

O-20	Keywords	Y4	system or software	Z3/4	natural gas/ electricity	S3	ZEB/BEMS
						D	Construction

Nikken Sekkei Ltd.

Sophisticated Green Building Design

Features

INSTITUTE FOR GLOBAL ENVIRONMENTAL STRATEGIES (IGES)

With its advancements in energy-saving technology, Japan has achieved one of the world's highest levels of efficiency in terms of energy consumption per unit of gross domestic product (GDP).

At NIKKEN we have established environmental specialist groups, further cultivating our technical expertise. Our aim is to ensure user comfort and achieve net-zero energy consumption for a sustainable future.

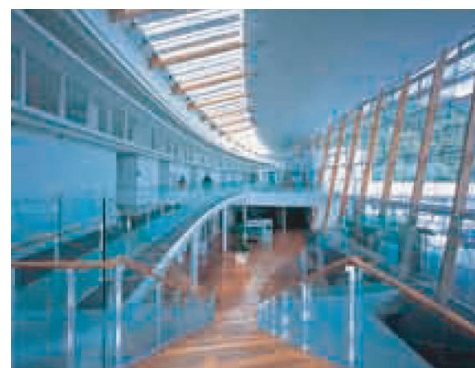
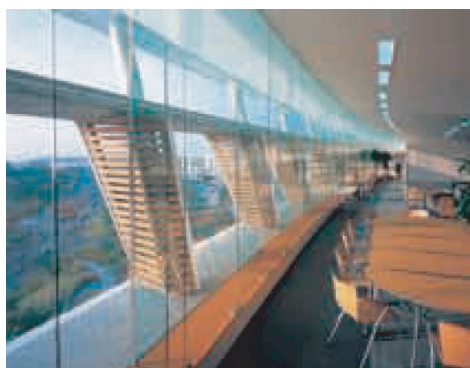
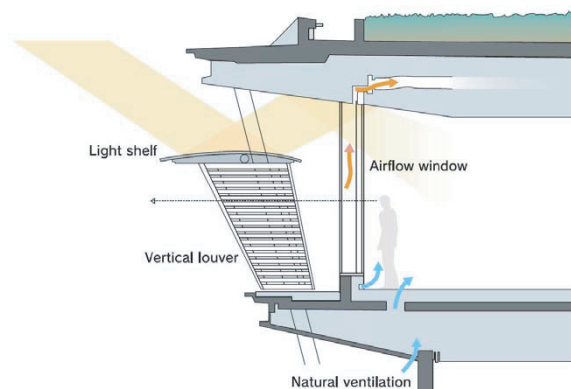
Kanagawa, Japan | Research Laboratory | 2002



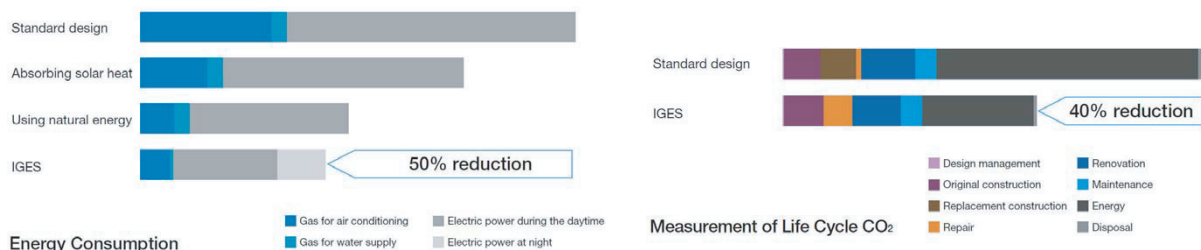
Basic Concept or Summary

Green Technologies

The use of light shelves that block and diffuse direct sunlight and cast an abundance of indirect natural light inside, vertical louvers for western sun screening, natural ventilation to draw outside air inside, airflow windows to reduce the amount of radiant heat transfer through the windows, an atrium to provide natural air circulation throughout the entire building, other devices such as NaS batteries, micro-gas turbines and photovoltaic (PV) cells--our firm is dedicated to the development of new green technologies and creatively innovative uses of conventional methodologies.



Green technologies not only contribute to the environment, they are also conducive to the reduction of a building's life-cycle costs. For this laboratory, we employed the full spectrum of environmentally conscious technology including the light shelf, vertical louver and natural ventilation. Through the effective use of energy and the forces of nature, we are reducing life cycle CO₂ emissions by close to 40% and life-cycle costs by close to 50%.



Notable awards:

Illuminating Engineering Society of North America Award (2003)

Environmental and Equipment Design Award (2005)

ARCASIA Gold Medal Architecture Prize (2006)

Installation in Practice or Schedule

Domestic



KANSAI ELECTRIC POWER
COMPANY BUILDING
Osaka, Japan | Office | 2005
Awards: Nikkei New Office Prize

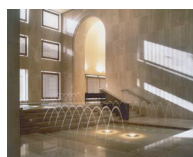


TOYOTA MOTORS MAIN BUILDING
Aichi, Japan | Office | 2005
Awards: The Japan Institute
Architects Award, Good Design Award



NEC CORPORATION "TAMAGAWA RENAISSANCE CITY"
Kanagawa, Japan | Office | 2005
Awards: BCS Award, Nikkei New Office Prize, The
Earth Environment Grand Prize, Nikkei Superior
Trend-Setting Factories and Offices Award, SDA
Awards, Energy Savings Award of Ministry of the
Environment of Japan, Award of the Ministry of Land,
Infrastructure and Transport, Award of Japan HVAC
Institute, Institute of Electrical Installation Engineers of
Japan Award, JIA Environment Award, Ecobuild
Award

Overseas



Islamic Development Bank Headquarters

Jeddah, Kingdom of Saudi Arabia | Office | 1993

The powerful rays of the sun are countered by forming the windows as vertical slits 260cm high by just 20cm wide, to minimize the entry of light. The thermal load is further reduced by the provision of a ventilation space 8cm wide between the stones of the outer wall and the thermal insulation layer. Most of the subdued illumination is provided by the indirect entry of light from the light court.

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