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Item 9 of the provisional agenda

How can the Committee best respond to the needs of member States going forward?

Structuring the Sustainable Energy subprogramme processes and activities to support countries in achieving the Sustainable Development Goals

Note by the secretariat

I. Introduction

1. The objectives of the United Nations Economic Commission for Europe (ECE) sustainable energy subprogramme are to help improve access to affordable and clean energy for all and reduce greenhouse gas emissions and the carbon footprint of the energy sector in the region. Achieving these objectives requires international policy dialogue and cooperation among governments, energy industries and other stakeholders to foster sustainable energy development in Member States of the United Nations in line with the energy-related Sustainable Development Goals.
2. Energy underpins all of the Sustainable Development Goals. Sustainable Development Goal 7 is directly or indirectly linked to all others and to the development and greening of economies, pointing to its cross-cutting nature. The transition to a sustainable energy system is an opportunity to improve energy efficiency from source to use, minimize environmental impacts, reduce carbon intensities, have a long-term vision and planning and correct energy market failures to drive the diversification and greening of oil and gas based economies and help countries meet the Sustainable Development Goals.
3. During its twenty-fifth session held on 28–30 September 2016, the Committee examined the linkages of the energy-related Sustainable Development Goals to major nexus areas including water, health, climate and trade. The six subsidiary bodies presented thoughts about how to optimise their collaboration for an increased impact of the Committee's programme of work and highlighted the need to capitalise on synergies across sectors within governments and within ECE, in particular in the context of the Sustainable Development Goals. The Chairs of the six subsidiary bodies noted a number of cross-cutting areas, in which

collaboration across the energy subprogramme's groups of experts, across ECE committees, and with other international partners would deliver robust outcomes¹.

4. This report summarises the discussion and invites the Committee to provide a mandate to the sustainable energy subprogramme to work with the six subsidiary bodies to offer options for consideration in its forthcoming sessions for cross-cutting activities by the Committee on Sustainable Energy.

II. Current structure of activities

5. The Committee on Sustainable Energy is the ECE intergovernmental body mandated to deliver the objectives of the Sustainable Energy subprogramme set forth in the introduction. The Committee organizes certain activities under its own oversight, for example its energy security dialogue and the recently approved project Pathways to Sustainable Energy, but the majority of its work is conducted under the auspices of its six subsidiary bodies and their respective task forces. The areas of work covered by the subsidiary bodies include energy efficiency, cleaner electricity production from fossil fuels, renewable energy, coal mine methane, United Nations Framework Classification (UNFC), and natural gas.

6. Although the six expert bodies are organized "vertically", their work is often collaborative and mutually reinforcing. They provide expertise on energy matters in ECE in cross-cutting areas such as the 2030 Agenda for Sustainable Development, energy security and sustainable energy, climate change mitigation and other related global and regional processes. They also work to ensure coordination of energy work within the ECE region and at global level with major partners.

7. Each group of experts assembles its relevant experts to conduct the activities and deliver the outputs called for under its work plan and, if appropriate, to recommend work to be considered for future work plans. The manner of working varies from group to group. The work is reliant on voluntary contributions (time, man-hours, travel etc.). Certain groups such as the Expert Group on Resource Classification and the Group of Experts on Gas have organised formal task forces with Chairs and active members to complete the activities called for in their approved work plans. Achieving the required deliverables depends on the active engagement of the respective task force through so-called in-kind contributions. Other groups such as the Group of Experts on Coal Mine Methane and Cleaner Electricity Production from Fossil Fuels, as well as the Expert Group on Resource Classification, have a hybrid approach in which certain activities are conducted by task forces whereas others are overseen by the respective bureaux with support from the secretariat. Finally, the Groups of Experts on Energy Efficiency and Renewable Energy conduct their work primarily through extrabudgetary funded projects or as activities overseen by the bureaux with support from the secretariat.

8. The subsidiary bodies of the Committee on Sustainable Energy share common interests in i) energy security; ii) worker safety, iii) environmental protection; iv) resource assessment, evaluation, exploration and extraction; v) market development and access; vi) enhancement of standard of living and quality of service; vii) nexus integration; and viii) data management and interpretation.

9. There are many examples of cross-cutting nature of the work of the subsidiary bodies. The question is how this work can be optimized in the interest of member States.

¹ agenda item 9: How can the Committee best respond to the needs of member States going forward?

