



LG's Green, Smart, and Eco friendly Solutions represent our core product and successful examples.

Agenda



Contents

- 01 Introduction of LG Electronics
- 02 Core Products
- 03 Green Concept
- 04 Successful examples

LG Electronics AC Company



- Global Total HVAC and Energy Solution Company
- Design comfort through green technology

Comfort

End-user



Green

Energy Saving



Business Partner & Customer

Environment Friendly



HVAC solution

- Residential Air Conditioning
- Commercial Air Conditioning



Energy solution

- Solar Energy
- Lighting
- Solution



Introduction of LGE Energy Solutions



■ Green, High efficient and Convenient solution

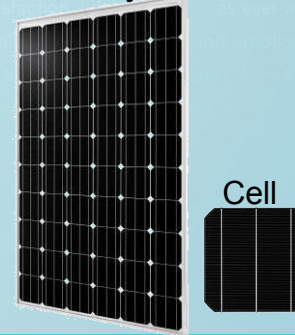
HVAC Solution

Multi V (Electric Heat Pump)



Power Generate Solution

Mono Crystalline

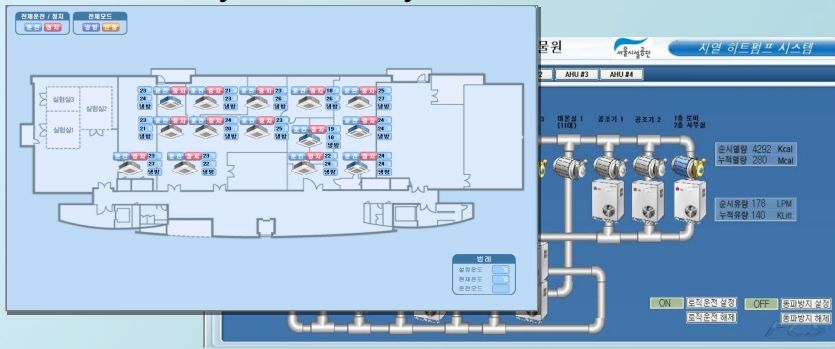


Multi Crystalline



BEMS Solution

V-net Facility Control System



Lighting Solution

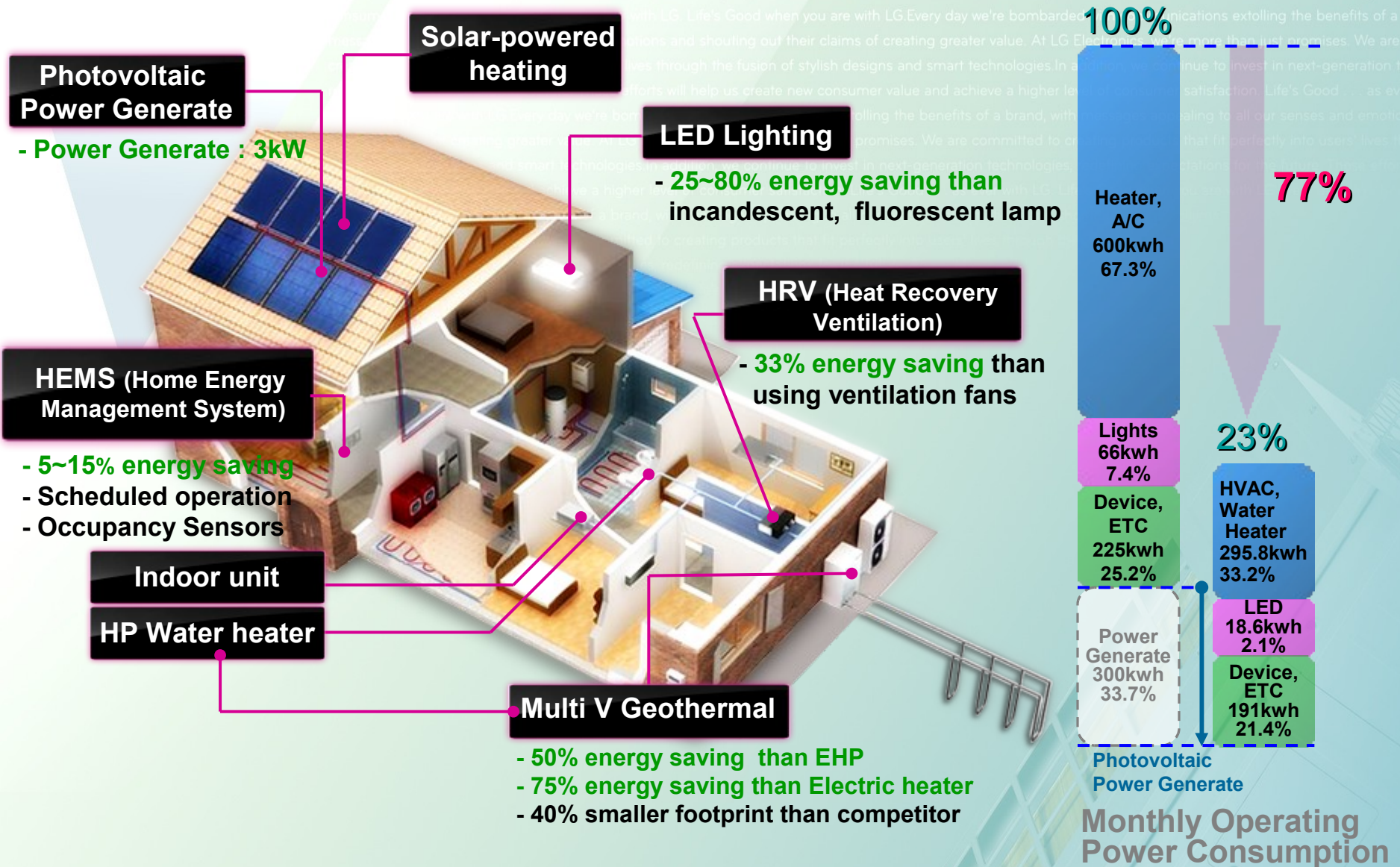
LED Lights



Green Home



Life's Good



Green School (Actual Example)



Multi V III (Aerothermal Heat Pump)

- Individual zone control
- **20% higher COP than competitor**
- 30% less installation space
- Continuous heating operation

LED Lighting

- **25~80% energy saving** than incandescent, fluorescent lamp

HRV (Heat Recovery Ventilation)

- **33% energy saving** than using ventilation fans

AHU (For Large Space)

- Total IAQ (Indoor Air Quality) management
