
The total effect of installation of Double Bundle-type HeatPump System

Installation place: (Indonesia) AXIA South Cikarang

Manufacture : (Japan) Zeneral Heatpump Corporation

Today's presenter

- AXIA South Cikarang (TTLR)
 - Mr.Sitorus : Deputy General Manager
- Pt. Zeneral Heatpump (Japan)
 - Mr.Shiba : Executive Managing Director

Today's agenda

- AXIA South Cikarang Over View
- Introduction of Pt. Zeneral Heatpump
- What is Double Bundle-type Heat Pump
- Installation example in Japan
- Measurement, Reporting and Verification
- The current progresses, challenges, contribution to sustainable development in Indonesia

Date: 12th July 2017

Vunue: Bogor,Indonesia

AXIA South Cikarang Over View

Project Outline

- 1) Location LIPPO Cikarang, Bekasi West Java, INDONESIA
- 2) Type, Use Service apartment, Restaurant
- 3) Structure RC structure 13 Floors
- 4) Schedule Completed 31st March 2016

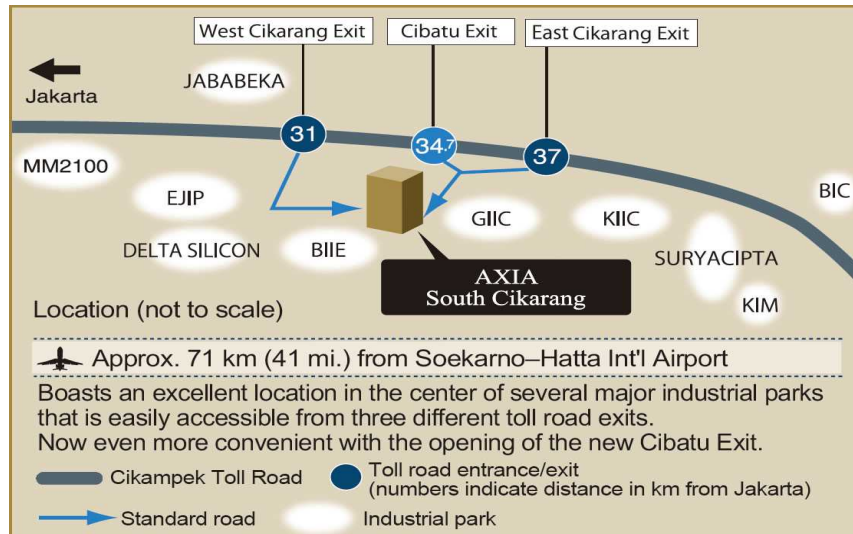
Mechanical and Electrical Facility Outline

- 1) Substation 3 3W 20kV/400-230V 1,000kVA x 1
- 2) Generator 3 4W 400-230V 630VA x1 (Back-up : 70%)
- 3) Main Feeder CVT Pre-fabrication Branch cable
TEL, LAN, Pubric Address, CCTV, Card Key security
- 4) Weak current Direct supply with inverter pump Under ground tank 60m³
- 5) Plumbing Kitchen, SPA : Central system : 37.8kW x 6 set
- 6) Hot water **Double bundled Heat pump With 45m³ hot water tank**
Residences : Local system with 100 liter hot water tank. and heater
Only 12-13F rooms are included in central system
SPA : Internal Bath 22m³/h(2turn/h), Roten(External) : 16m³/h (2turn/h)
- 7) Filtering Splinkler, Internal and External Hydrant system, fire extinguisher
- 8) Fire fighting Public : Double bundled (Water cooled) chiller 27.6kW x 6set

External View (Completed Image)

