

WORLD ENERGY OUTLOOK 2006: FACT SHEET- ALTERNATIVE POLICY SCENARIO

CAN POLICIES MAKE A DIFFERENCE?

Reference Scenario trends are not set in stone. The Alternative Policy Scenario analyses how the global energy market could evolve if countries were to adopt all of the energy security and CO₂ emissions policies they are currently considering.

- **World primary energy demand in 2030 is about 10% lower in the Alternative Policy Scenario** than in the Reference Scenario – roughly equivalent to China's entire energy consumption today. The impact of new policies is felt throughout the period: in 2015, the difference between the two scenarios will already be 4%, or 534 Mtoe.
- The analysed **policies halt the rise in OECD oil imports by 2015**. OECD countries become more dependent on oil imports in 2030 compared to today, but markedly less so than in the Reference Scenario. Global oil demand reaches 103 mb/d in 2030 in the Alternative Policy Scenario – an increase of 20 mb/d on 2005 levels but a fall of 13 mb/d compared with the Reference Scenario. Globally, gas demand and reliance on gas imports are also reduced below the levels of the Reference Scenario.
- **In 2030, energy-related CO₂ emissions are 16% - or 6.3 Gt – lower** than in the Reference Scenario. In 2015 they are already cut by 5%, or 1.7 Gt. OECD emissions peak by around 2015 and then decline. Emissions in Japan and the European Union in 2030 are lower than in 2004. Global emissions nonetheless continue to rise, from 26 Gt in 2004 to 32 Gt in 2015 and 34 Gt in 2030.
- Policies encouraging **more efficient production and use of energy contribute almost 80%** of the avoided CO₂ emissions, the remainder arising from fuel switching. More efficient use of transport fuels accounts for almost 36%. More efficient use of electricity in a wide range of applications accounts for 30%. Greater efficiency in energy production accounts for 13%. Renewables and biofuels contribute another 12% and nuclear the remaining 10% (see Nuclear Fact Sheet for more information).
- The Alternative Policy Scenario yields **considerable savings in energy demand, energy imports, and CO₂ emissions at a lower total investment cost**. The savings require a profound shift in energy investment patterns and are attained through a combination of increased investment in more energy-efficient goods and processes, and different fuel choices in the power and transport sectors.

- Meeting demand for energy services requires **less investment in the Alternative Policy Scenario than in the Reference Scenario**. Cumulative investments in 2005-2030 – by both producers and consumers – are \$560 billion lower than in the Reference Scenario. Consumers spend \$2.4 trillion more, reducing energy supply investment needs by \$3 trillion. On average, an additional dollar invested in more efficient electrical equipment, appliances and buildings avoids more than two dollars in investment in electricity supply.
- The cumulative **oil-import bills of OECD and developing Asia combined are \$1.9 trillion lower** over the *Outlook* period in the Alternative Policy Scenario. This is achieved with additional cumulative investment of only \$800 billion. In 2005-2015, oil-import savings in the OECD amount to \$130 billion, compared with additional investment of only \$50 billion.
- Although overall investment is reduced, **end users invest more in the Alternative Policy Scenario, while energy producers invest less**. Consequently, the additional investment is spread over a large number of small investors. Two-thirds of the additional demand-side capital spending is borne by consumers in OECD countries. Consumers see savings in their energy bills of \$8.1 trillion, comfortably offsetting the \$2.4 trillion in increased investment required to generate these savings. The payback period is very short, especially in developing countries and for policies taken before 2015. Government intervention would nevertheless be needed to mobilise the necessary investments.
- An even more ambitious goal – capping CO₂ emissions in 2030 at today's levels – could be met through a set of technological breakthroughs, stimulated by yet stronger government policies and measures. A **Beyond Alternative Policy Scenario (BAPS)** shows how CO₂ emissions could be cut by 8 Gt more than in the Alternative Policy Scenario.
- Four-fifths of the energy and emissions savings in the BAPS Case come from **three main categories**: demand-side policies, fuel switching to nuclear and renewables in the power sector, and the introduction of CO₂ capture and storage (CCS) technology. Almost all the measures considered also serve to enhance energy security.
- Most of those additional policies, however, are expected to be implemented in the 2030-2050 period. A recently published IEA report, *Energy Technology Perspectives: Scenarios and Strategies to 2050*, demonstrates that a portfolio approach to technology development and deployment is needed.