# The Power of Data

## BECC 2013

## November 2013

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# Roadmap

- Data and technology
- Case studies
- How we engage consumers
- Results

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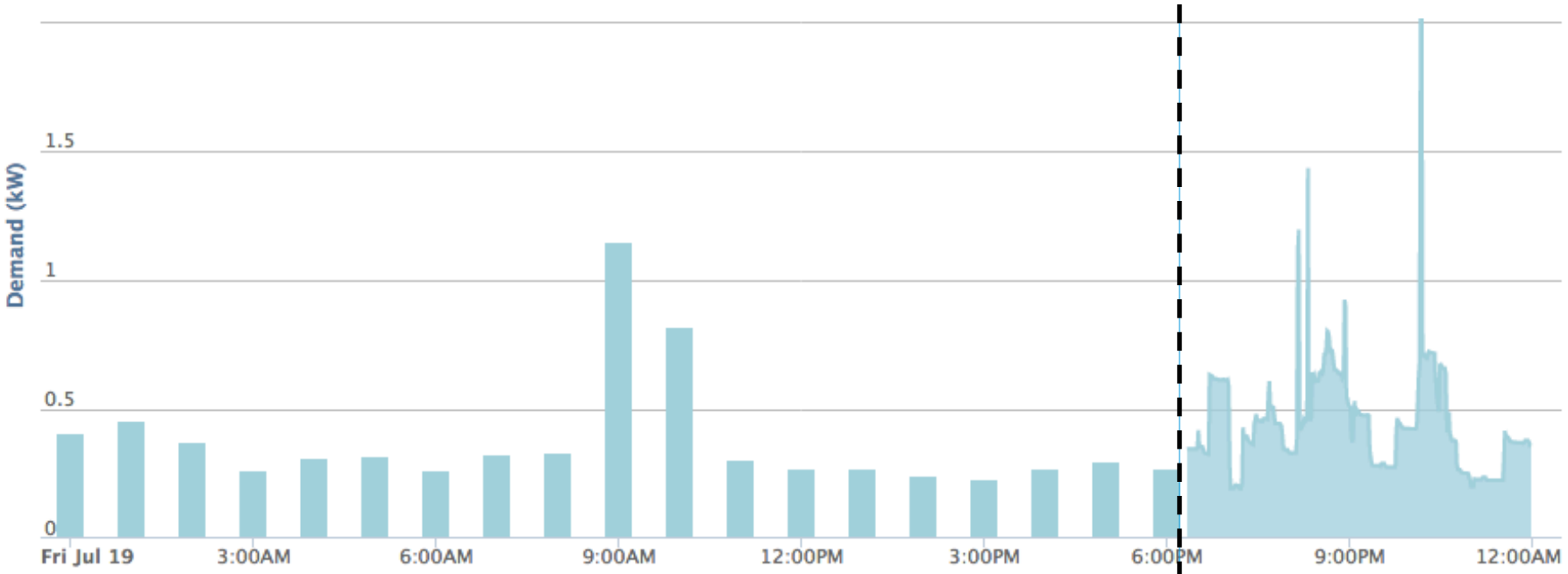
# A Tale of Two…Data




