Project Summary

Project Background
Hospitals and schools are among the most important public institutions in China. The country has, according to the Ministry of Health, a total of 20,192 hospitals which use twice as much energy as other public facilities and commercial buildings. It lacks the essential conditions for increasing energy efficiency in public buildings. A number of hospitals have been built or expanded in the 80s and 90s and therefore are in need of renovation today. Energy efficiency improvements in hospitals apply to the government as particularly important and can be integrated by the Ministry of Health (MOH) in the ongoing "Green Hospital" rehabilitation program.

Project Objectives
Innovative solutions to increase energy efficiency in public buildings (hospitals) are introduced from key Chinese ministries and local authorities, with the participation of companies.

Project Activities

Package A: Detailed energetic inventory in four Chinese hospitals
The Consultant performed an energetic inventory in four selected hospitals with roughly 500-1500 beds each. After the detailed inventory, including interviews and energy measurements (e.g. thermography) he presented and explained the results in front of the management and recommended actions.

Package B: Integral energy efficient rehabilitation concept for two Chinese pilot hospitals
- In two hospitals for clearly defined technical areas targeted detailed energy audits and analyses have been conducted. An integral restructuring plan was developed intended as guideline for energy efficient improvements within pilot projects.
- For two pilot hospitals detailed refurbishment concepts have been developed. The concept was explained within a presentation in front of the management.

Package C: A series of Experts workshops "Energy Efficiency in hospitals"
The Consultant performed five workshops each with duration of two days. In each course two lecturers taught up to 40 professionals from Chinese hospitals in the following topics:
- Basics energy consumption and energy management in hospitals
- Maintenance management and preventive maintenance in hospitals
- Fault Management in hospitals
- Energy savings measures in hospitals
- Energy-efficient technology and technology for hospitals (eg CHP, condensing boilers, free cooling, adiabatic cooling, quick steam generator technology for domestic hot water preparation in direct flow, etc.)
- User-oriented and system control energy consumption monitoring in hospitals

Project Results
- Improved competence of decision-making on the EE subject.
- The local stakeholders got support how to provide and make proper use of more energy efficient construction materials and methods of construction.
- Improved EE in pilot hospitals and reduction of energy consumption.
- A comprehensive series of workshops for professionals of Chinese hospitals.

Services Provided
- Implementation of detailed energy audits
- Concept development
- Design planning
- Presentation of workshops