- **60~70% energy saving** by heat recovery

Solar Energy

- **Power Generate : 15kW**

Multi V Geothermal

- **50% energy saving** than EHP
- **75% energy saving** than Electric heater
- 40% smaller footprint than competitor

BEMS (Building Energy Management System)

- **5~15% energy saving**
- Using Temp. Lock, Schedule, Dimming Control
- Efficiency use with interlocked Sensors

100%

Heater, A/C
22,000kwh
61.8%

46.4%

53.6%

Lights
2,574kwh
7.3%

Device, ETC
11,000kwh
30.9%

Generate
1,500kwh
4.2%

HVAC, Water Heater
10,846kwh
30.5%

LED
383.4kwh
1.1%

Device, ETC
9,350kwh
26.3%

Photovoltaic
Power Generate

Monthly Operating
Power Consumption

Green Building



Life's Good

Photovoltaic Power Generate

- Power Generate : 15kW

Chiller

- Cooling for large open space
- 15% Smaller footprint than competitor

Multi V Geothermal

- 50% energy saving than conventional heat pump

Multi V III (inverter Heat Pump)

- Individual zone control
- 20% higher COP than competitor
- 30% less installation space
- Continuous heating operation

LED Lighting

- Comparing with incandescent, fluorescent lamp
- 25~80% energy saving

BEMS (Building Energy Management System)

- 5~15% energy saving
- Using Temp. Lock, Schedule, Dimming Control
- Efficiency use with interlocked Sensors

AHU (Air Handling Unit)

- Total IAQ (Indoor Air Quality) management
- 60~70% energy saving by heat recovery

