

845 Brook Street, Rocky Hill, CT 06067
T 860.563.0015
ctgreenbank.com



July 1, 2016

Dear Connecticut Green Bank Board of Directors:

We have a special meeting of the Board of Directors scheduled for Wednesday, July 6, 2016 from 4:30 to 5:00 p.m. We will hold the meeting online through GoToMeeting.

On the agenda we have the following item:

- **Hydropower Facility** – we are bringing the 193 kW run-of-the-river facility at Hannover Pond in Meriden back to the Board. Due to higher than expected interconnection/electrical costs with Eversource, as well as a combination of a number of smaller environmental compliance and construction costs, the previous Board authorization is not sufficient to cover the construction financing needs. We are proposing a solution whereby the additional costs and risks are shared by the main stakeholders – City of Meriden, NEHC, and the Connecticut Green Bank.

Given that the project has construction deadlines associated with maintaining VNM credits, the fact that the equipment needs to be ordered and shipped from Europe, and the potential that further delays in construction commencement might further increase costs and/or lower ZREC revenue, staff has requested this special meeting for the Board to consider revising the previously approved resolution.

If you have any questions, comments or concerns, please feel free to contact me at any time.

Also, the Board should know that the other hydropower facility at Cargill Falls in Putnam is progressing nicely with the foundation complete and the main hydropower turbine now installed, ready for operation, and approved by Eversource to generate clean, renewable energy. We will provide an update on this project as well.

We look forward to seeing you next week. And have a fun, relaxing, and safe 4th of July holiday weekend.

Sincerely,

A handwritten signature in blue ink, appearing to read "B. Garcia", with a long horizontal flourish extending to the right.

Bryan Garcia
President and CEO



AGENDA

Board of Directors of the
Connecticut Green Bank
845 Brook Street
Rocky Hill, CT 06067

Wednesday, July 6, 2016
4:30:5:00 p.m.

Staff Invited: Brian Farnen, Bryan Garcia, Ben Healey, and Bert Hunter

1. Call to order
2. Public Comments – 5 minutes
3. Staff Transaction Revision Recommendation* – 25 minutes
 - a. New England Hydropower (Hannover Pond Project)*
4. Adjourn

*Denotes item requiring Board action

Join the meeting online at <https://global.gotomeeting.com/join/456120949>

Or call in using your telephone:
Dial (872) 240-3212
Access Code: 456-120-949

Next Regular Meeting: Friday, July 22, 2016 from 9:00-11:00 a.m.
Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT



RESOLUTIONS

Board of Directors of the
Connecticut Green Bank
845 Brook Street
Rocky Hill, CT 06067

Wednesday, July 6, 2016
4:30:5:00 p.m.

Staff Invited: Brian Farnen, Bryan Garcia, Ben Healey, and Bert Hunter

1. Call to order
2. Public Comments – 5 minutes
3. Staff Transaction Revision Recommendation* – 25 minutes
 - a. New England Hydropower (Hannover Pond Project)*

Resolution #1

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 and (3) Green Bank’s Comprehensive Plan for Fiscal Years 2015 and 2016 (the “Comprehensive Plan”), Green Bank continuously aims to drive private capital investment into clean energy projects;

WHEREAS, pursuant to the development of a small hydroelectric facility at the Hanover Pond Dam on the Quinnipiac River in Meriden (“Project”), at its February 26 and April 22, 2016 meetings the Green Bank Board of Directors (the “Board”) previously authorized:

- i) a guaranty to a third party lender for construction financing in an amount not to exceed \$3.1 million,
- ii) a working capital guaranty in an amount not to exceed \$600,000 to New England Hydropower Company (“NEHC”), the project developer, under the Green Bank’s existing working capital facility partnership with Webster Bank; and,
- iii) term financing based on the following prerequisites:
 - a. issuing CREBs in an amount not to exceed \$3,100,000; and,

- b. securing the issuance utilizing the Special Capital Reserve Fund (“SCRF”) subject to further Board approval; and
- iv) the creation of a Special Purpose Entity that will be wholly owned by the Green Bank, to own, operate and manage the Project, as required by CREBs.

WHEREAS, Green Bank staff now recommends that the Board authorize (1) an increase to the Green Bank’s construction finance guaranty in an amount not to exceed \$3,900,000; (2) funding from the Green Bank’s balance sheet in an amount not to exceed \$1,400,000 in addition to the already approved term financing through the issuance of CREBs; and, (3) an extension of up to 24 months to the repayment schedule of NEHC’s working capital guaranty under the Green Bank’s existing working capital facility partnership with Webster Bank.

NOW, therefore be it:

RESOLVED, that the Green Bank is authorized to (1) increase the Green Bank’s construction finance guaranty in an amount not to exceed \$3,900,000; (2) provide funding from the Green Bank’s balance sheet in an amount not to exceed \$1,400,000 in addition to the already approved term financing through the issuance of CREBs; and, (3) issue an extension up to 24 months to the repayment schedule of NEHC’s working capital guaranty under the Green Bank’s existing working capital facility partnership with Webster Bank;

RESOLVED, that staff is directed to submit to the Board for approval all relevant requests in respect of the issuance of the CREBs, including any revisions to expected costs to complete the Project and matters related to securing the bonds with the SCRF; 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 legal instruments.

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Ben Healey and Mariana C. Trief, Clean Energy Finance.

4. Adjourn

*Denotes item requiring Board action

Join the meeting online at <https://global.gotomeeting.com/join/456120949>

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Next Regular Meeting: Friday, July 22, 2016 from 9:00-11:00 a.m.
Connecticut Green Bank, 845 Brook Street, Rocky Hill, CT



Board of Directors Meeting

July 6, 2016



Board of Directors

Agenda Item #1

Call to Order

Board of Directors

Agenda Item #2

Public Comments

Board of Directors

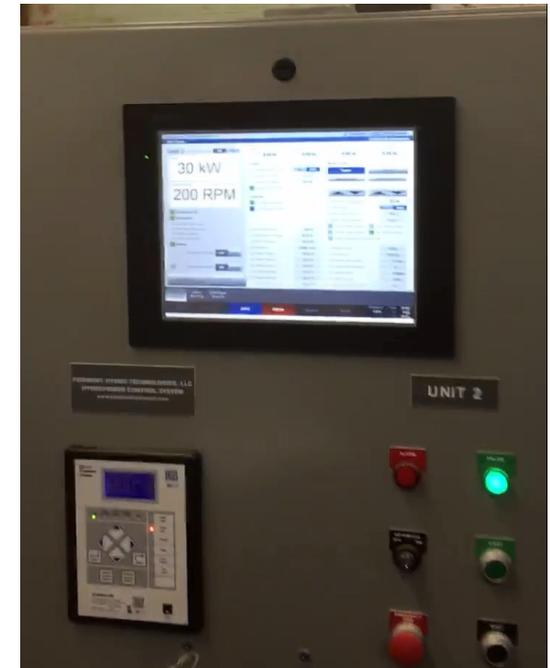
Agenda Item #3

Hydropower Investments

Historic Cargill Falls Mill Hydro Project Update

Overview:

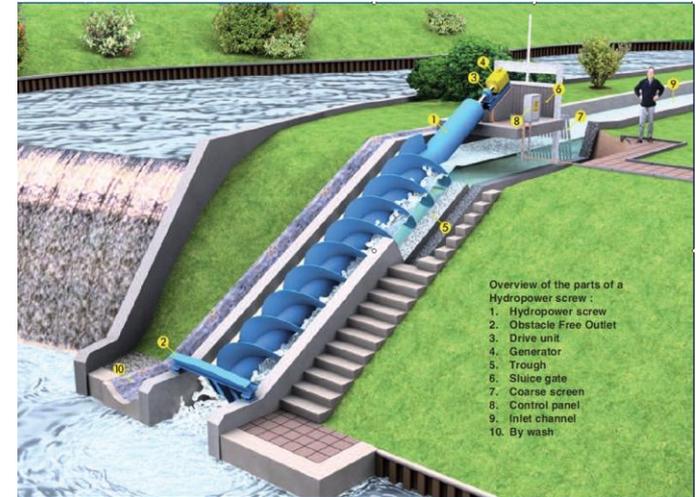
- Eversource witness test passed / initial operations successful in mid-May
- Higher ZREC secured (\$94.95 / MWh)
- Term sheet executed / final documentation now in process for private capital investment of \$1.2 million into project (expected closing week of July 11)



Hanover Pond Hydro Project Context

- **193kW hydroelectric facility** in Meriden, CT employing Archimedes Screw Generator (ASG)
- Developer: **New England Hydropower Company (NEHC)**. Recipient of \$500,000 in **Operational Demonstration (Op Demo)** funding awarded in 2011
- Project cash flows
 - Power Purchase Agreement (PPA) with the City of Meriden
 - Zero Emission Renewable Energy Credits (ZREC) contract with Eversource
 - ISO-NE capacity payments (after next forward capacity auction)

Archimedes Screw Generator



Project Site and Location of ASG Technology



Hanover Pond Hydro Project

Project Context



Board's previous approvals:

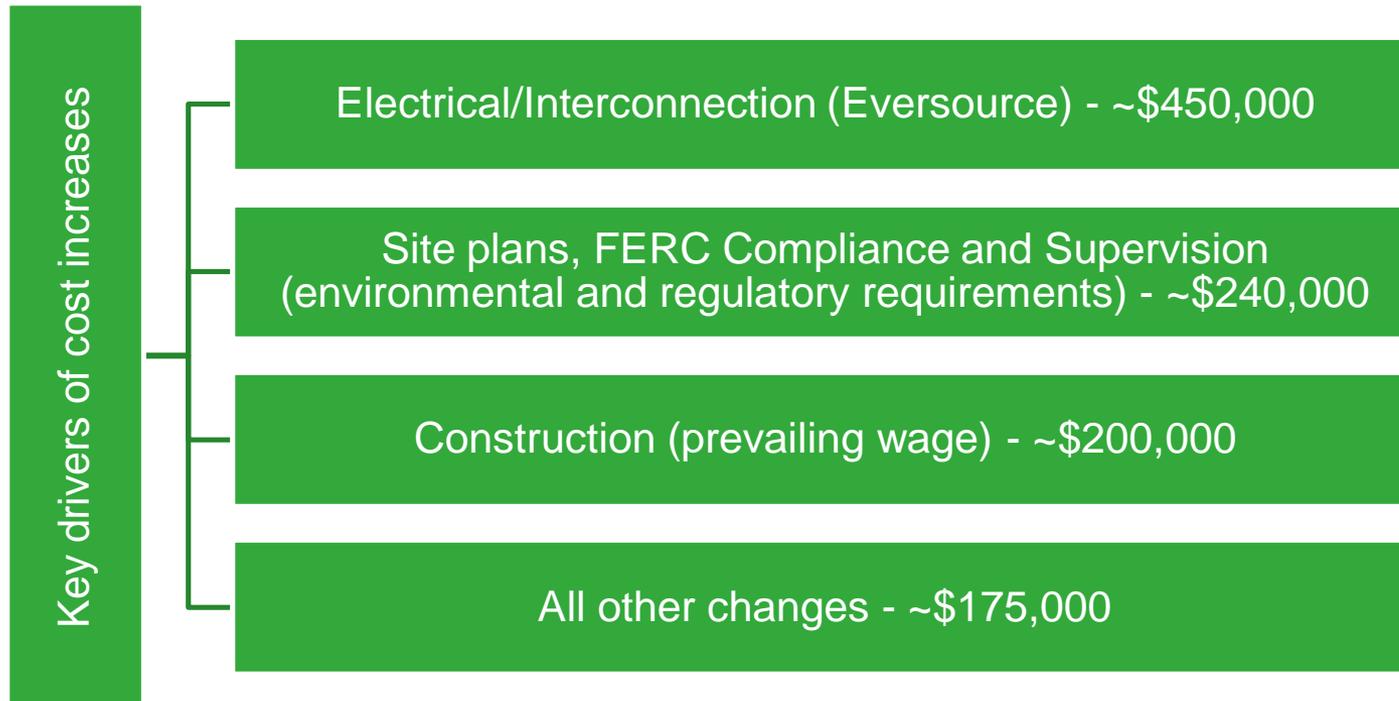
- Guaranty to third party lender for construction financing in an amount NTE \$3.1 million
- Working capital guaranty in an amount NTE \$600,000 to NEHC, under existing working capital facility partnership with Webster Bank
- Term financing:
 - Issuance of New Clean Renewable Energy Bonds (CREBs) in an amount NTE \$3.1 million
 - Securing the issuance utilizing the Special Capital Reserve Fund
 - SPE creation, as required by CREBs regulations

