Residential Demand Management
Business Potential for Energy Companies

We are there to help create a sustainable world. We are there to make it happen.

There Corporation
Mr. Ilkka Palola
There Corporation Ltd

There Corporation is a smart energy company. We provide residential demand management and energy efficiency solutions for utilities, system suppliers and housing co-ops.

Our DSM solution connects utilities and consumers into a common energy market and is also a platform for 3rd party service providers.
Energy market is in a similar change as telecom 20 years ago.

Deregulation and major infrastructure changes are forcing the industry to change.

The business is transforming from a commodity business into a service business.

Consumers face higher energy prices raising the interest in new energy management solutions.

Consumers so far had have limited possibilities to improve their energy efficiency or lower their costs without jeopardizing their comfort.
Embedded video about our Demand Side Management Solution with Fortum.
See: https://www.youtube.com/watch?v=nCN90QgHQes
Demand Side Management in Finland

Roles and Responsibilities

Main Grid Operator

Utility

Energy Exchange Market

DSM Aggregation

Private Houses

Energy Company benefits

Consumer benefits
There DSM Solution

- A DSM Solution, consisting of a set of demand side management, energy management and integration software and service components.
- Software is run in our cloud-based platform and in remotely accessible HEM gateways.
- Controlling of energy consumption is done using gateway and devices, which can be installed into existing heating/cooling systems or home appliances.
- Optimisation algorithms use dynamic inputs (e.g. weather data, day-ahead prices and house activity).
Demand Side Management

Consumer solution

User control and follow-up with mobile app, tablet or laptop

Service is following day-ahead electricity rates, weather forecast and energy consumption.

Service is controlling user devices, e.g. A2A heat pump with wireless IR controller

Service is controlling electric heating

Service is following the functioning of the heating system.

Cloud platform calculates and acquires the control schema and data, and control and monitor the clients. Clients control the home devices

Service is following and measuring the home temperature.

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Solution Benefits

For consumers

- Full utilization of existing heating and cooling system
- Improved Comfort
- Fully automated solution with smart control of home appliances
- 30-40% savings in heating and cooling costs

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Demand Side Management

Utility solution

Utility DSM Operator is using a platform and DSM market place
• to transfer electricity consumption from hours of high load and price to a more affordably priced time, or
• To temporarily adjust consumption for the purpose of power balance management (Disturbance reserve).
• To adjust own production to meet market requirements
• To operate on intraday (elspot, elbas) market

Consumer loads are monitored and aggregated into controllable load (aka virtual power plant).
Solution Benefits

For Utilities

- HEMS Service Sales
- Day-ahead Electricity Sales
- Customer loyalty
- Demand Response
- Production, derivative and hedging
# Solution Benefits

## For Utilities

<table>
<thead>
<tr>
<th>Physical power market</th>
<th>Peak load capacity</th>
<th>Derivative and hedging</th>
<th>Balancing power market</th>
<th>After Sales</th>
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<tbody>
<tr>
<td><strong>Benefit</strong></td>
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<tr>
<td>Steering of energy usage based on hourly EIspot-pricing.</td>
<td>Improved forecasts of available peak load capacity.</td>
<td>Better predictability of consumption provides lower costs for hedging of electricity sales.</td>
<td>Mitigation and prevention of power imbalances.</td>
<td>Reduced churn and increased customer satisfaction.</td>
</tr>
<tr>
<td>- Benefits to the end-consumer or</td>
<td>- Usage of balancing power at Elbas-market.</td>
<td>- Optimization of consumption reduces financial exposure.</td>
<td>- Benefit to be tested &amp; evaluated in current project with Fortum</td>
<td>- Enables platform for provision of own or 3rd party solutions.</td>
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<td>New model how to sell electricity</td>
<td>Lower costs for hedging of electricity sales</td>
<td>Possibility to use balancing power on intraday market</td>
<td>Strong customer lock-up and reduced churn</td>
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*Benefits based on actual achieved benefits from There’s solutions

165€*/customer/year

120€*/customer/year

90€*/customer/year*

14€*/customer/year

75€*/customer/year

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Market segments

Transmission System Operators

Energy Utilities

Home Automation Framework

IoT Manufacturers

System Suppliers: Heating, cooling and micro production

Service Providers

Housing co-ops

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