Demand Response within the Energy Efficiency Programs

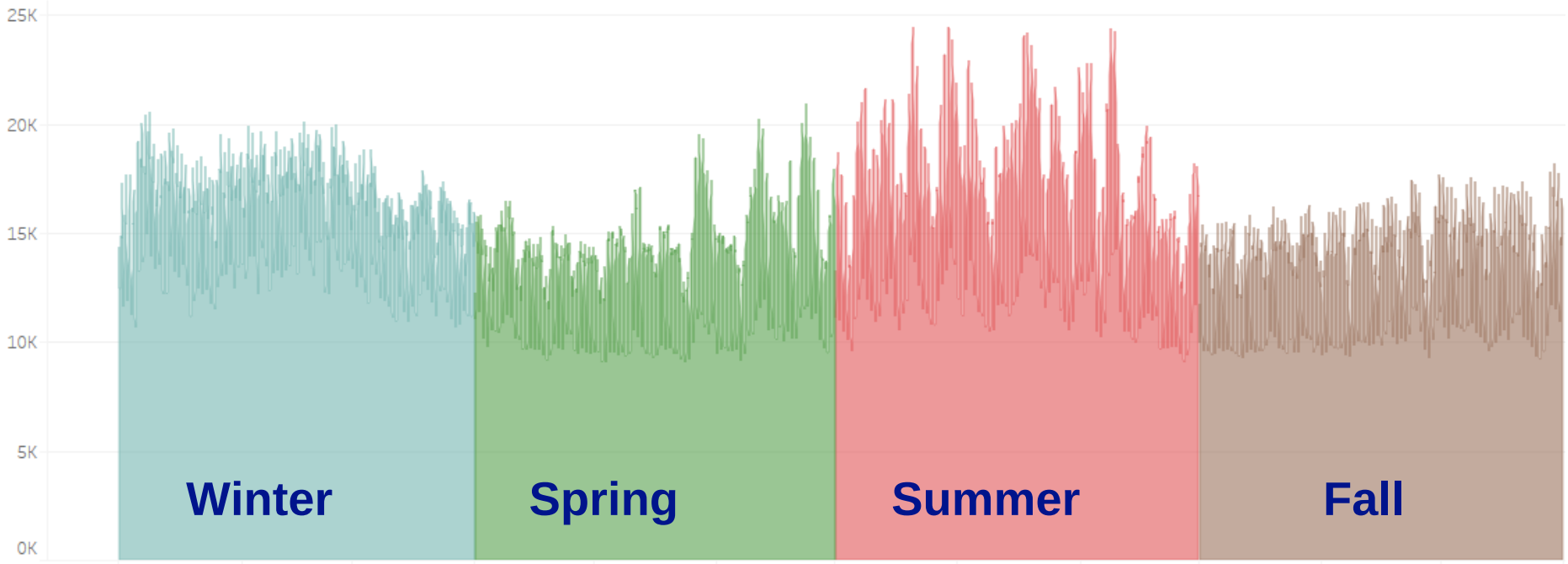
nationalgrid

Where are we in the agenda?

c) *Presentation from National Grid on Demand Response (15 min, 4:05 – 4:20pm)*

National Grid will present on demand response within the energy efficiency programs.

What is Demand Response and Why do We Do It?