Hanover Pond Hydro Project

Increased Cost



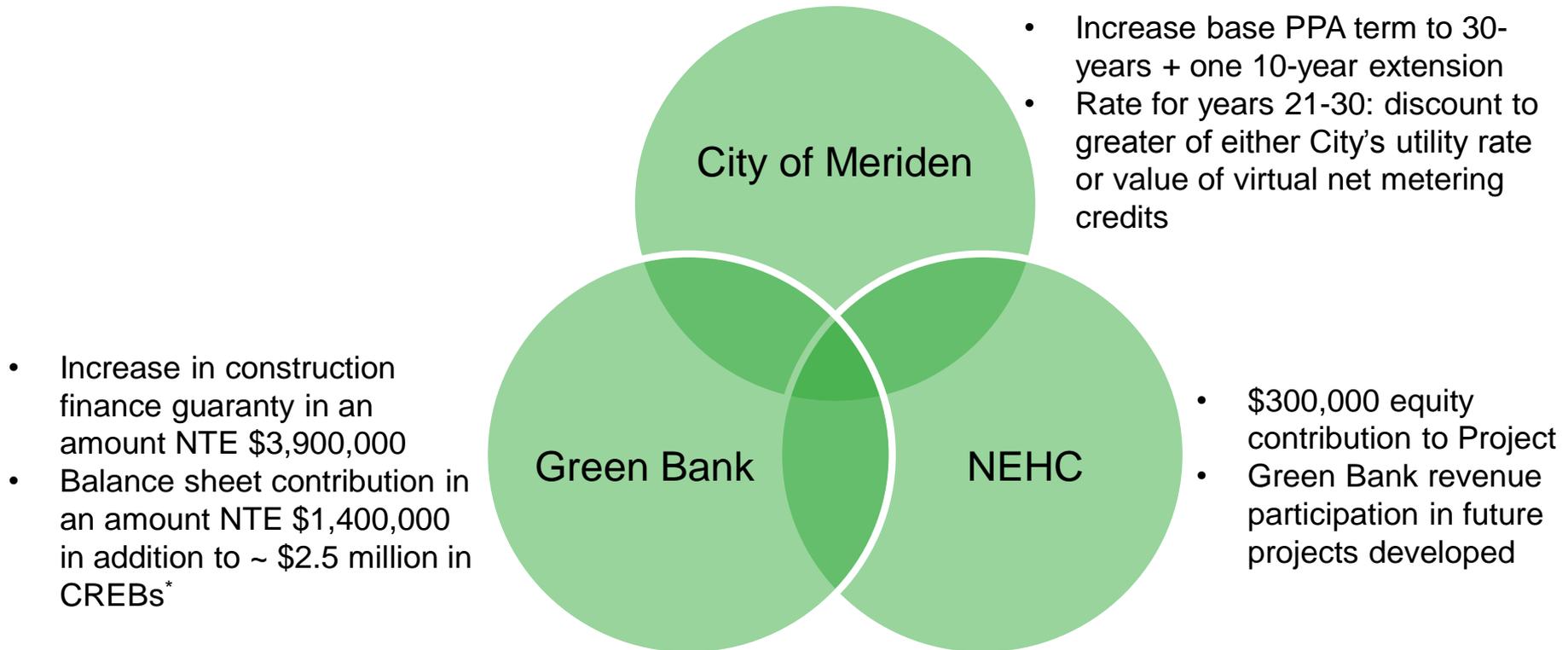
- Budget presented to Board in February 2016 based on preliminary cost estimates
- Project's designs and contracts finalized since February 2016



Hanover Pond Hydro Project Proposed Financing Strategy



Green Bank's revised strategy supplements revenue stream to support Project's additional costs:



* CREBs originally planned at ~\$2.7 million level; due to better estimates of recurring Project costs (O&M, compliance, etc.), need to reduce to meet SCRF self-sufficiency requirements and therefore require the \$1.4 million balance sheet contribution

Hanover Pond Hydro Project

Project Cash Flows



| Modeling Assumptions | |
|--|---------|
| Expected Annual Generation (kWh) | 921,421 |
| PPA Price (per kWh) | \$ 0.14 |
| Annual PPA Escalator (starting year 4) | 2.00% |
| ZREC Award (per kWh) | 0.07 |
| Capacity Payments (\$/kW/month) | 8 |
| Annual Recurring Costs (O&M and Compliant) | 64,746 |

| Sources and Uses | |
|-------------------------------|--------------------|
| Total Project Budget | \$4,500,000 |
| Sources | |
| Green Bank OpDemo - Disbursed | \$450,000 |
| NEHC | \$297,723 |
| CREBs | \$2,526,360 |
| Green Bank Balance Sheet | \$1,225,917 |
| Total Sources | \$4,500,000 |

| Simplified Pro Forma | | | | |
|---|------------------|------------------|------------------|------------------|
| Years | 1-10 | 11-20 | 21-30 | 31-40 |
| Revenue (PPA, ZREC and Capacity Payments) | 2,052,021 | 2,262,442 | 2,540,894 | 2,438,693 |
| Recurring Costs | (568,591) | (568,571) | (669,607) | (783,077) |
| Net Operating Income (NOI) | 1,483,430 | 1,693,871 | 1,871,287 | 1,655,616 |
| Reserve | 12,870 | 16,981 | - | - |
| NOI + Reserve | 1,496,300 | 1,710,852 | 1,871,287 | 1,655,616 |
| Debt Service (CREBs) | (1,481,485) | (1,693,913) | - | - |
| Distributable Cash Flow | 14,815 | 16,939 | 1,871,287 | 1,655,616 |
| Reserve | (14,667) | (15,184) | - | - |
| Distributable Cash Flow (minus reserve) | 148 | 1,755 | 1,871,287 | 1,655,616 |
| Cumulative Distributable Cash Flow | 148 | 1,903 | 1,873,190 | 3,528,806 |

| NPV Analysis | | | |
|--------------|-------------|-------------|--|
| Year | 30 | 40 | Notes |
| Base Case | \$1,247,649 | \$2,518,649 | Assumes 2% annual escalator to PPA in years 21-40. |
| Worst Case | \$1,092,038 | \$1,911,641 | Assumes flat \$0.20/kWh PPA in years 21-40. |
| Best Case | \$1,430,320 | \$2,564,408 | Assumes a floor of \$0.25/kWh PPA in years 21-40. |

Hanover Pond Project

Risks and Mitigants



- **Cost overruns** → project scope finalized; major contracts negotiated/executed; budget independently confirmed by Fuss and O'Neill; contingencies included in new budget presented
- **Completion risk** → parties now committed include engineers, developers, project managers, and owners of hydro facilities with hydro experience locally and with technology internationally; independent engineer to confirm progress prior to funds advanced
- **Operational risk** → high-quality equipment with ready supply of spare parts; sufficient O&M budgeted; operational experience with ASG internationally
- **Revenue risk** → ZREC and PPA are highly secure and contracted cash flows; merchant risk in years 21-30 viewed as limited given historic average annual increases in utility prices

Hanover Pond Hydro

Conclusion



- Upside potential of Hanover Pond hydro project includes:
 - Unlocking potential of small hydro in Connecticut – NEHC has other viable development sites in the state
 - Reduced permitting for small hydro project – NEHC received FERC license in ~2 years, well below the 3-5 years usually required
 - State leadership and recognition – first time ASG will be installed in US though technology is widely used in Europe
 - Generate ~1 million kWh of clean energy/year, (equivalent to ~115 residential solar systems)
 - Opportunity to leverage low cost of capital through CREBs

NEHC - Hanover Pond Project Proposed Resolutions



- ▶ Increase Green Bank's construction finance guaranty in an amount NTE \$3,900,000
- ▶ Provide funding from the Green Bank's balance sheet in an amount NTE \$1,400,000 in addition approved term financing through CREBs
- ▶ Allow an extension of up to 24 months for the repayment of NEHC's working capital guaranty under the Green Bank's existing working capital facility partnership with Webster Bank

Board of Directors

Agenda Item #4

Adjourn



Memo

To: Connecticut Green Bank Board of Directors

From: Mariana C. Trief, Senior Manager, Clean Energy Finance

CC: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Ben Healey, Director, Clean Energy Finance

Date: July 1, 2016

Re: Request to Increase Financing for 193kW Hydroelectric Facility in Meriden, CT

Background and Purpose

On February 26, 2016 staff brought forward to the Connecticut Green Bank (“Green Bank”) Board of Directors (the “Board”) a proposal (see Exhibit A) for the Green Bank to provide both construction and term financing through the issuance of New Clean Renewable Energy Bonds (“CREBs”) for a 193kW hydroelectric facility in Meriden, CT (the “Project”). The Board approved the proposal, along with modifications to the proposal submitted in April 22, 2016 (see Exhibit B), and authorized:

- i) a guaranty to a third party lender for construction financing in an amount not to exceed \$3.1 million,
- ii) a working capital guaranty in an amount not to exceed \$600,000 for the benefit of New England Hydropower Company (“NEHC”), the project developer, under the Green Bank’s existing working capital facility partnership with Webster Bank;
- iii) term financing based on the following prerequisites:
 - a. issuing CREBs in an amount not to exceed \$3,100,000; and,
 - b. securing the issuance utilizing the Special Capital Reserve Fund (“SCRF”) subject to further Board, Office of the Treasurer, and Office of Policy and Management approval; and
- iv) the creation of a Special Purpose Entity that will be wholly owned by the Green Bank, to own, operate and manage the Project, as required by CREBs regulations.

Since the Board’s approval in February (based on, at that time, educated but still preliminary cost estimates), staff has worked with NEHC and selected contractors to finalize all critical Project details. Due primarily to higher than expected interconnection/electrical costs with Eversource, as well as the combination of a number of smaller environmental compliance and construction costs, the previous Board authorizations are no longer sufficient to cover construction and term financing needs. Staff is therefore now requesting that the Board: (1) increase the authorized construction finance guaranty; (2) provide Green Bank balance sheet financing in addition to the already approved term financing through the issuance of CREBs; and, (3) extend the date of repayment on NEHC’s working capital guaranty.

Cost Increases and Proposed Financing Strategy

The Project's costs have increased compared to the preliminary cost estimates made at the time the Project was first brought to the Board in February 2016. The single most significant increase to the budget is due to a change in interconnection costs associated with bringing three-phase power from Eversource's distribution circuit to the Project site. Additional cost increases have resulted from: (1) increases in construction costs given the prevailing wage requirements associated with CREBs and overall increases in material costs; and (2) site plans and other dam safety work required to comply with the various complex environmental and regulatory requirements associated with hydro projects. A full breakdown of the Project budget is presented in Exhibit C. The Manchester, CT based engineering firm Fuss and O'Neill, at the request of the Green Bank, has independently reviewed and verified the updated budget to confirm its reasonableness.

Green Bank staff has worked with NEHC and the City of Meriden to develop a suitable solution to supplement the assured revenue stream in order to support the Project's additional costs. The proposed solution involves:

- (1) an increase to the base term of the Power Purchase Agreement ("PPA") with the City of Meriden from 20 to 30 years, with an option for a 10-year extension to 40 years, as opposed to the original 20-year term with two potential 10-year extensions. The PPA rate for years 21 – 30 will be set at a discount equal to that year's "market rate" calculated as the greater of the following: (a) either the actual rate paid by the City of Meriden for its predominant aggregation of utility accounts; or, (b) the value received by the City from the Virtual Net Metering Credit program;
- (2) Approximately \$300,000 in equity participation from NEHC related to Project Management and Development costs, including the associated Federal Energy Regulatory Commission ("FERC") license cost, as well as upside for the Green Bank in the form of revenue participation in future NEHC projects developed in Connecticut; and
- (3) Proposed funding by the Green Bank, subject to the Board's authorization, equivalent to (a) an increase in the authorized construction finance guaranty in an amount not to exceed \$3,900,000; and, (b) a long term funding contribution in an amount not to exceed \$1,400,000 in addition to the already approved term financing through the issuance of CREBs, which at this stage is expected to be in the range of \$2,400,000 to \$2,700,000.

This approach, as suggested by the pro forma presented herein, will both ensure that the Project is producing sufficient cash flow to cover CREBs obligations, and that the Green Bank stands a reasonable chance to secure a return of its funding plus a modest return.

Pro Forma

| Modeling Assumptions | |
|---|---------|
| Expected Annual Generation (kWh) | 921,421 |
| PPA Price (per kWh) | \$ 0.14 |
| Annual PPA Escalator (starting year 4) | 2.00% |
| ZREC Award (per kWh) | 0.07 |
| Capacity Payments (\$/kW/month) | 8 |
| Annual Recurring Costs (O&M and Compliance) | 64,746 |

| Sources and Uses | |
|-------------------------------|--------------------|
| Total Project Budget | \$4,500,000 |
| Sources | |
| Green Bank OpDemo - Disbursed | \$450,000 |
| NEHC | \$297,723 |
| CREBs | \$2,526,360 |
| Green Bank Balance Sheet | \$1,225,917 |
| Total Sources | \$4,500,000 |

| Simplified Pro Forma | | | | |
|---|------------------|------------------|------------------|------------------|
| Years | 1-10 | 11-20 | 21-30 | 31-40 |
| Revenue (PPA, ZREC and Capacity Payments) | 2,052,021 | 2,262,442 | 2,540,894 | 2,438,693 |
| Recurring Costs | (568,591) | (568,571) | (669,607) | (783,077) |
| Net Operating Income (NOI) | 1,483,430 | 1,693,871 | 1,871,287 | 1,655,616 |
| Reserve | 12,870 | 16,981 | - | - |
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| Debt Service (CREBs) | (1,481,485) | (1,693,913) | - | - |
| Distributable Cash Flow | 14,815 | 16,939 | 1,871,287 | 1,655,616 |
| Reserve | (14,667) | (15,184) | - | - |
| Distributable Cash Flow (minus reserve) | 148 | 1,755 | 1,871,287 | 1,655,616 |
| Cumulative Distributable Cash Flow | 148 | 1,903 | 1,873,190 | 3,528,806 |

| Year | NPV Analysis | | |
|------------|--------------|-------------|--|
| | 30 | 40 | Notes |
| Base Case | \$1,072,382 | \$2,100,096 | Assumes 2% annual escalator to PPA in years 21-40. |
| Worst Case | \$939,881 | \$1,603,529 | Assumes flat \$0.20/kWh PPA in years 21-40. |
| Best Case | \$1,230,574 | \$2,148,833 | Assumes a floor of \$0.25/kWh PPA in years 21-40. |

Note: Pro Forma assumes the PPA increases 2% annually in years 21-40.

