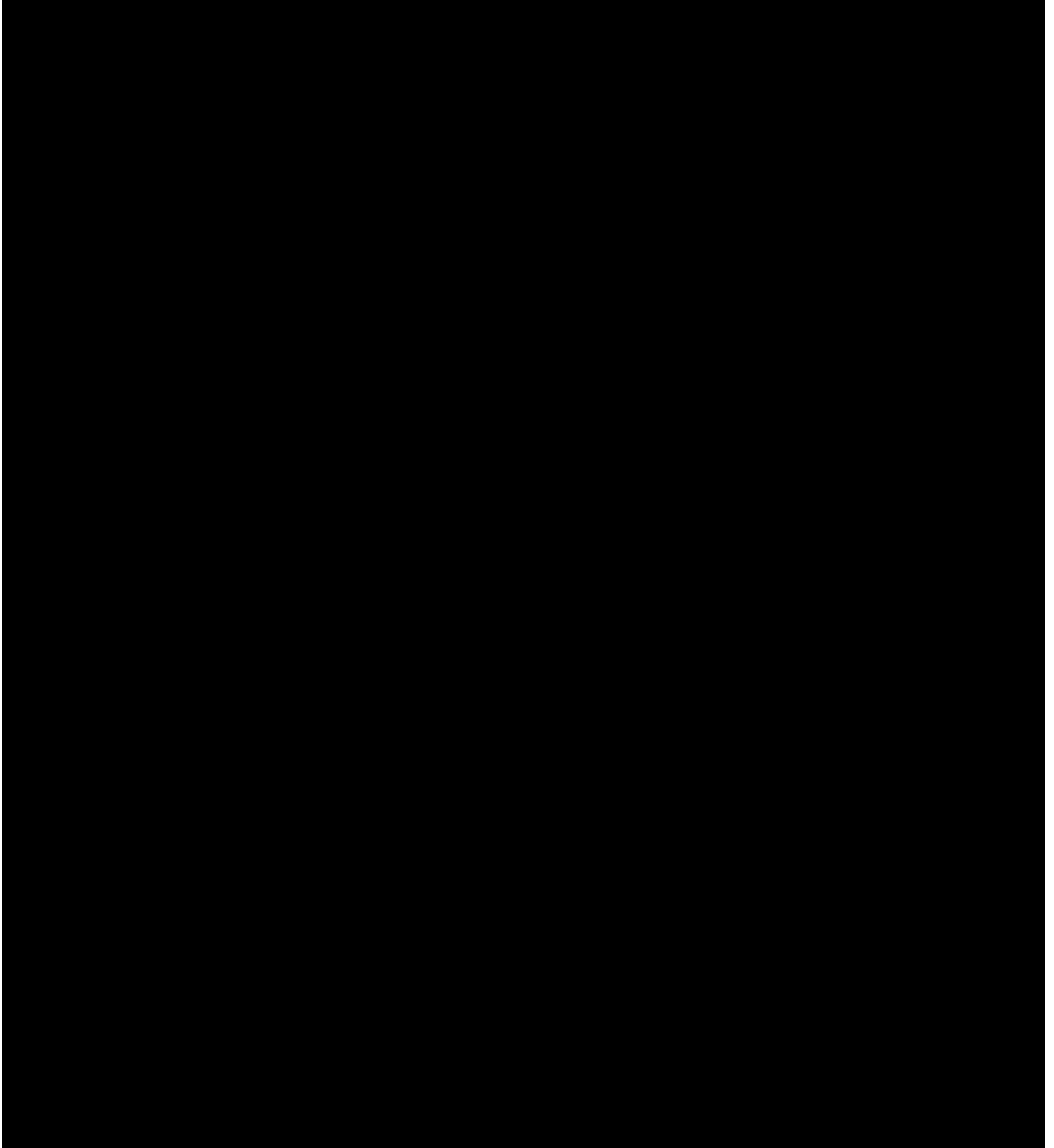
<https://www.energy.gov/lpo/articles/lpo-slide-deck-introducing-new-guidance-title-17-clean-energy-financing-program>

<https://www.energy.gov/lpo/articles/program-guidance-title-17-clean-energy-program>

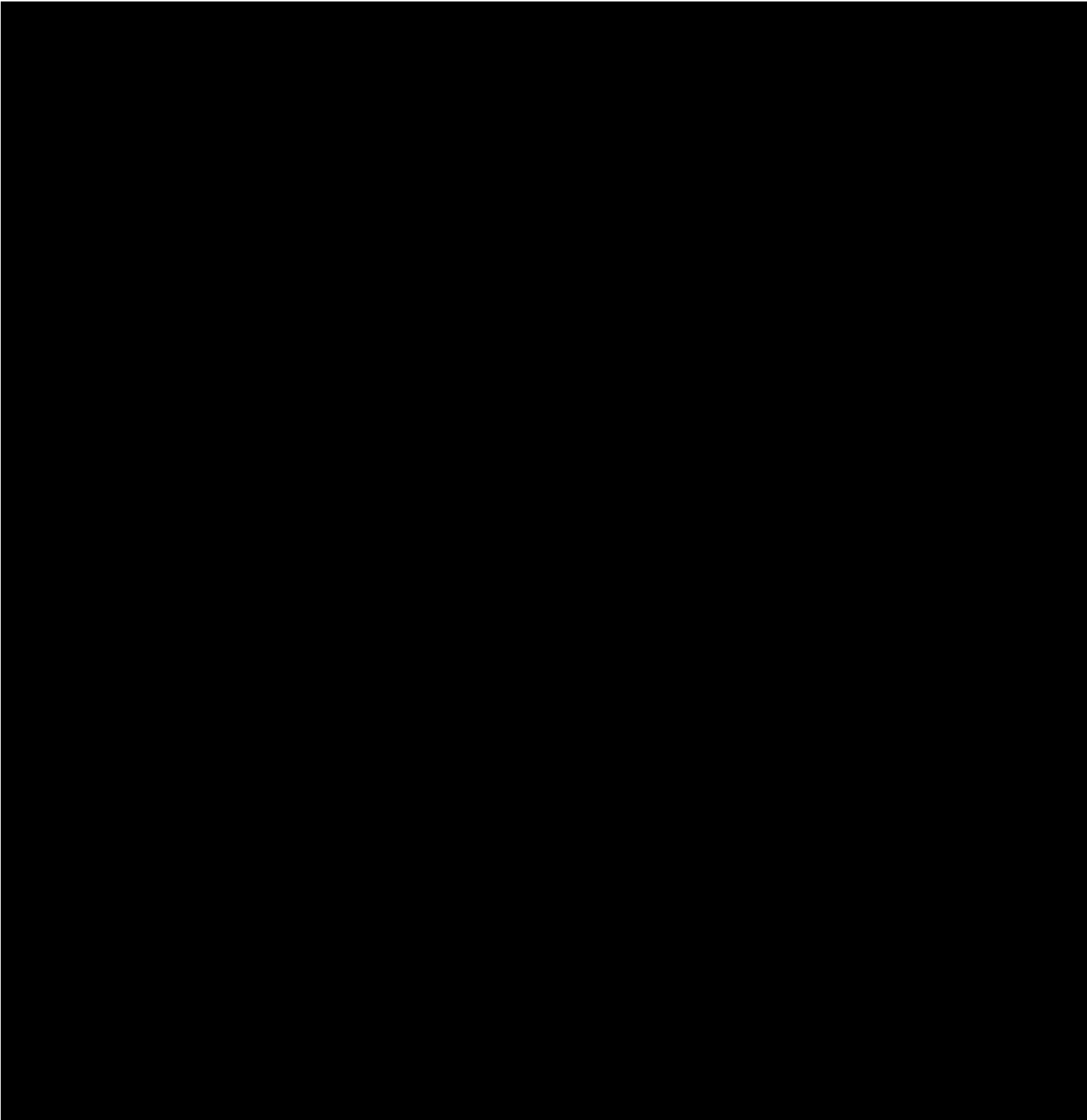
**Exhibit B**  
**Terms of the Proposed LPO Facility**

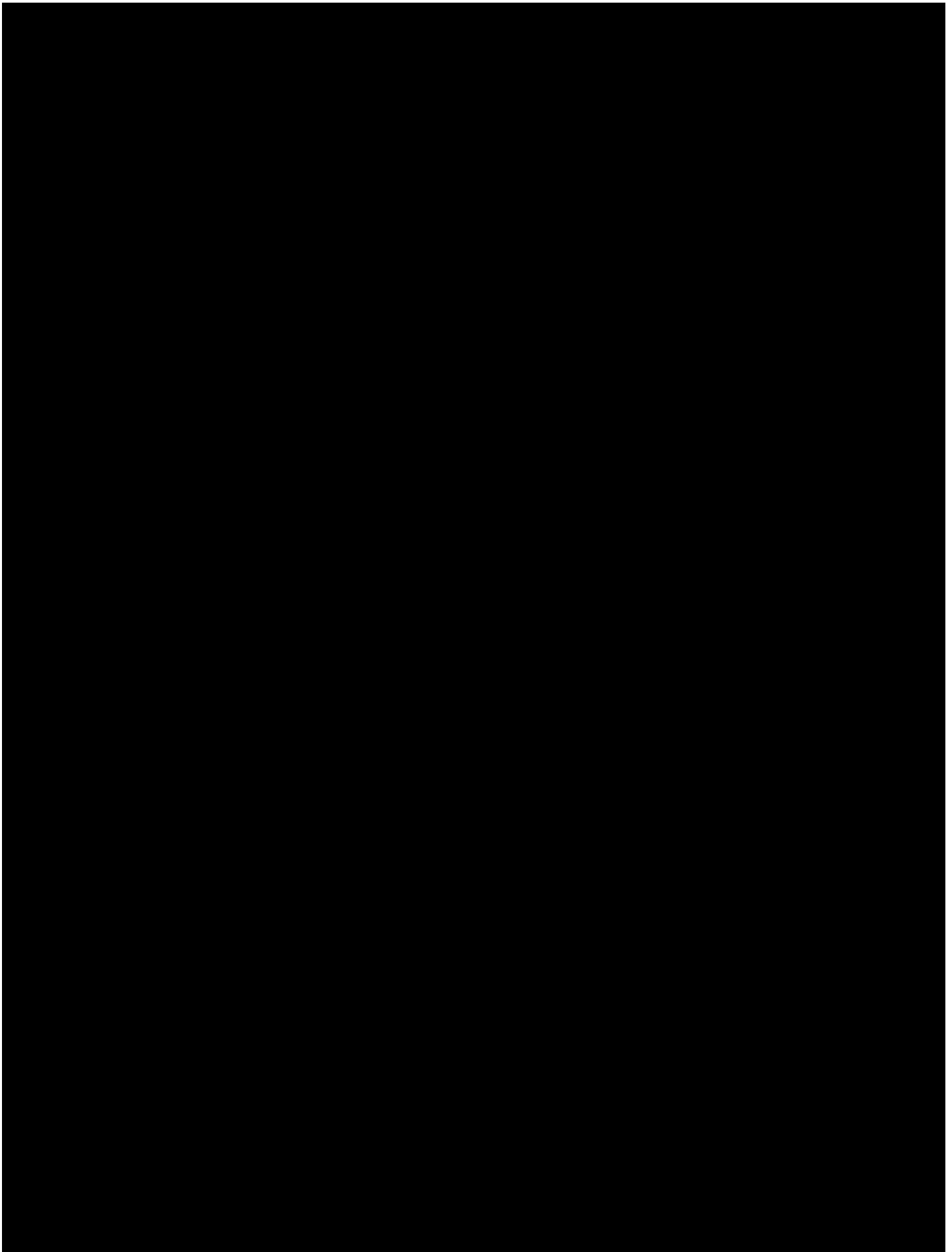
**PosiGen LPO Facility**

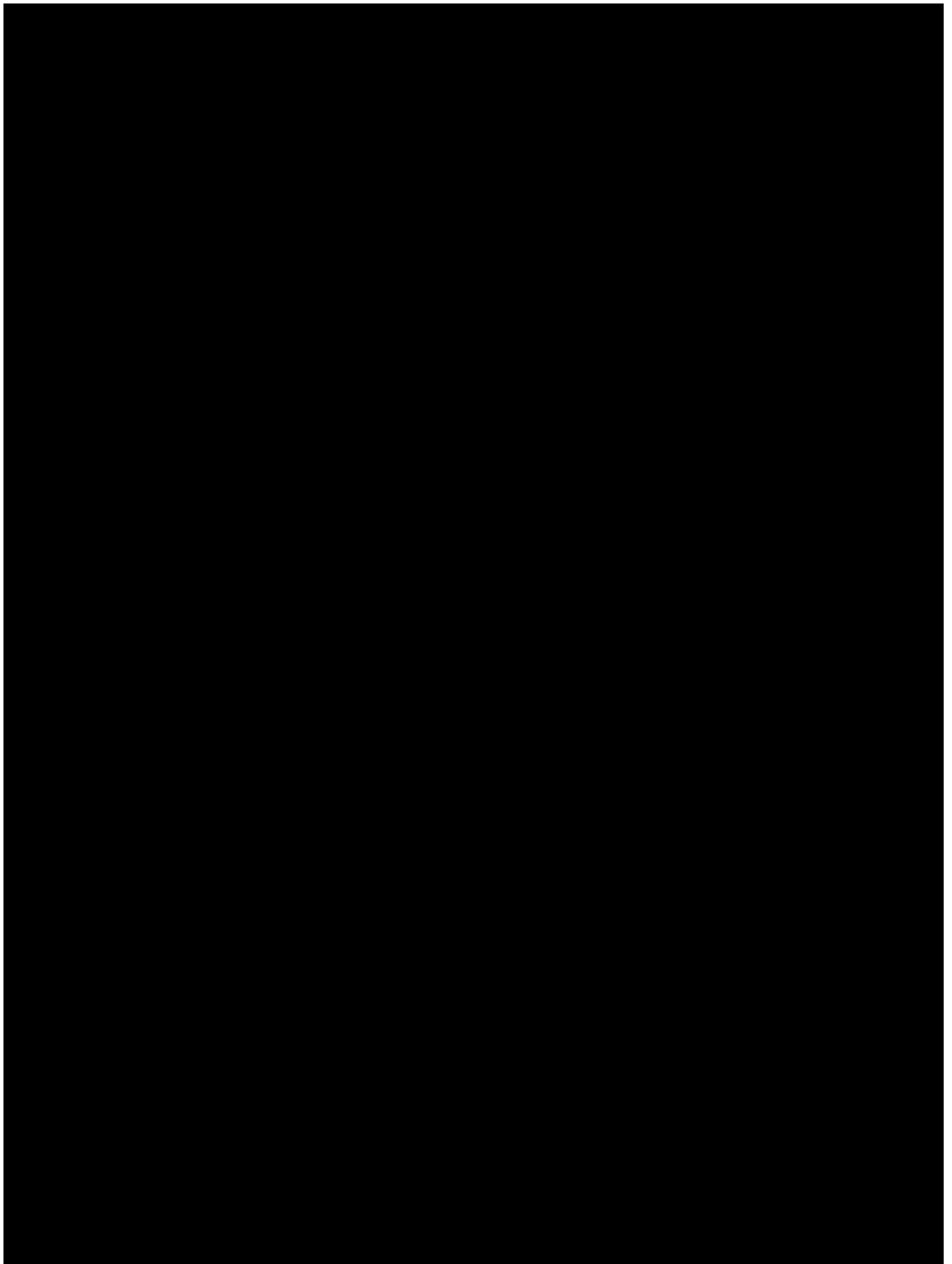
**CONCEPTUAL FRAMEWORK**

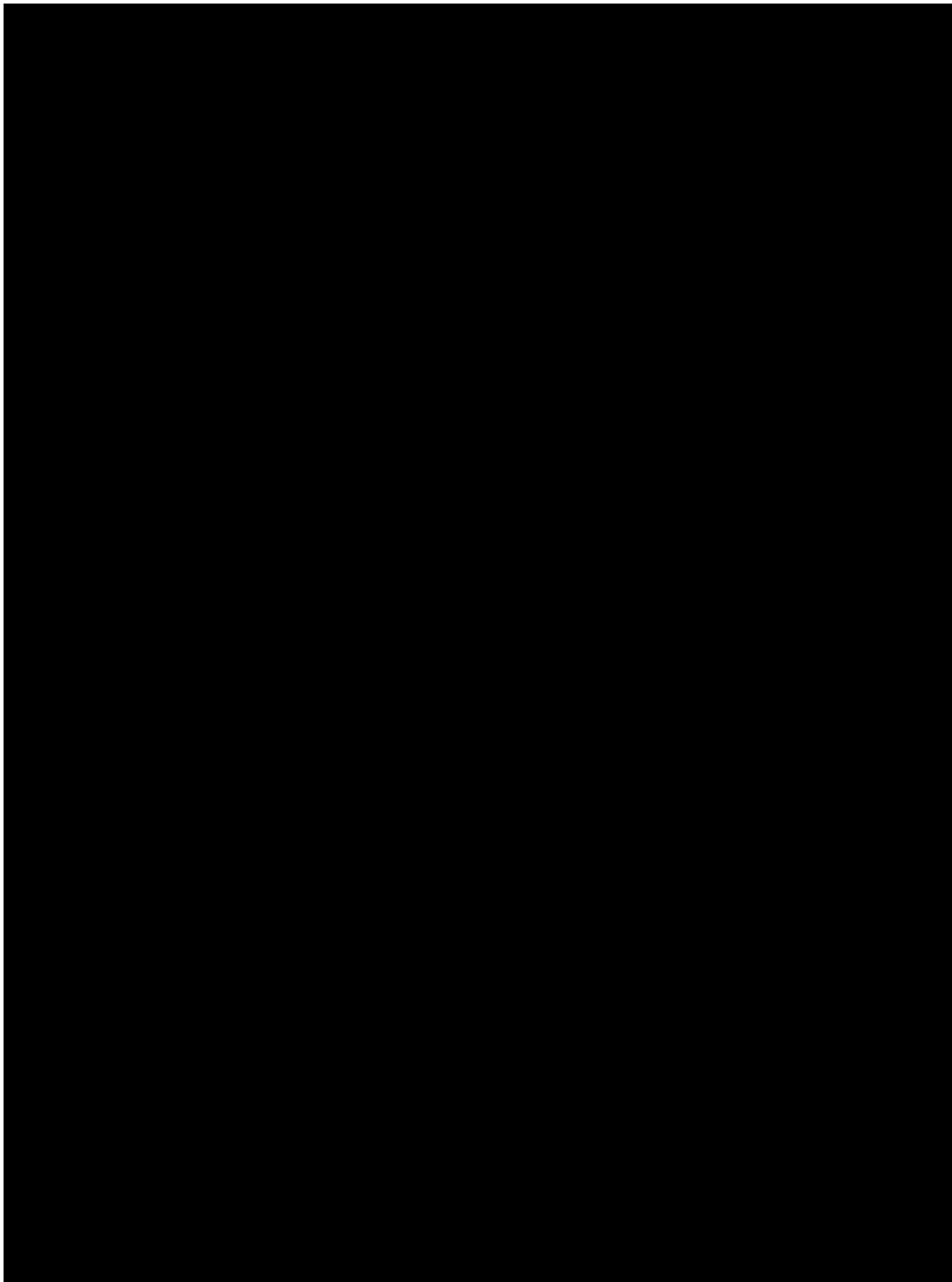




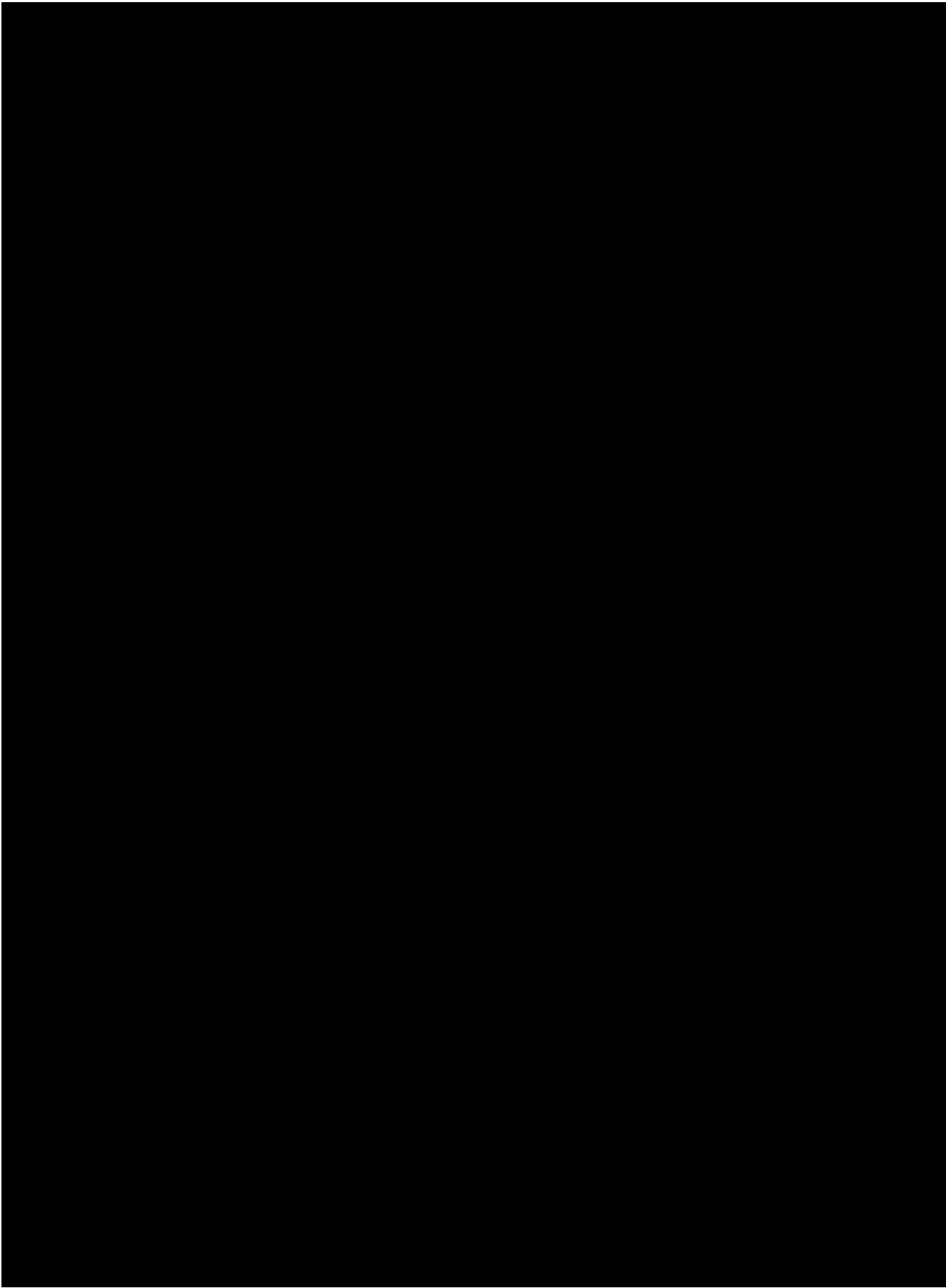


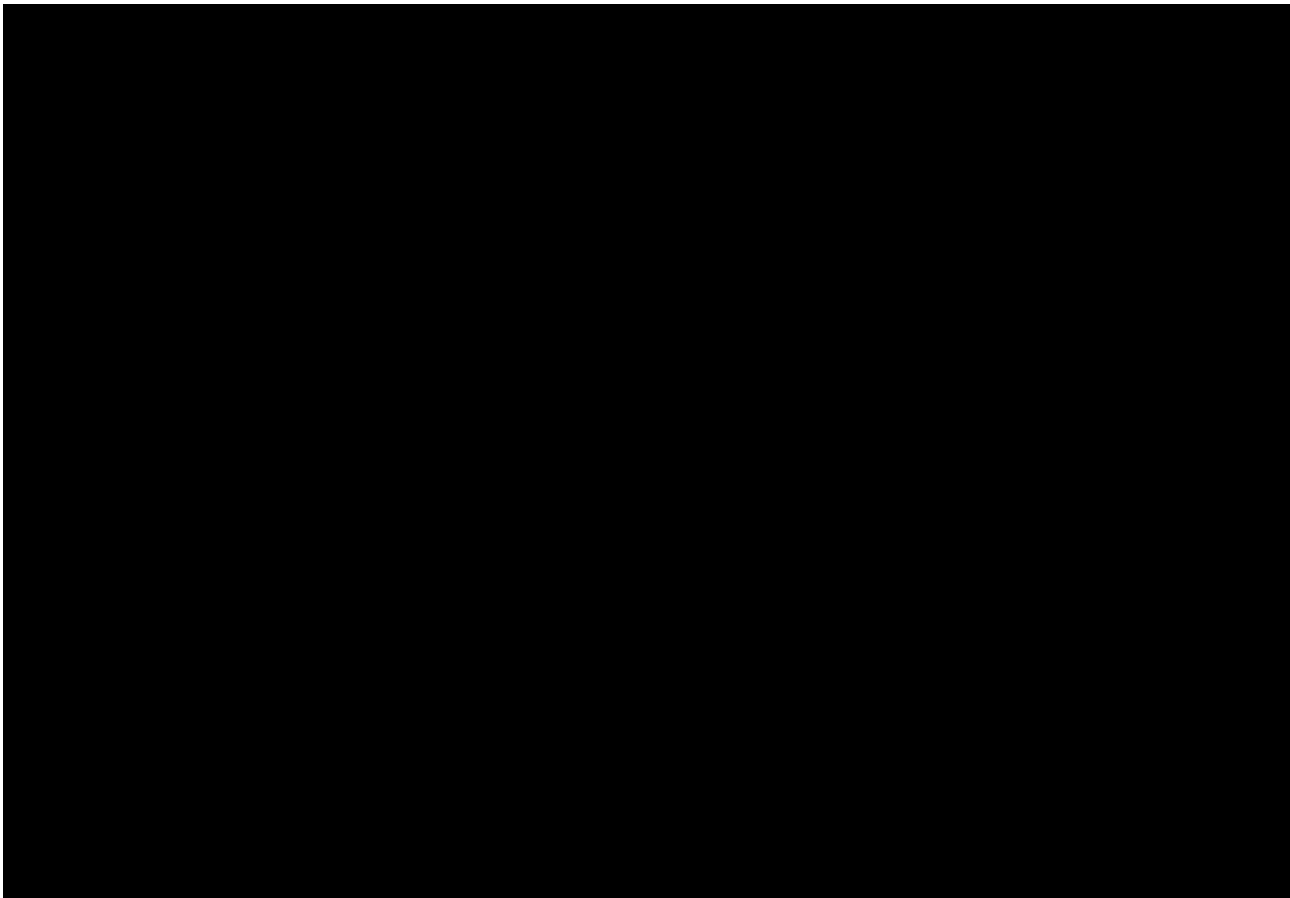












L

**Exhibit D**  
**SEFI Syndication Supporting PosiGen's LPO Term Loan**

75 Charter Oak Avenue, Suite 1 - 103, Hartford, CT 06106  
T 860.563.0015  
ctgreenbank.com



**MEMORANDUM**

**To:** US Department of Energy, Loan Programs Office (DOE LPO)  
**From:** Bert Hunter, EVP & Chief Investment Officer – CT Green Bank  
**Date:** June 11, 2024  
**Re:** State Energy Financing Institution (SEFI) Syndication Supporting PosiGen's LPO Term Loan

---

As a long-time supporter of PosiGen's mission to expand access to clean energy improvements for residential buildings serving low- and moderate-income households, the Connecticut Green Bank (CGB) is proud to support PosiGen's application for Title 17 funding from the LPO. Since 2015, CGB has extended millions of dollars in debt financing across multiple facilities to support PosiGen's installation of residential solar systems financed through its 'Solar For All' savings-first lease offering. These dollars from the CGB have attracted more than 20x funds from private capital, constituting tax equity investment, sponsor equity, and back leverage funding for these portfolios of residential solar systems. Given the CGB's familiarity with PosiGen's operating history, the CGB is prepared to serve the role as a syndicate lead across participating State Energy Financing Institutions (SEFIs) to establish the "meaningful financial support" from SEFIs as required by Title 17.

