



Making RPS Goals

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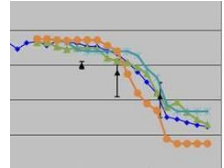
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Outline & Learning Objectives

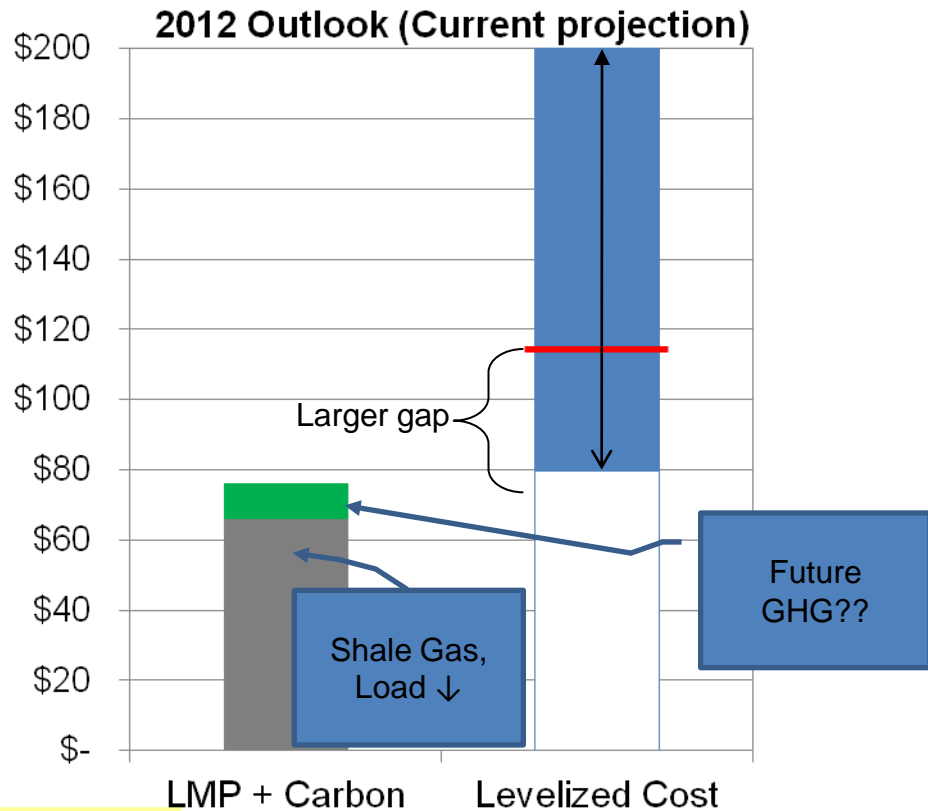
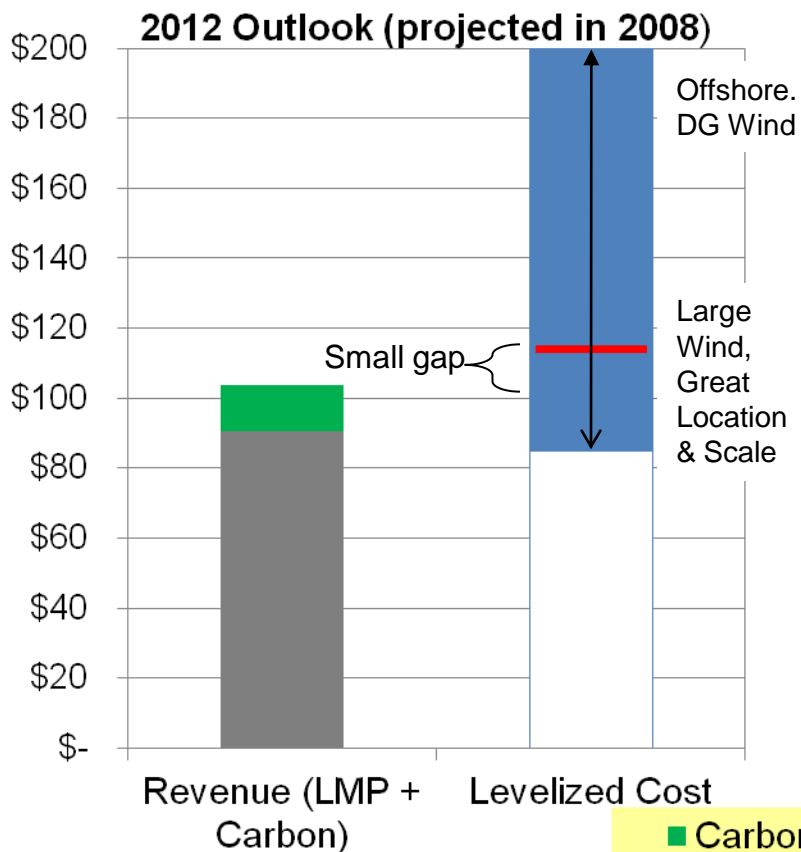
- Discuss RPS market trends
- Talk about RPS market uncertainties & their impacts
- Identify possible market imperfections
- Discuss requirements for sustaining a successful RPS market

Despite siting challenges, New England RPS markets are working!