Risks and Mitigants

Risk of Additional Cost Overruns

At this point, Green Bank staff perceives this as low-risk given that: (1) the project scope has now been finalized and is well understood, including both the interconnection to the Eversource grid and all FERC and CREBs compliance costs; (2) all major contracts have been negotiated and are either executed or close to execution; (3) the budget has been independently confirmed by Fuss and O'Neill; and (4) contingencies have been built into the budget as a final precaution.

Hydro Project Completion Risk

Green Bank staff perceives this as low-risk. The parties involved in the Project include accomplished engineers, developers, project managers, and owners of hydro facilities who between them have experience with hydro projects locally and with the technology internationally. Bancroft Contracting, the Project's general contractor, has extensive hydro experience in the Northeast, and the Project is well within their capabilities. Fuss and O'Neill, a civil and environmental engineering firm with FERC qualified personnel based locally here in Connecticut, will further confirm progress prior to each advance of funds to the Project's contractors.

Operational Risk

Green Bank staff perceives this as a low to medium risk. The dam is in good condition, was recently refurbished, and should not pose operational risks. Sufficient funds have been budgeted for Operations and Maintenance ("O&M") support going forward. The equipment supplier has a ready supply of spare and replacement parts, as this same technology is used in waste water treatment plants across the U.S. Finally, while this is the first such Archimedes Screw Generator in the U.S., there is considerable satisfactory operating experience internationally upon which the Project team and the key equipment suppliers can draw.

Revenue Risk

Green Bank staff perceives the revenue risk as a low to medium risk over the long term. The highly secure and contracted cash flows associated with the Project (i.e. a credit-worthy off-taker in the City of Meriden and a ZREC contract with Eversource) limit the Project's potential revenue risks, especially in light of the conservative and thoroughly vetted hydrological flow assumptions. The PPA is structured so that the City of Meriden's obligation to pay is based on the actual receipt of output. The Project does not have any obligations or penalties if there is a shortfall in the amount of electricity generated. Though there is merchant (that is, price) risk involved in years 21 through 30 of the PPA, Green Bank staff perceives this as limited given the historic average annual increases in utility prices. Additionally, with the commercial bargain struck with the City of Meriden for pricing at "less than grid" rates in the Project's out years, there is a good chance that the PPA will be extended for an additional 10 years for a complete 40-year term, after which the Green Bank will continue to benefit from, at the very least, the ability to sell energy back to the grid at wholesale rates if not a further extension by the City of Meriden or a purchase of the Project.

Conclusion

The development of small hydro in the Connecticut continues to face its challenges, but the upside potential associated with this Project is tremendous. Though the technology to be used in the Project has been widely used in Europe, this will be the first time this reliable and environmentally sound clean energy technology will be installed in North America. It is also important to note that this financing opportunity comes to the Green Bank as the result of a Connecticut Clean Energy

Fund (“CCEF”) approved Operational Demonstration (“Op Demo”), which intended to establish a faster and lower cost permitting process for small-hydro installations in Connecticut. NEHC has already demonstrated success on this front, as it received its FERC license in a record 2 years, well below the 3-5 years usually required for the permitting process by working with the State and Federal agencies, and in so doing it developed repeatable processes and established replicable standards. This success is important because NEHC has several other viable Connecticut locations in its sights for small hydro development, and the learnings from this Project should accrue to the benefit of those subsequent planned developments, with positive implications for the Green Bank and ratepayers. Finally, it is worth keeping in mind that this project will generate nearly a million kWh of clean energy a year, (equivalent to about 115 residential solar systems), and that given the Project’s low cost of capital using CREBs, the 40-year NPV is still over \$2 million based on reasonable revenue assumptions. So although staff does not seek to minimize the risks of further funding for this project, project risks are reasonably balanced at this point, and the proposed financing strategy provides a path forward. Thus, subject to the Board’s adoption of the attached resolutions, Green Bank staff looks forward to finalizing this project and bringing it successfully across the finish line, using it as an opportunity to issue its first bonds, and then carefully managing the asset after it is placed in service.

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 and (3) Green Bank’s Comprehensive Plan for Fiscal Years 2015 and 2016 (the “Comprehensive Plan”), Green Bank continuously aims to drive private capital investment into clean energy projects;

WHEREAS, pursuant to the development of a small hydroelectric facility at the Hanover Pond Dam on the Quinnipiac River in Meriden (“Project”), at its February 26 and April 22, 2016 meetings the Green Bank Board of Directors (the “Board”) previously authorized:

- i) a guaranty to a third party lender for construction financing in an amount not to exceed \$3.1 million,
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- iii) term financing based on the following prerequisites:
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 - b. securing the issuance utilizing the Special Capital Reserve Fund (“SCRF”) subject to further Board approval; and
- iv) the creation of a Special Purpose Entity that will be wholly owned by the Green Bank, to own, operate and manage the Project, as required by CREBs.

WHEREAS, Green Bank staff now recommends that the Board authorize (1) an increase to the Green Bank’s construction finance guaranty in an amount not to exceed \$3,900,000; (2) funding from the Green Bank’s balance sheet in an amount not to exceed \$1,400,000 in addition to the already approved term financing through the issuance of CREBs; and, (3) an extension of up to 24 months to the repayment schedule of NEHC’s working capital guaranty under the Green Bank’s existing working capital facility partnership with Webster Bank.

NOW, therefore be it:

RESOLVED, that the Green Bank is authorized to (1) increase the Green Bank’s construction finance guaranty in an amount not to exceed \$3,900,000; (2) provide funding from the Green Bank’s balance sheet in an amount not to exceed \$1,400,000 in addition to the already approved term financing through the issuance of CREBs; and, (3) issue an extension up to 24 months to the repayment schedule of NEHC’s working capital guaranty under the Green Bank’s existing working capital facility partnership with Webster Bank;

RESOLVED, that staff is directed to submit to the Board for approval all relevant requests in respect of the issuance of the CREBs, including any revisions to expected costs to complete the Project and matters related to securing the bonds with the SCRF; 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 legal instruments.

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Ben Healey and Mariana C. Trief, Clean Energy Finance.

Exhibit C – Project Costs

| Type | Total | Previous Budget Compare | | |
|---------------------------------|--------------------|--------------------------|----------------------|------------|
| | | Previous Budget to Board | Change | % Change |
| FERC, Development & Management | \$447,531 | \$338,000 | (\$109,531) | 32% |
| Environmental and Site Plans | \$396,393 | \$291,125 | (\$105,268) | 36% |
| Fish Monitoring | \$28,033 | \$0 | (\$28,033) | N/A |
| Equipment | \$512,376 | \$478,700 | (\$33,676) | 7% |
| Construction | \$1,852,755 | \$1,654,500 | (\$198,255) | 12% |
| Electrical/Interconnection | \$583,500 | \$139,000 | (\$444,500) | 320% |
| Insurance | \$59,972 | | (\$59,972) | N/A |
| Supervision and FERC Compliance | \$140,000 | \$0 | (\$140,000) | N/A |
| Legal and Permits | \$199,292 | \$141,100 | (\$58,192) | 41% |
| Financing | \$143,791 | \$118,359 | (\$25,432) | 21% |
| Contingency | \$136,357 | \$100,000 | | |
| Total | \$4,500,000 | \$3,260,784 | (\$1,062,859) | 33% |

193 kW Hydroelectric Project
Hanover Pond Dam
Quinnipiac River – City of Meriden
Investment Memorandum & Due Diligence Package
February 19, 2016 – Board of Directors



Document Purpose: This document contains background information and due diligence on the Hanover Pond Dam 193 kW Hydroelectric Project and the stakeholders involved: Spaans Babcock, PC Construction, New England Hydropower Company, LLC, Potential Energy Projects Ltd., Banc of America Public Capital Corp., the City of Meriden, and Eversource. This information is provided to the 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: Mariana C. Trief, Manager, Clean Energy Finance

CC: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Ben Healey, Director, Clean Energy Finance

Date: February 19, 2016

Re: Financing for 193kW Hydroelectric Facility through New Clean Renewable Energy Bonds

Investment Summary

Staff is bringing forward a proposal for the Green Bank to finance through construction, and subsequently own, a 193kW hydroelectric facility in Meriden, CT. The Green Bank's investment would not exceed \$3.1 million, which would be repaid via New Clean Renewable Energy Bonds ("CREBs") upon project completion. This financing opportunity comes to the Green Bank as the result of a Connecticut Clean Energy Fund ("CCEF") approved Operational Demonstration ("Op Demo") project with New England Hydropower Company, LLC ("NEHC"). The original intent of the Op Demo loan to NEHC was to: i) establish a faster and lower cost permitting process for small-hydro installations in Connecticut; and ii) enable adoption and build customer and investor confidence in the United States of a technology well-demonstrated in Europe: the Archimedes Hydro Screw Generator ("ASG"). The success of this first NEHC project (the "Project") at the Hanover Pond in Meriden will advance both of those goals and deploy a new and significant "run of river" hydroelectric resource in the state. The ASG generates low-cost, reliable, and environmentally sound clean energy and, with successful deployment, offers the opportunity to capture significant hydro potential at scale (both for new hydro developments and by retrofitting existing hydro sites with expiring FERC licenses) with competitive costs and low environmental impact.

By combining the successful implementation of ASG technology with CREBs – a long-term financing solution that leverages federally supported low-cost private capital for clean energy projects – the Green Bank is structuring a financing model that can be replicated across a spectrum of additional projects within the state.

Background and Purpose

On January 8, 2011, the Technology Innovation Committee of the predecessor organization to the Connecticut Green Bank ("Green Bank"), the CCEF, approved Op Demo funding, in an amount not to exceed \$500,000, for NEHC for the early-stage development purposes noted above. Utilizing \$412,500 in Op Demo funding that NEHC has received to date, along with ~\$300,000 raised from private investors, NEHC is currently finalizing the development of its first

small-scale hydropower project in the State of Connecticut: a 193 kW hydroelectric facility at the Hanover Pond Dam on the Quinnipiac River in the City of Meriden (see Exhibit 1 for a locational map and site layout for the Project). The focus of this memorandum is only for the purpose of proposing to the Green Bank Board of Directors the Meriden project – though it should be noted that successful development of the Project is expected to enable development of two additional projects that NEHC is advancing: i) a 678 kW hydroelectric facility in Collinsville, CT; and, ii) a 118 kW hydroelectric facility in Eagleville, CT.

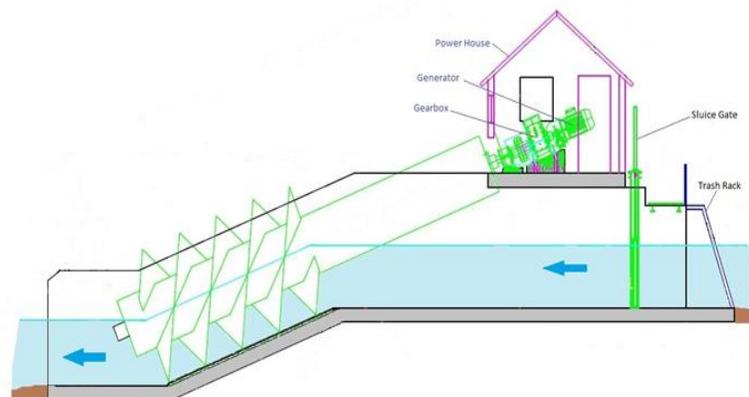
Archimedes Screw Generation Technology

The ASG technology proposed for the Project is manufactured by Spaans Babcock, a Netherlands-based company founded in 1895 that designs, produces and installs equipment for wastewater treatment plants, water management and power generation. Spaans Babcock has been involved in the hydroelectric space since 2006 and since then has deployed approximately 100 ASGs around the world, with the majority installed in Europe. Spaans Babcock's main manufacturing facility is in Europe, with an office in Canada that oversees sales, contracting, project management, installation and commissioning of projects in North America. Engineers from Spaans Babcock will be onsite in Meriden for the installation of the Project's ASG.

