



HYDROGEN STUDY TASK FORCE
Policy & Workforce Development Working Group #4
Meeting Minutes

Thursday December 15, 2022
Noon – 1:00 p.m.

The fourth Working Group meeting of the Hydrogen Study Task Force Policy & Workforce Development Working Group was held on December 15, 2022.

All the participants joined via the Teams conference call.

Task Force Members Present: Julia Dumaine (Designee – PURA), Samantha Dynowski (Sierra Club), Sara Harari (CT Green Bank), Lidia Ruppert (Designee – DEEP)

Others Present: Evan Dantos, Brian Farnen (CT Green Bank), Joe Goodenbery (Strategen), Jennifer Gorman (Strategen), Kaiqi Hu (Strategen), Alex Judd (Day Pitney), Andrea Lubawy (Toyota)

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 12:03 p.m.

2. Welcome and Introductions

- Mr. Goodenbery provided an overview of the meeting agenda which includes welcome and introductions, a discussion of key findings and policy recommendations, and an overview of next steps.
- 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.
- Mr. Goodenbery reminded participants of the objective of the Policy and Workforce Development Working Group and emphasized the statutory responsibilities and associated deliverables. He stressed that the efforts of the Hydrogen Power Study Task Force and associated Working Groups are not intended to replace the stakeholder engagement process used to develop and vet updates to state policy; rather, these efforts are intended to surface new ideas for consideration regarding how to develop a clean hydrogen economy in Connecticut.

3. Discussion of Key Findings and Policy Recommendations

- Mr. Goodenbery provided an overview of the key working group findings, which include:

- Connecticut has existing policies intended to enable decarbonization, which provide general ecosystem support hydrogen development
- Connecticut has policies or programs that specifically reference hydrogen, but there is opportunity for policy to be furthered or strengthened
- Best practices point toward the importance of developing a definition of clean hydrogen, to achieve its promise as a tool for decarbonization. There is a trend towards those types of definitions moving away from the colors, such as green, blue, grey hydrogen.
- Further actions could help drive the development of an at-scale hydrogen ecosystem, including potential measures that:
 - Encourage general market development.
 - Support priority hydrogen end-uses.
 - Incorporate community engagement principles in hydrogen development.
 - Provide support for workforce development and labor transitions.
- Mr. Goodenbery explained that Working Group recommendations cover actions that can be taken in Connecticut to support hydrogen deployment and development in the state. These recommendations have been organized by the lead entity that will need to lead action including (a) the Legislature; (b) State Government Agencies; and (c) industry and academia. Mr. Goodenbery summarized the recommendations that have been developed to date.
- Mr. Goodenebery noted that there are opportunities for direct action by the Legislature to support the development of Connecticut's hydrogen economy. Legislative action should focus on required statutory changes, funding for hydrogen development, and enabling actions to promote community engagement and transparency. He explained that to enable community engagement, outreach, and education efforts, the Legislature should:
 - Create a transparent source for municipalities, cities, and other local applicants to access resources, such as match funding and/or application guidance.
 - Provide funding to increase community engagement and decrease the burden of engagement on communities.
 - Consider amending requirements for community benefit agreements, through Public Act 21-43, to lower the minimum project size from 2 MW to 1 MW and explicitly note the inclusion of clean hydrogen and consider the development of similar requirements for all hydrogen projects.
- Further, to provide support for high value end uses for hydrogen, the Legislature should:
 - Consider appropriating grant funding to support federal match requirements and multi-sector enabling infrastructure, such as public-access fueling stations for trucks, commuter buses, ports, and material handling equipment.
 - Consider tax exemptions for hydrogen vehicles and critical facilities that produce or use clean hydrogen.
 - Evaluate broader policies that would ensure the decarbonization of hard-to-electrify sectors, including long haul heavy-duty trucking, aviation, shipping, and industrial processes.

- Samantha Dynowski explained that the recommendation that the Legislature consider tax exemptions for hydrogen vehicles and critical facilities that produce or use clean hydrogen may not be specific enough due to the variety of vehicles that can use hydrogen, which have not all been identified as the highest value end uses. Ms. Dynowski also acknowledged her support for funding to increase community engagement.
- Andrea Lubawy noted her support for tax exemptions for all hydrogen vehicles. She explained her preference for not excluding specific technologies as they may still have value.
- Sara Harari noted that stakeholder feedback would be reflected in the final report. She also recommended the inclusion of support for Connecticut's strong manufacturing sector to continue to promote this competitive advantage.
- Ms. Dynowski shared that if the state is planning to subsidize manufacturing it should ensure that these subsidies are only for fuel cells that use green hydrogen.
- Ms. Childs noted that the Funding Working Group had brainstormed some new manufacturing recommendations that would be included in the final report.
- Mr. Goodenbery explained that there is an important role for State Government Agencies – DEEP, PURA, DECD, and OWS – in hydrogen deployment and development.
- Mr. Goodenbery noted that DEEP's role in energy and environmental planning will be a key enabler for state-wide vision for clean hydrogen. As such, DEEP could undertake the following actions:
 - Conduct further investigation to ultimately establish a definition of clean hydrogen that would be most appropriate for Connecticut.
 - Continue to evaluate the sufficiency of zero-emission electricity sources to meet both electric sector decarbonization goals and hydrogen production targets.
 - Consider accounting mechanisms that encourage hydrogen producers to certify the carbon intensity of produced hydrogen.
 - Consider further investigation and the possibility of focused policy and market development support for clean hydrogen production and use in the highest priority end uses.
 - Consider further investigation into high priority hydrogen end uses and the possibility of coordinating support measures with other hydrogen efforts.
 - Explore market-based approaches to incentivize reductions in the carbon intensity of fuels.
 - Identify and potentially expand clean transportation incentives to include on-site port handling equipment, harbor crafts, and ocean-going vessels in collaboration with other state and federal agencies.
 - Lead interagency and interstate coordination on hydrogen policy development and funding, potentially including the development of a Connecticut hydrogen roadmap and research strategy.
 - Solicit feedback and guidance from the Connecticut Equity and Environmental Justice Advisory Council (CEEJAC) to advance community impact, environmental justice, and energy equity discussions on hydrogen and to support the development of a framework that outlines both a vision and goals for CT's clean hydrogen policies.

