Improving the Energy Efficiency of Commercial Buildings by Utilization of High Efficiency Equipment

Yuko Vietnam Co., Ltd.

4th December 2020

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Company Profile(Yuko-Keiso Co., Ltd.)

Company Name	Yuko-Keiso Co., Ltd.
Established	December 1963
Capital	100,000,000 JPY (about 21,584,408,300 VND)
Lines of Business	1. Designing, installation and maintenance of instrumentation systems and automatic control systems 2. Designing, installation and maintenance of equipment for telecommunications, security, emergency, electricity and air-conditioning 3. Sales of instrumentation devices and automatic control devices 4. Architectural designing and supervision of building construction and consultation for facilities management
Sales	3,520,000,000 JPY (the term ended May 2018) (about 759,771,172,160 VND)
Number of employees	179
Office	Tokyo [Head office], Tochigi, Saitama, Yokohama, Hanoi

Company Profile (Yuko Vietnam Co., Ltd.)

Company Name	Yuko Vietnam Co., Ltd.
Established	July 2012
Capital	135,000 USD (about 3,121,807,500 VND)
Lines of Business	1. Consulting and engineering service for BMS (Building Management System) 2. Consulting for energy saving projects (Join Crediting Mechanism and Bilateral Offset Credit Mechanism) 3. Design, installation and maintenance of electrical systems, automatic control measurement and energy monitoring systems 4. Energy monitoring and system diagnosis
Number of employees	7 (2 Japanese & 5 Vietnamese)
Address	Floor 1 and 2, No. 3, 62 Lane, Truc Khe street, Lang Ha ward, Dong Da district, Hanoi, Vietnam

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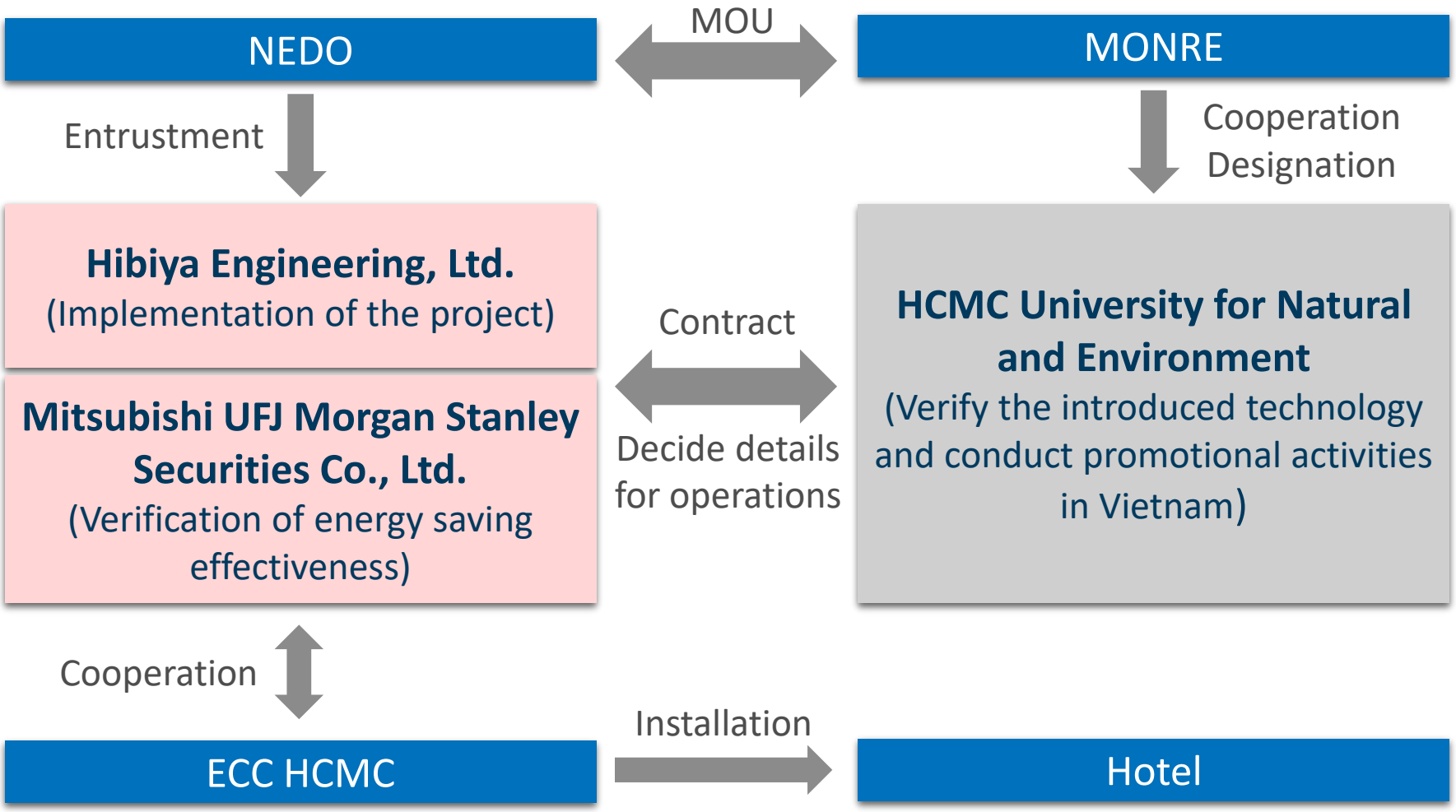
Scheme and Role

