Shave the Peak

A New Way to Green the Grid

August 7, 2018
You’re on mute!

Send webinar questions to us over GoToMeeting chat
It’s not just how much electricity we use. It’s *when* we use it.
1% of hours in a year account for 8% of costs.

10% of hours account for 40% of costs.
The Basics of Peak Shaving

● What is peak demand?
● Why do grid costs and emissions spike on peak days?
● How does Shave the Peak address peaks?

Peak Demand Policy Solutions

● Time of use rates
● Energy Storage
● Demand response aggregation
● Policy pathways in Massachusetts and Rhode Island
August 6, 2018 - A Peak Day
September 7, 2017 - A Representative Median Demand Day
August 6, 2018 - A Peak Day
1% of hours in a year account for 8% of costs.

10% of hours account for 40% of costs.
Benefits of Peak Shaving

- Cost savings from avoiding new grid infrastructure investment
- Cost savings from reducing reliance on expensive fuel
- Education of energy consumers
- Moving towards a less centralized, lower carbon grid
- Pollutant reductions from fossil fuel peaker plants
Shave the Peak
A New Way to Green the Grid
Shaving the Peak

- We can anticipate when peak events will happen!
- Shave the Peak with efficiency, conservation, and load shifting:
  - **Conservation:** Turn off lights and *turn AC down or off*
  - **Efficiency:** Invest in efficient appliances to reduce usage year-round
  - **Load shifting:** Shift your electricity use to lower-demand parts of the day--e.g. charge EVs overnight, pre-cool your home, run laundry after 8pm
  - **Technology:** ConnectedSolutions smart thermostat program, timed EV charging, timed AC units
Our Alert Program

- **Alerts and notifications:** we monitor the demand forecast and send you alerts immediately before and on peak days with reminders to cut down on electricity use and suggestions for reduction.

- **Anyone in New England can participate:** we’re all on one grid.

- **Targeting residential consumers:** Shave the Peak is the first peak shaving program available to all New England residential consumers at no cost.

- **Includes winter peaks:** electricity peaks occur in the winter, too--and they can be just as dirty and expensive as summer peaks.
67% Natural Gas
20% Nuclear
6% Renewables
5% Hydro
1% Coal
<1% Oil
<1% Other

System Demand: 22,451 MW
Last modified: 11:19 AM on 08/07/2018

Natural Gas
18,326 MW
CAPACITY
12,902 MW
PRODUCTION
71% IN USE NOW

Nuclear
4,009 MW
3,945 MW
98%

FORECAST
23,030 MW / HE 12:00 PM
ACTUAL
22,451 MW 11:25 AM

Last modified: 11:25 AM on 08/07/2018

ISO to Go App and iso-ne.com/isoexpress
The Future of Peak Shaving

Where can new policies and technologies take us?
Shaving the Peak: Bigger & Better

- Compensate peak shavers
- Accurately measure, report, and aggregate residential peak shaving
- Encourage price signals to incentivize peak shaving
- Educate and involve more residential users in peak shaving
- Make it easier to Shave the Peak with smart technology

This is where policy and technological solutions come in!
Policy Solutions

1. **Measure** peak shaving with smart meters

2. **Incentivize and compensate** energy consumers:
   a. Time-varying electric rates
   b. Peak time rebates

3. **Enable peak shaving technology**
   a. Smart thermostats
   b. Home energy monitoring systems
   c. Timed electric vehicle chargers
   d. Behind-the-meter battery storage
Demand Response Aggregation

- An innovative model for compensating peak shavers
- Aggregate small peak reductions to participate in energy markets
- Programs—OhmConnect, Stem
  - Third party organizations connect with residential users’ meters, send out alerts, and “bid into” energy markets as if their users are a power plant
  - Proceeds from energy markets are returned to users
Peak Shaving in RI: Next Steps

- Advocate for ambitious demand response goals in energy efficiency planning
- Power Sector Transformation:
  - Support smart meter roll-out (3 – 5 years before we see this materialize)
  - Support strong time of use rates
- Invest in battery storage
Peak Shaving in MA: Next Steps

- Advocate for ambitious demand response goals in energy efficiency planning
  - Energy efficiency plans come out this month: will they have strong targets for active demand management programs?
- Policy opens opportunity for energy storage, demand response
  - 1000 MWh battery storage goal
  - Clean Peak Standard
  - SMART solar/storage adder
- Support time of use rates and advanced meter infrastructure
Take Action with Shave the Peak

- **Sign up and share** with friends and family:
  - massenergy.org/shavethepeak (MA)
  - ripower.org/shavethepeak (RI)

- Help us **advocate** for more smart meters, demand response, battery storage opportunities in Massachusetts and Rhode Island

- If you are a **utility or municipal light plant**: contact us—we can find ways to work together to support peak demand reduction throughout New England
Questions?

Send further questions to
shavethepeak@massenergy.org or kai@ripower.org.
Resources

Sign up for **Shave the Peak** at massenergy.org/shavethepeak and ripower.org/shavethepeak

Read more about our **advocacy** on massenergy.org/advocacy and ripower.org/advocacy

**ISOToGo and ISO Express** - track the peak from your phone and computer