The CGB proposes a SEFI syndication structure, whereby the CGB acts as the primary lender to PosiGen and coordinates participatory capital from additional SEFIs and mission-aligned investors to mobilize the necessary capital to meet the SEFI participation threshold. The CGB expects to advance term loan financing pro-rata and *pari passu* with the facility supported by the LPO, up to a maximum net exposure of [REDACTED] the CGB's own balance sheet and another [REDACTED] from participating SEFIs. The attached memo, reviewed by the CGB Board of Directors, summarizes the CGB's strategic intent with respect to the SEFI syndication. Staff of the CGB as well as PosiGen officials have made multiple presentations to the CGB Board over the past 6 to 9 months which were warmly received. Approval for the proposed transaction is expected to be obtained from the CGB Board in July 2024.

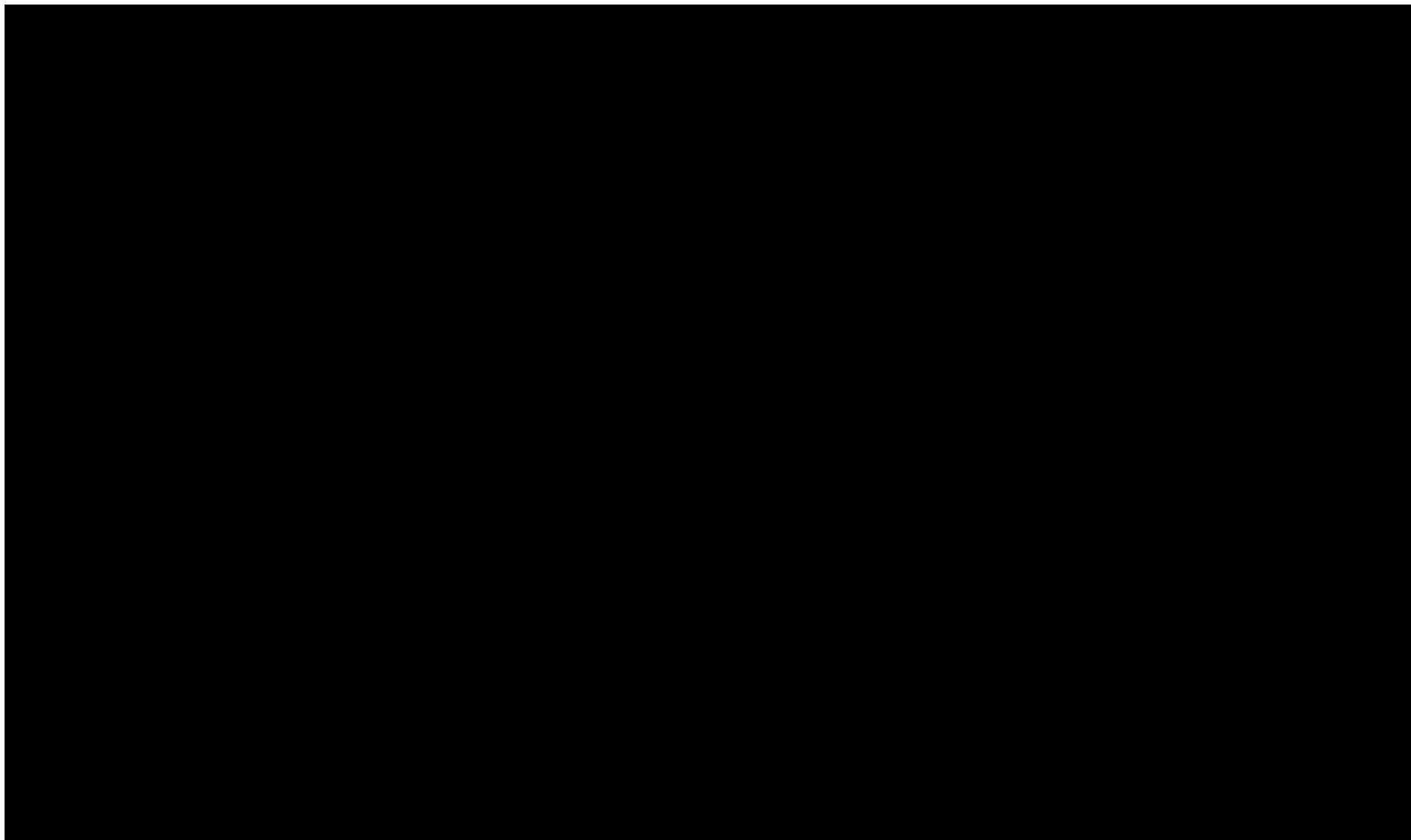
The CGB looks forward to further engaging with the LPO to underwrite the appropriate loan structure to support PosiGen's mission and to best meet the shared objectives of catalyzing financial capital for residential building decarbonization and including LMI households in the energy transition.

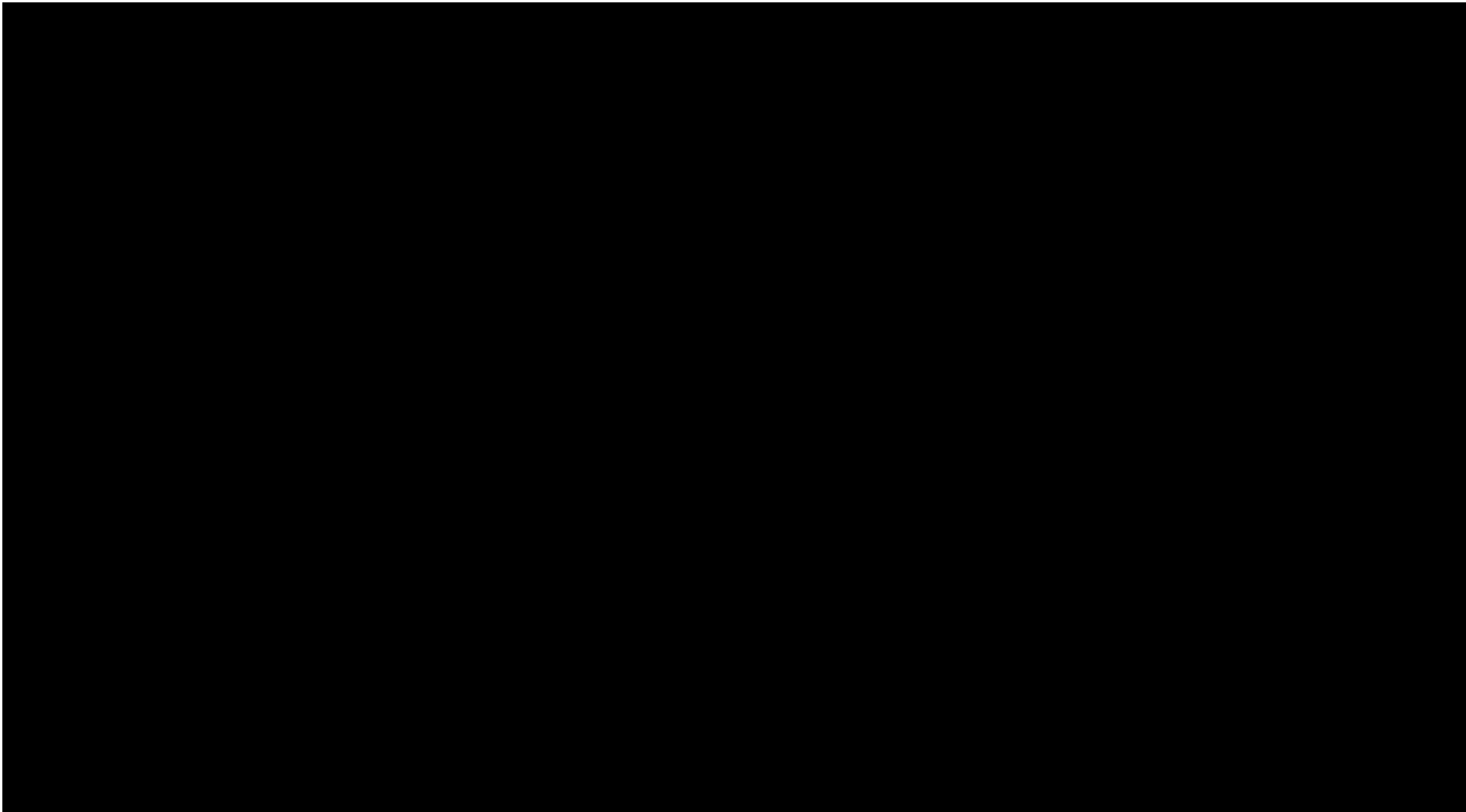
Regards,

A handwritten signature in blue ink, appearing to read "Bert Hunter".

Bert Hunter

EVP and Chief Investment Officer







**Exhibit F**  
**PosiGen SEFI LPO Capital Solutions Application**

**PosiGen Public Benefit Corporation**

**Ben Healey, President, Capital Markets &  
Strategy Phone 203-214-6418 | Email:  
bhealey@posigen.com**

**145 James Drive East, Third Floor, St. Rose, Louisiana, 70087**



**Connecticut Green Bank Capital Solutions  
Application**

**PosiGen – Project Rampart**

**Project Summary:** [REDACTED] term loan funding from CT Green Bank and other State Energy Financing Institutions (SEFIs) alongside [REDACTED] loan funding the Department of Energy Loan Program Office to build [REDACTED] residential solar PV systems primarily for low-moderate income (LMI) households, creating energy savings on electric utility spend and environmental benefits



## VIII. PROPOSAL REQUIREMENTS

Each Proposer shall carefully examine the RFP and any and all amendments, exhibits, revisions, and other data and materials provided with respect to this RFP process. Proposers should familiarize themselves with all requirements in that contract prior to submitting their proposal. Should a Proposer have any questions or require clarifications or wish to request interpretations of any kind, the Proposer shall submit a written request to RFP@ctgreenbank.com. Green Bank shall respond to such written requests in kind and may, if it so determines, disseminate such written responses to other prospective Proposer(s) or post to Green Bank's website, subject to section H of Article XII.

### A. Proposer Qualifications

The Proposer shall include the following:

#### Corporate:

- *Company overview and relevant experience, which shall include at a minimum (A) the number of employees, (B) the office locations, (C) and an outline of any clean energy operational projects showing (as relevant) project locations, technology or technologies involved, system output, host/offtaker, utility service area, whether such projects were developed under a state energy program (and if so, a description of that program or webpage/URL).*

PosiGen PBC ("PosiGen" or "the Company") is a vertically integrated residential solar project developer, and the only residential solar platform focused on providing affordable solar and energy efficiency upgrades to low and moderate income (LMI) households in underserved communities. PosiGen has more than 650 direct employees across 12 states, with offices in Louisiana, Connecticut, New Jersey, Pennsylvania, Massachusetts, and Rhode Island.

PosiGen's "Solar For All" approach does not restrict customers based on FICO scores or minimum income requirements. Instead, PosiGen underwrites a customer's savings - specifically, by targeting a 15% savings off a customer's utility spend by switching to solar - and expands access to solar through a fixed-rate, 25-year lease financing that provides LMI households with predictable, low-cost energy spend. To date, PosiGen has originated, financed, and installed over 27,000 residential solar systems. This is still just a small percentage of the roughly 30 million LMI households in the United States.

PosiGen was established in 2011, and has installed nearly 150 MWDC of residential solar since its inception. As of today, PosiGen is active in Louisiana (where it is headquartered), California, Connecticut, Massachusetts, Mississippi, New Jersey, New York, Pennsylvania, and Washington, DC. Anticipating accelerating growth, PosiGen expects to add nearly 400 MWdc of new solar capacity across the country over the next two years.

In recent years, PosiGen's business has benefited from the support of State Energy Financial Institutions (SEFIs), including the Connecticut Green Bank<sup>1</sup>, New York State Energy Research and Development

---

<sup>1</sup> CTGB Solar For All Public Highlights: <https://www.ctgreenbank.com/strategy-impact/societal-impact/successful-legacy-programs/solar-for-all/>

Agency (NYSERDA), and the DC Green Bank (DCGB). Financial support from SEFIs, generally in the form of loan facilities backed by LMI-focused solar projects, has helped enable PosiGen's growth given a shared focus on expanding access to clean energy to underserved communities. PosiGen is in the process of applying to the 1703 Loan Guarantee Program ("Title 17") to enhance existing efforts to bring clean energy, energy efficiency, and cost savings to an underserved market. Sustained green bank involvement, in combination with Title 17 federal financing is key to the Company's ability to make its offerings available to a broader and more substantial universe of LMI households going forward.

## Team:

- *Highlight key personnel and (if known) subcontractors who will be assigned to the project.*
- *Describe their respective experiences and skills with the development, engineering and installation of similar projects.*
- *Highlight the relevant licenses and certifications held by these key personnel.*

The PosiGen team has extensive experience in solar deployment and corporate finance. They are a seasoned, cross-functional team with deep market knowledge and decades of experience in renewable energy, allowing them to successfully complete the tasks described in the proposed Project scope.

## **Leadership Team**

**Project Lead: Ben Healey, Chief Financial Officer:** Ben joined PosiGen in early 2019, after seven years at the Connecticut Green Bank and its spin-out national specialty financing company, Inclusive Prosperity Capital, which Ben helped launch. At the Green Bank, Ben designed and developed innovative clean energy financing solutions, including building the country's leading Commercial Property Assessed Clean Energy program, structuring first-in-the-nation strategies to secure solar investment for non-investment grade properties, and arranging investment partnerships with not only traditional financial institutions but also emerging players such as foundations and crowdsourcing platforms. Ben holds degrees from Yale's School of Management and School of Forestry & Environmental Studies, as well as Yale College.

**Peter Shaper, Chief Executive Officer:** Peter is a founding partner with the private equity group Genesis Park where he has invested in the lower middle market for 25 years. Peter has also served as CEO of Speedcast International, CapRock Communications, Greenwell Energy Solutions, Donnelley Marketing and Twenty20 Solutions. He was also a founder of the Information Management Group (IMG), which grew to more than \$600 million in revenues during his tenure, and held an associate position with McKinsey & Company. Peter serves on the Board of Directors of Persedo Spirits, HCareers, Twenty20 Solutions, and Genesis Park. He holds a Bachelor of Science in Engineering from Stanford and a Master of Business Administration from Harvard University.

**Prad Nadakuduty, Vice President of Capital Markets:** In his role as VP Capital Markets, Prad Nadakuduty oversees all of PosiGen's financing partnerships and capital-raising activities, including corporate equity, working capital, tax equity, and structured debt utilized for project development and long-term project ownership. Prad also oversees fund management capabilities, ensuring that PosiGen remains compliant with underwriting requirements and financial covenants. Prior to PosiGen, Prad held a series of finance roles with developers delivering community solar. Prad has a master's degree in International Energy Policy from Johns Hopkins University, and a Bachelor of Engineering from Duke University.

**Naren Yendluri, Chief Operations and Technology Officer:** Naren Yendluri is the Chief Operations & Technology Officer for PosiGen Inc. In his role, he oversees all of Field Operations, Corporate Operations, Energy Efficiency business functions as well as Technology investments across the board.

Naren has extensive experience leveraging technology to enable small to medium sized companies to scale. Naren is experienced in M&A and built his career in fortune 500 companies. Prior to joining PosiGen, Naren was the SVP of Engineering and Technology at Sunrun for 9+ years. While at Sunrun, he was responsible for directing technology operations, developing strategies focused on software products through effective management of product and platform portfolio; oversaw all facets of software product lifecycle from inception to deployment and cultivated and lead a global engineering and technology team to ensure alignment with key corporate initiatives supporting 500,000 customers, 3,500 partners and

10,000 employees. Prior to Sunrun, Naren worked at Autodesk and Hewlett Packard in various leadership positions. Naren has bachelor's degree in Electronics and Communication Engineering and a master's degree in Math and Computer Science.

**Dan Black, Chief Legal Officer:** Dan Black is the Chief Legal Officer and Secretary for PosiGen, Inc. In such capacity, he oversees all legal affairs for the company, including compliance and enterprise risk, corporate governance, and regulatory matters. Dan has extensive experience representing companies and financial institutions in all aspects of complex finance transactions, mergers and acquisitions, securities offerings, and regulatory matters. Prior to joining PosiGen, Dan was the Chief Legal Officer, Executive Vice President, and Secretary for Vivint Solar (acquired by SunRun in 2020). He began his legal career in San Diego as an attorney with Latham & Watkins, one of the world's leading project development and finance law firms. Dan earned his bachelor's degree in business management from Brigham Young University and graduated magna cum laude with a juris doctor from Gonzaga University School of Law.

**Steve Burt, Chief Compliance and Policy Officer:** Steve Burt is the Chief Compliance and Officer at PosiGen, ensuring that PosiGen adheres to all local, state, and federal regulations relating to consumer protection, employee welfare, energy regulatory and financial lending. Steven started his career at the law firm of Ballard Spahr. In 2016 he joined Vivint Solar and worked there through its sale to Sunrun, and then for Sunrun until he left to start his own legal practice, before joining PosiGen in 2023.

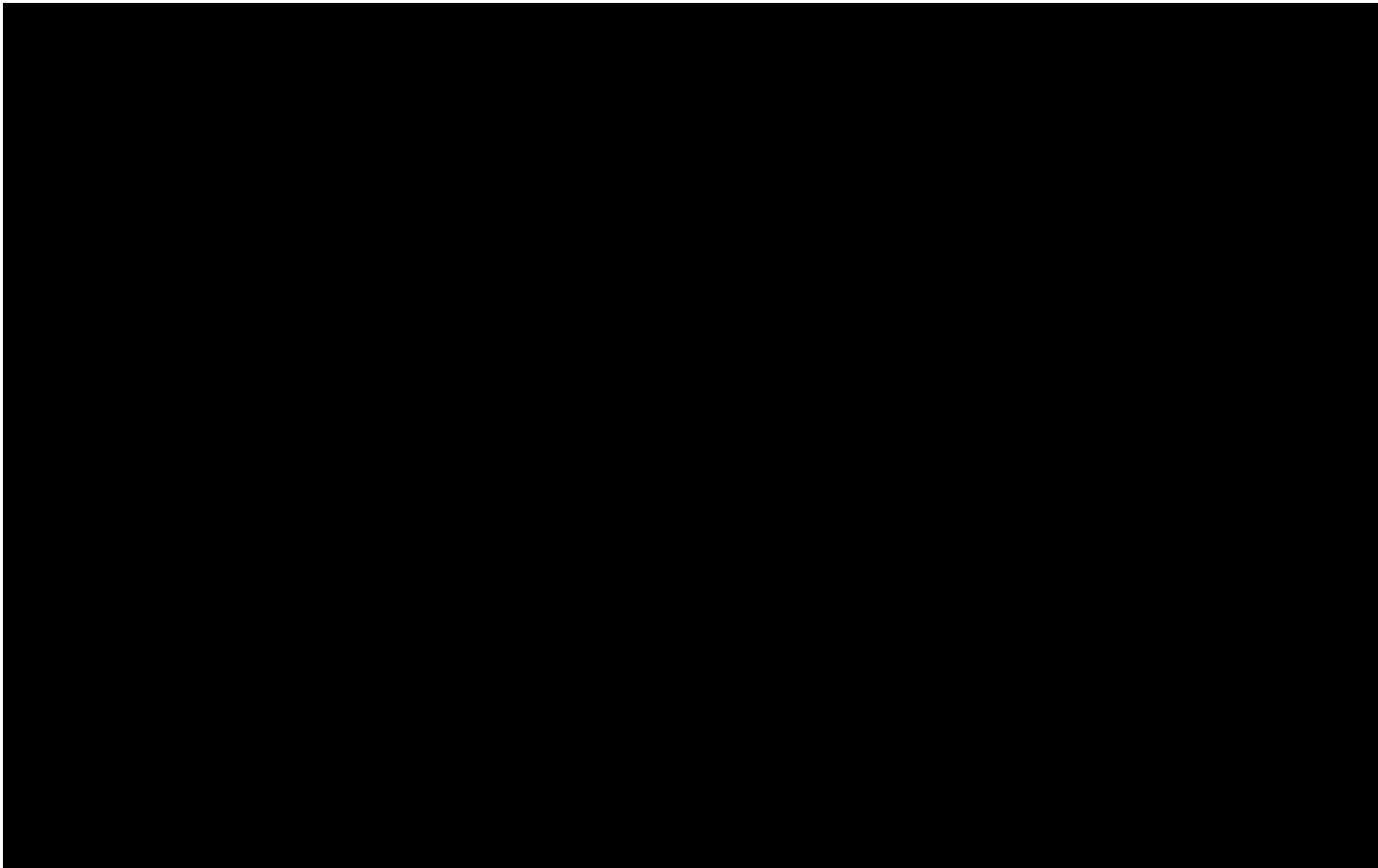
**Jayson Uppal, Director, New Markets:** Jayson joined PosiGen in 2022 as a Director of New Markets. He identifies and facilitates the launch of new market opportunities and product offerings to advance PosiGen's mission. He has extensive experience developing strategies and programs to drive growth in renewable energy markets. Prior to joining PosiGen, Jayson was Manager of Solar and Storage Product Growth at National Grid, where he led a team dedicated to expanding clean energy access to customers across the utility's service territory. Under his leadership the team designed and received regulatory approval for a 300 MW low-income community solar program in New York, a low-cost flexible interconnection scheme for solar projects under 5 MW, and a new billing mechanism for community solar projects that reduce administrative costs and risk for serving low-income customers. Jayson holds degrees from Yale's School of Management and School of the Environment, as well as Tufts University's School of Engineering.

## **Project Experience:**

- *Provide track record of actual annual generation relative to projected generation within the Proposer's operational projects (if applicable).*
- *Outline approach Proposer takes to ensure the installed Systems meets the projected generation values.*
- *References: provide name, entity, email and phone for at least three (3) relevant references Preferred qualifications*
- *Years of experience – five years minimum in the proposed project's field of expertise.*

The below table presents an overview of PosiGen’s installation base across the twelve state markets with current operations beginning from 2012 onwards. The table also outlines PosiGen’s five year forecast in each of those markets in terms of MWdc capacity. 1 MWdc of residential solar equals approximately 130 households. PosiGen expects to include all of its current installed fleet as part of the LPO Eligible Project, conditional on LPO’s approval. 1 MWdc of residential solar represents approximately \$5.25 Million of project investment value.

*Table 1: PosiGen Current Position and Expected 5-Year Growth*



As for the installation process, PosiGen utilizes Salesforce with Aurora Solar, one of the most widely used solar design tools in the distributed generation market, to develop standardized system configurations (“kits”) for its customers. Each kit consists of specific equipment, such as photovoltaic modules, inverters, racking and other balance-of-system electrical components, with each market having four (4) to five (5) kits available. Upon initial engagement, PosiGen sales representatives will meet with each customer to assess which kit is the optimal choice for their home size, energy usage, rate structure and site conditions with the objective of providing the most energy efficiency and cost reduction benefits to the

customer. This approach of offering standardized kits also enables PosiGen to redeploy assets leased to defaulting customers to newly originated customers when needed.

To ensure that installed systems meet PosiGen’s projected generation values, the Company compiles actual energy production data and degradation-adjusted energy production estimates, as well as other system specifications for systems within its operating fleet.

See below for professional references with direct experience and partnership experience with PosiGen:

*Table 2: PosiGen Financing References*

Reference	PosiGen Relationship
Brookfield Asset Management <b>Andrew Ehrlickman</b> Senior Vice President, Investments Infrastructure <a href="mailto:andrew.ehrlickman@brookfield.com">andrew.ehrlickman@brookfield.com</a> +1 (212) 301-2390	Loan Provider since 2023
Elda River Capital, LLC <b>Adam Daley</b> Managing Partner <a href="mailto:adam.daley@eldariver.com">adam.daley@eldariver.com</a>	Equity Investor since 2020
Marathon Capital <b>David Kirkpatrick</b> Managing Director <a href="mailto:dkirkpatrick@marathoncapital.com">dkirkpatrick@marathoncapital.com</a>	Capital Markets Advisor since 2020

## B. Project Scope and Schedule

*Include a general scope of the Project the Proposer intends to provide upon selection and execution of Green Bank financing arrangements. The scope narrative shall outline (as relevant) all major tasks and milestones necessary to design and obtain permits to construct, coordinate with utility company, mobilize, construct and commission the project. Proposals should include a complete project schedule indicating major project milestones and durations, such as engineering, construction, and siting council approval, where applicable. Indicate if the project requires the award of any other Federal or State grants or financing awards (e.g., USDA financing, ZREC award, DECD brownfield remediation program award, etc.) This Open RFP is geared towards projects requiring a financing requirement of*

*\$250,000 or greater from the Green Bank, though smaller sized projects could be considered on a case- by-case basis.*

PosiGen’s “Project Rampart” involves the deployment and installation of residential solar and energy efficiency services to underserved communities in existing and new markets. The company plans to utilize \$1 billion federal financing through the Department of Energy Loan Program Office matched with \$100 million from participating SEFIs to build and finance 58,000 residential solar systems for LMI customers enabled by PosiGen’s ‘Solar For All’ lease product. With an expected average size of 7.5kW, this equates to approximately 326 MW of new residential solar capacity to be financed by the LPO facility.

Project Rampart will include a portion of PosiGen’s existing fleet of 27,000 residential solar systems, and 31,000 additional residential solar systems installed over the next 24 – 36 months, totaling an estimated 58,000 residential solar systems financed by the facility.

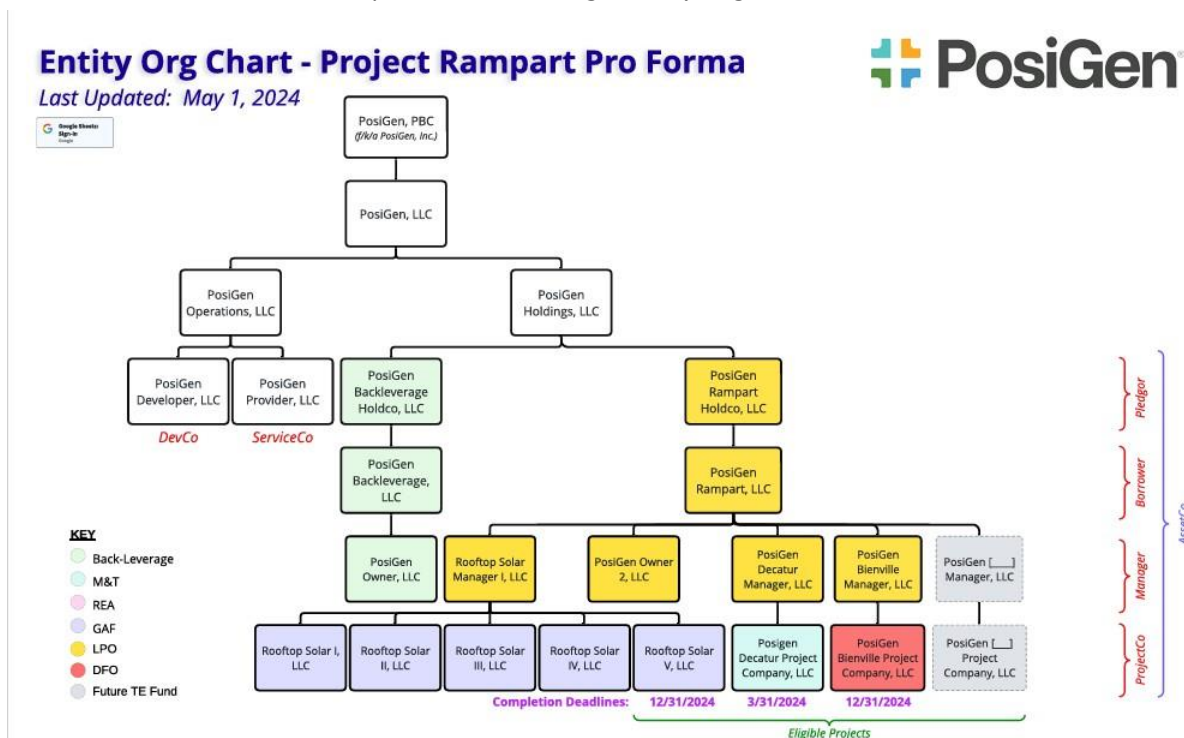
As PosiGen’s approach is to develop tens of thousands of residential PV projects in a “continuous flow” production line model, there is not a bespoke integrated schedule for each project. As projects are moved through our process across teams and departments, we closely monitor the duration each project is in each stage (as well as the total development time duration) to drive delivery rather than a “bottoms-up” approach to large project integrated scheduling.