Advantages of the ASG include the following:

- High efficiency;
- Operational under “low head” conditions (“head” is the vertical distance between the intake of the ASG and the outlet at the base (outlet) of the ASG);
- Fish friendly, as fish can pass through the screw unharmed. The U.S. Fish and Wildlife Service and the National Marine Fisheries Service have supported the technology;
- Highly reliable and long lived due to low rotational frequency;
- Low maintenance costs;
- Relatively simple installation, with the actual screw installed in one day; and,
- Functional as a “run-of-river” installation, without disrupting water flows required to maintain the components, functions, processes, and resilience of aquatic ecosystems.

As shown in the picture below, the screw and casing are part of a trough that supports the system. The civil works for the installation are minimal, and the installation of the screw itself is performed in only one day.



Hanover Pond Project

Site Overview (from Dam Inspection Report to DEEP – October 2014)

Hanover Pond Dam, owned and operated by the City of Meriden, is a concrete and earthen embankment dam located on the Quinnipiac River. The dam was reconstructed in 2005-2006. The dam has a length of about 400 feet and a maximum height of about 25 feet. A concrete gate chamber at the right (looking downstream) end of the spillway provides controls for the four 48"x54" outlet sluice gates, which discharge through the right training wall. The right training wall is a Denil fish way. Hanover Pond itself has a surface area of 76 acres and a tributary watershed of 95 square miles.

The dam is a Hazard Classification "C" (from "AA" being the least hazard potential to "C" being the highest), which means (according to DEEP regulations) that the dam is a high hazard potential dam which, if it were to fail, could result in any or all of the following:

- (i) Probable loss of life;
- (ii) Major damage to habitable structures, residences, hospitals, convalescent homes, schools, etc.;
- (iii) Damage to main highways (greater than 1500 vehicles per day of average daily traffic); and
- (iv) Great economic loss.

It should be noted that this hazard classification is not derived from, nor has any bearing on, the structural integrity of the dam itself, but rather is due to the significant amount of property and improvements located downstream of the dam that would be endangered if the dam were ever compromised.

(See photographs of site area in Exhibit 1c)

Key Milestones – Achieved and Projected

By employing the ASG, the Project at Hanover Pond will generate an estimated 925,000 kilowatt hours (kWh) of zero emissions renewable energy annually. The following summarizes the Project milestones NEHC has achieved to date:

- Executed 20-year Power Purchase Agreement ("PPA") with the City of Meriden, which will benefit from the electricity generated by the hydroelectric facility through the state's Virtual Net Metering ("VNM") program. The term of the PPA can be extended twice, each time for an additional 10 years, for a complete 40-year term;
- Executed 15-year Zero Emission Renewable Energy Credits ("ZREC") Contract with Eversource;
- Executed Site Lease with the City of Meriden ;
- Received environmental support for the Hanover Pond project from U.S. Fish and Wildlife Service and the National Marine Fisheries Service;

- Submitted all compliance requirements to the Federal Energy Regulatory Commission (“FERC”) for the license, with final approval expected soon; and
- Completed consultation and gained approval from key stakeholders including the State Historic Preservation Office (“SHPO”), local Native American tribes, and all non-FERC federal and state agencies.

Though tremendous progress has been completed to date, the following key milestones remain to be completed:

- Final design and city permits, expected by the end of March 2016;
- Federal Energy Regulatory Commission (FERC) License – all compliance requirements have been submitted and final approval is expected by the end of March 2016;
- Interconnection approval from Eversource – System Impact Study already submitted;
- Construction finance and long term financing arrangements (the purpose of staff’s proposal herein); and
- Construction, which includes equipment order/delivery, site mobilization, installation and interconnection. Site mobilization is expected to begin in April 2016 and the Commercial Operation Date (“COD”) is expected by early October 2016.

Financing Arrangements

In October 2015, NEHC reached out to the Green Bank to request Project-specific financing support, including construction financing (in contrast to the corporate investment made by CCEF/Green Bank via the Op Demo program). Over the past several months, the Green Bank has explored numerous financing options in concert with the NEHC team, including – most promisingly – working with a local lender who offered NEHC a term sheet for debt financing for the Project. However, this offer turned out not to be viable because of the higher cost of capital and shorter term debt financing from the local bank, as well as the fact that the offer only covered ~40% of the Project costs and required substantial additional equity. In addition, the bank offer included non-negotiable guaranty requirements. A comparison of the CREBs terms compared to those of the debt financing from the local bank is presented in Exhibit 2. Other local lenders decided not to pursue this opportunity due to unfamiliarity with hydro financing and the Project’s small size; therefore, Green Bank staff sought an alternative option in order to finance the Project over a longer term, at a low cost of capital, and without the need for a new injection of equity.

Specifically, Green Bank staff has been exploring the opportunity to provide construction financing using the Green Bank’s balance sheet, followed by takeout through CREBs term financing. Such a structure would allow the Green Bank to overcome the market’s perceived unfamiliarity with hydro financing and the Project’s capital cost size constraint by leveraging NEHC’s development efforts with federally supported low-cost private capital. The CREBs are to be issued by the Green Bank and purchased by a financial institution in an arrangement that could serve as a potential model for providing low-cost, long-term financing for other clean energy projects in Connecticut. Financing the Project through CREBs, as further described in this memo, also provides a viable mechanism for the Green Bank to recover the \$412,500 in funds invested to date via the Op Demo funding (together with an additional \$87,500 that NEHC is entitled to draw under the terms of the Op Demo loan), which would otherwise prove quite challenging to

recoup given the highly concessionary terms that were offered under that early stage development program.

Under CREBs financing, the Green Bank will be required to own the facility. Notwithstanding the requirement under Federal regulations for the Green Bank to own the ASG and related Project assets, as will be evidenced in the proposal, staff has structured the investment to limit the Green Bank's ownership risk substantially to the equipment, hydro performance and off-taker (i.e., City of Meriden) payment risks. Thus, for example, the risk associated with the dam's hazard classification, resulting from its upstream proximity to economic activity, will remain with the City of Meriden and should not transfer to the Green Bank as a result of the Green Bank owning the Project assets.

CREBs

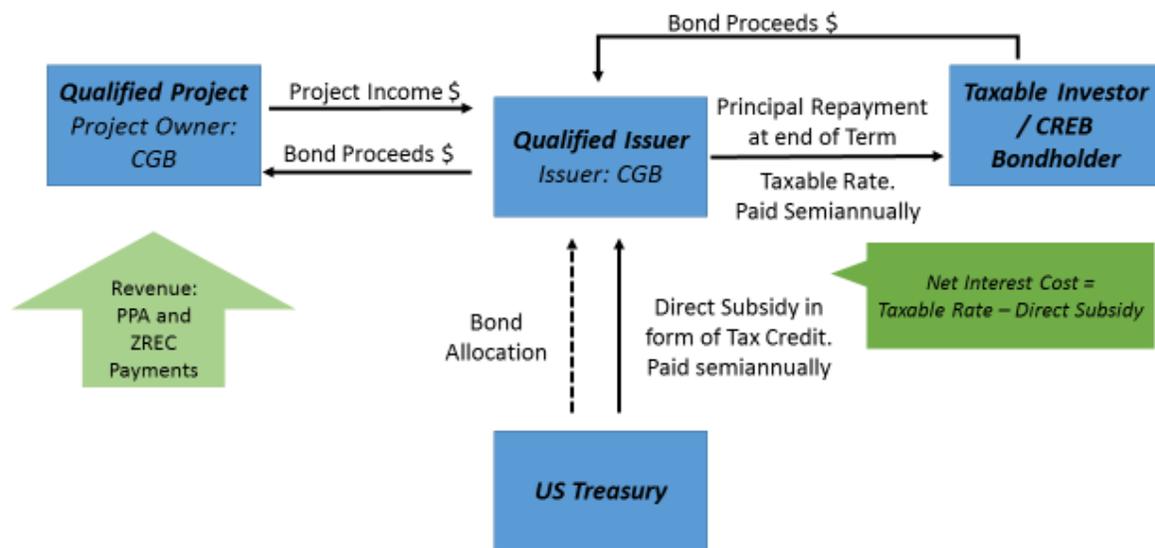
CREBs may be used by certain entities – primarily in the public sector – to finance Qualified Renewable Energy Facilities (“QREFs”). The following summarizes the CREBs financing structure and main requirements:

- The CREBs program was created under the Energy Tax Incentives Act of 2005 and is administered by the Internal Revenue Service (“IRS”). The latest IRS announcement reports a \$600 million volume cap remaining for CREBs. Through CREBs, the federal government lowers the cost of debt by either a tax credit to bondholders in lieu of interest payments from the issuers or (as in the structure agreed with the CREBs purchaser) a direct subsidy to the issuer. When the subsidy goes directly to the issuer (as is contemplated for this financing), the issuer receives from the U.S. Treasury the lesser of the actual taxable rate of the bonds or 70% of the Tax Credit Rate as of the Bond Sale Date (see *CREBs Mechanics* diagram below for more information)¹.
- Qualified issuers of CREBs include: (a) public power providers; (b) cooperative electric companies; (c) governmental bodies (including States, or any political subdivisions thereof, or Indian Tribal Governments); (d) clean renewable energy bond lenders; and (e) not-for-profit electric utilities that have received loans or loan guarantees under the Rural Electrification Act. The Green Bank qualifies as a “governmental body” and is eligible to issue CREBs.
- As contemplated in this initial instance, the Green Bank would issue CREBs to fund this Project as a general obligation of the Green Bank (backed by the Special Capital Reserve Fund (“SCRF”)), and would therefore be obligated to repay bondholders regardless of the Project's performance. The use of the SCRF is necessary to achieve a 20 year maturity for the CREBs (available only to “AA”-rated issuers), and to drive pricing (that is, the interest rate) down to levels available to the CREBs purchaser's most creditworthy issuers. Green Bank bonds (i.e., CREBS under the current proposal) secured by the SCRF require amongst other things (1) State of Connecticut Office of Policy and Management approval; (2) an opinion of sufficiency as set forth in the Connecticut General Statutes (“CGS”); and (3) approval by the Office of the State Treasurer and other documentation required under the CGS.

¹ Note: Budget Control Act of 2011 included automatic across-the-board spending reductions – referred to as sequestration. Federal subsidies on CREBs are not deemed to be exempt from sequestration which is presently 6.8% for FY2016. Accordingly, federal subsidies for CREBs will be reduced by 6.8% and could vary in future years (as levels required under sequestration increase or decrease). These reductions do not change the analytical conclusions of staff.

- QREFs generally include the following types of facilities operated to produce electricity: (a) wind facilities; (b) biomass facilities; (c) geothermal and solar energy facilities; (d) small irrigation power facilities; (e) landfill gas facilities and trash combustion facilities; (f) *qualified hydroelectric facilities*; and (g) marine and hydrokinetic renewable energy facilities. The Project is a qualified hydroelectric facility.
- CREBs require a federal allocation. The Green Bank is currently completing the required application and expects to submit it to the Internal Revenue Service as soon as an agreement in principle is reached with the CREBs purchaser, which staff expects to obtain by the end of March. The not-to-exceed amount of \$3,100,000 in federal allocation the Green Bank is requesting is well below the current Published Volume Cap Limit of \$85,637,877.92 for the period commencing January 1, 2016 and well within the overall Volume Cap Availability for projects owned by governmental bodies of \$428,189,389 as of January 1, 2016.

CREBs Mechanics



Proposed Financing

Assuming the Board approves the Green Bank's participation in the Project, Green Bank staff recommends providing interim, construction financing followed by long-term, low-cost financing through the issuance of CREBs, and, as required by Federal regulations, ownership of the ASG and related Project assets.

Staff proposes providing financing for construction in an amount not to exceed \$2,900,000 during the construction period expected to take place between April and October of 2016, as well as for certain pre-construction expenditures (such as progress/advance payments for equipment, legal, engineering and other project development expenditures). The Green Bank would then convert its debt financing to full equity ownership of the project upon COD, since Green Bank ownership is required by Federal regulations in order to make use of CREBs as the long-term financing mechanism. Since the construction loan is being taken out by the Green Bank's ownership of the

facility at completion (by the aforementioned conversion of the construction loan into equity ownership, which in turn is financed through the CREBs issuance), there is no need for an interest rate on the loan, as that would simply represent the Green Bank charging interest to itself.

It should be further noted that at COD, the expectation is that the Green Bank will pay a developer fee to NEHC, out of bond proceeds, for a) the Project's ongoing use of the FERC license and b) the transfer of all other Project assets including the PPA, ZREC and VNM agreements. In the interim, Green Bank staff is recommending that NEHC avail itself of working capital through the Green Bank's existing partnership with Webster Bank (in an amount not to exceed \$300,000), in order to maintain NEHC's focus on the Project rather than raising new corporate equity. Proceeds from NEHC's developer fee would then be used to repay the working capital loan to Webster Bank. To that end, staff is looking for approval from the Board of Directors to provide the Green Bank's standard guaranty for any NEHC draws under that facility.

