World Energy Outlook 2008

High-level Climate Change Workshop in Copenhagen – 17 April 2008

The Economic Analysis Division and the Danish Ministry of Foreign Affairs co-hosted an important workshop to inform analysis and scenarios on energy and climate change for World Energy Outlook 2008.

The workshop attracted some 70 high-profile attendees, including senior climate negotiators and experts from the United States, Japan, China, India, Indonesia, the European Union and several of its member countries. High-level representatives of international organisations, including the United Nations Framework Convention on Climate Change, the Intergovernmental Panel on Climate Change, the United Nations Environment Programme and the OECD, also attended, as well as senior executives from private and international financial institutions and from energy producing and consuming industries. The meeting was informal and participants were asked to express their personal views.

The event was opened by Connie Hedegaard, Denmark's Minister of Climate and Energy, and the venue, Copenhagen, is where global leaders will convene in 2009 to reach agreement on a new international climate change regime. Minister Hedegaard provided the impetus and mandate for the WEO to play a central role in providing detailed analysis, information, and data to support the post-2012 negotiations, especially during 2008. Insights are required. Political drive supported by sound analysis will be the best way to create a global agreement that produces results in an equitable manner. There was also strong agreement among participants of the workshop that the *World Energy Outlook* would help to deliver authoritative and unbiased analytical insights, as well as a detailed, quantitative starting point, to inform the negotiations on a post-2012 climate change framework. There was recognition that its understanding of the current energy context provides a real opportunity for the *World Energy Outlook* to be a catalyst for policy change.

Attendees welcomed the overall approach being proposed for WEO-2008, set out in a presentation by Fatih Birol, and throughout the day provided very constructive insights on how best to make the analysis relevant and impactful. The following are a few of the key messages from the day:

Morning session: Priorities for *WEO-2008* analysis – which scenarios to inform decision-making through 2009?

Delegates were clear that *WEO-2008*'s climate analysis should present a *small* number of realistic scenarios, focusing on the levels of stabilisation that are most relevant to international negotiations: 450ppm and 550ppm CO2 equivalent. Many felt that meeting a 450ppm stabilisation would require overshooting, though others warned that an overshooting trajectory would be even more difficult to realise. There was general agreement that there was no need to analyse a 650 ppm case.

More detail on the short-term (to 2020 and 2030) shape and nature of these trajectories and profiles is a key area where the WEO can provide information, guidance, and transparency. Understanding uncertainty in macroeconomic and technology specific assumptions is necessary in providing realism of the scenarios. Also, links to longer-term mitigation efforts remains essential. *WEO-2008* can also provide insights on the short-term investments and policies that would be necessary to realise deep emissions cuts.

WEO-2008 can clarify for policy-makers the co-benefits of climate change mitigation, providing economic analysis of its impact on energy security, air quality, economic growth and international development objectives. This should include looking at the issues from different international perspectives and recognising that often climate change is itself considered to be a co-benefit to other policy objectives.

Impacts and influences of development choices and economic policy are central to these scenarios. How these interact and highlighting what tensions and synergies exist would be very helpful for governments. Differentiation between (and within) developing and developed countries will be required. This may require a climate change mitigation "matrix" of tools. Developing countries' specific development paths needs to be considered and optimised towards low-carbon and robust economies. A focused attention on this issue (including equity) is paramount to the negotiations.

The importance of couching the climate change debate within wider energy markets analysis was emphasised. The *World Energy Model* (used to produce the *WEO* scenarios) has a major advantage in this respect. It was also agreed that the *WEO*'s *Alternative Policy Scenario* would be an important input into this year's climate change analysis, as it analysis the impact of Sustainable Development Policies and Measures (SD PAMs).

Consideration of the nature, impacts and usefulness of technology agreements or sectoral approaches will be a component of the UNFCCC negotiations. Defining the exact nature of the rather vague terminology, and considering the impacts on GHG emissions and on the political viability of these various policies and measures might be feasible in the WEO.

Afternoon session: Finance perspectives

The WEO analysis on energy and climate change scenarios should elaborate its work on investments required to facilitate climate change mitigation (including aspects of wealth transfer). The WEO investment figures are widely quoted in the area of energy sector investment (like in the UNFCCC analysis on financial flows). If those figures could be refined, augmented and emphasised it would be a useful input in the UNFCCC process, and the private sector.

There was discussion of the impact of a carbon price, with delegates highlighting the importance of a clear, long-term, global price signal – and a stable policy environment - to build confidence. It was suggested that, in this context, better analysis of existing energy subsidies and market distortions, and how these would interact with a carbon price, would be important.

There was recognition that a cap-and-trade system alone would be unlikely to stimulate emissions reduction sufficiently quickly, given the time it would take for a system to become operational and for carbon prices to "bite" across all sectors. It was noted that some forms of sectoral approach, as well as national policies and measures, would be necessary to stimulate more immediate emissions reduction – and that financing systems and global technology transfers were also vital. It was felt that any global climate change agreement would have to reflect these multiple dimensions - such that WEO-2008 should consider "hybrid" scenarios to explore the interactions between these different aspects.

Afternoon session: Energy sector perspectives

Business is already engaged, and some are taking leadership roles, in climate change mitigating technologies. Lead times in technology development uncertainty require reliance on proven technologies in the short-term. In order to stimulate low-carbon technologies, various externalities must be considered and priced.

Sectoral agreements were discussed. A common definition is highly desirable as different stakeholders mean different things. Sectoral arrangements, recognised useful in engaging developing countries and face some of the competitiveness issues of energy intensive industries, may not be appropriate for the power sector on a transnational basis. Benchmarking is difficult because of various complex operational and technical issues. Regulation that directs investor behaviour and investment may be a more useful mechanism for making change. Efforts on capacity

building and R&D are required in parallel. *WEO-2008* should seek to understand potential constraints (such as shortage of materials or skilled personnel) associated with rolling out low-carbon technologies. Delegates also noted the importance of R&D spending, particularly from governments, in realising more ambitious climate change scenarios.

Marginal cost analysis was also mentioned as useful, but it is not sufficient for making investment (or policy) decisions. The system must deal with both up and downstream (global) market segments to get a true marginal price discovery mechanism, but we need more than that to move the system radically.

Closing remarks

Closing remarks were provided by Fatih Birol and Maciej Sadowski, Chief Adviser on Climate Change to the Polish Minister of the Environment. *WEO-2008* will be published on 12 November, shortly before the UNFCCC convenes in Poznan for its final Session before Copenhagen. Poland is looking for the *World Energy Outlook*, and its underlying analysis, to be a major input – and they will host an event on *WEO-2008* alongside the Poznan meeting.

The *World Energy Outlook* team will make use of the ideas expressed in the meeting and will seek advice from the participants throughout the development of the work.

If you would like to discuss any aspect of this workshop in more detail, please contact Laura Cozzi (laura.cozzi@iea.org) or Lorcan Lyons (lorcan.lyons@iea.org).