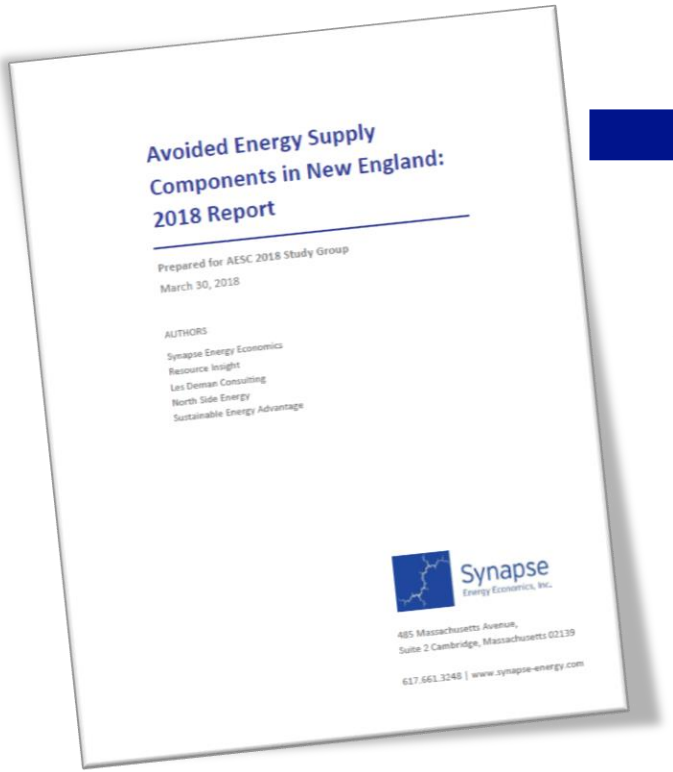
The whole grid is sized to meet the peak.

"The top 10% of hours during these year, on average, accounted for 40% of the annual electricity spend…"

Source: State of Charge – MA Energy Storage Initiative

How is the importance of peak loads accounted for in the Energy Efficiency Programs?

