

Global Under-Investment In Energy Supply A Risk

The International Energy Agency says strong policy action is needed to move the world onto a more sustainable energy path.

“World political leaders have decided to act with resolution and urgency to change the energy future. The *World Energy Outlook 2006* shows how to make that happen”, said International Energy Agency Executive Director Claude Mandil at last week’s launch of the IEA’s annual flagship publication.

“WEO-2006 reveals that the energy future we are facing today, based on projections of current trends, is dirty, insecure and expensive. But it also shows how new government policies can create an alternative energy future which is clean, clever and competitive – the challenge posed to the IEA by the G8 leaders and IEA ministers,” Mandil emphasised.

In a Reference Scenario, which provides a baseline vision of how energy markets are likely to evolve without new government measures to alter underlying energy trends, global primary energy demand increases by 53 per cent between now and 2030. Over 70 per cent of this increase comes from developing countries, led by China and India.

According to the report, global carbon-dioxide emissions reach 40 Gt in 2030, a 55 per cent increase over today’s level. China overtakes the United States as the world’s biggest emitter of CO₂ before 2010. These trends would accentuate consuming countries’ vulnerability to a severe supply disruption and resulting price shock. They would also amplify the magnitude of global climate change.

In the report’s Alternative Policy Scenario, global energy demand is reduced by 10 per cent in 2030 – equivalent to China’s entire energy consumption today. Global CO₂ emissions are reduced by 16 per cent – equivalent to current emissions in the United States and Canada combined – in the same time-frame. In the OECD countries, oil imports and CO₂ emissions peak by 2015 and then begin to fall. Improved efficiency of energy use contributes most to the energy savings.

WEO-2006 says increased use of nuclear power and renewables also help reduce fossil-fuel demand and emissions. Just a dozen specific policies in key countries account for 40 per cent of the reduction in global CO₂ emissions. The shifts in energy trends described in this scenario would serve all three of the principal goals of energy policy: greater security, more environmental protection and improved economic efficiency.

“The good news”, said Mandil, “is that these policies are very cost-effective. There are additional upfront costs involved, but they are quickly outweighed by savings in fuel expenditures. And the extra investment by consumers is less than the reduction in investment in energy-supply infrastructure. Demand-side investments in more efficient electrical goods are particularly economic; on average, an additional \$1 invested in more

efficient electrical equipment and appliances avoids more than \$2 in investment in power generation, transmission and distribution infrastructure.

The energy picture has changed appreciably since the 2004 Outlook, the last major update of the IEA's global energy projection. The realities of the energy market have become harsher and the relative competitive position of fuels has changed. Oil and gas prices this year have been between three and four times higher than in 2002 and this is reflected in a new oil price assumption for the projections. But world economic growth has remained robust, as the recessionary effects of higher energy prices have been more than offset by other factors. Coal is now cheaper than natural gas for electricity generation, while nuclear power may, in some cases, be cheaper than both coal and gas – even where there is no penalty for emitting CO₂. Coal has led the recent surge in global energy demand and is on a stronger growth path than in previous WEOs. China and India are the predominant sources of global energy demand growth.

“WEO-2006 identifies under-investment in new energy supply as a real risk”, said Mandil. To quench the world's thirst for energy, the Reference Scenario projections call a cumulative investment in energy-supply infrastructure of over \$20 trillion in real terms over 2005-2030 – substantially more than was previously estimated. 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. There has been an apparent surge in oil and gas investment in recent years, but it is, to a large extent, illusory. Drilling, material and personnel costs in the industry have soared, so that in real terms investment in 2005 was barely higher than that in 2000.

The Outlook demonstrates that nuclear power could make a major contribution to reducing dependence on imported gas and curbing CO₂ emissions in a cost effective way. But this will happen only if the governments of countries where nuclear power is accepted play a stronger role in facilitating private investment, especially in liberalised markets. “Nuclear power remains a potentially attractive option for enhancing the security of electricity supply and mitigating carbon dioxide emissions – but financing the upfront investment cost may remain a challenge”, Mandil underlined.

Prime Minister John Howard said in a press conference that he agrees with the IEA report that nuclear energy is a part of the solution. “Now what I want is a proper debate on this and I want all of the ramifications of the nuclear option on the table so that we can have a decent look at it and then we can calculate what is the best way to go,” said Howard. “The way for this country to go is clean coal technology and to genuinely look at the nuclear option; recognising that renewables can make a contribution at the margin, but they are never going to replace power stations.”

Federal Industry Minister Ian Macfarlane says the IEA report showed just how far the Kyoto agreement fell short of being the global scheme the world needs. He commends the *World Energy Outlook 2006* as essential reading for would be policy makers in the climate change debate.

Shadow Resources Minister Martin Ferguson says Australia's priority should be to clean up coal-fired power generation. "Our low electricity prices as a result of coal-fired power generation are a key source of competitive advantage for the nation's industries," he said. "At the same time we have to promote policies that will increase the uptake of gas and renewable technologies."

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