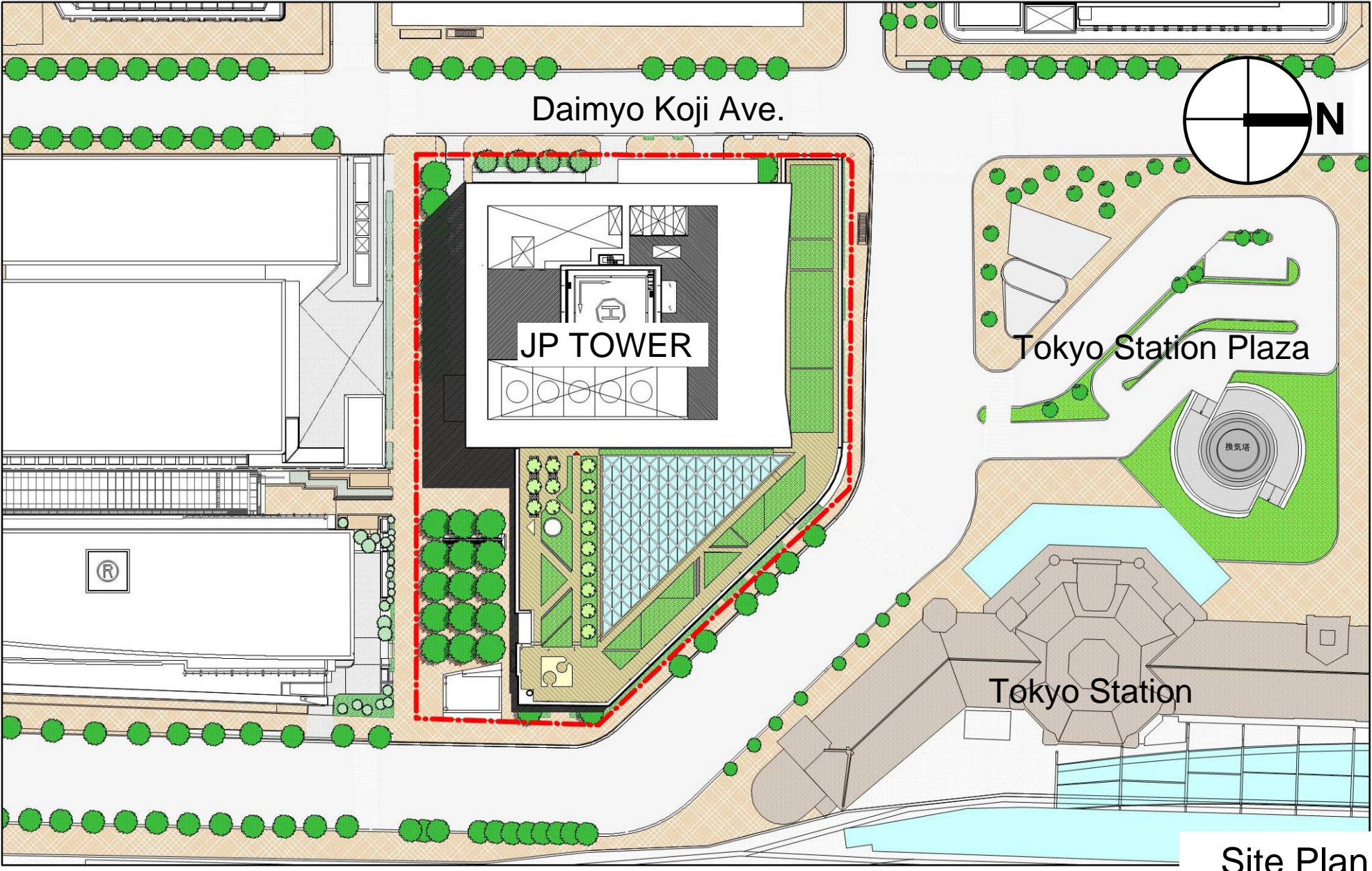


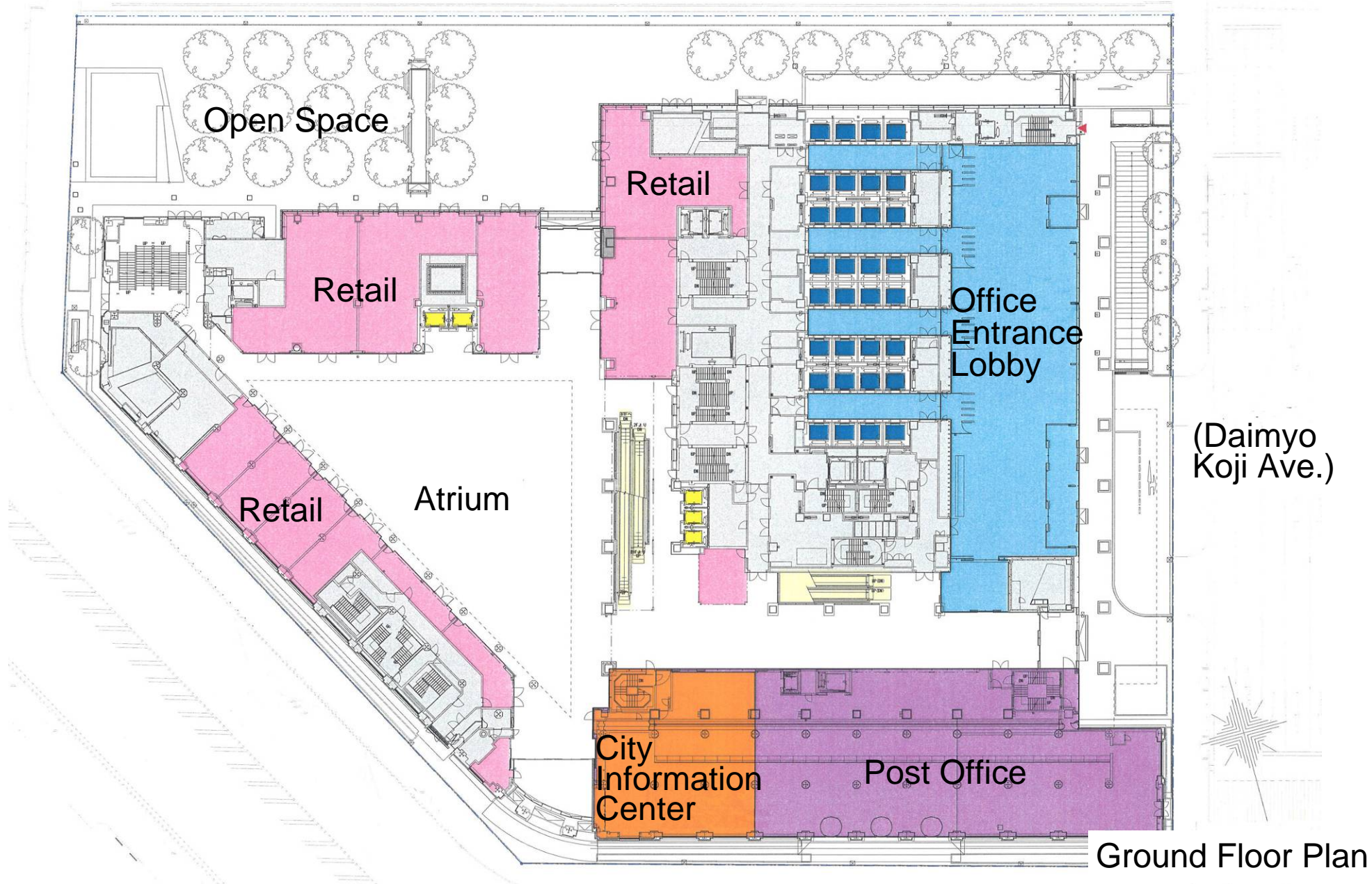
JP TOWER Briefing Session

JAPAN POST NETWORK Co., Ltd.
EAST JAPAN RAILWAY COMPANY
MITSUBISHI ESTATE CO., LTD.