…like other benefits… Through the Avoided Cost Study


Avoided Energy Supply Components in New England: 2018 Report

Prepared for AESC 2018 Study Group

March 30, 2018

AUTHORS

Synapse Energy Economics

Resource Insight

Les Deman Consulting

North Side Energy

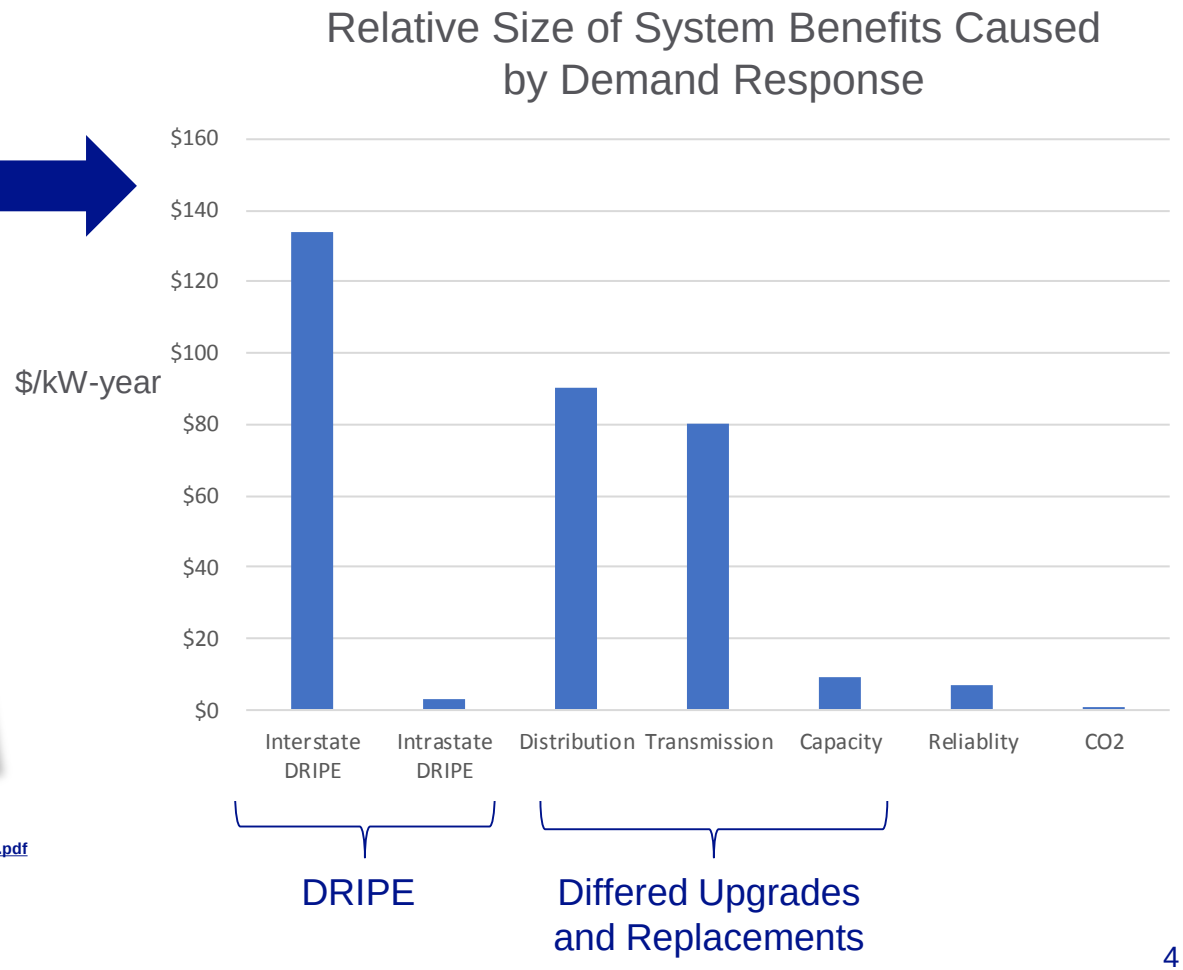
Sustainable Energy Advantage

Synapse Energy Economics, Inc.

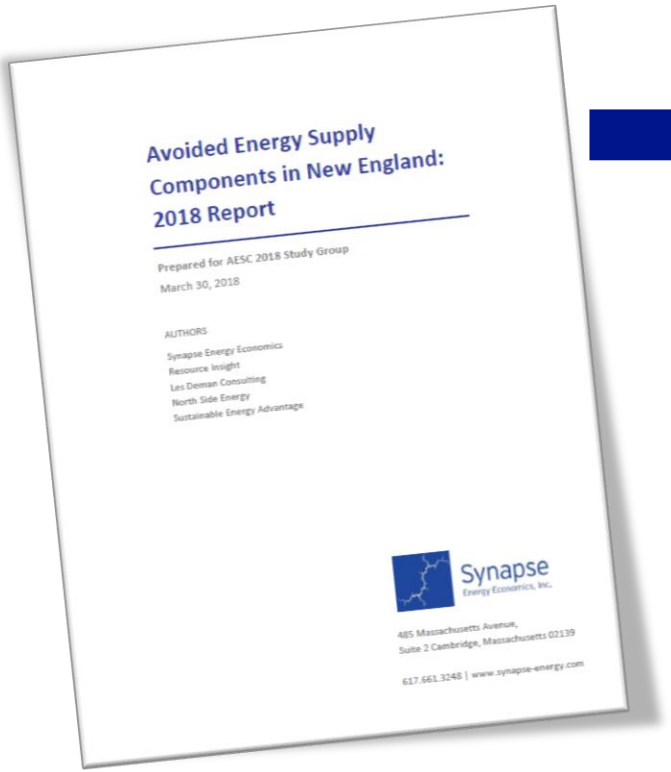
485 Massachusetts Avenue, Suite 2 Cambridge, Massachusetts 02139