JCM Feasibility Studies and Demonstration Projects FY 2013



Target Hotel

Selected five-star hotels in Ho Chi Minh City and Hanoi

Renaissance Riverside Hotel Saigon

Usage	Hotel
Completion	1998
Scale	21 stories
Total floor area	29,539 m²
Number of rooms	349 rooms

HOTEL du PARC HANOI

Usage	Hotel
Completion	1998
Scale	15 stories
Total floor area	29,163 m²
Number of rooms	257 rooms

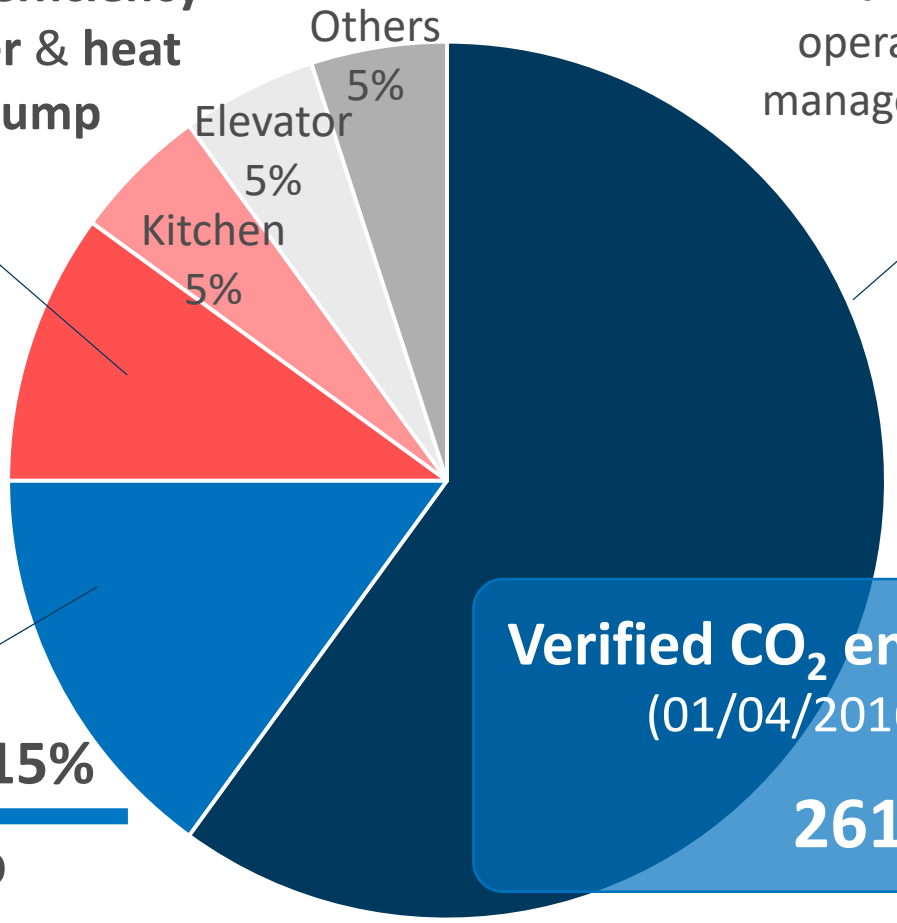
Introduced Technology and CO_2 Emission Reduction

