

Integrating Wholesale and Retail DR Programs: National Grid's New C&I DR Offering

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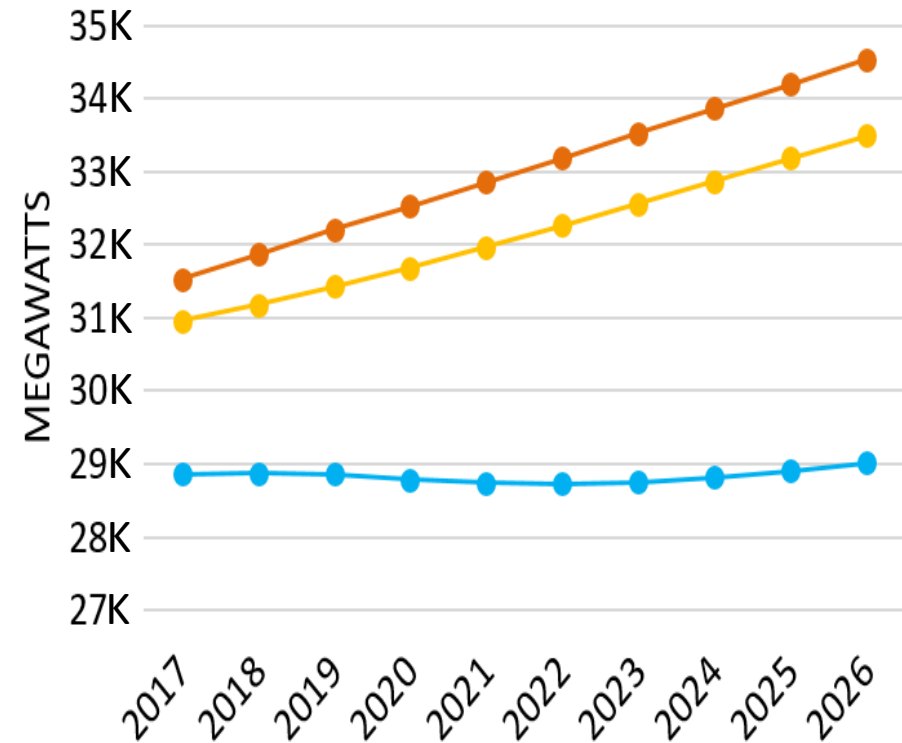
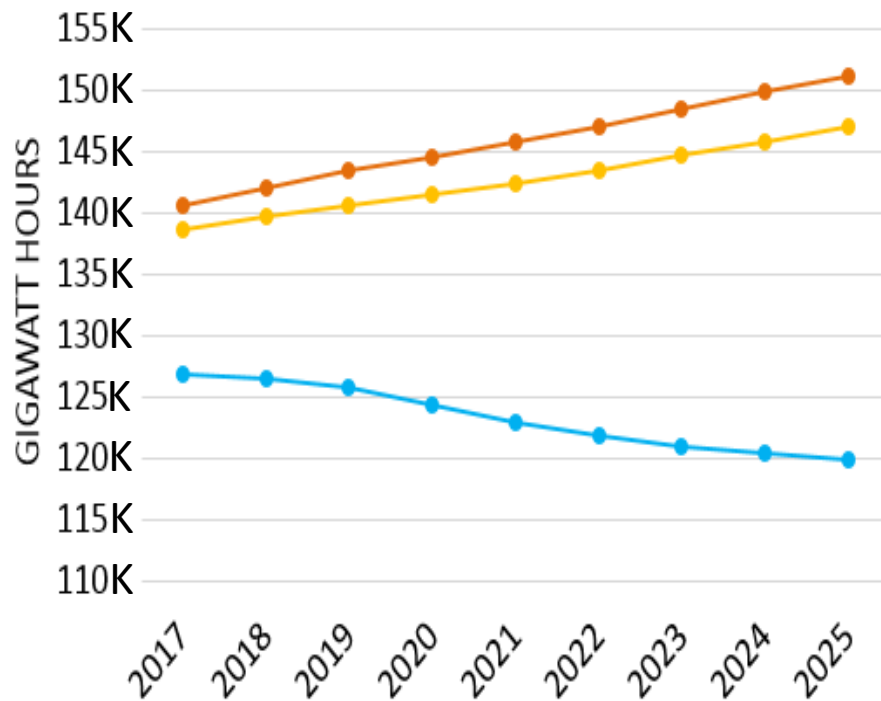
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Program Drivers