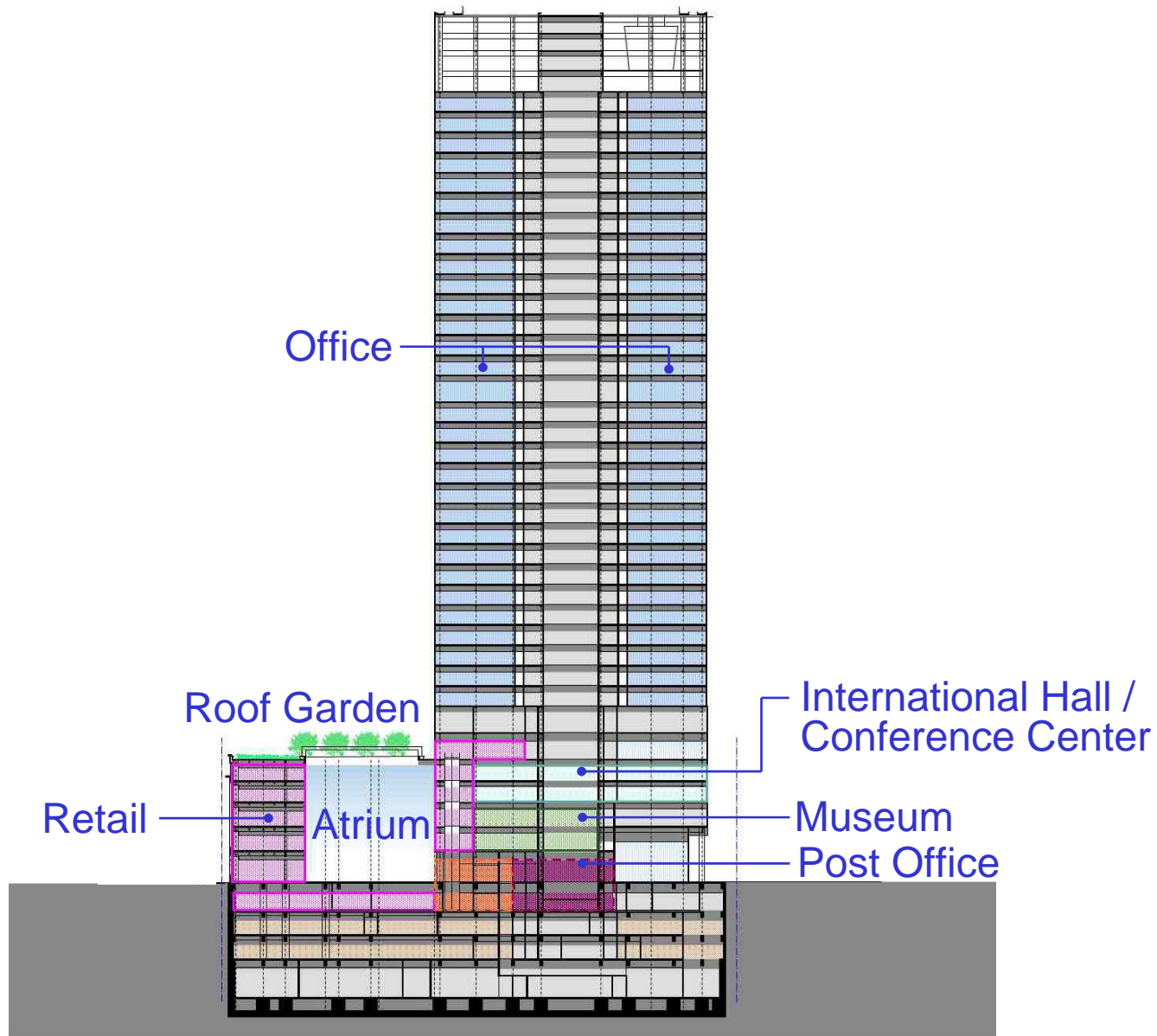




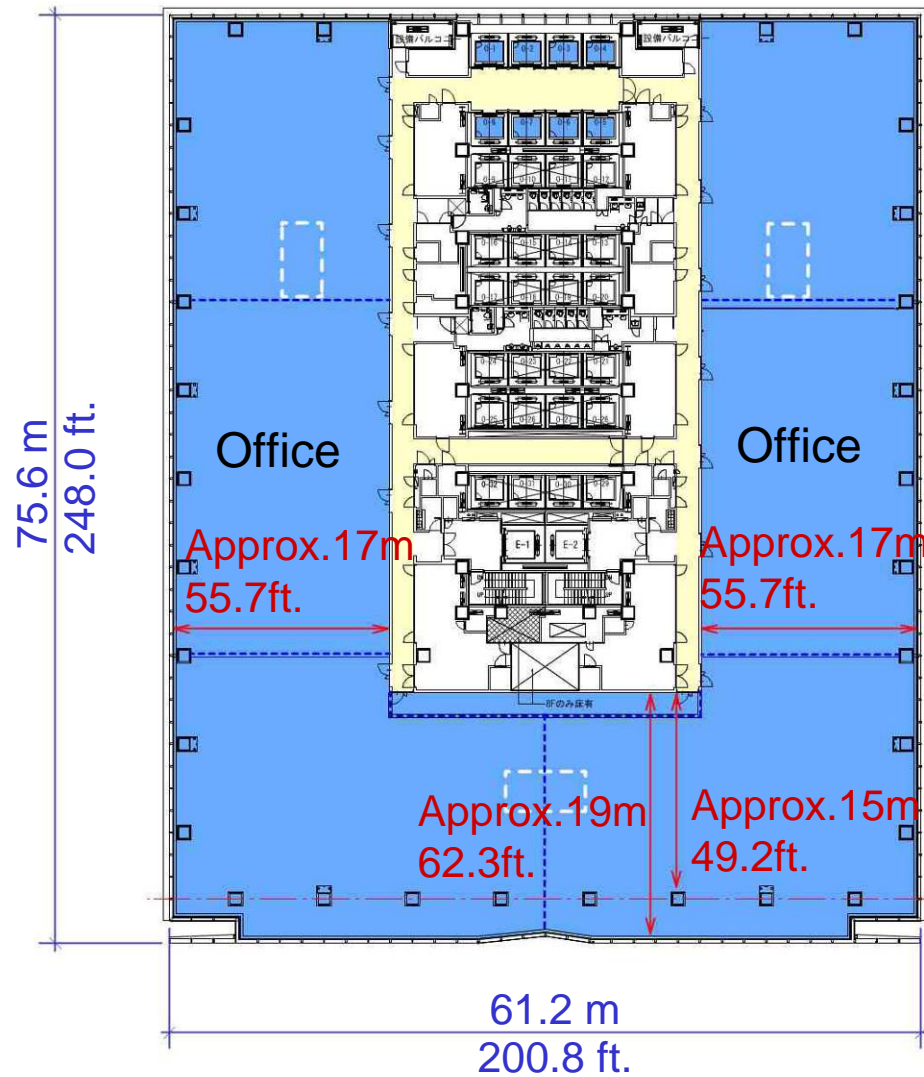
Site Plan



Ground Floor Plan



Section

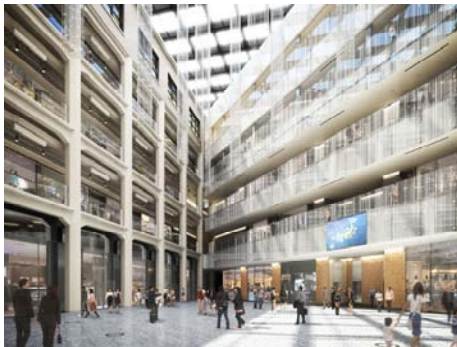


Typical Floor Plan

Measures to reduce environmental burden in the JP Tower design

■ Achieving both human comfort and drastic energy conservation in the office floors