617.661.3248 | www.synapse-energy.com

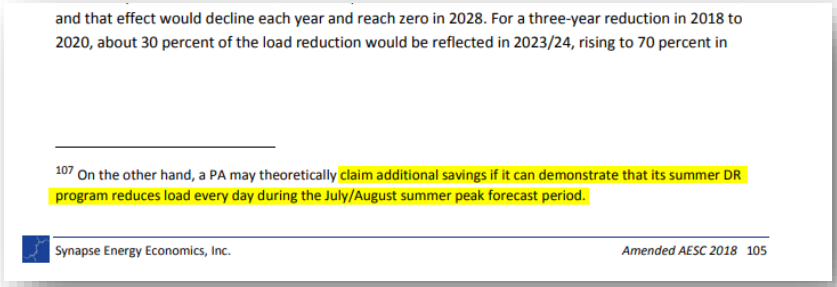
https://www.synapse-energy.com/sites/default/files/AESC-2018-17-080-June-Release.pdf



Hitting More Summer Peaks Causes More System Benefits

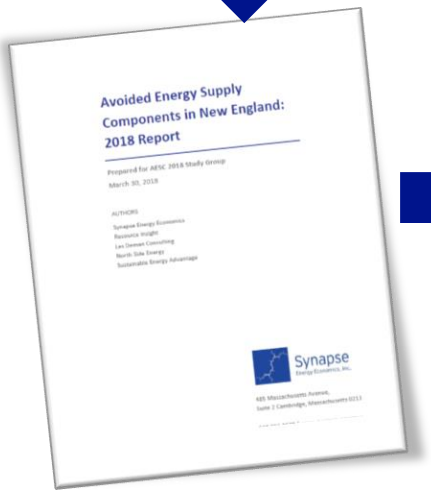


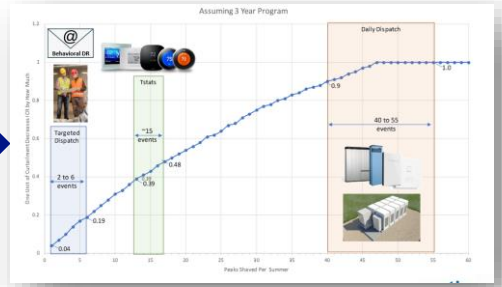
https://www.synapse-energy.com/sites/default/files/AESC-2018-17-080-June-Release.pdf


and that effect would decline each year and reach zero in 2028. For a three-year reduction in 2018 to 2020, about 30 percent of the load reduction would be reflected in 2023/24, rising to 70 percent in

