

## MEETING NOTES

Vermont Department of Public Service (PSD)  
Innovative Rate Design Study  
Rate Design Initiative – Workshop No. 4  
May 21, 2020 (Online via Zoom)

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### General Notes

This was the second workshop to be conducted virtually, using Energy Action Network's (EAN) Zoom account; this workshop started on Zoom Webinar, then shifted to Zoom Meeting to facilitate breakout sessions. Riley provided an introduction and Jared gave a verbal reminder of the "rules" for interacting on the Zoom platform (which had been provided previously via e-mail). The following is a summary of the presentations that followed.

### LSAM™ Updates (Reger)

- Responses to Technical Working Group feedback on LSAM™
- Primarily comments regarding Electric Vehicle modeling assumptions, but also included comments on the modeled "snap-back" of flexible load and estimated distribution cost impacts
- Several technical issues / differences in projections will be addressed in the NewGen report

### Panel #1 (Potential Areas of Recommendations)

#### Speaker 1: Rick Weston (RAP)

Rick focused on fully allocated cost analysis and fair cost allocation, as well as avoidable costs. Avoidable costs have a time element related to cost causation. The rate design aspect should recognize the value of consumption in time. He argued there is no sense in disrupting 50+ years of what has worked, but rather to layer on the value of "price-responsive" load by reforming base rates to include some time-differentiated aspect. Any rate design ideas should include an element of alternative analysis, which asks "compared to what?"

#### Speaker 2: Jeff Monder (Green Mountain Power (GMP))

Jeff provided insights on a Flexible Load Management pilot implemented by GMP, Dynamic Organics and Efficiency Vermont. Lessons learned from 1.0 pilot include active relationship management was critical with various end users; automation is better than human controls / signals, baselining is key (understanding baseline), weather drives undifferentiated peaks and load management is increasingly becoming load shape management, coordination / orchestration of various technologies is important as well. A key takeaway is that targeting customers at single peak hours for compensation is contrary to load management strategy. For 2.0 -pilot – GMP is going to look at more frequent load shifting, management at the KW level, compensating a mix of up-front credit / event based payments (Launch expected January 2021).

### Speaker 3: Paul Hines (Packetized Energy, U. of Vermont)

Paul presented on the estimated quantity of flexible load in the in US, and the idea of flexibility being key to minimizing capacity costs. The largest portion of consumer energy costs is capacity costs. Programs need to be simple to choose, simple to pay and simple to manage. Paul presented various pricing options from static TOU (most simple) to RTP and use of aggregator / 3<sup>rd</sup> party to provide enabling technology or simplified rate plans to accomplish objectives. One example may be to add capacity and fuel into a flat rate per month to minimize financial friction (easy to use) and technology friction (easy to choose).

### Speaker 4: Freddie Hall (Burlington Electric Department (BED))

Freddie presented a range of rate tools from whole home programs, to rate riders to full “end-use” rates (such as for EVs). End use rates provide ability to meet cost test for customer, the utility and society. Freddie focused on development of cost based rates, including power supply, hardware / software costs, and fixed cost contribution for BED EV Charging Credit. BED is also conducting research / testing for Electric Thermal rates, including impacts on Vermont Tier 3 / Energy Efficiency, increased marginal load and DR potential.

### Speaker 5: Scott Burnham (NewGen)

Scott provided a summary of the methods and results from the second Panel discussion during the previous workshop (Workshop #3, April 16), regarding acceptance and adoption by customers of innovative rate design pilot programs. Scott also provided a range of potential pathways for greater adoption, from pilot programs to mandated rates. Additionally, he discussed potential “low-hanging” fruit for rates, such as requiring program participation in exchange for utility investment, and other high value / high effort rate structures, such as CPP for space conditioning and Direct Load Control.

## NewGen Presentation – Summary Findings – Rate Solutions

Andy provided a summary of the LSAM modeling results, including projections of upward rate pressure as a result of no-changes to existing rates / rate programs. Potential savings as a result of innovative rates are estimated between \$150 - \$200 million per year after 2040 for the entire Vermont system. Study findings recognize that the ability of Vermont to operate in a regional market for wholesale energy and transmission services lends itself to identifying and managing marginal costs. The use of marginal costs can inform incentives for customer behavior change. Utilities can manage load either directly or indirectly through price signals (innovative rates). Implementation of innovative rates faces enrollment challenges, which may be improved with various designs as well as regulatory encouragement. Andy also presented a set of draft conclusions and recommendations for the study, including:

- There is likely to be substantial upward rate pressure in an “unmanaged” future
- Electric rates should create stability, equity, and recover costs, but can also be seen as a resource to manage future costs by sending price signals to change customer behavior
- Electric rates should target certain types of loads that can be more responsive to price signals to improve response and program enrollment
- Utilities should actively market innovative rate offerings, creatively and proactively targeting customers where electric consumption is part of the transaction (e.g., when disbursing incentives (e.g. EV chargers); or engaging the customer at the point of sale for EVs, electric heat pumps, etc.)
- Look to new business/service models as technologies further evolve and 3<sup>rd</sup> parties enter the market

## **Break Out Exercise – Feedback / Buy-In For Study**

Attendees were assigned to one of four groups; each group had one or more representatives from NewGen and/or the Departments. Each group was assigned a primary issue on which to report out; however, they were able to comment / provide input on any of the four issues.

Issues / initial questions to be considered by each breakout group included the following:

### *Issues A – Promising Rates and Pathways*

Rates / Rate Types and strategies that will be effective to address concerns. Which rates or rate design strategies for Residential will be most effective in addressing avoidable (incremental) costs (EV flex load, EV-TOU, TOU, CPP, etc.)?

