HYDROGEN STUDY TASK FORCE
Funding Working Group #3
Meeting Minutes

Friday, November 18, 2022
10:30 a.m. – 12:00 p.m.

The third meeting of the Hydrogen Study Task Force Funding Working Group was held on November 18, 2022.

All the participants joined via the Teams conference call.

Task Force Members Present: Samantha Dynowski (Sierra Club), Bryan Garcia (CT Green Bank), Carmen Molina-Rios (Designee - DEEP), Lidia Ruppert (Designee – DEEP)

Others Present: Tyler Anderson, Lily Backer (Strategen), Sophia Browning (Day Pitney), Erin Childs (Strategen), Brian Farnen (CT Green Bank), Barbara Fernandez (UCONN), Jennifer Gorman (Strategen), Joe Goodenbery (Strategen), Kaiqi Hu (Strategen), Alex Judd (Day Pitney), Cary Lynch (The Nature Conservancy)

1. **Call to Order**
    - Lily Backer, a Green Hydrogen Project Manager at Strategen providing technical support for the Funding Task Force, called the meeting to order at 10:31 a.m.

2. **Welcome and Introductions**
    - Ms. Backer provided an overview of the meeting agenda including welcome and introductions, a review of progress to date, an overview of other identified federal funding opportunities including the Inflation Reduction Act (IRA), initial recommendations to meet the working group legislative mandate, and stakeholder discussion and next steps.
    - Ms. Backer prompted attendees to briefly introduce themselves. Each participant introduced their name and organization.
    - Ms. Backer provided a brief overview of the past two Funding Working Group meetings, with the first one focusing on some brownfield programs, and the second on the Infrastructure Investment and Jobs Act (IIJA). She then explained that this meeting would be focusing on the IRA and recommendations. Furthermore, she noted that more transparent and refined recommendations would be provided in the December Working Group meeting.
    - Ms. Backer provided an overview of Strategen's role. She noted that the Strategen team will be managing Working Group logistics and will be providing technical support to accomplish the Working Group objectives.

- Ms. Backer reminded the attendees that this Working Group looks at the following areas of Special Act 22-8:
    - An examination of how to position the state to take advantage of competitive incentives and programs created by the federal IIJA.
    - Recommendations for funding and tax preferences for building hydrogen-fueled energy facilities at brownfield sites through the Targeted Brownfield Development Loan Program.
    - Recommendations regarding funding sources for developing hydrogen-fueled energy programs and infrastructure.

3. **Overview of Other (Non-IIJA) Identified Federal Funding Opportunities**
    - Ms. Backer started off with an introduction to the Clean Hydrogen Production Credit in the IRA. It is a 10-year incentive for facilities that begin production by 2033, and the value of the credit increases with lower carbon intensity. The credit is meant to incentivize decarbonized pathways and level the playing field for clean technologies. The carbon intensity of a facility is determined on a life cycle basis. Ms. Backer also noted that facilities can use the production tax credit for renewable electricity or zero-emission nuclear power as well as the clean hydrogen production tax credit. Alternatively, Ms. Backer shared that producers can also use the investment tax credit. To obtain the full value of the credit, producers need to meet prevailing wage and apprenticeship requirements. Further guidance on the details of these requirements is still anticipated, as this act is relatively recent.
        - Bryan Garcia, the President and CEO of CT Green Bank, asked a question about how the value of the credit drops if one doesn't meet the prevailing wage or apprenticeship requirement.
            - Brian Farnen, General Counsel and Chief Legal Officer of CT Green Bank, answered that it will be a 10% drop.
    - Ms. Backer noted that the Investment Tax Credit (ITC) is subject to a shorter time frame. There are additional bonuses for meeting domestic content conditions and siting projects in energy communities,.
        - Mr. Garcia commented that at the October meeting they had a Fuel Cell Energy tour and people there expressed that they feel confident that their fuel cell will meet the domestic content requirement. He also indicated that they would ask the same question during the Doosan tour in December.
    - Ms. Backer moved on to the discussion of Clean Electricity Investment Tax Credit, an expansion of the ITC to include clean hydrogen production facility, stationary fuel cells, fuel cells for material handling equipment and hydrogen storage. She flagged that this will potentially be something for people to respond to quickly as the current investment tax credit is available through the beginning of 2025, but afterwards will become a technology neutral Energy Investment Tax Credit which is more dependent on the carbon intensity of a project. Ms. Backer indicated that it's an extension of an existing tax credit that had expired and is now being restored.
        - Mr. Garcia raised the idea that it might be useful in the final report to apply some of these to projects from Connecticut.