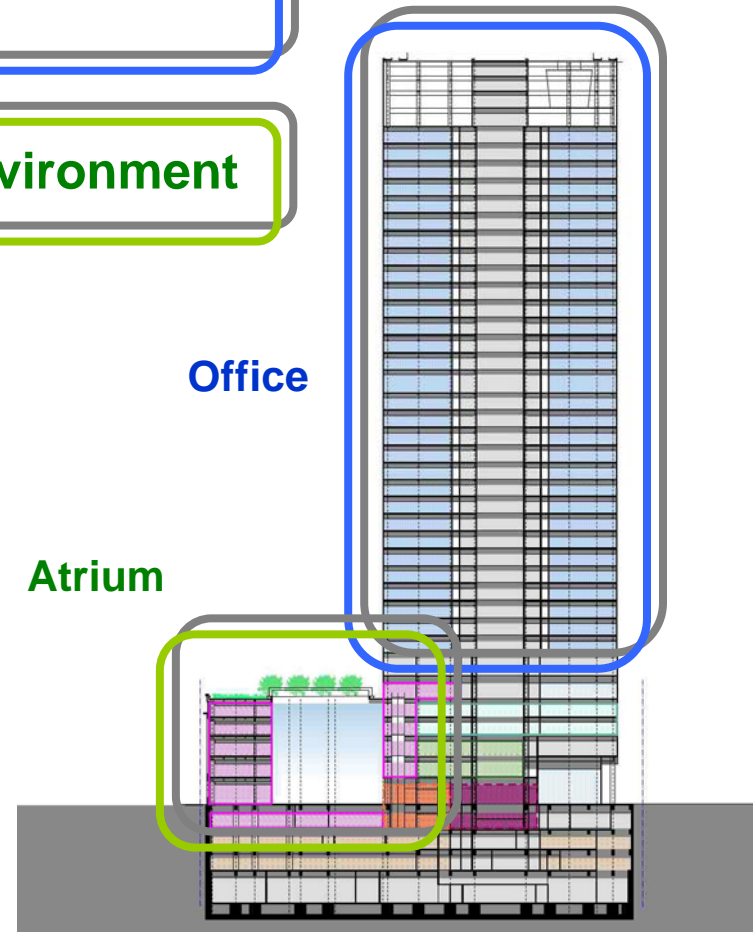
■ Incorporating natural energy in the atrium environment



Atrium



Office



Measures to reduce environmental burden in the JP Tower design

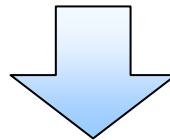
- Achieving both human comfort and drastic energy conservation in the office floors

1. Achieving both human comfort and reduction of environmental load

- Installation of sun-shielding louvers
- Installation of air flow window system using Low-e glasses with high thermal insulation and heat-shielding performance

2. Energy Saving Efforts

- Installation of LED illumination and natural ventilation in the office
- Installation of lighting control using a brightness sensor, outdoor air cooling, VAV control

