

## Capitalizing on advanced technologies to promote an eco-friendly community life

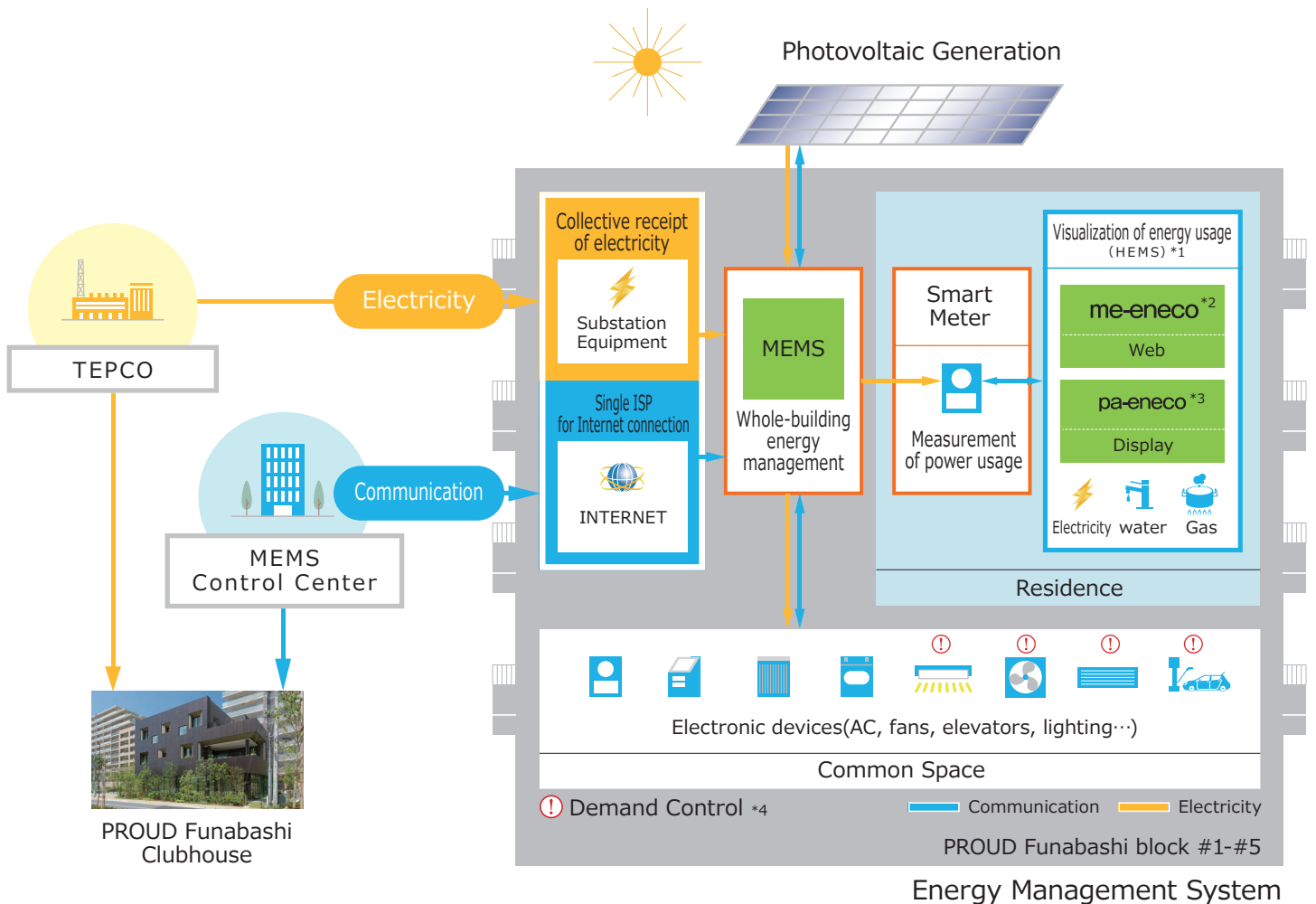
The Morino City community is united in its commitment to an eco-friendly lifestyle with the help of energy-efficient technologies.

### What is “enecoQ”?

“enecoQ” is an energy management system in which the energy usage of an entire condominium building is managed by purchasing electricity for the whole building and combining electricity generated by solar powered energy resources and the internet (ICT). The enecoQ system offers eco-friendly and economical services by integrating energy and communication technologies.