100%

Heater,
A/C
60MWh
61.8%

48.3%

Lights
26,080kwh
20.7%

HVAC,
Water
Heater
29,580kwh
23.5%

Device,
ETC
40,000kwh
31.7%

LED
3,077kwh
2.4%

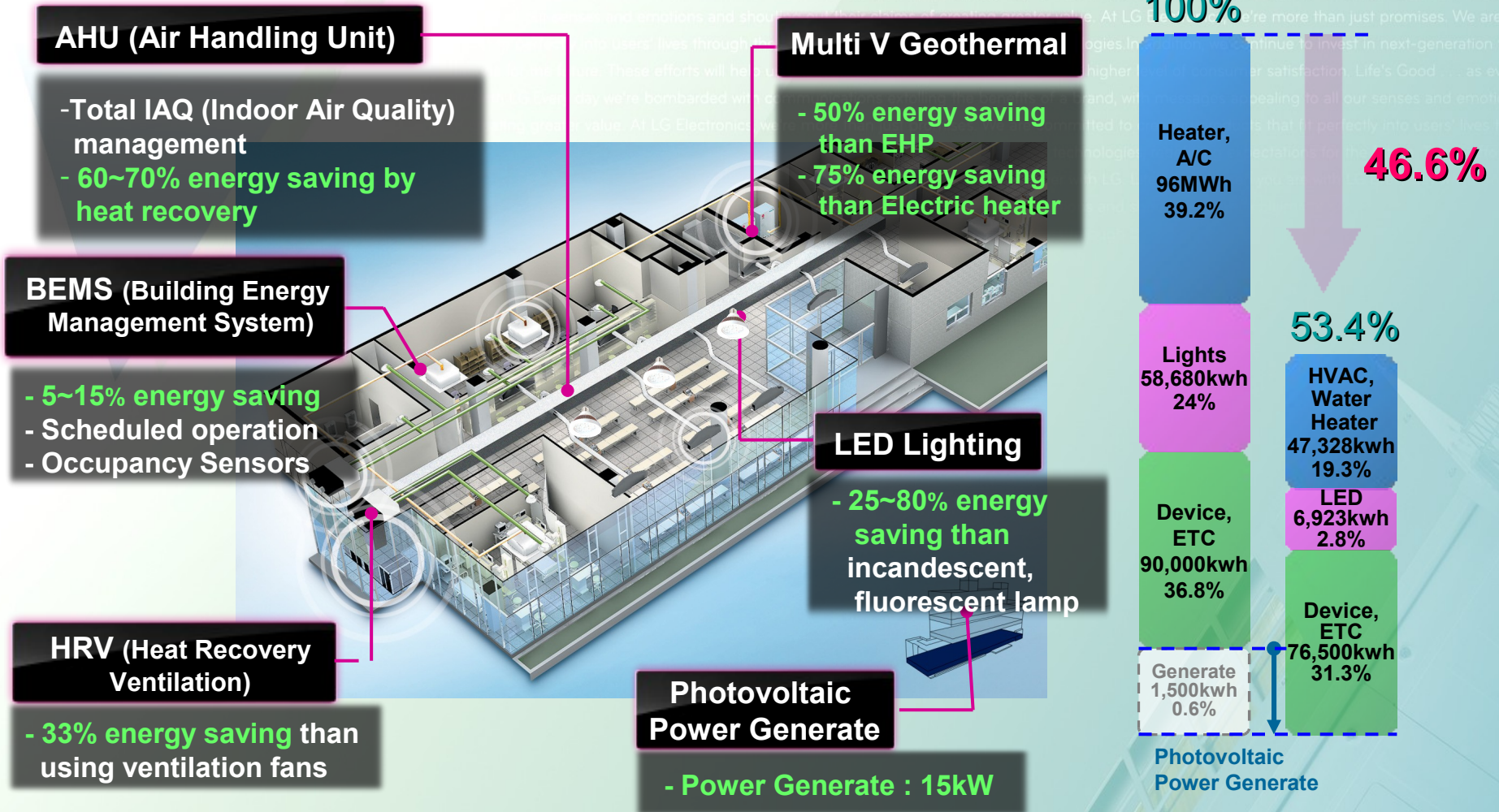
Generate
1,500kwh
1.2%

Device,
ETC
34,000kwh
27%

Photovoltaic
Power Generate

Monthly Operating
Power Consumption

Green Hospital



Monthly Operating Power Consumption

Yul-myeon High School



■ Successful example applied Geothermal, BEMS System

■ Information



- Name : Yul-myeon High school
- Location : 545 Godang-ri
Yul-myeon Icheon Gyeonggi-do
- Size : 4 story building
- Usage : Educational facility
- Gross Floor Area : 3,545 m²
- Completion : September 2009

■ System Overview

Geothermal Heat Pump System (Water to Air)

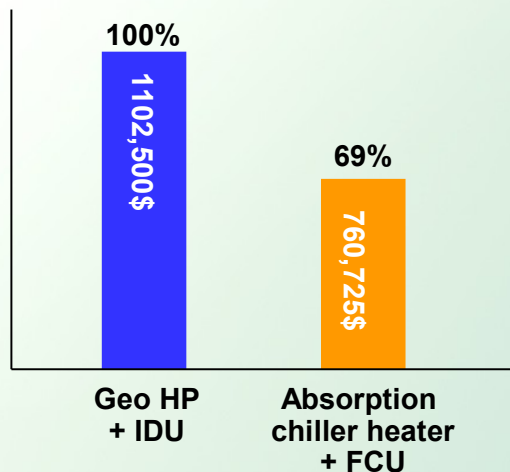
- (A) Nominal Capacity : 58 kW x 11ea, 29 kW x 3ea
- (B) Cooling Capacity : 725 kW
- (C) Heating Capacity : 813 kW
- (D) IDU : Ceiling Cassette
- (E) Pipe : Vertical closed(150M x 70EA)