## AMI/Green Button (GB)

15/60min interval data
24 hours delayed

## Home Area Network (HAN)

10s – 1min interval data
Real Time

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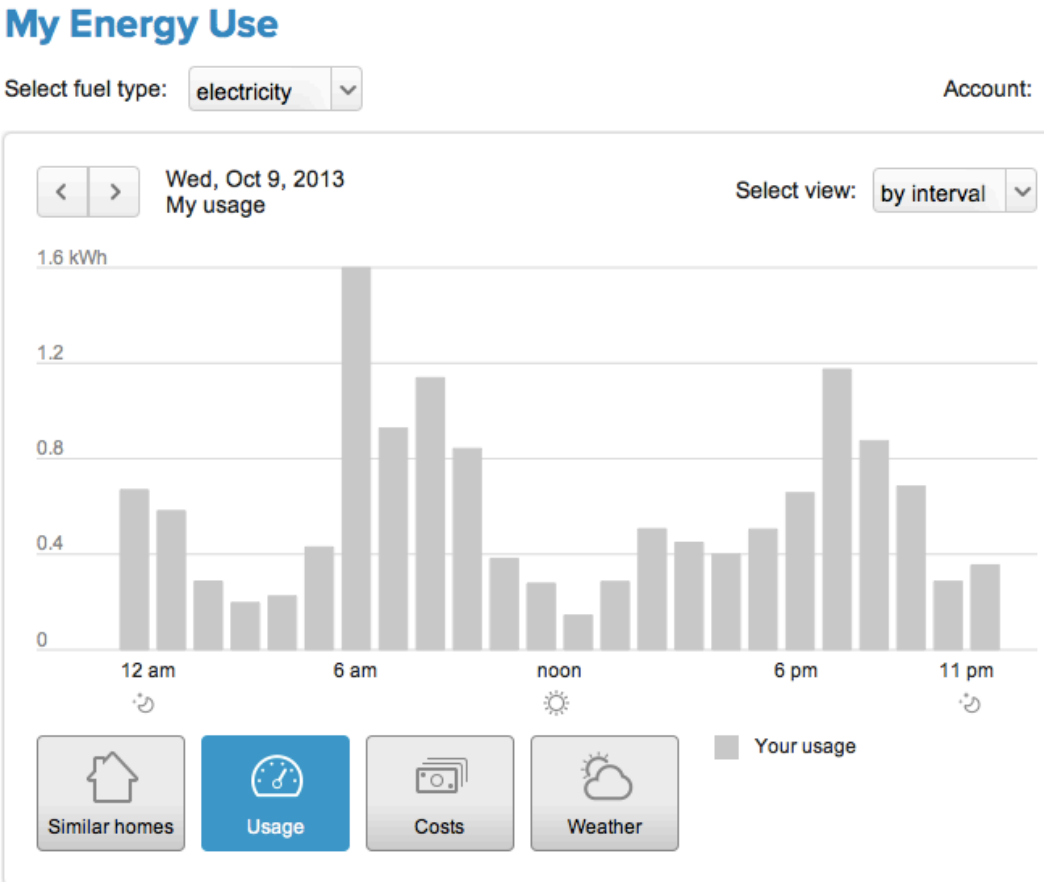
# GB data mostly used for displays…




….And Bill Projection, Neighborhood Comparison, Tier Change Alerts

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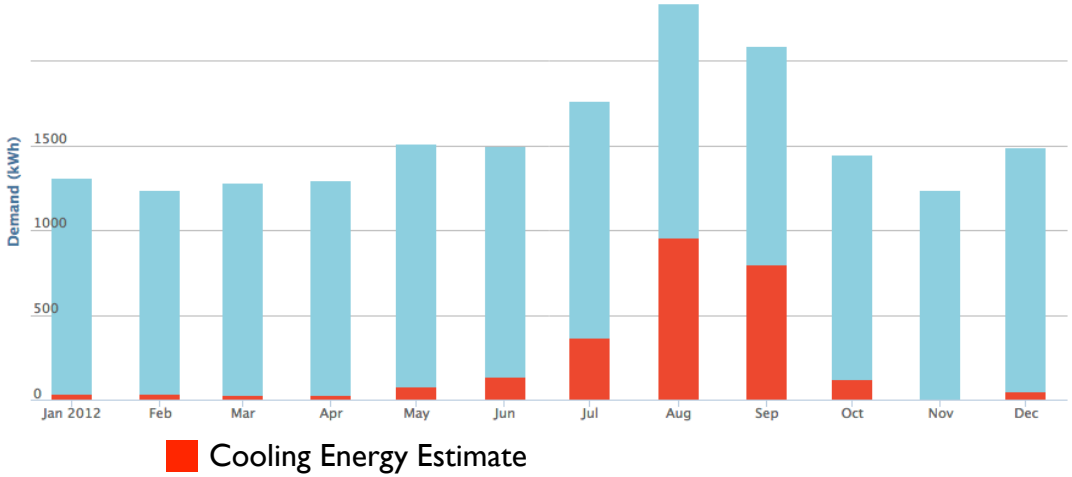
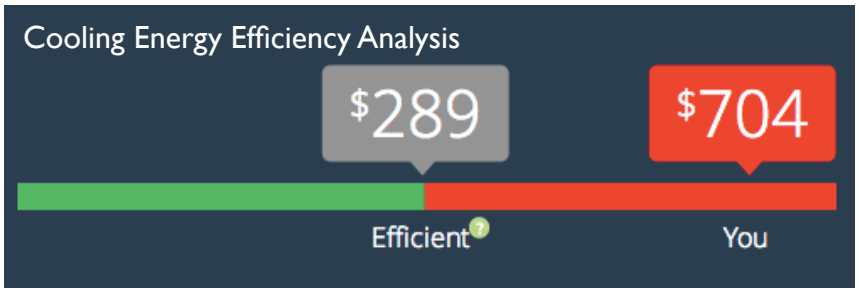
# … but there is more