Once a customer contract is signed, it typically takes 3-6 months until the project is operating. Timing for each milestone typically follows this schedule:

- M1: Contract Approval - 5-6 days
- M2: Design & Engineering - 15 days
- M3: Permit - 30 - 60 days
- M4: Installation - 5-10 days (1 day for the actual installation)
- M5: Post Installation - 30-60 days

The legal entity structure of the proposed transaction is shown below in Graphic 1. PV Systems are aggregated into Project Companies and owned by a PosiGen subsidiary Managing Member. Each Project Company receives underlying system cash flows and investment from tax equity investors. Investment tax credits and cash distributions are distributed from the Project Companies to tax equity investors, and the remaining Project Company cash flow, retained by the Managing Member, is used to repay back- leverage debt at the HoldCo Borrower level (PosiGen Rampart LLC).

Graphic 1: PosiGen Legal Entity Organization Chart



### c. System Design and Equipment

Depending upon the nature of the financing request, proposals shall provide a design layout for each project (e.g., a solar project would include the make/model, wattage and quantity for both inverters and modules, racking product, azimuth, tilt and system size kW-AC and kW-DC, and the DC:AC ratio). Proposals shall provide specified equipment manufacturer data sheets and warranties, pricing, etc. All equipment shall be new with acceptable warranties that meet industry standards and (as appropriate) be UL Listed.

PosiGen’s typical systems range from 4 - 13 kW, depending on the size of the building and the customer’s energy usage profile, with a goal of covering close to but not exceeding the customer’s entire load. These systems consist of photovoltaic modules, inverters, racking and other balance-of-system (“BOS”) electrical components. PosiGen utilizes equipment that is considered “Tier 1” according to the approved vendor lists of its financing partners.

Across its portfolio, PosiGen systems currently use Canadian Solar (“CSI”) PV modules, with Hanwha QCells (“QCells”) PV modules in line for deployment in the near term. These modules have a rated power of 415 Wp and 400 Wp respectively, with a panel efficiency of 20.9%. Both CSI and QCells provide a 25-year limited power warranty and a 25 -year workmanship warranty. The power warranty after 1 year is 98 %, after 10 years is 93.5 % and after 25 years is 86%.



These systems require inverters to serve the function of converting DC electricity produced by the modules into AC energy that is usable in the home and on the grid. The inverters are supplied by SolarEdge and are single-phase, Energy Hub inverters with AC output ranging from 3.8kW to 10kW, depending on system size. The inverters come with a standard manufacturer warranty of 12 years, extendable to 25 years.

PosiGen's model for deploying projects is significantly different from the approach typically taken in utility scale solar PV project development. PosiGen operates on a production line model, applying a consistent process to the tens of thousands of residential PV projects that will be developed under this program. There are no "bespoke" engineering, procurement, or construction agreements for individual projects. While every site is different and Authorities Having Jurisdiction ("AHJ") apply electrical and building codes in varying manners, the general standards and practices of residential electrical design and construction are governed by the National Electric Code ("NEC"), the International Building Code ("IBC") and the International Residential Code. These codes are consistent enough across the U.S to support the production line model, which is critical to repeatable execution and cost management.

PosiGen utilizes subcontracted design services at three stages. The first is at origination, where an initial PV roof layout and energy model/estimate (the "Pre-Design") is built for a specific homeowner.

PosiGen contracts with Aurora to develop a Pre-Design using the Aurora software platform for various roof layout configurations. The energy estimates provided at this design phase represent the first checkpoint for technical and economic feasibility. PV projects qualify for development based on annual yield thresholds determined by market level economics and customer savings. A project site that does not meet these thresholds is disqualified, and in many cases the design may need to be modified to optimize the energy yield by changing system size and configuration.

The Pre-Design options are presented on-site to the homeowner by PosiGen sales representatives, allowing the Sales team to collect photos of the home, roofing material, roof framing, and electrical infrastructure. These initial photos are reviewed by PosiGen's Design & Engineering team as well as our Site Survey team to determine if there is enough information to proceed with a Final Design. In many cases (>75%), the Site Survey team will perform an additional site visit to collect more information and perform detailed roof measurements using drone technology. PosiGen contracts with EagleView, a leading provider of low-level imagery where flights are "ordered" by PosiGen for EagleView to task their drones to photograph the roof. EagleView also processes the images with detailed measurements of all roof surfaces, pitches, azimuth, and most importantly, obstructions (chimneys, vent stacks, etc.). PosiGen also operates man-portable drones to obtain roof detail measurements in a similar manner as EagleView provides. This ensures that PosiGen can cover areas where EagleView drones are not permitted to fly. Assessing the available area on the roof and all obstructions early in the process is critical to streamlining the project construction and minimizing changes.

PosiGen contracts with Enerqual in Louisiana and SolarRoot in other markets to develop the Final Design packages for each project. This package is used by PosiGen operations teams to apply for the AHJ permits and construct the project. The Final Design reflects the existing

conditions at the project site and specifies the Major Equipment based on the respective market. Following the production line model, the electrical designs are highly templated as there is little variation in the electrical design across projects. PosiGen's design subcontractors account for all National Electrical Code (NEC) requirements for each project within the templates developed to account for market and product variations.

The Final Design includes the following:

- Cover Sheet
- Site Plan
- Flush mount racking attachment layout
- Racking attachment detail
- Three-line electrical diagram
- Electrical notes
- Placards and Labeling
- Bill of Materials
- Module, Inverter, and Racking datasheets
- Structural Engineering Letter (Stamped by PE)
- UL 2703 Grounding & Bonding Certification

The structural engineering review is performed by various subcontractors depending on the market and there are numerous firms that serve this market and our production line model. All PV project racking designs are reviewed by a licensed Professional Structural Engineer and stamped for approval and permit submission. PosiGen's Design Team is responsible for change management in all aspects of the design to the as-built version when project construction is complete. Solaroot and Enerqual are essentially extensions of the PosiGen design team providing flexible resources focused on computer-aided design (CAD). These providers are two of many that serve the US residential PV design market.

## **D. System Production**

*Where relevant, proposals shall provide details about the estimated kWh-AC to be generated by the project, including all necessary assumptions. A solar project, for example, would include: Insolation (or sunlight availability), maintenance down time, soiling losses, shading losses, efficiency losses, AC losses, etc. Copies of PVSyst or Helioscope reports used to estimate production for each proposed solar system design should be included with the proposal.*

PosiGen's project is estimated to install nearly 58,000 residential PV systems, totaling 326 MWdc. Over the 25-year financing period, the installed PV fleet is expected to generate 12,973,827,072 kwh of solar energy output.

PosiGen utilizes Aurora to produce energy production estimates. Aurora uses a shade analysis methodology based on laser imaging, detection, and ranging ("LIDAR") in its irradiance engine, which it reports is statistically equivalent to on-site shade measurements. NREL published a report on the accuracy of the Aurora shade measurements in which it concluded that the Aurora data accuracy is plus or minus 3 solar access values ("SAVs"). SAVs are a well-known way of considering shading in solar PV systems.

SAVs is the measurement of the available clear sky for a specific location. It has allowed for the ability to remotely calculate the effect shade has on surrounding objects. Aurora also includes an extensive library of components regularly used in the solar industry, including PV optimizers. Aurora Solar also has a system loss diagram that shows, in detail, the common impediments that cause a reduction in power output. Aurora treats these losses as linear loss factors that are applied to the output of the simulation.

While the loss values are customizable inputs, PosiGen predominantly uses the default values in the program. A review of the default assumptions used by PosiGen found them to be reasonable assumptions for modeling rooftop PV facilities. The default loss values are presented in the below Table.

*Table 3: PosiGen PV System Design Parameters*  
**Aurora Default Loss Values**

<b>System Loss</b>	<b>Default Value (%)</b>
Light-Induced Degradation	1.5
Snow	0.0
Soiling	2.0
Module Nameplate Rating	1.0
Mismatch	0.0
Connections	0.5
Wiring	2.0
Age	0.0
System Availability	3.0
Other	0.0

## **E. Project Model**

*Proposer shall submit a project model setting for the entirety of the project's economics, feasibility and stress-testing. Capital sourcing will include: the Proposer's cash financial commitment; other financing sourced (or to be sourced) – identifying any preferred/mezzanine equity, senior capital, tax equity, grants, as well as identifying each stakeholder providing such capital support and the nature of their commitment (i.e., committed, proposed, likely, or "initial feasibility stage")*

All PV systems within Project Rampart will generate monthly lease revenue from homeowner lease payments as well as incremental incentive revenue from Renewable Energy Credits (RECs). After paying O&M expenses and distributions to tax equity co-investors, systems will generate stable cash flows available to service debt.

PosiGen has shared the Project Rampart financial model as Exhibit A, illustrating the full extent of the anticipated cash flows available for servicing the LPO and SEFI debt.

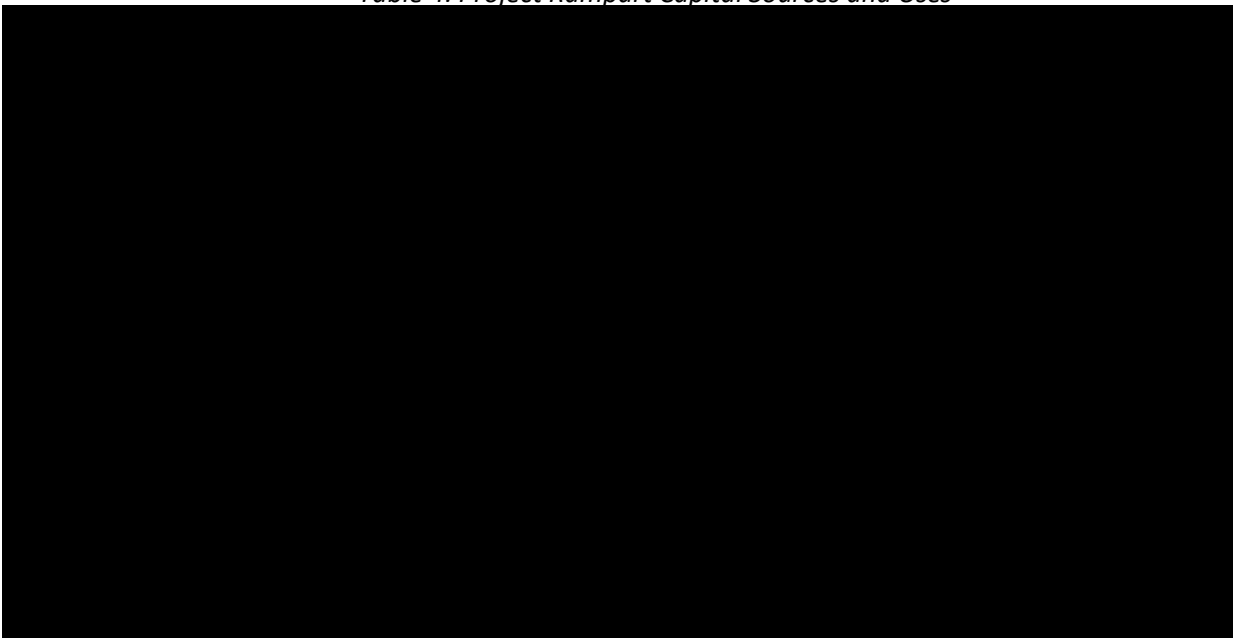
Table 4 below illustrates the various capital sources and uses in relation to Project Rampart. SEFI funding is directly multiplied 10:1 by the DOE LPO loan funding, and nearly

20:1 when considering third-party tax equity investment and PosiGen equity investment in the portfolio.

A portion of the LPO and SEFI loan proceeds would be used to repay the Brookfield first-lien and Connecticut Green Bank second-lien warehouse facility in order to transfer 27,000 operating solar systems to the long-term LPO/SEFI loan facility. The repayment of Connecticut Green Bank second-lien facility will further demonstrate PosiGen’s responsible utilization of Green Bank. Furthermore, the

Connecticut Green Bank’s participation as a pari-passu lender with the LPO effectively improves the security position of the Connecticut Green Bank in the Project Rampart facility.

*Table 4: Project Rampart Capital Sources and Uses*



**F. Other Relevant Information**

*Depending on the nature of the proposal, Proposer may be required to submit additional supporting information, such as audited financial statements, energy audits or project feasibility studies.*

PosiGen has shared all application materials associated with the DOE LPO Part 1 (Eligibility) and DOE LPO Part 2 (Viability) applications in Exhibit B.

## G. Clean Energy Impact and Need for Green Bank funding

*The Proposer's proposal must demonstrate how the Green Bank's investment will leverage additional private capital and support the Green Bank's ambitious environmental / GHG and CO reduction goals, clean energy deployment objectives, public health outcomes, incremental jobs and economic development. Proposer must also elaborate on gap in the market for financing from private sector capital to fund Proposer's proposal such as attempts made to obtain financing from other private sector lenders (including names) and challenges faced.*

PosiGen's Project will provide ample benefits to Connecticut, particularly the State's Overburdened communities, through emissions reductions, local air quality improvements, bill savings, and job creation. Over 60% of the customers that PosiGen serves qualify as Low-Moderate Income (as defined by adjusted gross income relative to the national average).

*GHG emission reductions achieved, measured by CO2-equivalent reductions.*

All of PosiGen's projects reduce emissions through the installation of residential solar energy systems. The [REDACTED] Gen Rampart facility are expected to generate [REDACTED]

[REDACTED] tons of CO2 equivalent. The portion of the PosiGen Rampart projects located in Connecticut are expected to offset 730,000 metric tons of CO2 equivalent.

*Local air quality improvements*

All of PosiGen's projects contribute to local air quality improvements through reducing the dependence on fossil infrastructure for energy. PosiGen anticipates that solar projects installed through this program will eliminate nearly 9 million metric tons of CO2 emissions.

*Bill savings or cost reductions for residents*

PosiGen calculates bill savings for all of their solar leases. Cost savings is a core tenant of PosiGen's business model. During the underwriting process, PosiGen uses utility bill statements to establish an internal target minimum customer savings amount. The utility rate in a given market sets the ceiling by which PosiGen can charge a customer for a monthly lease rate. Typically, PosiGen targets greater than 15% savings from the PV system before energy efficiency is accounted for. To identify the utility rate for each market, the Company uses Genability, a comprehensive rate engine and tariff database. PosiGen updates their rate analysis every 3 months to ensure that their lease prices continue to provide meaningful savings to their customers.

### *Jobs created*

PosiGen anticipates that their Project will create approximately 658 jobs internally directly related to the design, engineering, permitting, construction, and inspection. PosiGen estimates that an additional 336 construction jobs will be created and outsourced to the subcontractors that PosiGen works with to install their solar system projects. Further, PosiGen estimates that their Channel Partners and their subcontractors will create an additional 774 new jobs in the same categories. This totals to 1,918 jobs through 2027, just for design, engineering, permitting, construction, and inspection. As PosiGen expands to manage this level of new solar system project installations, there will be additional jobs created across the organization from Sales through Asset Management as well as functional support such as Finance, IT, Marketing, and Human Resources. PosiGen anticipates that subcontractors and Channel Partners will grow their back-office and support functions concomitantly.

In the state of Connecticut, PosiGen has warehouse facilities and regional operating centers located in Danbury and Hartford. PosiGen has approximately 135 full-time employees located in Connecticut as of June 2024. Through the growth anticipated from the Project Rampart, PosiGen expects to grow headcount by approximately 15% y-o-y in Connecticut over the next 5 years.

### *Need for SEFI Capital*

PosiGen has submitted an application to the US Department of Energy Loan Program Office (LPO) for a [REDACTED] loan facility to support the LPO's mission of expanding energy justice, authorized under the Section 1703 Clean Energy Financing Program under the Inflation Reduction Act of 2022. PosiGen aims to utilize the LPO loan facility to build 45,000 new residential solar systems with a particular focus on low-moderate income households. Under new provisions in Section 1703, the LPO loan facility requires "meaningful participation" from State Energy Financial Institution (SEFI) to co-invest alongside the LPO in a clean energy project.

As a qualified SEFI, CTGB's participation as a pari-passu lender will help meet the SEFI eligibility requirements and leverage federal funding towards solar energy for LMI households in Connecticut and nationwide.

## **H. Statement on Proposers Financial Strength**

*Preference is for Proposer to provide three years of audited financial statements and/or last 3 years tax returns*

PosiGen has 3 years of audited financial statements in Exhibit C.

## **I. Operations, Maintenance and Management Approach**

*The proposal should include approach to asset management, billing, preventative and corrective operations and management as is relevant to the project for the expected duration of the project's estimated useful life.*

PosiGen manages O&M through a Maintenance Service Agreement (MSA) between the operating company and the project company that holds the asset. Maintenance Covered Services, those services included in the maintenance fee paid to the operating company by the project company, include:

1. Maintain and repair each system
2. Operate and maintain each system according to manufacturer's recommendations
3. Provide service relating to a manufacturer's warranty for the major components
4. Make alterations, modifications, and additions to the system to comply with applicable law and the terms of the customer agreement
5. Repair or replace components that are not part of the major equipment
6. Repair any communication or monitoring equipment

The operating company will also provide additional services that are not included in the maintenance fee. These include:

1. Maintaining equipment after expiration of the manufacturer's warranty
2. Repair, restore, replace, or rebuild a system after a casualty event
3. Relocate, remove, or reinstall a system at the direction of the project company or if required to do so under the customer agreement
4. Remediate a serial defect of the system not covered by the manufacturer of the defective component

O&M is also managed through an Administrative Service Agreement (ASA) between the operating company and the project company that holds the asset. ASA Covered Services, included in the administrative fee paid to the operating company by the project company, include:

1. A monthly report
2. Administration of billing and collections
3. Collection of relevant taxes
4. A customer call center
5. Administration of customer agreements
6. Work with customers in the event of the sale of their home
7. Resolve customer concerns and disputes]

[REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]

[REDACTED]  
[REDACTED]

[REDACTED]

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

[REDACTED]

[REDACTED]

[\[Data Room links intentionally Omitted\]](#)

For data supplement access issues or further inquiries, please contact:

[juliette@boundarystone.com](mailto:juliette@boundarystone.com) and [pnadakuduty@posigen.com](mailto:pnadakuduty@posigen.com)

[REDACTED]



## Exhibit G

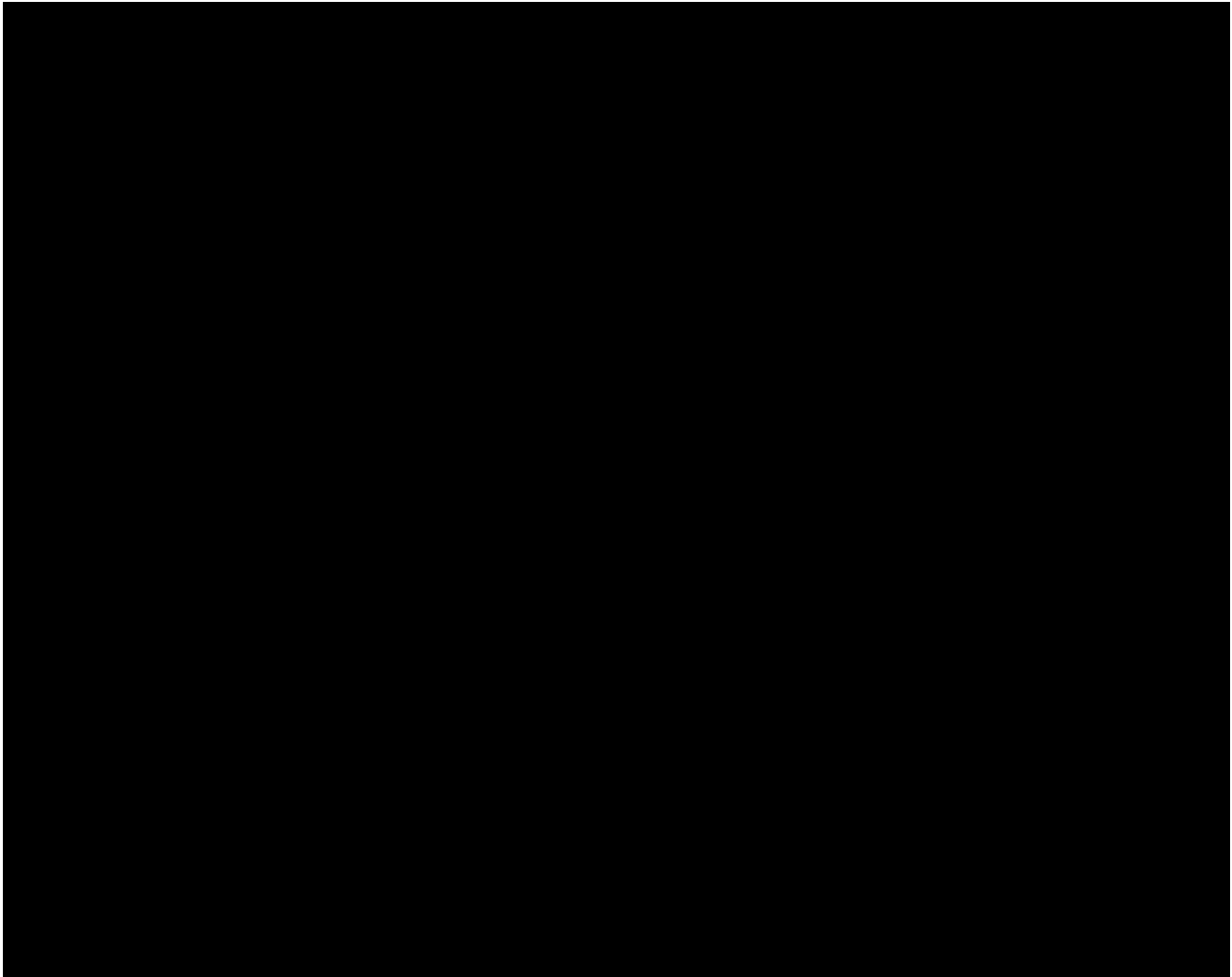
### Capital Solutions Open RFP Evaluation

Capital Solutions Open RFP Evaluation			
Proposal: Approve PosiGen's application for \$100.0 million term loan in syndication with other SEFI alongside DOE LPO \$1 billion loan			
Criteria	Rating	Explanation	Score
1 Meeting Green Bank Goals – how well does this project align with the Green Bank's goals?	High	Providing the SEFI loan to PosiGen will help the Green Bank achieve the following goal formalized in the Comprehensive Plan:  Scaling Up Investment and Impact in Connecticut and Beyond – in order to achieve the climate change goals set forth, more investment from private capital sources leveraged by innovative public sector financing will be needed to scale-up and scale-out the Green Bank model's impact.	3
2 Green Bank Essentiality – to what extent is participation by the Green Bank essential to the success of the project?	High	As a qualified SEFI, CT Green Bank's participation as a sub-debt lender will help meet the SEFI eligibility requirements and leverage federal funding towards solar energy for LMI households in Connecticut and nationwide.	3
3 Project Feasibility – How feasible is the project to achieve its stated goals?	High	Highly feasible. There is a proven track record here, and execution on a larger scale is the mandate with respect to this investment.	3
4 Project Replicability – Could a similar project be replicated in Connecticut or elsewhere, or is this a unique opportunity?	High	Participation as a SEFI in Connecticut will allow our state to catalyze a syndication of SEFIs that will participate now and in the future to support this term loan facility. This model could also be used for future funding to PosiGen and other companies.	3
5 Relevant Experience – Does the proposer offer relevant and sufficient experience for the type of project being proposed?	High	Yes. PosiGen has been in business for over a decade now and has demonstrated the capabilities to deliver its mandate of expanding clean energy access to LMI households and communities.	3
6 References	High	The Connecticut Green Bank has had positive experiences working with PosiGen for over half a decade.	3
7 Pending Litigation	High	Through its status as an Observer to the PosiGen board, the Green Bank has access to all pending litigation with respect to PosiGen and is comfortable with the risk profile associated with all outstanding legal matters which it does not consider material.	3
8 Management and character review	High	PosiGen has continued to build out its management team and has enhanced its executive leadership with seasoned veterans from the solar industry and beyond, including highly qualified individuals in the CFO, COO, General Counsel, CHRO, and Chief Compliance and Policy Officer roles.	3
Bonus Points	Rating	Explanation	Score
1 Project benefits LMI or underserved communities	Applicable		1
2 Project benefits communities with environmentally hazardous areas, such as superfund sites	N/A		0
<b>TOTAL SCORE</b>	<b>Pass</b>		<b>25/24</b>

**Exhibit H**  
**PosiGen State Forecast**



**Exhibit I**  
**PosiGen 5-year Exposure**



75 Charter Oak Avenue, Hartford, Connecticut 06106  
T: 860.563.0015  
[www.ctgreenbank.com](http://www.ctgreenbank.com)



## PosiGen

ESS Funding Facility

July 19, 2024



**Document Purpose:** This document contains background information and due diligence for the extension of a working capital line for the purchase of battery energy storage systems for PosiGen Inc. ("PosiGen") backed by the future incentive payments PosiGen will earn from the deployment and operation of these storage systems with low-income residents and residents of Distressed Communities in Connecticut. The information herein is provided to the Connecticut Green Bank Board of Directors for the purposes of reviewing and approving recommendations made by the staff of the Connecticut Green Bank.

In some cases, this package may contain, among other things, trade secrets and commercial or financial information given to the Connecticut Green Bank in confidence and should be excluded under C.G.S. §1-210(b) and §16-245n(D) from any public disclosure under the Connecticut Freedom of Information Act. If such information is included in this package, it will be noted as confidential.

# Investment Memo

**To:** Connecticut Green Bank Board of Directors  
**CC:** Bryan Garcia, President and CEO; Bert Hunter, EVP of Investments and CIO; Jane Murphy, Executive Vice President of Accounting and Financial Reporting; Brian Farnen, General Counsel and CLO; Eric Shrago, Managing Director of Operations; Sergio Carrillo, Director of Incentive Programs  
**From:** Larry Campana, Associate Director of Investments & Juli Raventos, Summer Graduate Associate, Investments  
**Date:** July 19, 2024  
**Re:** Energy Storage Solutions Funding Facility

---

## Background

At its April 22, 2022 meeting, the Board of Directors (the “Board”) of the Connecticut Green Bank (the “Green Bank”) approved staff’s request to support PosiGen, Inc. and its subsidiaries (collectively, “PosiGen”) with a [REDACTED] loan to provide affordable storage as part of the Energy Storage Solutions Program (“ESS”).<sup>1</sup> ESS, ordered by the Connecticut Public Utilities Regulatory Authority (“PURA”) in July of 2021 and designed to expand the development of battery energy storage systems across the state, has as a priority to deliver resilience benefits to low- and moderate-income (“LMI”) customers and customers in environmental justice and economically distressed communities. The working capital line provided by the Green Bank to PosiGen was for purchasing the batteries and associated equipment from Generac (their strategic partner for the ESS program); the term loan was sized to future dispatch incentive payments and would be funded by payments from Eversource and UI as well as customer lease payments. The [REDACTED] capital line is fully drawn, while no amount of the term loan has been drawn. On January 23, 2024, the Board approved a reduction of the term loan amount to [REDACTED] which can increase above \$1 million dollar for dollar to a maximum of [REDACTED] for each dollar of repayment under the tax equity bridge or the ESS Working Capital Facility.<sup>2</sup>

To continue to support PosiGen in providing an affordable storage offering and to give the program more time to expand, staff is recommending to the Board that the Green Bank provide a one-year extension to the working capital line, from September 30, 2024 to September 30, 2025. Staff notes that this decision should be evaluated under the open Capital Solutions RFP Program and not under the strategic selection criteria. Thus, staff have used the standard evaluation matrix for programs under the Capital Solutions RFP. Appendix B to this document provides the evaluation matrix of the items proposed.