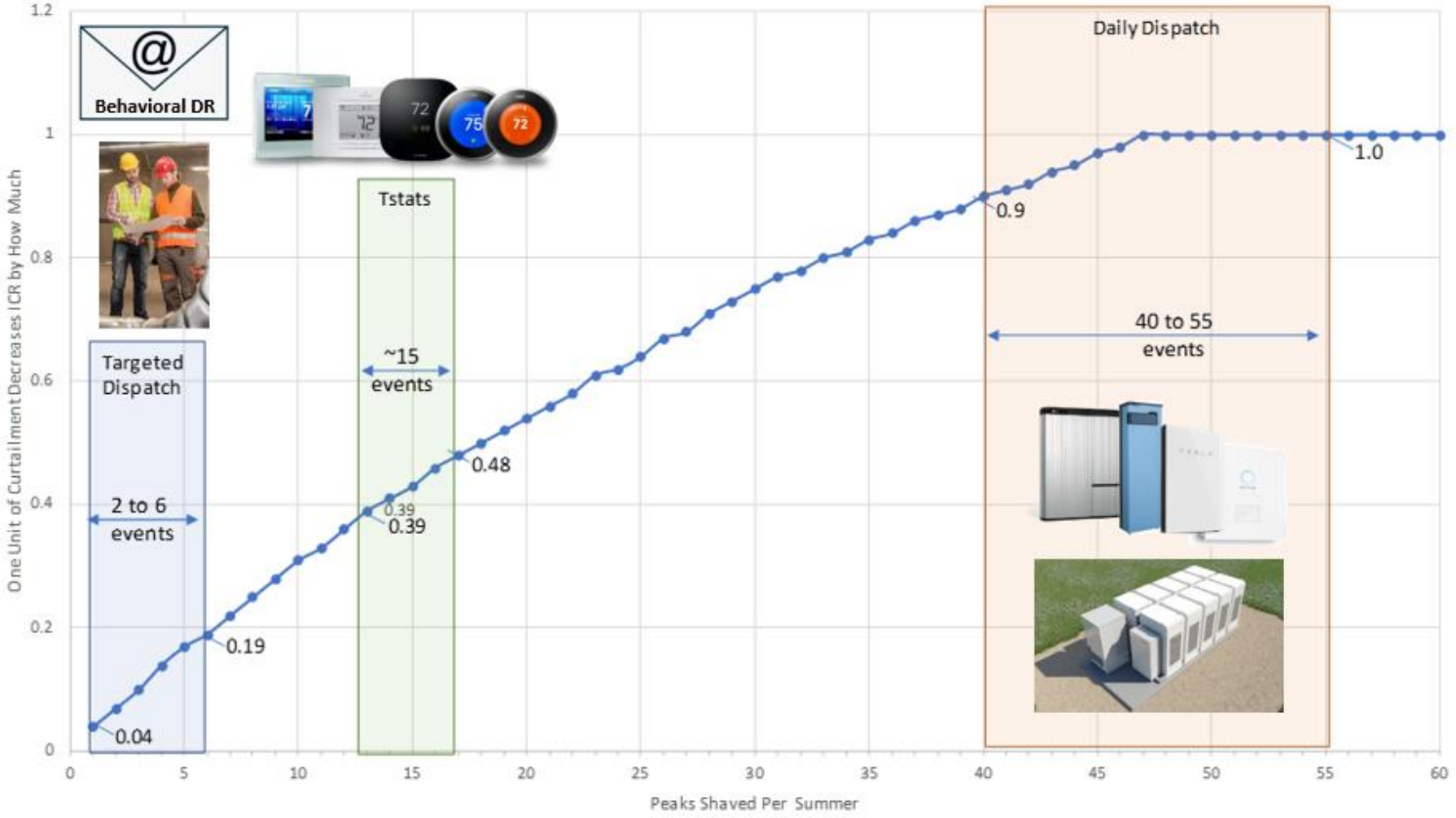
[107] On the other hand, a PA may theoretically claim additional savings if it can demonstrate that its summer DR program reduces load every day during the July/August summer peak forecast period.

Synapse Energy Economics, Inc. *Amended AESC 2018* 105





Portfolio of Demand Response Maximizes Benefits



Connected Solutions (aka Demand Response)

Commercial and Industrial Customers

Targeted Dispatch
(Summer Peak Shaving)

Daily Dispatch
(Batteries)