## Heating/Cooling Insights

See how much users spent on HVAC




## Efficiency Analysis

Evaluate potential savings

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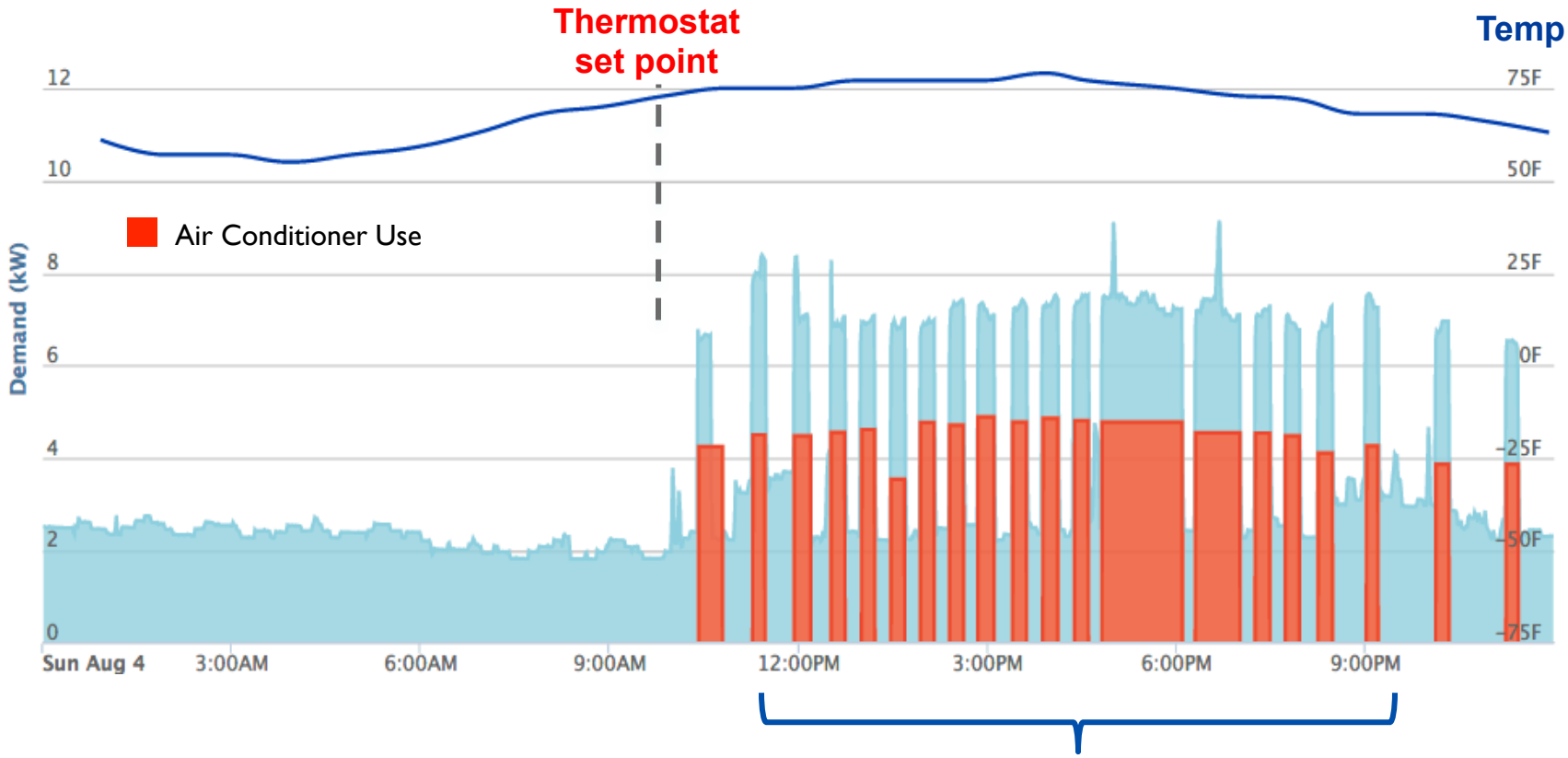
# Introducing: Energy Disaggregation