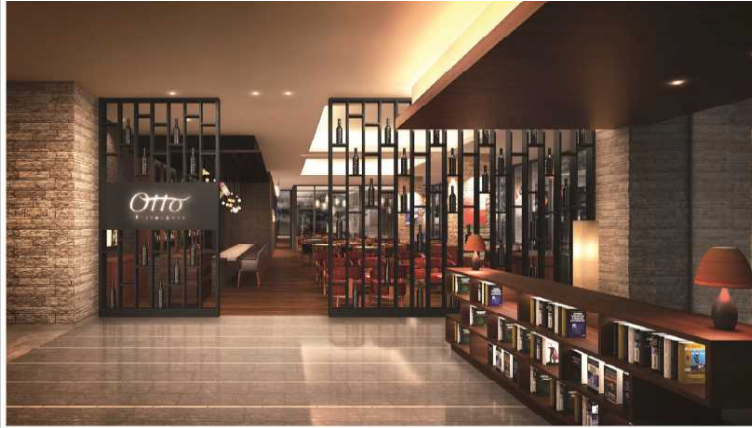


Location



Major energy consumption area in AXIA South Cikarang

Cool air for Lobby & Restaurant



Mau dingin

Hot water for big Spa.



Mau panas

Double Bundle-type Heat Pump can reduce energy consumption of Dingin& Panas

Introduction of Pt. Zeneral Heatpump

Pt. Zeneral Heatpump is....

- established in 1984
- specialized to make heat pump

Our major products are...

- “Waste Heat Recovery Heat pump” and
- “Cooling & Heating & Hot water Supply Heat pump”

Our focus is the utilization of “UNUSED ENERGY”

- ground source
 - hot spring water waste / groundwater / ground heat
- factory waste heat

Built-to-Order

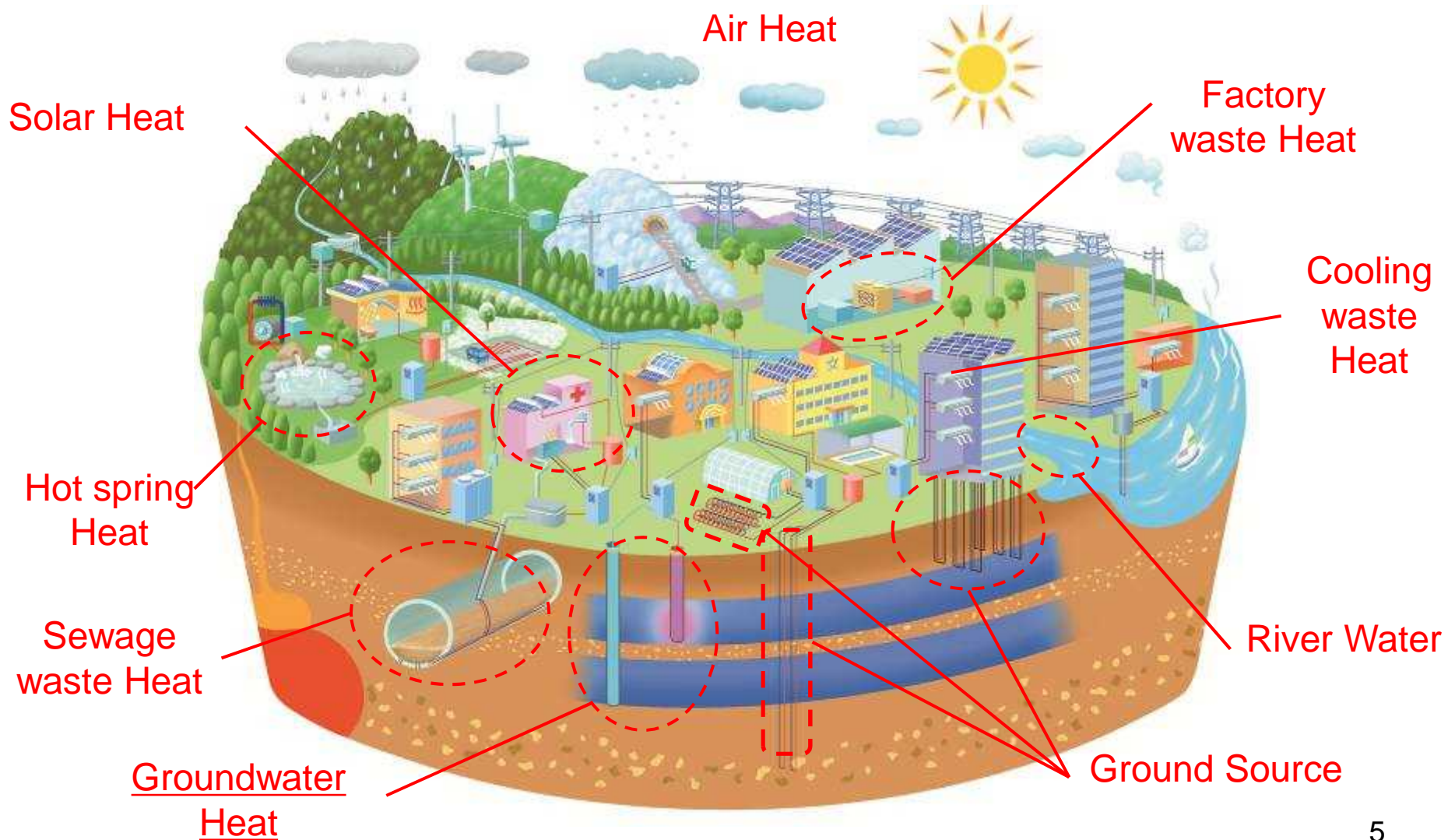
Overseas sales :

