Siemens Center Beijing helps turn China Green

Showcases Siemens innovative green products and technologies

The landmark Siemens Center Beijing integrates green technologies and is a new Siemens milestone in China

Model for Siemens pledge to reduce CO_2 emissions at its facilities by 20 percent

Fulfills pledge to reduce water consumption and waste production

Opened in September 2008, the new Siemens Center Beijing (SCB) was built as a green project that is energy saving and environmentally friendly in operation to achieve sustainable development. The SCB is at the forefront of the company's pledge in early 2008 to reduce CO_2 emissions at its factories, offices and other facilities by 20 percent of 2006 levels by 2011 and to significantly reduce water consumption and waste production.

The 30-story office tower, built in partnership with CITIC International Contracting Co., Ltd., employs green architecture and construction as well as Siemens innovative green products and technologies for sustainability, energy and water efficiency, and indoor air quality. In addition, an automation and energy management system "Made by Siemens" is applied to provide optimum control for all building systems, including electrical transformers and distribution equipment, building controls and intelligent lighting systems, security systems, data systems, networks and telephone systems. The automation and energy management system enhances comfort and safety for occupants in a "smart" workspace that reduces energy and water consumption.

"In all aspects, the Siemens Center is a milestone of our development in China and a milestone of our ongoing efforts in environmental care and energy efficiency," said Dr. Richard Hausmann, President and CEO of Siemens Ltd., China. The company has operated in China since 1872 and broke ground for a wind blade factory in Shanghai in May 2009. Siemens has 30,000 patents for environment and climate-related solutions and an investment of more than 2 billion euros every year in research and development.

Staff members monitor leading-edge security, building automation and energy management systems at environmentally friendly Siemens Center Beijing.

Leading-edge automation and energy management systems

The SCB houses the company's China headquarters and partly consolidates offices for local Siemens companies and subsidiaries. Located in the Chaoyang District, the 30-story building and its two five-story annexes have 188,400 square feet incorporating more than 3,000 workspaces and the company's largest Asian data center. With a total investment of 100 million euros, the SCB is one of the largest Siemens real estate investment projects worldwide.

The striking curved-glass structure is one of the most environmentally friendly in Beijing due to complete energy conservation measures. For example, an intelligent building control system uses sensors that adjust to daylight conditions outside to save energy inside. A rooftop climate center automatically adjusts office sunblinds, raising and lowering them according to outdoor conditions while infrared interior sensors detect employees, automatically turning lights on or off as needed. A heat recovery system uses indoor exhaust air to re-heat outdoor fresh air in winter before sending it back inside and to pre-cool outside air in summer, cutting energy use by 15 percent to 20 percent annually. An innovative "free cooling" system cools water and air naturally and a chilled beam system consumes little electricity to generate thermal comfort because it uses water as a heat transfer medium instead of fans.

As a result, the SCB uses 28 percent less energy, about 6 million kWh every year, than a similar building without any energy conservation measures, reducing carbon dioxide emission by 1,200 to 1,600 tons every year. With its waterless urinals and a grey water system that recycles wastewater for toilet flushing and irrigation, water consumption is reduced by 20 percent to 30 percent. These improvement measures generate operating cost savings of 21 percent (not including heating cost via district heating), making financial sense as well.

Highlights

- Innovative heat recovery, free cooling and chilled beam energy conservation measures
- Energy savings of 6 million kWh annually, about 28 percent less energy usage
- Intelligent building management system provides monitoring and controlling of 3,000 points to ensure ongoing energy savings
- Contribution to climate protection through reduction of polluting emissions; carbon footprint reduction of 1,200 to 1,600 tons annually
- Waterless urinals and grey water system reduce water consumption by 20 percent to 30 percent

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