

# **ANNOUNCEMENTS**

- **Mute Microphone** – in order to prevent background noise that disturbs the meeting, if you aren't talking, please mute your microphone or phone.
- **Chat Box** – if you aren't being heard, please use the chat box or raise your hand to ask a question.
- **Recording Meeting** – we will record and post the board meetings ([www.ctgreenbank.com/hydrogentaskforce](http://www.ctgreenbank.com/hydrogentaskforce)) and you can also access meeting dates and dial-in information through Secretary of State.
- **State Your Name** – for those talking, please state your name for the record.



# Special Act 22-8

## Task Force to Study Hydrogen Power

January 10, 2023

**Online Meeting**

Connecticut Green Bank

# Agenda

- Welcome and Introduction by the CT Green Bank– 5 min
- Approval of Meeting Minutes of December 13, 2022 – 5 min
- Legislative Report Process and Next Steps – 15 min
- Review and Discuss Task Force Resolution – 25 min
- Reflection on the Task Force Process to Date – 45 min
- Task Force Vote on Final Report – 10 min
- Public Comments – 15 min
- Adjourn

# **Welcome and Introduction by the Connecticut Green Bank**

# **Approval of Meeting Minutes of December 13, 2022**

# **Legislative Report Process and Next Steps**

# Legislative Process

- General Assembly convened the 2023 Legislative Session on January 4, 2023 and will adjourn on June 7, 2023.
- Committee of Cognizance is the Energy & Technology Committee
- Co-chaired by Senator Norm Needleman (D-Essex) and Representative Jonathan Steinberg (D-Westport).
- The Task Force was initiated by former E&T Co-Chair, David Arconti (D-Danbury)
- Special Act 22-8 requires the Task Force to submit a report to the Energy & Technology Committee by January 15, 2023 to study hydrogen-fueled energy in the state's economy and energy infrastructure, including its findings and recommendations

# Legislative Process – Next Steps

- Wide distribution of final product to Task Force Appointers/Ex Officio Members and individuals from appointed organizations of the task force.
- CGB/Task Force to meet with Energy & Technology Committee co-chairs to have a concept committee bill introduced to be the legislative vehicle for the Task Force's recommendations.
- CGB/Task Force to propose that an Informational Forum be held and sponsored by the Energy & Technology Committee membership. Presentation to be led by Strategen, CGB and heads of the 5 identified working groups to report findings, make recommendations and Q&A.



# **Review and Discuss Task Force Resolution**

# Task Force Reflections

## Following Whereas and Resolved

This process that resulted in a robust and first-of-its-kind 130-page report for the legislature. The findings and conclusions of this report are going to provide **a model for other states to follow** and continue Connecticut's path on **leadership in the hydrogen and fuel cell space**.

Following an overview of the final resolution, we will request each Task Force member provide a reflection on their contribution to process as well as the findings and recommendations as reflected in the final report.

# Final Resolution

## Overview of Whereas #1

**WHEREAS**, on a nearly unanimous bipartisan basis the Connecticut General Assembly passed and Governor Lamont signed on May 23, 2022 Special Act 22-8 “An Act Establishing a Task Force to Study Hydrogen Power” (“the Act”);

### Roll Call – House (4/20/22)



Total Number Voting .....	144
Necessary for Passage .....	73
Those voting Yea .....	142
Those voting Nay .....	2
Those absent and not voting .....	7

### Roll Call – Senate (5/3/22)



Total Number Voting .....	35
Necessary for Adoption .....	18
Those voting Yea.....	35
Those voting Nay .....	0
Those absent and not voting .....	1

### Governor Signs (5/23/22)



# Final Resolution

## Overview of Whereas #2

**WHEREAS**, the Act requires appointments of sixteen members and five ex officio designations to the Task Force within 30 days of its signing, of which all appointments and ex officio designations were eventually filled except two appointees;

