Minutes of the third meeting of the Advisory Group on Energy Roadmap 2050, Brussels, 1 September 2011

Advisory Group participants: D. Helm **(Chair),** C. Mandil **(Deputy Chair),** J. Vasconcelos, D. MacKay, A. Mogren, F. Hauge, B. Bach, C. van der Linde, E. Toczylowski, I. Perez-Arriaga**,** W. Kroeger**,** G. Luciani, F. Matthes. *Excused*: F. Birol, L. Cozzi

Commission: Commissioner Oettinger, Olivier Onidi, P. Lowe, G. Lalis, M. Wörsdörfer, F. Ermacora, L. Vasakova, M. Kilpper, M. Westrup, S. Vergote (DG CLIMA), S. Grassi (SECGEN), V. Andre (DG ENV).

1 Opening remarks

The Chair welcomed the participants and gave an outline of the planned further course of action by the Group. He reminded participants that the independent report should be finalised by the end of the month. A revised draft report on the basis of the discussion in the meeting will be prepared by the Chair after the meeting and distributed for discussion by email. The email exchange would then result in a final version of the independent report. In cases of disagreement on specific issues, these would be acknowledged.

The Commission announced that a final draft of the report is needed by the end of September and that there will be no time for another meeting of the Group before that. However, continuous work with the Advisory Group is foreseen even after the independent report has been finalised. The Advisory Group could meet again a week before planned adoption of the Communication on the Energy Roadmap 2050 end of the year and after adoption in the beginning of 2012.

2.1 Speech Commissioner Oettinger

Cmr. Oettinger thanked the Group for its work and valuable input. He gave an overview of the European energy policy and explained his expectations concerning the Energy Roadmap 2050.

The Cmr. explained that European energy strategy is based on the three broad objectives of EU energy policy, security of supply, sustainable development and competitiveness. The Energy 2020 strategy identified five priorities for action and restated the objectives agreed in the "energy and climate change package" of 2008: a contribution of 20% renewables to the energy mix, a reduction of 20% of our greenhouse gas emission below the 1990 level and an increase in energy efficiency of 20%. On energy efficiency, the Cmr. explained that more actions are needed since only half of the targeted increase in efficiency will likely be achieved by 2020. He made clear that decisions in this decade will have influence especially on 2030 due to long investment cycles. Investors need signals based on all three energy policy objectives. Infrastructure policy is a long-run challenge in the context of decarbonisation. More capacity is needed, but there is a need to define how much and when.

For 2050, he underlined that some challenges and opportunities seem already clear, although the Commissioner acknowledged the inherent difficulties in predicting development over such an extended period. A continuation of current trends and policies would result in only a 40% reduction in energy-related greenhouse gas emissions in the EU by 2050. Global energy

demand is on a steep rise and there are technological uncertainties. Overall, there is wide recognition of what some analysts label the "Cost of Non-Europe". The Cmr. argued that the discussions show the need to push for a more European approach to energy policy. The Energy Roadmap 2050 was conceived in order to add a long term perspective to the EU's energy strategy but until now mainly defined actions for the period up to 2020. The purpose of the Energy Roadmap 2050 should be to examine a set of possible transitions against which the EU's strategy for the long term can be worked out. It should also refer to possible proposals for actions in the coming years.

The Cmr. considered that the Advisory Group should be a longer-term partner even after finishing its report in September 2011 and invited the Group for further discussion prior and following the adoption of the Roadmap.

2.2 Discussion

Some Members of the Group highlighted that 2030 is important for decisions taken today, while others underlined that 2050 will also be influenced. Since for some technologies 2050 is only one or two investment cycles away, the energy system will also be shaped by decisions today. Stakeholders are looking for long-term guidance. If this guidance was done only nationally or regionally, it would not be as efficient as an EU approach which could provide stronger signals and broader solutions. Some argued that a key message of the Roadmap could be in showing that decarbonisation is possible. Reference was made to the challenge of creating an integrated approach to energy policy, looking at different sectors and their mutual influences such as the power sector, heating & cooling as well as transportation and trends towards electrification. Targets or milestones (e.g. on CO2 reductions)were mentioned as an important tool to guide policy-making and deliver more certainty to investors for the next decades, especially for 2030 and 2040; targets on renewables and energy efficiency were discussed but no consensus in the Group evolved.

For the internal energy market, a new market design was considered a challenge. It was mentioned that current policies could limit the discovery function of the market. There was widespread agreement that the market design needs review since policies so far have focused on the short-run efficiencies while the challenges for the long-run lie in investment incentives. Emphasis was also given to the need for private financing since public budgets are constrained. Long write-down periods for investments were considered to be an issue and could lead to lock-in effects. Care should be given on how to incentivize investments that are needed in the next two decades.

The energy mix was acknowledged to be competence of Member States. Yet, with the need to decarbonise, the options become more limited since only carbon free technologies are acceptable. In this context, CCS was mentioned as an option for flexibility. Some considered that CCS would need an additional framework and can not rely solely on the ETS system. Emission performance standards were mentioned as possible elements of a broader framework in case no global climate action is taken.