Residential Customers

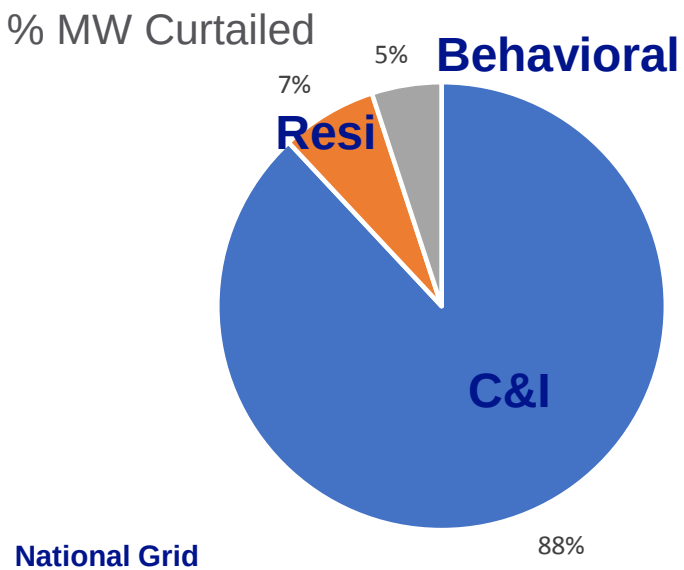
Thermostats

1. Nest
2. Honeywell
3. Ecobee
4. Lux
5. Radio Thermostat
6. Emerson
7. Sensi
8. Vivint
9. Alarm.com

Batteries

1. SolarEdge
2. Sonnen
3. Sunrun
4. Pika
5. Tesla

~~EVs~~
On hold in RI



Behavioral DR

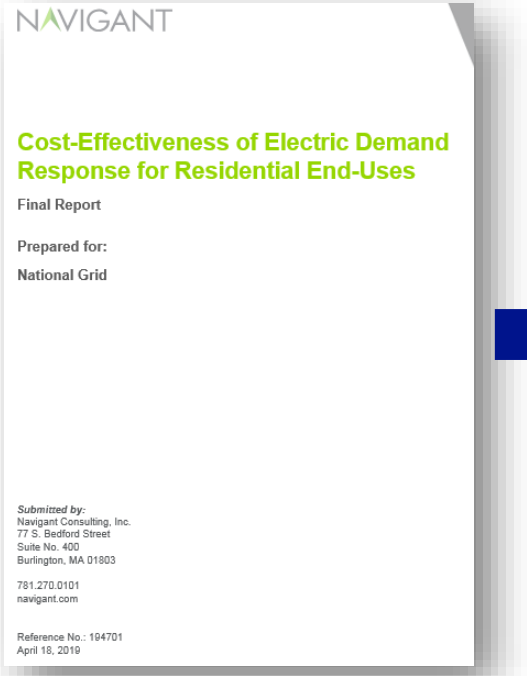
Roadmap to Expand the DR Programs

1. **Commercial and Industrial Customers –**

   Reduce regulatory obstacles for battery storage

2. **Residential Customers**

   Prioritize new devices according to Navigant Study


NAVIGANT

Cost-Effectiveness of Electric Demand Response for Residential End-Uses

Final Report

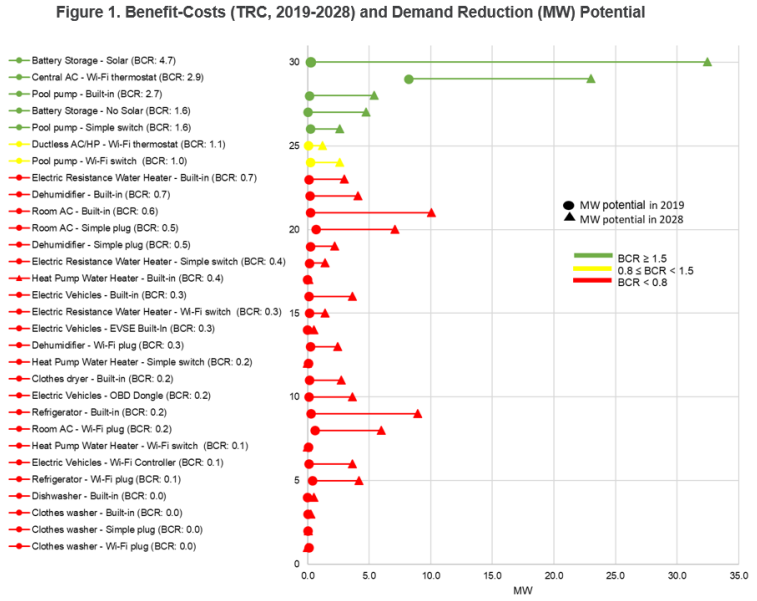
Prepared for:

National Grid

Submitted by:
Navigant Consulting, Inc.
77 S. Bedford Street
Suite No. 400
Burlington, MA 01803

781.270.0101
navigant.com

Reference No.: 194701
April 18, 2019



http://ma-eeac.org/wordpress/wp-content/uploads/Cost-Effectiveness-of-DR-for-Residential-End-Uses-Final-Report-2019-04-18.pdf

nationalgrid