Appointer	Organization	Name	Area of Expertise
President Pro Tempore	<ul style="list-style-type: none"> <li>Avangrid</li> <li>HyAxiom</li> <li>Conservation Law Foundation</li> </ul>	<ul style="list-style-type: none"> <li>Enrique Bosch</li> <li>Sridhar Kanuri</li> <li>Shannon Laun</li> </ul>	<ul style="list-style-type: none"> <li>EDC (Electric – 17-)</li> <li>CT H2 Manufacturer</li> <li>ENGO (RE Advocate)</li> </ul>
Majority Leader Senate	<ul style="list-style-type: none"> <li>AFL-CIO</li> </ul>	<ul style="list-style-type: none"> <li>Keith Brothers</li> </ul>	<ul style="list-style-type: none"> <li>Building Trades</li> </ul>
Minority Leader Senate	<ul style="list-style-type: none"> <li>Avangrid</li> <li>Avangrid</li> </ul>	<ul style="list-style-type: none"> <li>Adolfo Rivera</li> <li>Frank Reynolds</li> </ul>	<ul style="list-style-type: none"> <li>EDC (Electric – 17-)</li> <li>EDC (Gas – 17-)</li> <li>ENGO (RE Advocate)</li> <li>CHFCC</li> </ul>
Speaker of House	<ul style="list-style-type: none"> <li>Eversource</li> <li>Nel Hydrogen</li> </ul>	<ul style="list-style-type: none"> <li>Digaunto Chatterjee</li> <li>Katherine Ayers</li> </ul>	<ul style="list-style-type: none"> <li>EDC (Electric – 18+)</li> <li>CT H2 Manufacturer</li> </ul>
Majority Leader House	<ul style="list-style-type: none"> <li>Eversource</li> <li>Sierra Club CT</li> <li>Fuel Cell Energy</li> </ul>	<ul style="list-style-type: none"> <li>Nikki Bruno</li> <li>Samantha Dynowski</li> <li>Anthony Leo</li> </ul>	<ul style="list-style-type: none"> <li>EDC (Gas – 18+)</li> <li>ENGO (RE Advocate)</li> <li>CHFCC</li> </ul>
Minority Leader House	<ul style="list-style-type: none"> <li>Eversource</li> <li>Dominion Energy</li> <li>Infinity</li> </ul>	<ul style="list-style-type: none"> <li>Jennifer Schilling</li> <li>Mary Nuara</li> <li>William Smith</li> </ul>	<ul style="list-style-type: none"> <li>EDC (Electric – 18+)</li> <li>Nuclear Power</li> <li>CT H2 Manufacturer</li> </ul>

# Final Resolution

## Overview of Whereas #2 (cont'd)

**WHEREAS**, the Act requires appointments of sixteen members and five ex officio designations to the Task Force within 30 days of its signing, of which all appointments and ex officio designations were eventually filled except two appointees;

Appointer	Organization	Name	Title
Ex Officio	DEEP	Katie Dykes	Commissioner
Ex Officio	PURA	Marissa Gillett	Chair
Ex Officio	UCONN	Radenka Maric	President
Ex Officio	CCAT	Joel Rinebold	Director
Ex Officio (Co-Chair)	CT Green Bank	Sara Harari	Associate Director
Ex Officio (Chair)	CT Green Bank	Bryan Garcia	President and CEO

# Final Resolution

## Overview of Whereas #3

**WHEREAS**, the Act designates the President of the Connecticut Green Bank (“Green Bank”) as the Chairperson, and requires the Chairperson to schedule and hold the first meeting of the Task Force within 60 days of its signing, which took place on July 12, 2022;