Building Energy Management system (FCS)

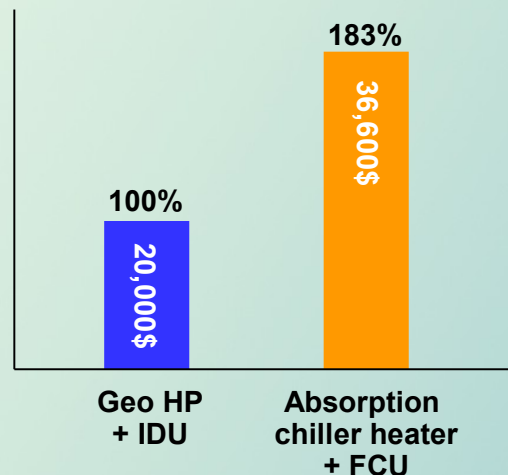
Monitoring/Controlling IDU and geothermal system

■ Installation results

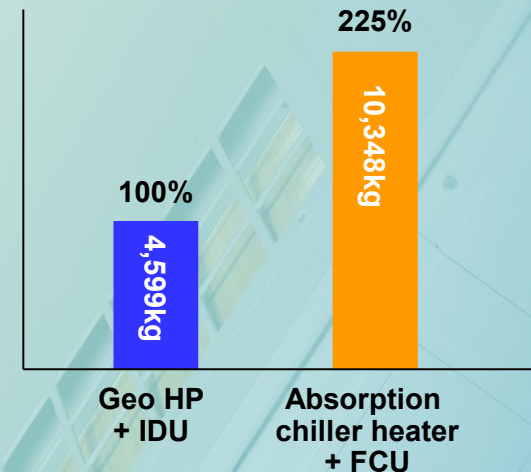
★ Initial investment Cost



★ Annual operating cost



★ CO2 emission



Seoul Children's grand park



■ Successful example applied Geothermal, BEMS System

■ Information



- Name : Seoul Children's grand park
- Location : neung-dong Gwangjin-gu
Seoul Korea
- Size : Green house(large space)
- Usage : Botanic Garden
- Gross Floor Area : 1,944 m²
- Completion : Oct 2009

■ System Overview

Geothermal Heat Pump System (Water to Air)

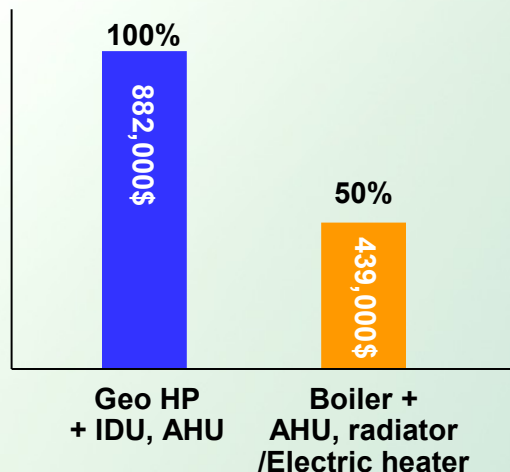
- (A) ODU Capacity
87kW x 4ea, 58kW x 3ea 29kW x 2ea
- (B) Cooling Capacity : 580kW
- (C) Heating Capacity : 652kW
- (D) IDU : Ceiling concealed duct, AHU
- (E) Pipe : Vertical closed(200M x 40EA)

Building Energy Management system (FCS)

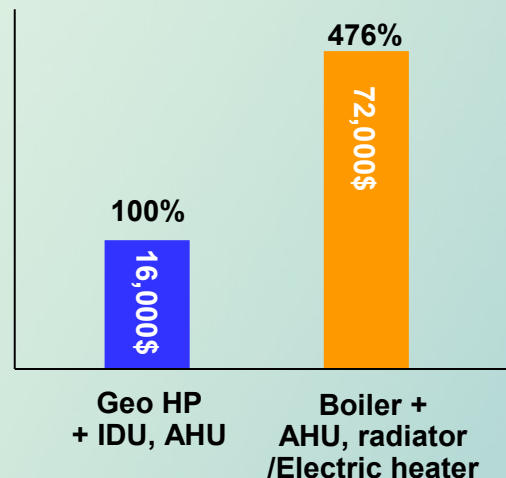
Monitoring/Controlling IDU and geothermal system

■ Installation results

★ Initial investment Cost



★ Annual operating cost



★ CO2 emission

