

Donor country Germany			
Project/programme title Turbine modernisation, modernisation of power stations			
Purpose Modernisation of turbines in six Chinese power stations			
Recipient country China	Sector Energy	Total funding EUR 38 million	Years in operation Since 2004
Description <p>Since 2004, KfW Entwicklungsbank, working under commission to the German government, has been financing a range of measures aimed at improving efficiency in 20-year-old Chinese coal-fired power stations. The measures reduce the quantities of coal required per kilowatt-hour, and they decrease sulphur-dioxide emissions. Along with installation of equipment for combustion-gas desulphurisation in numerous power stations, the project's main aims included optimisation of combustion processes in six Chinese power stations. To this end, 15 vehicle-mounted (mobile) measuring units were financed. After helping to increase the amounts of energy produced in the power stations covered by the project, the mobile units were used in additional power stations, for positive results above and beyond the project's original goals. Proper, effective use of the mobile measuring systems is being supported by a development project of Gesellschaft für Technische Zusammenarbeit (GTZ).</p>			
Indicate factors that led to project's success <p>In view of China's rapid economic growth, China is strongly interested in improving resources efficiency in its electricity generation. In addition, the project has been able to build on positive experience with similar technologies in Europe. A total of 75 percent of China's electricity is produced in coal-fired power stations, and most such power stations in China burn coal with a high sulphur content. Much of the sector's equipment is highly obsolete and heavily polluting. China's major cities are heavily polluted with dust and sulphur dioxide – the main cause of acid rain. Many of China's people suffer from respiratory ailments. At the same time, environmental standards for pollutants such as sulphur dioxide and nitrogen oxide have not yet been comprehensively formulated and implemented. The project can thus serve as a best-practice example and pave the way for cleaner electricity generation in China.</p>			
Technology transferred <p>Desulphurisation technology; mobile measuring units for optimisation of resources use and combustion processes; modernisation of low-pressure technology and improvement of resources efficiency.</p>			
Impact on greenhouse gas emissions/sinks <p>The turbine modernisation programme reduces the average coal consumption per turbine by 11 g/kWh. Together, the modernisations on all the turbines covered by the project will yield a CO₂ reduction of about 600,000 tonnes per year. In addition, use of the mobile measuring units holds the potential for saving up to 7 million tonnes of CO₂ per year. Consequently, the project is making a significant contribution to climate protection.</p>			