# Final Resolution

## Overview of Whereas #4

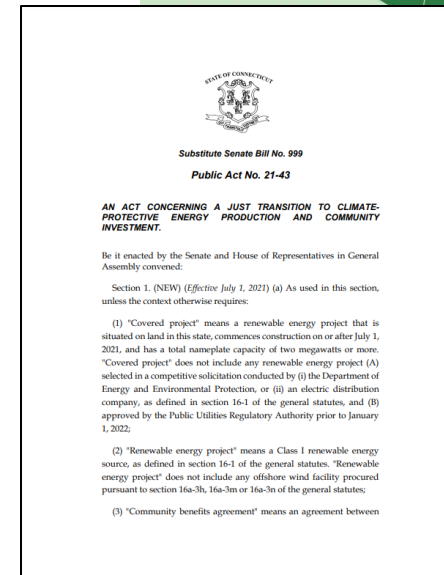
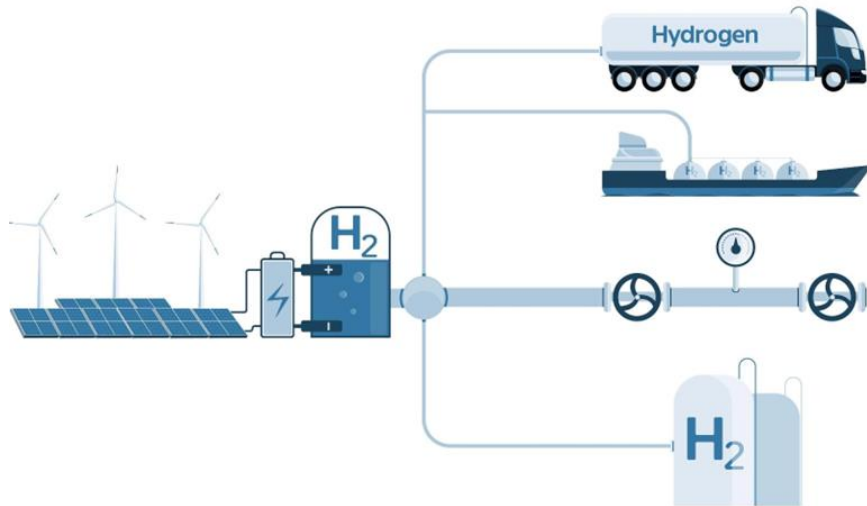
**WHEREAS**, the Act requires the Task Force to submit a report to the Energy and Technology Committee by January 15, 2023 to study hydrogen-fueled energy in the state's economy and energy infrastructure, including its findings and recommendations in the following seven areas:

1. Provide a review of regulations and legislation needed to guide the development and achievement of hydrogen economies of scale
2. Provide recommendations for workforce initiatives to prepare the state for hydrogen-fueled energy-related jobs
3. Examine how to position the state to take advantage of competitive incentives and programs created by the federal Infrastructure Investment and Jobs Act
4. Identify funding and tax preferences for building hydrogen-fueled energy facilities at brownfield sites through the Targeted Brownfield Development Grant and Loan program.
5. Recommend funding sources for developing hydrogen-fueled energy programs and infrastructure.
6. Examine the sources of potential clean hydrogen, including, but not limited to, wind, solar, biogas and nuclear.
7. Recommend potential end uses of hydrogen-fueled energy.

# Final Resolution

## Overview of Whereas #5

**WHEREAS**, in addition to the areas identified within the Act, the Task Force also included infrastructure (i.e., transportation and storage), as well as environmental justice and just transition within its areas of study;







CONNECTICUT  
GREEN BANK



# STRATEGEN

- Meeting logistics such as scheduling and recording meeting minutes.
- Coordination with Working Group Co-Chairs to develop meeting agendas which will be provided to participants a week before Working Group meetings.
- Technical assistance (including research), where appropriate, for the Working Groups and Task Force.

# Final Resolution

## Overview of Whereas #7

**WHEREAS**, to support the Task Force, in its efforts to delve further into the specific areas of analysis, five Working Groups were established and co-chaired by industry experts, as follows:

### Policy and Workforce Development

Chaired by:  
Commissioner  
Katie Dykes,  
DEEP

Chairman  
Marissa Gillett,  
PURA

Will identify  
legislation and  
workforce  
initiatives needed  
to guide the  
development of  
clean hydrogen.

### Funding

Chaired by:  
Commissioner  
Katie Dykes,  
DEEP

Commissioner  
Alexandra Daum,  
DECD

Will identify  
funding sources  
for developing  
hydrogen-fueled  
energy programs  
and  
infrastructure.

### Hydrogen Sources

Chaired by:  
Ugur  
Pasaogullari,  
UConn

Kathy Ayers, Nel  
Hydrogen

Will identify  
potential sources  
of clean  
hydrogen and  
relative merits.

### Hydrogen Infrastructure

Chaired by:  
Adolfo Rivera,  
Avangrid

Chris Capuano,  
Nel

Will identify  
infrastructure  
needed to  
support scaled  
and cost-effective  
hydrogen  
economy.

