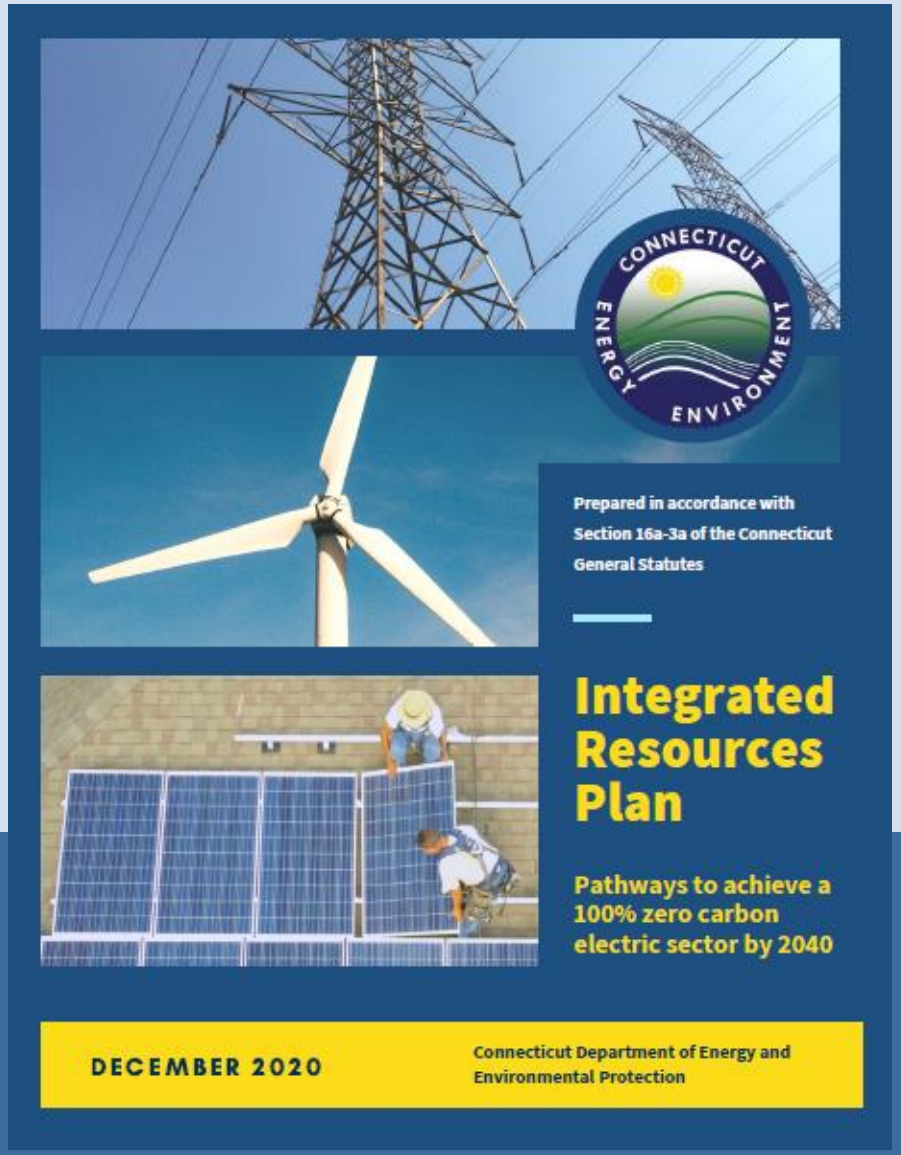
2020 Integrated Resources Plan



Technical Meeting- Policy
January 21, 2021

Connecticut Department of Energy and Environmental Protection

Objective 1: Decarbonize the Electric Sector

Key Findings

Existing clean energy contracts and investments in EE mean CT is already on its way to meet the goal

There are multiple pathways to achieving a 100% Zero Carbon Electric Sector

There are many contingencies that will influence how Connecticut reaches this goal, and at what cost

Connecticut should codify this goal to solidify commitment.

