

Green Building Technologies for Building A and the Electric Chiller Plant at The Energy Complex, Bangkok, Thailand

Developer	PTT Public Company Limited
JEC Scope	Mechanical and Electrical system for building A and Electric Chiller Plants
Location	Bangkok, Thailand
Contractor	Syntec Construction Public Company Limited
Project Completion Date	2010

At the Energy Complex (ENCO) in Bangkok, JEC Thailand was responsible for the installation and supply of all plant equipment and building service systems for Building A and the main Electric Chiller Plant for the complex in building F. The project included the ventilation and air-conditioning systems, electrical and communications systems, sanitary and fire protection systems, lighting, plant watering, drainage, water features for landscaping, and the electric chiller system. The ENCO has been described as Thailand's first truly energy efficient property development and was designed under the LEED system.

Building A

Energy Saving Air-Conditioning System

Air heat exchangers (or heat recovery wheel) were used to cool incoming fresh air through a temperature exchange with cool outgoing exhaust air. A variable-air-volume (VAV) system was also installed to ensure that the temperature and condition of air throughout the building was precisely controlled to minimise waste.

Energy Saving Lighting System

Electronic dimming ballasts were applied to all 36 floors. The ballasts use sensors to determine how much daylight is available and to dim the fluorescent lamps accordingly. Occupancy sensors were also installed in some areas to automatically dim lights when the area was vacant.



Building Management System (BMS)

BMS was installed to integrate all engineering systems and operate the building at the highest possible efficiency.



Electric Chiller Building

JEC installed a water cooled chiller system including chillers, chilled water and condenser pumps, cooling towers, a Chiller Plant Management (CPM) system, and a water treatment system. A backup power system was installed to ensure that chilled water is continuously distributed to vital areas of the Energy Complex such as the ICT server centre. The CPM system is used to control and communicate with all parts of the chiller plant and interfaces with the BAS for real time examination of the system's operations.

JEC's work at The Energy Complex demonstrates some of JEC's innovative energy saving green building technologies. JEC provided an integrated solution that supported the developer's goal to create a truly energy efficient group of buildings.