### Hydrogen Uses

Chaired By:  
Joel Rinebold,  
CCAT

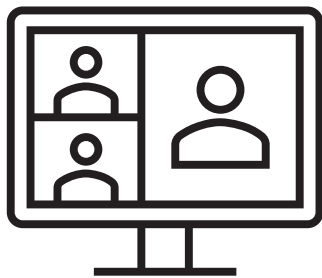
Digaunto  
Chatterjee,  
Eversource  
Frank Reynolds,  
Avangrid

Will identify  
potential and  
priority end uses  
for hydrogen.

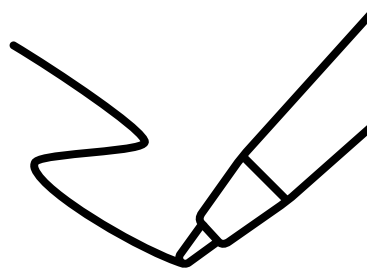
# Final Resolution

## Overview of Whereas #8

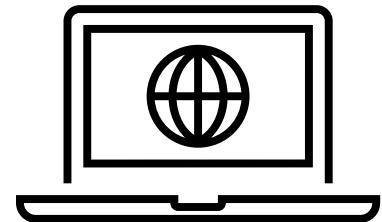
**WHEREAS**, to support the open and transparent process of the Task Force, the Green Bank and Strategen established a regular meeting schedule of the Task Force and Working Groups, including, but not limited to, listing meeting agendas on the Secretary of State Public Meeting Calendar, Green Bank dedicated hydrogen webpage ([www.ctgreenbank.com/hydrogentaskforce](http://www.ctgreenbank.com/hydrogentaskforce)), recording and posting meetings with CT-N (“Connecticut Network”), posting meeting minutes and materials (including Spanish translation of certain materials), promoting meetings through various channels for public engagement, and hosting a public listening session and providing an opportunity for written public comments;