Some argued that infrastructure might be insufficient. It was also argued that infrastructure is connected to specific technologies. Therefore, technological neutrality could not be easily achieved and infrastructure should not be disconnected from decisions on technologies. In addition, infrastructure was considered to need better regulation and more interconnections. Incentives for regulators were mentioned as inadequate to develop the necessary change towards smart grids and also towards interconnection.

On the way towards decarbonisation, concern was expressed that divergence in the three energy policy objectives could occur. In this regard, energy efficiency was considered to be of major importance since it delivers on all energy objectives. However, achieving energy efficiency in the long-run was considered a significant challenge. On the other hand, some Members argued that a very high reliance on renewables would be detrimental to security of supply, and that the decarbonisation process would have significant cost implications adversely affecting competitiveness.

Concern was expressed that bigger Member States have a very national oriented energy policy which could increase the costs of neighbouring countries while a common approach could lead to more integration, specialisation and yield mutual benefits.

The external dimension of energy policy was mentioned several times. Decarbonisation changes the business model of many supplier countries and could potentially limit flexibility of Europe's approach towards decarbonisation since Europe will need to ensure stable supply in the transition period. In addition, in the long-run, the external dimension would need to apply a broader strategy, including open access in other parts of the world to modern forms of energy. In this context, border-tax adjustments were also mentioned as one possible means to deal with asymmetric CO2 policies.

Additional issues raised included breakthrough technological and other developments and changes in public opinion which could easily change future policies.

The Cmr. responded to the discussion by supporting the idea of new infrastructure being crucial. In the new energy world, both, decentralised and central supply would be needed. But in some areas decisions need to be taken before infrastructure can follow. He also mentioned that more storage capacity, in particular for electricity, is important. Concerning the energy mix, the Lisbon treaty defines the competences. However, with agreed targets on renewables, the share of choice for Member States de facto decreases. The Cmr. raised the question, what has to be financed privately and publicly. He argued that a clear message on what has to be financed publicly and privately is needed and that planning security, targets and more public involvement is necessary. The Cmr. also discussed the question if Europe needs big and strong energy companies. On the ETS, he strongly claimed that there is no such thing as an "old industry" and that the carbon price may become difficult for certain industrial sectors. Production needs to remain in Europe and carbon leakage has to be avoided. Sensibility should be given to electricity price developments; too high prices could de-industrialise Europe and are not acceptable in terms of competitiveness and jobs. The internal energy market therefore needs to be fully functioning. He also referred to the need to have enough capacity for electricity storage in Europe, accessible in the internal energy market, due to a world with more renewables. Finally he stated that electricity market is likely to be global in 2050, and questioned what Europe should or could deal with imports, e.g. of electricity, that might not be produced carbon-free.

3 Presentation of draft outline by Prof. Helm and discussion

Prof. Helm shortly explained the draft recommendations of the group. In a tour de table, Members explained which areas for recommendations were missing in their view. Some additional issues were raised. Clarity of what is understood by Europe versus Non-Europe was requested, since there are confusing wordings. Greater integration in Europe could also imply greater specialisation in Member States, which might create opportunities for mutual beneficial solutions. External relations were considered to be an issue for an additional recommendation, including opportunities for trade with developing countries in the case of

(sustainable) biomass which could be used for negative carbon emissions via CCS. Another new aspect was the market design which was raised by many. Measures for compensation, such as e.g. border adjustments for carbon content of products, should be reflected in the recommendations. Some Members also considered a specific recommendation on infrastructure important as well as the question of public and private financing. Key innovations should be discussed, although some of which could be very unpopular in the general public. An additional recommendation was suggested; the Roadmap should be seen as a starting point for an "iterative discussion process" and regular monitoring of progress was considered as important.

Another issue that was discussed for inclusion was on the consequences of the political decisions taken; moving to a decarbonised energy system has impacts on costs, land use, visibility of infrastructure and generation capacity. Although a "greener" energy system is favoured by many in the public, resulting consequences are often not accepted. Also, the relation between the energy policy objectives and potential trade-offs needed more elaboration. It was discussed that – since import dependency is not a sufficient indicator for security of supply – diversity and reliability of suppliers might matter more. For decarbonisation, timing and financing was considered to be of major importance. If decarbonisation is the political will, then more public money would be needed (in times of constrained budgets) since private investors would not be willingly invest to the necessary degree. Low-carbon technologies are expensive and also often unpopular in the public. With a view to the long-run, a global electricity market was considered to be possible.

The Commission recalled the background to the Roadmap exercise, also emphasizing the need to address the different stakeholders, namely Governments (who need flexibility), investors (who need predictability) and the public (for acceptance) in an iterative process.

4 Closing remarks

The chair concluded the meeting by repeating his intention to circulate a new version of the draft recommendations based on the discussion in the meeting. Members are then invited to provide comments and concrete drafting proposals so that the report can be finalised in email exchange since no further meeting in September is possible. The report should be finalised by end of September.

Signed
Michael Kilpper
(DG Energy, Unit A.1)