1. Decreasing Energy Use, but Increasing Peak
2. Power Plant Retirements
3. Increased Capacity Costs
4. Long Term – Better Integrate Renewables

Program Drivers

1. Decreasing Energy Use, but Increasing Peak



● The gross load forecast (projected regional energy use)

● The gross load forecast minus forecasted solar PV resources

● The gross load forecast minus forecasted PV, minus EE resources in the Forward Capacity Market 2015–2018 and forecasted EE 2019–2024

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- 2. Power Plant Retirements**
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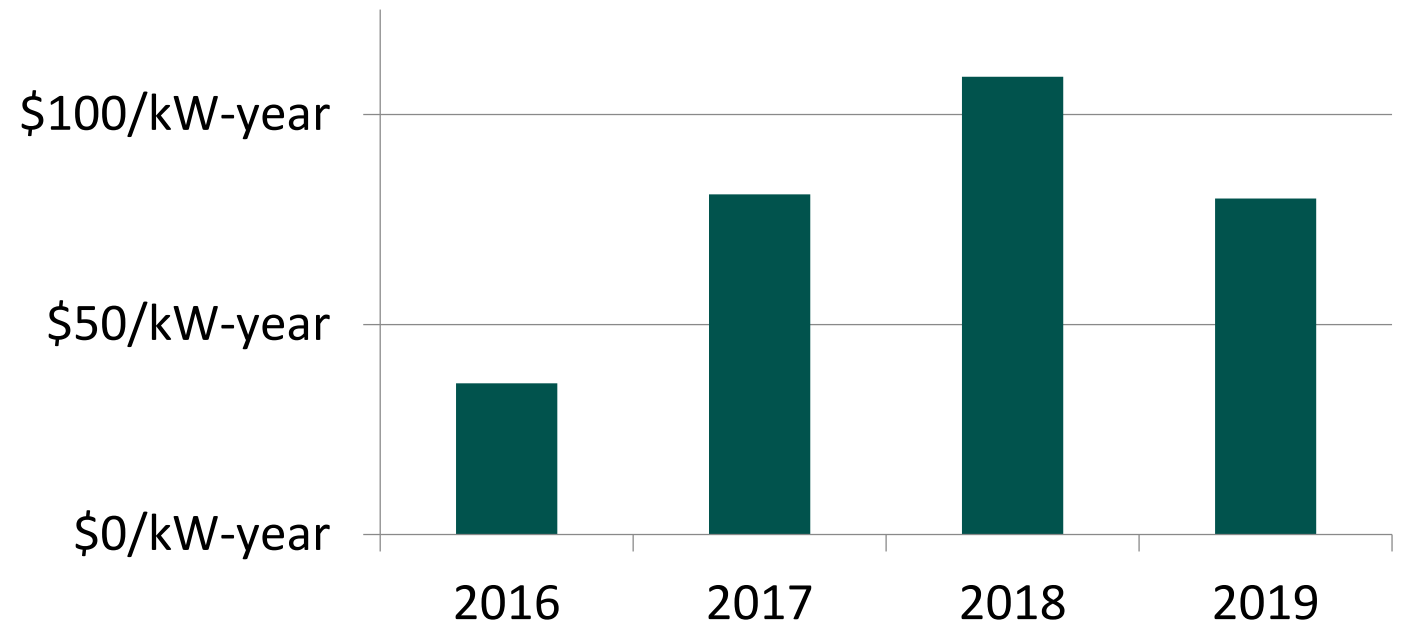
4.2 GW will retire before between 2012 and 2020.
That is 15% of the ISO-NE System!