Upon COD, the issuance of CREBs would allow for the repayment of the Green Bank's construction loan (and conversion to equity) through a low-cost, long-term financing mechanism that would in turn be repaid from the Project's cash flows over a 20 year period. Staff recommends a strategic selection of Banc of America Public Capital Corp ("Bank of America") as the CREBs purchaser for this project. Bank of America has extensive energy and tax credit bond financing expertise, and has indicated its interest in financing the Project as well as future renewable energy projects via CREBs – thus making it an ideal partner, in alignment with the Green Bank's vision for a scalable financing solution. Bank of America has provided indicative pricing and terms to the Green Bank for the Project, including an interest rate buy-down, exclusive to Bank of America, as explained below. Although these terms are indicative (i.e., not yet final), the most relevant points for the Green Bank are as follows:

- Bank of America term investment (not to exceed): \$3,100,000 (inclusive of issuance fees and other transaction costs and thus higher than the not-to-exceed construction financing amount of \$2.9 million)
- Indicative effective interest rate of 1.67%. The interest rate buy-down program from the Connecticut Public Utilities Regulatory Authority ("PURA") will be applied during the first 10 years of the program, lowering the net effective interest rate to 1.07% for the entire 20-year CREBs term (assuming the entire CREBs issuance qualifies for the buy-down)
- Tenor: 20 years
- Security: Full amount of the CREBs repayment to Bank of America to be backed by the SCRF, plus the typical project finance collateral package (assignment of contracts, permits, revenues, warranties, security interest in all equipment, etc.)

The Green Bank has already engaged Shipman & Goodwin ("Shipman") as bond counsel, and Shipman has confirmed the Green Bank is qualified to issue CREBs and is in the process of drafting the accompanying indenture for the Bond issuance and opinion on self-sufficiency. Green Bank staff has also confirmed with our General Counsel the Green Bank's ability to own the Project, as required by CREBs, and has confirmed with outside counsel (Day Pitney) that the Green Bank (together with NEHC) can comply with the relevant Federal, state and independent system operator ("ISO-NE") requirements.

Risk

The maximum exposure (excluding the Green Bank's prior Op Demo commitment at the NEHC corporate level) will be an amount not to exceed \$3,100,000, inclusive of a minimum capital reserve required for SCRF in an amount not to exceed \$250,000 (one year of "maximum annual debt service") based on the indicative pricing provided by Bank of America. Any construction financing that the Green Bank may provide in advance of takeout via term financing would be repaid by the CREBs issued to Bank of America, so this construction financing would not result in any exposure greater than the amount noted immediately above.

The following summarizes the key risk factors and mitigating factors associated with the proposed transaction:

Construction and performance risk:

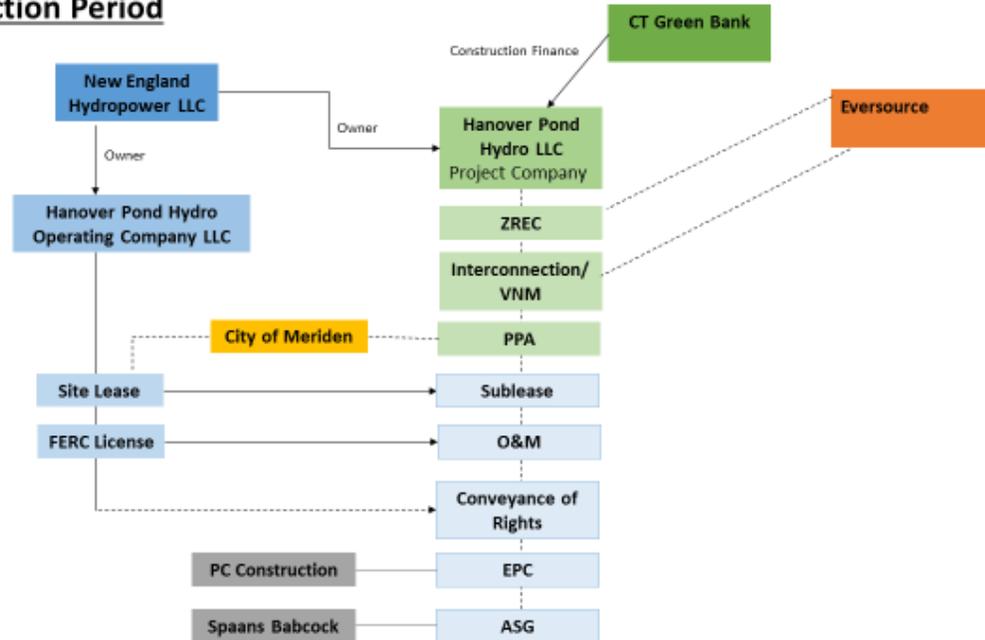
As described in greater detail in the "Project Partners" section, the parties involved in the Project include accomplished engineers, developers, project managers and owners of hydro facilities who, between them, have experience with hydro projects locally and with the technology internationally. Fuss and O'Neill, a civil and environmental engineering firm with FERC qualified personnel based out of Trumbull, Connecticut, will be executing the Project's detailed designs in accordance with FERC requirements. PC Construction, the Project's general contractor, has extensive hydro experience in the Northeast, and the Project is well within their capabilities, as confirmed by staff diligence.

The construction work plan is attached in Exhibit 3. From a construction complexity perspective, no new impoundment will be created as part of the Project, and construction will take place between May and October of 2016 during low-flow summer conditions. Though PC Construction does not have previous experience installing the ASG technology, they have experience with other technologies such as Francis and Kaplan turbines that require putting the pieces of the turbine together in the field. The ASG technology requires a relatively simple installation, compared to these other technologies, with the equipment designed and delivered as an assembly that easily fits together. The ASG will be installed in one day, under the supervision of an engineer from Spaans Babcock.

With regard to the impact of the construction and installation on the integrity of existing water retention structures, PC Construction anticipates this to be minimal. After a thorough engineering analysis from Fuss & O'Neill, they believe that any impacts can be greatly mitigated. One potential impact could be at the tailrace with the interface of the existing fish ladder. PC Construction is mitigating this risk by including sheeting at this location in order not to undermine the existing fish ladder structure. The other area of impact could be where they will have to cut the existing retaining wall for the connection to the intake channel. While this will need more engineering analysis from Fuss & O'Neill during the final design stage, PC Construction believes they have sufficient cost in their design development estimate to cover this item. Staff will ensure that Fuss & O'Neill will confirm that the construction will not impact the integrity of the retaining wall in any material way.

As depicted in the figure below, NEHC will establish a Project entity: Hanover Pond Hydro LLC ("Project Company"), wholly owned by NEHC during construction and installation that will bear the construction risks. To further mitigate any potential construction risks, the Green Bank's Construction Finance Agreement will include review of milestones from an independent engineer prior to each disbursement and require PC Construction to be fully bonded and insured.

Construction Period



Operational Risk:

The dam is in good condition and should not pose operational risks. The dam's status was confirmed by an inspection that took place in October 8, 2014 by Tata & Howard, under the supervision of engineers from CT DEEP, and the inspection report found the concrete training walls and fish way to be in good condition.

Spaans Babcock, established more than a century ago, is a leading manufacturer and supplier of Archimedean Screw Pumps and Generators. The technology's simple design, open structure and slow rotation speed makes it a heavy duty screw with minimal wear that operates for years without material downtime. This is confirmed by Spaans Babcock's parts replacement schedule based on data from warranty and spares replacement performed along with data from 100+ years of running Archimedes screws in the waste water and pumping business. This same data was used to draw up the Project's maintenance repair budget.

The Green Bank will enter into an operations and maintenance contract with NEHC to ensure the ASG and all associated facility equipment is operating appropriately. NEHC will perform monthly site inspections and will remotely monitor the Project 24 hours a day, seven days a week, using several types of sensors. Water level sensors will monitor upstream and downstream water levels. If an abnormal condition occurs, an automatic alarm notification will be sent to the site operator. Tachometers will monitor the rotational speed of the turbine, and this information will be available to the remote site operator at all times during Project operations. There will also be automatic controls monitoring the electrical output to the grid. If an electrical problem is detected, a failsafe brake attached to the high-speed shaft of the gearbox will activate, halting the rotation of the screw. Simultaneously, a failsafe hydraulic pressure system will close the sluice gates, which have a "pressure release" mechanism in case anything should be caught in the gate. Remotely accessible security cameras will also be installed and monitored.

The Green Bank, in consultation with Shipman, is also developing the structure portrayed in the Regulatory and Compliance section below to limit the Green Bank's potential regulatory and compliance risks, along with operational risks and liabilities.

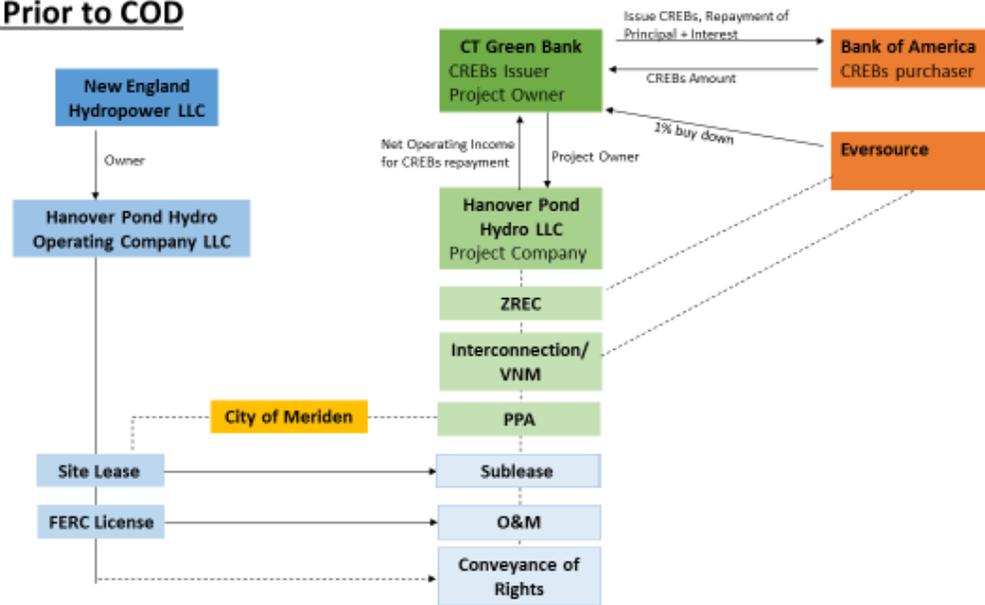
Regulatory and Compliance:

The Project qualifies for a 10-MW exemption by FERC² - the U.S. Federal agency with jurisdiction over hydroelectric licensing. The FERC exemption is required to construct, operate, and maintain a non-federal hydroelectric project. Licenses may be issued for up to 50 year terms and must be renewed at the end of each term. Licensees must have all the real property interests or an option to obtain the interests in any non-federal lands, which for the Project have been secured via the Site Lease with the City of Meriden. The Project's application for the FERC exemption and compliance requirements including Final General Design Drawings have been submitted and final approval is expected by the end of March 2016. Once approved, the Project's construction, operation and maintenance must remain in compliance with the terms and conditions of the exemption, as well as those determined appropriate by a number of entities including the United States Fish and Wildlife Service, the National Marine Fisheries Service, CT DEEP and the City of Meriden. A complete list of approvals required for the Project from these different entities is presented in Exhibit 4.

From a documentation perspective, the following contractual structure intends to limit the Green Bank's potential operational, regulatory and compliance risks under the FERC license and Site Lease with the City of Meriden while at the same time retaining Green Bank ownership of the ASG and Project assets as required by CREBs financing. Under this structure – as depicted in the figure below – the FERC license, Site Lease and potentially other Project assets will be assigned to a new entity, Hanover Pond Hydro Operating Company LLC (“Operating Company”). The legal structure is yet to be fully formalized, but the objective is to have NEHC as the sole member of the Operating Company with the Green Bank having step-in rights in case of a default on the part of NEHC. The Green Bank will continue to own the portions of the Project required to meet CREBs regulations, but all equipment will be operated and maintained by the Operating Company under contract to satisfy the requirements under the FERC license (whereby the Licensee needs to hold necessary project control). Similarly, the Project Company will sign a sublease agreement with the Operating Company solely for the portion of the property under the Site Lease required for the Project's operation. The proposed structured intends to limit the Green Bank's liabilities under the FERC license as well as the Site Lease with the City of Meriden.

² An “exemption”, notwithstanding the common understanding of this word, is a simplified form of the more complex FERC licensing process.