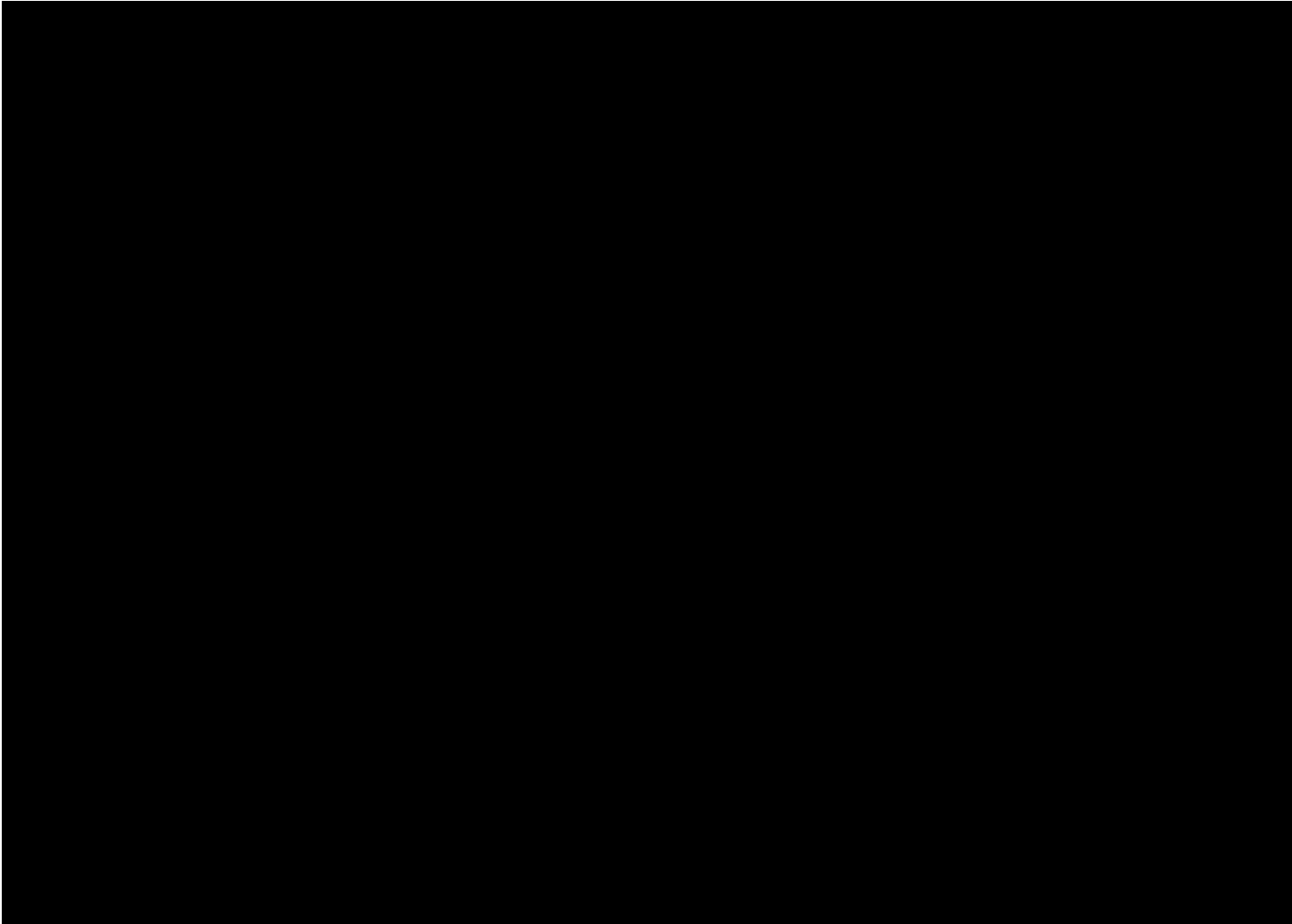
The Green Bank has a longstanding relationship with PosiGen, including a “2<sup>nd</sup> Lien” facility subordinated to Brookfield (the “second lien credit facility”, or “SLCF”) with a total commitment of [REDACTED], consisting of [REDACTED] in existing Connecticut PBI Term Loans (with approximately [REDACTED] outstanding and in repayment). The Green Bank has a first lien commitment to PosiGen (the Connecticut PBI Term Loans) associated with the now-closed Residential Solar Investment Program (“RSIP”), lending against the Performance Based Incentives (“PBI”) that PosiGen systems earn as they generate clean energy and deliver Solar Home Renewable Energy Credits (“SHRECs”) to the Green Bank. Finally, in December 2022, the Board approved a \$6 million position in a \$12 million tax equity bridge loan facility to PosiGen under

---

<sup>1</sup> The Memorandum submitted for purposes of the April 22, 2022 Board Approval is provided as Appendix A to this document.

<sup>2</sup> Please refer to the Memorandum titled “PosiGen: Green Bank Term Loan Facility Modification Request” dated January 23, 2024 for additional details about the changes made to the ESS term loan.

the Capital Solutions program associated with a variety of tax credit adders created under the Inflation Reduction Act at the Federal level. Overall, the Green Bank's direct exposure to PosiGen (that is, total funded capital) as of July 2024 (including two additional advances made pursuant to approval granted in January 2024) is approximately [REDACTED] net of the defeased PBI loans). The Green Bank's facilities with PosiGen and associated exposure (and caps) as of July 2024, are summarized below. Additional information about the imposition of the associated caps associated with each program are explained in more detail in the Board Memorandums dated January 23, 2024 and March 15, 2024.



(2) Excluding PBI (defeased with PBIs)

PosiGen is current on obligations to the Green Bank and is continuing to both expand its presence in Connecticut and deliver on its commitments to serving LMI customers across the state. The ESS working capital line is fully drawn, and the reduction in the term loan, approved by the Board on January 23, 2024, means that PosiGen cannot continue to draw if no repayments are made. Thus, the risk associated with the capital line is limited.

The proposed extension to the working capital line, as detailed further in this memo, will support the Green Bank's successful and growing partnership with PosiGen and will help advance the state's goals to expand storage adoption in underserved communities, without significantly increasing the Green Bank's exposure.



### **Progress of ESS and PosiGen's Storage Program**

Following the April 22, 2022 Board Approval, PosiGen started to provide an 18 kWh battery that paired with existing rooftop solar installations to provide a clean backup solution for its residential customers. PosiGen pays for the purchase, installation, and maintenance of the asset. The customer does not pay anything upfront and either sees a small increase in their solar lease payment or may not see any increase at all (which is PosiGen's goal wherever possible), depending on the final product pricing. PosiGen's partnership with Generac allows it to provide Generac's PWRcell product as the primary initial offering to its customer base.

In addition, PosiGen's monetization of the Federal Investment Tax Credit and earning of incentive payments through the ESS program, including through both passive and active dispatch activities, keeps the storage offer affordable to the customer.

As a part of its offering, PosiGen works with Generac to operate the assets in accordance with the requirements of the ESS Program. Generac guarantees active dispatch incentive payments to PosiGen, regardless of actual performance, in return for a small haircut on the incentive payments. The program is set up in such way that Generac pays PosiGen within 30 days of receiving payment from the utility company (Eversource or UI pay performance incentives directly to system owners).

The ESS program began in January 2022, and as of July 2024, 507 residential units have been approved under the program, totaling system power of about 3,500 kW. The sum of total system energy capacity in the residential sector increased from 400kWh in 2022 to 4,900kWh in 2023 and 3,800kWh so far in 2024 (representing 150 approved and completed projects this year). The program has started to show its success.

As a result of the financing facility assembled by the Green Bank for working capital and term loan for PosiGen, there have been 247 homes with battery storage leases signed. This pipeline of projects is in various stages of deployment, including several that are ready for consideration with Green Bank's ESS incentive program. If this full pipeline moves into installation, staff estimates 1,705 kWh of resilience will be added. Given the recent success of the program, such figures are promising. Given the strategic partnership that the Green Bank has with PosiGen, their good performance in other programs, and the limited exposure that the Green Bank faces with this working capital line, staff recommends providing the extension to their working capital line.

### **Proposed Congressional Bank Facility and Green Bank Positioning**

To support the Green Bank's continued partnership with PosiGen and enable the growth of their affordable storage product, staff is proposing to provide a one-year extension to the [REDACTED] capital line. The only change to the working capital line will be to extend the tenure of the loan from September 30, 2024 to September 30, 2025. Such change shall not affect any other terms of the working capital line, including the cap provisions approved in the January 23, 2024 Board Meeting. The term loan facility will be modified as necessary to accommodate this additional extension of time under the working capital portion of the facility.

### **Recommendation**

The Green Bank's ongoing partnership with PosiGen has brought the benefits of solar and energy efficiency to low-income customers and residents of Distressed Communities across the state. Such partnership is expected to continue with the various ongoing projects, as further described in a

memorandum dated July 19, 2024. The ESS program, which initiated in 2022 and the Green Bank supported, has started to show success, and an extension to the tenure of the working capital line will let it reach more communities. The extension of the loan therefore provides administrative ease between the Green Bank and its long-term strategic partner. This will also allow the Green Bank to expand on this successful investment and bring resiliency benefits to these underserved communities. Furthermore, the working capital line has already been drawn, and because of the capped amount as described herein, no additional capital will be provided to this program unless PosiGen is able to repay. Thus, the Green Bank's exposure is limited. For these reasons, staff recommends proceeding with the extension to the working capital line as outlined herein.

## Resolutions

**WHEREAS**, the Connecticut Green Bank ("Green Bank") has an existing partnership with PosiGen, Inc. (together with its affiliates and subsidiaries, "PosiGen") to support PosiGen in delivering a solar lease and energy efficiency financing offering to LMI households in Connecticut;

**WHEREAS**, PosiGen's program has expanded offerings to LMI households in Connecticut to include an affordable battery energy storage system ("BESS") option that will provide the customer backup power during a power outage and will reduce peak demand on the electric distribution system, as more fully explained in a memorandum dated July 17, 2024 to the Green Bank Board of Directors (the "Board Memo");

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank may extend the working capital line to PosiGen for the purchase of battery energy storage systems (ESS) for a term of one year and changes to the related term loan facility for the ESS as may be required to accommodate the extension of the working capital line (such as an extension of the availability period and ultimate maturity date), otherwise following terms substantially similar to those described in the original working capital line agreement, as well as decisions approved by the Board since the approval of the working capital line and term loan in support of ESS;

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and negotiate and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned legal instruments.

Submitted by: Bert Hunter, EVP and CIO



APPENDIX A  
Board Memo dates April 22, 2024  
**PosiGen**

Working Capital Line and Term Loan Request

April 15, 2022



**Document Purpose:** This document contains background information and due diligence for the creation of a working capital line for the purchase of battery energy storage systems and associated term loan for PosiGen Inc. (“PosiGen”) backed by the future incentive payments PosiGen will earn from the deployment and operation of these storage systems with low-income residents and residents of Distressed Communities in Connecticut. The information herein is provided to the Connecticut Green Bank Board of Directors for the purposes of reviewing and approving recommendations made by the staff of the Connecticut Green Bank.

In some cases, this package may contain, among other things, trade secrets and commercial or financial information given to the Connecticut Green Bank in confidence and should be excluded under C.G.S. §1-210(b) and §16-245n(D) from any public disclosure under the Connecticut Freedom of Information Act. If such information is included in this package, it will be noted as confidential.

# Investment Memo

**To:** Connecticut Green Bank Board of Directors  
**CC:** Bryan Garcia, President and CEO; Jane Murphy, Executive Vice President of Accounting and Financial Reporting; Brian Farnen, General Counsel and CLO; Eric Shrago, Managing Director of Operations; Sergio Carrillo, Director of Incentive Programs  
**From:** Bert Hunter, EVP and CIO  
**Date:** April 15, 2022  
**Re:** PosiGen BESS Working Capital and Term Loan Facility

---

## Background

The Energy Storage Solutions Program, ordered by the Connecticut Public Utilities Regulatory Authority (“PURA”) in July of 2021, is designed to expand the development of battery energy storage systems across the state. Amongst the goals for the initiative that PURA identified in its decision, the program must prioritize delivering resilience benefits to low- and moderate-income (“LMI”) customers and customers in environmental justice and economically distressed communities – with a focus of no less than 40 percent of installations being installed in such communities. PosiGen, Inc. and its subsidiaries (collectively, “PosiGen”), are currently launching an affordable storage offering targeting these traditionally underserved customers.

To support PosiGen in providing an affordable storage offering, staff is recommending to the Board of Directors (the “Board”) that the Connecticut Green Bank (“Green Bank”) provide a working capital line and term loan to the company. As the Board is well aware, the Green Bank has a longstanding relationship with PosiGen, including an existing 2<sup>nd</sup> lien credit facility that supports PosiGen’s solar and energy efficiency offerings and a 1<sup>st</sup> lien facility against PBI payments under the RSIP. As of March 1, 2022, PosiGen had approximately [REDACTED] balance on the 2<sup>nd</sup> lien facility, after successfully paying down over \$ [REDACTED] of the balance in September 2021, and about \$ [REDACTED] the PBI, which is fully drawn and amortizing over the next 5 years or so (in line with PBI payments). The proposed working capital line and term loan, as detailed further in this memo, will build on the Green Bank’s successful partnership with PosiGen and will advance the state’s goals to expand storage adoption in underserved communities.

## PosiGen’s Storage Offering

PosiGen plans to provide an 18 kWh battery that will be paired with both existing and new rooftop solar installations to provide a clean backup solution for its residential customers. PosiGen has partnered with Generac, a global supplier of backup generators and a rapidly growing player in battery energy storage systems, to provide their PWRcell product as the primary initial offering to its customer base. Appendix A includes the product specification.

PosiGen’s goal for this program, similar to the company’s traditional solar + EE offering, is to focus on affordability in providing a backup solution to its customers. As with its existing solar lease offering, PosiGen will pay for the purchase, installation, and maintenance of the asset. The customer will not pay

anything upfront and will either see a small increase in their solar lease payment or may not see any increase at all (which is PosiGen's goal wherever possible), depending on the final product pricing.

In addition to the upfront incentive offered through the Energy Storage Solutions Program (the "ESS Program"), PosiGen can keep the storage offer affordable to the customer by monetizing the Federal Investment Tax Credit (currently available when storage is paired with solar) and by earning incentive payments through the ESS Program, including through both passive and active dispatch activities.

- **Passive Dispatch:** Participants in passive dispatch are required to set the storage system to automatically store and dispatch energy to reduce demand during summer peak periods. The proposed incentive rate through 2024 is \$200/kWh for standard customers, \$300/kWh for customers in underserved communities, and \$400/kWh for low-income customers. Total incentives per system cannot exceed the lesser of 50% of the total installed cost or \$7,500.
- **Active Dispatch:** The utility may call on the asset to dispatch differently than the passive dispatch schedule. The asset will be paid based on the average discharge capacity across all active events during a given season. Assets can participate in active dispatch for up to 10 years. The proposed incentive rate for assets participating in summer events is \$200/kW for the first 5 years and \$115/kW for years 6-10. The proposed incentive rate for assets participating in winter events is \$25 for the first 5 years and \$15 for years 6-10.

As a part of its offering, PosiGen will work with Generac to operate the assets in accordance with the requirements of the ESS Program. Generac will guarantee active dispatch incentive payments to PosiGen, regardless of actual performance, in return for a small haircut on the incentive payments. Generac will pay PosiGen within 30 days of receiving payment from the program administrator.

In terms of program rollout, PosiGen will initially target several hundred existing low-income solar customers in Distressed Communities who have an existing solar lease. From there, the company will expand to its other 2,000+ customers living in Distressed Communities.

### Proposed Congressional Bank Facility and Green Bank Positioning

To expand the Green Bank's continued partnership with PosiGen and enable the launch of their affordable storage product, staff is proposing to provide a [REDACTED] capital line to support the purchase of hardware and a [REDACTED] loan sized to future dispatch incentive payments, which (from a performance perspective) are guaranteed by Generac to PosiGen.<sup>3</sup> A summary of the proposed working capital line terms follows below:

- Provide capital for the purchase of hardware, including the Generac storage systems. This credit line will not be used to pay for soft costs so will be fully collateralized via the inventory purchased
- Not to exceed [REDACTED]
  - This will allow PosiGen to purchase approximately 150 Generac systems at a time, which should coincide with projected near-term sales volume as the program rolls out

---

<sup>3</sup> Should any battery system performance failure result in a loss of active dispatch incentive payments that would have been paid by the utility (but for such failure), the Generac guarantee will cover such shortfall. See Appendix B.

- Fixed 2% interest rate per annum
- Allowed to revolve for a [2-yr] draw period (subject to extension by PosiGen in Green Bank's sole discretion), but specific assets purchased under the facility must convert to collateral for the Term Loan within [180] days or be repaid at the end of such 180-day advance period unless modified or waived by Green Bank in Green Bank's sole discretion).

A summary of the term loan terms follows below:

- [REDACTED] loan facility that provides 100% advance against the present value (at 4.5%) of the Generac guaranteed payments and any customer payments
  - Generac is the credit counterparty, and the guaranteed payments limit PosiGen's exposure to performance risk
  - Customer payments are expected to be a nominal portion of the revenues if PosiGen decides to charge a lease fee at all. Most, if not all, of the revenues will come from Generac
  - The loan at this size is anticipated to cover an estimated 1,000 installations over a targeted 2 year period
- Amortizes fully over 10 years, which is tied to the life of the underlying asset, with an option for an Interest Only period (to be approved by Green Bank in Green Bank's sole discretion, but in any event not to exceed 12 months from date of the corresponding conversion to term status)
- Fixed interest rate per annum as follows:
  - LMI / Distressed Communities Portion (up to [REDACTED]): [REDACTED]
  - Non-LMI / Distressed Communities Portion (not to exceed lesser of (a) \$ [REDACTED] (b) [REDACTED])
- Projects to be owned by various PosiGen-managed tax equity funds, with this new structure running through the company's existing master back-leverage facility
  - The collateral approach will mirror the Green Bank's existing 1<sup>st</sup> lien credit facility against PBI cash flows where such PBI cash flows (in this case – the BESS cash flows) are “carved out” from the collateral pool which benefits the 1<sup>st</sup> and 2<sup>nd</sup> lien lenders. Using the PURA approved direct payment structure, the utilities make active dispatch incentive payments directly to PosiGen's solar fund structure (the owners of the BESS assets).

## Recommendation

The Green Bank's ongoing partnership with PosiGen has brought the benefits of solar and energy efficiency to low-income customers and residents of Distressed Communities across the state. By providing a working capital line and a term loan to support PosiGen's new battery storage offering, the Green Bank can expand on this successful investment and bring resiliency benefits to these underserved communities, as well. Furthermore, the Green Bank's exposure to performance risk is limited through the direct payment arrangement by the utilities to PosiGen's solar fund structure, our secured collateral position, and PosiGen's guaranteed revenue agreement with Generac, a very substantial New York Stock Exchange-listed enterprise (ticker: GNRC) with nearly [REDACTED] in stockholders' equity (see Corporate Overview at Exhibit B). For these reasons, staff recommends proceeding with an investment as outlined herein.

## Resolutions

**WHEREAS**, the Connecticut Green Bank (“Green Bank”) has an existing partnership with PosiGen, Inc. (together with its affiliates and subsidiaries, “PosiGen”) to support PosiGen in delivering a solar lease and energy efficiency financing offering to LMI households in Connecticut;

**WHEREAS**, PosiGen is planning to expand its offerings to LMI households in Connecticut to include an affordable battery energy storage system (“BESS”) option that will provide the customer backup power during a power outage and will reduce peak demand on the electric distribution system, as more fully explained in a memorandum dated April 15, 2022 to the Green Bank Board of Directors (the “Board Memo”);

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank may advance a working capital line to PosiGen for the purchase of battery energy storage systems not to exceed [REDACTED] on the terms substantially similar to those described in the Board Memo;

**RESOLVED**, that the Green Bank may further advance up to \$ [REDACTED] loan financing to PosiGen by periodically converting such working capital advances (or any cash purchased eligible collateral owned by PosiGen or its subsidiaries that is backed by customer contracts for BESS systems) on terms substantially similar to those described in the Board Memo; and

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and negotiate and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned legal instruments.

Submitted by: Bert Hunter, EVP and CIO



## APPENDIX A Spec Sheet, p1



**GENERAC®**

**PWRCELL**

**OUTDOOR RATED BATTERY**

PWRcell Outdoor Rated Battery Cabinet (Ordering SKU: APKE00028)  
3.0kWh PWRcell DCB Battery Module  
Model #: BJ-DCB052KBG (Ordering SKU: G0080040)  
3.0kWh PWRcell EX Battery Module  
Model #: G0080001, G0080003

The PWRcell™ Outdoor Rated (OR) Battery Cabinet is a Type 3R smart battery enclosure that allows for a range of storage configurations to suit any need. DC-couple to Generac PWRzone solar, PWRgenerator, or AC-couple to a third party PV array. No other smart battery offers the power and flexibility of PWRcell.



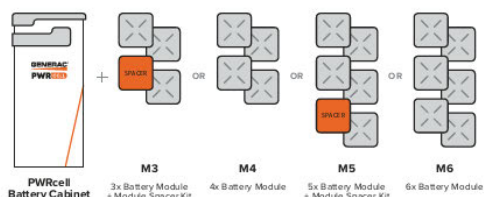
### PWRcell BATTERY CABINET DESIGN

The PWRcell Battery Cabinet allows system owners the flexibility to scale from an economical 9kWh to a massive 18kWh by installing additional battery modules to the PWRcell Battery Cabinet. An existing PWRcell Battery Cabinet can be upgraded with additional modules. Use the graphic below and the chart on the back of this sheet to understand what components you need for your chosen PWRcell configuration.

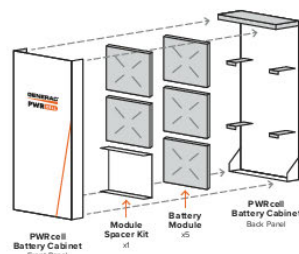
### FEATURES & BENEFITS

- Best-in-class battery backup power
- AC-couple to third party solar array
- Connect 2 PWRcell Battery Cabinets to a single PWRcell Inverter for up to 36kWh of usable storage
- Plug-and-play with all PWRcell products
- Time-of-use (TOU) and zero-export ready
- 3R cabinet for outdoor and indoor installations
- Floor standing or wall-mounted design

### BATTERY CONFIGURATION GUIDE



### BATTERY CABINET ASSEMBLY



## APPENDIX A

### Spec Sheet, p2

## Specifications

PWRcell™ BATTERY CONFIGURATIONS	M3	M4	M5	M6
BATTERY MODULES:	3	4	5	6
USABLE ENERGY <sup>1</sup> :	9 kWh	12 kWh	15 kWh	18 kWh
NOMINAL CONT. AC POWER <sup>1,2</sup> :	3.4 kW	4.5 kW	5.6 kW	6.7 kW
MAX. AC POWER <sup>1,3</sup> :	4.5 kW	6 kW	7.5 kW	9 kW
NOMINAL CONT. DC (CHARGE/DISCHARGE) - A:	11.6	15.5	19.4	23.3
PEAK MOTOR STARTING CURRENT (2 SEC) - A, RMS:	25	33	42	50
COMPATIBLE BATTERY MODULES <sup>4</sup> :	Generac PWRcell EX 3.0 kWh, Generac PWRcell DCB 3.0 kWh, Generac PWRcell DCB 2.85 kWh			
REbus™ VOLTAGE - INPUT/OUTPUT:	360-420 VDC			
NOMINAL VOLTAGE:	380 VDC			
DC-DC ROUND-TRIP EFFICIENCY:	96.5%			
MAXIMUM AMBIENT OPERATING TEMPERATURE:	14 TO 122 °F (-10 TO 50 °C)			
OPTIMAL AMBIENT OPERATING TEMPERATURE:	41 to 104 °F (5 to 40 °C)			
MAXIMUM INSTALLATION ALTITUDE - FT (M):	6560 (2000)			
DIMENSIONS, L x W x H - IN (MM):	22" x 10" x 68" (559 x 254 x 1727)			
WEIGHT, ENCLOSURE - LB (KG):	115 (52)			
WEIGHT, INSTALLED W/ DCB MODULES - LB (KG):	280 (127)	335 (152)	390 (177)	445 (202)
WEIGHT, INSTALLED W/ EX MODULES - LB (KG):	287 (130)	344 (156)	401 (182)	459 (208)
WEIGHT, ACCESSORY MOUNTING HARDWARE - LB (KG):	21 (10)			
ENCLOSURE TYPE:	Type 3R			
WARRANTY - LI-ION MODULES:	10 Years, (7.56MWh)			
WARRANTY - ELECTRONICS AND ENCLOSURE:	10 Years			
COMMUNICATION PROTOCOL:	REbus™ DC Nanogrid™			
SEISMIC RATING:	IEEE 693-2018 (HIGH)			
COMPLIANCE:	UL 9540, UL 9540A <sup>5</sup> , UL 1973, UL 1642, CSA 22.2 #107.1			

<sup>1</sup>Assumes use of 3.0kWh battery module. <sup>2</sup>Average AC power over a complete discharge cycle. <sup>3</sup>Values provided for 40°C (104°F). <sup>4</sup>All PWRcell battery models used in a PWRcell Battery Cabinet must be the same model. Do NOT combine module SKUs in a single battery cabinet. <sup>5</sup>Meets residential indoor requirement as per UL9540A ed 4 in PWRcell OR M\* DCB configuration.

Note: Charge/discharge rate may be reduced at temperature extremes

### PWRcell ACCESSORIES

Inside of the PWRcell Battery Cabinet, battery modules are stacked two deep on three levels, allowing for up to six modules to be connected in series. You can upgrade an existing PWRcell Battery Cabinet by adding Battery Modules and a Module Spacer (APKE00008). A Module Spacer is only required for battery configurations with an odd number of modules (i.e. 3 or 5).

Generac offers a convenient PWRcell Battery Upgrade Kit (APKE00009) to help replace lost or misplaced hardware.

Note: When adding modules, be sure all modules within a cabinet are the same model (i.e., EX or DCB). Instructions are provided in product manual.

### PWRcell MODEL BUILDER

PRODUCT SERIES	ENCLOSURE TYPE	# OF MODULES	BATTERY SERIES
PWRcell	OR	M6	DCB
	IR (Indoor Rated) OR (Outdoor Rated)	3 Modules 4 Modules 5 Modules 6 Modules	DCB EX

Sample Model Name: PWRcell OR M6 DCB

Generac Power Systems, Inc.  
545 W29290 Hwy. 59, Waukesha, WI 53189

[www.Generac.com](http://www.Generac.com) | 888-GENERAC (436-3722)

A0000949454 REV F

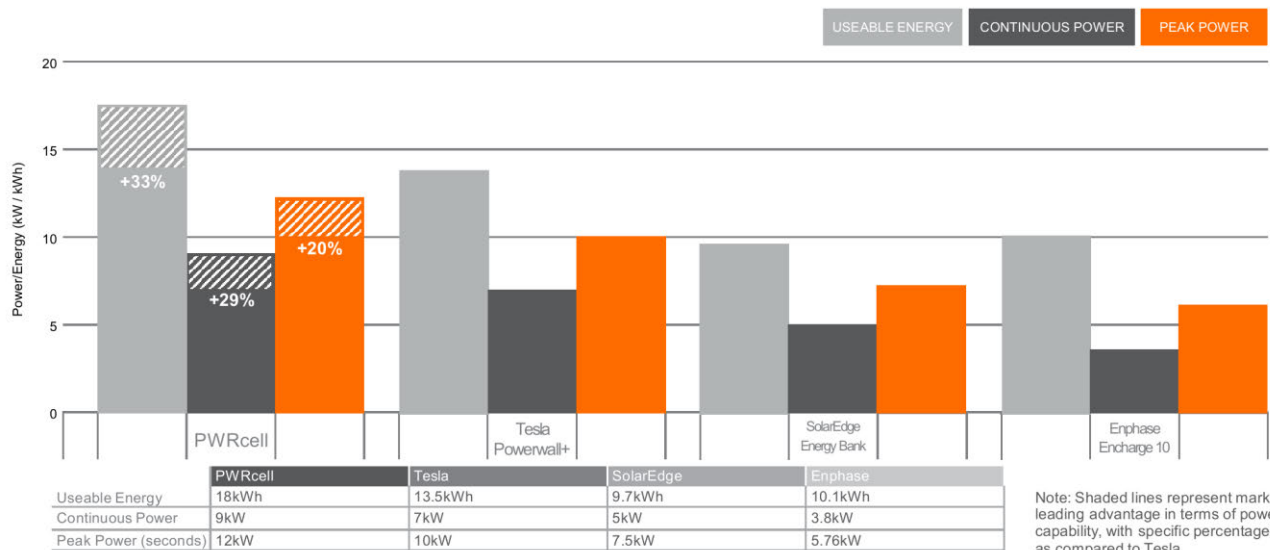
©2021 Generac Power Systems. All rights reserved.  
Specifications are subject to change without notice.