Non-intrusive software-based pattern recognition technique




AC ran between 11am-9pm
when a peak event in effect

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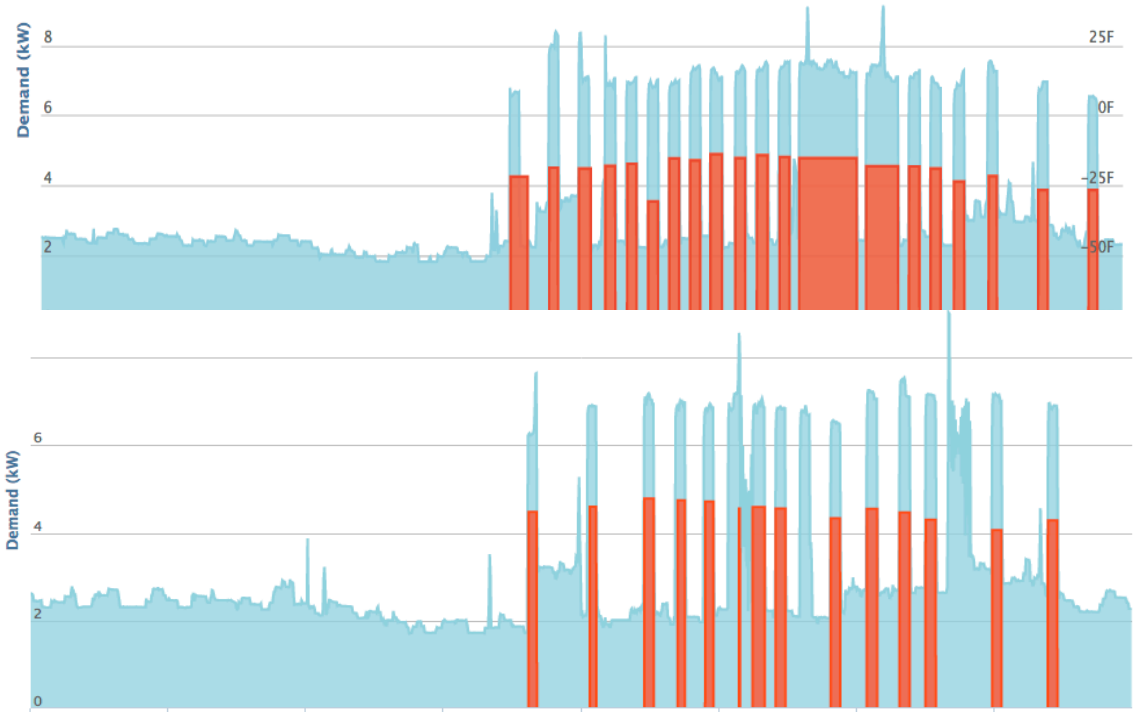
# Next Generation EM&V

AC usage without
any Demand Response

AC usage with 50% cycling
through Smart AC
Residential DR




M&V analysis: 46% reduction in AC kWh
compared to non DR days

Fast and accurate analysis to
validate savings, load shift and load reduction

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# A Tale of Two Consumer Pilots