Hot water supply 10%

Oil-fired boiler ▶ **High-efficiency boiler & heat pump**

Air conditioning 60%

Manual operating management ▶ Operating management by **BEMS**



Lighting & outlet 15%

Halogen ▶ **LED**

Verified CO_2 emission reduction
(01/04/2016-31/05/2017)

261 tCO_2

Typical energy use at Hotels in Vietnam

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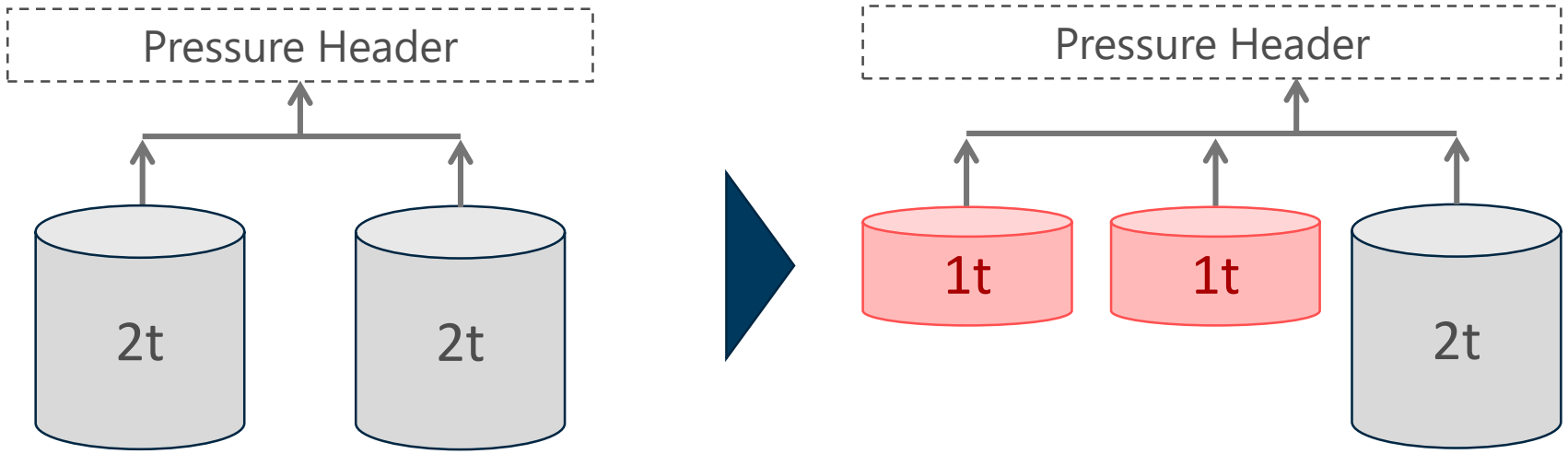
High-efficiency Boiler

Manufacturer

MIURA Co., Ltd.