- 15 in China
- AXIA South Cikarang in Indonesia



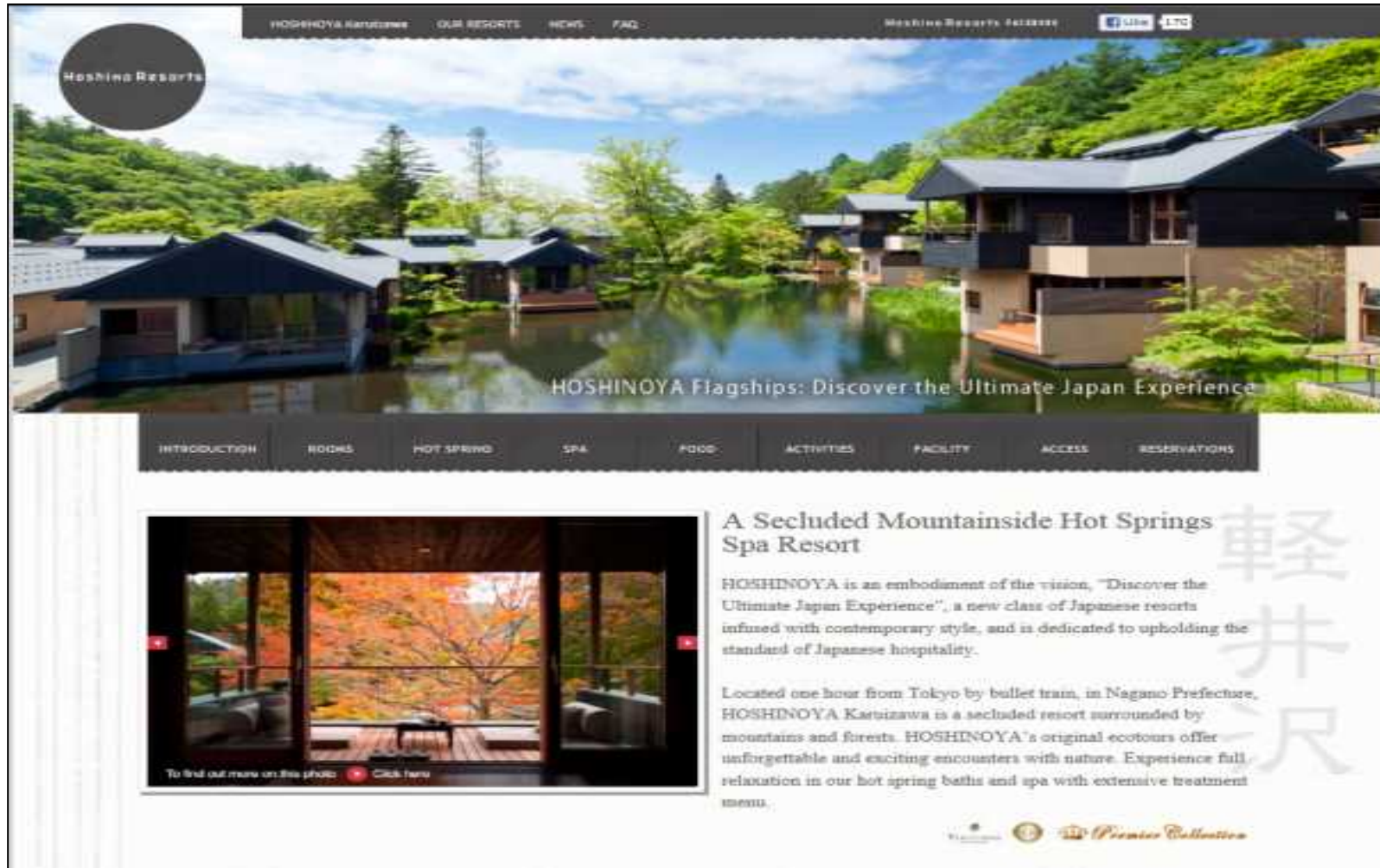
Picture of the Heatpump
in the AXIA

Heatpump system with various energy as a Heat source



Installation example in Japan

