



Synapse
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Vermont Renewable Energy Standard Tier 3 Origins

House Committee on Energy and Technology

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Synapse Energy Economics

- Founded in 1996 by CEO Bruce Biewald
- Leader for public interest and government clients in providing rigorous analysis of the energy sector
- Staff of 40+ includes experts in energy, economic, and environmental topics

- About me:
 - Served as Director of Energy Policy and Planning at the Public Service Department from 2011 through 2016
 - Led development of the 2014 *Total Energy Study* and 2016 Vermont *Comprehensive Energy Plan*, as well as numerous other legislative reports
 - Worked with Darren and *many* others to shape and then implement the 2015 RES

Tier 3 policy design/history notes

- 2013-2014 *Total Energy Study* examined a “Total Renewable Energy and Efficiency Standard” (TREES):
 - “The TREES policies function similarly to a Renewable Portfolio Standard. However, TREES is broader in that it requires energy suppliers in all energy sectors – including electricity, natural gas, delivered fuels, and liquid transportation fuels – to source a growing proportion of energy from renewable resources and/or demand reductions via energy efficiency.”
- Complementary policies also required: information and access, strategic investment, and codes and standards
- This study laid out the technological path forward:
 - Efficiency
 - Fuel- and mode-switching
 - Renewable energy supply

Tier 3 policy design/history notes

- Given the similarity of TREES to an RPS, when the opportunity came to revisit the RPS policy for electricity supply, we looked for opportunities to bring in other sectors and drive the technological changes identified in the *Total Energy Study*
- Considered a system of tradable credits for Tier 3 (akin to RECs used for Tiers 1 and 2, or “white certificates” for energy efficiency in Europe)
- But with only a few buyers, dominated by Green Mountain Power, and a sell-side that would likely be dominated by VEIC/Efficiency Vermont, it was unlikely that there would be a well-functioning market, so Tier 3 was built around partnerships

Tier 3 policy design/history notes

- Built from systems developed for regulated energy efficiency programs:
 - Technical Advisory Group that evaluates measures and sets parameters for how they are measured and valued
 - Credit for the decision to improve efficiency is given at the time of the decision: customer often receives an upfront incentive, and the utility gets lifetime savings it can claim against its obligations
- We knew the RES would only be sufficient to meet a portion of the need for action by 2030 or 2050
 - Limited to what we could accomplish on the electric bill, with uncertain programs and technology adoption (e.g., Tier 2 RECs available as a fallback for Tier 3)
 - Modeling at time of RES passage assumed 50% of Tier 3 credits would be from heat pumps, 25% from combined heat pumps and weatherization, and the remainder split between EVs and weatherization (TEPF) – starting with more EVs, shifting toward weatherization

Lessons for the Clean Heat Standard proposal

- It makes a lot of sense to drive greater action on building decarbonization by expanding obligations beyond the electric utilities
- Policy question: expand Tier 3, or create an umbrella over Tier 3?
- Clean Heat Standard proposal takes the umbrella approach, using components like the Technical Advisory Group but broadening to a more market-based approach (tradable credits) that may be more appropriate in a space with more players (buyers and sellers)
- Things to watch out for:
 - Market power
 - Double counting
 - Price volatility