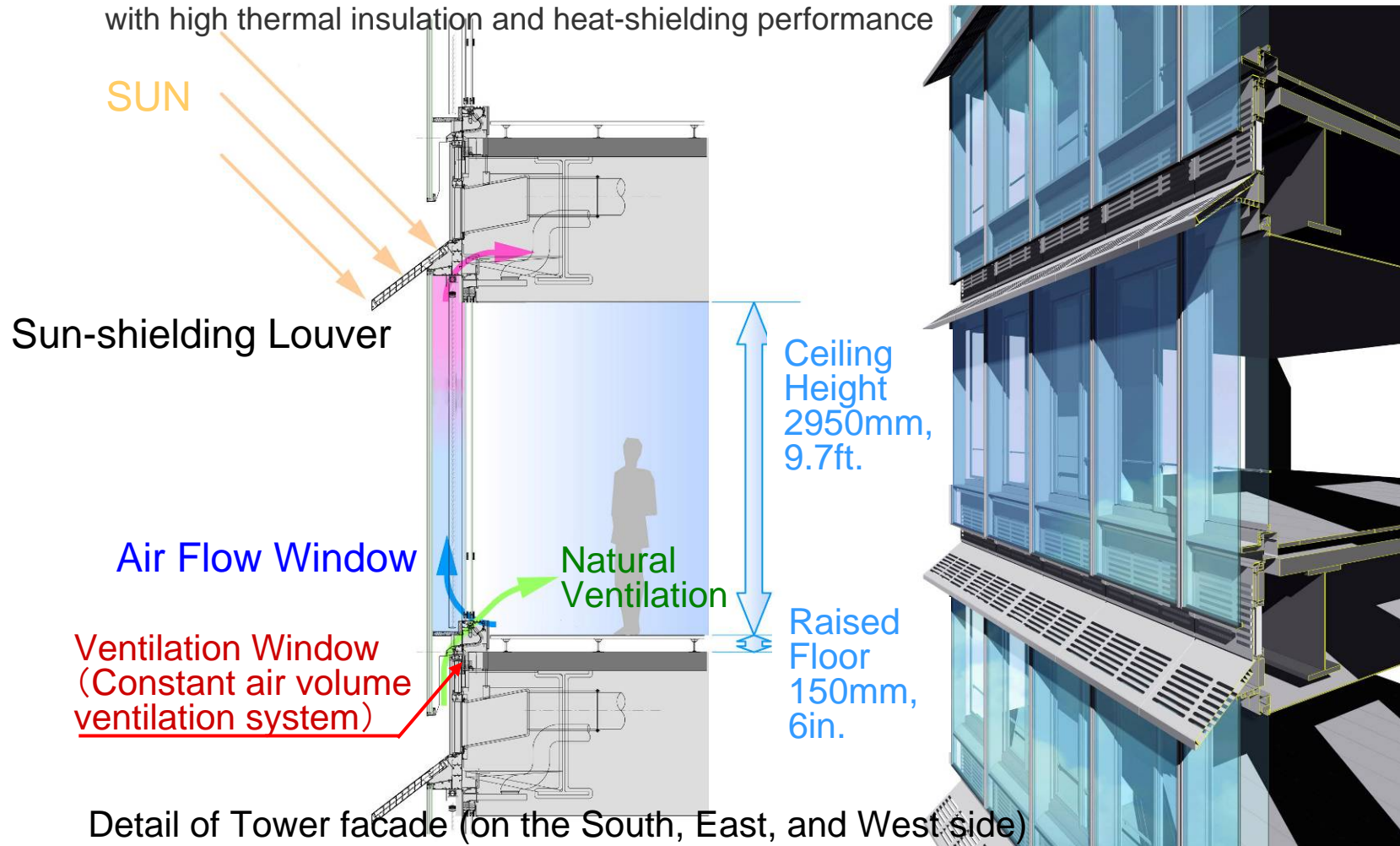


Reduction of CO₂ emission by 4,700 tons per year

Measures to reduce environmental burden in the JP Tower design

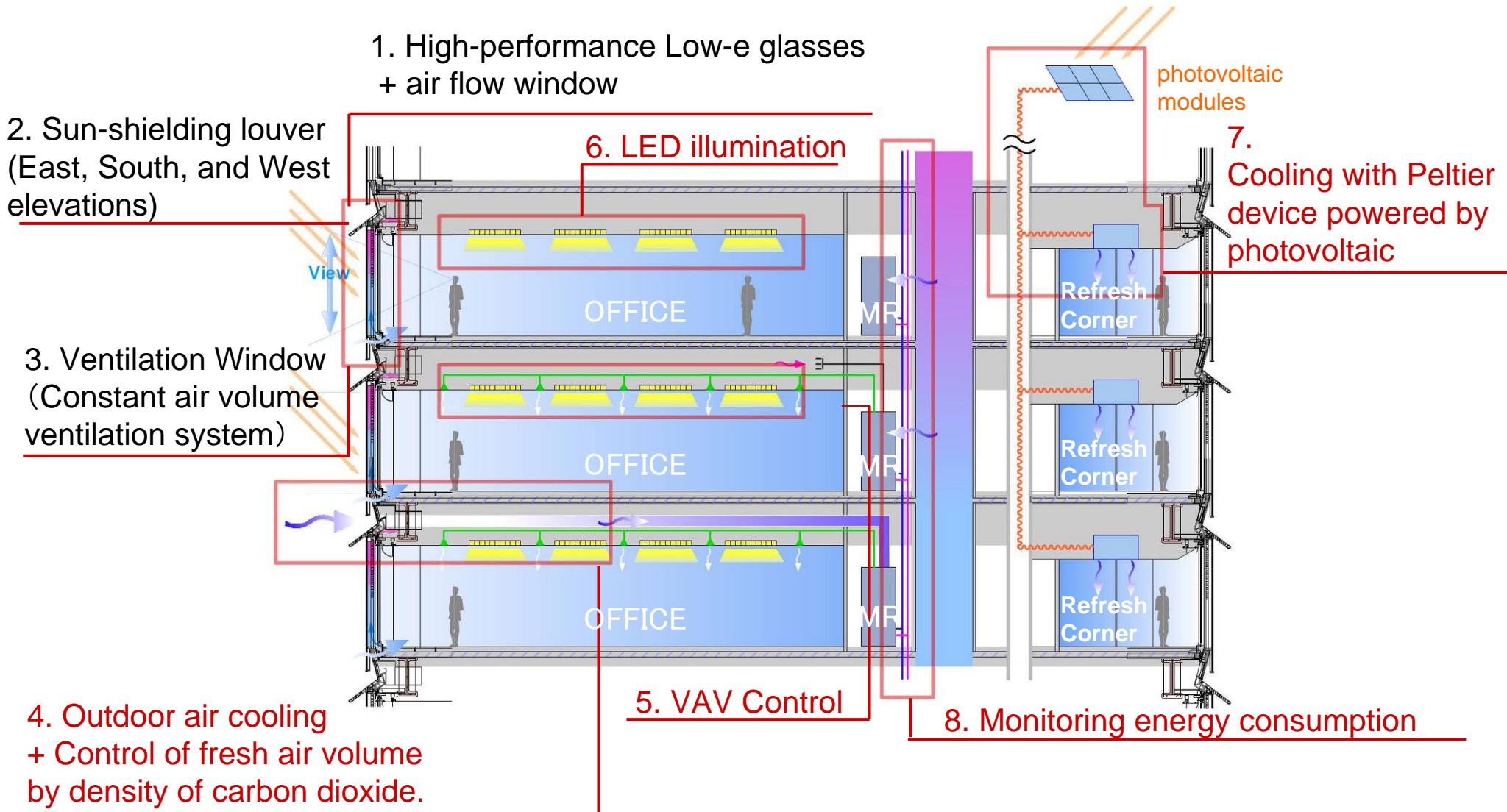
- Achieving both human comfort and reduction of environmental load