## APPENDIX A Spec Sheet, p2

### PWRCELL® WHOLE HOME POWER COMPARISON

**GENERAC®**





APPENDIX B  
Generac Overview, p1

GENERAC  
BY THE NUMBERS

**GENERAC**



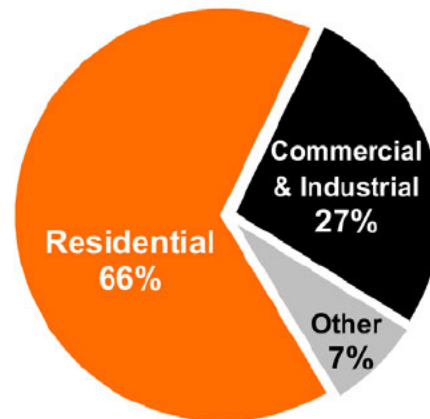
**Residential**

Home Standby, Clean Energy, Portables,  
Chore Products



**2021 Net Sales**

Domestic 85% | International 15%



**Other**

Aftermarket Parts, Product Accessories, Extended  
Warranty, Grid Services, Remote Monitoring

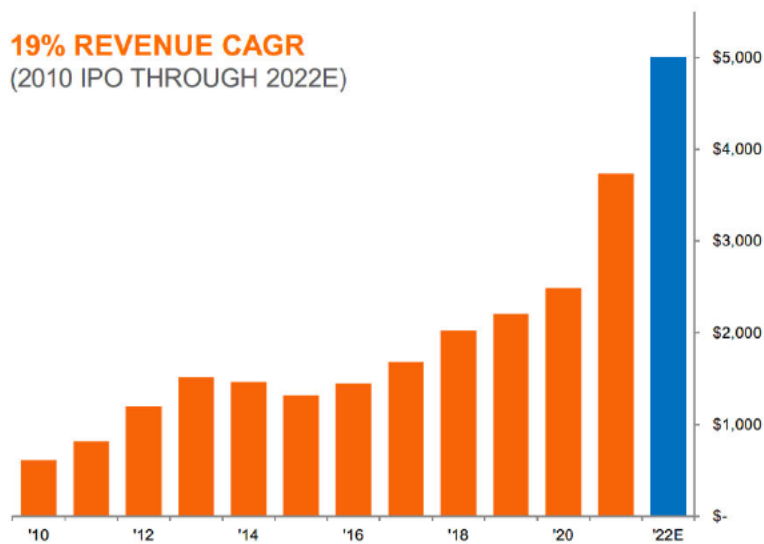
 Concerto™  Mobile Link™



## APPENDIX B Generac Overview, p2

# TRACK RECORD OF GROWTH

**19% REVENUE CAGR**  
(2010 IPO THROUGH 2022E)



Note: \$ amounts in millions. Represents gross sales excluding freight revenue. Figures include results from acquisitions completed during 2011-present. CAGR measures growth from 2010 through 2022E.

## STRATEGIC GROWTH THEMES

- Power Quality Issues Continue to Increase
- Home Standby Penetration Opportunity is Massive
- **Solar, Storage & Monitoring Markets Developing Quickly**
- Grid Services & Energy-as-a-Service Open New Revenue Streams
- Natural Gas Generators Driving Superior Growth
- Rollout of 5G Will Require Improved Network Quality



**APPENDIX B**  
**Generac Overview, p3**

**INDUSTRY LEADING  
HARDWARE SOLUTIONS**



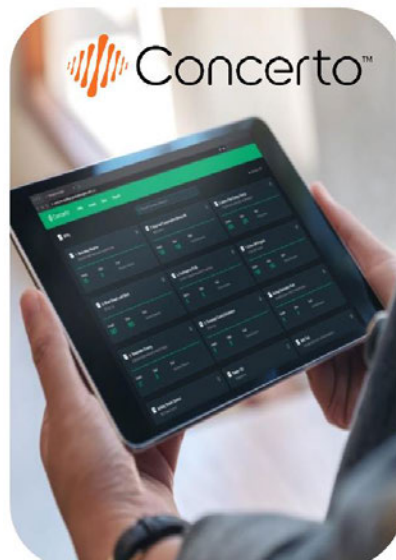
**Several million grid  
edge assets**

**INTEGRATED DELIVERY  
& CUSTOMER SERVICE**



**Over 10,000  
Dealers & Distributors**

**INDUSTRY-LEADING  
SOFTWARE TECHNOLOGY**



**Control millions of end  
points in real-time**

**INTEGRATED  
SERVICES & SUPPORT**



**24/7 Operations  
and Customer Care**

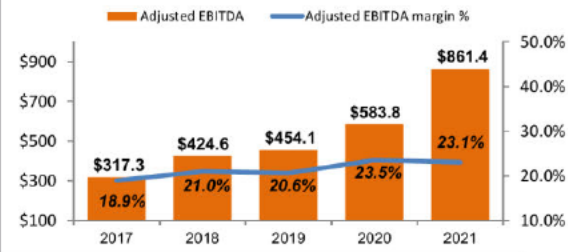
## APPENDIX B

### Generac Overview, p4

## FINANCIAL SUMMARY

**GENERAC**

(\$'S IN MILLIONS)



Generac Holdings Inc.

## APPENDIX B





## APPENDIX B Evaluation Form

### Capital Solutions Open RFP Evaluation

**Proposal:** Approve a one-year extension to PosiGen's \$2 million working capital line

Criteria	Rating	Explanation	Score
<b>1 Meeting Green Bank Goals – how well does this project align with the Green Bank's goals?</b>	High	Providing the extension to the working capital line to PosiGen will help the Green Bank achieve the following goal formalized in the Comprehensive Plan:  Scaling Up Investment and Impact in Connecticut and Beyond - in order to achieve the climate change goals set forth, more investment from private capital sources leveraged by innovative public sector financing will be needed to scale-up and scale-out the Green Bank model's impact.	3
<b>2 Green Bank Essentiality – to what extent is participation by the Green Bank essential to the success of the project?</b>	High	Given the Green Bank's support of the ESS program in 2022 and the success that the program has begun to show, the Green Bank's participation is critical to allowing PosiGen to reach more underserved communities whom we together hope to serve (including and especially so with respect to energy storage solutions, which are particularly dependent methods that make these projects affordable for LMI customers).	3
<b>3 Project Feasibility – How feasible is the project to achieve its stated goals?</b>	High	Highly feasible. There is a proven track record here and the project has started to show success. Execution on a larger scale, which will be a possibility with the extension of the working capital line, is the mandate with respect to this investment.	3
<b>4 Project Replicability – Could a similar project be replicated in Connecticut or elsewhere, or is this a unique opportunity?</b>	High	Providing affordable ways to involve LMI customers in storage has started to show its success and could well be replicated by installing more batteries. Given PosiGen's strong presence as a solar installer, there are a lot of people who are fit for this storage solution. In addition, over time the cost of batteries has decreased, making them more affordable for the public.	3
<b>5 Relevant Experience – Does the proposer offer relevant and sufficient experience for the type of project being proposed?</b>	High	Yes. PosiGen has been in business for over a decade now and has demonstrated the capabilities to deliver on its mandate of expanding clean energy access to LMI households and communities.	3
<b>6 References</b>	High	The Connecticut Green Bank has had positive experiences working with PosiGen for over half a decade.	3
<b>7 Pending Litigation</b>	High	Through its status as an Observer to the PosiGen board, the Green Bank has access to all pending litigation with respect to PosiGen and is comfortable with the risk profile associated with all outstanding legal matters which it does not consider material.	3
<b>8 Management and character review</b>	High	Over the past year, PosiGen has continued to build out its management team and has enhanced its executive leadership with seasoned veterans from the solar industry and beyond, including highly qualified individuals in the CFO, COO, General Counsel, CHRO, and Chief Compliance and Policy Officer roles.	3
Bonus Points	Rating	Explanation	Score
<b>1 Project benefits LMI or underserved communities</b>	Applicable		1
<b>2 Project benefits communities with environmentally hazardous areas, such as superfund sites</b>	N/A		0
<b>TOTAL SCORE</b>	<b>Pass</b>		<b>25/24</b>



845 Brook Street  
Rocky Hill, Connecticut 06067

300 Main Street, 4th Floor  
Stamford, Connecticut 06901

T: 860.563.0015  
F: 860.563.4877  
[www.ctcleanenergy.com](http://www.ctcleanenergy.com)

## **Scale Microgrid Solutions LLC – Bridgeport, CT**

### **Fuel Cell and Thermal Loop Project**

A Fuel Cell Debt Financing Capital Solutions RFP Response

Construction and Term Loan Facility

July 23, 2024



**Document Purpose:** This document contains background information and due diligence on a proposed credit facility for a Fuel Cell project and Thermal Loop project located in Bridgeport, CT. The information herein is provided to the Connecticut Green Bank Board of Directors for the purposes of reviewing and approving recommendations made by the staff of the Connecticut Green Bank.

In some cases, this package may contain, among other things, trade secrets and commercial or financial information given to the Connecticut Green Bank in confidence and should be excluded under C.G.S. §1-210(b) and §16-245n(D) from any public disclosure under the Connecticut Freedom of Information Act. If such information is included in this package, it will be noted as confidential.

# Capital Solutions Financing Memo

**To:** Connecticut Green Bank Board of Directors

**From:** David Beech, Senior Manager, Investments; Bert Hunter, EVP & CIO; Derek Nong, Summer Associate, Investments

**Cc:** Bryan Garcia, President & CEO; Brian Farnen, General Counsel & CLO; Eric Shrago, VP Operations; Jane Murphy, EVP of Finance and Administration

**Date:** July 23, 2024

**Re:** Scale Microgrid Solutions LLC – Fuel Cell and Thermal Loop Project – Construction and Term Loan Facility

---

## Capital Solutions Request

The purpose of this memorandum is to request Connecticut Green Bank (“Green Bank”) Board of Directors (the “Board”) approval of: (1) Green Bank’s participation, not to exceed \$10 million in aggregate, in a [REDACTED] million senior construction loan facility (the “Construction Loan”) and [REDACTED] million tax credit transferability Bridge Loan (the “Bridge Loan” or “TRABL”) with other senior lenders including Liberty Bank (together with Green Bank, being the “Senior Lenders”), and (2) Green Bank’s participation, not to exceed \$10 million, in a \$[REDACTED] million term loan facility (the “Term Loan”, together with the other loans the “Credit Facilities”) with respect to a 9.66MW Fuel Cell power plant (the “Fuel Cell”) and Thermal Loop in Bridgeport, Connecticut (together the “Project”).

## Summary

Public Act No. 17-2 passed by the Connecticut State Legislature and Signed by the Governor in 2017 required United Illuminating (“UI”) to issue an RFP to enter into a 20-year power purchase agreement with an electric generation facility of 10MW or less. Eligible projects needed to be a combined heat and power project in Bridgeport or New Haven, compatible with a district heating system, and owned by a power producer that has a license to operate as a thermal energy transportation company. The Project was submitted into this RFP by NuPower, a developer and investor in sustainable power technologies headquartered in Easton, Connecticut. The Project won the RFP and the power purchase agreement (“PPA”) was approved by the Connecticut Public Utilities Regulatory Authority (“PURA”) in December of 2019 and later executed in November of 2020. NuPower has invested more than [REDACTED] in development costs since winning the RFP, and the project is now ready to begin construction. Scale Microgrid Solutions LLC (“Scale”) has been selected by NuPower as the long-term owner of the project and they have hired Investec and MUFG as lead arrangers to structure and syndicate credit facilities for the Project. Scale and Investec have submitted a capital solutions RFP proposal to the Green Bank to participate in the credit facilities. The Green Bank’s participation in this project will support fuel cell manufacturing in Connecticut, grid reliability, state renewable portfolio targets, and provide benefits to a disadvantaged community. A tax equity term sheet has been signed and construction is ready to continue after the closing of the Construction Loan and Bridge Loan which staff brings to the Board at this time along with the Term Loan. Closing of the financing is expected in August, with distributions expected to commence soon after



and the advances will extend during the construction period until project completion (a period of approximately 21 months – see additional discussion below).

## Project Background – Highlights

### Project and PPA Summary

NuPower, working with local organizations and elected leaders in Bridgeport, advocated for legislation that would support a CHP Fuel Cell in Bridgeport. In 2017, a provision requiring United Illuminating to issue an RFP for such a project was included in Public Act No 17-2. After the RFP was released the Project was submitted and awarded the contract. The selection and cost-of-service<sup>1</sup> PPA were reviewed by PURA in docket 18-08-14 in 2019. In October of 2019 PURA paved the way for the eventual execution of the PPA by granting approval in a decision stating that PURA “approves the request of The United Illuminating Company to enter into a Power Purchase Agreement with NuPower Bridgeport FC, LLC for a combined heat and power district energy project in Bridgeport, Connecticut... subject to certain conditions”. The conditions required by PURA were modifications to the thermal offtake provisions of the PPA and an updated interconnection cost estimate among others. Those conditions were met, and the PPA was executed in November of 2020. In the fall of 2021, the Project received approval from the Connecticut Siting Council after its initial application was denied. The successful petition included additional information about, and project features related to, safety and noise concerns.

(It is worth noting that the project initially sought financing from a large S&P 500 energy and utility company. That process which ran two years was ultimately not successful in consummating a transaction. Subsequently, NuPower engaged with Scale in 2023 to work toward a successful sale and financing for the project.)

Revenue from the cost-of-service PPA includes payment for electricity, renewable energy credits, capacity, and other electric revenues available to energy generation facilities. The PPA will be underpinned by the production from twenty-one HyAxiom’s PureCell Model 400 power plants which will produce 9.66 MW of total electrical output and an expected 77,852 MWHs in the first year. The Fuel Cell will be constructed in South Windsor, CT, by the manufacturer HyAxiom, Inc. (“HyAxiom”), a subsidiary of Doosan Corp. (“Doosan”), a South Korea-domiciled multinational conglomerate with annual revenue in-excess of \$10 billion, which will provide a performance guarantee. HyAxiom will also act as the Fuel Cell operations and maintenance (“O&M”) provider, with the parent company Doosan once again offering a performance guarantee. Scale will be the owner of the Fuel Cell.

The Project will also benefit from the sale of excess heat produced by the Fuel Cell. Waldron Engineering & Construction Inc. (“Waldron”) has been selected to build a thermal loop which will provide excess heat from the Fuel Cell to buildings in the vicinity of the site. Thermal Energy Supply Agreements have been executed with Approved Storage and Waste Hauling, Inc. (“Approved Storage and Waste”), the University of Bridgeport, and Bassick Public High School.

---

<sup>1</sup> **Cost of Service** is an identification and calculation of what is required financially to produce or operate a service. In these circumstances, UI and NuPower agreed to the cost of service methodology which has been approved by the regulator (PURA). PURA’s approval confirms that the costs associated with UI’s procurement of energy from the NuPower project will be recoverable by UI over the life of the PPA in accordance with the methodology approved by PURA.

## Project – Construction & Commercial Operation Date

Construction Project Schedule	2024												2025										
	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep				
Key Milestones			Financial Close + NTP: 4/30												Projected COD: 9/30								
<b>Fuel Cell Plant</b>																							
Prepare IFC Designs																							
Procure Equipment																							
Construction																							
Commissioning and Startup																							
<b>Electrical Interconnect</b>																							
Prepare Interconnect Ductbank Designs																							
Procure/Install Ductbanks Equipment																							
Prepare Substation Designs																							
Procure/Install Substation Equipment																							
Commissioning and Startup																							
<b>Thermal Loop</b>																							
Prepare Thermal Loop Designs																							
Execute Thermal Loop Contract for Construction																							
Procure/Install Customer Equipment																							
Procure/Install Underground Equipment																							
Procure/Install Fuel Cell Interface Equipment																							
Commissioning and Startup																							

The Project's construction is expected to take approximately 21 months with 3 main project paths (the fuel cell portion, the interconnect portion and the thermal loop portion) running in parallel. Assuming the originally expected financial close date/NTP date of 4/30/2024, then the corresponding commercial operations date ("COD") would be 9/30/2025 (accordingly, with the delayed financial close to late July, the expected COD is now Q4 2025). The existing PPA contract signed with UI has a guaranteed COD date of 5/17/2025, but NuPower has the right to extend the date by 6 months by paying around \$43,800. To date, NuPower has paid for an extension 5 times, and has 3 6-month extensions remaining. The additional extensions provide security should procurement or construction delays occur.

HyAxiom's fuel cell supply and EPC contract stipulates daily penalties of \$2,500 beyond 16 months for the fuel cell plant, up to 10% of the total contract value. Waldron's construction management contract is paid on a time and materials basis, while its' thermal loop EPC contract is paid on a fixed price monthly fee basis. There are no liquidated damages for the thermal loop construction contract. Gas interconnection services provided by Southern Connecticut Gas has an estimated fixed price of [REDACTED]. Electric interconnection, provided by UI, has a fixed price of [REDACTED].

## Project – Sources and Uses

During construction, the project will be funded by [REDACTED] debt, to be provided by the Green Bank and other lenders. The majority of these funds will be used in the construction of the fuel cell plant, which will include [REDACTED] million in fuel cell supply costs, or a per unit cost of [REDACTED] million. Other costs associated with the fuel cell plant include [REDACTED] million labor costs, (in alignment with federal investment tax credit requirements for projects over 1MW AC in size, the project will meet or exceed federal prevailing wage and apprenticeship requirements) and [REDACTED] in transport costs. Total EPC costs for the entire project is [REDACTED], or 90% of the total (with most of the 10% balance of costs being interest during construction).

Following construction, a tax equity investor will enter the project, and combined with existing equity, purchase the project at a projected fair market value of [REDACTED], or 23% above construction cost.



### Projects – Tax Equity Closing & Debt Facility Progress

Earlier this month, Scale signed a term sheet with a tax equity investor. The proposed investment is a partnership flip structure which is the most common tax equity investment structure and a familiar one to the Green Bank. The borrower of the Credit Facilities will be a holding company (the Class B member) that owns Class B interests in the tax equity partnership which in turn owns the project companies. An organization chart is provided below in the “Capital Flow Diagram & Tables” section for further clarity. After the tax credit recapture period ends (approximately 5.5 years from closing), the tax equity investor will likely exit the tax equity partnership and their ownership will “flip” to the Borrower (i.e., the Class B member). To complete the capital stack for the Project, Scale has been working with Investec to structure debt facilities for the Project, per the terms discussed in this memo. Staff is bringing forward Green Bank’s participation in the Credit Facilities for approval from the Board which will enable the Green Bank to close and fund its participation along with the other senior lenders.

### Project Investment/Risk Profile

From Tax Equity, Sponsor Equity, and the Lenders’ perspective, the Project carries key attributes that make it an attractive asset. Below are key investment attributes, though an extensive list of risks and mitigants to the Green Bank’s position are discussed further in the sections below:

- **Construction & Technology Risk:** Engineering, procurement, and construction (“EPC”) is provided by HyAxiom, coupled with a 20-year service (“O&M”) contract (also provided by HyAxiom) covering full operation, maintenance and production requirements, including stack replacements in year 10/11. Both contracts are guaranteed by Doosan. Over 1 gigawatts of the PureCell Model 400 has been installed since 2015 with a fleet average capacity factor greater than 90%.
- **Development & Siting Risk:** NuPower received approval on the location and construction of the Project from the Connecticut Siting Council in the fall of 2021. NuPower has incurred significant engineering and legal costs to file for, and receive, regulatory approvals and reach the notice to proceed stage of construction.

- **Counterparty Risk:** Experienced fuel cell manufacturer and operator (approximately 90 PureCell Model 400 units are in operation in the United States);
- **Credit/Repayment Risk:** A cost-of-service PPA provides a guaranteed rate of return, reviewed and approved by PURA, to the calculated rate base of the Project, with natural gas price risk passed through to the offtaker and renewable energy credits included in the energy revenue. UI, the PPA offtaker, is Investment Grade (rated A- by Fitch). The Term Loan is sized from total project cashflows available for debt service to a 1.35x debt service coverage ratio ("DSCR"). Cashflow from the PPA only, which has an Investment Grade offtaker (UI), is projected to cover the debt service payments at a DSCR of ~1.27x.

## Construction and Tax Credit Bridge Loans

### Summary Terms and Conditions

The Construction Loans for the Project are comprised of a [REDACTED] senior secured construction loan and a [REDACTED] million federal investment tax credit Bridge Loan. The Construction Loan will be repaid when it is converted to the term loan after the Project achieves commercial operations. The Tax Credit Bridge Loan will have a term of 18 months and will be repaid with the proceeds of the tax equity investment. The Project is expected to qualify for the Energy Communities federal investment tax credit bonus created by the 2021 Inflation Reduction Act (the "IRA"). The Fuel Cell is located in Fairfield County which has been classified as an Energy Community. That classification will remain in effect through the end of April 2025 before the annual review of classification occurs. More than 50% of project costs are expected to be spent at that time, which would allow the project to comfortably "safe harbor" the bonus credit without risk of losing the credit if Fairfield County loses its designation. The IRA also made it legal for "for profit" organizations to sell the investment tax credit applicable to a Fuel Cell project. As a result, if the anticipated tax equity partnership does not materialize, the Bridge Loan will be repaid from the sale of tax credits. The Bridge Loan is conservatively sized at ~80% of the expected investment tax credit value and ~74% of the expected tax equity investment.

The Construction and Bridge Loans will be disbursed on a pro-rata basis along with the other lenders and all senior lenders including the Green Bank will be pari passu (i.e., equal priority to security and collateral). The independent engineer for the Project, Black and Veatch, will review construction progress and monthly issue a certificate as a condition precedent to each disbursement. The certificate will indicate that the debt disbursement will be used for project costs, that construction remains on time, and that the budget is being met without cost overruns. A summary of Black and Veatch's expertise and experience managing construction projects is included later in the memo.

Together the Construction and Bridge Loans are sized at [REDACTED] of the Project costs at the end of construction. The Construction Loan will have an interest rate [REDACTED] and the Bridge Loan will carry an interest rate of [REDACTED]

Until the Construction Loan is converted to the Term Loan and the Bridge Loan is retired, both facilities will be secured by a first priority perfected security interest in 100% of the membership interests in the Project Company and substantially all assets of the Project Company. Thereafter, security is via a traditional back leverage structure whereby the lenders are secured via a security interest in the membership interests held by Scale in the Class B member.

## Term Loan Facility – Liberty Bank & Green Bank

### Summary Terms and Conditions

The Term Loan facility will be [REDACTED] million. Staff is proposing a Green Bank participation of \$10 million in this facility, Liberty Bank is seeking [REDACTED] million of the facility, and the arrangers are working with other lenders to complete the facility. The Term Loan will carry an interest rate of [REDACTED] in the first four years before increasing to [REDACTED] in year 5. The Term Loan will have a 5-year term with a balloon payment at maturity. The annual debt service payments are sized using a total DSCR of 1.35x. At the end of the 5-year term, 68% of the original principal balance is expected to remain outstanding. The most likely post-maturity scenario contemplated by staff is a 5-year extension of the facility using similar debt sizing criteria. At current interest rates, the debt would fully amortize in 18 years, if the loan was continually extended with payments sized at the currently utilized 1.35x DSCR. If there are concerns about the project at maturity, staff takes comfort that, based on the financial model, the debt would fully amortize after an additional 8.5 years (13.5 years total) if net cashflow was swept from the borrower annually.

## Project & Financing Stakeholders

### NuPower

NuPower, based in Easton, CT, is a developer and investor in sustainable power technologies, including fuel cell, biomass, CHP, and district heating. Notable prior projects include a 0.44 MW fuel cell project at Cherry Street Lofts in Bridgeport. Additionally, NuPower successfully developed the 43MW Plainfield Renewable Energy waste-to-energy project in 2013, the largest Class 1 renewable power project in Connecticut. Presently, NuPower has a predevelopment loan outstanding with the Green Bank (approx. \$427,000) which will be repaid from the proceeds of its sale of the project to Scale. NuPower has proven itself to be a reliable owner and developer of fuel cell and district heating projects. The firm has developed the Fuel Cell and thermal loop project will be selling the project to Scale Microgrid Solutions LLC.

### Scale Microgrid Solutions LLC

Scale is a Ridgewood, New Jersey-based vertically integrated distributed energy company with a core focus on designing, building, financing, owning and operating distributed energy assets. Founded in 2016, Scale currently operates over [REDACTED] of Solar, Battery, Genset, and CHP projects, with a [REDACTED] development pipeline. Scale has an experienced management team with over 80 years of combined experience in the construction and operation of renewable energy assets. The Green Bank has an existing loan facility with Scale (via its acquisition of the original project assets from the original borrower), which was used to finance the development of the first microgrid funded by the Green Bank in Bridgeport that provides mission critical resilience to 3 municipal buildings, including a police station and senior center. Scale will serve as the sponsor/owner for the Bridgeport Thermal project, and the ultimate owner of the Fuel Cell.

### Investec

Investec Inc. is a global financial services provider serving as lead arranger and joint-bookrunner for Bridgeport Thermal and Fuel Cell projects. Founded in 1974, the company has over 20 years of experience operating in North America and has helped syndicate more than \$11B of financing in the last 3 years. In March of 2023, Investec led the Master Refinancing for Fuel Cell Energy's [REDACTED] term loan, of which the Green Bank has contributed \$10M (and which is fully performing).



## HyAxiom

HyAxiom Inc, based in South Windsor, CT, is leading supplier and developer of stationary fuel cell power systems. As of 2022, HyAxiom has over 400 MW of commercial scale fuel cell systems operating, under construction, or awarded. HyAxiom produces 50-60 MW of its PureCell Model 400 fuel cell annually, at its facility in South Windsor, Connecticut. Notable past projects include a 5 MW facility installed in 2019 on John Fitch Boulevard in South Windsor, CT. The company has installed over 90 units totaling 41MW of capacity in the US.

HyAxiom was chosen as the fuel cell supplier and EPC contractor after a competitive RFP process, outbidding Bloom Energy. For the Bridgeport Thermal Project, HyAxiom will supply 21 460kW PureCell Model 400 fuel cells, serve as EPC contractor for the fuel cell power generation component, as well as the O&M provider for the entire project. HyAxiom's EPC and O&M contracts have guarantees from Doosan, a Fortune Global 500, South Korean, multinational conglomerate.

## Waldron Engineering & Construction

Waldron Engineering & Construction is an Exeter, New Hampshire based firm specializing in the engineering, construction, commission, and testing of utility, CHP, central heating and chilling, and renewable energy facilities. Founded in 1992, the firm has executed over 1,300 projects, which includes a recent joint project with NuPower to engineer and install a 560kW generation unit in Connecticut. Waldron will be providing overall construction management services for the full site, as well as serving as the EPC for the interconnection and thermal loop system.

## Black & Veatch

Black & Veatch is a global engineering, procurement, consulting, and construction company specializing in infrastructure development. Founded in 1915, and 100% employee owned, the firm ranked #3 in Engineering News Record's Top Design Firms in Power. The company has completed over 50 GW of solar projects and 700+ distributed energy projects, including serving as project-manager for Sprint Nextel's 100 hydrogen fuel-cell deployment in New York and Connecticut. Black & Veatch is serving as the Independent Engineer for the Bridgeport Thermal Loop project.