Program Drivers

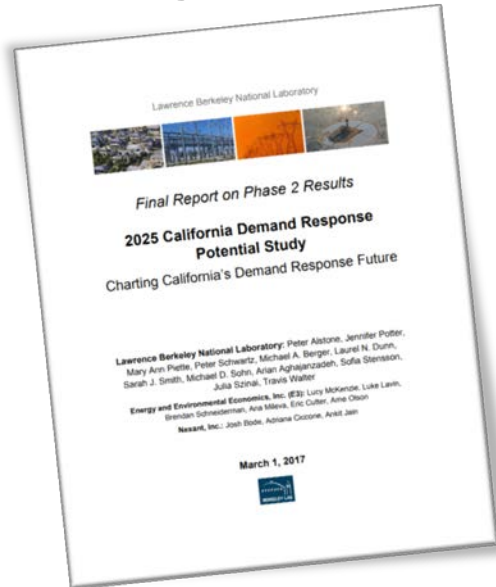
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Year	Capacity Costs
Summer 2016	\$36/kW-year
Summer 2017	\$81/kW-year
Summer 2018	\$109/kW-year
Summer 2019	\$80/kW-year

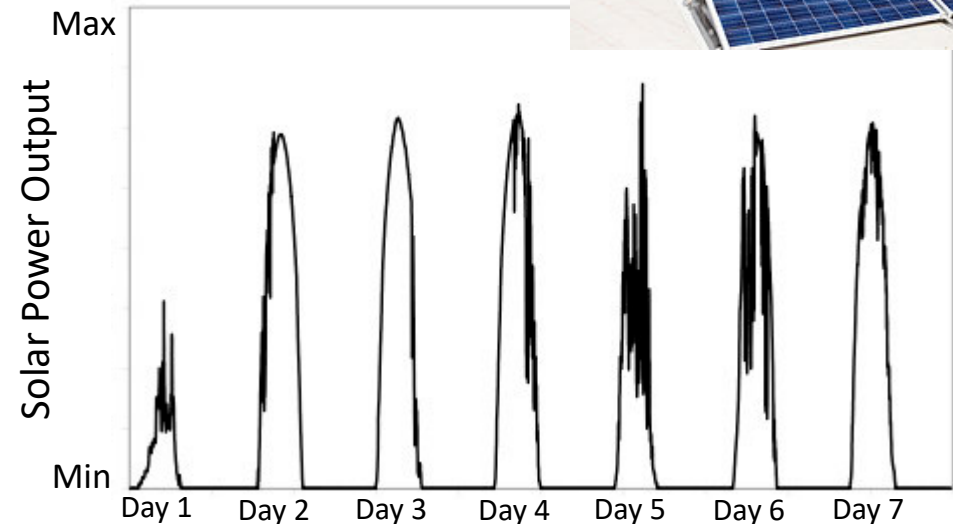


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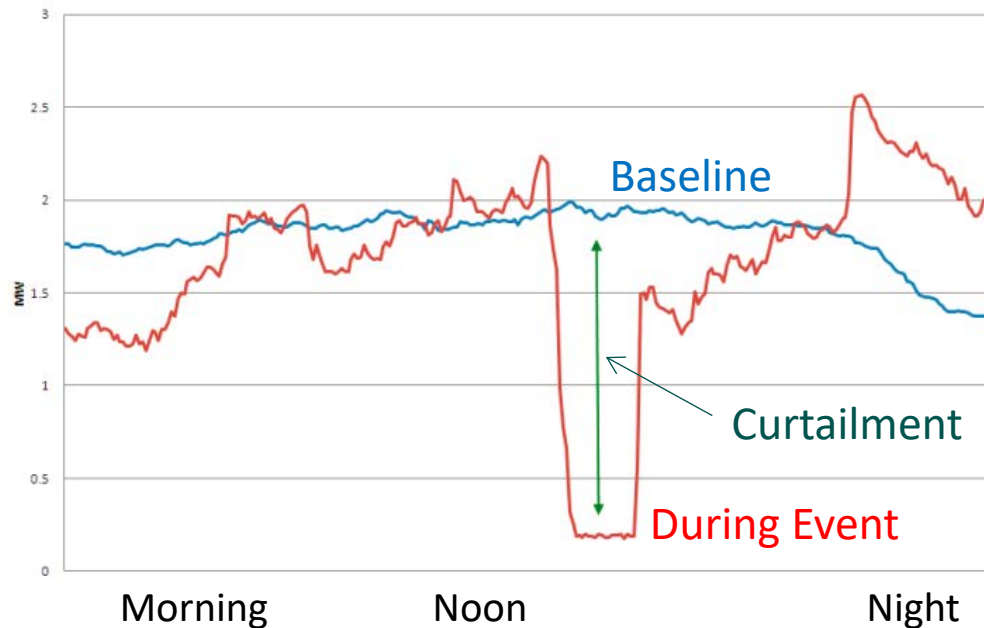