**Meetings**



**Written Comment  
Opportunity**

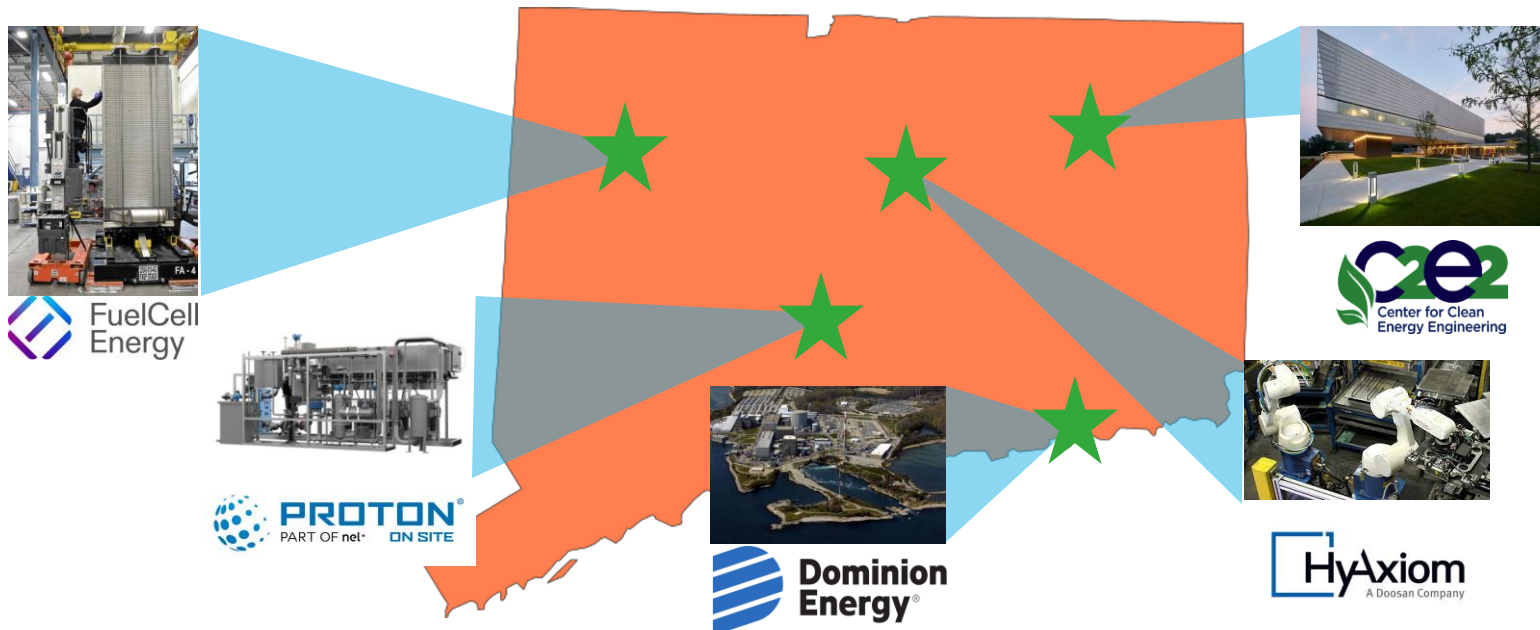


**Publicly Available  
Materials**

# Final Resolution

## Overview of Whereas #9

**WHEREAS**, with the objective to engage the Task Force, Working Groups, and other stakeholders, the Green Bank and Strategen hosted seven (7) Task Force and twenty (20) Working Group meetings open to the public online as well as in-person at various hydrogen and fuel cell locations around the state, including the University of Connecticut's Innovation Partnership Building in Storrs, Nel Hydrogen's electrolysis manufacturing plant in Wallingford, Fuel Cell Energy's stationary fuel cell manufacturing plant in Torrington, HyAxiom's stationary fuel cell manufacturing plant in South Windsor, and Dominion Energy's Millstone Nuclear Power Station in Waterford;



# Final Resolution

## Overview of Whereas #10

**WHEREAS**, with the objective to educate the Task Force, Working Groups, and other stakeholders, the Green Bank and Strategen included hydrogen and fuel cell experts from the Lawrence Berkeley National Laboratory and Sandia National Laboratory, and environmental justice and just transition professionals from the Greater Bridgeport Community Enterprises and Connecticut Roundtable on Climate and Jobs within the process;



**Nick Connell**

Policy Director, Green Hydrogen  
Coalition



**Kristin Hertz**

Manager, Hydrogen and Materials  
Science, Sandia National Laboratory



**Ahmet Kusoglu**

Scientist, Lawrence Berkeley National  
Laboratory



**Jonathan Lewis**

Director, Transportation Decarbonization  
Clean Air Task Force



**Adrienne Farrar Houël**

President and CEO, Greater Bridgeport  
Community Enterprises



**Aziz Dehkan**

Executive Director, CT Roundtable on  
Climate and Jobs

# Final Resolution

## Overview of Resolved

**RESOLVED**, that the Task Force on January 10, 2023 [, in unanimous] approves the final study reasonably reflects the findings as identified, analyzed, and deliberated within the process and the diversity of stakeholder perspectives on the findings;

**RESOLVED**, that the Task Force on January 10, 2023 [, in unanimous] approves the final study reasonably reflects the recommendations as identified, analyzed, and provided by the Working Groups and deliberated by the Task Force within the process and the diversity of stakeholder perspectives on the recommendations;

**RESOLVED**, that the Green Bank shall submit the final study to the Energy and Technology Committee on January 15, 2023, whereby the Task Force shall simultaneously terminate its duties per the Act;

**RESOLVED**, that the Green Bank, in its role as Chairperson of the Task Force, respectfully requests that the Energy and Technology Committee Introduce a Committee Bill for debate called “Hydrogen Fueled Energy in Connecticut’s Economy and Energy Infrastructure” within the 2023 legislative session to address the Legislative recommendations included in the Task Force report submitted by the Green Bank;

**RESOLVED**, that members of the Task Force and Strategen, will make themselves available, as appropriate, for hearings of the Energy and Technology Committee with respect to the proposed Committee Bill within the 2023 legislative session and request to make a formal presentation to the Energy and Technology Committee led by Strategen and supported by the Green Bank regarding the findings and recommendations of the Task Force.

# Task Force Reflections

## ...then Motion to Approve Resolution

Given the intense effort of the Task Force and Working Groups over the past several months, we would like to take the opportunity for closing reflection.

*Please reflect on your contributions to this process as well as the findings and recommendations as reflected in the final report.*

*We'd love to hear about how this process was able to acknowledge and incorporate unique perspectives of such a diverse set of participants.*

# Task Force Resolutions



# Public Comment

# Green Bonds US



**Thank You**

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[www.greenlibertybonds.com](http://www.greenlibertybonds.com)