A. Examples from the subsidiary bodies to help satisfy common goals:

(a) *The Expert Group on Resource Classification* has devised a resource classification and management system that incorporates the uncertainty of the desired attributes of a resource, technological feasibility, its economic utility and implied social and environmental impacts;

(b) *The Group of Experts on Coal Mine Methane* has developed a best practice guidance for capturing and use of coal mine methane, a potentially dangerous and powerful greenhouse gas;

(c) *Group of Experts on Cleaner Electricity Production from Fossil Fuels* has produced best practices for power generation that incorporates carbon capture and storage;

(d) *The Group of Experts on Energy Efficiency* developed a Structured Framework of Best Practices in Policies to Promote Energy Efficiency for Climate Change Mitigation and Sustainable Development. The policies identified in this report include exemplars of best practices in energy efficiency policies from around the globe, drawn from respected and objective policy evaluations and databases;

(e) *The Group of Experts on Renewable Energy* produced the ECE Renewable Energy Status Report which covers 17 selected ECE member countries located in the South East Europe, the Caucasus, the Russian Federation and Central Asia. The report provides a comprehensive overview of the status of renewable energy and energy efficiency markets, industry, policy and regulatory frameworks, and investment activities;

(f) *The Group of Experts on Gas* engages in multi-stakeholder dialogue to promote sustainable and clean production, distribution, and consumption of natural gas in the ECE region. The Group's principal areas of work are to advise on the role of natural gas as a part of the global energy mix and the relation between natural gas and the environment.

III. Opportunities for greater collaboration among the Committee subsidiary bodies

10. The 2030 Agenda for Sustainable Development sets forth an important challenge for member States and for the ECE sustainable energy sub-programme. An adequate response to the challenge will only be possible if stakeholders take a systematic and integrated view of the future energy system. As noted above, sustainable energy is not only about sustainable Development Goal 7. Energy in fact underpins the entire sustainable development agenda. Nexus issues such as water, food, land use, and health can only be addressed in cross-cutting ways. Likewise, exploring the use of natural gas to enhance the uptake of renewables involves not only the two industries in question, but also embraces the power system's organisation of balancing markets and the availability of liquefied petroleum gas for remote applications. The work on principles-based performance standards for buildings and energy efficiency in industry requires consideration of both quality of life and the surrounding built environment. The best approaches for managing methane emissions from fossil energy must consider coal and natural gas and petroleum throughout the respective value chains. These and many other critically important topics will set the stage for agreement over the next years on how the world can obtain the energy that is needed to develop sustainably.

11. The question raised by the Chairs of the subsidiary bodies is whether the current, traditional, "vertical" structure of the groups of experts can be adapted to meet the needs of member States in a flexible fashion that accommodates the dynamic complexity of the energy transition.

12. This reports invites the Committee on Sustainable Energy to revisit what it is requesting from the groups of experts in order to enhance the opportunities for impact across sectors.

13. The subsidiary bodies provided the following food for thought during the session:

(a) With respect to coal mine methane, many of the world's most dangerous coal mines are extracting very gassy and structurally unstable coal resources. These mines have been the location of disasters that claim miner's lives and destroy communities. If used to its full capability, the UNFC could show that the value of these resources are diminished due to the social and environmental costs— perhaps the coal should be left unmined, but the gas is useable and valuable. Gassy coal seams could be mined after methane extraction to harness the full socio-economic benefits in an integrated process. Yet, at most gassy coal mines the co-located gas resource is undervalued and treated as a danger and a nuisance. Methane gas from the coal and surrounding strata are mostly vented to the atmosphere. Depending on the time horizon, methane is between 25 and 85 times more potent greenhouse gas than carbon dioxide. If the methane extracted from the coal prior to and during the mining process is used or destroyed, the net environmental cost of the use of coal is lowered;

(b) With respect to renewable energy, the ECE countries differ widely in the share of renewable energy in total final energy consumption. Despite the potential, renewable energy investments declined in most of the countries considered by the ECE Renewable Energy Status Report in the last five years. One of the targets of the Sustainable Development Goal 7 on energy is “to increase substantially the share of renewable energy in the global energy mix”, i.e. aspirations are not matching reality. The application of the UNFC for Fossil Energy and Mineral Reserves and Resources 2009 to renewable energy resources will harmonize the way in which renewable energy potential is reported. A common comparison framework will help the assessment of renewable energy investments. Least-cost solutions for a clean energy future will feature an effective combination of renewable energy and energy efficiency. Further, synergies between renewable energy and natural gas can help the transition to a decarbonized future energy system;

(c) With respect to coal extraction and use, the “greening” process of coal extraction and use can begin at the mine. If gas and coal resources are valued separately and the process of co-extraction maintains the value of the gas, the economics and environmental attributes are enhanced. These resources should be classified such that the enhanced in-situ value and market value are recognized e.g. the value of the booked reserves of each is increased. Electricity producers that become aware that there is an opportunity to purchase “greener” fuels could impact society in a number of positive ways by favoring coal that is mined more sustainably. Electric power producers and distribution companies can encourage use of the methane to produce heat and power at the mine and provide fair access to the grid. Synergies of natural gas and renewable energy in electric power and transportation sectors can be enhanced to achieve climate change targets. Future energy systems will allow an efficient renewable energy power integration in smart grids, including off-grid solutions in remote rural areas.