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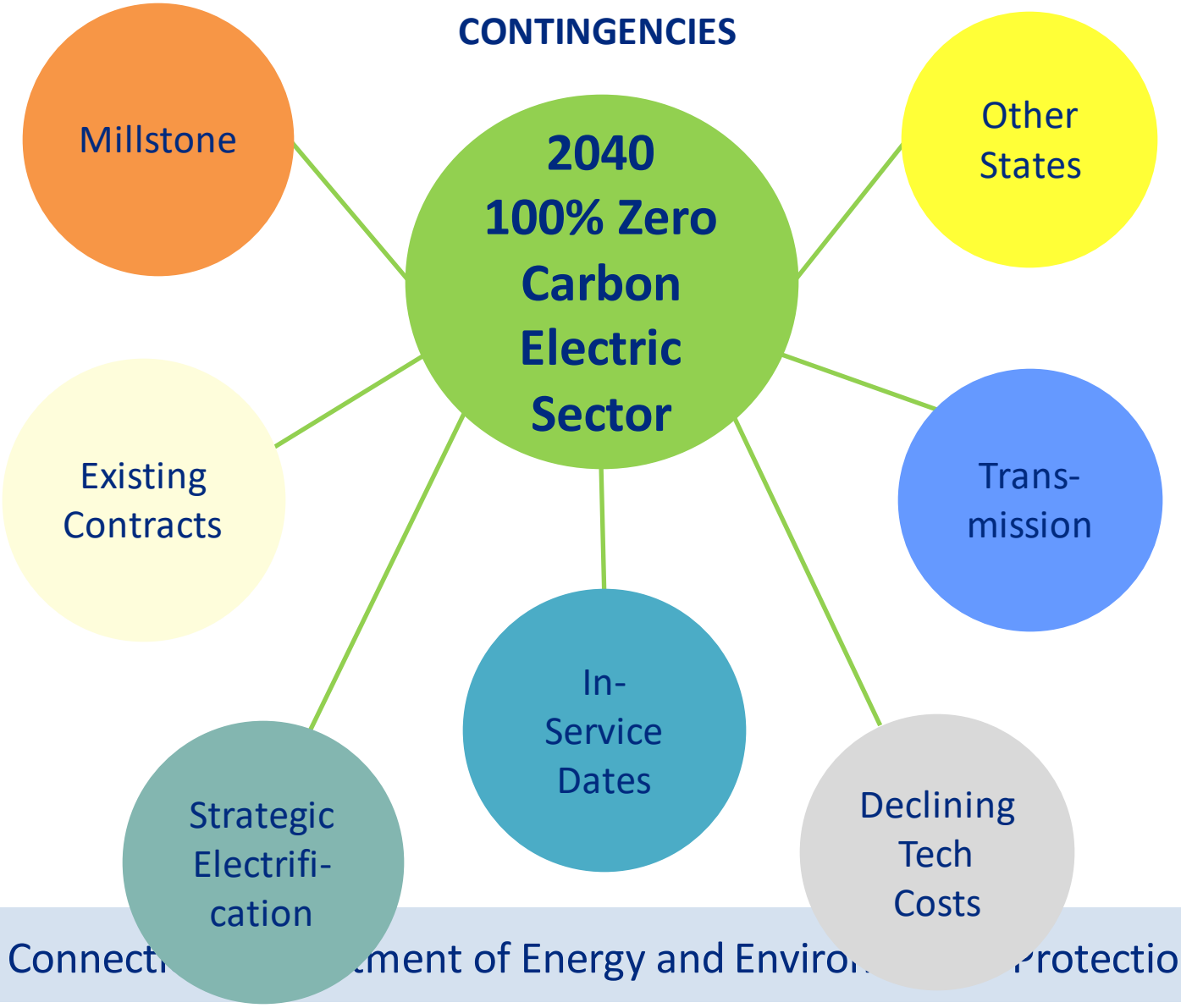

Obj. 2: Securing the Benefits of Competition & Minimizing Ratepayer Risk

Key Findings

Deregulation was intended to secure competitive, low-cost generation, and reduce risk to ratepayers

Instead, the markets have caused CT to forfeit its self-supply rights and authority to determine its preferred resource mix

Created an over-reliance on natural gas resources and expensive RMR contracts

Reforming the markets to ensure zero carbon resources can compete in capacity market while also meeting CT's climate goals is essential

Objective 3: Ensuring Energy Affordability & Equity for all Ratepayers

Key Findings

Connecticut has the highest rates in the country and a large energy affordability gap

Past energy policies have disproportionately impacted our most underserved and overburdened communities.

Connecticut must remove barriers to participation and expand access to state energy programs

A diverse, robust, skilled workforce is essential to meeting a 100% zero carbon target

Objective 4: Optimal Siting of Generation Resources

Key Findings

Polluting generators are generally located in low-income and distressed communities causing increased environmental justice issues.

Not all resources needed to meet the 100% goal will be in CT, but those that are could contradict other environmental policies.

Transparent, predictable siting policies can streamline development timelines and costs

Connecticut must develop modern siting and permitting policies that align energy and environmental policies, with stakeholder input

Obj. 5: Transmission Upgrades & Integration of Variable and Distributed Energy Resources

Key Findings

New England's existing transmission infrastructure can effectively support only a limited amount of new zero carbon generation

Energy efficiency, demand response, and storage play a crucial role in minimizing total load and integrating intermittent resources

Upgrading our transmission system can reduce wasted clean energy

Regional collaboration will improve efficiency and cost effectiveness

Obj. 6: Balancing Decarbonization & Other Public Policy Goals

Key Findings

Connecticut's energy policies currently support technologies that are not zero emissions but provide solutions for other important public policy goals.

Connecticut has multiple coexisting energy and environmental policy goals (e.g. waste management, air quality)

There are opportunities to better align the state's decarbonization efforts with the broader goals of the RPS and other state policies.

Phasing down biomass REC values for Connecticut Class I will create more opportunity for participation from other Class I resources in RPS compliance.