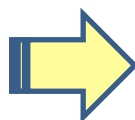


- Supply caught up with (now exceeds) demand
- Current REC prices have fallen sharply (price signals!)
- Substantial competition when buyers shop
- LSEs have been banking surpluses (somewhat)
- Long-term contact RFPs help financing (is it enough?)
- ISO: focus on carbon-neutral supply, wind integration picture (NEWIS) 'better than expected'
- Robust development pipeline → **potential** investment
 - Evidenced by NSTAR RFP: seeking 320 GWh/yr, received 113 bids for 9000 GWh (28X)

But... Shifting Economics Placing Increasing Price Pressure on RE



+ Shortage (hi REC Prices)
→ Investment



+ Surplus (low REC Prices)
→ Investment not sustainable unless REC prices rise

And... Legislative/Regulatory Uncertainties Threatening to Undermine Investment

Supply Side:

- Talk of large hydro as 'eligible'
 - Combined with possibility of new ties to QB &/or NB
- MA biomass eligibility
- Eligibility 'Loopholes' (ME)
- RE-related transmission planning process/decisions
- Cape Wind approval?

Demand Side:

- Talk of cutting RPS targets (CT IRP)

These issues impact the success of RPS markets and the cost of compliance.

Potential for more balkanization of markets.

Large unknowns may drive buyers who have discretion to the sideline.

Policy-makers can increase or reduce risk

- Availability & cost of capital depend on perceived revenue risk.

Problem:

- Historically, RPS eligibility policies subject to rapid and unpredictable change (e.g. CT Class 1)
 - Policy-makers influence both REC supply (via eligibility) and REC demand (via RPS targets)
- Market offers few long-term REC buyers due to:
 - Credit, load uncertainty, changes in eligibility criteria

Solution: Policy stability, revenue certainty/predictability

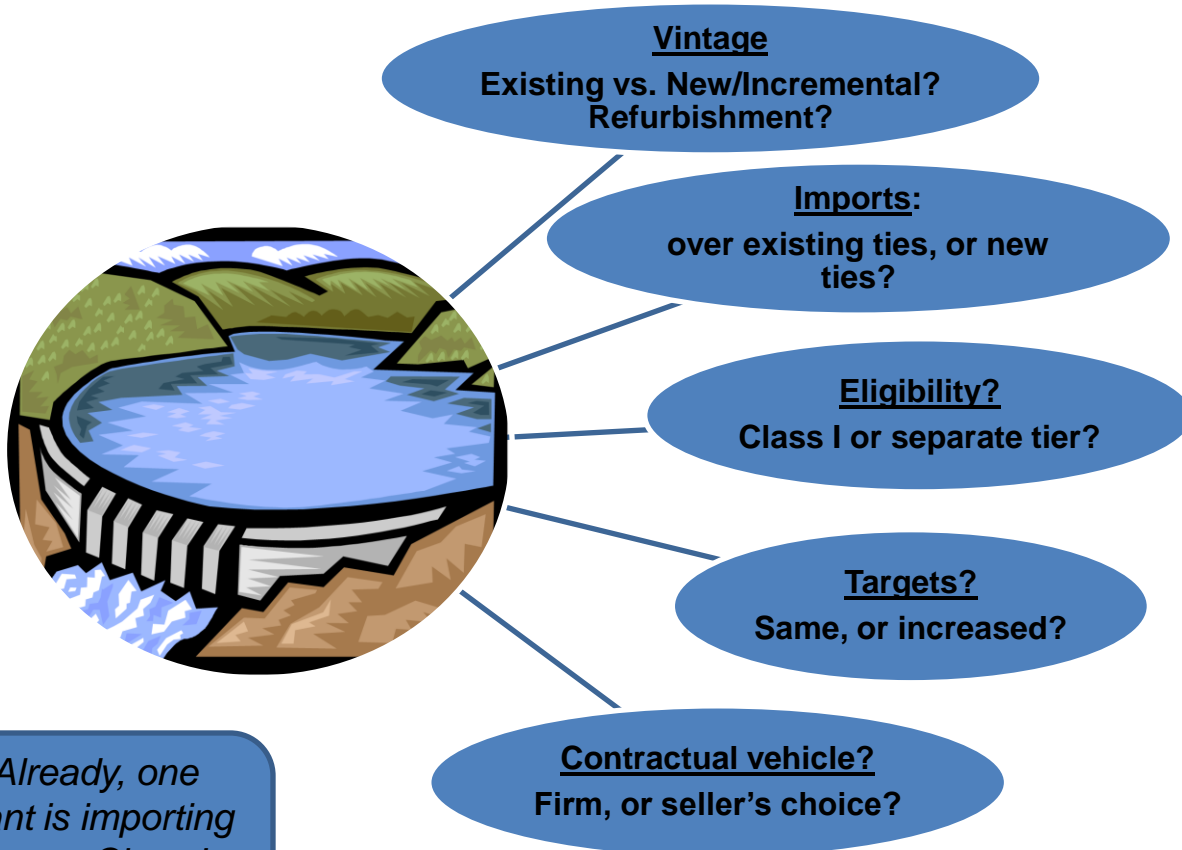
- Availability of long-term contracts is the key variable for RE:
 - Overcome inability to attract financing
 - Lower cost of financing by reducing risk
- Policy-makers begin to address need for stability and revenue certainty through long-term contract policy initiatives...