Advantage

- High energy efficiency compared with conventional one
- Operate optimum number of boilers



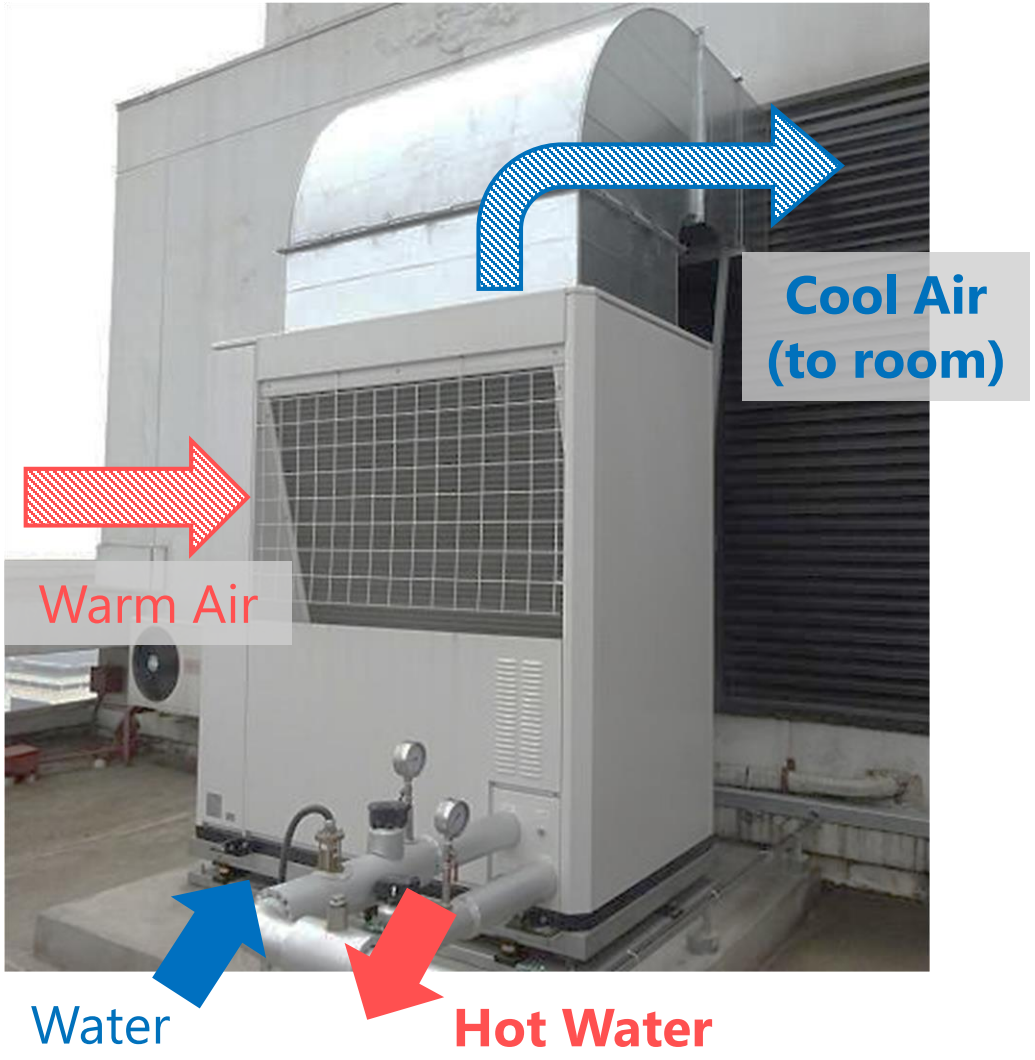
Heat Pump

Manufacturer