Upon or Prior to COD



Flow shortfall:

A shortfall in water flow could reduce the expected energy generation from the turbine. Generation estimates used in the feasibility study are based on 84 years of water flow data at the Hanover Pond, and the developers have worked with Spaans Babcock to size the Project appropriately for that flow. Climate change is expected to increase frequency, duration and intensity of storm precipitation and therefore the estimated flows at Hanover Pond. Data at the dam confirms around a 9% increase in water flow in the most recent 30 year period, compared to the 84 years of data. Additionally, although performance risk (water flow) is real, so long as the Project performs within a reasonable range of water flow expectations based on the 84 years of data, the highly secure and contracted cash flows associated with the Project (i.e. a credit-worthy off-taker in the City of Meriden and a ZREC contract with Eversource) reduce potential revenue risks. The PPA is structured so that the City of Meriden's obligation to pay is based on the actual receipt of output. The Project owner does not have any obligations or penalties if there is a shortfall in the amount of electricity generated. The PPA establishes the price of electricity over a 20 year period with a fixed 2% escalator starting in year 4. The PPA has a provision whereby if retail rates fall by 0.5% the PPA's escalator is reduced by 0.5%; however, this same provision does not allow for the escalator to fall below 1.5% (that is, the annual escalator after year 4 will never be less than 1.5%). The PPA schedule is presented in Exhibit 5. The term of the PPA can be extended twice, each time for an additional 10 years; for a complete 40-year term, with similar extensions of the other agreements (site lease with Meriden, O&M agreement, etc., being extended in lock step).

Environmental and Social Risk:

Minimizing potential environmental risks was a key criterion in the selection of the project site and technology for the Project. The oil inside the ASG's hydraulic power pack and lower bearing is environmentally friendly ECO oil. The lower bearing is not greased or oil fed by a pump and piping system, with no threat of leakage or any other defect on the pump system reducing the risk of failure or environmental risk. The ASG's coating is of marine quality, non-abrasive and

environmentally friendly, commonly used to protect steel parts for a very long time even in harsh environments.

The existing dam is in good condition, as it was recently rebuilt in 2005-2006, and no new impoundment or permanent alteration of pre-existing surface elevations of Hanover Pond will be created as part of the Project. Aside from the direct, short-term and temporary disturbance at the Project site during construction, land use will remain unaffected. Further, the Project will not generate any point source discharges and will not produce any significant storm water runoff. Once in operation, the Project will be run-of-river, meaning water levels within Hanover Pond will not change as a result of Project operations. The Project has been designed to protect and maintain fish way elements to enhance fish passage at the dam. Fish friendly elements incorporated in the design include 9-inch spacing in the trash rack requested by CT DEEP to minimize crowding during downstream migration and a fish way attraction channel directing fish to the entrance of the fish way. Information about the project was submitted to SHPO and the following Tribal Nations identified by SHPO: the Mashantucket Pequot Tribal Nation and the Mohegan Tribe. SHPO indicated that no previously recorded archaeological resources that could pose a potential risk to the site's historic preservation are located on the Project site. NEHC has worked in close collaboration and consultation with additional local and federal entities including CT DEEP, the City of Meriden, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service to ensure environmental and all other required regulations are met and potential areas of sensitivity are addressed.

Change in VNM Regulations:

The PPA includes provisions so that if there were to be a change in VNM regulations, which staff believes a low risk, especially for existing projects, the parties will agree to use best efforts to restore the economic benefits of the PPA as originally intended.

Ratepayer Payback

How much clean energy is being produced (i.e. kWh over the projects lifetime) from the project versus the dollars of ratepayer funds at risk?

The project is projected to generate 921,421 kWh of electricity, annually. Given an investment not to exceed \$3,100,000, the following summarizes the objective function for the life of the project.

| | 20 year PPA | 30 Year PPA (1 Extension) | 40 Year PPA (2 Extensions) |
|---|-------------|------------------------------|-------------------------------|
| kBtu: | 62,831,867 | 94,247,800 | 125,663,734 |
| Ratepayer funds at Risk (not to exceed): | \$3,100,000 | \$3,100,000 | \$3,100,000 |
| kBtu / ratepayer dollar at risk | 20.27 | 30.40 | 40.54 |

Capital Expended

How much of the ratepayer and other capital that Green Bank manages is being expended on the project?

Total capital expended would be an amount not to exceed \$3,100,000, inclusive of a minimum capital reserve required for SCRF in an amount not to exceed \$250,000.

Key Project Partners

New England Hydropower Company, LLC

New England Hydropower Company, LLC is an energy company that builds, owns, operates and manages small-scale hydropower works using legacy dams throughout New England and the United States. NEHC was awarded Op Demo funding from the CCEF in 2011 and since then has identified and performed feasibility studies for 10 small hydro projects with a total capacity of 3.8 MW in the Northeast; three of these (including the Project described in this memo) are located in Connecticut. NEHC has an exclusive relationship with Spaans Babcock as its supplier for the ASG in the Northeast.

Spaans Babcock

Spaans Babcock is a Dutch company founded in 1895. Its main manufacturing facility, with over 150 employees, is in the Netherlands, and they have an office in Canada overseeing sales, contracting, project management, installation and commissioning of projects in North America. Spaans Babcock has been involved in the hydroelectric space since 2006, and since then has deployed approximately 100 ASGs around the world, with the majority of these installed in Europe. As part of its diligence, Green Bank staff plans to speak to owners of Spaans Babcock wastewater treatment equipment in the U.S. to confirm the technology is reliable, efficient, easy to install and requires minimal maintenance. Moreover, Spaans Babcock is a shareholder of NEHC, ensuring their further alignment with the Project's success.

PC Construction

NEHC evaluated three potential engineering, procurement, and construction ("EPC") companies for this project: PC Construction, GEI Consultants and D A Collins. PC Construction was chosen given the firm's size, competitive pricing, and experience with hydro. Founded in 1958, PC Construction is headquartered in Vermont with a network of offices in Florida, Georgia, Maine, New York, and North Carolina, and numerous project offices along the east coast. PC Construction's annual revenue is in excess of \$500 million. As a sizable firm, PC's bonding capacity exceeds \$125 million per project; aggregate capacity exceeds \$700 million. PC Construction has extensive experience in the hydro space, with specific experience in hydro power generation projects including dam and spillway improvements, penstock and pipeline replacements, turbine upgrades and replacements, as well as specialized mechanical systems such as large generators. PC Construction has enjoyed a 30-year collaboration with Green Mountain Power ("GMP"), a major utility in Vermont, beginning with the construction of the Bolton Falls Hydroelectric Plant in 1985. Diligence has confirmed that PC Construction Company has the company resources, financial capacity, and highly qualified, experienced construction professionals to effectively manage and complete projects safely, within budget, and on time. Exhibit 6 presents corporate information about PC Construction and representative hydro projects undertaken by PC Construction.

Fuss and O'Neill

Fuss and O'Neill is an east coast full-service, multi-discipline engineering, planning, hydrology and environmental firm serving public and private sectors for more than 85 years. Headquartered in Manchester, CT and founded in 1924, the company has grown to include six regional offices and about 270 employees. Its professional staff maintains licenses and certifications across a wide range of engineering, planning, landscape architecture, design build, scientific, hydrology and manufacturing disciplines, including FERC qualified engineers. Fuss and O'Neill's qualified personnel will perform the Project's detailed designs in accordance with FERC requirements

Potential Energy Projects Ltd.

Potential Energy Projects is a UK pioneer in the implementation of Spaans Babcock's ASG, having installed and operated more than 10 projects in the UK. It is approved by the UK Department of Energy and Climate Change as Hydro Installers under the Micro-generation Certification Scheme. Potential Energy is a shareholder of NEHC and leverages its UK experience with the technology in the Project's design, installation and operation.

Interstate Electrical Services Corporate

Found in 1966 and headquartered in Massachusetts, Interstate Electrical Services Corporate ("Interstate Electric") is one of the largest electrical construction / electrical services contractors in New England. Interstate offers a wide array of electrical construction and specialty services across the corporate, institutional, educational, life sciences and health care spectrum throughout New England. Interstate Electric will design and perform the electric wiring and installation, including interconnection to the utility.

Banc of America Public Capital Corp ("Bank of America")

Banc of America Public Capital Corp. operates as a subsidiary of Bank of America, National Association and provides finance, leasing and lending services. It has extensive energy and tax credit bond financing expertise, especially in Connecticut as the Direct Purchaser of Qualified Energy Conservation Bonds ("QECBs") recently issued by the Connecticut Housing Finance Authority ("CHFA"). Further, Bank of America has sole responsibility for administering PURA's interest rate buydown program, which will be applied to the proposed CREBs³. Bank of America has expressed interest in financing the second 678 kW hydroelectric facility in Collinsville, CT, as well, once this second project's predevelopment activities have been completed.

Financial Statements

How is the project investment accounted for on the balance sheet and profit and loss statements?

The proposed construction financing will result in a decrease in Unrestricted Cash on the Green Bank's balance sheet and an equivalent increase in promissory notes receivable. The issuance of CREBs for the purpose of building and owning the Project will result in an increase in the Green Bank's Capital Assets (Noncurrent Assets) in an amount not to exceed \$3,100,000 on the Green Bank's balance sheet and an equivalent increase in Long-Term Debt. Ownership of the Project will result in an increase in "other assets" and a reduction in promissory notes receivable (i.e., this is the conversion of the construction loan receivable into ownership of the ASG and related Project assets). The minimum reserve required for SCRF in an amount not to exceed \$250,000 will decrease unrestricted cash and increase restricted cash.

³ <http://www.energizect.com/sites/default/files/C%26I%20financing%20options%20v1.pdf>

Financial Metrics

The table below summarizes the Project's sources and uses of funds. The proposed CREBs amount will ensure full financing for the Project at a very low cost of capital without requiring any additional equity from the Green Bank.

| Sources of Funds | |
|--|------------------------|
| Green Bank Op Demo Funding | \$450,000 ⁴ |
| NEHC Investors | \$292,809 |
| CREBs | \$2,750,000 |
| Total | \$3,492,809 |
| Uses of Funds | |
| Project Costs (Permitting, Equipment, EPC) | \$3,098,649 |
| CREBs Issuance Fees | \$102,255 |
| Developer Fee | \$291,905 |
| Total | \$3,492,809 |

The highly secure and contracted cash flows associated with the Project (i.e. a credit-worthy off-taker in the City of Meriden (Fitch: "AA-") and a ZREC contract with Eversource) along with 85% of net annual projected free cash flows that will be kept on reserve will ensure the Green Bank has sufficient annual cash flows from the Project to allow for appropriate coverage of the annual CREBs payment. The Green Bank will guarantee the CREBs payment and will hold a minimum capital reserve required for SCRF equal to one year of the maximum CREBs debt service payment, an amount not to exceed \$250,000, before calling on the SCRF. Again, the use of the SCRF as a credit enhancement (as required by Bank of America, the CREBs purchaser), to be called upon only after full recourse to the Green Bank, is necessary to achieve a 20-year maturity and low interest rate. Regardless, this is truly a "belt and suspenders" approach, as Green Bank incremental funding in the future is highly unlikely given the sufficient cash flow generated by the project. Through CREBs financing, the Green Bank will be able to finance the project at a low cost of capital as well as recover CREBs issuance and other development fees along with previously committed Op Demo funding, in addition to generating a sound return on investment to be employed in future Green Bank projects.

⁴ Of the total Op Demo commitment of \$500,000, only \$450,000 will be spent on the Project, as NEHC used \$50,000 exploring another site that was determined not to be viable

| | |
|-------------------------|--------------------|
| CREBs Amount | \$ 2,750,000 |
| Effective Interest Rate | 1.67% ⁵ |
| SCRF Reserve | \$162,937 |
| Average DSCR | 1.430 |

| Year | 5 | 10 | 15 | 20 | 30 | 40 | Total |
|---|-----------|-----------|-----------|-----------|-----------|-----------|---------------|
| PPA Revenue | 636,011 | 685,964 | 757,360 | 836,187 | 1,942,525 | 2,367,927 | 7,225,974 |
| REC Revenue | 322,497 | 322,497 | 276,426 | 92,142 | | - | - 1,013,563 |
| Capacity Revenue | 92,640 | 92,640 | 92,640 | 92,640 | | - | - 370,560 |
| PURA Subsidy | 85,333 | 85,333 | | - | - | - | - 170,666 |
| Recurring Expenses | (260,687) | (242,189) | (247,183) | (254,183) | (537,598) | (595,267) | (2,137,108) |
| NOI | 875,794 | 944,246 | 879,243 | 766,786 | 1,404,927 | 1,772,659 | 6,643,655 |
| Reserve | 80,036 | 317,834 | 522,773 | 202,982 | | - | - |
| CADS (NOI + Reserve) | 955,831 | 1,262,080 | 1,402,016 | 969,767 | 1,404,927 | 1,772,659 | |
| CREBs Payment | (814,683) | (814,683) | (814,683) | (814,683) | | - | - (3,258,732) |
| Cash Flow | 141,148 | 447,397 | 587,333 | 155,084 | 1,404,927 | 1,772,659 | 4,508,548 |
| Reserve | (119,975) | (380,287) | (499,233) | (131,822) | | - | - (1,131,317) |
| Distributable Cash Flow (Cash Flow - Reserve) | 21,172 | 67,110 | 88,100 | 23,263 | 1,404,927 | 1,772,659 | 3,377,230 |
| Cumulative Distributable Cash Flow | 21,172 | 88,282 | 176,382 | 199,644 | 1,604,571 | 3,377,230 | 3,377,230 |
| DSCR - CADS/CREBs Annual Payment | 1.17 | 1.55 | 1.72 | 1.19 | N/A | N/A | |

⁵ 1.67% is the net effective interest rate of the CREBs alone. However, the “all-in” effective rate, inclusive of the PURA buy down, will be 1.07%.