※What is “enecoQ”? “enecoQ” is a new word created by combining “energy,” “ecology,” and “quality.”  
 “ The word also represents the ability to put energy to good use, just as a skilled “cook” can make use of ingredients.



### Town Energy Management Service (TEMS): Community

Morino City adopted Town Energy Management Service (TEMS), a system that manages the energy use of the entire town. By using energy efficiently in common facilities and each town blocks, the system saves energy and contributes to the development of an eco-friendly town.

### Mansion Energy Management Service (MEMS): Condominium buildings

The electricity purchased (collectively received) for an entire building is combined with electricity generated by solar and the energy use of the entire building is managed by leveraging information and communication technologies (ICT).

\*1: HEMS is an acronym for Home Energy Management System, which manages energy usage in homes by leveraging information and communication technologies.  
 \*2: me-eneco is the name of a HEMS device used in the enecoQ system.  
 \*3: pa-eneco is the name of a HEMS device used in the enecoQ system.  
 \*4: “Demand control” signifies the regulation of electricity usage in the common areas of condominium buildings remotely by the MEMS Control Center during peak demand, leveraging information and communication technologies.

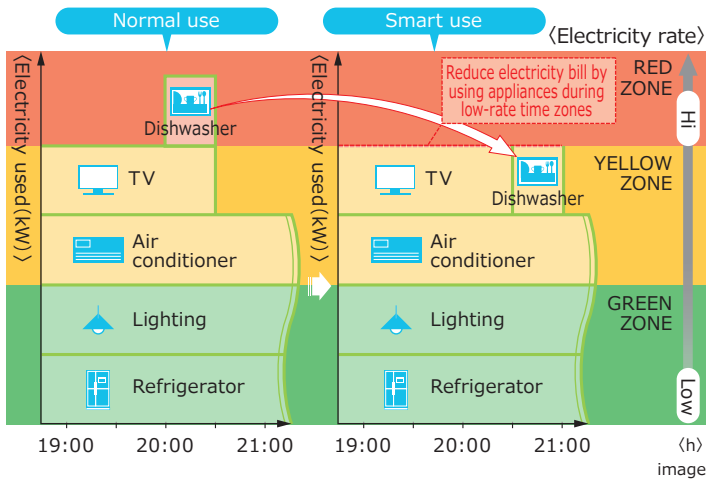
## Demand response (exclusively owned spaces in condominium buildings)

Unlike the standard electricity billing system in Japan that determines the amount based on monthly consumption levels, enecoQ employs "Smart Plan," which sets the electricity rate based on the consumption levels measured every 30 minutes. If the average of 30-minute electricity consumption level is high, electricity bills will increase. Conversely, electricity bills can be reduced by avoiding the simultaneous use of household appliances and keeping the electricity rate low.

### Making Smart Use of the Smart Plan: Example 1

Avoid using household appliances that run for a long time at the same time

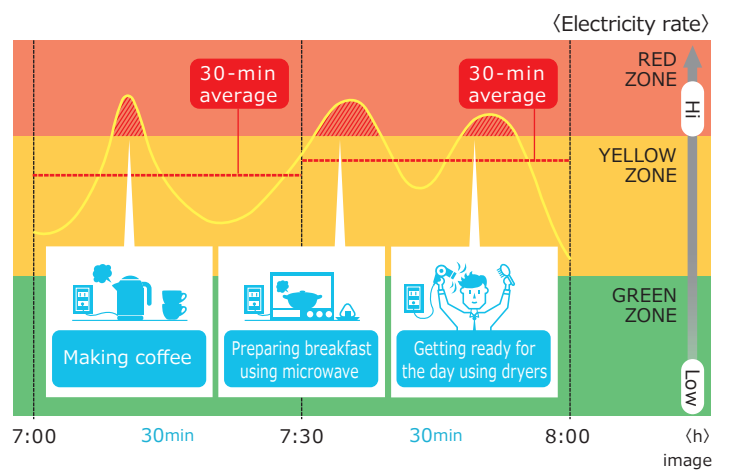
Residents can save money on their electricity bills by using household appliances that run for a long time such as washers and dishwashers at different times, instead of simultaneously. The key is to lower the peak consumption levels and distribute electricity use to keep the rate low.



### Making Smart Use of the Smart Plan: Example 2

Use power-consuming household appliances for shorter periods.

Residents can save energy by using power-consuming microwaves and dryers in shorter periods to keep their consumption levels below the red zone.