HOSHINOYA KARUIZAWA

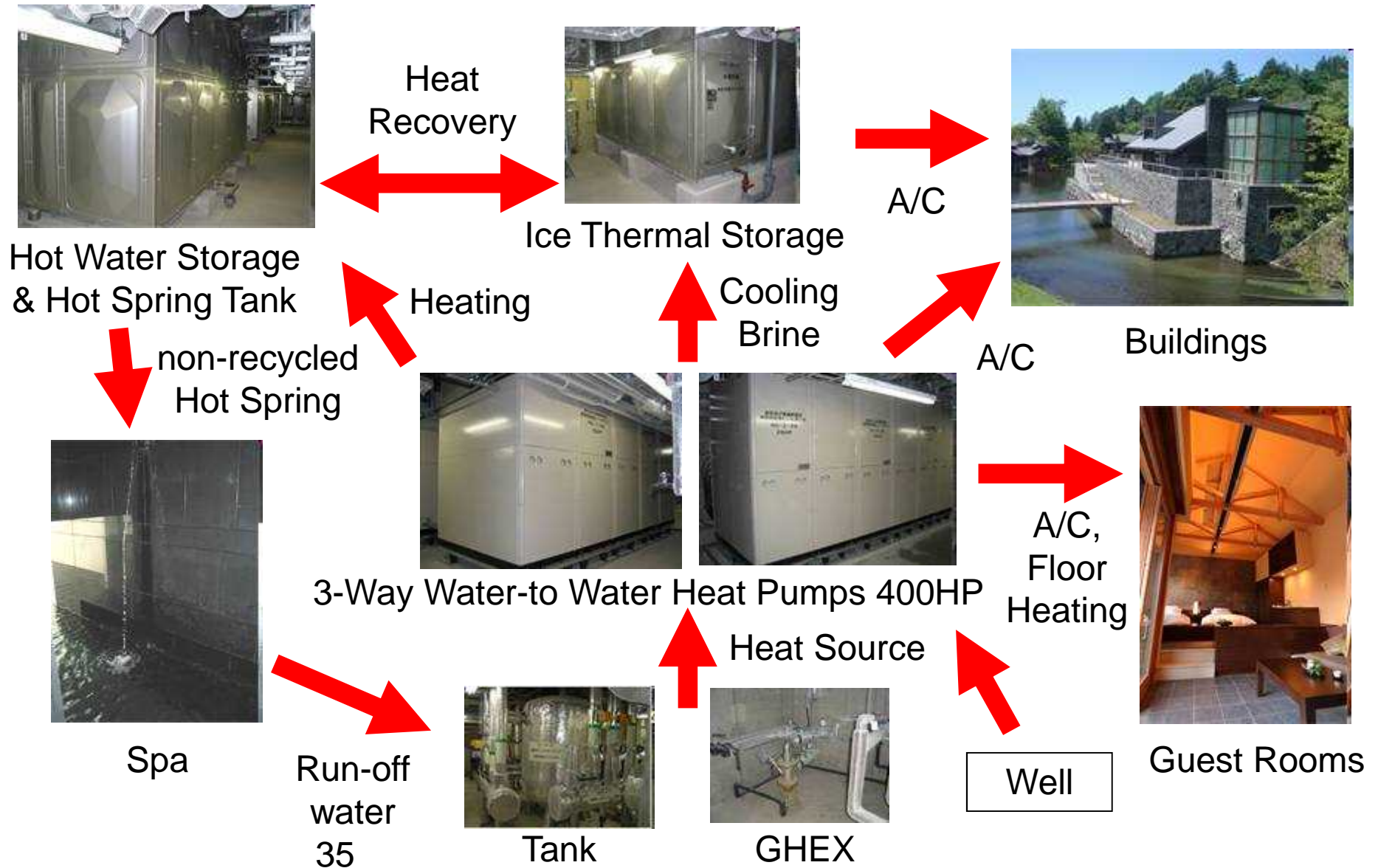


<http://hoshinoyakaruizawa.com/en/>

Pictures of the HOSHINOYA KARUIZAWA



Thermal Energy Flow of Hoshinoya Karuizawa



