

## ***WORLD ENERGY OUTLOOK 2006: FACT SHEET- GLOBAL ENERGY TRENDS***

### **THE WORLD'S ENERGY FUTURE: WHERE ARE WE HEADED?**

- **Global primary energy demand in the WEO Reference Scenario is projected to increase by 53%** between 2004 and 2030 to over 17 billion tonnes of oil equivalent – an average annual rate of 1.6%. Over 70% of this increase comes from developing countries. The power generation sector contributes close to one-half of the global increase.
- **Fossil fuels remain the dominant source** of energy, accounting for 83% of the overall increase in energy demand:
  - **Oil demand grows by 1.3% per year**, reaching 116 mb/d in 2030. More than 70% of the increase in oil demand comes from developing countries.
  - **Primary gas consumption increases in all regions**, to 4.7 trillion cubic metres in 2030. Globally, demand grows by an average of 2% per year – well down on the 2.6% rate of 1980-2004. The biggest increase in volume terms occurs in the Middle East, though demand rises at faster rates in China, India and Africa.
  - Coal sees the biggest increase in demand in absolute terms (59% by 2030), while non-hydro renewables grow fastest, but from a small base (see Biofuels Fact Sheet for more information).
- **Carbon-dioxide emissions grow slightly faster than primary energy use** as the fuel mix becomes more carbon-intensive. Coal remains the leading contributor to global emissions. China accounts for 39% of the increase between 2004 and 2030, overtaking the United States as the world's biggest emitter before 2010.
- **Oil supply is increasingly dominated by a small number of producers.** OPEC's share of global supply grows significantly, from 40% now to 48%. Non-OPEC conventional crude oil output peaks by the middle of the next decade. **Conventional oil accounts for the lion's share of the increase** in global oil supply, but non-conventional resources – mainly oil sands in Canada – play an increasingly important role (see Oil Fact Sheet for more information).
  - The volume of **inter-regional oil trade expands even faster than production.** All major net oil-importing regions become more dependent on oil imports by the end of the projection period.
- **Annual world gas production expands by about two-thirds** between 2004 and 2030.

- Inter-regional **gas trade expands even faster than output**, because of the geographical mismatch between resource endowment and demand. The main gas-consuming regions become increasingly dependent on imports.
- The **Middle East and Africa provide more than two-thirds of the increase in global inter-regional gas exports** over the *Outlook* period. Africa overtakes the transition economies as the largest supplier to Europe. There are doubts about whether **Russia** will be able to raise production capacity fast enough to maintain current export levels to Europe.
- **Coal is the most abundant fossil fuel.** Proven reserves at the end of 2005 amounted to around 909 billion tonnes, equivalent to 164 years of production at current rates. Around half of these reserves are located in just three countries – the United States, Russia and China.
  - **Power generation accounts for 81% of the increase in coal use to 2030.** Demand will remain sensitive to developments in clean coal technology and government policies, as well as to relative fuel prices.
  - **Coal needs continue to be met mainly by indigenous production.** China –the world’s leading coal producer – and India account for over three-quarters of the 3.3 billion-tonne increase in coal production in 2030 over 2004.
- To satisfy the world’s hunger for energy, the Reference Scenario projections call for cumulative **investment in energy-supply infrastructure of just over \$20 trillion** (in year-2005 dollars) over 2005-2030. The power sector requires more than \$11 trillion, equal to 56% of total investment needs. The oil industry needs to invest a total of \$4.3 trillion in the oil sector and \$3.9 trillion in the gas sector (from 2005-2030). Roughly half of all the energy investment needed worldwide is in developing countries. It is far from certain that all this investment will actually occur.