## Green Bank Project Risks and Mitigants

The Green Bank faces risks by means of the Project's construction and operation and the Green Bank's position in the financing structure as a lender. Green Bank staff believes it has identified and mitigated those risks as explained below.

### Manufacturer Risk

#### **A. Overview**

Investors in the Project need to be comfortable that HyAxiom can execute construction and operations of the Project, and that Doosan can stand behind its guarantee of those contracts.

#### **B. Business Summary**

HyAxiom Inc, was created in 2014 as Doosan Fuel Cell America, Inc. when Doosan purchased the assets and intellectual property from Clear Edge, which had purchased the assets from UTC Power Corporation, a former subsidiary of Pratt & Whitney, in 2012. UTC was formed in 1958 and supplied fuel cells to the Apollo Space Program before introducing commercial power systems in 1991.

Based in South Windsor, CT, HyAxiom is a supplier and developer of stationary fuel cell power systems. HyAxiom's Connecticut Facility is capable of producing 192 Model 400 power plants annually and produced ~120 annually from 2020-2022 (years reviewed by staff). Doosan, is a multi-national conglomerate with a range of businesses that support infrastructure projects.

### **C. Financial Condition & Liquidity**

At the end of Q1 2024, Doosan had consolidated current assets and current liabilities of ~\$8.8 billion, resulting in a current ratio of 1.00x. The Company had a total net worth of ~\$8.3 billion. Some of its largest subsidiaries include Doosan Enerbility, a developer of nuclear and thermal power plants, and Doosan Bobcat, a manufacturer of farm and construction equipment. Both entities are profitable with net income above 4% for Enerbility, and above 8% for Bobcat in Q1 of 2024.

### **D. Diversified Business Mix**

Doosan's has a diverse mix of business spanning more than a dozen industries, with most operating in the infrastructure sector.

### **E. Conclusion (Manufacturer Risk)**

With profitable operations and a large and health balance sheet, staff is comfortable that Doosan can stand behind its guarantees and ensure the successful completion and operation of the Project.

### **General Risks & Mitigants:**

For each specific type of risk outlined below in subsequent sections, there are specific structures, concepts, and mitigants that staff has designed to minimize Green Bank exposure to certain downside scenarios. There are, however, several overarching mitigants that will be put in place due to the overall concept of risk, and in effect, can be applied to almost all of the defined Projects' risks. Those overarching mitigants are identified below:

1. The Term Loan will be secured by a perfected first priority security interest in all assets of the Borrower (a Scale special purpose vehicle to be established), including a pledge of the Class B Units owned by the Borrower in the Tax Equity partnership (and all revenues and distributions, other economic rights, and governance rights related thereto) (the "Collateral"). Upon exit by the Tax Equity investor from the Tax Equity partnership, a perfected security interest in and lien, in addition to the Collateral of: i) all assets of the Borrower, including the fuel cells and all other personal property located at the Facilities; (ii) PPAs and Tariff Agreement; (iii) all leases, contracts and agreements of the Borrower, including leases, contracts and agreements relating to the Facilities; (iv) all rights as beneficiary under any warranty policies and under other required insurance policies; (v) all membership interests of Borrower held by Scale or any of its affiliates; (vi) all deposit accounts of Borrower (including the reserve accounts required hereunder); (vii) an assignment of the sublease and/or a leasehold mortgage of the sublease.

See "Capital Flow Diagram – Term Financing" later in the memo for a description of these relationships.

2. A Debt Service Reserve equal to 6 months of debt service will be established and funded as a condition precedent to the conversion of the construction loan to the term loan. The reserve will be funded with

cash or a Letter of Credit Facility provided by one or more lenders. The Green Bank will not participate in any letter of credit.

### **Technology Risk**

The Fuel Cell utilizes Phosphoric Acid Fuel Cell (“PAFC”) technology, which is the most mature of its kind, with PAFC systems first installed in the 1970s and more than 500 units installed globally. An independent engineering review of the Project was conducted and confirmed the Project’s ability to meet performance requirements in the PPA.

Technology Risk Mitigants:

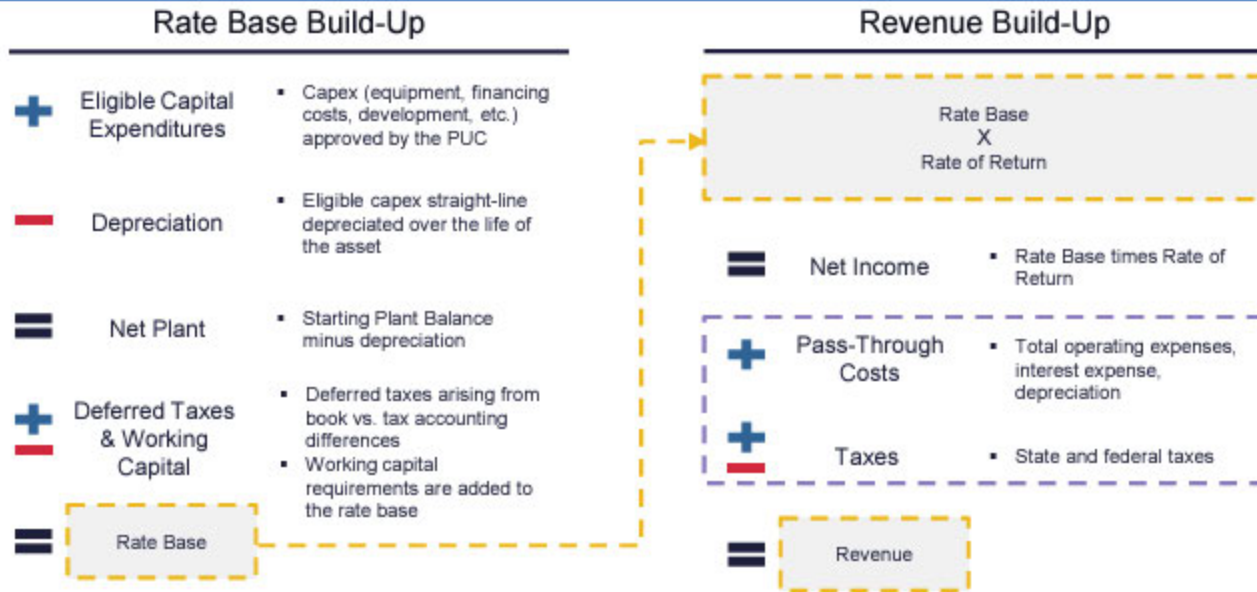
- 1.) The Projects will be constructed by the manufacturer and overseen by an Independent Engineer that has extensive experience with power plant construction. Additionally, another independent engineer, Leidos Engineering LLC (“Leidos”) performed a technical review and concluded that “the technology employed by HyAxiom for the Model 400 is a sound and proven method of generating electricity”.
- 2.) HyAxiom has developed, manufactured, installed, and operated more than 90 model 400 fuel cell units since 2015.
- 3.) HyAxiom has significant experience and expertise in developing and operating innovative fuel cells, such as the 50 MW hydrogen-fueled Daesan Green Energy Fuel Cell Power Plant in South Korea.
- 4.) Independent engineering firm Leidos reviewed PureCell Model 400 data through February of 2023. The data show that the 3<sup>rd</sup> and 4<sup>th</sup> generation models (which were originally installed in 2020 and 2021) achieved weighted average capacity factors in excess of 95%. Both 3<sup>rd</sup> and 4<sup>th</sup> generation models also achieved a monthly weighted average availability above 96%. The Project will utilize 21 4<sup>th</sup> generation Model 400 power plants.

### **Production Risk**

The Project is shielded from Production risk by the cost-of-service PPA structure. The Project is ensured an annual guaranteed rate of return, which was reviewed and approved by PURA, on the annual outstanding rate base, which is not affected by production. Additionally, the PPA does not include any explicit performance obligations apart from a requirement to use commercially reasonable efforts to maximize the production and delivery of Energy during the time periods of anticipated peak load and peak Energy prices in New England. UI is protected from production risk by the Guaranteed Minimum Output in the O&M agreement with HyAxiom that is guaranteed by Doosan. Any proceeds received by the borrower from the O&M agreement for insufficient output, must be paid to UI in accordance with the PPA. A diagram outlining the build-up of rate base and the revenue calculation for a cost-of-service PPA is included below.



## Illustration of Pass-Through PPA in United Illuminating's Rate Base



### Credit Risk

As off-taker of the PPA, Project cashflows are dependent on United Illuminating's ability to pay for electric energy produced by the Projects.

Credit risk mitigants:

- 1.) The Company is an investment-grade rated entity (rated A- by Fitch)
- 2.) United Illuminating has been operating for over 100 years and provides electricity to 325,000 customers within Connecticut.

The credit risk for the supply of thermal energy is more significant than the risk for electrical products. However, each of the thermal offtakers has a long history of operations in Bridgeport. Approved Waste Hauling has been operating out of its Bridgeport location since 2001, and the University of Bridgeport and Bassick High School are both nearing 100 years of operation. Additionally, the Term Loan has been sized at a total DSCR of 1.35x. Without any thermal energy revenue, the project would still achieve a DSCR in excess of 1.25x from PPA cashflows. Thermal energy revenue is projected to total just 6% of the total revenue from the Project.

### Commodity Risk - Natural Gas

The Project will be run on natural gas provided by Southern Connecticut Gas Company ("SCG"). SCG is responsible for delivery and procurement of natural gas, and cost variations due to supply and demand dynamics of the natural gas market are passed through to UI as part of the cost-of-service which is included in the price for energy calculation in the PPA.

### Proforma Projection Model for Debt Service

Staff has reviewed a projected financial model for the Project. Based on this proforma, and the structure of the PPA, staff is confident that the project will be able to meet the debt service requirements of the term loan. A screenshot of the financial model is included below as Exhibit A.

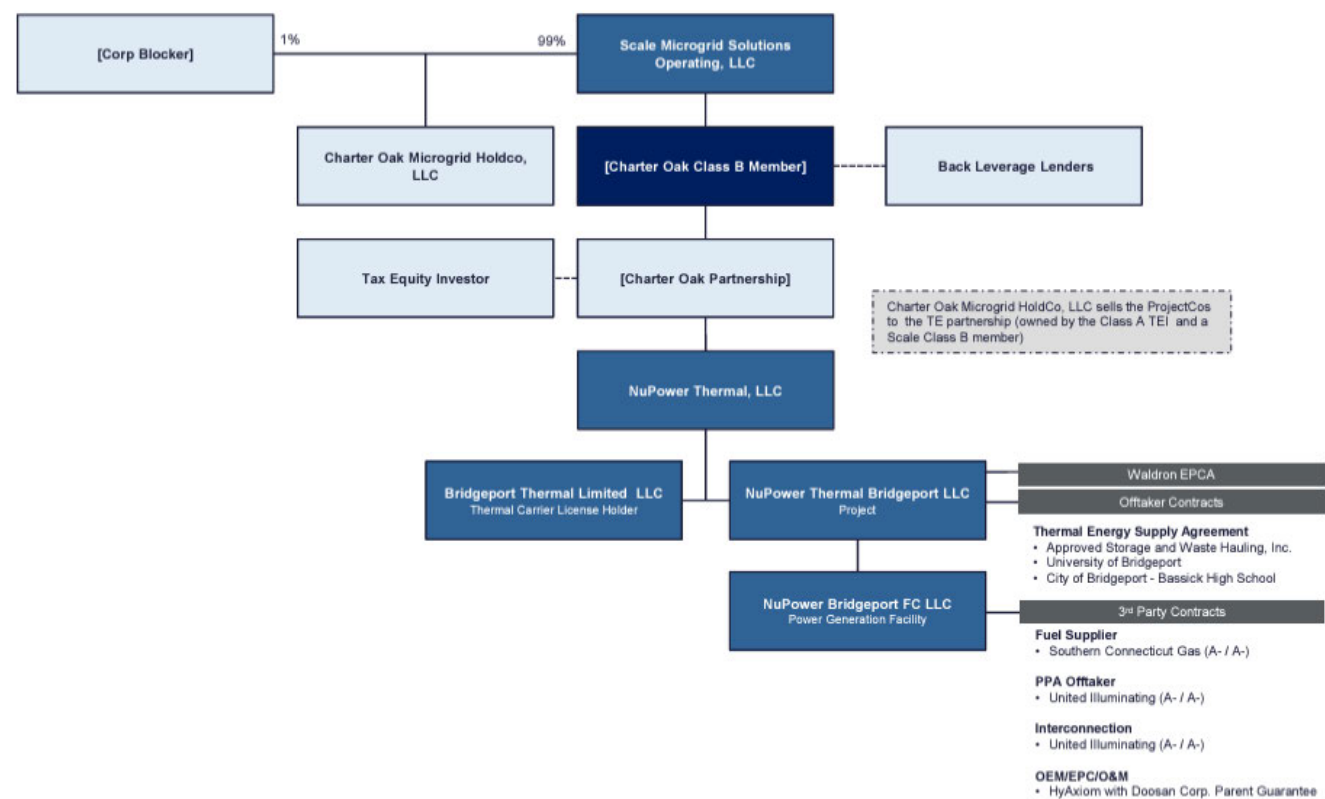
# Capital Flow Diagram and Tables

## Capital Flow Diagram – Term Financing

The Term Loan is structured as a “back-leverage” credit facility, meaning the Borrower will be a Scale subsidiary that owns Class B equity interests in the tax equity partnership. Below, an organizational chart is included to demonstrate the structure of a back-leverage facility.



## Organizational Structure



## Evaluation

Capital Solutions RFP Proposals are evaluated using the matrix in the image below. A more detailed explanation of the evaluation for this project is included below:

Criteria	Rating	Explanation	Score
1 Meeting Green Bank Goals – how well does this project align with the Green Bank's goals?	High	The Project will significantly increase the taxes received by the City of Bridgeport, a vulnerable community in Connecticut, from the project site and provide a clean source of thermal power to neighboring	3
2 Green Bank Essentiality – to what extent is participation by the Green Bank essential to the success of the project?	Medium	Green Bank staff sees its participation as supplementary and complementary to the existing financial support from other funding.	2
3 Project Feasibility – How feasible is the project to achieve its stated goals?	High	Project has received siting counsel approval, a signed PPA with United Illuminating that has been approved by PURA, signed heat contracts with four offtakers, and secured EPC agreements with two sophisticated contractors.	3
4 Project Replicability – Could a similar project be replicated in Connecticut or elsewhere, or is this a unique opportunity?	Medium	The Project, which will produced nearly 10MW of clean electricity and provide excess heat to neighboring organizations all on a parcel of land that is less than an acre, highlights many of the advantages associated with Fuel Cell power production and thereby serves as a great example for other communities.	2
5 Relevant Experience – Does the proposer offer relevant and sufficient experience for the type of project being proposed?	High	Yes. Scale was founded in 2016 and has more than 70MW of operating projects across clean energy technologies. Scale also has 36MW under construction and 99MW at an advanced stage of development. Scale is led and managed by a group of executives with (collectively) over 200 years of experience in the construction and operation of renewable	3
6 References	High	Green Bank staff has had positive experiences working with Scale and Investec on separate transactions previously approved by the board. Staff have also spoken with lenders who have worked with both companies and they relayed similar messages.	3
7 Pending Litigation	High	No pending litigation found.	3
8 Management and character review	High	No character concerns were identified after reviewing management for both companies.	3
Bonus Points	Rating	Explanation	Score
1 Project benefits LMI or underserved communities	N/A	The Project will bring increase revenue to the city government of Bridgeport from the property and provide thermal energy savings to organizations that serve the Bridgeport community.	1
2 Project benefits communities with environmentally hazardous areas, such as superfund sites	N/A		0
<b>TOTAL SCORE</b>	<b>Pass</b>		<b>22/24</b>

### A. Meeting Green Bank Goals

Based on Project diligence provided by Scale and Investec, staff is confident that the Project will support the Green Banks goals. Per the Green Bank's Comprehensive Plan, the organization has goals relevant to this transaction, including:

- To strengthen Connecticut's communities, especially **vulnerable communities**, by making the benefits of the green economy inclusive and accessible to all individuals, families, and businesses.
- The Project will significantly increase the taxes received by the City of Bridgeport, a vulnerable community in Connecticut, from the project site. The site is a small triangular lot that is located between interstate 95 and Metro North train tracks. The site has remained vacant for more than 20 years and last year accounted for just ~\$2,700 of property tax revenue. As a Class 1 Renewable Energy Source, the

Project is exempt from property tax under State law. However, the developer has worked with the City of Bridgeport to draft and agree to a Payment In Lieu of Taxes ("PILOT") agreement to offer benefits of the project to the town. That drafted agreement has been accepted by Scale and reviewed by staff. According to the agreement, the Project owner will pay the city more than \$230,000 annually for the entire 20 year duration of the PPA (more than \$4.6 million in total).

Also, to ensure that the local community receives some direct benefits as a result of Green Bank participation in this project, the Green Bank proposes to donate 10 basis points of the yield earned on its loan to the South End Neighborhood Revitalization Zone (SE-NRZ) (or to a fiscal sponsor if necessary, or another worthy not for profit organization if the SE-NRZ is unable to accept the donation). During the construction (1-1/2 to 2 years) and term loan (5 years) portions of the project, this is expected to amount to approximately \$30,000. If the SE-NRZ needs funds for certain neighborhood projects or activities before the actual earnings on the loans accrete over time, the Green Bank may accelerate payment to the SE-NRZ (which from a cash perspective would come from the front-end fee being earned by the Green Bank).

- The Project will provide a clean source of thermal power to neighboring organizations that serve the community. The three organizations receiving thermal energy are the University of Bridgeport, Approved Storage and Waste, and Bassick High School. Each of the thermal energy supply agreements executed by the project company are priced at a *discount* to the natural gas heat alternative, ensuring that every btu of heat delivered to the organizations from the Fuel Cell will provide savings.
  - Approved Storage and Waste, is a healthcare waste company that is committed to sustainability and recycling. Their facility that will be served by the Thermal Loop is already receiving electrical power from an onsite solar PV system.
  - The University of Bridgeport was originally founded as the Junior College of Connecticut in 1927, the institution has been educating students ever since.
  - Bassick High School is a part of the Bridgeport Public Schools system and has been educating residents since 1929.

- B. Green Bank Essentiality – to what extent is participation by the Green Bank essential to the success of the project?

Green Bank staff sees its participation as supplementary and complementary to the existing financial support from other funding. In particular, Liberty Bank likes to co-invest with the Green Bank on these large project deals. Together, we bring \$40 million to the project and together with other bank debt we leverage our participation 9.7x.

The Construction and Bridge Loans will:

- a) Enable the Project to commence further construction and achieve commercial operations in alignment with the project schedule pending no unforeseen delays, and, ensure that unforeseen delays that may affect Scale's ability to secure tax credit funding for the project, will not affect the Project's construction schedule.

The Term Loan will:

- a) Complete the Project's capital stack along with sponsor equity and tax equity contributions, creating a long-term efficient financing structure for the Project.

C. Project Feasibility – How feasible is the project to achieve its stated goals?

The Project has executed offtake agreements with UI and three local institutions that will purchase thermal energy. The Project has also executed an Engineering, Procurement, and Construction Agreement, as well as an operations and maintenance agreement with the manufacturer of the fuel cell power plants. Those contracts are guaranteed by a parent company with a significant balance sheet. The Project has also received all necessary approvals to begin construction and interconnect to the utility grid upon achieving commercial operations. Lastly, the construction will be overseen by an experienced independent engineer. Based on these conditions, staff is confident that the project will be able to achieve its stated goals of supplying clean power to the electrical grid, thermal energy to nearby organizations, and financial benefits to investors and the municipality.

D. Project Replicability – Could a similar project be replicated in Connecticut or elsewhere, or is this a unique opportunity?

Project is able to produce nearly 10MW of clean electricity and share excess heat with neighboring buildings on a very small parcel of land in an urban area. The Project highlights many of the advantages associated with Fuel Cell power production as most clean power technologies would be unable to achieve those results in a similar location. The Project thereby serves as a great example for others looking to develop clean power production in similar locales, but, owing to the less common “cost of service” revenue structure, the scoring was down-graded to “medium”.

E. Project timetable – total development and construction timeline.

Green Bank and the other Senior Lenders expect to complete documentation of the Credit Facilities within the next month. Funds are expected to be deployed immediately for construction purposes identified in the term sheet attached as Exhibit A.

F. Relevant Experience – Does the proposer offer relevant and sufficient experience for the type of project being proposed?

Yes. Scale was founded in 2016 and has more than 70MW of operating projects across clean energy technologies. Scale also has 36MW under construction and 99MW at an advanced stage of development. Scale is led and managed by a group of executives with (collectively) over 200 years of experience in the construction and operation of renewable energy assets, operations management, engineering, technology-based solutions, finance and the law.

G. References

Green Bank staff has had positive experiences working with Scale and Investec on separate transactions previously approved by the board. Staff have also spoken with lenders who have worked with both companies and they relayed similar messages.

H. Pending Litigation

None.

I. Scale and Investec management and character review

No character concerns were identified after reviewing management for both companies.

## Conclusion

This proposal offers a unique opportunity for the Green Bank to support the growth of clean baseload electricity produced from fuel cells manufactured in Connecticut, as well as, an innovative use of, what would otherwise be wasted thermal energy, to support organizations in this vulnerable community. With experienced partners managing construction, operations, and financing, along with a proven technology and executed offtake agreements, the Project is well situated to achieve its goals and support repayment of the Credit Facilities. Approval is recommended.

## Strategic Plan

***Is the program proposed, consistent with the Board approved Comprehensive Plan and Budget for the fiscal year?***

As confirmed in the Bridgeport Fuel Cell Project Qualification Memo approved by the Board and Deployment Committee on November 30, 2012, pursuant to the Green Bank's mandate to foster the growth, development, and commercialization of renewable energy sources and related enterprises, and to stimulate demand for renewable energy and the deployment of renewable energy sources that serve end use customers in Connecticut, the Board has determined that is in keeping with Conn. Gen. Stat. Section 16-245n for Green Bank to fund certain commercial activities that support projects involving the use of fuel cell technology for distributed generation ("DG") power production.

Staff recommends that these same criteria be applied to fuel cell facilities, such as the Project, for the reasons highlighted in this Memo and others presented to the Board in recent years.

## Ratepayer Payback

***How much clean energy is being produced (i.e. kWh over the projects lifetime) from the program versus the dollars of ratepayer funds at risk?***

The Project is expected to produce 77,852MWh during the first year of operation, and up to 1,557,037MWh during the 20-year PPA contract term. Compared with the maximum \$10,00,000 of ratepayer funds at risk, the Project is expected to yield up to 156 kWh per \$1 of ratepayer funds over a 20-year term.

## Terms and Conditions

***What are the terms and conditions of ratepayer payback, if any?***

The Term Loan will carry an interest rate of [REDACTED] in the first four years before increasing to [REDACTED] in year 5. The Construction Loan will have an interest rate of [REDACTED] and the Bridge Loan will carry an interest rate of [REDACTED].

## Capital Expended

***How much of the ratepayer and other capital that Green Bank manages is being expended on the project?***

\$10,000,000

## Risk

*What is the maximum risk exposure of ratepayer funds for the program?*

\$10,000,000

## Financial Statements

*How is the program investment accounted for on the balance sheet and profit and loss statements?*

The loans would result in a \$10,000,000 reduction of cash and a \$10,000,000 increase in promissory notes (Statutory & Infrastructure program).

## Target Market

*Who are the end-users of the engagement?*

United Illuminating.

## Green Bank Role, Financial Assistance & Selection/Award Process

Lender via the Capital Solutions RFP.

## Program Partners

Scale Microgrid Solutions LLC and Investec

## Risks and Mitigation Strategies

Lending risks and mitigation strategies have been addressed in the **Project Risks and Mitigants** section of this Memo.

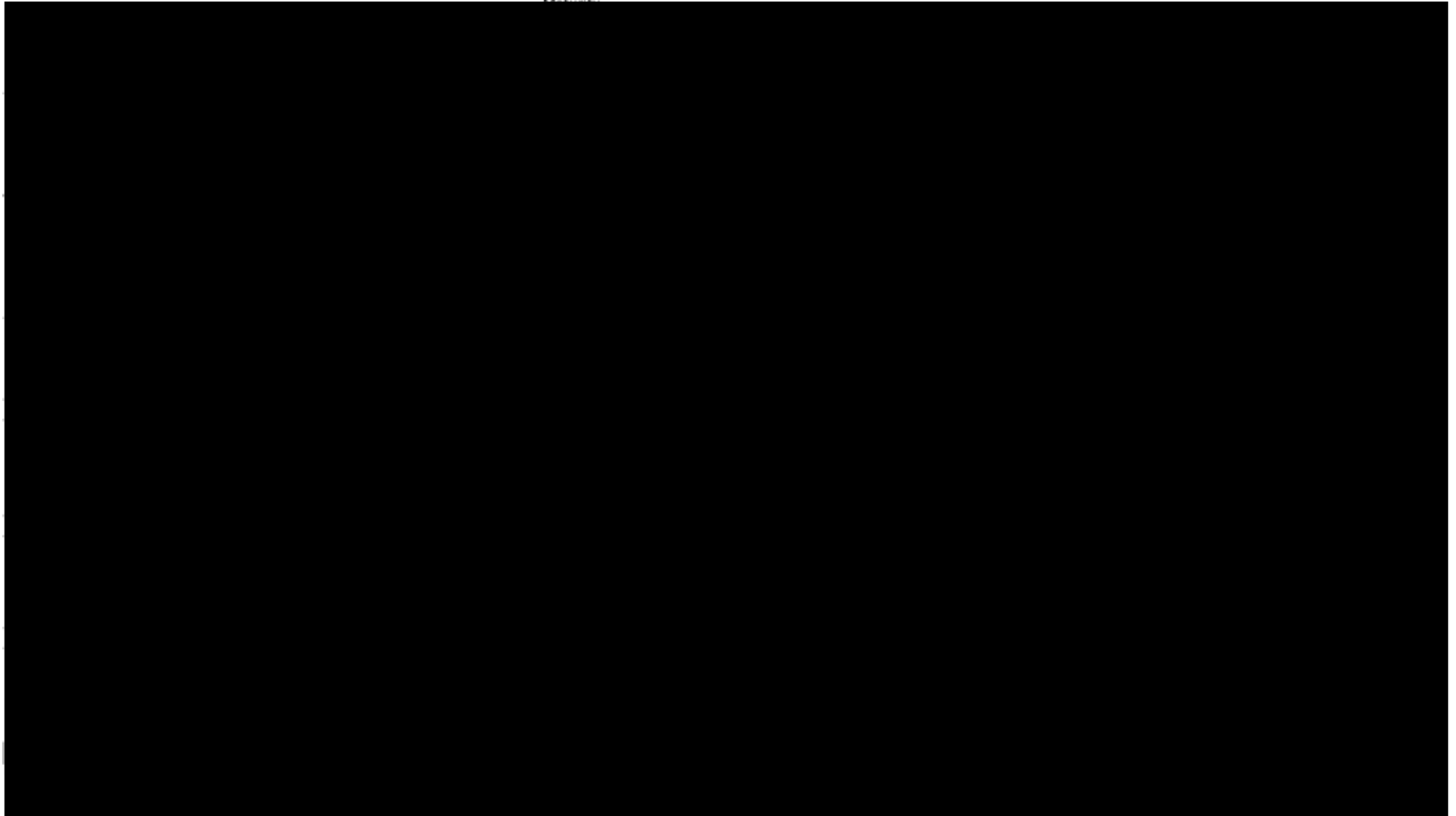
## Staff Recommendation

The Green Bank has financed more than half a dozen fuel cell projects together with substantial private capital in the form of sponsor equity , tax equity and various loans from the banking community. This Project follows the pattern of demonstrated technology with excellent offtaker characteristics (i.e., public utilities). Every project finance transaction entails various risks. Green Bank staff believes it has identified and mitigated those risks as explained in this memorandum. Staff recommends Board approval of the Credit Facilities on the basis that Project risks have been reasonably mitigated, are well-balanced and contained, and that the strategic importance of the Projects, to both the state and Green Bank, also support the investment.



