

Environmental Considerations Reflected in Our New Head Office

We are currently constructing a new head office on a site located just east of JR Nagaokakyo Station in Kyoto. This new structure is an office building intended as a cutting-edge eco-structure designed to conserve resources and energy throughout its life cycle, from construction to the end of its useful life. Compared with a conventional office building, this innovative structure incorporates measures intended to achieve energy savings of about 30%.

Our Head Office building, designed for the environmental century, will be completed in autumn 2004.

1. Energy Conservation

Architectural method

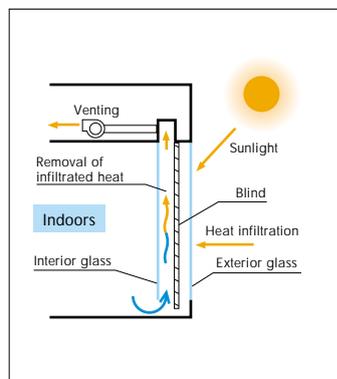
- ① Core sections comprising the elevator shafts and machine rooms are located on the east and west sides of the structure, thus blocking the severe thermal load from east-west sunlight.



- ③ The shape of the building makes it possible to gain maximum daylight from the north and south and from the atrium. The resulting natural lighting reduces the consumption of energy for electrical lighting.



- ② Incorporates airflow outside double sash windows and reduced air conditioner load.



- ④ Rooftop greenery reduces the air conditioner load by absorbing and releasing heat.



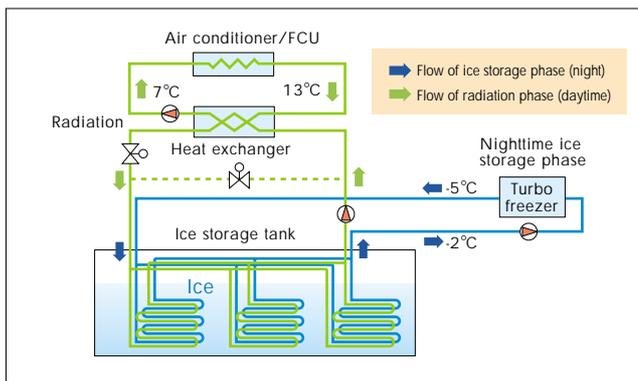


□ Building details

Address: 10-1, Higashikotari 1-chome, Nagaokakyo-shi, Kyoto
 Site area: 12,321 square meters
 Building footprint: 3,000 square meters
 Total floor space: 42,500 square meters
 Structure: Steel frame with portions of steel-reinforced concrete
 Height: 83 meters
 Number of floors: 18 floors above ground, 1 below ground, 2 penthouse floors
 Application: General offices, reception rooms, meeting rooms, PR corners, cafeteria, library, parking, miscellaneous rooms
 Total cost: ¥12.5 billion
 Expected date of completion: September 29, 2004

■ Facilities method

⑤ An ice storage system is employed to level the power load.



⑥ The source for the heating system is a combination turbo freezer and gas absorption freezer. This system offers the best mix for maximum efficiency.

⑦ An exterior cooling system is employed to reduce the energy consumption of the air conditioning system during the fall, winter, and spring.

⑧ An underfloor air conditioning system is employed; the energy consumption of the air conditioning system is reduced by means of sensor-controlled vents that open when a human presence is detected.

⑨ Rooftop rainwater and grey water are recovered and treated in order to reduce consumption of city-supplied water. This water is recycled as toilet water and as sprinkler water for the greenery located on the rooftop and elsewhere on the premises.

⑩ Energy consumption for lighting is reduced through control of daytime lighting by means of high-efficiency lighting fixtures (Hf fluorescent lamps) and sensor-controlled light switches.

2. Zero Emissions Construction

Before the start of construction work, we set out to achieve zero emissions during construction through 100% recycling of waste (zero landfilling). At the design stage, we formulated a system of on-site work rules, committed to the use of recyclable materials, and established recycling routes. From the start of construction to this writing, the zero emissions policy has been maintained without exception and is expected to remain so until completion of construction in September 2004. This initiative is considered very progressive for construction work in the Kansai area of Japan.