Shape, Shift, Shed, and Shimmy



Basic Program Design

“Pay for Performance” –\$35 per kW per Year

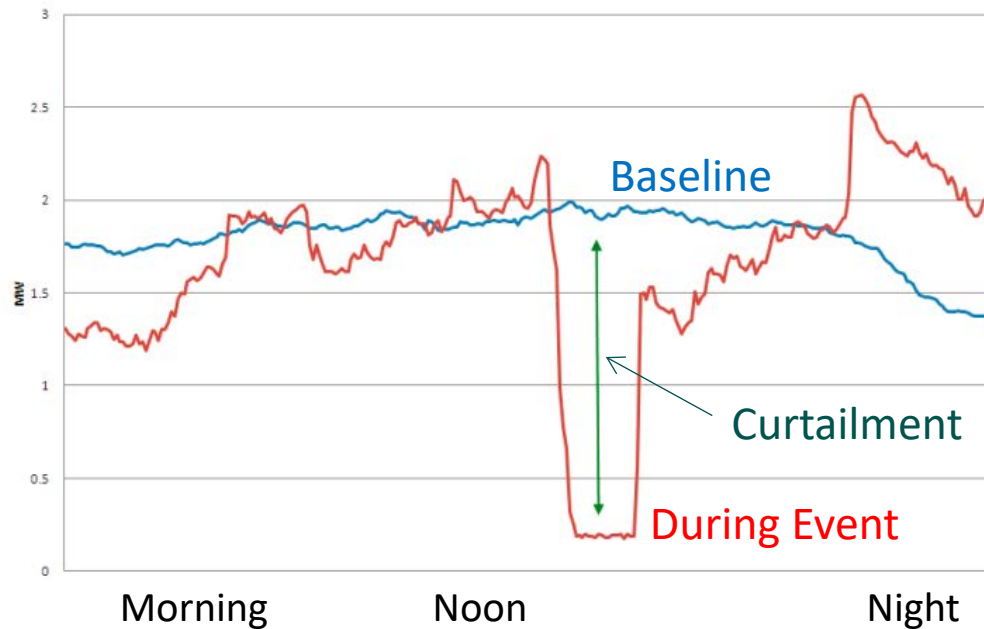


What We Did Right

- Constant (Dependable) Incentive – No Auctions
- Statewide Incentives – Not confined to NWAs
- 3 Great Vendors – Not Sole Sourced
- No Penalties for Poor Performance
- Encourage Customer to ‘Value Stack’ by participating in ISO-NE programs and managing supply costs.