Strategic Selection

Staff believes the issuance of CREBs for the Project fits well within the requirements for a Strategic Selection as defined in Section XII of the Green Bank's Operating Procedures:

- **Special Capabilities:** While Bank of America is not alone in its extensive energy and tax credit bond financing expertise, the firm does have a uniquely deep understanding of QECBs, a similar bond structure, issued by CHFA here in Connecticut, including an upcoming round of QECBs to support the CHFA / Green Bank Solarize State Sponsored Housing Portfolio ("SSHP") initiative. Moreover, Bank of America has sole responsibility for administering PURA's interest rate buydown program, which staff anticipates will lower the cost of capital for this Project by 100 basis points during the first 10 years of the Project.
- **Uniqueness:** the Project is the first of its kind in the United States (although well established in Europe), with minimal off-taker risk, which is unable to secure low-cost and long-term financing through traditional sources. The nature of the Project, including its proven technology and highly secure and contracted cash flows (PPA and ZREC), provides an excellent opportunity to learn about the CREBs structure so that it can be employed as a low-cost source of capital for other renewable energy projects in the state. Further, NEHC is well known to the Green Bank given the company's participation in CCEF's Op Demo Program.
- **Strategic Importance:** Attracting a \$3,100,000 CREBs allocation for the proposed 193 kW Hydroelectric facility from the US Treasury and mobilizing this low-cost capital structure is a valuable opportunity for the Green Bank to deploy low-cost financing for renewable energy projects that often face difficulties in getting financed by employing the CREBs structure. This structure can potentially be a good fit for solar PV projects in state and municipal buildings, of which Green Bank staff has collaboratively identified over \$80 million in potential opportunities with the Board of Regents and CT Technical High School System. Further, the Project serves as a proof of concept for other small hydro opportunities throughout the state.
- **Urgency and Timelines:** The ZREC, VNM, and PPA contracts for the Projects are already signed, and delays could reduce the potential revenue for the Project. Securing financing now is critical for the project to get placed in service by the end of the 2016 construction season.
- **Multiphase Project:** This project can serve as an important building block in the above-mentioned strategic priority to replicate the CREBs financing structure for other renewable energy opportunities throughout the state.

Conclusion

With support from CCEF's Op Demo loan, NEHC has advanced the Project such that it is now ready for financing, and once successfully completed, it will provide a more affordable, cleaner source of energy for the City of Meriden. Further, it will serve as a pilot for other small-scale hydropower projects in Connecticut including a 678 kW facility which is already in the development process (in Collinsville) and a third potential project in Eagleville, CT. CREBs financing offers an attractive low-cost, long-term financing opportunity for the Project, as well as for additional renewable energy projects throughout the state. It also allows the Green Bank to make a sound return on investment and effectively recover funds awarded through the Op Demo program to NEHC. Green Bank staff believes the approach outlined in this memo is both practicable and will lead to programmatic success as the Green Bank works to further support clean energy upgrades for State and municipal properties. Accordingly, staff recommends approval by the Board per the resolutions attached.

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 and (3) Green Bank’s Comprehensive Plan for Fiscal Years 2015 and 2016 (the “Comprehensive Plan”), Green Bank continuously aims to develop financing tools to further drive private capital investment into clean energy projects;

WHEREAS, New England Hydropower Company, LLC (“NEHC”) has used previously committed Operational Demonstration funding from the Connecticut Clean Energy Fund, Green Bank’s predecessor organization, to develop a small hydroelectric facility at the Hanover Pond Dam on the Quinnipiac River in Meriden (“Project”) and has requested financing support from the Green Bank, including working capital during project development;

WHEREAS, Banc of America Public Capital Corp (“Bank of America”) has extensive energy and tax credit bond financing expertise and has indicated interest in financing the Project as well as future renewable energy projects via New Clean Renewable Energy Bonds (“CREBs”).

WHEREAS, the Green Bank would be considered a Qualified Issuer and Qualified Owner under CREBs, and the Project would qualify as a Qualified Renewable Energy Facility (as all of those terms are defined under regulations issued by the Internal Revenue Service);

WHEREAS, Green Bank staff recommends that the Green Bank Board of Directors (“Board”) approve of construction financing using ratepayer capital and the subsequent issuance of CREBs, in an amount to exceed \$3,100,000 along with allocating the minimum capital reserve required for the use of the Special Capital Reserve Fund (“SCRF”), in an amount not to exceed \$250,000, as a strategic selection and award because of the special capabilities of Bank of America to provide capital at attractive rates for tax credit bond financing, the uniqueness of the Project, and the strategic innovation associated with securing the Green Bank’s first CREBs allocation.

NOW, therefore be it:

RESOLVED, that the Green Bank Board of Directors hereby approves an appropriation and bond authorization of \$3,100,000 for construction and financing costs for the Project, including costs associated with ownership of the Project (as required under CREBs regulations), as a strategic selection and award pursuant to Green Bank Operating Procedures Section XII; and

RESOLVED, that the Green Bank may extend a working capital guaranty, under the Green Bank’s existing working capital facility partnership with Webster Bank, to draws made by NEHC solely in connection with this Project and in an amount not to exceed \$300,000;

RESOLVED, that the President of the Green Bank and any other duly authorized officer is authorized to proceed with the prerequisites to the issuance of CREBs in an amount not to exceed \$3,100,000 with terms and conditions consistent with the memorandum submitted to the Board dated February 19, 2016, and as he or she shall deem to be in the interests of the Green Bank and the ratepayers no later than 270 days from the date of authorization by the Board of Directors, provided that staff will submit for Board approval all resolutions required to approve all relevant documentation (such as an indenture of trust) required for the actual issuance of bonds;

RESOLVED, that the Green Bank Board of Directors hereby declares the Green Bank's official intent that payment of Project construction and financing costs may be made from temporary advances of other available funds of the Green Bank, and that the Green Bank reasonably expects to reimburse such advances from the proceeds of the CREBs financing in an amount not to exceed \$3,100,000; and

RESOLVED, that the President of the Green Bank and any other duly authorized officer is authorized to take appropriate actions to secure the issuance of CREBs utilizing the SCRF, provided the Green Bank complies with all statutory requirements for the SCRF, which will require among other things (1) State of Connecticut Office of Policy and Management approval, (2) an opinion of sufficiency as set forth in the Connecticut General Statutes ("CGS"), and (3) approval by the Office of the State Treasurer and other documentation required under the CGS; 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 legal instruments.

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Ben Healey and Mariana C. Trief, Clean Energy Finance.

Exhibit 1A: 193 kW Hydroelectric Project - Hanover Pond Dam

Site Overview

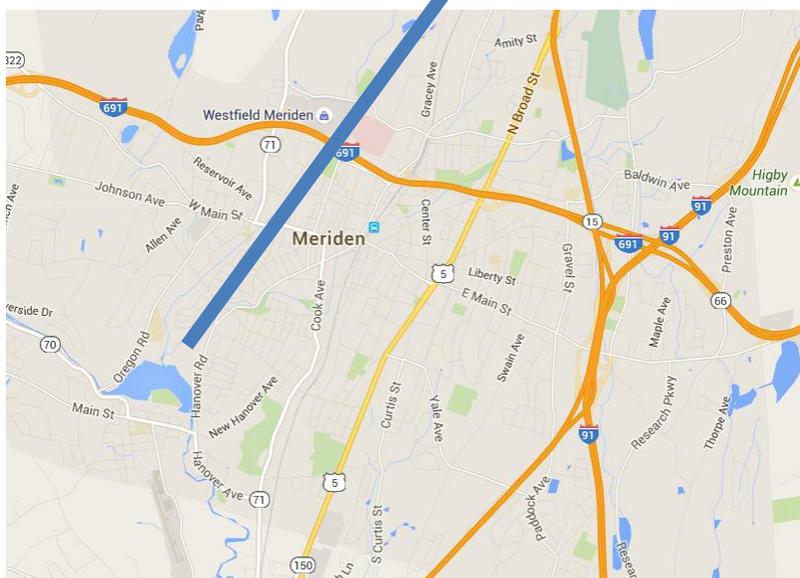
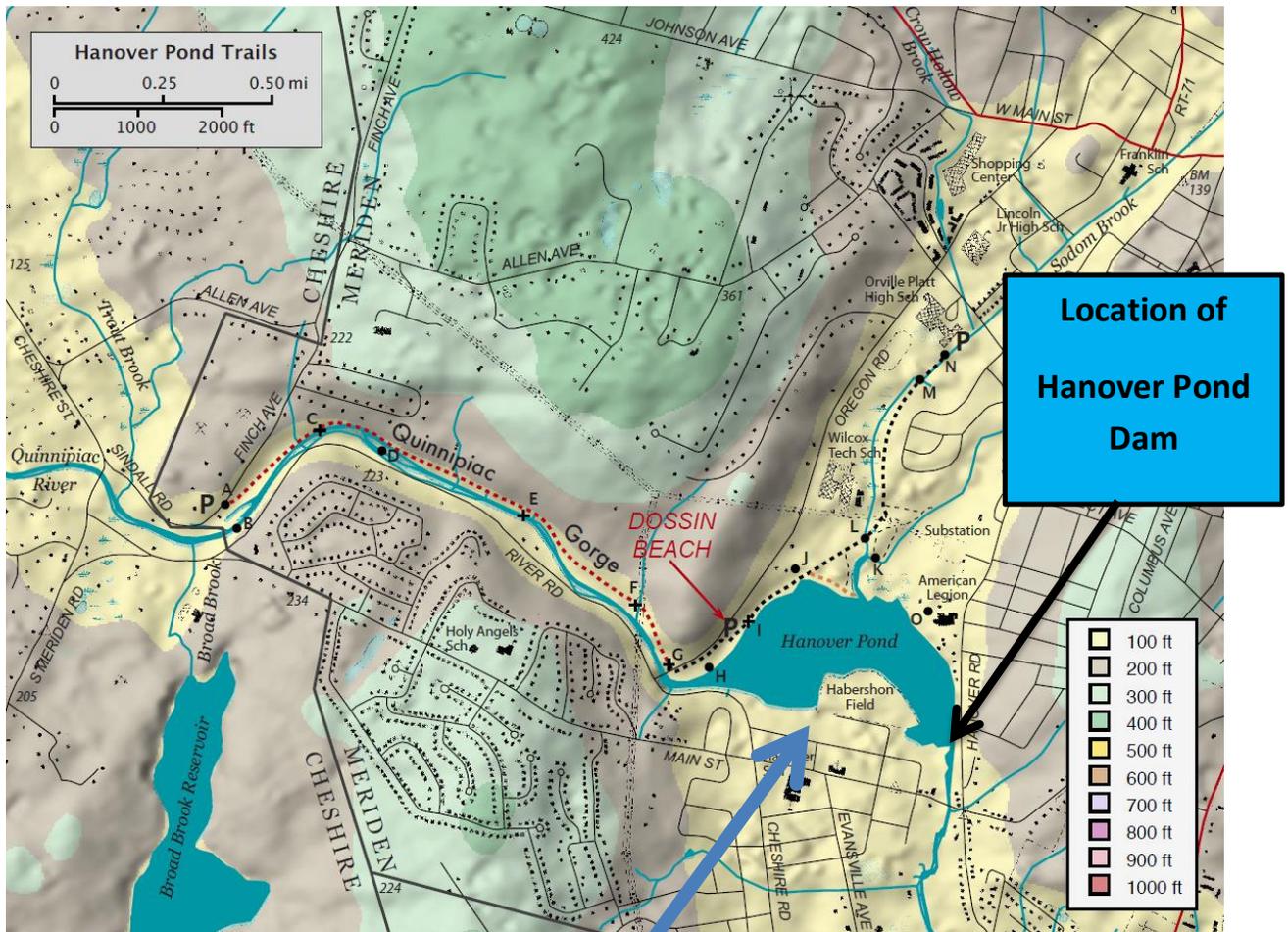


Exhibit 1b: 193 kW Hydroelectric Project - Hanover Pond Dam
Location of Archimedes Screw Generator



Exhibit 1c: 193 kW Hydroelectric Project - Hanover Pond Dam
Additional Site Photographs



No. 1 Overview of dam from left abutment.



No. 2 Overview of dam from downstream.



No. 3 Ogee spillway 60 feet long (Spillway No. 1) at the right training wall.



No. 4 Looking from the right at the broadcrested concrete weir center spillway section (Spillway No. 2) 147 feet in length.



No. 7 Outlet structure through the right training wall below the fishway.



No. 8 Sluice gate operators at the inlet/outlet structure at the right training wall.



No. 9 Fishway along the right training wall.



No. 10 Upstream end of fishway at the right training wall.



No. 11 Downstream embankment of dam at the right side.

Exhibit 2: Comparison between Debt from Local Bank and CREBs

| | CREBs | Local Bank |
|--|--------------------|-------------------|
| Financed Amount | \$2,750,000 | \$1,148,141 |
| Effective Interest Rate (post subsidy) | 1.67% ⁶ | 7.00% |
| Term (years) | 20 | 15 |
| Average DSCR | 1.408 | 1.337 |
| Additional Equity Requirement | - | \$1,309,954 |

⁶ As previously noted, 1.67% is the net effective interest rate due to the CREBs alone, which is the “above the line” rate. However, the “all-in” effective rate, inclusive of the PURA buy down, will be 1.07%.

