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Round Table on Sustainable Development

**CHAIRMAN'S SUMMARY NOTE OF THE 22 SEPTEMBER MEETING OF THE ROUND TABLE ON
SUSTAINABLE DEVELOPMENT**

RENEWABLE ENERGY

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The Fourteenth meeting of the Round Table on Sustainable Development at the OECD was held at the World Bank, Paris

Wednesday 22 September 2004

The following is a short summary note, issued under the Chairman's responsibility of the discussion on 22 September. Please note, in keeping with Round Table procedures, a detailed note of the meeting will not be circulated

The meeting focussed on renewable energy, looking in particular at barriers to large-scale deployment of renewables for electricity generation. The following were the main points arising from the discussion: -

- There was broad agreement that two key objectives in promoting further development of renewable energy are the reduction of greenhouse gas emissions and the diversification of energy supplies, in order to increase energy security. Improving market conditions to enable greater penetration by renewables is a key development step, but a political commitment to the above priorities will also entail the need for additional government intervention to speed up the rate of deployment.
- It was noted that at the current stage of renewables deployment, in the short term, the benefits of learning in terms of future technology development are considerable and can, for example in the case of photovoltaics, outweigh those of emissions reductions, which will not be significant until wider-scale deployment takes place.
- In measuring the benefits of development of renewable energy, it is important to consider indirect factors such as avoidance of the rising costs of fossil fuels. As a follow up to the Bonn Conference of June 2004, and in preparation for CSD 2006, it would be important to work on putting an accurate 'value' on renewables.

Energy markets

- Energy markets are currently biased towards energy produced from traditional sources. Policy solutions available to tackle these marketplace problems include:
 - Protocols for flexible short-term movement of electricity between countries in Europe or between states in the USA;
 - Innovation of electricity grids
 - National authorities coming together, as has occurred in Scandinavia and Denmark, to create a common trading market and to lessen the bias of current trading arrangements towards electricity companies dealing with traditional energy sources. Innovations in this area could include changes in the timing of pricing schemes, and the creation of longer-term contracts.
- There was broad agreement that although difficult, adapting pricing to account for the externalities of non-renewable energy was important, and would not be accomplished by the market alone. This might require legislation. However the point was made that alone, the internalisation of costs would not be sufficient to enable technology costs to be brought down

Technology 'lock-out'

- On the issue of the 'technology lock-out' of renewables, key policy instruments that could overcome this barrier include more public support for RD&D, fixed and favourable pricing for renewables and a favourable taxation structure. It was noted that in countries where large-scale deployment has already taken place, such policies had played an important role. It was however

stressed that such policies need to be seen as an add-on to well functioning markets, and not as a replacement. Without a well-functioning market structure, any public policy mix would always provide sub-optimal outcomes.

Scope and nature of government action

- Although there is clearly a strong case for public action to assist the development of renewable energy, it was noted that policies to encourage market deployment needed to remain cautious. Certain technologies in this sector still require various demonstration projects before they are ready for the deployment phase. Costs need to be brought down further if such policies are to be cost-effective.
- The key to successful public action to build markets for deploying clean energy technologies, to enable learning-by-doing, is to develop different technology options. This ensures that final decisions on large-scale application of various technologies, taking them beyond a few percentage points of market share, will be based on the full set of technologies and will not be limited due to over-investment in one particular technology.
- It was proposed that certain policies such as feed-in tariffs could achieve stated objectives without necessarily being the most cost-effective means of doing so.
- In terms of different government policy initiatives used to deliver financial support to new renewable energy technologies, production credits are preferable to up front payments, to ensure that projects are not only built but also deliver energy. However with small-scale projects, some up-front payments and financing support can facilitate domestic application as the Japanese photovoltaic experience has shown. In addition, confidence in predictions of revenue streams was key to investors. Financial support schemes need to take this into account.
- The strategic deployment stage is easiest to manage at the national level where decisions over funding and energy policy are made. International coordination on parallel application of strategic deployment multiplies market size and therefore the opportunity for cost improvements through market experience. Such coordination also reduces the exposure of producers to policy uncertainty in individual countries. Agreeing on a common understanding of the resources required to achieve strategic buy-down and of what assurances are necessary for industry is a key step in this process.

Policy sequencing

- There was broad agreement that the issue of sequencing was particularly important, and that different public policies were optimal at different stages of the technology innovation chain.
- It was acknowledged that the approaching deployment phase for many of the renewable technologies will prove more difficult and more costly for governments than the research phase. Political commitment to these technologies would prove vital in bringing them out of the laboratories and onto the market. Guaranteed energy prices reduce the risk to which investors are exposed and can reduce financing costs. As investors procure technology on international markets, guaranteed feed-in prices do not reduce competition between technology producers. The challenge for governments is to devise an effective deployment policy that will respect commercial interests and not destroy the potential for competition. Small-scale deployment will represent a necessary first step in fostering the political will to proceed on a larger-scale.

National examples

- Government-funded strategic deployment was cited as being particularly important in the Danish example. Approximately 1.5bn euros have been spent on development of the wind energy sector, which now has an annual revenue (technology production + energy sold) of 2bn euros. Analysis of short-term costs should therefore not outweigh that of the longer-term potential benefits.
- Further analysis of the Danish experience underlined the following points:-
 - 'learning-by-doing' played a fundamental role, and private industry needed to be involved from the outset;
 - Small-scale initial projects and the establishment of test centres for technology standards both proved important;
 - Getting the sequencing of policy instruments right was important, first providing capital subsidies for investment in machinery, then moving as quickly as possible to rewarding output.
 - The regulated and state-owned nature of the Danish industry at the time support was first offered to the wind sector provided the Government with a level of influence over the Danish utilities which current liberalised markets would not replicate. However feed-in tariffs would provide a similar means of support in a liberalised market.

Promotion of renewable energy in developing countries

- In terms of the specific challenges faced by developing countries in developing renewable energy, particular reference was made to the high levels of capital investment required for new technologies. Higher financing costs in developing countries and higher perceived regulatory uncertainty should be tackled to remove a competitive disadvantage relative to fossil generation technologies that benefit from lower financing costs.
- It was noted that those countries who could contribute most through export credit guarantee schemes for renewables were amongst the most hesitant to do so.
- Concerns over intermittent supply from renewable energy sources were in some senses unjustified whilst market share of individual renewable technologies did not exceed 20%. Effective grid operation at higher penetration levels could be supported by grid enhancements and storage technologies. A regulatory framework which rewarded suppliers which delivered energy when it was required could also help solve this problem.

International co-operation

- Discussions at international fora, for example at UNCSD, to advance the agenda on renewable energy could not be a substitute for specific and concrete action.
- The OECD/IEA ministerial in May 2005 would be a good opportunity to take forward the renewables agenda. It would be important to ensure a 'mix' of Ministers at this forum. 'Ghettoisation' in the environment portfolio could only prove disadvantageous to the development of renewables.