- Installation of sun-shielding louvers
- Installation of air flow window system using Low-e glasses with high thermal insulation and heat-shielding performance



Measures to reduce environmental burden in the JP Tower design

-Positive introduction of energy conservation technology



Measures to reduce environmental burden in the JP Tower design

-Full-installation of LED lighting fixtures in the large-scale office buildings

Installation of LED lighting fixtures in the office floors



Interior View of Office



LED Lighting furniture



Exchange of LED



Release old LED and power-supply unit
Replace with new LED and power-supply unit

- Electrical power of LED lamps consumes 40% less than fluorescent lamps (FHP45W x 2 lamps, 750lx, most commonly-used lamp in the office)
- Life span of LED lamps (40,000 hours) is much longer than fluorescent lamps (12,000 hours) which reduce the frequency of lamp replacement.
- The LED component is united with light reflector, it is easy to replace with more efficient LED

Measures to reduce environmental burden in the JP Tower design

-Incorporating natural energy in the atrium environment

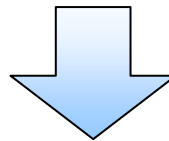
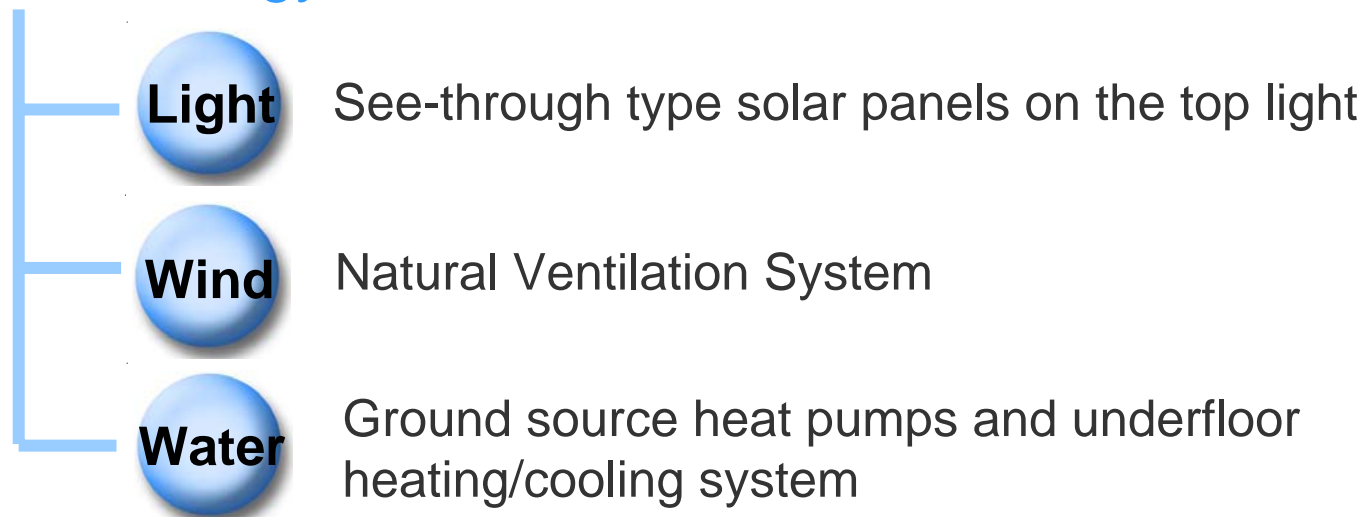


Atrium (Multipurpose Plaza)