Near Term Strategies for Success

Adopt Legislation

- Enacting a 100% zero carbon supply target for Connecticut
- Signal commitment to the market, and citizens of CT

Reform Markets

- Ensure the markets recognize and incorporate the states' climate and clean energy policies
- Allow clean energy resources to compete fairly
- Regionalize costs of supporting zero carbon resources that benefit all

UpgradeTransmission

- Transmission needs to be reconfigured and upgraded to integrate offshore wind and other new resources
- Upgrades must occur in advance of new resource development
- Proactive and collaborative approach with all NE states and ISO-NE

Balance Intermittent Resources

- Ensure continued savings by authorizing DEEP to procure additional EE and DR and developing storage procurement strategies

Streamline Siting

- Improve the transparency, predictability, and efficiency of solar siting and permitting in Connecticut
- Work with regional entities on offshore wind siting and mitigation of impacts on natural resources and fisheries

Thermal RPS

- Heating of buildings and water is a major source of GHG emissions. Deployment of "renewable thermal" faces economic barriers.
- P.A. 19-35 requires IRP to consider creation of "portfolio standard for thermal energy," including biodiesel in home heating oil. DEEP conducted fact-finding, engaged stakeholders.
- *Concerns about biodiesel:* NOx emissions; degree of GHG reductions difficult to predict; T-RPS would potentially support ongoing use of fossil fuels
- *Concerns about T-RPS:* As expansion of RPS, would exert upward pressure on electricity prices; alternatively, as carve-out within RPS, would reduce support for decarbonizing electricity
- *Recommendation:* No immediate move to T-RPS
- Upcoming CES will explore comprehensive approach for decarbonization of thermal sector, potentially including some form of T-RPS

Pre-filed Questions

Topic 1: Offshore Wind

- **"What analysis has DEEP performed related to the viability of OSW and the potential for a catastrophic environmental disaster from an Atlantic hurricane that justifies the inclusion of OSW in the IRP?"**

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- **"Please explain DEEP's basis for concluding that DEEP's OSW projects would be in-service within 5 years.**"

Topic 1: Offshore Wind

- "What analysis has DEEP performed related to the viability of OSW and the potential for a catastrophic environmental disaster from an Atlantic hurricane that justifies the inclusion of OSW in the IRP?"
- "Please explain DEEP's basis for concluding that DEEP's OSW projects would be in-service within 5 years."
- **"Please explain what delay through legal challenges DEEP has assumed."**
- **"Please explain what delay DEEP has assumed as a result of the lack of qualified Jones Act vessels that could build an OSW project."**

Topic 2: In-state DER Programs

- "Why does the IRP not advocate for a robust In-State solar program for projects under 5MWs like Massachusetts' virtual net meeting program and its SMART solar program with battery storage, all of which reduce capacity obligations, regional network service costs, the need for transmission and the "pay twice" problem discussed in the IRP?"

Topic 3: Thermal RPS

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- **"Has the state considered evaluating the energy (costs?) required to raise the temperature of a home by 1 degree; 5 degrees … [w]hen using the different solutions …?"**

Topic 3: Thermal RPS

- **"With the published data on biodiesel NOx emissions mixed, has the agency researched other precursors for NOx formation and the impacts that other potential solutions may have as well?"**

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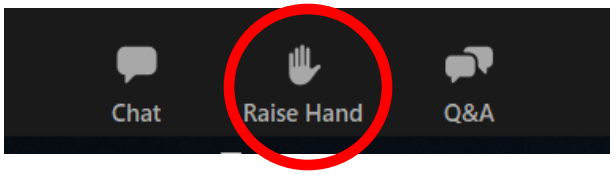
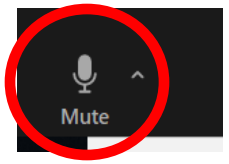
- "With the published data on biodiesel NOx emissions mixed, has the agency researched other precursors for NOx formation and the impacts that other potential solutions may have as well?"
- **"Footnote 324 on page 166 states “the energy content of biodiesel is somewhat lower than that of fuel oil, hence more must be burned to deliver comparable BTUs, and consequently a larger volume of exhaust gas is produced.” The statement that “a larger volume of exhaust gas is produced” is contrary to the results provided by standard combustion chemistry analysis performed by two independent organizations. Could you please share your written combustion chemistry analysis for biodiesel?"**

Procedure for Participation

To indicate interest in speaking please:

1. Raise your hand by pressing the raise hand button at the bottom of your screen
2. We will call your name as it is displayed on Zoom and you will get a notice to unmute yourself
3. Unmute yourself in Zoom, and on your phone if you have called in for audio.
4. Please state and spell your name and affiliation
5. If you would like to submit your question in writing, please enter it into the Q&A box, the chat has been disabled for this event.





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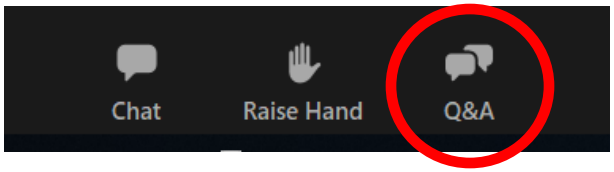

Break

This technical meeting is paused for a break until 10:55am.

Adjourn

- There will be another technical meeting on January 28th, 2021 that focuses on modeling questions.
- You may also submit written comments to DEEP.EnergyBureau@ct.gov until 2/15/2021
- Thank you for your participation!