**Consumer Behavior**

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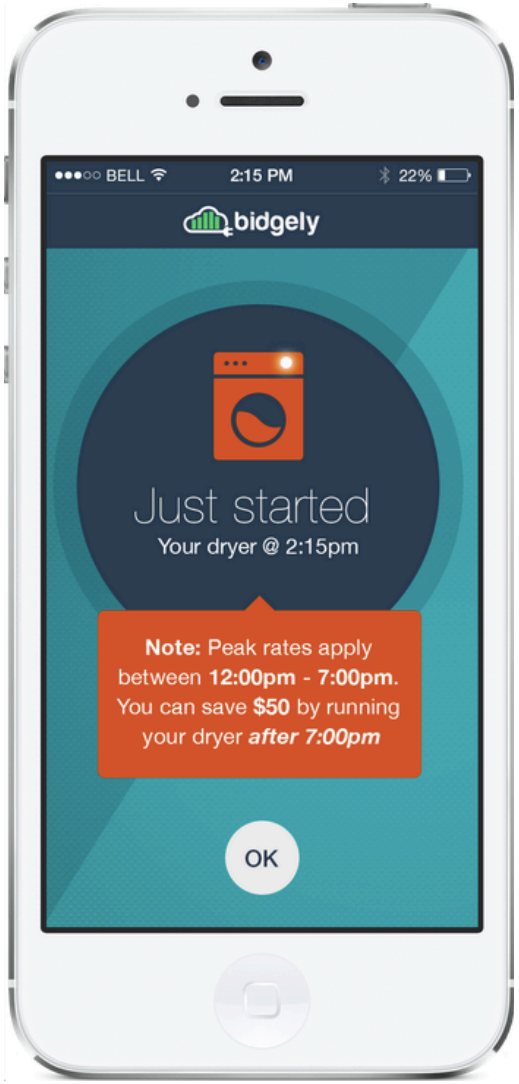
# Real Time Interventions




Send mobile alerts when users turn on high load appliances during critical peak times of day



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# Neighborhood Comparison at Appliance-level

## Compare not only appliances ...

## … but broader insights

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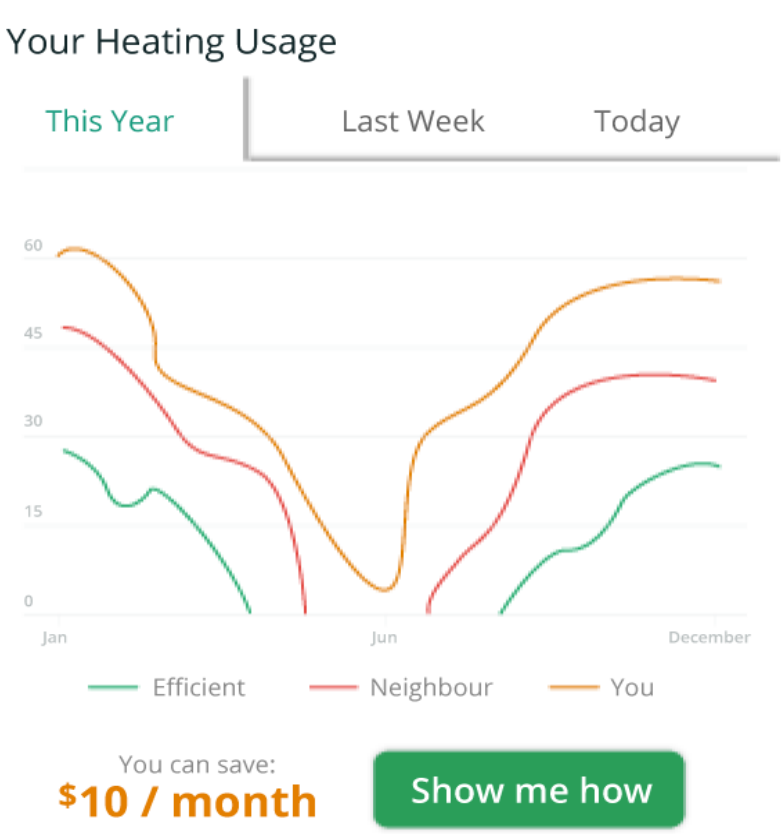
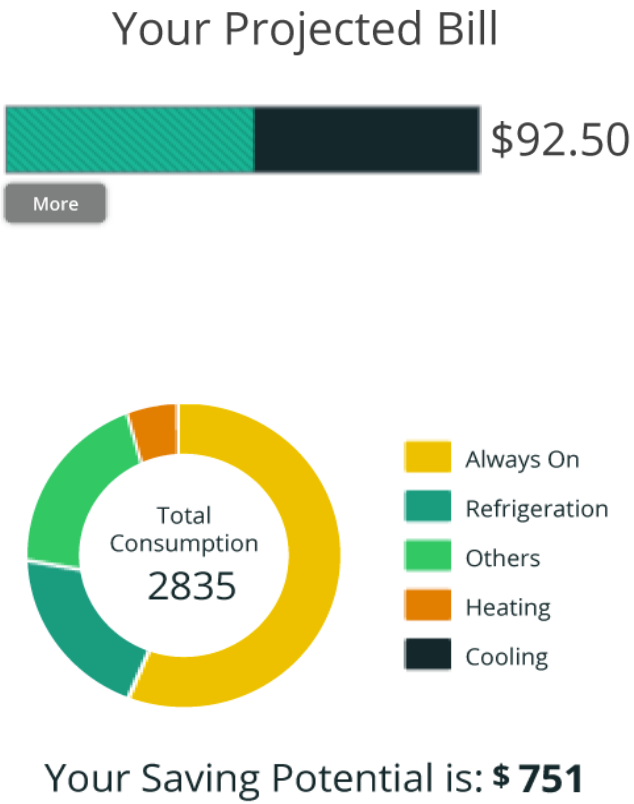
# Additional Consumption Insights