Lessons Learned

“Pay for Performance” –\$35 per kW per Year

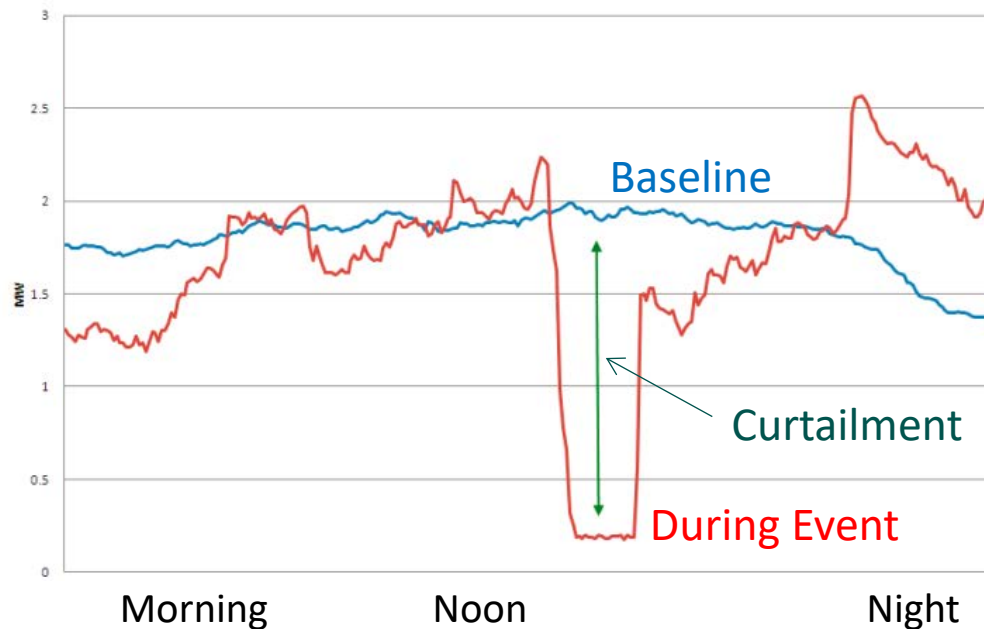


What We Fixed

- Customers can now use generators and co-gen
- Simplified the Incentive – Straight \$35/kW-Year
- Moved to a Flexible Baseline
- Don't Cancel Events

