Demand Response Aggregator

ENERES Co., Ltd
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ENERES Corporate Profile

The talented staff with knowledge of Power

The Accomplishments of energy management

Forecast technology of renewable energy

Accomplishments

Supply of Renewable Power

Accomplishments

System of power management
Eneres’s Accomplishments ＜PPS: Power Producer and Supplier＞

Function on behalf of 11 PPS (out of 22)

＜STEP1＞ Forecast demand
＜STEP2＞ Plan and then purchase supply to equal demand
＜STEP3＞ Management of the Smart Grid Supply & Demand

1) Forecast customer’s demand by analyzing weather conditions and operations (working days, holidays, equipment type, etc.)
2) Forecast and buy one day before trading day
3) Monitor usage 24 hours per day and adjust supply as necessary
Eneres’s Accomplishments <Smart Grid in Japan>

Eneres’s vision for the future

- Wind power, hydro power
- Supply forecast

Supply forecasting

- Electric company transmission network
- Forecast using weather data
- EV charging stations for buses and taxis

With smart response we can create a LOHAS office

Manage green power supply & demand

- Use EV car and smart parking V2G
- Solar Energy
- Actual demand
- Smart response such as intelligent lighting

Eco-shops to redeem eco-points

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Eneres’s Accomplishments <Smart Grid in the U.S.>

Pecan Street Smart Grid Demonstration Project

- Muller Pecan Street of Austin, Texas.
- In a demonstration of a smart grid where 1000 households and 67 businesses participated, various ways to deal with peak load were examined, such as smart electronics, electric cars, and dynamic pricing. Water and gas supply were also examined.
- Participants: Austin Energy, University of Texas
The Falcon System has various functions to help reduce energy consumption.

- **Forecast**
  - Forecast & notify
    - Forecasts for the following day are created. If actual usage is expected to exceed forecast, customer will be notified.
  - Real-time monitoring
    - Regardless of location a company’s headquarters can monitor its satellites in real-time and see the combined energy usage.

- **Real-time customer display**

- **Monitor and alert**
  - Support & alert
    - When actual usage exceeds target, customer will be notified.

- **Programmable devices**
  - Equipment to meet customer needs
    - Programmable devices allowing automatic control of appliances such as an AC.

Usage and weather information are shown on a display. The information is updated every 5 minutes during peak time.

Remote monitoring by Eneres sends a notification by email and phone if usage is expected to exceed target.

Eneres can automatically control devices (turn down AC), On/Off function.
If you have the Falcon System, you can control it from a remote location. The energy management service allows you to save electricity during shortages and to save money.
Users who have a password can access the information on the power monitor in real-time.
The Falcon system allows a headquarters to monitor the power usage across the entire company and make modifications.
Nega-watt and Demand Response

Baseline

Save Power

...  ...

6:00  9:00  12:00  15:00  18:00

Negative-watt  Demand Response

<table>
<thead>
<tr>
<th>User</th>
<th>Large user (factory, tower building)</th>
<th>Small user (store, restaurant)</th>
</tr>
</thead>
<tbody>
<tr>
<td>trading unit</td>
<td>100kW</td>
<td>1kW~</td>
</tr>
<tr>
<td>How to trade</td>
<td>bidding</td>
<td>contract</td>
</tr>
<tr>
<td>How to save</td>
<td>Generator, adjust production</td>
<td>Save air conditioning or lightings</td>
</tr>
</tbody>
</table>
Demand Response

- Power Utility
  - Request Peak cut or save power
  - Report the saved amount

- Aggregator
  - forecast
  - control
  - measuring kWh

- BEMS
  - Control network
  - Demand response

- User group
  - air conditioning or lightings

- incentives
  - Check the amounts
  - incentives

Contact: report@tky.ieej.or.jp
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http://eneken.ieej.or.jp/en/whatsnew/JPOIEL.html