HSBC

The world's local bank

HSBC Global Environmental Efficiency Programme

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Case study

Zero carbon branch

HSBC has designed and built a prototype 'zero carbon' branch, a sustainable building incorporating technologies to minimise the building's carbon footprint. Located in Greece, New York, this branch utilises solar panels, geothermal heating and cooling, 'intelligent' lighting systems and rainwater recycling. This initiative has already resulted in savings of around US$7,000 in the first year.

Aims

The zero carbon branch was constructed to trial and showcase environmental innovation and technology, as well as to create a building with zero carbon emissions. The environmental technologies installed are monitored continuously as part of the Building Management System to provide data on electricity use, water consumption, and subsequent savings. The following environmental initiatives have been installed:

- Geothermal ground source heat pumps which provide year-round heating, cooling and hot water.
- 36 roof-mounted solar panels which provide on-site renewable energy, generating up to 7 kilowatts of electricity at peak production generating up to 9,000 kWh per annum.
- 'Intelligent' indoor lighting systems that utilise high efficiency daylight sensors, which reduce energy consumption by 25% compared with traditional branch lighting.
- A 15,000-litre rainwater collection system, which provides water for rest-rooms and landscape irrigation.
- Recycled construction materials that constitute 17% of all building material including bamboo flooring, and wheat- and corn-based products for upholstery and desktops.
- An indoor air quality monitoring system that automatically adjusts the ventilation system to operate only when required.
- A storm-water management system that delivers rain-water and snow-melt from parking surfaces to the aquifer beneath the site, avoiding the requirement for municipal storm-water treatment.

HSBC's zero carbon branch was designed to trial innovation and new environmental technologies.

Achievements

The building's water usage is down by 71% and energy by 52% compared with conventional branches. The clean, renewable energy produced by on-site solar panels has saved over 11 tonnes of carbon dioxide.

In addition, the zero carbon branch achieved 'gold' certification under the US Green Building Council's Leadership in Energy and Environmental Design (LEED) scheme. LEED is also being used to drive design and construction considerations at head office projects in Fort Mill, South Carolina, and Mettawa, Illinois.

'This exciting branch design perfectly demonstrates that it is possible to be environmentally sensitive and customer-friendly at the same time. The response to the branch has been very positive and our customers appreciate the opportunity to do business in a green building.'

Paul Lawrence, President and Chief Executive Officer, HSBC Bank USA

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