- Develop a state-wide vision for a clean hydrogen backbone and infrastructure development plan in Connecticut, through consultation and engagement with ecosystem stakeholders.
- Ms. Dynowski noted that Connecticut does not have hydrogen production targets, so this language should be excluded from the recommendation. She also inquired about market based approaches to incent reductions in the carbon intensity of fuel.
 - Mr. Goodenbery explained that California's Low Carbon Fuel Standard (LCFS) is an example of market based approaches to incent reductions in the carbon intensity of fuel.
 - Lidia Ruppert seconded Mr. Goodenbery's example of the LCFS. She noted that DEEP's hydrogen process is ongoing and is expecting to further discuss market based approaches to encourage hydrogen development. Ms. Ruppert explained that DEEP will publish a hydrogen whitepaper as part of its Comprehensive Energy Strategy (CES) process and there will be public opportunities to comment and technical sessions in early 2023. She noted that the CES process will be informed by the activities of the Task Force.
 - Ms. Dynowski inquired whether this would apply to hydrogen blending.
 - Ms. Ruppert clarified that this was not necessarily true.
 - Ms. Lubawy noted that market based mechanisms are applicable as it would incentivize companies to invest in clean hydrogen which is cleaner than gasoline. Ms. Lubawy noted that there are already policies in place to incentivize low emissions vehicles such as CHEAPR. She inquired whether any current policies such as the CHEAPR inclusion of hydrogen vehicles would be included.
 - Mr. Goodenbery clarified that the Task Force is not recommending the elimination of existing policies.
 - Erin Childs noted that the Task Force recognizes that this has been an accelerated process and thus many recommendations focus on the need for additional investigation and engagement before explicit policy changes are made.
- Mr. Goodenbery highlighted that additional State Government Agency action is required to determine how to incorporate hydrogen into appropriate planning venues to coordinate hydrogen funding and workforce development. He noted that PURA should evaluate the role of stationary fuel cells for critical backup power and peak power generation and identify approaches to incorporate recommendations into appropriate planning venues and consider whether existing renewable energy, flexible and/or interruptible load tariffs could be applied to electrolytic hydrogen production and determine if a specific electrolytic tariff would be required.
- Mr. Goodenbery noted that DECD should evaluate the need for additional funding for Brownfield Loan and Grant programs to help meet the clean energy needs of the state and its subsequent land requirements.
- Mr. Goodenbery shared that OWS should lead coordination between existing entities to establish a comprehensive program for engagement with local experts to understand workforce development needs and potential specific to hydrogen and partner with local universities, community colleges, and trade schools with expertise in hydrogen technologies and relevant skillsets to further advance the development of a skilled hydrogen workforce.

- Ms. Dynowski noted that stationary fuel cells may use fossil fuels such as natural gas as well as hydrogen as feedstocks. She noted the importance of ensuring that fuel cells run on clean hydrogen rather than fossil fuels.
- Julia Dumaine highlighted that all PURA processes include through investigation and an in depth consideration of ratepayer impacts which will be required for any actions that they undertake related to hydrogen.
- Mr. Goodenbery also explained that interagency coordination will be required to address hydrogen infrastructure, safety, and community protection. Regarding infrastructure, DEEP and PURA may wish to consider promoting the use of hydrogen end uses that are currently commercially viable through the existing clean energy programs and consideration should include how any changes would affect the programs' existing objectives and cost effectiveness. Additionally, DEEP and DECD should continue maintaining the Connecticut Brownfields Inventory as a resource for potential developers to identify prospective project sites.
 - Regarding permitting and safety, DEEP should clarify and work with relevant agencies and stakeholders to explore the acceleration of permitting for hydrogen infrastructure and State agencies should identify appropriate leads to coordinate on hydrogen safety with local and federal organizations to allow for alignment and clear flow on best practices, policy developments, trainings, and certifications.
 - To promote community protection DEEP and PURA should consider implementing an intervener compensation program to increase community participation in hydrogen-related proceedings and DEEP and DECD should continue supporting development of clean energy projects on brownfields and projects that have community support and/or have completed community benefits agreements.
- Finally, Mr. Goodenbery noted that industry and academia will play a key role in developing the hydrogen workforce and supporting ecosystem development. He shared the following recommendations for industry and academia:
 - UCONN should identify opportunities to support development of the hydrogen workforce and advance research and development in hydrogen electrolyzers and fuel cells, and should identify resources and funding needs to implement
 - Eligible entities should pursue federal funding for manufacturing capabilities for electrolyzers and fuel cells, to further advance development in the state.
 - Regarding hydrogen infrastructure insurance, steps should be taken to ensure clear rules and policies for hydrogen infrastructure to support insurance industry workforce opportunities.

4. Overview of Next Steps

- Mr. Goodenbery provided an overview of the upcoming December Working Group meetings. He also noted that the draft final report would be shared with the Task Force on December 16, 2022 with feedback due on December 23, 2022.

5. Adjourn

- Mr. Goodenbery adjourned the meeting at 12:53 p.m.