



HYDROGEN STUDY TASK FORCE
Policy & Workforce Development Working Group #2
Meeting Minutes

Monday, October 20th, 2022
Noon – 1:00 p.m.

The second Working Group meeting of the Hydrogen Study Task Force Policy & Workforce Development Working Group was held on October 20th, 2022.

All the participants joined via the Teams conference call.

Task Force Members Present: Eric Annes (Designee - DEEP), Aziz Dehkan (CT Roundtable on Climate and Jobs), Julia Dumaine (Designee – PURA), Samantha Dynowski (Sierra Club), Sara Harari (CT Green Bank), Sridhar Kanuri (HyAxiom), Shannon Laun (Conservation Law Foundation) Taren O’Connor (Designee – PURA), Becca Trietch (Designee – DEEP)

Others Present: George Bradner (Connecticut Insurance Dept.), Keith Brothers (AFL-CIO), Sophia Browning (Day Pitney), Brian Farnen (CT Green Bank), Nathan Frohling (The Nature Conservancy), Joe Goodenbery (Strategen), Jennifer Gorman (Strategen), Kaiqi Hu (Strategen), Alexandra Isaac (Fuel Cell Energy), Alex Judd (Day Pitney), Lidia Ruppert (DEEP), Joe Toner (AFL-CIO)

1. Call to Order

- Joe Goodenbery, a Senior Manager at Strategen providing technical support for the Policy and Workforce Development Working Group, called the meeting to order at 9:00 a.m.

2. Welcome and Introductions

- Mr. Goodenbery provided an overview of the meeting agenda which includes a review of the Working Group charter, an overview of Connecticut policy related to hydrogen, a presentation on international and regional policy best practices development, and a workforce development panel discussion.
- Mr. Goodenbery reminded participants of Strategen’s role, which includes handling meeting logistics, developing meeting agendas, and providing technical support.
- Mr. Goodenbery prompted attendees to introduce themselves.

3. Review of Working Group Charter

- Mr. Goodenbery reminded participants of the objective of the Policy and Workforce Development Working Group and emphasized the statutory responsibilities and associated deliverables.
- Mr. Goodenbery provided a brief review of the first deliverable set of policy guiding principles, which states that recommendations of the Policy and Workforce Development Working Group must:
 - Be in compliance with relevant state statutes and regulations or identify changes that would enable compliance.

- Align with state policy and active regulatory proceedings.
- Identify any fundamental underlying policy or regulatory challenges or potential enablers.
- Identify expected impacts to active policy proceedings.
- Identify or recommend relevant regulatory stakeholder proceedings that could be used to allow for additional review and vetting or identify the need for new procedural avenues.