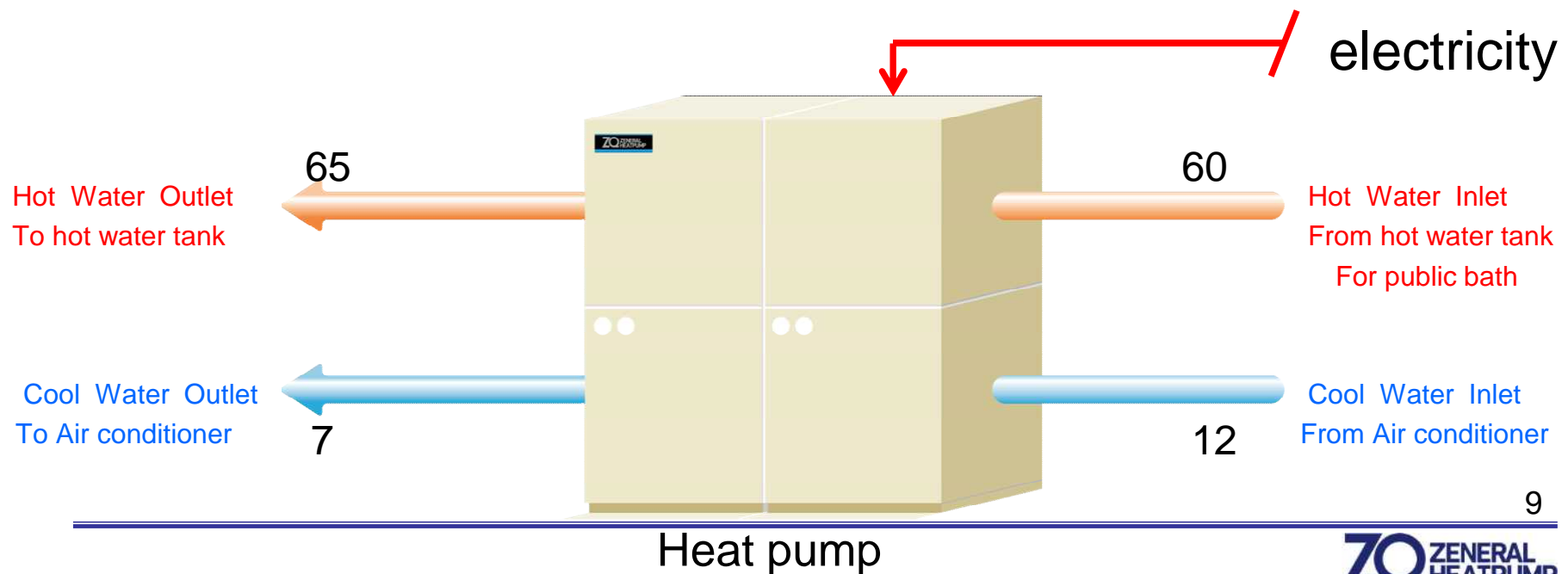
Applied technology

This double bundle type heat pump

1. Help reduction of CO² and fossil fuels
2. Supplies cold water to the air conditioning
3. Supplies warm water to the public bath