MAYEKAWA MFG. CO., LTD

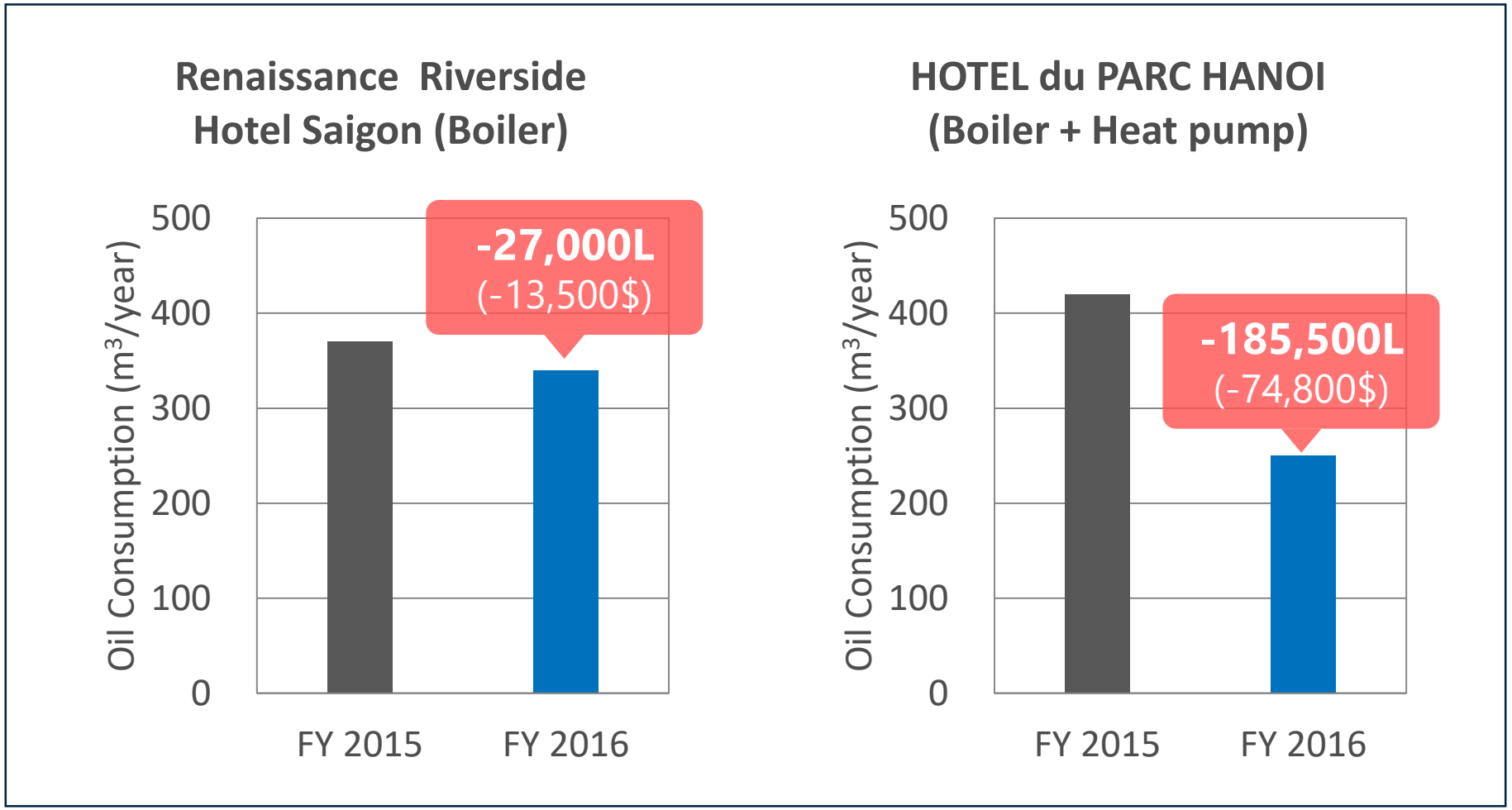
Advantage

- Make **Hot water** & **Cool air** at once
- High energy efficiency compared with using boiler