Report out by Annie Gilleo: Discussion focused on the importance of targeting rate design to improve participation/enrollment and responsiveness. You can have more complex rate design that better mirrors the cost drivers of the grid but rolling out a single rate for an entire household/business is not likely to be effective. However, there was concern over too many rates to too many specific end-use devices (EVs, water heaters, space heating, thermostats, etc.). Incorporating 3<sup>rd</sup> party aggregators to bundle systems will be important. There were mixed views on subscription vs. bill credits, and peaky loads vs. flexible loads. Department can facilitate by analyzing or requiring analysis of DER “hosting capacity” across different portions of the system, and allowing for a “regulatory sandbox” for new rate designs that both allows for failure and encourages scaling from the pilot stage when success is achieved.

### *Issue B – Implementation Challenges*

Characterize this Implementation Challenge related to the rate solutions recommended earlier in the program. Are there sensible Department or utility actions to implement, what are the key barriers to be addressed?

Report out by Kate Desrochers: Customer motivations will vary – need to ensure utilities understand motivations. Communication between devices (EVs) needs to expand. How can we justify investments when savings are projected in the future? How do we get to scale rapidly? Choices now may have implications later (trying to hit peak exactly just shifts costs, not reducing them). Group discussed diminishing returns with more devices. Barriers exist for retrofitting (older housing stock, rental market). Carrots (incentives) lead to more of a regulatory mandate, sticks themselves to penalties for those that cannot change.

### *Issue C – Consequences of No Change*

What are the risks or impacts of “Status Quo or Business as Usual” from each perspective? How would you describe the relative “pain threshold” by each perspective? Is there an Urban/Rural divide with respect to innovative rates?

Report out by Graham Turke: Risks of BAU include inability to meet state environmental goals; increasing complexity drives increasing costs – so better to act now than wait until later. Pain threshold: Don’t want to impact comfort of customers; potential change in the relationship with customers, and potential for rate shock (rates should mitigate this risk). Impacts are hard to message – less savings, less GHG (price spike in wholesale market easier for customers to understand). Must have coordinated response; unified messaging of BAU. C&I have already invested in managing risks; need to coordinate with them. Divide exists between larger / smaller utilities (less than Urban / Rural); smaller may be nimbler with C&I targeted, but harder to get big impacts from residential. Similarly, municipals and coops may be harder to implement complex rate design. Need to incorporate low income programs. Not all customers can participate in competitive markets.

### *Issue D – Gauging the Degree of Alignment*

Do you agree with the findings and the recommendations presented in the panel and NewGen’s presentation?  
How would you characterize the insights from this process so far?

Report out by JJ Vandette: Negative impacts of electrification and associated costs are a concern (higher costs for technology) but need to put into perspective total energy costs across the state. The threat of higher rates comprises efforts to promote electrification / affect change . Need to allow rates / rate designs to fail and have a process to scale for each utility. Process is a good venue for sharing information / ideas / concepts – such as a minimum state standard for connect-ability. Need to have a diversity of options to allow 3<sup>rd</sup> parties to jump in. Smaller utilities need greater access to innovation / programs; perhaps a network for sharing information on programs / successes / failures.

### **Wrap Up and Next Steps**

General themes from group reports:

1. Key risk is customer “pain” from increasing prices and complexity
2. To get to scale: need consistency across stakeholders/state/programs and allow utilities to recoup costs associated with falling short in innovative pilots or programs
3. Simplicity for customer: Make the decision for them, make it simple and compelling; then package the rate/program and collaborate with market and stakeholders
4. Small vs. larger utility issues, barriers, constraints
5. Proactive in efforts and rates, not reactive
6. Regulatory role: general support for expanded role and innovative pilot framework
7. C&I perspective should be considered: tailor the messages to them, cost allocation and subsidization issues, small / large customers

Final workshop (#5) scheduled for June 25 (on-line). Intent is to incorporate comments / feedback from all workshops, present NewGen report summary, discuss implications on Vermont state policy. Want to bring rate design into regulatory process, including pending IRPs and Department long range planning. Want to continue to build momentum in collaborative manner.

### Workshop #4 - Breakout Sessions - Attendees by Group

Groups	Organization	Department / NewGen Rep
<b>Group A</b>		
Annie Gilleo	Greenlots	Andy Reger
Scott Anderson	Green Mountain Power	Scott Wheeler
Paul Hintz	Packetized Energy	Claire Mcilvennie
Steven Rymsha	Sun Run	
<b>Group B</b>		
Melissa Bailey	Vermont Public Power Supply Authority	Scott Burnham
Lou Cecera	Vermont Electric Power Company	Philip Picote
Kate Desrochers	Packetized Energy	TJ Poor
<b>Group C</b>		
Halley Roe	Vermont Energy Investment Corporation	Tony Georgis
Graham Turke	Green Mountain Power	Sean Foley
Steve Farman	Vermont Public Power Supply Authority	Maria Fischer
Morgan Casalla	Dynamic Organics	
Gabrielle Stebbins	Energy Futures Group	
Chris Rauscher	SunRun	
Ken Jones	State of Vermont	
Hantz Presume	Vermont Electric Power Company	
<b>Group D</b>		
Jared Duval	Energy Action Network	Riley Allen
Jeff Monder	Green Mountain Power	Edward Delhagen
Katie Orost	Vermont Electric Coop	
Freddy Hall	Burlington Electric Department	
Olivia Campbell Anderson	Renewable Energy Vermont	
JJ Vandette	Vermont Energy Investment Corporation	