Memo

To: Connecticut Green Bank Board of Directors

From: Mariana C. Trief, Manager, Clean Energy Finance

CC: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Brian Farnen, General Counsel and CLO; Ben Healey, Director, Clean Energy Finance

Date: April 15, 2016 (REVISED April 20, 2016)

Re: Project Update for 193kW Hydroelectric Facility in Meriden, CT

Background and Purpose

On February 26, 2016 staff brought forward to the Connecticut Green Bank (“Green Bank”) Board of Directors (the “Board”) a proposal (see Exhibit A) for the Green Bank to provide both construction financing and term financing through the issuance of New Clean Renewable Energy Bonds (“CREBs”) which would also require the Green Bank to subsequently own a 193kW hydroelectric facility in Meriden, CT (the “Project”). The Board approved the proposal and authorized:

- i) construction financing in an amount not to exceed \$3.1 million,
- ii) a working capital guaranty in an amount not to exceed \$300,000 to New England Hydropower Company (“NEHC”), the project developer, under the Green Bank’s existing working capital facility partnership with Webster Bank; and,
- iii) term financing based on the following prerequisites:
 - a. issuing CREBs in an amount not to exceed \$3,100,000; and,
 - b. securing the issuance utilizing the Special Capital Reserve Fund (“SCRF”) subject to further Board approval.

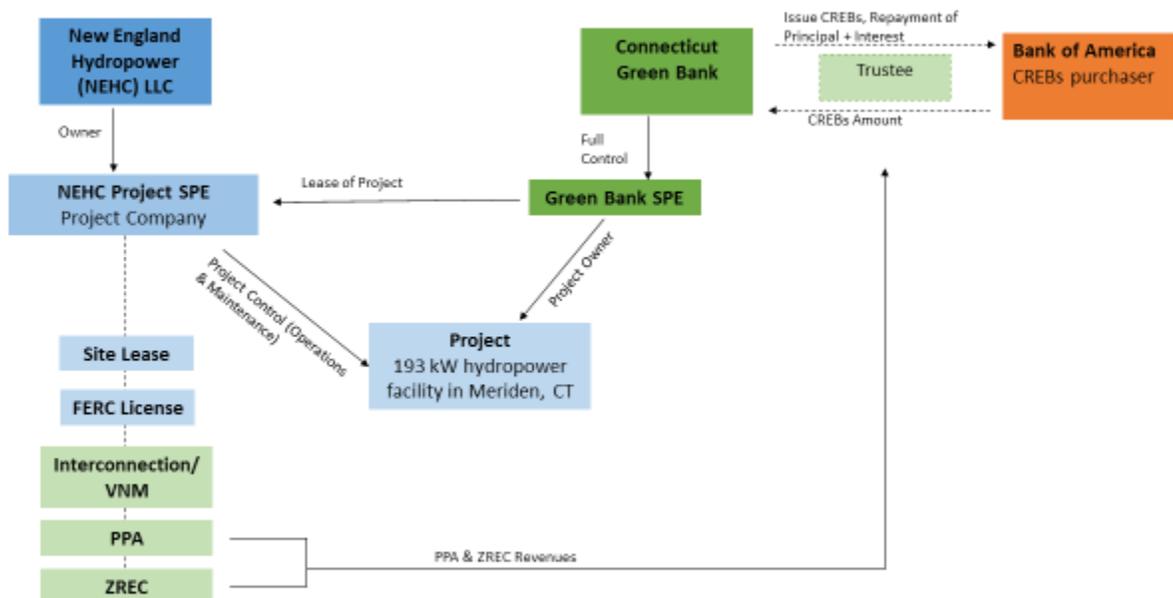
Since the Board’s approval, staff has continued to advance towards the issuance of CREBs and, in parallel, the developer has continued to make progress on the Project. The purpose of this memo is to share with the Board details about the progress that has been achieved to date on both of these fronts and request authorization for an increase in the working capital amount that the Green Bank may guaranty.

Ownership Structure

Green Bank staff has been working with outside counsel Shipman & Goodwin (CREBs bonding and project finance counsel) and Day Pitney (hydro regulatory counsel) to polish the structure presented to the Board and ensure it meets requirements imposed by both the CREBs financing structure and the Federal Energy Regulatory Commission (“FERC”) license for the hydropower facility, while at the same time limiting the Green Bank’s potential liability. The structure is presented as a figure below, and the main items are described hereafter:

- NEHC will establish a Project entity: Hanover Pond Hydro LLC (“Project Company”), wholly owned by NEHC, which will bear the Project’s development and construction risks.
- Upon construction completion, the Green Bank will purchase the Project assets (assembled equipment, powerhouse, rights to Renewable Energy Credits (“RECs”) generated by the facility etc.) from NEHC’s Project Company through funds derived from the issuance of CREBs and thereafter retain ownership of the Project assets, as required by CREBs through a Green Bank Special Purpose Entity (“SPE”). The Green Bank will have full control over the proposed Green Bank SPE.
- The Green Bank SPE will lease the Project back to NEHC’s Project Company, granting NEHC full control over the Project as required by the FERC license. NEHC’s Project Company will be responsible for the operation of the Project and for any issues that arise (including environmental and any catastrophic events) and indemnify the Green Bank if any issues arise. NEHC’s obligations under the lease will be secured by a security interest against all assets of the lessee (which would include the Power Purchase Agreement with the City of Meriden (“PPA”), the 15-year Zero Emission Renewable Energy Credits (“ZREC”) Contract, interconnection agreements, licenses, etc.) and the proceeds thereof and a guaranty by NEHC secured by a pledge of the NEHC’s ownership interest in the lessee (the NEHC Project Company). As part of that collateral package, the Green Bank would also require the Project Company to cause the City of Meriden to direct all of the PPA revenues and Eversource to direct all of the ZREC revenues to the trustee for the CREBs (or alternatively an account pledged to the CREBs trustee).
- The PPA, ZREC, FERC license and Site Lease with the City of Meriden will remain at the NEHC Project Company, thereby limiting the Green Bank’s liability as it relates to those agreements. In the event of default by the NEHC Project Company, agreements will be assigned to the Green Bank SPE or to another entity selected by the Green Bank.

Hydropower Facility Structure



CREBs Update

Below are the main updates and progress on the CREBs financing.

Bond Indenture: A *draft* bond indenture has been prepared by Shipman & Goodwin and is presented to the Board as Exhibit B. The indenture has already been shared with the Office of the Treasurer and preliminary comments have been discussed. A final draft based on comments from the Office of the Treasurer and on final negotiation with Banc of America Public Capital Corp (“Bank of America”) along with an opinion of self-sufficiency will be presented to the Board, for approval before execution.

CREBs Allocation: Under the CREBs program, qualified issuers need to apply, on a rolling basis, for volume-cap application. Once granted a volume-cap allocation, applicants have 180 days from the date of the allocation letter to issue the proposed bonds. If they are not issued during that time, they will be treated as forfeited and revert to the IRS for reallocation. The Green Bank’s CREBs application for the Project is substantially complete and ready for submission; however, staff has purposefully not submitted the application yet, as it needs to be timed so that CREBs can be issued after the Project has completed construction and within the 180 days after the allocation.

Bank of America Diligence: Bank of America has continued its diligence on the Project and technology. Diligence meetings with NEHC, the developer, and an engineer from a global water and natural resources firm that had previously performed extensive diligence work on the Project and the Archimedes Screw Generator (“ASG”) technology have all been positive to date.

Construction Finance and Working Capital

Rather than having the Green Bank provide the construction finance for the project, as had originally been conceived and approved by the Board, the Green Bank has engaged two local banks that have shown an interest in providing construction finance with a Green Bank guaranty. Staff is confident that this is a better path than having the Green Bank provide the construction finance directly for the following reasons: i) it supports private sector participation and improves local banks’ familiarity with small hydro projects; and, ii) it limits the Green Bank’s involvement with the Project prior to CREBs allocation, thereby avoiding potential CREBs reimbursement issues. It is in the interest of the Green Bank to issue CREBs once the Project is operational to avoid bond repayment obligations during construction but before revenue is being generated by the Project.

NEHC and the Green Bank are negotiating final guaranty requirements, terms, and timing with the two potential local banks that have shown interest in providing construction finance. In this regard, staff requests a modification to the approval granted in resolutions passed at a special meeting of the Board held on February 26, 2016 to specifically permit the Green Bank to issue the guaranty for construction finance instead of a loan by the Green Bank as originally contemplated by staff and approved by the Board. In the meanwhile, staff is requesting an increase in an amount not to exceed \$600,000 (total) in the working capital guaranty to NEHC under the Green Bank’s existing working capital facility partnership with Webster Bank, in order to avoid delays in the Project’s construction schedule as NEHC simultaneously works to close the construction finance loan from one of the two local banks. An increase to NEHC in the working capital line from Webster will allow them to make payments to long lead-time suppliers without having to wait for the construction finance loan to close. This will enable the construction to take place as scheduled, without delays, during the low-flow summer season, so that the Project can meet interconnection deadlines. As part of this effort to keep everything moving forward in advance of closing on final construction financing, the Green Bank will also provide a guaranty to Spaans Babcock (the ASG equipment supplier) upon the execution of that contract (since the Green Bank will be the eventual owner of the ASG under CREBs regardless), which – in addition to keeping the Project on schedule – will ensure

better payment terms as well as a retention payment to be released at the end of the equipment's warranty period.

Construction Update

NEHC has requested a change in the Project's general contractor to Bancroft Contracting Company ("Bancroft") because the Project's size is a better fit for Bancroft's hydropower business. Bancroft is a general contracting company founded in 1977 and headquartered in western Maine. It has annual revenues greater than \$25 million, of which around 40% are in the hydro space. Bancroft's bonding capacity exceeds \$50 million, well beyond the budget and scope of this project.

Bancroft has extensive experience, with over 30 projects in the hydro space completed since 2000. Notable clients include Brookfield Renewables, NextEra Energy, Green Mountain Power, First Light Power and ENEL (a list of notable projects and pictures is presented in Exhibit C). These projects have ranged from under \$100,000 to \$4.7M, with the majority being in the \$1.5M-\$3.0M range. Overall, Bancroft has demonstrated extensive hydro experience in the northeast, and the Project is well within their capabilities, as confirmed by staff diligence.

On the equipment side, the contract for the purchase of the ASG, the hydro generating equipment to be used in the Project, has been reviewed by the Green Bank and is close to being executed. Given the manufacturing lead time for the ASG, the equipment purchase agreement needs to be executed before the end of the month, and NEHC needs to provide the deposit, with funding from the extended working capital request above, to avoid installation delays.

Conclusion

The Project is continuing to progress, and staff expects construction to begin and advance so that the Project's virtual net metering deadline is met without any issues or delays. Staff will continue to update the Board as milestones are completed, and will come back to the Board with a final bond indenture for Board approval when appropriate.

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 and (3) Green Bank’s Comprehensive Plan for Fiscal Years 2015 and 2016 (the “Comprehensive Plan”), Green Bank continuously aims to drive private capital investment into clean energy projects;

WHEREAS, pursuant to the development of a small hydroelectric facility at the Hanover Pond Dam on the Quinnipiac River in Meriden (“Project”), on February 26, 2016 the Green Bank Board of Directors (the “Board”) authorized:

- i) construction financing in an amount not to exceed \$3.1 million,
- ii) a working capital guaranty in an amount not to exceed \$300,000 to New England Hydropower Company (“NEHC”), the project developer, under the Green Bank’s existing working capital facility partnership with Webster Bank; and,
- iii) term financing based on the following
 - a. the issuance of New Clean Renewable Energy Bonds (“CREBs”) in an amount not to exceed \$3,100,000, and
 - b. securing the issuance of CREBs utilizing the Special Capital Reserve Fund (“SCRF”) subject to further Board approval; and

WHEREAS, Green Bank staff now recommends that the Board authorize an increase in the working capital guaranty afforded to NEHC in connection to the Project under the Green Bank’s existing working capital facility partnership with Webster Bank; and

WHEREAS, Green Bank staff now recommends the Green Bank to issue a guaranty to a third party lender for construction finance for the Project instead of a loan by the Green Bank as originally contemplated by staff and authorized by the Board on February 26, 2016.

NOW, therefore be it:

RESOLVED, that the Green Bank may increase the amount of its working capital guaranty under the Green Bank’s existing working capital facility partnership with Webster Bank, for draws made by NEHC solely in connection with this Project and in an amount not to exceed \$600,000 and may issue a guaranty to a third party lender for construction finance for the Project as more completely described in a memorandum to the Board of Directors dated April 15, 2016 and as revised on April 20, 2016;

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 legal instruments.

Submitted by: Bryan Garcia, President and CEO; Bert Hunter, EVP and CIO; Ben Healey and Mariana C. Trief, Clean Energy Finance.