Effects by Introducing High-efficiency Boiler & Heat Pump

Oil consumption in each hotel



LED Lighting

Manufacturer

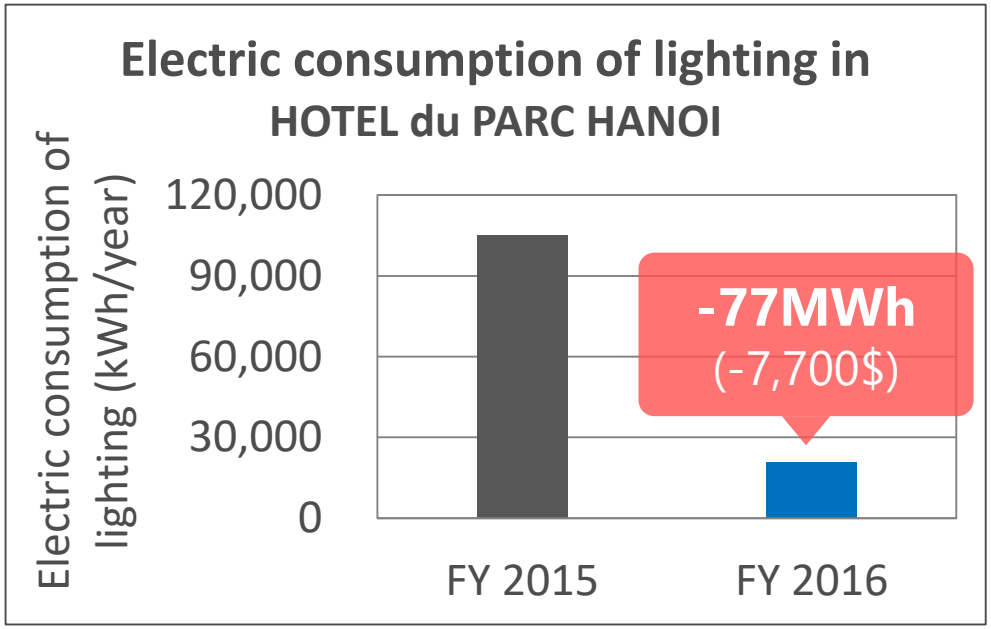
Panasonic Corporation

Advantage

- **2 times brighter** than halogen lighting
- **30 % less power consumption** compared with halogen lighting