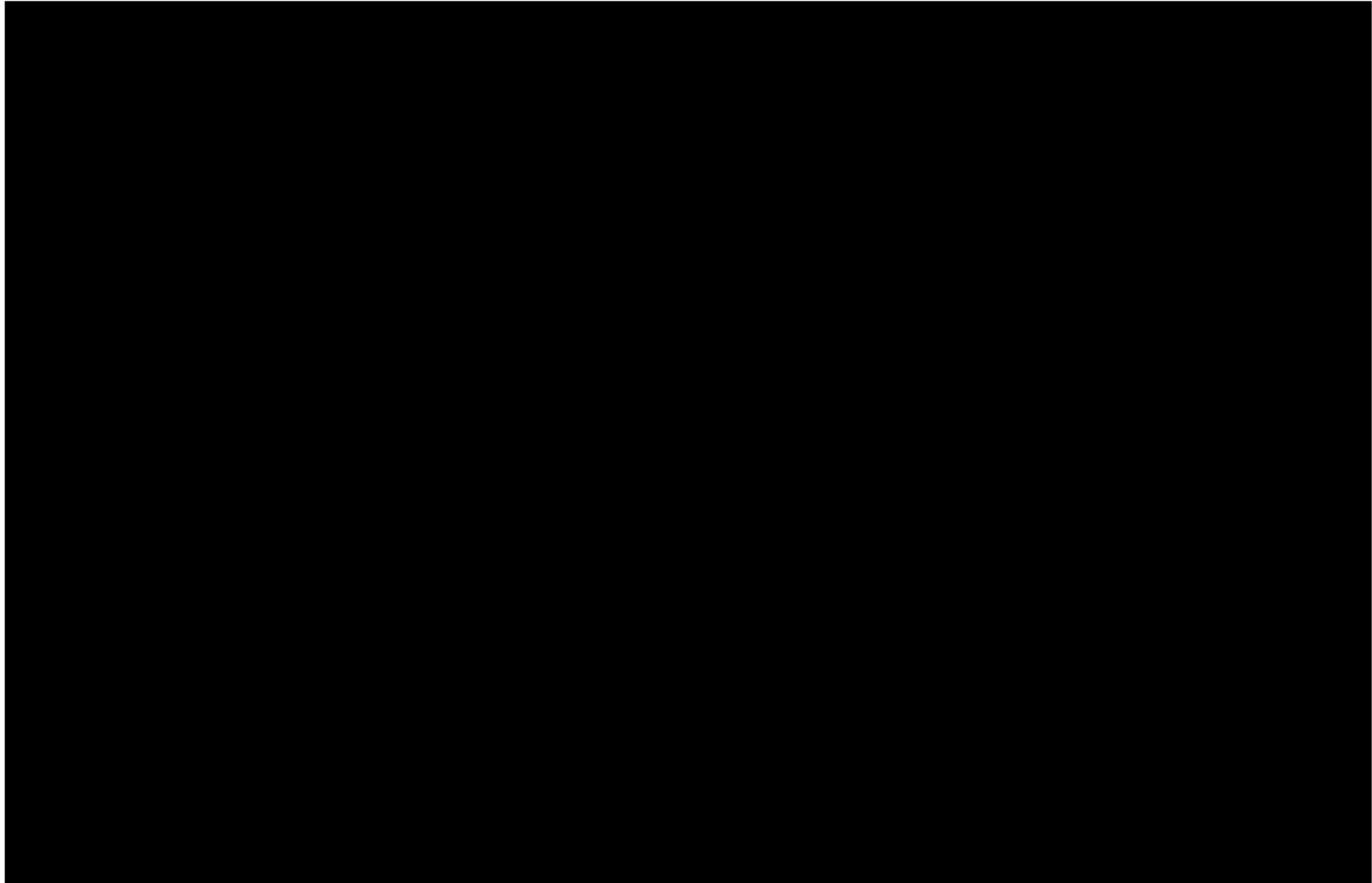
## Appendix I

Financial Model and DSCR – 18 year amortization w/1.35x DSCR





Financial Model and DSCR – 13.5 year amortization w/cash swept after maturity



## Resolutions

**WHEREAS**, in accordance with (1) the statutory mandate of the Connecticut Green Bank (“Green Bank”) to foster the growth, development, and deployment of clean energy sources that serve end-use customers in the State of Connecticut, (2) the State’s Comprehensive Energy Strategy (“CES”) and Integrated Resources Plan (“IRP”), and (3) Green Bank’s Comprehensive Plan in reference to the CES and IRP, Green Bank continuously aims to develop financing tools to further drive private capital investment into clean energy projects;

**WHEREAS**, Microgrid Solutions LLC (“Scale”) and Investec have requested financing in support of private capital from the Green Bank to purchase, finance, and construct a 9.66-megawatt Fuel Cell and Thermal Loop project (the “Project”) in Bridgeport, Connecticut;

**WHEREAS**, Green Bank provided a pre-development loan to NuPower to develop the Project, which will now be repaid when the Project is sold to Scale;

**WHEREAS**, Scale and Investec have structured credit facilities whereby the Green Bank would participate on an equivalent security basis with other senior lenders;

**WHEREAS**, staff has considered the merits of the credit facilities and the ability of the project and finance stakeholders to construct, operate and maintain the facility, support the obligations under the credit facilities throughout their respective terms, and as set forth in the due diligence memorandum dated July 19, 2024 (the “Board Memo”), has recommended this support be in the form of funding not to exceed \$10,000,000, secured by all project assets, contracts and revenues as described in the Board Memo; and,

**WHEREAS**, staff has proposed donating a portion of the yield on the transaction to the South End Neighborhood Revitalization Zone (SE-NRZ) (or another worthy party if the SE-NRZ is unable to receive the donation), as set forth in the Board Memo.

**NOW**, therefore be it:

**RESOLVED**, that the Green Bank Board of Directors (the “Board”) hereby approves the applicants Capital Solutions Proposal for Green Bank’s participation in the credit facilities in an amount not to exceed \$10,000,000;

**RESOLVED**, that the Board hereby approves donating a portion of the yield on the transaction to the SE-NRZ (or another worthy nonprofit or government entity) as set forth in the Board Memo;

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer is authorized to take appropriate actions to participate in the credit facilities in an amount not to exceed \$10,000,000 in with terms and conditions consistent with the Board Memo, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 180 days from the date of authorization by the Board; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned Term Loan and participation.

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; David Beech, Senior Manager; Derek Nong, Summer Associate.

# Memo

**To:** Connecticut Green Bank Board of Directors

**From:** Robert Schmitt, Associate Director, Marketing & Outreach; Bryan Garcia, President and CEO

**CC:** Eric Shrago, Vice President of Operations

**Date:** July 19, 2024

**Re:** Grant Agreement with Sustainable CT Program – Community Engagement

---

## Background & Purpose

Per the Comprehensive Plan of the Connecticut Green Bank (“Green Bank”), this memo seeks approval from the Green Bank Board of Directors (the “Board”) for it to enter into a grant agreement with Sustainable CT.<sup>1</sup> This grant enables the continued support of Sustainable CT to engage communities throughout the state to improve their sustainability, explore environmental infrastructure needs, and to drive participation in incentive and financing programs administered by the Green Bank and promoted through Sustainable CT.

As highlighted in the Green Bank’s Comprehensive Plan for Fiscal Years 2023 through 2025, Sustainable CT and the Green Bank are working together to provide individuals, families, and businesses with investment opportunities to make an impact on sustainability in their communities.<sup>2</sup> The partnership between Sustainable CT and the Green Bank has focused on the following key priorities:

- Driving investment in projects in our communities, with a goal to accelerate over time;
- Community-level engagement, from project origination through financing, that is inclusive, diverse, and “knitted”;
- Creating a structure that harnesses all types of capital for impact – from donations (e.g., through grant-providing platforms such as Patronicity,<sup>3</sup> administered by Sustainable

---

<sup>1</sup> It should be noted that the staff of the Green Bank were actively involved in assisting and setting up Sustainable CT since 2016 and its subsequent formation as a 501(c)3 nonprofit organization in 2019. Bryan Garcia serves on its Board of Directors and many members of the Green Bank staff provide support to the organization’s efforts.

<sup>2</sup> It should be noted that the Green Bank and Sustainable CT have had a strategic relationship since the FY 2020 Comprehensive Plan

<sup>3</sup> Patronicity is a civic crowdfunding platform to support people doing great things in their community, from large initiatives like creating a green alley to small ones, like funding a neighborhood block party

CT) to investment (e.g., through approaches such as green bonds, issued by the Green Bank);

- Developing a business model that covers the cost of the program; and
- Creating a measurable impact, both qualitative and quantitative.

Since 2019, the partnership has been successful in meeting its objectives to support Sustainable CT's capabilities to engage communities throughout the state and work with the Green Bank to provide citizens, families, and businesses with investment opportunities. This engagement has laid a rich foundation of collaboration between the organizations to build awareness of and engagement in Green Bank programs. As the Green Bank continues with the expansion of our scope beyond clean energy to include environmental infrastructure, municipalities are a key stakeholder in identifying priority areas for Green Bank's program development. With the continuation of grant support, Sustainable CT can leverage their strong relationship with towns to get input on Green Bank strategic planning and program build-out for environmental infrastructure.

The Green Bank's goal of no less than 40% of investment and benefits be directed to vulnerable communities by 2025 captures and furthers our longstanding efforts to bring clean energy and environmental infrastructure to more communities in coordination with partners like Sustainable CT. Sustainable CT provides significant support and has built higher engagement in distressed communities statewide, providing an excellent opportunity to funnel new climate actions and support tools into these communities. With new Green Bank programs and goals, future grant work can focus on targeted community engagement and action alignment needed to support new and existing Green Bank programs, particularly Energy Storage Solutions and environmental infrastructure.

The Green Bank's FY2025 Budget, Marketing Expenditures, allocates \$200,000 in funding for the purposes of supporting Sustainable CT with its community engagement efforts, while enabling the Green Bank to access potential end-use customers to achieve its incentive and financing programs and environmental infrastructure program targets for FY 2025. Presented for consideration by the Board is a grant to allocate \$200,000 to Sustainable CT to further increase the Green Bank's impact, more specifically, through:

- **Awareness-** as more communities come into the Sustainable CT program, continuing to build awareness of the Green Bank from stakeholders across the state through increased community engagement on our existing incentive and financing (e.g., Solar MAP, C-PACE, Energy Storage Solutions) programs and services and future initiatives (e.g., Environmental Infrastructure);
- **Engagement-** engaging Sustainable CT's network of partners, local municipalities, businesses, and their citizens with incentive and financing programs and environmental infrastructure that will help them achieve their sustainability goals including Sustainable CT's online crowdfunding campaign (i.e., Community Match Fund) and its Sustainable CT Fellows program;

- **Action-** moving the local municipalities, businesses, and citizens beyond awareness and engagement to action, leading to the purchase and installation of more clean energy and environmental infrastructure through support from the Green Bank

This grant agreement will leverage the existing partnership with Sustainable CT to guide inclusive program development and participation with a focus on environmental infrastructure. The partnership connects the Green Bank with local advocates to help understand local needs, while eventually developing a pipeline of project leads for programs—creating more opportunities for local projects with municipalities, nonprofits, businesses, and families through Sustainable CT and its various citizen engagement approaches.

### **Increasing Green Bank’s Impact in Connecticut through Sustainable CT**

Since 2018, Sustainable CT has been the primary platform supporting Connecticut’s 169 cities and towns to become more sustainable through a voluntary certification program. Currently, 138 cities and towns are registered and 63 of them certified. 11 municipalities are currently designated as Climate Leaders<sup>4</sup>. This program includes numerous actions where the Green Bank can increase its impact through its programs and services, including participating and promoting the C-PACE program, installing solar on municipal buildings through the Green Bank Solar PPA, streamlining solar permitting, supporting zero emission vehicle deployment, increasing renewable energy use in municipal buildings, implementing community energy campaigns, and supporting the development of environmental infrastructure projects. Currently, municipalities can earn up to 250 points, more than the 200 points needed for Bronze certification, by taking actions that support Green Bank’s clean energy incentive and financing programs. These actions include those that require a town to implement a community energy campaign (such as an educational effort supporting Smart-E), support battery storage (promoting the Energy Storage Solutions program), participate and promote C-PACE (such as opting into the program or hosting a workshop), or increase the use of renewable energy in municipal buildings (such as by using the Green Bank’s Solar PPA).

Previous grant activity focused on increasing the Green Bank’s impact in communities by “offering up” its line of clean energy incentive and financing programs to help municipalities implement Sustainable CT’s sustainability actions. Funding was purposed for various programmatic purposes, including matching grant dollars for Sustainable CT’s Community Match Fund, an online crowdfunding platform where citizen leaders access financial resources they need for local sustainability projects, and matching grant dollars for municipal outreach through the Sustainable CT Fellows program. As of July 9, 2024, the Fund has raised \$2,188,771 from nearly 22,000 individual contributors, which was matched by \$1,934,531 from various sponsors, and supported 332 projects. The Community Match Fund enabled the Green

---

<sup>4</sup> 19 of the 25 municipalities on DECD’s [Distressed Municipality List 2023](#) are represented in the Sustainable CT program with Ansonia, Bridgeport, Chaplin Derby, East Haven and Putnam being “Registered,” East Hartford, Meriden, Montville, New London, Norwich, Torrington, Waterbury, West Haven, Winchester and Winham achieving “Bronze” certification, Mansfield and New Britain achieving “Silver” certification, and Hartford achieving both “Silver” certification and a “Climate Leader Designation.” Across these municipalities, there have been over 80 Community Match Fund projects.

Bank's support to match various projects outside of our programs but aligned with our mission of democratizing investment in sustainability projects, including, but not limited to:

- Hartford Neighborhood Farming: This project aimed to address the lack of access to healthy, fresh food by installing an urban micro-farm. This provides food security, skills development, and a staging area for more urban farming in Hartford.
- Electric Bikes for Bridgeport Neighbors in Need!: This project aimed to cover the costs of making e-bike conversion kits available at no cost to fifteen people in need of affordable & reliable transportation by partnering with the Connecticut Institute for Refugees & Immigrants (CIRI) to identify fifteen individuals in need of an e-bike, with support for even more cyclists and the public being provided through educational workshops and events.
- Weston High School Pollinator Courtyard: Weston High School's Sustainable Living class fundraised to put a pollinator garden in one of their courtyards. The goal of the project was to create an interactive ecosystem where students can get hands-on experience with wildlife and problem-solving. This was an opportunity for students to be educated outside of the classroom and foster a sense of community and responsibility.
- 2024 CT Compost Conference in New London - The CT Compost Alliance, a diverse group of stakeholders and aerobic composting enthusiasts focused on supporting and educating current and future composters sought support to enable statewide composting education through an in-person 2024 CT Compost Conference be hosted at Connecticut College located in New London.

Through the Sustainable Fellows program of Sustainable CT, students from colleges and universities in Connecticut work directly with community leaders and volunteers to create much-needed capacity at the local level. In FY 2024, the Fellows Program enabled 11 fellows to provide 4687 hours of direct support to local communities. Green Bank staff participated in the onboarding process to train these Fellows on Green Bank resources to better support municipalities pursuing our programs. Continued sponsorship of the Fellows Program will further:

- Enhance commitment to sustainability by supporting communities where employees and customers live, work, and play.
- Support the development of Connecticut's future workforce and accelerate Connecticut's low-carbon economy.
- Create connections with community leaders across Connecticut.
- Build partnership with Sustainable CT and support the Green Bank's development of environmental infrastructure programs and initiatives.

To date, Sustainable CT has expanded their certification actions to further align with Green Bank programs, developed online resources to increase awareness of the partnership, and facilitated municipal outreach to participating municipalities and stakeholders. Sustainable CT has become a significant outreach channel for the Green Bank's community engagement efforts and underpins the outreach strategy for the Solar Marketplace Assistance Program

(Solar MAP) for Towns & Cities providing project development support for the Green Bank PPA, as well as the C-PACE program. Sustainable CT deployed new action items to support energy storage and environmental infrastructure related actions by towns. Through these efforts the partnership met the goals outlined in previous grant agreements for the support of Green Bank Solar PPA, C-PACE, Energy Storage Solutions and our expansion into environmental infrastructure.

Furthermore, Sustainable CT plays a significant role in enabling the Green Bank to communicate with communities, both to solicit feedback on program development and to promote existing programs. During the period of the previous grant agreement, Sustainable CT:

- Hosted a webinar presented by Green Bank staff on “Organic Waste Management Featuring the Connecticut Green Bank’s Environmental Infrastructure Team.”
- Featured Bryan Garcia on their podcast, *The Impact*.
- Leveraged their monthly newsletter to promote the Green Bank’s webinars, Green Liberty Notes offerings, share hiring announcements, promote Green Bank municipal listening sessions & promote Green Bank PR stories (e.g., Green Bank announcement regarding EPA notice of funding opportunities for greenhouse gas reducing programs).
- Launches a new action item for towns to earn credit if they “Support Battery Storage Solutions” which supports the Green Bank’s Energy Storage Solutions program.
- Encouraged communities to host events to promote C-PACE for their business community (Thomaston) and presentations to their task forces (e.g., East Haddam), earning points for related action items. 7 towns and cities earned credit for sub-action 7.9.2 Encourage Local Business Owners to Access C-PACE Financing. Green Bank also countersigned a C-PACE resolution from the Town of Goshen this past year, adding a new town to the program and unlocking new opportunities for property owners in this community to use C-PACE in the future, as a result of Sustainable CT’s C-PACE action items.

Overall, grant support has been successful at increasing the impact of the green bank model by supporting our marketing efforts and increasing awareness of and enrollment in Green Bank programs through the support and promotion of Sustainable CT. Continued support would allow the partnership to capitalize on the opportunities currently being harnessed and accelerate activity in our programs.

### **Grant Allocation**

In order to further engage communities to improve sustainability and focus investment opportunities on participation in Green Bank incentive and financing programs and the development of environmental infrastructure program, the grant funds will be used per the following:

1. \$30,000 matching grant for Sustainable CT Fellows Program. Sustainable CT will provide opportunities for Green Bank staff to train and mentor fellows on Green Bank

programs while fellows encourage and better support municipalities participation in Sustainable CT and their participation in Green Bank related action items.

2. \$50,000 for a yearlong fellowship, with a focus on engaging with communities to support Green Bank programs. Fellow will work directly with municipalities to support them in achieving actions related to Green Bank products. For example, they may identify a town, and help them conduct a C-PACE informational workshop (including the work to identify and invite attendees, coordinate location, and securing a speaker from the Green Bank to attend the event, etc.) or support other action items related to Green Bank programs above and beyond the General Operating Support identified in this agreement.
3. \$30,000 matching grants for projects submitted through the Patronicity online crowdfunding platform for the Community Match Fund, including collaborating on the promotion of Community Match Fund projects that are aligned with the Green Bank's mission.
4. \$90,000 organizational support to Sustainable CT which includes Sustainable CT's continued support of Green Bank programs by integrating them into their certifications, leveraging their engagement with distressed communities to help build awareness of Green Bank programs, and provide strategic communication and community engagement support.

An increase in grant allocation has been made to accommodate a yearlong fellowship, with a focus on engaging communities focused on Green Bank programs. This increase in funding supports Sustainable CT and allows them to increase capacity and provide better services to communities, but will also provide the Green Bank with a more dedicated Sustainable CT staff person who can work with communities to increase their participation and accelerate the completion of action items that result in Green Bank program uptake, and ultimately leading to more of the Green Bank's desired outcomes.

### **Desired Outcomes**

- **Awareness-** more citizen engagement and cities and towns becoming registered and certified by Sustainable CT as sustainable communities given their progress on implementing clean energy and environmental infrastructure projects and recognizing the benefits to them for doing so; and
- **Community-level Engagement and Impact-** significant community-level engagement leads to activity in the Green Bank's incentive and financing programs and critical to garnering feedback needed to shape future environmental infrastructure programs and products. To deliver this impact, in partnership with Sustainable CT, the Green Bank will:
  - **Environmental Infrastructure-** execute on a community-based engagement strategy that continues to include Sustainable CT as a mechanism to solicit municipal feedback in Green Bank's planning strategy and program development, seeking alignment in areas of nature-based solutions for stormwater management, supporting local agriculture and land conservation, and creating job opportunities;



- **Battery Storage** – leverage Sustainable CT as a mechanism to increase the deployment of battery storage for residential customers, especially deployment in vulnerable communities to make them more resilient to the impacts of climate change, through its revised action items;
  - **Solar PPA** – engage towns and cities who can support outreach to affordable multifamily housing property to achieve program goals, including the deployment of storage for resiliency; and
  - **C-PACE** – engage Sustainable CT communities to generate no less than 10 leads for the C-PACE program in Sustainable CT communities.
- **Lessons Learned-** continuously sharing best practices and lessons learned with other municipalities and states in order for the Green Bank to transfer knowledge that increases and accelerates the uptake of clean energy and environmental infrastructure through the adaptation and adoption of the green bank model and its line of incentive and financing programs.

## Strategic Selection

Green Bank is pursuing this arrangement and approval from the Board on the basis of a Strategic Selection. The proposed impact investment satisfies all criteria of the Strategic Selection and Award process of Green Bank operating procedures, namely: (1) special capabilities, (2) uniqueness, (3) strategic importance, (4) multiphase project; follow-on investment, and (5) urgency and timeliness:

### (1) Special Capabilities

Evolving in large part from the Connecticut Clean Energy Communities Program,<sup>56</sup> Sustainable CT is a 501(c)3 nonprofit organization focused on providing local cities and towns with the resources they need to achieve sustainability. It has demonstrated exceptional experience and expertise in community engagement, and a strong platform to help the Green Bank achieve its objectives, including rewarding municipalities for supporting and participating in Green Bank programs.

### (2) Uniqueness

The highly successful engagement presents a unique opportunity to leverage the momentum and heightened awareness of Green Bank resources to further drive program activity through a highly visible community-based initiative across Connecticut.

### (3) Strategic Importance

At the strategic retreat of the Green Bank in 2019<sup>7</sup>, it was determined that by creating a public awareness and engagement program in partnership with Sustainable CT, the

<sup>5</sup> Created in 2005 by the predecessor of the Connecticut Green Bank – the Connecticut Clean Energy Fund

<sup>6</sup> “Climate Policy and Voluntary Market Initiatives: An Evaluation of the Connecticut Clean Energy Communities Program” by Matthew Kotchen as Working Paper 16117 of the National Bureau of Economic Research.

<sup>7</sup> Connecticut Green Bank 2.0 – From 1 to 2 Orders of Magnitude ([click here](#))

Green Bank could enlist local citizens to take action on clean energy – deploy it, invest in it, and defend it (e.g., build citizen support for the Green Bank). The Green Bank was very active in the formation of Sustainable CT and currently serves on its board of directors. Sustainable CT will match the Green Bank’s contribution (e.g., through community match fund contributions, etc.) and its programs will have broad reach and deliver exceptional education value of strategic importance to the Green Bank.

(4) Multiphase; Follow-on Investment

Green Bank recognized the ability of Sustainable CT to drive sustainable action and investment in communities at its inception. Through early participation in Sustainable CT’s working groups, Green Bank has integrated its programs and products into Sustainable CT’s menu of coordinated, voluntary sustainability actions for municipalities. The Green Bank looks to continue to integrate new programs and initiatives into the menu of actions, especially a focus on environmental infrastructure. Under previously awarded grants, Sustainable CT has demonstrated its leadership in driving sustainable actions in communities while deepening the Green Bank’s engagement with municipalities. The proposed grant builds on these connections and bolsters the human resources available to municipalities through the Sustainable CT Fellows program and operational support to provide the capacity needed to participate in Green Bank incentive and financing programs and achieve certification. As highlighted in the Green Bank’s Comprehensive Plan for Fiscal Year 2023 through 2025, Sustainable CT and the Green Bank are working together to provide individuals, families, and businesses with investment opportunities to make an impact on sustainability in their communities from grants through the Community Match Fund to bonds through the Green Liberty Bonds.

(5) Urgency and Timeliness

The previously awarded grant to Sustainable CT expired at the end of the Fiscal Year, while our engagement with Sustainable CT communities is still underway. It is important to renew our grant support in a timely fashion so that our partnership and the community engagement that our programs are relying on is uninterrupted.

**Conclusion & Recommendation**

Sustainable CT offers strategic importance for the Green Bank to increase its impact by applying the green bank model through its incentive and financing programs to help municipalities improve their sustainability and take action on clean energy and environmental infrastructure. The proposed grant agreement is necessary to expand upon the existing partnership between Sustainable CT and the Green Bank. With Board approval, the partnership will continue to engage communities through providing input on program development, driving investment in projects in our communities, supporting communities from project origination through financing, and creating a measurable impact.

Staff recommend this grant agreement to the Board for approval.

## Strategic Plan

***Is the program proposed consistent with the Board approved Comprehensive Plan and Budget for the fiscal year?***

Yes – the proposed grant agreement underpins the partnership between the Green Bank and Sustainable CT that is highlighted and specified in Green Bank’s Comprehensive Plan for Fiscal Years 2023 through 2025 as well as the FY25 budget allocation of \$200,000.

## Ratepayer Payback

***How much clean energy is being produced (i.e. kWh over the project’s lifetime) from the program versus the dollars of ratepayer funds at risk?***

Sustainable CT has supported outreach for the Green Bank’s Solar MAP program in previous years, resulting in Green Bank Solar PPA projects with Sustainable CT participating towns and cities. 5 Green Bank Solar PPA projects (i.e., 863 kW and \$2.2 MM in investment) produce an average 69,000 MWh over the lifetime<sup>8</sup> of the projects. Therefore, previous grants to Sustainable CT have generated nearly \$1.3MM of Green Bank investment through the Green Bank Solar PPA product.

The Green Bank’s outreach and business development strategy has shifted for the Solar MAP program. As a result, the Green Bank and Sustainable CT will work to develop new strategies that ensure ratepayer payback on this investment. The Sustainable CT may also be a channel which originates future affordable multifamily housing projects with municipalities through Solar MAP for Affordable Multifamily Housing. Sustainable CT also encourages participation in Green Bank programs like C-PACE and Energy Storage Solutions that will result in positive outcomes for ratepayers such as kWh of clean energy being produced. This can be achieved through an emphasis on Sustainable CT action items such as those encouraging local business owners to access C-PACE financing.

With respect to Environmental Infrastructure, metrics to track outcomes of this grant support will be through municipal participation in programs being developed. Sustainable CT has an established market that supports municipal infrastructure investment across all the Green Bank’s key environmental infrastructure areas, including many nature-based solutions like agriculture, land conservation, and stormwater management, to name a few.

## Terms and Conditions

***What are the terms and conditions of ratepayer payback, if any?***

As a result of the increase in interest revenues from 5 Green Bank Solar PV projects in previous years, derived from approximately \$1.3 MM investment of Green Bank funds through the Green Bank Solar PPA (i.e., each project on average is a \$432,500 investment of which 60% of the capital is from the Green Bank)<sup>9</sup> generating approximately \$85,000 in present value interest income per project (i.e., from \$110,000 in interest income over the life

---

<sup>8</sup> Green Bank average PPA system size is 172.65 kW.

<sup>9</sup> Of the total investment of \$13.4 MM of investment on the Green Bank Solar PPA in FY 2019, \$8.1 MM was from the Green Bank.

of the PPA), for a total of \$425,000 present value interest income for 5 projects, the costs of the grant as well as personnel and non-personnel related expenses has been covered 2 times over.

This is representative of Sustainable CT's ability to drive positive outcomes for Green Bank programs. As the Green Bank has shifted its outreach strategy on the Solar PPA for municipalities, it will look to achieve this ratepayer payback by generating interest in other programs, such as Solar PPAs for affordable multifamily housing which are likely to provide similar value, or for C-PACE projects. A typical C-PACE project generates approximately \$145,000 in present value interest income per project, meaning a single C-PACE project covers nearly 75% of the total grant cost alone.<sup>10</sup> The Green Bank currently has 5 active applications for C-PACE financing from leads generated due to outreach conducted in Fiscal Year 2023 by municipalities motivated to complete C-PACE related action items.<sup>11</sup> There are several additional leads in the C-PACE pipeline generated as a result of municipal outreach.