## My Page

Residents can access "My Page" to view their past power usage and rankings in their condominium building. The information is updated every 30 minutes and is also available on PCs or smartphones.

me-eneco

Personal Computer

Smart Phone

Smart Phone

pa-eneco

Living Panel

image

## 2013 Energy Conservation Validation Project (2013)

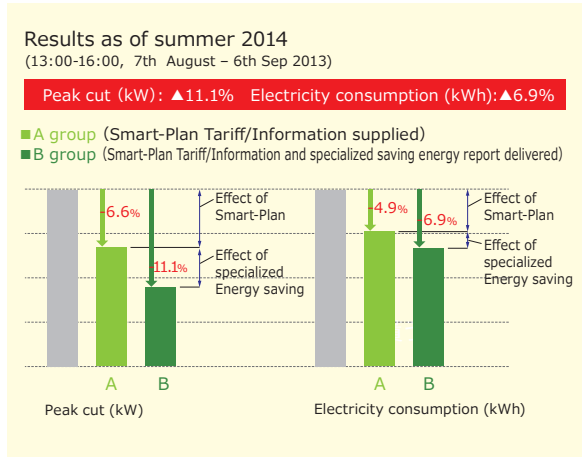
A survey was conducted in Blocks 1 and 2 of PROUD Funabashi from 2013 to 2014 concerning the residents' awareness of energy conservation and the effects of energy-saving measures. The project demonstrated the effectiveness of the "Smart Plan" electricity billing system and energy-saving tips. As many as 500 households participated in the survey, one of the highest among the validation projects conducted in Japan concerning energy-saving measures for multi-unit residential complexes.

Research	Nomura Real Estate Development Familynet Japan Central Research Institute of Electric Power Industry
Period	From August 2013 to November 2014 (16months)
Participant	Total: approx 500 units
Purpose	①Which one is most effective for peak cut? ②How effective?

Tariff system

Real time indicator

Advice report



## 200 units of EV-charging equipment/ EV car sharing

Approximately 200 chargers for electric vehicles, or about 20% of the number of parking spaces, are available in Morino City. In addition, each block has a car-sharing program for EV.



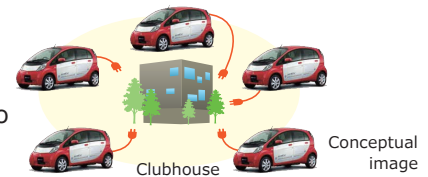
## EV town security

A security guard is stationed at the clubhouse during the night and makes rounds throughout the town.



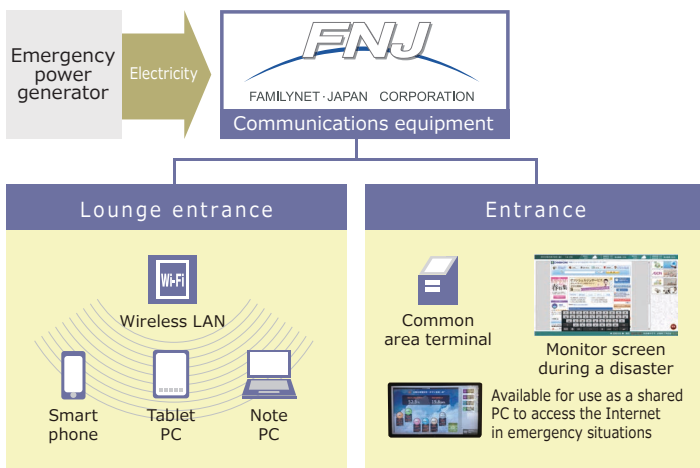
## Vehicle to Home (VtoH) for emergencies

During a power outage, electric vehicles are used as an emergency power source to send electricity to electrical equipment in the clubhouse.



## Wireless LAN in common areas

During emergencies, the internet is sometimes more stable than mobile phone lines. Wireless LAN is installed in lounges and other common areas, allowing residents to gather information in emergencies.



## Digital signage

Digital signs are installed in each block and at the clubhouse entrance. They display notices from the strata council and information on neighborhood and community activities. Residents can also use the signs to check the amount of electricity generated by the solar power system and the reduction in CO<sub>2</sub> emissions in each block, as well as the energy usage and the proportion of electricity supplemented by solar power generation in common areas. The digital signs switch to an emergency mode during natural disasters and power outages so that residents can gather emergency information.



## Smart street lighting

Street lighting is controlled remotely by transmitting data to and from individual street lights through power cables. By measuring power consumption and observing cumulative lighting time, smart street lighting curbs energy consumption and streamlines street lighting maintenance operations.