Long-Term Contracting Policies in the Northeast

- **Connecticut**
 - Project 150
 - Long-Term Contracting Order
- **Massachusetts**
 - MA DPU 08-88/GCA LT K Pilot
- **Maine**
 - Long-Term Contracting for Capacity & Associated Energy
 - Community-based Renewable Energy Pilot Program (up to 10 MW)
- **Rhode Island**
 - RES Long-term Contracting Standards
 - Long-term Contracting Legislation
- **Vermont**
 - Feed-in Tariff for up to 2.2 MW
 - SPEED Program-driven RFP
- **New York**
 - RPS Central Procurement
- **NESCOE**
 - Coordinated procurement

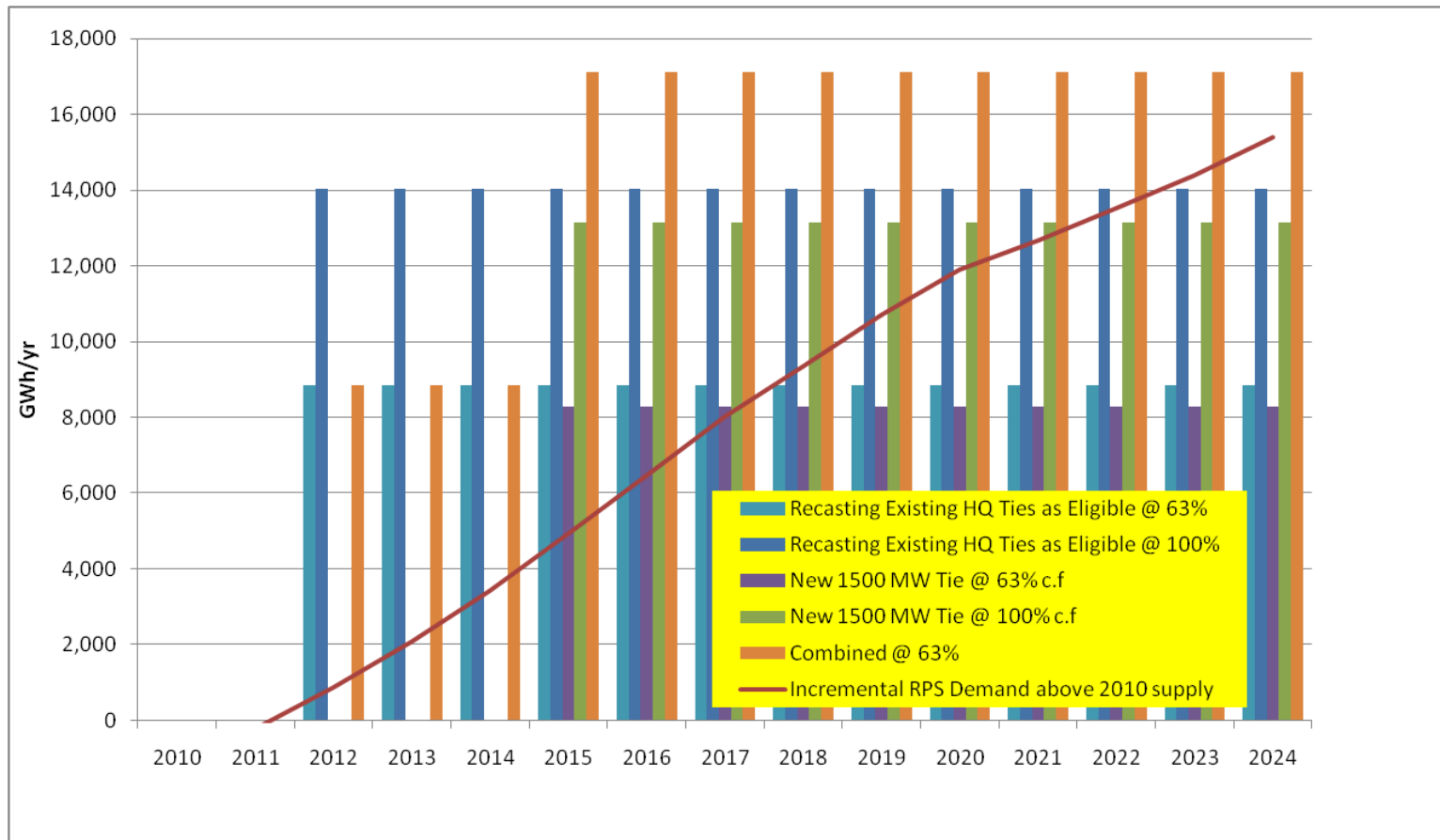
Large Hydro as Eligible?