Effects

- 70% less power consumption
- Positive comments from guests



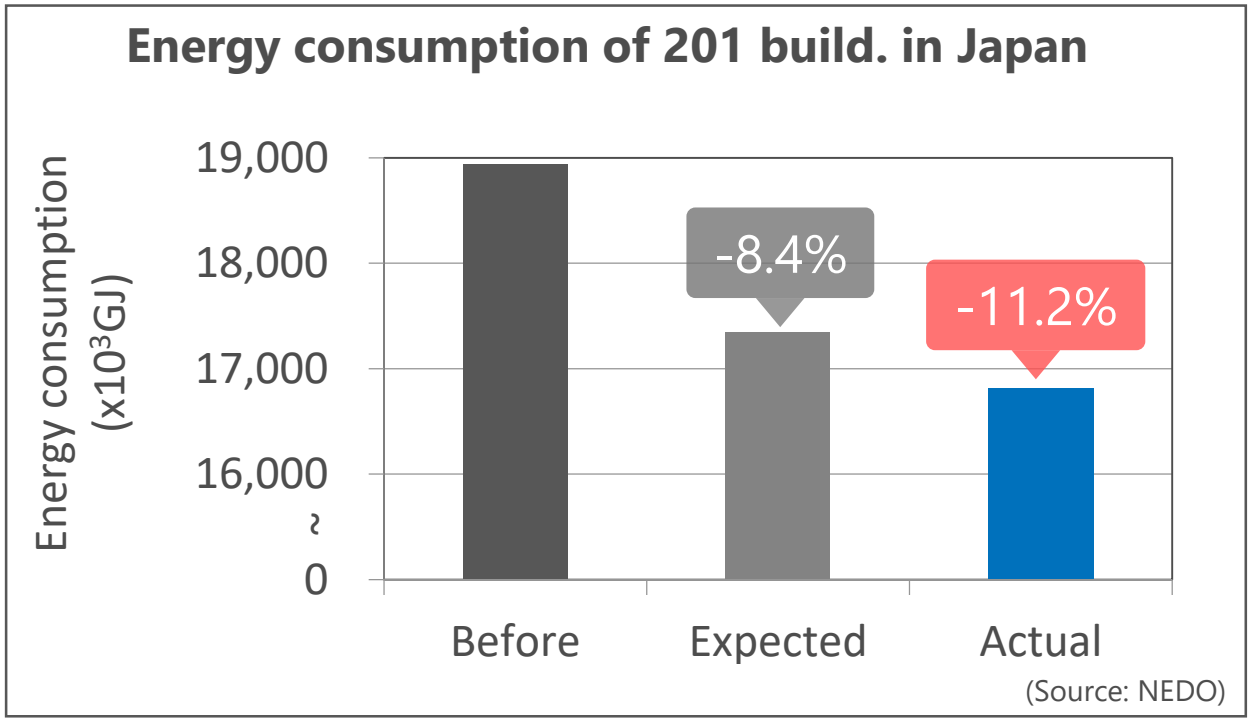
BEMS

What's BEMS?

- **B**uilding **E**nergy **M**anagement **S**ystem
- Improve equipment operation by collecting, analyzing and assessing data

Advantage

- Reduce energy consumption by collecting accurate data



V-BEMS (BEMS for building in Vietnam)

Advantage

- Simple and less expensive hardware + Advanced software
- System focused on Air-conditioning which is the largest target