Measures to reduce environmental burden in the JP Tower design

-Incorporating natural energy in the atrium environment

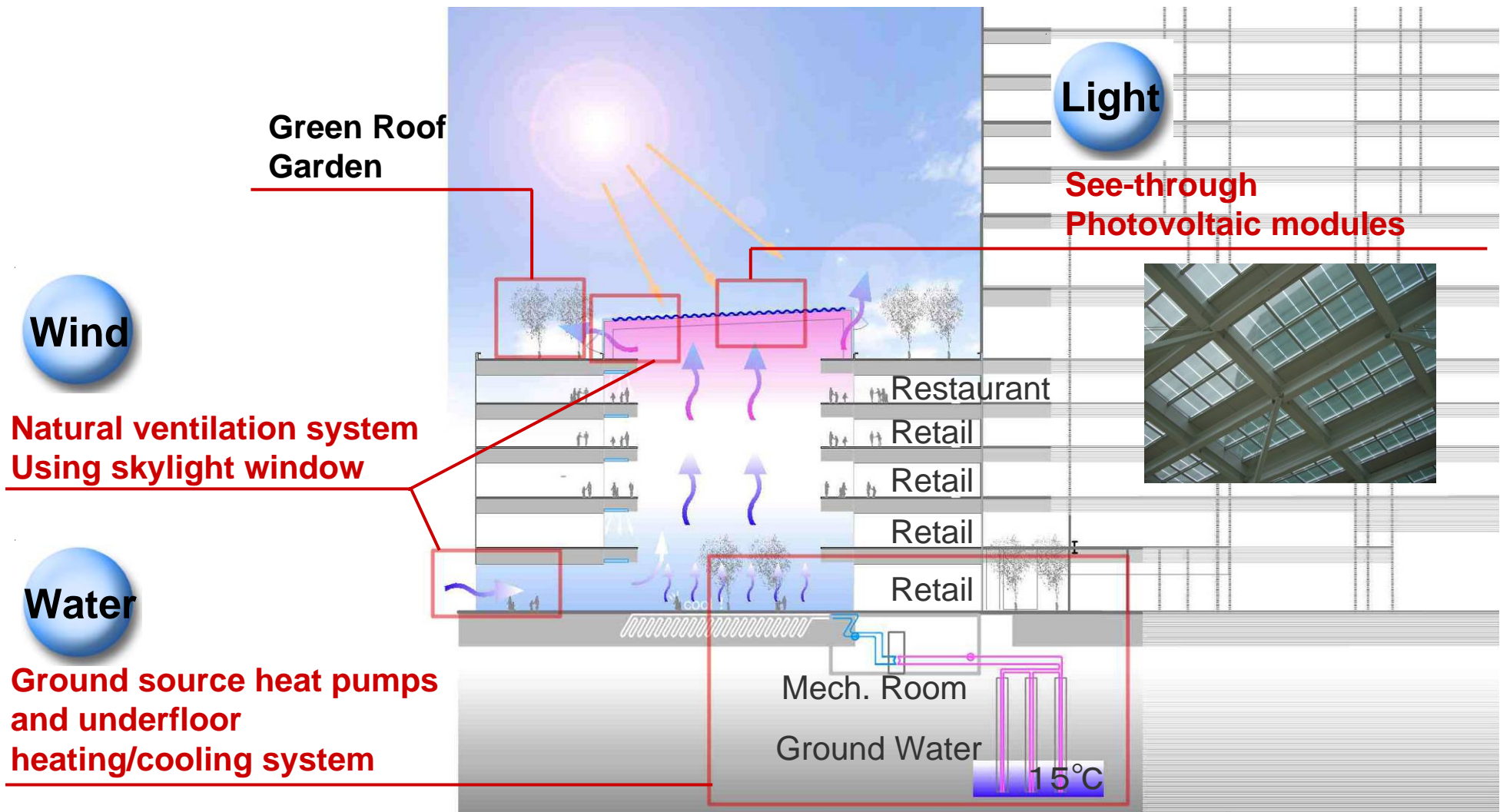
Natural Energy Sources



Reduction of CO₂ emission by 110 tons per year

Measures to reduce environmental burden in the JP Tower design

-Incorporating natural energy in the atrium environment



Measures to reduce environmental burden in the JP Tower design

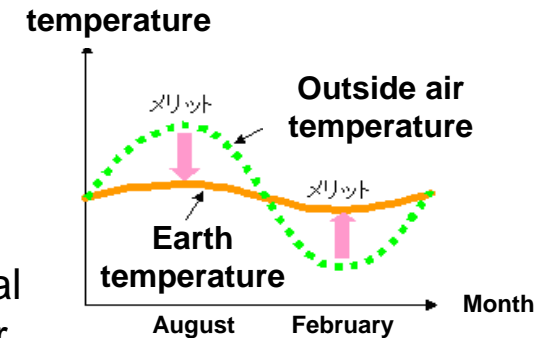
Introduction of a heating/cooling system utilizing geothermal energy