While raising funding is a top priority for the development of environmental infrastructure programs, partnering with Sustainable CT to support municipal access to and development of environmental infrastructure initiatives are enabled through increasing grant support. As new programs are further developed under environmental infrastructure, (e.g. Smart-E's expansion into climate adaptation and resilience and water measures, C-PACE inclusion of resilience) having established connections with towns for marketing these programs will be important.

## Capital Expended

***How much of the ratepayer and other capital that Green Bank manages is being expended on the project?***

The full \$200,000 grant amount is coming from earned revenues from the Green Bank's financing programs.

## Risk

***What is the maximum risk exposure of ratepayer funds for the program?***

The maximum risk exposure is \$200,000 of Green Bank funds.

## Financial Statements

***How is the program investment accounted for on the balance sheet and profit and loss statements?***

When funds are paid:

---

<sup>10</sup> Net Present Value calculation based on the incremental increase in interest income generated for the Green Bank through a C-PACE financed transaction vs. the return the Green Bank could achieve through lower risk options (e.g., a treasury note), assuming a typical C-PACE project of \$500,000 with a 20-year term, 5.75% interest rate and a 4.50% discount rate.

<sup>11</sup> Sub-action 7.9.2 (encourage local business owners to access C-PACE financing).

\$200,000 Credit: Cash [Sustainable CT Grant – Marketing Expense]

## Target Market

### *Who are the end-users of the engagement?*

There are multiple end-users who will benefit from this engagement, including:

- Participating Sustainable CT Communities – those cities and towns, especially vulnerable communities, which utilize the Green Bank’s incentive and financing programs to reduce the burden of energy costs through the deployment of clean energy, and those supporting the development of environmental infrastructure initiatives;
- Sustainable CT Fellows – Connecticut college and university students supporting Sustainable CT cities and towns across the state; and
- Citizens – local citizens who use the Patronicity platform to match contributions through an online citizen engagement platform in support of local sustainability projects in their communities.

## Green Bank Role, Financial Assistance & Selection/Award Process

The Green Bank will award the grant.

## Risks and Mitigation Strategies

The following is the key risk and mitigation strategy:

**Loss of the Grant** – the \$200,000 grant to Sustainable CT is intended to create new opportunities (i.e., new marketing channels for environmental infrastructure or C-PACE) for the Green Bank to offer its incentive and financing programs. If there is not enough origination of transactions from the Green Bank’s programs (e.g., closed C-PACE or Solar PPA projects), then the likelihood of interest income paying for the grant over time is lessened.

It should be noted that on average \$85,000 of present value of interest income (i.e., earned revenues) is generated from a solar PPA project through the Sustainable CT channel and a typical C-PACE project produces \$145,000 in present value. In order to cover the \$200,000 grant, only 1 typical C-PACE and 1 Solar PPA project would be required to cover the cost of the grant. The mitigation strategy is to develop and track measurable performance targets to ensure that grant proceeds towards community-based marketing strategies are resulting in increased deal flow to the Green Bank.

**Market Development** – Sustainable CT has incentivized sustainable actions through a voluntary certification program that has expanded to include more than 75% of municipalities in Connecticut. Through this work they have developed a market for municipal and community led action towards environmental stewardship, climate change mitigation and planning. This partnership, with respect to environmental infrastructure, will focus on working with Sustainable CT to expand its support of modernized environmental infrastructure through community and municipal projects.

## Resolutions

**WHEREAS**, the Comprehensive Plan and FY 2025 budget identify Sustainable CT as a partner of the Connecticut Green Bank (“Green Bank”), including an allocation of \$200,000 from the FY 2025 Marketing budget;

**WHEREAS**, the Green Bank staff has submitted to the Green Bank Board of Directors (the “Board”) a proposal for Green Bank to enter into a grant agreement with Sustainable CT for \$200,000 for programmatic purposes in order to increase our impact by applying the green bank model through Sustainable CT’s programs as explained in a memorandum to the Board dated July 19, 2024;

**WHEREAS**, Sustainable CT satisfies all criteria of the Strategic Selection and Award process of Green Bank operating procedures, namely: (1) special capabilities, (2) uniqueness, (3) strategic selection, (4) multiphase, follow-on investment and (5) urgency and timeliness;

**WHEREAS**, Green Bank staff recommends that the Board approve a grant between the Green Bank and Sustainable CT, generally in accordance with memorandum summarizing the grant to the Board in a memorandum dated July 19, 2024; and,

**WHEREAS**, Green Bank would benefit from Sustainable CT’s public awareness and engagement program to increase participation in and development of Green Bank’s incentive and financing programs, especially those in development for environmental infrastructure. Through the partnership, Green Bank and Sustainable CT are driving investment in projects in communities throughout the state.

**NOW**, therefore be it:

**RESOLVED**, that the Board approves Green Bank staff to enter into a grant agreement with Sustainable CT as a strategic selection;

**RESOLVED**, that the President, Chief Investment Officer and General Counsel of Green Bank, and any other duly authorized officer of Green Bank, is authorized to execute and deliver on behalf of Green Bank any of the definitive agreements related to the Sustainable CT grant agreement and any other agreement, contract, legal instrument or document as he or she shall deem necessary or appropriate and in the interests of Green Bank and the ratepayers in order to carry out the intent and accomplish the purpose of the foregoing resolutions; and,

**RESOLVED**, that the proper Green Bank officers are authorized and empowered to do all other acts and execute and deliver all any documents as they shall deem necessary and desirable to effect the above-mentioned legal instrument or instruments.

Submitted by: Robert Schmitt, Associate Director, Marketing & Outreach; Bryan Garcia, President and CEO



# Memo

**To:** Board of Directors of the Connecticut Green Bank

**From:** Sara Harari (Associate Director of Innovation and Strategic Advisor to the President and CEO), Bert Hunter (EVP and CIO), Stefanie Keohane (Associate Director of the Greenhouse Gas Reduction Fund), and Eric Shrago (VP of Operations)

**CC:** Brian Farnen (General Counsel and Chief Legal Officer), Bryan Garcia (President and CEO), Sergio Carrillo (Managing Director of Incentive Programs), Mackey Dykes (VP of Financing Programs and Officer), and Leigh Whelpton (Director of Environmental Infrastructure)

**Date:** July 19, 2024

**Re:** Greenhouse Gas Reduction Fund – National Clean Investment Fund: New Hampshire and Puerto Rico Partners

---

## Overview

This memo is a request to approve of the Connecticut Green Bank (“Green Bank”) engaging in a contract with the New Hampshire Community Loan Fund (“NHCLF”) and Puerto Rico Green Energy Trust (“PRGET”) as a Strategic Selection pursuant to the Green Bank Operating Procedures Section XII to administer their respective allocations awarded as a Subrecipient of a Subaward under the Coalition for Green Capital (“CGC”).

It should be noted that Bryan Garcia is the Chair of the Board of Directors of CGC in a voluntary capacity. And, it should also be noted, that Sergio Carrillo serves on the Board of Directors of PRGET in a volunteer capacity.

As presented to the Green Bank Board of Directors (“Board”) on prior occasion,<sup>1</sup> the Greenhouse Gas Reduction Fund (“GGRF”) is a federal initiative as part of the Inflation Reduction Act (“IRA”) and is administered by the Environmental Protection Agency (“EPA”) to provide \$27 billion in funding through three funding competitions. This memo focuses on funding deployed through the National Clean Investment Fund (“NCIF”).

The NCIF includes approximately \$14 billion for 3 national nonprofit financing institutions<sup>2</sup> to support green banks and community lenders across the United States to partner with the private sector to provide accessible, affordable financing for tens of thousands of clean technology projects across the country. Capitalized terms used but not defined herein shall have the meaning ascribed to them in the NCIF program materials.

---

<sup>1</sup> See memos dated December 8, 2023, April 26, 2024, and June 14, 2024.

<sup>2</sup> Climate United (i.e., ~\$7B), CGC (i.e., \$5B), and Power Forward (i.e., \$2B).



## **Coalition for Green Capital**

On October 12, 2023, CGC submitted a \$10 billion NCIF application to the EPA, including eighteen (18) Subrecipients.<sup>34</sup> On April 4, 2024, the EPA officially announced that CGC was a \$5 billion winner under NCIF – a 50% reduction from the original application. As noted in the June 2024 Memo, CGC determined a pro rata proportional reduction of 50% to the Subrecipients, including Connecticut (i.e., from approximately \$188MM to approximately \$94.0MM).<sup>56</sup>

CGC is still working to revise its workplan and budget with the EPA. Following the revisions to the workplan, CGC will engage in a contract with the EPA, that will also include, but not be limited to, Terms and Conditions, Project Pipeline (including from Subrecipients), and Budget (collectively, the “Award Documents”). As a result of a recent dispute, CGC expects to finalize and sign the Award Documents with the EPA in August as all funding from the EPA through the GGRF must be obligated by statute by September 30, 2024. Ecority, an applicant who was not selected as an awardee in GGRF’s NCIF and Clean Communities Investment Accelerator (“CCIA”) funding competitions, filed a dispute with the EPA. The EPA Dispute Officer expects to make a final determination regarding the merits of Ecority’s dispute in late August or early September.<sup>7</sup>

Following the signing of the Award Documents, the EPA intends to make a few additional modifications to the Award Documents (i.e., payments, performance reporting) with the Awardees prior to November 1, 2024.

In the coming weeks, and once CGC finalizes its Award Documents with the EPA, CGC will send draft award agreements to the Green Bank and the other Subrecipients that will include project pipeline and budget details. Following receipt of the award agreement from CGC, the Green Bank will execute a contract with PRGET and NHCLF, as discussed further herein.

---

## **Connecticut Green Bank and Partners (i.e., New Hampshire and Puerto Rico)**

In the summer of 2023, as CGC worked on its application to the EPA under the NCIF competition with support from the Connecticut Green Bank. As New Hampshire is within EPA Region 1 (i.e., which is New England), and legislative efforts of NHCLF to become the recognized “green bank” of New Hampshire continue, New Hampshire sought the Green Bank’s assistance to support it within the CGC application. In addition to New Hampshire, and given a long-standing relationship

---

<sup>3</sup> It should be noted that CGC used an allocation formula within its original \$10B proposal to the EPA that included (a) population data from the Climate and Economic Justice Screen Tool (“CEJST”), (b) less 25% for regional and national projects of significance, and (c) less 0.5% administrative fee to make an equitable allocation to states, territories, and tribes.

<sup>4</sup> Subgrantees include California Infrastructure Bank, City First Enterprises, Colorado Clean Energy Fund, Community Development Venture Capital Alliance, Connecticut Green Bank, District of Columbia Green Bank, Efficiency Maine Trust, Elemental Excelsior, Illinois Climate Bank, Michigan Saves, Minnesota Climate Innovation Finance Authority, Missouri Environmental Improvement and Energy Resources Authority, Montgomery County Green Bank, New Jersey Green Bank, New York City Energy Efficiency Corporation, New York Green Bank, Ohio Air Quality Development Authority, and the Solar and Energy Loan Fund.

<sup>5</sup> Inclusive of Connecticut (i.e., \$40.8MM), New Hampshire (i.e., \$15.4MM) and Puerto Rico (i.e., \$37.8MM).

<sup>6</sup> It should be noted that the EPA put the Awardees of the NCIF (i.e., 3 Awardees) and CCIA (i.e., 5 Awardees) on notice that there are legal disputes from applicants that didn’t win awards. The EPA will obligate 50% of the value of the awards to the Awardees in July of 2024, and, depending upon the legal disputes, subsequently allocate the remaining portions appropriately.

<sup>7</sup> On July 17, 2024, the EPA Dispute Officer determined that the the GGRF Office may proceed with obligating the full \$20 billion award to the selected NCIF and CCIA awardees, provided that legally binding restrictions on the amount of funds available for disbursement are included such that Ecority would be able to receive \$4.3 billion if its dispute is successful based on the merits.



between Connecticut and Puerto Rico (i.e., within EPA Region 2, including New York and New Jersey) through Bryan Garcia and Sergio Carrillo, the PRGET sought the Green Bank's assistance as well, to support it within the CGC application as it gets up and running as Puerto Rico's green bank.

- **New Hampshire Community Loan Fund (NHCLF)** – is a community development financial institution (“CDFI”) established in 1983 to serve as a catalyst, leveraging financial, human, and civic resources to enable traditionally underserved people to participate more fully in New Hampshire’s economy by providing loans, capital, and technical assistance, extending the reach of conventional lenders and public institutions, and bringing people and institutions together to solve problems. NHCLF was introduced to the Green Bank by Michael Swack with the Center for Impact Finance at the Carsey School of Public Policy at the University of New Hampshire. He has been consulting with the Connecticut Hospital Association to establish a fund that would invest in preventative health care through community assets (e.g., brownfields to parks, urban food deserts, affordable housing). The NHCLF serves as a valuable model for the Green Bank, demonstrating how investments in environmental infrastructure (e.g., agriculture) can significantly enhance public health.

As of 2023, NHCLF has \$190MM in assets and \$41MM in net assets.

For more information on the NHCLF, visit their website - <https://communityloanfund.org/>

- **Puerto Rico Green Energy Trust (PRGET)** – enabled as part of the Puerto Rico Energy Public Policy Act (Chapter 3 of PR Law No. 17-2019), PRGET was created as a nonprofit organization by the Government of Puerto Rico in 2019 to foster and fund research, development, and infrastructure projects that promote clean and renewable energy. Having recently hired its first President and CEO, Nellie Gorbea-Diaz,<sup>8</sup> the PRGET is in the process of establishing a 501(c)3 nonprofit organization. Puerto Rico has the fastest growing residential market for solar + storage in the United States. Sergio Carrillo, Managing Director of Incentive Programs for the Green Bank, serves on the Board of Directors of the PRGET. The Green Bank stands to gain valuable insights from PRGET’s strategies, particularly in achieving a high ‘connection rate’ for solar + storage systems, as well as their ability to implement these systems at low costs and successfully deploy them in communities of color.

Currently, PRGET is in its start-up stage as a financial institution and doesn’t have a balance sheet, although they are an instrumental part of Puerto Rico’s successful \$156.1MM Solar for All application.

For more information on PRGET, visit their website - <https://www.prgreenenergytrust.org/>

Since the June 2024 Board meeting, PRGET and NHCLF submitted their proposed pipelines and budgets to the Green Bank to support a \$37.8MM and \$2.6MM<sup>9</sup> deployment of funds, respectively. The Green Bank expects to receive approximately \$93.5MM for Connecticut, Puerto Rico, and New Hampshire to support EPA’s distributed energy generation and storage, and net

---

<sup>8</sup> Nellie Gorbea-Diaz was the former Secretary of State of Rhode Island.

<sup>9</sup> NHCLF’s total funding allocation is \$14.9MM, however, NHCLF is seeking \$2.6MM through the Green Bank as a subrecipient to CGC.

zero emissions buildings priority funding areas and focus on deployment in LIDACs. Tables 1 and 2 summarize PRGET's and NHCLF's NCIF program and project portfolio with Year 1 deployment targets, respectively.

**Table 1. PRGET Project Portfolio and Year 1 Pipeline Targets**

Program	Priority Funding Areas				Year 1 Targets (\$MM)	LIDAC Allocation	Target Mobilization Ratio
	Distributed Energy Generation and Storage	Net Zero Emissions Buildings	Zero Emissions Transportation	Other			
Commercial Buildings	X	X			\$10.00	100%	5x
Climate Resilience	X			X	\$10.00	100%	5x
Ground-Mount Renewables and/or Storage	X			X	\$7.50MM	100%	5x
Single-Family Homes	X	X			\$5.00	100%	5x
Multifamily Homes	X	X			\$2.5MM	100%	5x
Government Buildings	X	X			\$1.25MM	100%	5x
Institutional Buildings	X	X			\$1.25MM	100%	5x
<b>Total</b>					<b>\$37.50</b>	<b>100%</b>	<b>5x</b>

**Table 2. NHCLF Project Portfolio and Year 1 Pipeline Targets**

Project	Priority Funding Areas				Year 1 Targets (\$MM)	LIDAC Allocation	Target Mobilization Ratio
	Distributed Energy Generation and Storage	Net Zero Emissions Buildings	Zero Emissions Transportation	Other			
Capitalize investor funded portfolio of four (4) solar power purchase agreement projects	X				\$2.00MM	50%	1x
Financial rooftop solar panel for nonprofit senior center	X				\$0.04MM	50%	1x
Resident-owned community to purchase solar array	X				\$0.07MM	50%	1x
Farm efficiency measures and/or solar	X			X	\$0.11MM	27%	1x
On-farm infrastructure and innovative practices				X	\$0.04MM	50%	1x
<b>Total</b>					<b>\$2.26MM</b>	<b>~50%</b>	<b>1x</b>

Accordingly, the Green Bank will establish contracts with NHCLF and PRGET as Financial Intermediary Subrecipients under the Green Bank's Subaward allocation from CGC to provide capital through the NCIF in local eligible projects and support the development of their green banks. Since the June 2024 Board meeting, the Green Bank shared with NHCLF and PRGET a draft term sheet that will address the following:

- Protecting Connecticut ratepayer and Green Bank dollars from the risk of malfeasance / non-compliance;

- Flow down requirements from the EPA, including federal requirement obligations and responsibilities, and ways the Green Bank can be indemnified; and
- Ensuring Green Bank staff time for non-Connecticut deployment is compensated (even if it is simply at cost) by allocating 0.5% of PRGET's and NHCLF's budgets for Green Bank staff support.

The draft term sheet submitted to NHCLF and PRGET is appended to this memo. If material changes are required to align with CGC's forthcoming contract requirements, the Green Bank will seek additional approval from the Board.

---

## Strategic Selection

Partnering with NHCLF and PRGET as Financial Intermediary Subrecipients under the Green Bank's Subaward allocation from CGC falls within the parameters of a strategic selection, subject to Board approval, for the reasons outlined below.

- **Special Capabilities** – PRGET and NHCLF are the only entities under the winning CGC award equipped to lead project deployment activities in Puerto Rico and New Hampshire, respectively. If not for NHCLF's and PRGET's participation as Financial Intermediary Recipients, New Hampshire and Puerto Rico may not otherwise receive their equitable allocation of funds through CGC's NCIF award.
- **Strategic Importance** – PRGET is charged with establishing Puerto Rico's first green bank and is therefore integral in expanding the network of green banks nationally. There may be things to learn from Puerto Rico in terms of their solar and battery storage deployment as their attachment rate is greater than 90% (i.e., versus Connecticut at 3%). NHCLF serves as a valuable model for the Green Bank, demonstrating how investments in environmental infrastructure (e.g., agriculture) can significantly enhance public health.
- **Urgency and Timeliness** – As outlined in the June 2024 Board memo, CGC determined that funds allocated to Subrecipients, and by extension, to PRGET and NHCLF as Financial Intermediary Recipients, must be obligated within a one-year period to be treated as a grant and not as loan from CGC.
- **Multiphase Project** – Successful execution of a partnership with PRGET and NHCLF will bolster the network of green banks nationally. Since the Green Bank's founding in July of 2011, it has been a role model for green banks across the country, winning the Innovations in American Government Awards from Harvard University's Kennedy School in 2017 for "Sparkling the Green Bank Movement". As a result, green banks, such as PRGET, look to Connecticut for leadership and support in establishing their organizations.

## **Resolutions**

**WHEREAS**, within the Inflation Reduction Act of 2022 (“IRA”) there is a \$27 billion Greenhouse Gas Reduction Fund “GGRF” inclusive of a \$14 billion National Clean Investment Fund (“NCIF”) modelled after the Green Bank;

**WHEREAS**, the Coalition for Green Capital (“CGC”), a 501(c)3 nonprofit organization, applied for a grant through the GGRF NCIF on October 12, 2023 in the amount of \$10 billion, and inclusive of eighteen (18) Subgrantees, including the Green Bank;

**WHEREAS**, the Green Bank’s part of the CGC application included resources in support of financing projects in Connecticut, as well as additional resources that would be administered by the Green Bank on behalf of the New Hampshire Community Loan Fund and Puerto Rico Green Energy Trust (“the Participants”) as outlined in the memo to the Board of Directors of the Green Bank (“the Board”) on June 14, 2024;

**WHEREAS**, at the June 21, 2024 meeting of the Board, the Board approved of the Green Bank negotiating terms with the Participants with the intention to bring back such contract or term sheet back to the Board for approval as a Strategic Selection;

**NOW**, therefore be it:

**RESOLVED**, that the President of the Green Bank and any other duly authorized officer of the Green Bank is authorized to execute and deliver definitive documentation with the Participants as Financial Intermediary Subrecipients to CGC’s winning GGRF NCIF award as outlined in this memo dated July 19, 2024 and materially consistent with the attached draft term sheet, and as he or she shall deem to be in the interests of the Green Bank;

**RESOLVED**, that the Board hereby approves of the Green Bank executing a contract with the Participants as a Financial Intermediary Subrecipient to CGC’s winning GGRF NCIF award as a Strategic Selection and Award pursuant to the Green Bank Operating Procedures Section XII given the special capabilities, strategic importance, urgency and timeliness, and multi-phase characteristics of a contract with the Participants; and

**RESOLVED**, that the duly authorized Green Bank officers are authorized and empowered to do all other acts and execute and deliver all other documents and instruments as they shall deem necessary and desirable to effect the above-mentioned legal instruments.

# [Greenhouse Gas Reduction Fund (GGRF)- Funded Entity]

## Summary of Terms for Puerto Rico Green Energy Trust / New Hampshire Community Loan Fund.

[\_\_\_\_\_, 2024]

---

The following is a non-binding term sheet ("Term Sheet") of a proposed award to [ ] as a Financial Intermediary Subawardee under the National Clean Investment Fund. Except as set forth below, this Term Sheet is intended solely as a basis for further discussions and is not intended to be, and does not constitute, a legally binding obligation of any party, provided, that, notwithstanding anything to the contrary set forth herein, the provisions set forth in the Sections entitled "Expenses" shall be legally and binding obligations of the Financial Intermediary Subawardee from and after the date this Term Sheet is executed by the Financial Intermediary Subawardee. Except as set forth in the prior sentence, a legally binding obligation will be established only pursuant to mutually acceptable definitive written agreements executed by the parties, and only after satisfactory completion of due diligence and other conditions to be set forth in such definitive written agreements. In the event of any inconsistency between this Term Sheet and such definitive written agreements, the written agreements will govern. This Term Sheet does not constitute either an offer to sell or an offer to purchase securities.

---

NCIF Award: [ ]

Subaward Agreement: [Agreement between Coalition for Green Capital ("CGC") and Connecticut Green Bank pursuant to the NCIF Award]

Financial Intermediary Subawardee: Puerto Rico Green Energy Trust [PR Entity] / New Hampshire Community Loan Fund [NH Entity] ("Financial Intermediary Subawardee")

Financial Assistance Subrecipient: Connecticut Financial Assistance Subrecipient ("Financial Assistance Subrecipient")

Grant Agreement: Grant agreement between Financial Assistance Subrecipient and Financial Intermediary Subawardee, pursuant to the NCIF Award and Subaward Agreement

Contingent Grant Amount: [ ]

Contingent Grant Schedule: [ ]

Closing Date: [\_\_\_\_\_, 2024]

Closing Fee: 0.5% of actually funded amount (to be grossed up with subsequent draws)

Use of Proceeds: The proceeds of the Grant Amount will be used consistent with the NCIF Award, Subaward Agreement, Grant Agreement, any applicable

Environmental Protection Agency ("EPA") agreements, regulations, terms and conditions or guidance.

Covenants: Usual and customary covenants will be included in the Grant Agreement as well as any positive and negative covenants required pursuant to the Subaward Agreement.

Financial Reporting: Customary and appropriate for transactions of this nature.

Events of Default: The Grant Agreement shall include customary event of default provisions for unsecured indebtedness and as required pursuant to the Subaward Agreement.

Indemnification: The Financial Intermediary Subawardee and its affiliate(s) shall jointly and severally indemnify the Financial Assistance Subrecipient and its officers, directors, managers, employees, agents, members, partners and shareholders from and against any and all claims or liabilities related to or arising in any manner from the subaward other than claims or liabilities resulting primarily from the gross negligence or willful misconduct of the Financial Assistance Subrecipient.

Conditions to Close: Closing shall be subject to a number of customary conditions precedent including, but not limited to, the following:

Documentation: Funding of the transaction will be conditioned upon completion of such documents, opinions, covenants, representations and warranties as the Financial Assistance Subrecipient or its counsel might request.

No Adverse Change: There shall have occurred no material adverse change in the Financial Intermediary Subawardee's management, operations, financial condition or its business prospects.

Legal Matters: The Financial Intermediary Subawardee's counsel shall provide the Financial Assistance Subrecipient with standard legal opinions, as requested. The Financial Intermediary Subawardee shall disclose any litigation or other proceeding to which it is a party, and any such disclosures shall be satisfactory to the Financial Assistance Subrecipient.

Due Diligence: The Financial Assistance Subrecipient shall have conducted and completed all due diligence reviews and examinations

of the Financial Intermediary Subawardee including, but not limited to, site visits; management meetings; industry, reference and credit checks on the Financial Intermediary Subawardee, its management, vendors, and customers; detailed reviews of historical and projected financial results; and competitive analysis. The Financial Intermediary Subawardee has been duly authorized by each principal and key executive to permit the Financial Assistance Subrecipient to perform such background checks. The result of such due diligence shall be satisfactory to the Financial Assistance Subrecipient

Representations and Warranties: The Financial Intermediary Subawardee and its shareholders shall make such representations and warranties as required by the Financial Assistance Subrecipient and such representations and warranties must be true and correct at closing. In addition, the Financial Intermediary Subawardee shall be required to make certain representations and warranties as required under the applicable requirements of the EPA

Approval: Subject to final approval by the Financial Assistance Subrecipient's Board of Directors.

**Definitive Documentation:** Completion of the transaction contemplated herein will result only from the execution of definitive, legally binding transaction agreements and will be subject to the terms and conditions set forth therein

**Governing Law  
& Jurisdiction:**

Connecticut

**Expenses:**

The Financial Intermediary Subawardee will pay all out of pocket and third party reasonable legal (including all costs associated with all UCC filings and searches), due diligence, background checks, legal, documentation, and other expenses incurred by the Financial Assistance Subrecipient in connection with the proposed transaction at closing in an amount not to exceed \$15,000.

**Cross-Border  
Learning Obligations &  
Work Scope**

The parties' endeavor to work together to share best practices and lessons learned in meeting the overarching objectives of the GGFR at no additional cost. However, if additional programmatic, regulatory, accounting, legal or compliance support is necessary to ensure fulfillment or success with the underlying requirements of the Subaward Agreement, the parties will work in good faith to expeditiously come up

with a plan to address and compensate the Financial Assistance Subrecipient for the additional time and resources involved.

Funds Not Expended: [In the event that funds are not expended, the Financial Assistance Subrecipient and Financial Intermediary Subawardee shall utilize the process set forth in the Subaward Agreement. [1 year language as determined by CGC.]

Processing of Payments: [ ]

Start and End of Relationship: [ ]

Enabling Statute: The Financial Assistance Subrecipient is subject to the requirements outlined in Sections 16-245n of the Connecticut General Statutes and Borrower will be responsible for complying with applicable state contracting requirements.

**IN WITNESS WHEREOF**, the parties agree to the above nonbinding terms in anticipation of negotiating and executing a Grant Agreement in the future if, and when, sufficient funds become available to the Financial Assistance Subrecipient under the GGRF.

#### CGB Concepts

Place P.R. NCIF funds in CGB wholly owned subsidiary

This would be different from Colorado approach, which is doing the projects directly.



### Office locations

75 Charter Oak Ave., Suite 1 – 103, Hartford, CT 06106  
700 Canal Street, 5th Floor, Stamford, CT 06902

### Phone

T: 860.563.0015  
F: 860.398.5510