        - Ms. Backer suggested that the team could pull some representative examples for the Working Group to review and include them in the finalized recommendations and the report.
        - Samantha Dynowski, Director of the Connecticut Chapter of the Sierra Club, raised a potential concern regarding naming specific companies in the report.
        - Mr. Garcia suggested that we could address that by saying this is a project in an energy community that is using a technology with domestic content, without calling out the company.
        - Carmen Molina-Rios, Community Development Specialist at the State of Connecticut Department of Economic and Community Development inquired whether it is possible to capture some data on the market potential in the areas where actual projects have occurred.
            - Mr. Garcia indicated that it is probably a connection to the Uses Working Group.
        - Ms. Dynowski queried whether the Clean Electricity Investment Tax Credit should be applied for by the state or by individual companies.
            - Mr. Garcia mentioned that since the tax credits now are in a very supercharged perspective, nonprofit public entities can now receive the value of tax credit. He also called on Mr. Farnen to add suggestions to his answer.
            - Mr. Farnen indicated that for organizations like the Green Bank that are deploying solar and potentially other projects, it is a big opportunity. At the same time, Mr. Farnen also suggested that it could be a great opportunity for government entities and nonprofits in general to receive money directly. He then suggested that there should be more guidance through the Treasury Department in the next few months.
            - Ms. Dynowski raised the question of whether it would become a competition between the state government and nonprofit organizations that do not have much power.
            - Mr. Farnen answered that first, the issue of competition between government and private sector is near and dear to the Green Bank's heart. Second, he indicated that there could be unlimited opportunities for both the nonprofits and government entities to share and take advantage of direct pay.
            - Mr. Garcia raised a concern regarding Mr. Farnen's answer by pinpointing that on the hydrogen fuel cell side, there are statutory caps in Connecticut's policies on the number of megawatts of certain technologies that can be deployed. Those caps create competitive markets to compete for the lowest amount of incentive required.
            - Mr. Farnen acknowledged Mr. Garcia's concern and suggested that this could be unique to Connecticut state's policy and should not be a major concern from a national perspective with the IRA.
    - Ms. Backer then introduced the Alternative Fuel Refueling Property Credit, which could be used for hydrogen fueling stations for heavy duty transportation, which has been identified as a potential end use. She mentioned that the credit cap was increased from $30,000 to $100,000 for fueling stations and it can also be used potentially more than once in a location. Moreover, with the intention of

making infrastructure accessible for hydrogen fueling, there are also benefits offered for locating them in low-income communities or non-urban areas.

