Achieving State Policy Goals in Markets

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on behalf of Conservation Law Foundation
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Disconnects between RTO markets and state policy goals

• RTO markets are *narrowly* efficient
  – Achieve reliability goals
  – At least cost

• Disconnect when state policies have:
  – Broader goals
  – Broader cost metrics

• Many goals have been brought into the markets by pricing
  – SO$_2$, NO$_x$ attainment

• But mixed success with other goals
  – RECs to attain RPS
  – RGGI to attain CO$_2$ goals
What’s gone amiss with market-based GHG achievement?

• Pricing can be too low to achieve policy
  – RGGI prices set by markets, but markets not calibrated to policy
• Market structure inadequate to support investment, e.g. RECs
  – Value depends on policies subject to year-to-year change
  – Fragmented, state-by-state demand
  – Poor basis for long-term capital financing
• Result: direct state action
  – To hold nukes (e.g. ZECs)
  – To procure renewables (e.g. MA 1,200 MW RFP)
Achieving state policies is critical to market health

**Vicious Circle**
- Markets fail to achieve state policies
- States achieve outside of markets
- Narrow RTO metrics
- RTO markets weakened

**Virtuous Circle**
- Markets achieve state policies
- States work mostly within markets
- Robust RTO metrics
- Robust RTO markets
Achieving State Policy in Markets

*Personae Dramatis* in constrained policy space

**States**
- Legislated policy
- Sovereignty

**ISO**
- J&R
- Efficient

**Industry**
- Financeable
- Sustainable

Design advanced by CLF, NextEra and Brookfield after extensive consultation with state and ISO-NE officials
Numerous proposals for achieving state policy

- Carbon adder in dispatch
- Forward market for clean energy
- Clean energy targets as side constraint in capacity market
- Time-dependent RECs (peak/off-peak)
Goals of Dynamic Clean Energy Market (DCEM) design

• Provide states new tool for achieving policy goals that:
  – Uses centralized markets
  – Achieves policies at least cost
  – Attracts and retains cost-effective resources
  – Creates visible, competitive prices
  – Fosters broad participation of innovative technologies & resources
  – Meets most, if not all, state requirements for clean energy
DCEM Design Concept

• Auction procures the clean energy attribute only
  – Clears MWh quantities of Carbon-Linked Incentives to Policy Resources (CLIPR)
• Products:
  – Base product: generic zero-emitting MWh, new and existing
  – Premium product(s): as required to implement specific state policy
• States or their agents provide demand bids (price & quantity)
  – Cleared quantities must be reoffered for additional nine years
• Auction closely precedes base capacity auction
  – Expected clean energy revenues are “in market” for MOPR
• New CLIPR improves on existing REC products:
  – Consistent definition across region (for “base” product)
  – Link hourly payment to carbon reduction
  – Potential for multi-year contract for new resources
DCEM mimics carbon price for policy resources
CLIPR refines traditional REC payment

Illustrative REC payments

- Flat payments in every hour
- Added incentive to offer negative energy prices, even during periods with excess energy

Illustrative CLIPR payments

- Payments scale in proportion to CO$_2$ emissions of marginal energy units
- Incentive to produce clean energy when and where it avoids the most CO$_2$ emissions
- No added incentive to offer at negative prices
Different CLIPR payments enhance opportunities for storage
Meeting the needs of differently situated states

<table>
<thead>
<tr>
<th><strong>States with Strong Decarbonization Goals</strong></th>
<th><strong>Non-Participating States</strong></th>
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<tbody>
<tr>
<td>• Market-based opportunity to purchase clean resources to meet goals</td>
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<td>• Flexibility to define needs</td>
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<td>• Avoid need for one-off negotiations and specialized contracts</td>
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<td>• Reduced administrative burden for states</td>
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<td>• Procured resources participate fully in RTO markets</td>
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<td>– Avoids paying twice for capacity</td>
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<td>– Avoids disrupting price formation in energy and capacity markets</td>
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<tr>
<td>• Sustainable revenue source to cost-effective clean energy resources eliminates need for “rescue missions”</td>
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<td>• Better allocation of risk:</td>
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<td>– Commodity risk to developers</td>
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<td>– Regulatory risk to consumers</td>
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<td>• Will not pay for costs of clean energy purchases of other states</td>
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<td>• Will benefit from lower energy (and possibly capacity) prices from presence of policy resources</td>
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## DCEM compared to carbon pricing

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<tr>
<th><strong>DCEM</strong></th>
<th><strong>Carbon Pricing</strong></th>
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<td>• Market-set price to meet <em>quantity</em> targets determined by states</td>
<td>• Price set administratively in a FERC-approved tariff</td>
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<td>• Benefits targeted narrowly on policy resources</td>
<td>• Broad impact on markets achieves carbon reduction most efficiently</td>
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<td>– Limited cost impact, but</td>
<td>– Higher net consumer cost</td>
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<td>– Excludes some cost-effective carbon reduction, e.g. DR &amp; EE</td>
<td>– Benefits flow also to low-emission units, demand-side, behind-the-meter gen</td>
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<td>– No impact on dispatch stack</td>
<td>– Reorders supply stack (with multiple fuels)</td>
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<td>• Potential multi-year commitment aids financing</td>
<td>• Risk of price decreases raises financing Qs</td>
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<td>• Initial interest from state commissions</td>
<td>• States unanimously oppose carbon pricing in federal tariff</td>
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### DCEM compared to Forward Clean Energy Market

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<th><strong>DCEM</strong></th>
<th><strong>FCEM</strong></th>
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| • Attribute-only  
  – Not necessarily a federal market | • Energy + attribute  
  – FERC jurisdictional |
| • Payment varies proportional to emissions displaced  
  – Keeps renewables responsive to energy market prices | • Fixed payment rate  
  – Removes renewables from energy market |
| • Split risk sharing:  
  – Developer carries energy commodity & operational  
  – Consumers carry policy risk | • Developers carry less risk:  
  – Developers have operational risks  
  – Consumers carry energy & policy risk |
Next steps for Dynamic Clean Energy Market

- Technical evaluation by states’ consultant
- Further development by IMAPP sub-groups
- Tariff development by Markets Committee