WORLD ENERGY OUTLOOK 2007: FACT SHEET- INDIA

WHAT ARE THE CONSEQUENCES OF INDIA SUSTAINING ITS RAPID ENERGY GROWTH OVER THE NEXT TWO-AND-A-HALF DECADES?

Rapid economic expansion will continue to drive up India's energy needs. Power generation accounts for much of the increase in primary energy demand, given surging electricity demand in industry and in residential and commercial buildings, with most new generating capacity fuelled by coal. Among end-use sectors, transport energy demand sees the fastest rate of growth as the vehicle stock expands rapidly with rising economic activity and household incomes. In the absence of strong policy action, higher energy demand will drive up imports of oil, gas and coal, and greenhouse-gas emissions.

- **In the Reference Scenario, primary energy demand in India more than doubles by 2030.** Power-generation capacity, most of it coal-fired, more than triples between now and 2030. Coal remains India's most important fuel, its use nearly tripling between 2005 and 2030.

- **Much of India's coal needs from now to 2030 will have to be met by imports.** India will continue to rely on imported coal for reasons of quality in the steel sector and for economic reasons at power plants located a long way from mines but close to ports. In the Reference Scenario, hard-coal imports are projected to rise almost seven-fold.

- Before 2025, **India overtakes Japan to become the world's third-largest net importer of oil,** after the United States and China. Net oil imports also grow steadily, to 6 mb/d in 2030, as proven reserves of indigenous oil are small. The share of imports in oil demand climbs to 90% in 2030. Yet India's importance as a major exporter of refined oil products will also grow, assuming the necessary investments are forthcoming.

- G**as production is projected to peak between 2020 and 2030, and then fall back.** A growing share of India's gas needs is, therefore, met by imports, entirely in the form of liquefied natural gas. Further pricing reform will determine whether the requisite supply infrastructure is built in a timely manner.

- Between now and 2030, **India needs to invest about $1.25 trillion (in year-2006 dollars) in energy infrastructure** – three-quarters in the power sector. Gross power-generation capacity additions exceed 400 GW

– equal to today's combined capacity of Japan, Korea and Australia. Attracting electricity investment in a timely manner will be crucial for sustaining economic growth.

- **India becomes the world's third-largest emitter of carbon-dioxide by 2015.** It ranked fifth in 2005. Two-thirds of India's emissions come from burning coal, mainly in power stations. This share will increase slightly by 2030. Per-capita CO_2 emissions double over the *Outlook* period, but, in 2030, are still well below those in the OECD today.

- **Stronger policies that the Indian government is now considering could yield large energy savings.** In the Alternative Policy Scenario, coal savings – mainly in power generation – are the greatest in both absolute and percentage terms, thanks to lower electricity-demand growth, higher power-generation efficiency and fuel-switching in the power sector and in industry. Coal imports in 2030 are little more than half their Reference Scenario level, while oil imports are 1.1 mb/d lower.

- **In the Alternative Policy Scenario, lower overall energy consumption, combined with a larger share of less carbon-intensive fuels in the primary energy mix, yields savings of 27% in CO_2 emissions by 2030.** Emissions are reduced by 0.9 Gt in 2030. Lower energy demand in the power and transport sectors also reduces SO_2 emissions by 27% and NOx emissions by 23% in 2030, compared with the Reference Scenario.

- In the High Growth Scenario, **primary demand is 16% *higher* than in the Reference Scenario**, with coal and oil accounting for most of the difference. Faster economic growth accelerates the alleviation of energy poverty, but results in much higher energy imports, local pollution and CO_2 emissions, if no new policies, as described in the Alternative Policy Scenario, are introduced.

- In the Reference Scenario, **the electrification rate in 2030 in India reaches 96% but nearly 60 million people in rural areas will still lack access**. Today, there are some 412 million people without access to electricity in India. In all three *WEO* scenarios, the number of people without access declines, but it falls much faster in the High Growth Scenario. In that scenario, virtually all households in India have access to electricity in 2030.