4. Overview of Connecticut Policy and Programs Related to Hydrogen

- Jennifer Gorman, an Analyst at Strategen Consulting, introduced herself and noted that she would be presenting an overview of Connecticut policies and programs related to hydrogen. Ms. Gorman thanked Day Pitney for collaborating on this research.
- Ms. Gorman noted that Connecticut provides general ecosystem support for the development of clean hydrogen. She indicated that Conn. Gen. Stat. 22a-200a (2019) requires specific levels of greenhouse gas emission across the state, while Public Act 22-5 requires reduction specific to the electric sector. She also mentioned that Connecticut has NOx emissions limits for stationary fuel burning sources and is a part of the multi-state median and heavy duty zero emission vehicle memorandum of understanding.
- Ms. Gorman stated that Connecticut has limited hydrogen-specific legislation, but there are some policies or programs that reference hydrogen.
 - Ms. Gorman first introduced Conn. Gen. Stat. 31-53d. which establishes that a developer of an eligible project that is 2 MW or greater shall take all reasonable actions to ensure that a community benefits agreement is entered into and take appropriate actions to ensure a workforce development program is established. She reiterated that this legislation is unique to Connecticut and is crucial when looking at community impacts associated with hydrogen.
 - Ms. Gorman mentioned that Conn. Gen. Stat. 16-244y. and Conn. Gen. Stat. 16a-3f-h. are related to fuel cells and they set competitive processes for electric distribution company (EDC) procurement and they note that the DEEP Commissioner may solicit proposals for class one resources to meet EDC load, respectively.
 - Ms. Gorman introduced Executive Order 21-3 related to instate resource planning. She explained that it directs DEEP to include in the next Comprehensive Energy Strategy, a set of strategies to: (1) provide for more affordable heating and cooling (2) achieve reductions in GHG emissions from residential buildings and industrial facilities; and (3) improve the resilience of the state's energy sector. She also mentioned that the 2020 Connecticut Integrated Resource Plan discussed hydrogen as a strategy to reduce state emissions.
- Ms. Gorman noted that Day Pitney has put together a list of definitions that relate to Connecticut's hydrogen legislation. This list covers concepts such as environmental justice communities and critical facilities.
- Ms. Gorman reminded participants that at the Funding Working Group on Wednesday, October 26th, the Strategen team would be presenting findings on Connecticut funding policy and programs that are related to hydrogen.
- Ms. Gorman inquired whether there were any key policies related to hydrogen in Connecticut that had not yet been identified.

- Shannon Laun, an attorney and the Connecticut State Director for Conservation Law Foundation, noted that the Connecticut Department of Transportation is currently in the process of finalizing state's freight plan which impacts the heavy duty transportation sector.
- Ms. Gorman inquired whether there were topics that stakeholders could identify that should be considered for further policy development.
 - Samantha Dynowski, the Director of the Connecticut Chapter of the Sierra Club flagged that recommending a policy framework may be appropriate. She also pinpointed that a critical area that Connecticut currently does not currently have policy regarding is downstream hydrogen leakage.
 - Aziz Dehkan, the Executive Director of the Connecticut Roundtable on Climate and Jobs agreed with Ms. Dynowski's suggestions. He shared that the Connecticut Roundtable has concerns regarding the definition of green hydrogen and emphasized the need to make sure that renewable designations are ensured. Mr. Dehkan emphasized the importance of creating sustainable jobs.
 - Ms. Gorman inquired whether Mr. Dehkan was referring to sustainable jobs in terms of supporting renewable energy or supporting long term job certainty.
 - Mr. Dehkan replied that he was referring to a combination of both and explained that due to the uncertainty in the renewable designation of green hydrogen there is a need for a policy framework as Ms. Dynowski suggested.
 - Alexandra Isaac, Senior Counsel from Fuel Cell Energy, indicated that the national and global conversation is moving away from the color wheel designation of hydrogen to the framework of carbon intensity. She suggested that this methodology can allow Connecticut to build its framework of definition and allow the hydrogen ecosystem to blend well with neighboring states and international entities.

5. Overview of International and Regional Policy Best Practices to Facilitate Hydrogen Development

- Ms. Gorman noted that across the nation as the topic of hydrogen development has been emerging, there have been relatively consistent stakeholder concerns that have been developing in response. Stakeholder concerns encompass topics such as hydrogen safety, infrastructure, workforce impacts, public health impacts, emissions, the appropriate use of hydrogen, and who makes decisions regarding all of these topics.
- Ms. Gorman indicated that there has been an increasing amount of policy related to hydrogen, and specifically green or clean hydrogen. She noted that in the past three years, hydrogen specific legislation has skyrocketed across the nation with about 120 hydrogen related bills that have been passed, of which 1/3 explicitly apply to clean, green, or renewable hydrogen. She noted that in general, hydrogen related bills have been focused on a particular end use, such as the mobility industry or the gas or electric sector, of which mobility is by far the most common hydrogen related bill subject. She shared that a smaller set of hydrogen related bills provide specific grant funding or authorize studies or working groups.
- Ms. Gorman explained that states and countries are defining clean hydrogen eligibility in similar ways. She noted that increasingly definitions based on carbon intensity are emerging with some definitions that include additional specification

that focuses on feedstock type (i.e., must be renewable or must be non-fossil fuel).

