

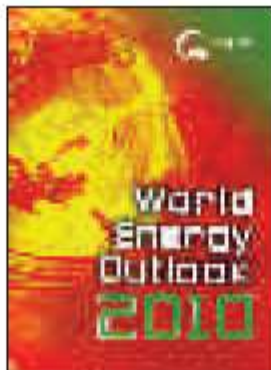
## IEA'S CHANGING 'OUTLOOK'

G M Pillai

The latest annual volume of 'World Energy Outlook' (WEO) 2010 would come as a pleasant surprise to all those who have been following the views of the International Energy Agency (IEA). Historically, IEA has considered renewables as peripheral or marginal actors in the energy sector. True to its OECD origins, the agency was 'besotted' with the fossil fuel sector. Even after Europe started developing renewables for grid power, IEA did not pay much heed. However, all this started changing for the better in 2008 with the publication of 'Energy Technology Perspectives'. There was extensive coverage of various renewable energy sources, thereby recognising renewables as capable of providing large-scale grid power. This trend was also reflected in 'World Energy Outlook 2008' which carried a 20-page section titled 'Renewable Energy Outlook'. The projections made were however diffident and did not match the optimistic outlook put forth by other scientists, researchers and institutions worldwide.

WEO 2010 is exceptional, with a 100-page section of four chapters covering renewables. It is learnt that IEA now has a full-fledged renewables division. One of the reasons could be the threat perception due to the creation of the International Renewable Energy Agency (IRENA) which could steal the 'green' limelight from IEA in the not-too-distant future. Whatever be the reason for the change in IEA's stance, it is a very welcome transition. In 2010, IEA also published two monographs—'Technology Roadmap of Photovoltaics' and 'Technology Roadmap of Concentrating Solar Power'—with very optimistic projections for the growth of solar energy. While reviewing WEO 2010, I wish to stress on the section relating to renewables.

The future of renewables hinges critically on strong government support. According to the IEA, in the New Policies Scenario, renewables-based generation triples between 2008 and 2035 and the share of renewables in global electricity generation increases from 19% in 2008 to almost one-third i.e. as much as coal. However if countries adopt climate mitigation policies (the 450 Scenario) this could even go up to 45%. By 2035, renewables will be supplying 41% of total electricity generation in the European Union, 27% in China, and 25% in the US. These percentages come by including hydropower in the renewable fold and the projected increase comes mainly from wind and hydropower. Though the report visualises rapid increase in capacity for solar photovoltaics (PV), the share of global generation is kept at around 2% in 2035 (410 GW). By doing this, the WEO 2010 sticks to the projections made in the 2008 'Energy Technology Perspectives' and



**WORLD ENERGY OUTLOOK 2010**

Published by International Energy Agency,  
Paris, 2010

overlooks its own recent prediction (in the 'PV Technology Road Map 2010') of 4% solar PV generation by 2035. Similarly, it is projected that concentrated solar power (CSP) capacity will increase from the current 1.4 GW to over 90 GW by 2035.

However, the IEA seems to be too optimistic while making projections for the growth of biofuels. They assume that use of biofuels will grow more than four-fold between 2008 and 2035, meeting 8% of the road transport fuel demand. This assessment of increase in use overlooks the constraints faced in producing biofuels, especially land. Also, while making projections, the much needed systems view has been neglected. In an increasingly fossil-fuel-constrained world, biomass would become the raw material for making many vital materials also. Besides, loss of land to increasing

urbanisation, compensatory afforestation to facilitate carbon capture, need for food security in an increasingly populous world, etc, are other factors to keep in mind. So when we take a systems view of future land utilisation (even after considering commercialisation of second generation biofuel technologies for which less land would be required), it would be difficult to ignore the fact of land emerging as a major constraint for biofuel expansion. The IEA should address this systemic dilemma in order to be realistic and scientific about biofuels growth.

The last chapter gives country subsidy profiles of five countries including India. The IEA estimates that India's fossil fuel consumption subsidies totalled \$21 billion in 2009. Out of this, oil products got \$12.1 billion in subsidies (rate of subsidisation is 18%), natural gas got \$2.7 billion (77% subsidisation) and electricity \$6.3 billion (12% subsidisation). In comparison, China's fossil fuel subsidies were only \$19 billion. Iran had the highest bill for fossil fuel consumption subsidies at \$66 billion. One of the critical policy directions to be taken for facilitating the emergence of a sustainable energy economy would be the gradual abolition of these fossil fuel subsidies. A diversion of these subsidies to promote clean energy is also essential. The WEO 2010 estimates that worldwide, government support to renewables will have to grow from \$57 billion in 2009 to \$205 billion by 2035. Between 2010 and 2035, 63% of this support goes to renewable-based electricity. So, besides the global \$100 billion climate fund, individual governments will have to create Clean Energy Funds at the national and provincial levels. India has created a National Clean Energy Fund. Carefully crafted policies for its utilisation are essential. Going by IEA's estimates, much of this will have to be used for supporting electricity generation from renewables.