

## ***WORLD ENERGY OUTLOOK 2007: FACT SHEET- CHINA***

### ***HOW WILL CHINA MEET ITS RAPIDLY GROWING ENERGY DEMAND? WILL IT BECOME A MAJOR COAL IMPORTER?***

*It is scarcely in doubt that China's energy needs will continue to grow and fuel its economic development. Less certain, however, is the rate of increase and how those needs are going to be met, as they depend on just how quickly the economy expands and on the economic and energy-policy landscape worldwide. Rising incomes will surely underpin strong growth for transport and housing, the use of electric appliances and space heating and cooling.*

- China's primary energy demand is projected to more than double from 2005 to 2030. **With four times as many people as the United States, the country will overtake the US to become the world's largest energy consumer soon after 2010.** Coal consumption in China is expected to grow rapidly, and its share of total primary energy demand stays high, at 63% in 2030. The power sector remains the main coal user throughout the projection period, accounting for more than two-thirds of the incremental demand. Increased fossil fuel use pushes up Chinese CO<sub>2</sub> emissions from 5.1 gigatonnes today to 11.4 Gt in 2030.
- **China's energy resources – especially coal – are extensive, but will not meet all the growth in its energy needs.** More than 90% of Chinese coal resources are located in inland provinces, but the biggest increase in demand is expected to occur in the coastal region. China became a net coal importer in the first half of 2007, and imports are expected to grow in the future. In the Reference Scenario, net imports reach 3% of its demand and 7% of global coal trade in 2030.
- **China's net oil imports jump from 3.5 mb/d in 2006 to 13.1 mb/d in 2030,** as conventional oil production in China is set to peak in the next decade and then start to decline. Oil demand for transport almost quadruples between 2005 and 2030, contributing more than two-thirds of the overall increase in Chinese oil demand. The vehicle fleet expands seven-fold, reaching almost 270 million. New vehicle sales in China exceed those of the United States by around 2015. Fuel-economy regulations, adopted in 2006, nonetheless temper the growth in oil demand.
- **To match demand, China needs to add more than 1 300 GW to its electricity-generating capacity,** more than the total current installed capacity in the United States. Projected cumulative investment in China's energy-supply infrastructure amounts to \$3.7 trillion (in year-2006 dollars) over the period 2006-2030, three-quarters of which goes to the power sector.

- **China is already making major efforts to address the causes and consequences of burgeoning energy use, but even stronger measures will be needed.** In the Alternative Policy Scenario, a set of policies the government is currently considering would cut China's primary energy use in 2030 by about 15% relative to the Reference Scenario. Policies that lead to more fuel-efficient vehicles produce big savings in consumption of oil-based fuels. In 2030, oil imports are 3.4 mb/d lower than in the Reference Scenario, reducing China's oil-import bill by \$760 billion over the *Outlook* period. More stringent efficiency standards for refrigerators and air conditioners alone cut electricity use by 83 TWh in 2020, compared with the Reference Scenario. This is almost equivalent to annual electricity generation by the Three Gorges Dam.
- **More efficient use of energy has positive environmental benefits. In 2030, SO<sub>2</sub> emissions are 20% lower, compared with the Reference Scenario. NO<sub>x</sub> emissions are stabilised after 2010.** An associated benefit is the dramatic reduction in CO<sub>2</sub> emissions, by an impressive 2.6 gigatonnes. In fact, in the Alternative Policy Scenario, CO<sub>2</sub> emissions stabilise soon after 2020. The majority of the measures have a very short payback period. In addition, one dollar invested in more efficient electrical appliances saves \$3.50 on the supply side.
- As China is a net exporter of vehicles and electrical appliances, **efforts to improve the efficiency of these products would contribute to improved efficiency in the rest of the world.** The policies described in the Alternative Policy Scenario would be all the more critical were China's economy to grow more quickly than assumed in both the Reference and Alternative Policy Scenarios. In the High Growth Scenario, China's primary energy demand in 2030 would be 23% higher, and coal use alone 21% higher than in the Reference Scenario.