



CLF Proposal Potential Adjustments

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Key Issues to Address in the CLF Proposal

- In our discussions, it has become clear that two key issues raised by NESCOE need to be somehow addressed in CLF's proposal:
 1. **Existing Clean Resources:** How to provide the most efficient going-forward incentives, while mitigating customer costs associated with payments to existing clean resources?
 2. **Cross Subsidies Among States:** How to address NESCOE objective that no state should be required to pay for the environmental policies of other states?

Issue 1: Existing Clean Resources

Economic Efficiency: All existing and new clean resources should be treated exactly the same to minimize societal cost

- **Economic Efficiency: Level Playing Field**

- Key advantage of markets is that they enable competition and innovation to drive down costs
- The widest possible competition (existing vs. new, different technologies, different business models, internal vs. imported) will allow the least-cost options to survive and drive out higher-cost options
- Lowest societal cost is achieved through a level playing field

- **Inefficiencies from Excluding Existing Clean Resources**

- Excluding existing clean resources would increase societal costs. Lower-cost existing resources needing modest reinvestments may retire even while high-cost new clean resources are being developed
- Problem exacerbated if PPA-driven (or FCM-C driven) new clean resources are added and drive down energy/capacity prices. Poorer financial performance for existing resources will make them even more likely to retire
- Clean energy investments are then self-defeating. Customers spend money on new clean resources only to induce retirements of existing clean resources (potential to spend money without net gains in CO₂ reductions)

Customer Costs: NESCOE's transitional concern regarding customer cost effects

- **Short-Term Concern for Customers:**

- A subset of existing clean resources have low net going-forward costs and might stay online for several years even if they earn no additional payments
- These low-cost existing clean resources would earn higher payments from ZECs or CO₂ price over this interim period, without making incremental contributions to the CO₂ objective compared to the status quo
- This transfer payment does not affect economic efficiency, but does increase customer costs. Customers wish to mitigate payments to existing clean resources that would have stayed online regardless

- **Longer-Term Customer Interest:**

- Over time, the net going-forward reinvestment/refurbishment costs of existing clean resources will rise until they are similar to those of new resources
- Once that happens, existing clean resources will retire unless they are paid the same as new resources
- Customers will see lowest cost if all existing and new resources are treated the same, so that the lowest cost resources can continue operating or be developed

Issue 1: Existing Clean Resources

Considerations for Existing Clean Resources

- No easy solution for treatment of existing clean resources
- Directionally, customer and societal interests would both be best served if it were possible to develop options that could do two things:
 - Give the right going-forward incentives to existing clean resources (and eventually put them on an entirely level playing field with new clean resources before any reinvestment or retirement decisions need to be made)
 - Mitigate the potential for large transfer payments from customers to existing clean resources over an interim transition period
- But these two objectives are in conflict. We want to be clear that any level of resource discrimination will introduce economic inefficiency and associated concerns:
 - No good way to determine when any particular existing clean resource's net going-forward costs are "high enough"
 - Permanently baking in any resource discrimination against some clean energy resource types will have adverse consequences that may grow over time
 - For example, excluded resources will retire early even if they are very low cost compared to included resources (increasing societal and customer costs in the long run, while undermining the CO₂ reduction objectives driving new clean energy procurements)
 - States might be able to step in and save those existing clean resources on an out-of-market basis, but one-off negotiations risk an uncompetitive price, paying a high price to recontract when lower-cost in-market options might have been available, and there is a risk that states may not have the institutional mechanisms in place to act quickly