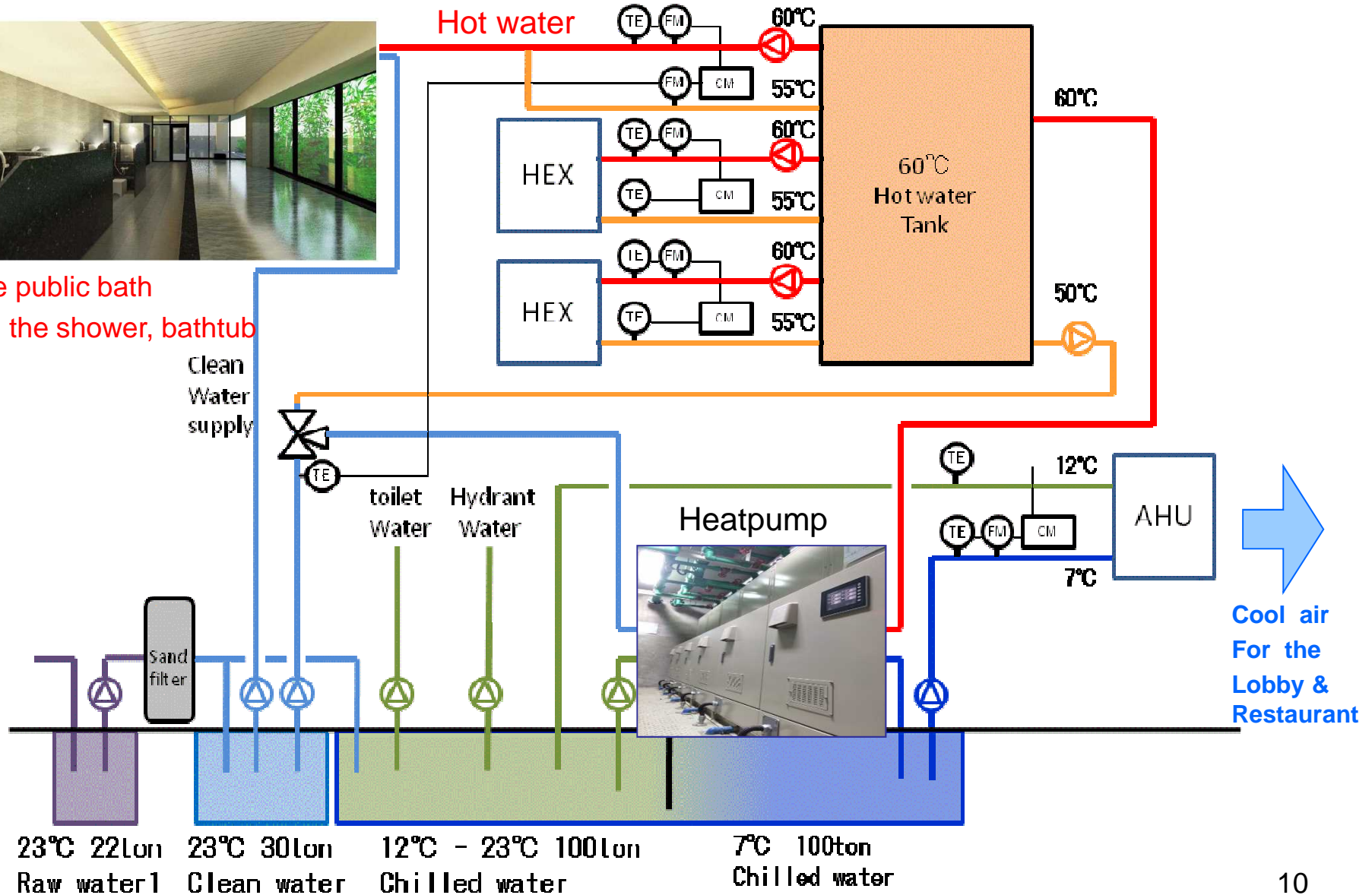
Combining heating and cooling at the same time brings high efficiency.