Many possible futures: Details matter... a lot!



Observation: Already, one market participant is importing large hydro, not yet Class I eligible, MWhs similar to Cape Wind's expected production

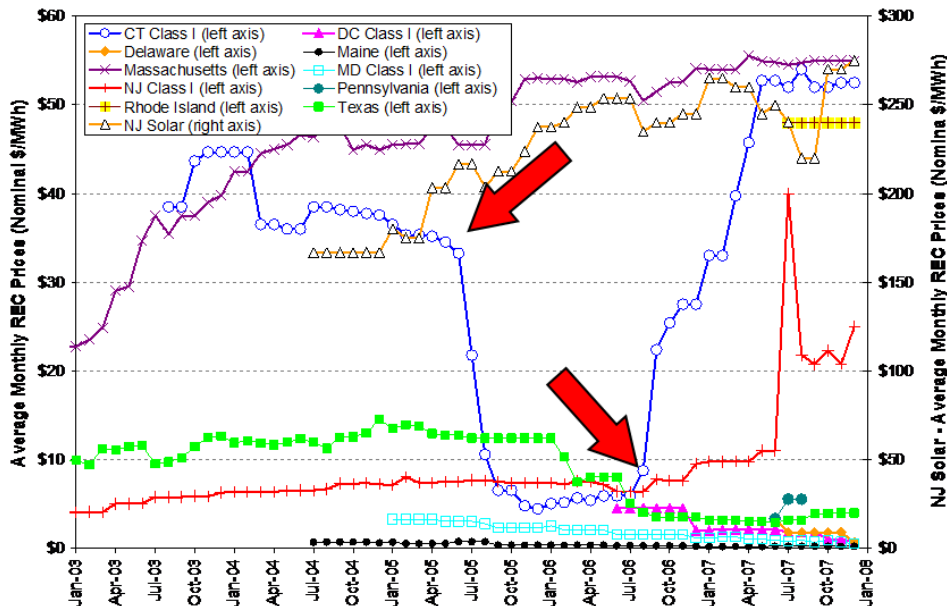
The Details Matter... A Lot



Factors Influencing Cost of RPS Compliance

- Eligibility (supply side)
- RPS targets (demand side)
- Price caps (ACPs) → Upper Limit

- Supply vs. demand:
 - ST: Competition among existing facilities
 - LT: Cost of New Entry
(banking, & borrowing too)
- Gap between 'cost' & commodity prices
- Regulatory/legislative risk



Source: Evolution Markets; LBNL

Some Possible Market Structure Imperfections Becoming Apparent

- Inability/disincentives for LSEs to bank excess RPS compliance
 - *Original purpose*: limit generator market power, maintain integrity of disclosure labels.
 - Only LSEs may bank; limited to 30% annual obligation, 2 yr duration
 - Almost 60% of CT RPS load can't bank due to SO/LR procurement approach
 - Low prices would seem attractive for insuring against future needs, but...
 - LSEs banking << surplus available and that economics would suggest
 - In 2008, only 38.5% of potential banking, with substantial # of RECs stranded
- 3.5 – 6.5 month GIS lag between generation & minting RECs
 - *Original purpose*: emission data accuracy
 - Sellers v. LSE cash flow
 - Difficult for generators to respond to market price signals
- RPS tier inversion btw new v. existing
 - *Original purpose*: support new, existing RE
 - CT, RI: surplus Class I (new) can be used to meet Class 2 (existing) requirements.
 - MA-2, NH-III & NH-IV, shortages → existing RE earn close to ACP, sheltered from competition with surplus new RE

Parting Thoughts

- Short-term surplus → today, things look good to RPS obligated entities
- Circumstances are dynamic, however.
 - Some drivers cannot be controlled. Others can.
- Are we creating an environment that will attract further investment?
- What are we trying to accomplish?
- Policies should focus on both short and long term, and provide consistency to market participants.

QUESTIONS

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