- Ms. Backer introduced the Qualified Commercial Clean Vehicles Credit. She acknowledged that it might not be sufficient to cover a substantive part of the cost of replacing a heavy-duty vehicle with a hydrogen-fueled vehicle, but it does provide credit based on gross vehicle weight. She indicated that the value of the credit is the lesser of 30% of the cost of the vehicle or the incremental cost to a comparable internal combustion engine vehicle. She noted that there is a light duty credit available, but since it has been deprioritized among the end uses, it will not be investigated in this presentation.
- Ms. Backer introduced the Advanced Energy Project Credit and mentioned that this could be a great opportunity given the great number of fuel cell and other manufacturing facilities in Connecticut. It provides up to a 30% incentive for qualifying energy projects which aim to either expand, establish, or reequip manufacturing facilities. Moreover, this focuses on projects that manufacture things like fuel cell systems, hydrogen refueling infrastructure, systems, light and medium, and heavy-duty fuel cell EV's, and their components. She noted that 40% of these credits are earmarked for energy communities.
    - Mr. Garcia mentioned that they might ask the fuel cell and hydrogen companies involved in the task force whether they have plans to use the credit.
    - Ms. Molina-Rios followed up on the issue that energy communities have not been defined yet.
        - Ms. Backer replied that there could be a variety of potential focus areas, including areas of incumbent oil and gas industry, and disadvantaged communities.
        - Ms. Molina-Rios asked which federal agency is going to be responsible for creating the definitions.
        - Ms. Backer replied that the Treasury is generating guidance for the IRA tax credits.
        - Mr. Farnen added that both the Treasury and the IRS are going to make that determination.
- Mr. Farnen clarified a previous discussion point and stated that it's a 30% ITC. If the project is over one MW and the labor requirements are not met, the tax credit drops to 6%, that's a 24% drop. Therefore, any project needs to have these labor requirements for any project over one MW. He suggested that it is going to become the new norm.
- Ms. Dynowski suggested that regardless of what the federal definition for an energy community is, we should ensure that there is community decision making around what happens moving forward, as many communities that are current hosts of fossil fuel energy are disproportionately burdened by the pollution and possibly do not want to be an energy community in the future.
- Ms. Backer seconded Ms. Dynowski's input and acknowledged that some elements of the reports were to match up the community benefit agreement requirement with the level of facilities. She also suggested more recommendations on increasing community engagement for the report.
- Ms. Backer provided a table of some related funding opportunities like the IIJA and grants. She pointed out that the Defense Production Act was expanded to increase energy resiliency and domestic supply chains in the US for a lot of clean energy technologies. Therefore, there could be opportunity in Connecticut

given the electrolyzer and fuel cell potential. Ms. Backer also pinpointed the Greenhouse Gas Reduction Fund and suggested that it not only has the largest amount of funding available, but it will also establish clean energy deployment green bank, essentially, at the federal level.

- Mr. Garcia mentioned that when the CT Green Bank was founded in July of 2011 through Section 99 of Public Act 1180, it was the result of a failed federal policy in 2009, the American Clean Energy and Securities Act. Within that bill was a provision that received bipartisan support from committee to create a Clean Energy Deployment Administration, which would have been a national climate bank. This bill did not pass the federal government but was brought to Connecticut and led to Section 99 of Public Act 1180, or the creation of CT Green Bank. Right now, the EPA wants to support the continued activity of accelerating investment in clean energy deployment, and as a result here is the $27 billion Greenhouse Gas Reduction Fund. He expressed that they are going to compete for it and wish to win money for Connecticut.

- Ms. Backer indicated that the match requirements for some of the areas are unknown, but she believes it is likely that these grants will have a match requirement and is awaiting guidance. She also drew attention to the Domestic Manufacturing Conversion Grants for developing components for fuel cell electric vehicles.
- Ms. Backer then introduced the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and Science Act by explaining that it invests $280 billion to bolster the US semiconductor capacity, catalyze R&D, and create regional high-tech hubs and a bigger, more inclusive STEM workforce. She pinpointed two sections of the act: Department of Energy Research, Development, and Demonstration Activities, whose relevant applications include supporting RD&D activities aligned with 10 technology areas in the energy offices, as well as Fission for the Future, whose relevant applications include supporting the research, development, and demonstration of advanced nuclear reactors.
    - Mr. Garcia recalled from the tour of the Millstone power plant that Secretary Granholm had been by the facility, and one of the three generating units had been shut down. They were targeting that unit to potentially have more future advanced micro-reactors.