- Ms. Gorman noted that the Department of Energy's proposed Clean Hydrogen Production Standard has established clean hydrogen as that with less than 4 kg of CO₂e/kg H₂ on a lifecycle basis (well-to-gate). This definition removes the ambiguity associated with the colors of hydrogen.
- Ms. Gorman presented an overview national and international definitions of clean, renewable, or green hydrogen. She noted that prior to U.S. Federal guidance, three U.S. states passed legislation to define clean hydrogen, and several more, such as California and New York, proposed a definition in legislation but it did not pass. Ms. Gorman pointed out that many definitions nationally and internationally are technology agnostic, meaning that they don't specify what feedstock may be used for production.
 - Julia Dumaine, Supervisor of Strategy & Operations at PURA, raised a question regarding what opposition the legislation in New York and California faced as they were not passed.
- Ms. Gorman noted that alignment of a state's definition with Federal guidance from the IJJA and Proposed Clean Hydrogen Standard is important for access to Federal funding opportunities.
 - Ms. Laun inquired whether the state's definition needs to be identical to the federal guidance or only consistent with this guidance.
 - Ms. Gorman responded that states may develop a more stringent definition of clean hydrogen and the federal guidance provides a minimum baseline.
 - Brian Farnen, the General Counsel and Chief Legal Officer for the Connecticut Green Bank, noted that there may be diversity in Working Group participants' opinions on how to define clean hydrogen. He noted that it may not be possible to reach consensus on this topic.
 - Mr. Goodenbery pointed out that the Sources Working Group concurrently considering how to define clean hydrogen, so Working Group collaboration will be critical.
- Ms. Laun inquired whether the final report in January will indicate points of disagreements.
 - Mr. Farnen responded that this issue is up to the Task Force.
 - Sarah Harari, Associate Director of Innovation and Strategic Advisor to the President at the Connecticut Green Bank, seconded Mr. Farnen's and Ms. Laun's suggestions.
 - Nathan Frohling, Director of External Affairs at The Nature Conservancy in Connecticut, agreed that participant views should be expressed if consensus is not reached.
- Ms. Dumaine suggested that, with regard to the baseline federal guidance, there is not a concern regarding federal preemption because the Clean Hydrogen Production Standard definition is just guidance, not definitive.
- Ms. Gorman briefly noted that Argonne National Labs has done a study with the GREET model to determine the lifecycle emissions of different hydrogen production sources. She noted that a diversity of hydrogen production sources are allowable under the Clean Hydrogen Production Standard.