14. The subsidiary bodies provided the following food for thought during the session:

(a) *Group of Experts on Coal Mine Methane* promotes the uses of best practices and encourages and assists coal producers to improve the environmental, social and economic aspects of mining gassy coal, but could engage with the end users of the coal by providing educational materials;

(b) *Group of Experts on Cleaner Electricity Production from Fossil Fuels* has helped electricity producers understand the potential and value of carbon dioxide capture and storage, but could encourage power producers to view the options for sustainable practices in the fuel supply chain;

(c) *Expert Group on Resource Classification* has shown the utility of UNFC across a wide range of resource types and could assist the Group of Experts on Coal Mine Methane and Group of Experts on Cleaner Electricity Production from Fossil Fuels in developing a document that re-maps the coal extraction through electricity production value chain in a manner consistent with the principles and practices of UNFC;

(d) *Group of Experts on Renewable Energy* facilitates a better understanding of the status, progress and trends of renewable energy development, as well as the exchange of best practices and lessons learned to overcome obstacles, create a network of experts and provide information to render cross-cutting opportunities a reality. The resultant documents would be used to inform the Committee on Sustainable Energy, member states, and industry decision makers;

(e) Integration of the principles-based best practices developed by each of the subsidiary bodies can be applied across sectors — e.g., to help grapple with larger cross-sectoral issues such as methane management. Other subsidiary bodies could engage in cross-sectoral projects that share common goals.

15. The discussion in the twenty-fifth session highlighted that the transition to a clean energy system has to be driven by energy efficiency and renewable energy in an integrated way. The emerging energy system will be significantly more customer oriented and will focus on providing energy services rather than the traditional utility based approach. It was therefore recommended by the Groups of Experts that the Committee on Sustainable Energy engage in conversations about efficient pathways to attain the objectives of sustainable energy and ensure that its work and the work of its subsidiary bodies cover the range of activities needed to meet the challenges.

16. In order to meet the cross-cutting nature of the 2030 Agenda for Sustainable Development, it is important that task forces established to address specific questions comprise the appropriate stakeholder communities. For example, the Group of Experts on Cleaner Electricity Production from Fossil Fuels has requested to join the joint task force on using natural gas to enhance the uptake of renewable energy. This task force was set up as a joint activity among the Groups of Experts on Gas and on Renewable Energy. The task force on methane management in extractive industries comprises the Groups of Experts on Coal Mine Methane and Gas, but could usefully engage with the ECE Committee on Environmental Policy. The task force on energy efficiency standards in buildings is a joint activity with the ECE Committee on Housing and Land Management.

IV. Recommendations

17. The Regional Commissions of the United Nations are working to help Member States secure access to affordable, reliable, sustainable, and modern energy as part of the 2030 Agenda for Sustainable Development. They have set forth a proposition for common action for assisting their respective member States that includes five priority areas, including: i) developing national sustainable energy action plans; ii) improving statistical capabilities to track and guide progress; iii) pursuing tailored but economically rational policy options; iv) encouraging international dialogue for technological and knowledge exchange on lessons learned and best practices; and v) developing performance standards for all sectors.

18. The following recommendations result from the discussion at the twenty-fifth session and build on the foregoing proposition for common action. The Committee is requested to mandate the secretariat to liaise with the groups of experts to explore the recommendations further and propose a comprehensive approach in the twenty-sixth session for further discussion.

(a) Where there is not an existing community or group of experts on an important, specific topic, the Committee should be prepared to undertake assessment of that topic under its own auspices;

(b) If the Committee and the Groups of Experts organize cross-cutting activities through task forces, it is vitally important that the respective Bureaux take individual ownership of an activity to drive it through to a successful conclusion (with the support of the secretariat), and that this responsibility be recognized when a Bureau member is nominated and elected. It is noted that any additional activities would require extrabudgetary funding;

(c) Given that the Committee and the groups of experts do not meet at the same time, it is important that task forces be empowered to work formally but through electronic means for recommendations and endorsements;

(d) The Committee should be prepared to approve extrabudgetary projects as part of the work plans of itself and its subsidiary bodies;

(e) The groups of experts, with consultation of the member States, could be tasked to develop models based on best practices for an integrative approach to production, distribution and consumption of energy. This more systemic approach could be the basis for scenario development that could quantify the challenges between business as usual and sustainable development aspirations;

(f) As a first step, the Group of Experts on Energy Efficiency and the Group of Experts on Renewable Energy can deepen their collaboration on using renewable energy sources as a promising energy efficiency measure. This also calls for stronger cooperation between these two Groups and the Group of Experts on Cleaner Electricity Production from Fossil Fuels and the Group of Experts on Gas;

(g) Representatives of the groups of experts should meet (virtually) to discuss and develop a common understanding of and approach to achieving sustainable development goals. The outcome could become a part of the recommendations to the upcoming energy ministerial to be held in Astana, Kazakhstan on 11 June 2017;

(h) Countries are invited to support the Committee's work to produce transparent, timely, and accurate data for assessment of energy production, transportation, consumption and emissions and for development of appropriate indicators for attainment of energy for sustainable development. The availability of credible data is crucial to understanding the patterns and magnitude of greenhouse gas emissions, efficiencies, and access to energy.