Main function

System chart for current operation status

- Find problems easily without visiting sites

Analysis of energy consumption and operational index

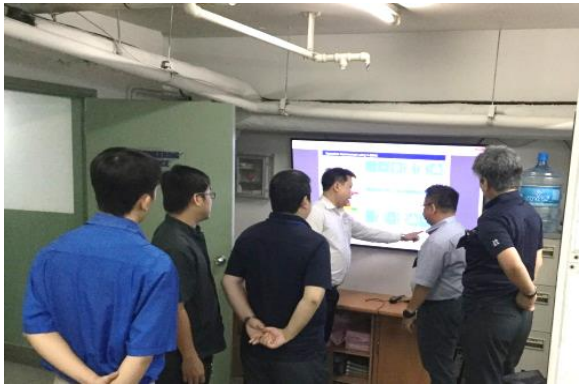
- Quantitative data management

Export of alarm log and collected data

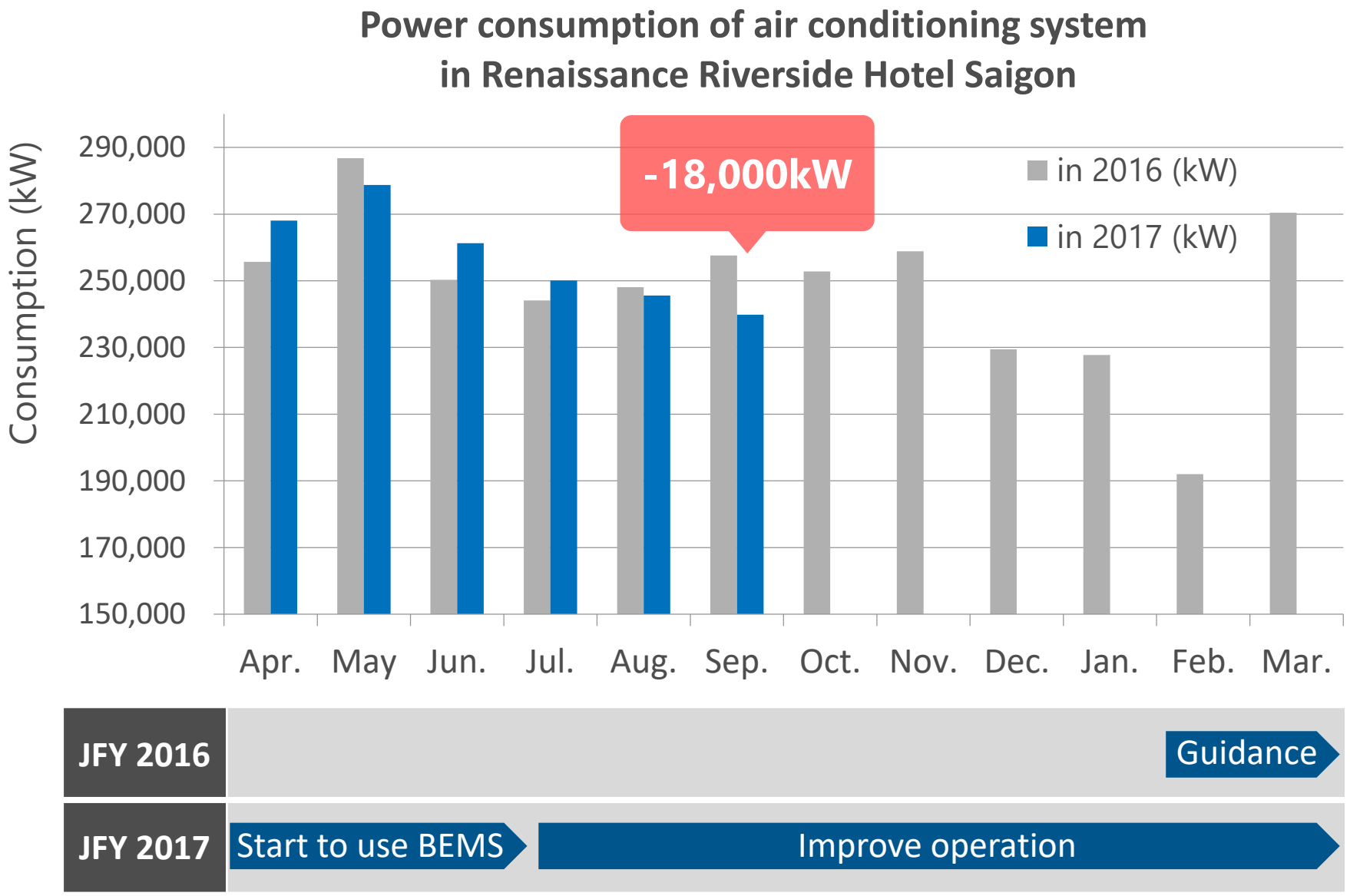
- Advanced analysis

Operation improvement by BEMS

1. Optimum operation of cooling water pump
2. Optimum operation of chiller system
3. Optimum rotation of chiller system
4. Making manual for efficient operation
5. Review of daily operation



Reduction of Power Consumption by BEMS



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Navigation BEMS - **SeeVAS**

Weather forecast

AI Unit

SeeVAS
Standards of Energy Efficiency Value Added Service

Set optimum parameter automatically

Operate by **RPA**

BAS System

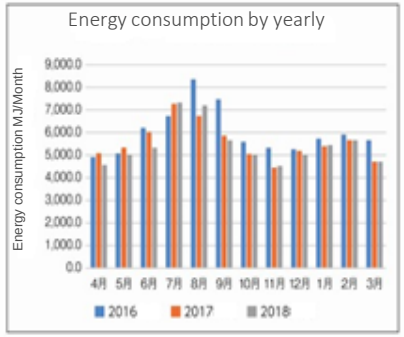
Control

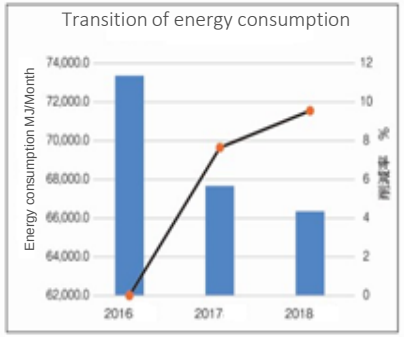
Air conditioner

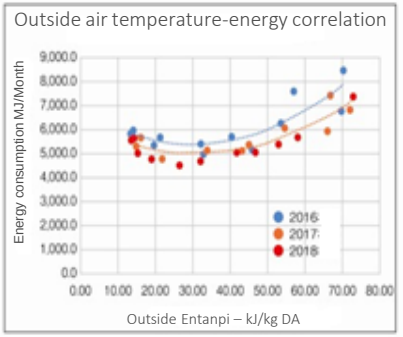
Control

Heat source equipment

Achieve **continuous operation improvement** based on energy analysis service.







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