4. Initial Recommendations to Meet Working Group Legislative Mandate

- Ms. Backer shared a slide with the Funding Working Group Statutory Responsibilities and acknowledged that the recommendations are not meant to replace the processes for vetting changes to see policy and community and stakeholder engagement.
- Ms. Backer briefly went over the timeline. She informed the group that the Public Request for Written Comments is out now, and any comments are welcome. Ms. Backer also mentioned that there will be a Webinar and Listening Session on December 8th, and it would be an opportunity to formally submit verbal or written feedback that may be included as a stakeholder perspective in the report. Ms. Backer introduced that the Draft Final Recommendations will be shared from all workstreams on December 13. There will be opportunities for review during mid-December. Finally, the final report will be released on January 15.

- Ms. Backer provided a slide of potential areas of information that could be incorporated in the report, and she inquired whether the attendees have any feedback or recommendations for it.
    - Erin Childs, a Director at Strategen, suggested that the intention here is to engage the attendees in thinking about what would be most helpful or useful to the legislature and people who are using this report to have conversations with the legislature about next steps.
    - Ms. Dynowski raised a clarifying question about what role the legislature plays in the funding area. In addition, she is wondering what is available within the priority areas that have been identified in the report.
    - Ms. Backer expressed that her understanding is that it is more to help understand the opportunities.
    - Lidia Ruppert, a Research Analyst at the Connecticut Department of Energy and Environmental Protection (CT DEEP), shared her perspective that the purpose is to understand the opportunities and to have an overview of any gaps that need to be filled. Therefore, there is always a need to see other legislative approaches.
    - Ms. Dynowski inquired whether they will be required to take budgetary action.
    - Mr. Garcia brought up that the second item of the seven is an examination of how to position the state to take advantage of competitive incentives and programs created by the federal IIJA. Thus, in this context, the findings are all the provisions in the IIJA that we have examined. A recommendation could be community engagement through the realization of community benefit agreements, which makes Connecticut more competitive to receive funding through different sources.
    - Barbara Fernandez, a Special Assistant to the Vice President at the University of Connecticut, asked about the identification of gaps, and whether that has occurred yet.
        - Ms. Backer replied that the team has worked on some of the state opportunities and potential matching, and they currently have a high-level identification of gaps, but it's not down to dollars and cents.
        - Ms. Fernandez suggested that one of the funding gaps that she has been observing is the match gap for early-stage projects. She illustrated that in the case of academic institutions, schools sometimes have funds that are restricted, and they cannot use money on early-stage projects.
        - Ms. Childs explained that the team is finding ways to make things more affordable for Connecticut to maximize the value and access federal funding. In many cases, competitiveness for federal funding opportunities requires match funding. She explains that in order to identify the gaps, it would be helpful to receive input from stakeholders on whether these resources and programs presented by the Strategen team are insufficient for helping to meet federal match requirements.
        - Mr. Garcia added that there could be gaps in the innovation part of the ecosystem in Connecticut, so the question may also become, “Could the state invest in early stage precommercial

demonstrations of technology?" He suggested that it is a recommendation that should be considered from an economic development perspective.

- Ms. Molina-Rios acknowledged that the points made are reasonable. She explained that all of the perspectives, including those of the state or federal government, are important, and can be shown in the reports through different formats of messaging.
    a. Mr. Garcia pointed out that we would also have stakeholders and task force members presenting the information to the Energy and Technology Committee. This would be probably more of a focus in January and February.
    b. Ms. Molina-Rios seconded Mr. Garcia's input and suggested that even though we are creating the reports for the legislature, all the rich data from the project shall be shared among stakeholders and particularly with the industry partners.