Geothermal energy aspect

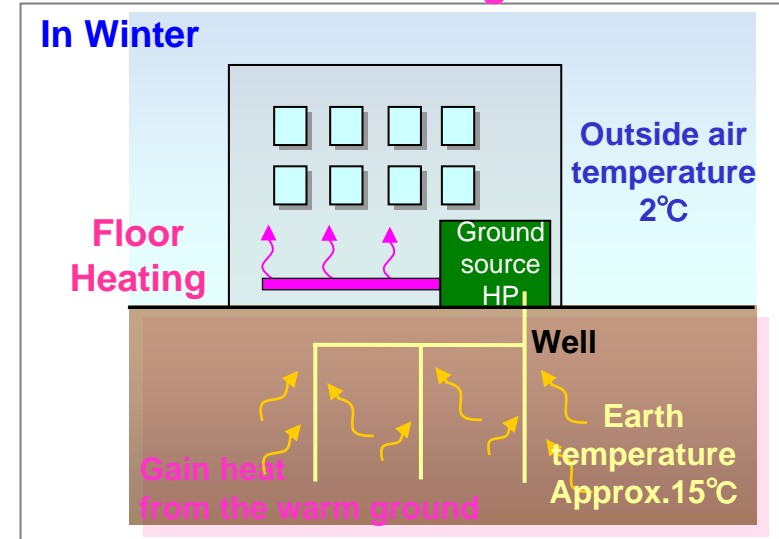
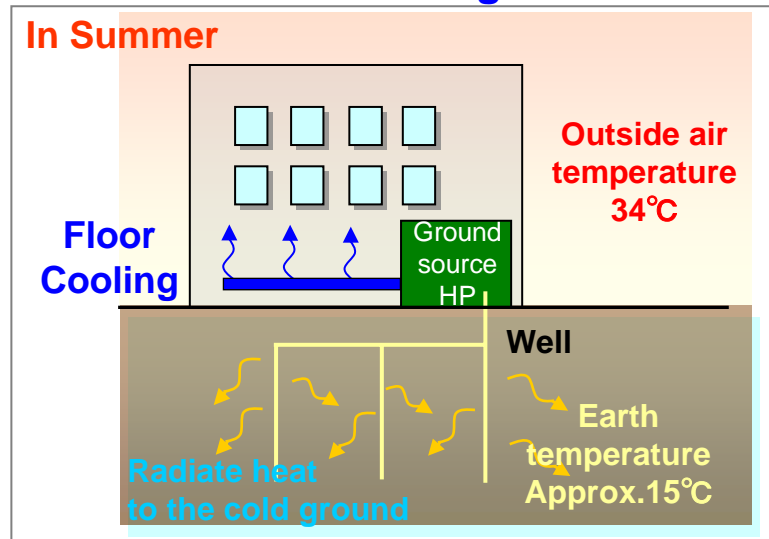
The temperature in the ground remains constant at 15 degrees all year round, which is not affected by outside air temperature.

Ground source heat pumps and underfloor heating/cooling system

Introduction of underfloor heating / cooling system utilizing geothermal energy into the atrium : The ground is cold in summer, warm in winter.



radiate heat to the cold ground in summer, gain heat from the warm ground in winter



- **Reduction of CO₂ emission** by the use of natural energy
- **Mitigation of the heat-island phenomenon** by controlling heat exhaustion

Measures to reduce environmental burden in the JP Tower design

Assessment for building Environment Efficiency

(1) Thermal load reduction and energy saving control

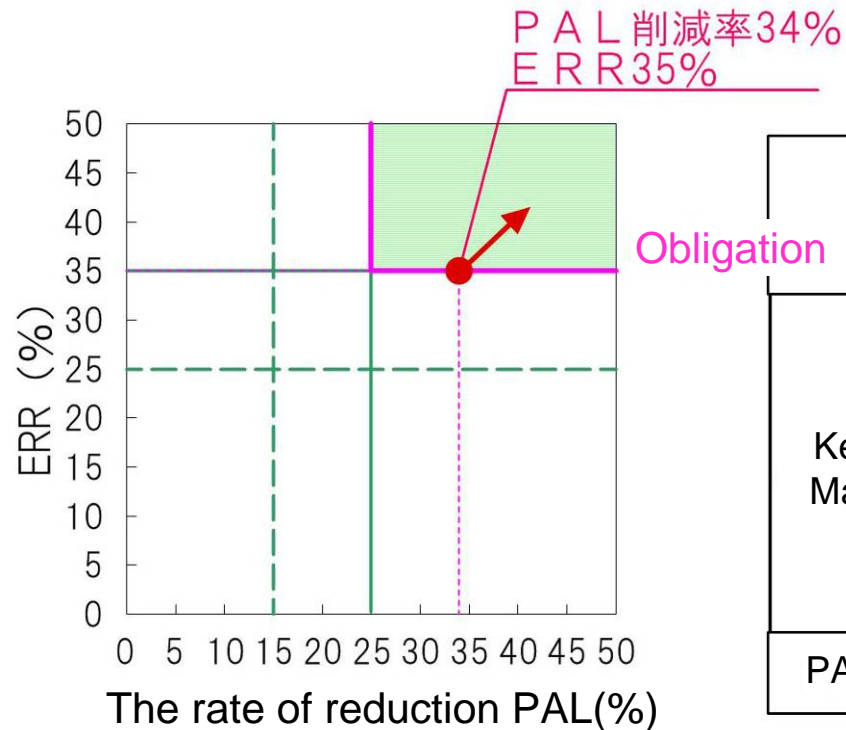
1. Index of thermal load reduction
2. Index of energy saving control

→ More than 25% PAL reduction (obligation)

→ More than ERR35% (obligation)

※Required by city planning decision including the urban regeneration special areas

The effect of air flow window and louvers



Reference PAL=300 MJ/m²·year

	Reference building	Improving skin performance	
	None	Air flow window	Air flow window and louvers
Key Map			
PAL	319	210	197

Measures to reduce environmental burden in the JP Tower design

Assessment for building Environment Efficiency

(2) Reduction of CO₂ emission in office

Reduction target : more than 36% compared with the average consumption rate of large office building (for rent) defined by the “Tokyo energy saving chart on 2005”