More Changes for the Future

“Pay for Performance” –\$35 per kW per Year

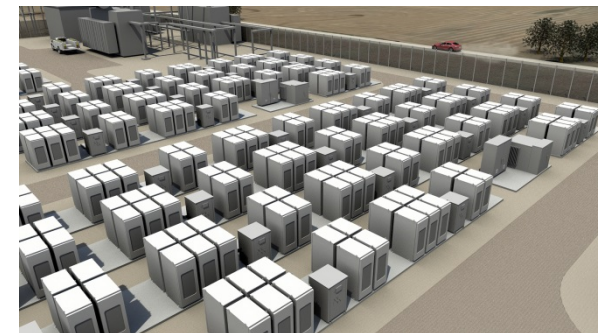


Next Steps

- Get Customers Performance Results Right Away – Smart Meters

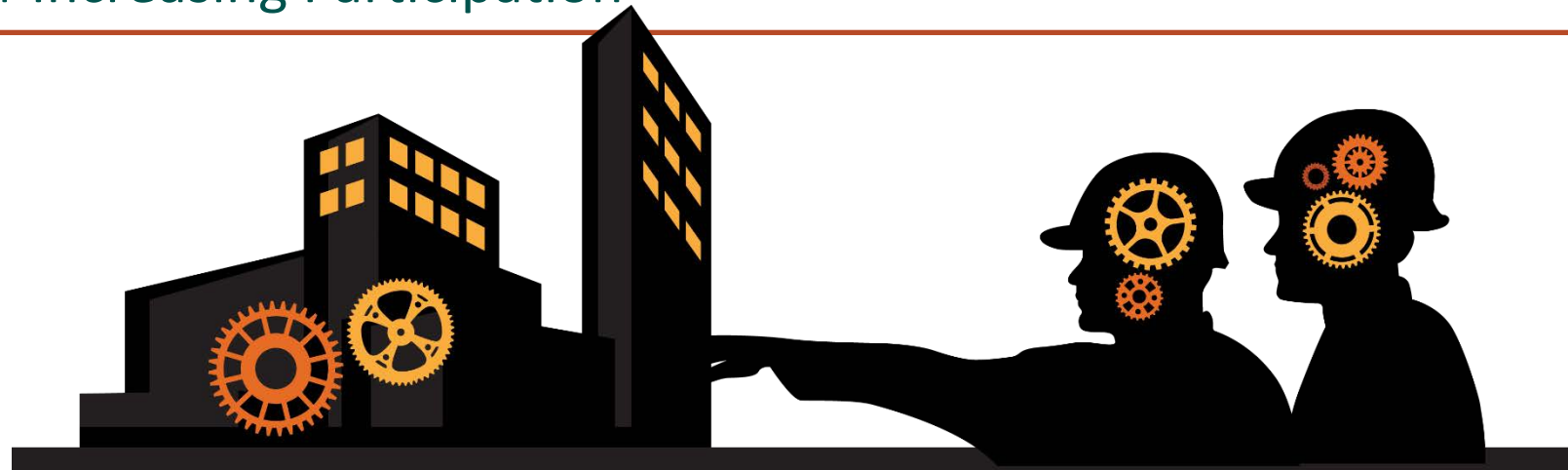


- Simplify the Registration Process
- Batteries



Agenda

- Go to Market Approach
- Challenges
- Addressing the Challenges
- Customer Response/Results
- Learnings
- Path Forward-Increasing Participation



Go To Market Approach

**NATIONAL GRID'S
CONNECTED SOLUTIONS**

National Grid

Identification of potential participants

- EE account executives incented to reach all eligible customers
- Publicize program/collateral
- Dispatch and performance settlement to CSPs

Curtailment Service Providers

- Provide basic DR training to EE AEs
- Qualify identified customer candidates (site visits, conf. calls)
- Program education, economics, curtailment plan development, contracting, enrollment, customer dispatch/performance reporting/payment



Challenges

National Grid's Connected Solutions Program

- Short time fence to start of performance season:
 - February kickoff for June 1 start.
- Process detail:
 - Initial program informational sessions with EE AEs lacked steps for qualification through customer on boarding.
- Develop compelling “call to action” to kick start customer engagement
- Explain/Manage interaction with other peak management initiatives practiced by customer.



Addressing the Challenges

- National Grid led team wide update/information weekly calls:
 - Included CSP
 - Allowed for additional training and course corrections
- Focused customer on Connected Solutions program synergies
 - Load management during grid peak.
 - AE and customer facing training developed to show how curtailment during peaks saves and earns at the same time.
 - Elevated capacity values in the region underscored the impact of practicing peak management.
- Detailed, interactive training sessions conducted by CSPs for National Grid AEs (by territory).
- Grid operator DR program demonstrated to be an added benefit to customer and not in conflict with utility program.

Enrollment / Event Response

- Exceeded enrollment goals:
 - Massachusetts (20MW)
 - Rhode Island (5MW)
- Identification of sites through enrollment
 - 36 customer contracts totaling 80 sites (CPower only)
- Approx. 50% of the customers enrolled in Connected Solutions, also enrolled in grid operator DR program
- Six Connected Solutions event hours dispatched
- Aggregate performance over all hours – 74%



Learnings

- Customers responded to program synergy with capacity charge reduction
- Start focused selling effort earlier in year
 - Education, curtailment planning and contracting timelines vary greatly customer to customer and some missed enrollment windows
- Onboarding training and planning:
 - National Grid AEs and CSP staff benefitted from detailed training/frequent interaction
 - Joint AE/CSP customer visits very effective.
 - Efficiencies in the customer education/onboarding process identified
- Day-ahead notification/pay for performance aspects appealing
- Improve program collateral-benefits and program details
- Performance improvement
 - Timely performance reporting/customer review necessary to gain consistent curtailment

**NATIONAL GRID'S
CONNECTED SOLUTIONS**

SAVE WITH
PEAK DEMAND
MANAGEMENT



The Path Forward

- Expand program eligibility to include participants historically participating in the grid operator program
- Allow behind-the-meter generation as load reduction methodology permitted to operate as non-emergency.
- Retain the maximum payment value of the program, and:
 - Increase the reservation payment earning portion
 - Reduce the response hours related earning
- More comprehensive, less confusing program collateral
- Expand program awareness/training beyond National Grid EE AEs:
 - Include EE audit and implementation partners.

**With these and other modifications already accepted,
the 2018 MW goal have been increased 250%**

Thank you!

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