5. An Examination of How to Position the State to Take Advantage of Competitive Incentives and Programs Created by Federal IIJA

- Ms. Backer reviewed discussion from the previous meeting, in which we concluded that the IIJA has significant funding opportunities that can be applied to hydrogen deployment. She pinpointed that those grants all require varying levels of match funding.
- Ms. Childs emphasized that there are specific buckets of funding and opportunities that require much lower match fundings. This could be a point to prioritize effort by prioritizing places with more access to more federal fundings.
- Ms. Backer noted that there have been some exciting potential areas of funding that could serve match capacity. She expressed that there have been different answers on whether state tax incentives count as match funding. Ms. Backer inquired the Day Pitney team on whether they could help with the ambiguity.
    - Alex Judd, a Partner at Day Pitney, suggested that there is the ambiguity in applying tax credits to certain benchmarks for getting the funds. Similar concerns with other kinds of non-straight grant or loan type of funding opportunities. Therefore, he suggested that more information is needed on his end to clarify whether this could be a recommendation.
- Ms. Backer suggested that to maximize the value of these opportunities to the state, Connecticut should consider options that leverage and maximize eligible match funding for IIJA. There are a couple different potential practices that we can turn to as examples, which include:
    - Create a transparent source for interested applicants to access match funding or application guidance. Within this practice, Ms. Backer provided an example of a Local Match grant program in Colorado which is used by the local government to support the non-federal match requirement.
        - Mr. Garcia commented that a similar case may work if the legislature set aside money through a future bond issuance that provided matching grant funds to a project, and that there would programmatically be an application process that would be specific

to this sector. If the project were to be awarded, then the state would provide its match through this application process, and the funds would come from taxpayers through the state.

    - Undertake closer legal evaluation of the applicability of funding avenues such as state tariffs to be used as match funding. Evaluate other potential constraints, such as timing.
        - Mr. Garcia suggested to Mr. Judd another way of thinking on the previous point, based on the idea that since Connecticut has good public policies, they should get some credit for the policy as part of the match.
        - Ms. Backer mentioned that other people are clearly having questions and are trying to understand this topic, and that the team is working to find clarity around the requirements of match funding.
    - Ms. Molina-Rios asked whether there are other states that have their own approach to the match funding topics.
        - Ms. Backer answered that California passed some funding dedicated for match funding for the IIJA.
- Ms. Backer pointed out that per the Justice40 Executive Order, 40% of the overall benefits of certain federal investments must flow to disadvantaged communities, from both environmental and economic benefit perspectives. Therefore, Justice40 is very important for the success of hydrogen in the state.
- Ms. Backer emphasized that Connecticut has a strong commitment to community benefits and very engaged community members. She shared three sample highlights which included:
    - S.B. 999 (Public Act 21-43)
    - Communities LEAP Program
    - CT DEEP Environmental Justice Advisory Council
- Ms. Backer shared some practices that we have seen nationally, which include providing funding to increase community engagement through compensation for interveners.
    - Ms. Childs inquired Ms. Dynowski on whether this directionally aligned with what she thought about the need for community engagement.
    - Ms. Dynowski replied that since the information from Public Act 21-43 is relatively new, it is important to be flexible and see how communities respond. She believes that there is a possibility to strengthen community engagement. She mentioned that currently, all the developers are required to publicize the public meetings for the community, but there is no real decision making from the community.
    - Ms. Backer suggested that any examples of existing communities would be very useful to be included in the report.
    - Ms. Childs called for caution in this process and emphasized the need for continued feedback so that course corrections can be made in the future.
    - Ms. Fernandez pointed out that most of the development decisions in Connecticut are done at the local level, such as by the planning and zooming committees of the towns. She explained that since planning and zoning committees are made up of appointees or elected officials, they rarely include community voices or organizations.