System schematic



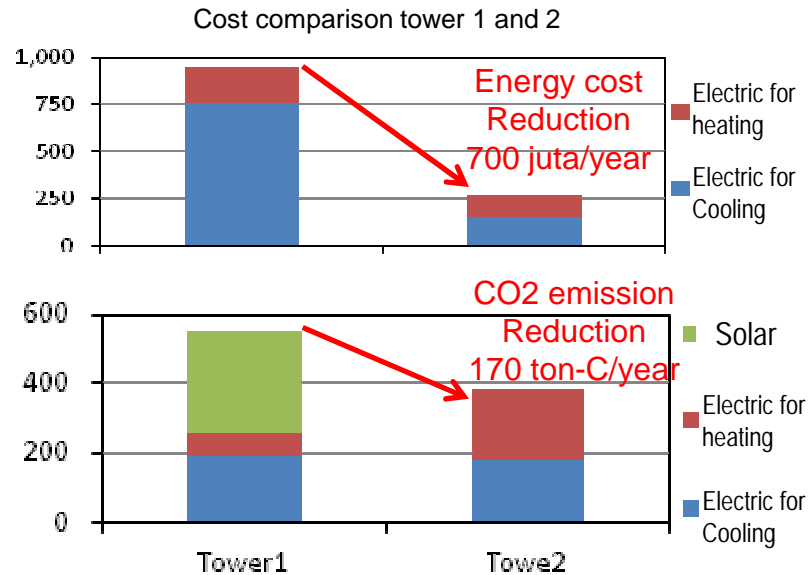
The public bath
For the shower, bathtub



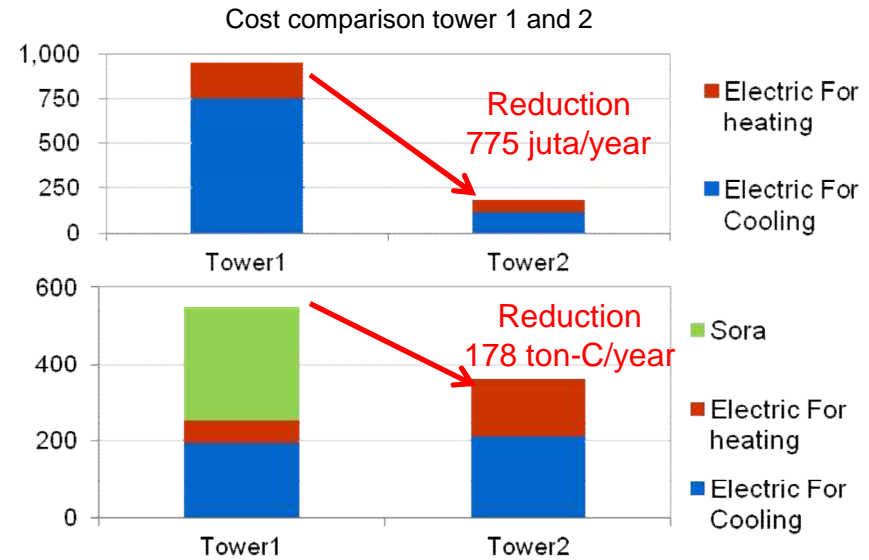
Measurement, Reporting and Verification

- Reduction of CO² emission and Fossil Fuel Consumption

When planning



Actual results



(Tower 1 w/out our heat pumps Tower2 w/ our heat pump)

- Less work for Maintenance Staff

Maintenance . . . only once a year by our service team.

The heat pump operates automatically without the need of regular maintenance.

The current progresses, challenges, contribution to sustainable development

- The current progresses

It has been cut than planning

Energy cost reduction ··· 775juta/year Co2 reduction ··· 178ton/year

- The challenges

Water quality management of hot water supply is important

Regular maintenance of filtration equipment is required

- Technology replication opportunities in Indonesia

As a possible method.

In Working with companies in Indonesia to manufacture in Indonesia.

- Contribution to the sustainable development in Indonesia

ex; In **Bali Island**, there are so many hotels

The swimming pool and hot water for the shower

The needs of air-conditioning