Issue 1: Existing Clean Resources

Potential Options for Addressing NECSCOE Concerns

- We view the first-best option from a societal perspective as one that treats all clean energy resources on an entirely level playing field
- Second-best alternatives can be developed that sacrifice some economic efficiency, but prevent most of the potential for substantial transfer payments over a transition period. For example:
 - PPAs between States/Utilities and Existing Clean Resources: Existing clean resources that are under a PPA before FCM-C is implemented are unlikely to pose a concern. PPA agreements are typically structured to return market revenues to the contractual counterparty (just like capacity and energy revenues are returned, ZEC revenue would also be returned)
 - Phase-in of Existing Clean Resources: Another option is to phase existing clean resources into FCM-C as a function of age (their full quantity of ZECs would be accounted for in auction clearing, but the resources would be paid for only a portion of their ZECs, increasing to 100% as the resources age). Some efficiency would be sacrificed, but transfer payments prevented
 - Hedge-Like or PPA-Like Tariff Structure: For existing clean energy resources in a transition period, FCM-C payments would be at a fixed, negotiated rate. Over time those resources would be transitioned into being treated on a level basis with new resources. Again, some efficiency may be sacrificed, but transfer payments would be prevented
- Many variations, each with pros and cons. We hope to initiate discussion about what options may be promising to pursue further

Issue 2: Cross Subsidies Among States

- NESCOE “Objective 1” states that cross subsidies need to be prevented
- Two perspectives on cross subsidy issues:

Perspective of Non-Participating States with Modest Decarbonization Targets

- Do not wish to pay for the decarbonization policies of other states
- CO₂ price alone might result in higher customer costs in non-participating states (but impact would be mitigated by CO₂ charges that are returned to customers, and offsetting changes in capacity market)

Perspective of Participating States with the Most Ambitious Decarbonization Goals

- Concern about subsidizing the energy use of non-participating states
- PPA-driven or ZEC-driven clean energy will reduce energy and potentially capacity prices, benefitting customers across New England (regardless of whether they are allocated any costs of the procurements)
- Lower energy and capacity prices have the effect of increasing the “green attribute” payment for clean resources through PPAs, RECs, or ZECs
- Potential retirement of existing clean resources would magnify the cross subsidy effect, if this leads to even more PPA or ZEC procurements for new clean energy or PPA interventions to save existing clean resources

Issue 2: Cross Subsidies Among States

Potential CLF Proposal Adjustments

- Two-part proposal with both CO₂ pricing and ZEC procurement creates an opportunity to mitigate cross subsidies (can be entirely prevented if there is perfect foresight)
- Proposal mechanics to be worked out if the overall concept is agreeable

Step 1: FCM-C

1. ZECs procured through FCM-C are allocated to loads in the participating states
2. Causes energy and capacity price suppression that benefits all customers (creates a cross subsidy from participating to non-participating states)*

Step 2: CO₂ Pricing

1. Moderate CO₂ price is imposed, high enough to restore customer costs for non-participating states back to a status quo level without FCM-C (after accounting for rebates from CO₂ charges)
2. Non-participating states' customer costs not affected on a net basis. Note that substantial estimation errors may require relying on informed judgement within a reasonably supported range
3. Size of the CO₂ price may be lower than the societal cost that CLF has previously proposed

Importance of Incorporating a CO₂ Price

- NESCOE has previously expressed a preliminary view that CO₂ pricing options (especially if pursued alone without FCM-C) could be undesirable due to the potential for remunerating existing clean resources at a higher level than in the status quo, and requiring non-participating states to pay for the policy objectives of other states
- These potential adjustments to CLF's proposal are intended to address both concerns
- We want to take this opportunity to reiterate the importance of incorporating a CO₂ price from an economic efficiency perspective

Advantages of CO₂ Pricing

- Directly corrects the market failure by internalizing the externality. Most efficient (lowest societal cost) way to achieve CO₂ reductions
- Immediate CO₂ reduction impact based on fuel switching away from remaining coal plants, utilizing DR for peaking needs, reducing CO₂ emissions associated with start-up/shut-down
- Customer cost impacts are limited due to: reductions to ZEC and capacity prices, rebate from ZEC payments, and inducing greater energy efficiency

- Creates differentiation among clean energy resources, providing the strongest incentives for the resources that avoid the most CO₂ reductions. Importance of this attribute will grow enormously as the system becomes more decarbonized, e.g. if in the future gas is only on the margin ½ of the hours, some clean resources may not displace much fossil generation
- Mitigates potential for adverse interactions between ZEC product and energy market price formation (magnitude of negative pricing and associated problems are mitigated, plus the CO₂ implications of min generation events are incorporated into commitment/dispatch decisions)



Discussion