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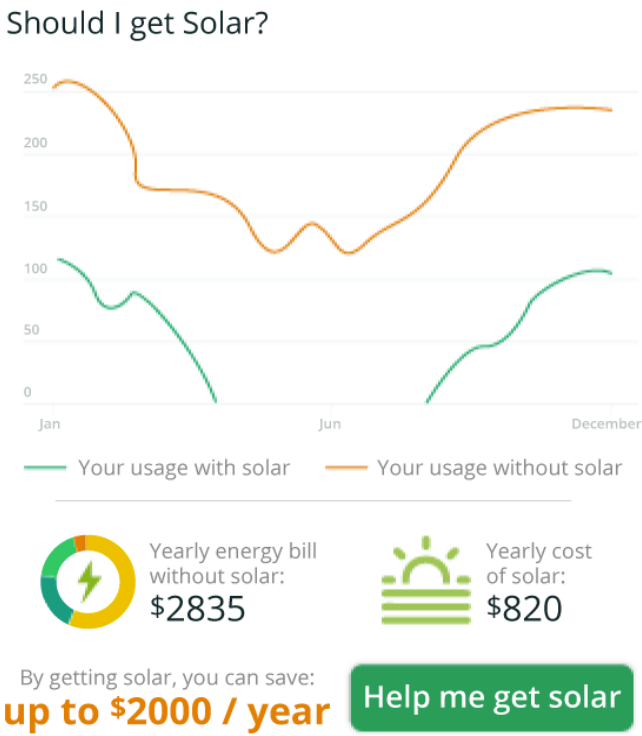
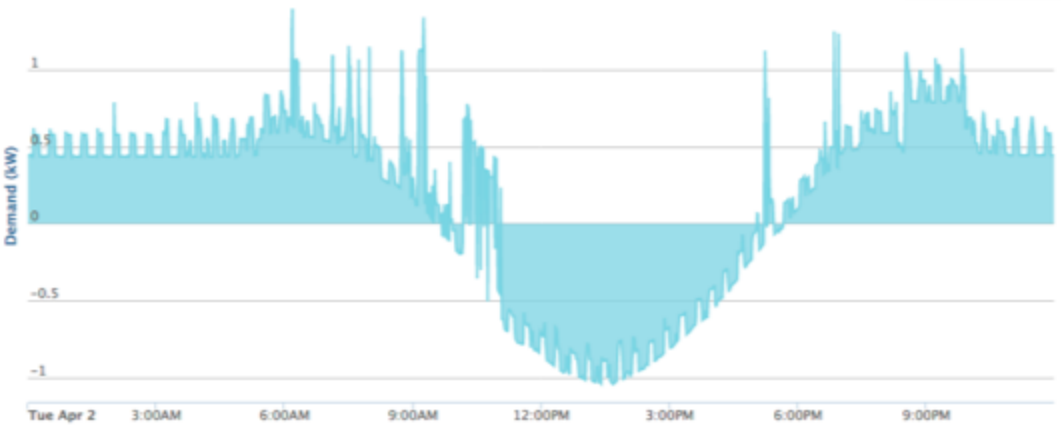
# Lifestyle Choice

