Evolving with Energy Efficiency

February 27, 2020
DTE Energy began the journey 7 years ago with a focus on Behavioral Energy Efficiency.
Powerley is a Home Energy Management platform that provides a real-time window into energy usage for the home itself, and every connected appliance and device within it.

DTE LAUNCHED POWERLEY IN 2015

Our Mission

To connect the Smart Grid and the Smart Home
DTE Insight Drives Energy Savings Through Customer Engagement

The DTE Insight app helps customers understand, manage and control the energy that powers their home and life. Using the app more frequently generate more energy reduction for utilities and more savings for themselves.

- Using the app with the Energy Bridge 5X per year generates an 8% increase in energy efficiency
- Customers who engage with the app and Energy Bridge 25 times per year have the potential to save 12% on energy.

- Savings: 2017 DTE Insight Program Evaluation Report, Navigant - June 2018
- Usage/Cost Estimates: EIA, Electric Sales, Revenue, and Average Price – October 2018
Utility Customers Want a New Relationship with Energy

- 56% of consumers would like to have automated home energy management services or devices\(^1\)
- 70% of consumers want a bundled solution from their utility\(^2\)
- 61% would prefer to get home monitoring and control services from their utility\(^1\)

\(^1\)Accenture \(^2\)McKinsey &Co
Regulatory Models are Evolving for Utilities

**TRADITIONAL MODELS**

**Energy Efficiency Funded**
- Regulatory Model has decades of precedence
- Cost effectiveness difficult as a point solution

**DR Funded**
- Regulatory Model is established, market differences
- Cost effectiveness difficult as a point solution

**EMERGING MODELS**

**Platform Capitalization**
- Emerging approach, accepted by some regulators who press for innovation
- Can help with cost effectiveness issues

**Customer Subscriptions/Retail Models**
- Emerging approach, requires legislative/regulatory pathway
- Shared benefits with customers, EaaS Offerings
Creating New Business Models

With a $1.99/month on-bill charge, DTE has created a new business model to monetize smart home energy management. Already, DTE Insight has over 22k customers engaged in their premium service!

HIGH CUSTOMER ENGAGEMENT
- ~70 million app interactions/events
- Each session ~111 seconds

RAPIDLY RE-SCALING
- 111k DTE Insight app users
- 25k EBs deployed

HIGH ASSET UTILIZATION
- 90%+ successful bind rate
The It’s Your Power app has not only helped customers control the energy that powers their home and life but deliver customer friendly demand response that goes beyond the thermostat to all the smart devices in the home.
AEP’s Intelligent DR with Smart Devices

Intelligent scheduling and automation of a home’s energy consuming devices, harmonized to reduce waste and save money for the customer while limiting stress on the grid when needed.

- Let customers choose the devices they want included
- Pre-heat home during off-peak rate
- Notify customers when a DR event is happening
Intelligent DR with Smart Devices

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Energy Data unlocks the missing value of the Smart Home

Enables Energy as a Service

Real-Time Awareness
Whole-house and appliance-level energy data (HVAC, EV) plus actionable insights to control energy usage and pay as you go

Energy Rates + GridMix
Respond to real-time price signals and manage which sources are generating your electrons

Solar, EV, and Storage
Monitor solar, EV, and storage for net neutral optimization and subscription rate pricing

Appliance Monitoring
Real-time appliance monitoring to notify of current and future failures

Activity Monitoring
Elderly care for safety and child wellness/presence. Notify anomalies in behavior patterns via electrical signature

Full-Home Optimization
Complete Smart Home optimization that balances comfort, cost and carbon footprint
# Energy-as-a-Service: The Utility Subscription Bundle

<table>
<thead>
<tr>
<th>Plan</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>APP ONLY</strong></td>
<td><strong>FREE lifetime</strong></td>
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<tr>
<td>Basic</td>
<td>Visualize AMI data</td>
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<td>Bill Budgets and Estimations</td>
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<td><strong>SIGN UP</strong></td>
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<td><strong>APP + REAL-TIME USAGE</strong></td>
<td><strong>STANDARD</strong></td>
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<td>Real-time Energy &amp; Demand</td>
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<td>Appliance Disaggregation</td>
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<td>Always On Load Calculation</td>
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<td>Real-time chat support</td>
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<td>Home Advisor+</td>
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<td><strong>APP + WHOLE HOME CONTROL</strong></td>
<td><strong>SMART HOME</strong></td>
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<td>Smart Home</td>
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So what does the future of EE look like?

- Focused on maximizing customer benefits
- Highly personalized and mobile
- Advanced rates and AMI for real-time price signals
- Bundled with other premium services
THE POWER OF
Real-time Energy in the Smart Home
Real-time Energy in the Smart Home

Real-time disaggregation can determine which appliances are currently in use throughout the home.

DENOTES APPLIANCE USE
The Power of
Real-time Energy in the Smart Home

Denotes Appliance Use
Real-time disaggregation can determine which appliances are currently in use throughout the home.

Location Awareness
Using appliance + lighting info can provide location awareness within the home to unlock new service opportunities.

Room Detection
THE POWER OF

Real-time Energy in the Smart Home

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Using appliance + lighting info can provide location awareness within the home to unlock new service opportunities.

APP. HEALTH MONITORING
Energy can provide the performance characteristics of appliances and alert on degradation or outliers.

You left the door open!
THE POWER OF

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CUSTOMER BENEFITS
Respond to real-time price signals and inform schedules to optimize for cost with different rate types.

Optimize my use to your electric rate.