6. Workforce Development and Labor Panel Discussion

- Mr. Goodenbery introduced participants from the Connecticut State Building and Construction Trades Council and the Connecticut Roundtable for Climate and Jobs.
- Keith Brothers, the President of the Connecticut State Building and Construction Trades Council, introduced the Connecticut State Building and Construction Trades Council. He indicated that the Trade has 30,000 construction workers across the state and emphasized the importance of creating and maintaining local jobs for Connecticut.
- Joe Toner, the Executive Director of the Connecticut Building Trade introduced himself as a worker by trade and shared that he has been with the Building Trade Council for over a year and a half. Mr. Toner identified that their apprenticeship training programs, funded by their members exclusively, are assisting the workers' and trades' transitions from fossil fuels to renewables. He introduced the Building Trades Training Institute as a feeder program for The Apprentice programs which ensure that workers from disadvantaged communities and nontraditional backgrounds may join the building trades.
 - Mr. Toner illustrated the example of Hartford Jobs Funnel, which was established as a part of the Adriaen's Landing Legislation passed in the early 2000s. He explained that the program has been able to engage 1,200 Hartford residents, from disadvantaged backgrounds, into the construction industry. He explained that due to this success, this program was to be expanded statewide and received a grant of \$3.6 million from Office of Workforce Strategy in Connecticut to do so.
 - Mr. Toner introduced that the model for the Connecticut Building Trades Training Institute is to recruit, train, and retain. He explained that most of the training institute's participants are from minority or disadvantaged backgrounds. Mr. Toner also mentioned that Connecticut State Building and Construction Trades Council has a labor agreement with Torrington High School where they provide support for students to transition to job sites.
 - Mr. Toner mentioned that the Connecticut State Building and Construction Trades Council is expanding to provide training and jobs related to the renewable side of the energy industry.
 - Mr. Toner identified that the fossil fuels projects that were eliminated created a huge impact on some workers, especially plumbers, pipe fitters, and boilermakers. He recognized the significance of this discussion and indicated that transition for those workers is crucially needed.
 - Mr. Toner explained that the Connecticut Building Trades Training Institute provides services for potential workers beyond training, including stipends for parents' daycare, and support for younger workers to obtain a driving permit.
- Mr. Dehkan noted that the Connecticut Roundtable on Climate and Jobs and the Connecticut State Building and Construction Trades Council work closely together. Mr. Dehkan indicated that transportation is huge issue for the Roundtable currently, and they have been working with the Building Trade to generate different solutions. Mr. Dehkan noted that the key concerns of the Connecticut Roundtable are project labor agreements, a prevailing wage, and a just transition. Mr. Dehkan identified that Bridgeport is a benchmark with their community benefits agreement.

- Mr. Goodenbery inquired how the development of a hydrogen market is expected to impact workforce needs.
 - Mr. Brothers highlighted the importance of the training that they provide and suggested that the Connecticut State Building and Construction Trades Council is prepared to create more jobs as the hydrogen market develops.
- Sridhar Kanuri, Chief Technology Officer at HyAxiom, noted that Connecticut could create a program in electrochemical technology due to its fuel cell expertise. He explained that fuel cells and electrolyzers use electrochemical technology, however, an electrochemical program could be unique to Connecticut.
- Mr. Goodenbery inquired what types of skills workers will need to access hydrogen-related jobs and what types of training or certification programs may support these needs.
 - Mr. Toner suggested that the skillsets that are currently required in the industry for jobs such as pipe fitters, plumbers, and boilermakers, can be directly transferrable. He noted that skillsets are existing but it will be critical to support a prevailing wage to attract a strong workforce.
- Mr. Goodenbery inquired whether there are any foreseeable challenges with ensuring equity and the industrial transition.
 - Mr. Toner indicated that people are losing their jobs in fossil fuel industry, and he emphasized that these individuals will need to be included in a clean energy transition which is not yet occurring. He highlighted the importance of project labor agreements and community involvement. Mr. Toner also noted that regarding offshore wind, international developers have failed to incorporate the community and have not utilized local labor.
 - Mr. Dehkan seconded Mr. Toner's opinion and emphasized that it is important to maintain accountability with project labor agreements.
- Mr. Goodenbery inquired about what the state government can do to support workforce development related to hydrogen.
 - Mr. Dehkan emphasized the need for enforceable community benefit agreements.
 - Mr. Toner expressed that regarding the hydrogen hubs request for proposals and project implementation plan it is important to ensure that community engagement provisions are upheld, and community members are included if there are public private partnerships.
- Ms. Laun expressed her curiosity regarding if and how the regional hydrogen hub proposal addresses workforce development. She indicated that this could be a topic for a future Working Group.

7. Overview of Next Steps

- Mr. Goodenbery provided an overview of the upcoming Working Group meeting schedule noting that the next Policy and Workforce Development Working Group meeting would be held on Tuesday, November 29th from Noon to 1:00 p.m.

8. Adjourn

- The second Policy and Workforce Development Working Group was adjourned by Mr. Goodenbery at 1:04 p.m.