## Get Solar…




## … and understand your generation

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# Positive Consumer Reaction to Energy Disaggregation

## Consumers

**14%** **Reduction in energy consumption**

41% Discovered inefficiencies and changed behavior

86% Real-time Usage and Appliance Itemization as the features they like the most

86% Would recommend Bidgely – and Energy Disaggregation - to other users

90% Visited Bidgely platform at least once a week

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# Parting Thoughts

## There is magic in the data

Initial pilots show 14% reduction in energy consumption and high consumer engagement



## Cloud based solutions are powerful

Internet bandwidth and cloud storage are a commodity.
Use them to collect, store, analyze, learn and compare the data.

## Consumer Behavior has large untapped savings potential

Personalized energy insights.
Real-time intervention and feedback.

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# Our Mission

## Empower consumers and utilities by generating value out of data

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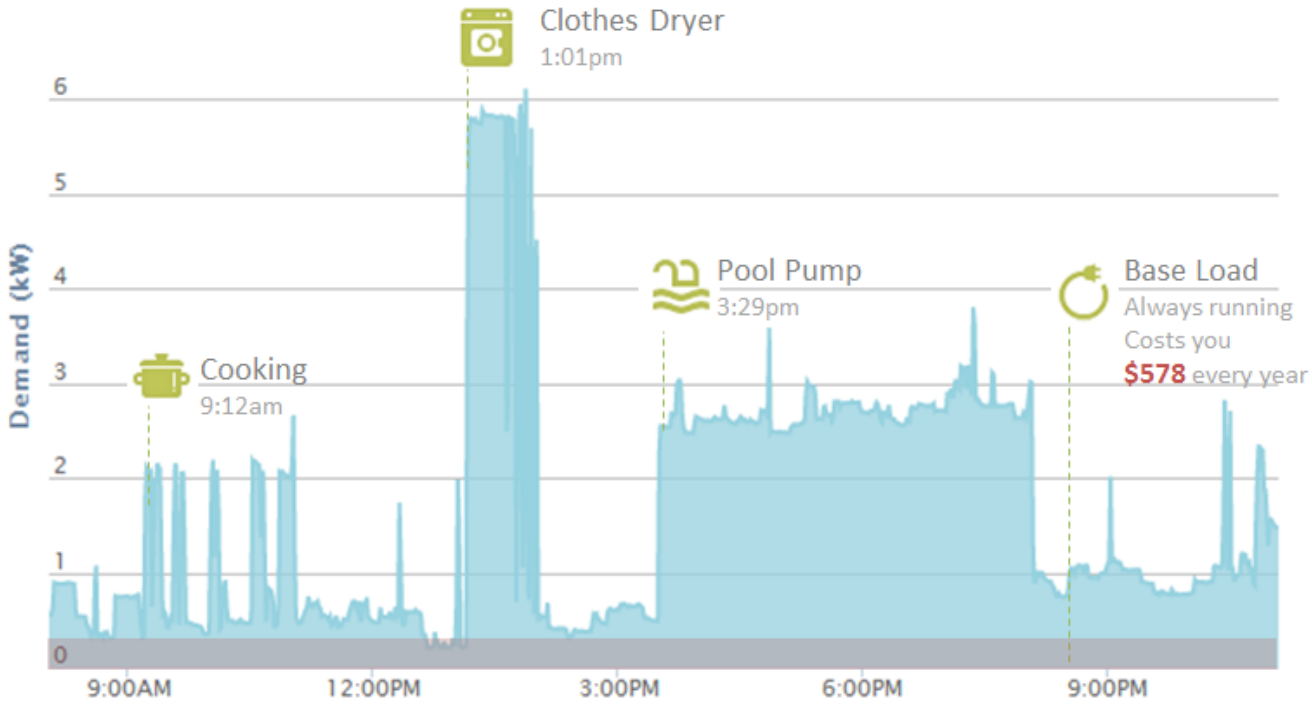
# Introducing Energy Disaggregation

Extract appliance-level energy use using cloud-based signature analysis




## Cloud + Big Data + Mobile + Machine Learning

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