Case studies of achieving energy savings by applying lessons from behavioural sciences
Opower works with 95+ utilities around the world to engage 55 million customers with their energy use.

In regulated…

USA
Canada
France

…and competitive markets

UK
New Zealand
USA
The energy industry is experiencing a fundamental challenge

A societal tri-lemma

Affordability

Carbon emissions

Security of Supply
We know customers are the key..
An Introduction to applied behavioral science

Zero Impact on Consumption

SAVE MONEY
SAVE THE PLANET
BE A GOOD CITIZEN

Schultz & Cialdini (OPOWER Scientists)
Hewlett Foundation San Marcos Study
Applying behavioural science to motivate changes in energy consumption.

Proactive usage alerts

Personal usage disaggregation

Motivating

Proactive

Personalized

Behavior Science
Applying behavioural science to motivate changes in energy consumption..

“They give us a really good comparison with other households. If I use a little more, I say ‘Ooh – what’s going on?’”

-Theresa Chen, Utility Customer
Behavioral Energy Efficiency drives, reliable, persistent and scalable savings

Energy savings across utilities with Opower Behavioral Energy Efficiency programs

Average Steady State Savings: 1.5 – 2.5%

Months since program start

0.0% 0.5% 1.0% 1.5% 2.0% 2.5% 3.0% 3.5%

0 6 12 18 24 30 36 42 48
Yeah.. Yeah… but this won’t work in my country....
Five Universal Truths about Energy Consumers
What research across 17 countries says about what customers expect from their utility companies
We’ve done lots of research...

**21,000 Surveys and interviews**

**17 Countries**

- **Canada**: 1,000 surveys
- **United States**: 40,000 interviews, 10 focus groups, 60 interviews
- **China**: 1,000 surveys, 7 focus groups, 15 interviews
- **Japan**: 1,000 surveys, 5 interviews
- **Singapore**: 1,000 surveys
- **Brazil**: 900 surveys
- **Mexico**: 1,000 surveys
- **Colombia**: 1,000 surveys
- **United Arab Emirates**: 750 surveys
- **New Zealand**: 2,000 interviews, 4 focus groups
- **Poland**: 900 surveys
- **United Kingdom**: 4,000 surveys, 8 focus groups, 12 interviews
- **France**: 1,000 surveys, 8 focus groups
- **Sweden**: 1,000 surveys, 4 focus groups
- **Spain**: 1,000 interviews
- **Germany**: 1,000 interviews
- **Australia**: 3,000 surveys, 5 interviews
- **New Zealand**: 2,000 interviews, 4 focus groups
- **Japan**: 1,000 surveys, 5 interviews
And found people aren’t as different as we thought
We identified five universal truths of energy consumers

1. Utilities are not meeting customer expectations

2. Everyone wants lower bills

3. People look to their utilities first for energy information

4. Customers value personalized energy insights

5. Everyone wants to know how they measure up
There is a gap between customer expectations and utility performance

Customer expectations vs. utility performance on services

<table>
<thead>
<tr>
<th>Region</th>
<th>Performance</th>
<th>Expectations</th>
<th>Gap</th>
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<tbody>
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<td>52%</td>
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<td>EU</td>
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<td>28%</td>
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English speaking refers to the United Kingdom, Australia, New Zealand, and Canada
Utility customers are among the least satisfied

Net Promoter Score for Different Industries

<table>
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<tr>
<th>Industry</th>
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<tbody>
<tr>
<td>Automobile</td>
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<td>Utilities</td>
<td>-65</td>
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Best-rated company: 68

Weakest-rated company: 20
Energy spend is the key concern

The gap between customer expectations and utility performance on various services
12,000 respondents, 12 countries

Customers want to manage their energy costs
Percentage of customers who agree with the following

- The cost of energy is something to worry about
- I constantly look for ways to save on my household energy costs

<table>
<thead>
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<td>Information</td>
<td>65%</td>
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<td>Customer outreach</td>
<td>24%</td>
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</table>
People trust their utilities most to provide this information and these savings tools.

Percentage selecting information from the specified source as valuable:

- **Latin America**:
  - The government: 86%
  - Independent energy efficiency source: 75%
  - Your energy company: 64%

- **US**:
  - The government: 77%
  - Independent energy efficiency source: 56%
  - Your energy company: 41%

- **EU**:
  - The government: 73%
  - Independent energy efficiency source: 60%
  - Your energy company: 39%

- **Asia**:
  - The government: 58%
  - Independent energy efficiency source: 53%
  - Your energy company: 52%


Information alone is not the answer

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<th>FEB.</th>
<th>MARCH</th>
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</table>

SOURCE: Joseph Gracia’s Dad
Customers want personalized tools to manage their spend

Percentage selecting personalised information as a valuable service

<table>
<thead>
<tr>
<th>Region</th>
<th>US</th>
<th>English-speaking</th>
<th>EU</th>
<th>Asia</th>
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<tr>
<td>Percentage</td>
<td>69%</td>
<td>75%</td>
<td>67%</td>
<td>64%</td>
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</table>

A majority of customers want:

- Progress on how much energy they saved compared to the last billing period
- Explanation of how their energy use compares to that of utility customers
- Advice on how to save energy as the weather changes
- Personalized recommendations from the utility on how to reduce home energy use

English speaking refers to the United Kingdom, Australia, New Zealand, and Canada
Everyone cares how they compare to their neighbors

“‘The first thing that jumped into my eyes was the chart. It said that I consumed more electricity than average, so I thought I have to reduce the use of electricity.’”

—Japanese Customer

“I believe it’s very beneficial to the customer, as this will give you a gauge on how much power is being used compared to your neighbor.”

—New Zealand Customer

“‘It says that around 100 nearby homes use a heater and shows the average energy bill. I can see that my energy bill is much higher than the average, so I can say ‘Oh! Seems like I am using a lot more than the average home.’’”

—Chinese Customer
To Summarise
Sustainable, verifiable results... globally

Sustained energy efficiency

% kWh savings across programs

Digital engagement

Email open rates

3-5x cross-industry average

Customer acquisition

Participation lift in EE programs

Average lift: 60%

Smart Meter acceptance

5% avg. increase

Customer sentiment

15% avg. increase

Key customer sentiment metrics

Baseline

Actual

Peak

5% kW reduction

Avg. hourly kW reduction per household

Time of day

Program duration

Opower communications

Utility programs promoted in Opower Home Energy Reports

Customer understanding and acceptance of Smart Meters
Questions?

Thanks for your attention
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