- Mr. Garcia commented that it is not the ultimate solution, but all the new tax code treatments are going to help guide the market in this direction. This means that for the investment tax credit, to receive that 30% in 2024, projects must meet apprenticeship, workforce development, prevailing wage requirements. One may only receive 6% if not meeting the requirements. Therefore, there's an economic incentive to do it right now. Mr. Garcia commented that this is something Lidia and the rest of the team have been working hard on. He also pointed out that, regarding Ms. Dynowski's point on 21-43, Connecticut could have its own competitive advantage because the policy structure in Connecticut would be consistent with what the federal government is looking for. He pinpointed that we must understand this concept and make the capital move to community benefit agreements when the community wants them.
- Ms. Backer inquired whether community benefit agreements could be burdensome to communities because it takes a lot of time. She mentioned that there might be potential need for funding for technical expertise and compensation for community members.
- Ms. Fernandez emphasized that we have to think through these structures and recognize that towns are staffed by part-time people who actually have to implement the development. There is a need to make it easy for them to implement so that it is not a burden.
- Ms. Backer asked whether Ms. Fernandez has heard any past best practices to make it easier on communities to either implement or engage.
- Ms. Fernandez explained that the best way is to have a regional structure for economic development. However, this could potentially take a long time. She pointed out that it will be driven by how Connecticut is structured, and we need to work with that structure to find ways to get the great policies onto the implementation stage.

6. **Recommendations Regarding Funding Sources for Developing Hydrogen Fueled Energy Programs and Infrastructure**
   - Ms. Backer reminded the attendees that previously the Task Force members have discussed the desire to prioritize certain opportunities and the way to evaluate use cases against multiple criteria. She presented a slide with all the eight criteria considered, as well as a summary of the feedback from different stakeholders that was incorporated in the evaluation.
   - Ms. Backer shared that the use cases have been prioritized by potential for societal benefits. With a slide, she explained that the highest priority end uses are shown on the left, and that the Uses Working Group has high confidence that those will be used. Hydrogen is a good fit for those uses because it is most competitive, or it is potentially maybe the only viable decarbonization option, or it has strong environmental and community benefits. The middle column contains uses where hydrogen has a strong financial use case and may create social benefit, but that are potentially on a smaller scale today. Finally, uses in the column on the right are viable uses of hydrogen, but with less settled economics.
   - Ms. Backer suggested that based on the need for match funding and in order to optimize the funding, Connecticut should consider allocating or increasing grant or loan funding to enable end uses that have potential sources of federal

funding, require low levels of state match funding, and can be deployed near-term (high technology readiness) to enable a hydrogen ecosystem. She provided some examples, such as heavy-duty trucks and offroad material handling equipment. Ms. Backer recommended that it is useful to consider developing additional mechanisms that will attract private capital to enable further market development. Some examples provided include the Low Carbon Fuel Standard and clarification permitting requirements for fueling stations.

- Mr. Garcia suggested increasing certain existing caps on clean energy programs, such as the low emission renewable energy solutions program that supports fuel cells. He suggested that either increasing caps or giving preferences to the current caps to support the policy objectives.
- Ms. Dynowski asked whether the cap mentioned by Mr. Garcia was a cap on state subsidies or on private investment.
- Mr. Garcia gave the example of the 10MW cap on the low emission renewable energy solutions program.
- Ms. Dynowski noted that currently there is no definition of clean hydrogen and expressed that a definition should require non fossil fuel feedstock if clean energy programs are being expanded to include clean hydrogen.
- Ms. Backer acknowledged that this is a good point to tie into the Sources Working Group research.

- Ms. Backer gave an overview of significant funding opportunities provided by the IRA. She mentioned that Mr. Garcia brought up the idea of potentially lowering the threshold under Public Act 21-43 to make sure community benefits are considered in alignment with the state and the IRA definition. She asked what communication and education tools might help applicants leverage these opportunities and resources.
    - Mr. Garcia added that Public Act 21-43 currently only applies to Class I renewable energy projects, which means that hydrogen is not included. Therefore, some clarification on the definition of hydrogen would be required and clean hydrogen would have to be included underneath the Just Transition Policy for that the community benefit agreement structure to apply.

7. Adjourn

- Ms. Backer briefly overviewed the meeting schedule and called for any additional comments from the attendees.
- The third Hydrogen Study Task Force Funding Working Group meeting was adjourned by Ms. Backer at 11:59 a.m.