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## Economic Commission for Europe

Committee on Sustainable Energy

### Group of Experts on Cleaner Electricity Systems

**Sixteenth session**
Geneva, 23-24 November 2020

# DRAFT Report of the Group of Experts on Cleaner Electricity Systems on its sixteenth session

## I. Introduction

1. The sixteenth session of the Group of Experts on Cleaner Electricity Systems (the Group of Experts) was held on 23-24 November 2020 in Geneva.

2. This report summarizes the discussions on the work of the Group of Experts at its sixteenth session. All the documents and presentations are available on the United Nations Economic Commission for Europe (ECE) website.[1]

## II. Attendance

3. The meeting was attended by some fifty experts from the following ECE member States: [to be updated].

4. Representatives of the following non-governmental organizations participated: [to be updated].

5. The private sector and academia were also represented, at the invitation of the secretariat.

## III. Adoption of the agenda (agenda item 1)

*Documentation:* ECE/ENERGY/GE.5/2020/1

6. The Group of Experts noted that the unprecedented circumstances caused by the COVID-19 pandemic had resulted in the sixteenth session being organised in a different and reduced format. The Acting Chair of the Group of Experts, Mr. Vladimir Budinský, opened the meeting and presented the provisional agenda, which was adopted without change.

[1] Official documents of the session are available at http://documents.un.org/. Unofficial room documents and presentations delivered at the meeting are available on the ECE website at: https://www.unece.org/index.php?id=55063.

# IV. Opening remarks (agenda item 2)

7. The Group of Experts noted the sad loss of Mr. Barry Worthington, Chair of the Group of Experts from 2014 to 2020. Following a memorial speech, a minute's silence was observed in Mr. Wothington's memory and his invaluable and longstanding contribution to the work of the Group of Experts.

# V. Election of officers (agenda item 3)

8. The Group of Experts elected Mr. Jim Robb (United States of America) as Chair, and Mr. Georgy Popov (Russian Federation), Mr. King Lee (World Nuclear Association) and Mr. Andrew Minchener (IEA Clean Coal Centre) as Vice-Chairs with effect from the close of the sixteenth session and until the close of the eighteenth session.

9. The current Bureau comprises: Mr. Vladimir Budinsky, Acting Chair (Czech Republic), Mr. Sergey Katyshev (Kazakhstan), Mr. Aleksandar Puljevic (Serbia) and Professor Jon Gibbins (United Kingdom) as Vice-Chairs. All are elected until the end of the seventeenth session of the Group of Experts.

10. The Chair of the Group of Experts is a Vice-Chair of the Committee on Sustainable Energy ex officio.

# VI. Attaining Carbon Neutrality (agenda item 4)

*Documentation:* ECE/ENERGY/GE.5/2020/3 – Pathways to Sustainable Energy – policy recommendations by the Group of Experts on Cleaner Electricity Systems

ECE/ENERGY/GE.5/2020/4 – Interplay of technologies including between flexible clean coal, natural gas and renewable energy

ECE/ENERGY/GE.5/2020/5 – Alternative electricity market models in support of carbon neutrality

ECE/ENERGY/GE.5/2020/6 – The role of ICT in enabling high-performance buildings and smart, sustainable cities

ECE/ENERGY/GE.5/2020/8 – Framework for attaining carbon neutrality in the ECE region by 2050

11. The Group of Experts reviewed the "Pathways to Sustainable Energy" project findings related to electricity sector and revisited policy recommendations provided by the Group of Experts in the context of ongoing energy transition and COVID-19 pandemic. The Acting Chair, presented the summary of the policy recommendations to the Group of Experts. The Group of Experts endorsed the document "Pathways to Sustainable Energy – policy recommendations by the Group of Experts" (ECE/ENERGY/GE.5/2020/3) and recommended that it be submitted to the Committee on Sustainable Energy.

12. The Group of Experts took note of the Committee's recommendations to develop ambitious instruments to reduce the environmental footprint of fossil energy use, including finalizing guidelines for new investment in fossil energy in line with the objectives of the Paris Agreement and the objectives and targets of the 2030 Agenda, undertaking finalization, deployment, and dissemination of best practice guidance on methane emissions, and further deployment of ECE recommendations on carbon capture and storage (CCS) (ECE/ENERGY/123 and ECE/ENERGY/2019/2).

13. In response, the Group of Experts initiated a project on "Enhancing understanding of the implications and opportunities of moving to carbon neutrality in the ECE region across the power and energy intensive industries by 2050" ("Carbon Neutrality"). A Task Force on Carbon Neutrality (Task Force) was formed to provide expertise and help in project implementation.

14. The Task Force has developed the carbon neutrality framework for the ECE region to attain carbon neutrality and to initiate a dialogue about the challenges in delivering on the 2030 Agenda. The framework was presented to the Group of Experts by the Acting Chair, The Group of Experts endorsed the document developed by the Task Force on Carbon Neutrality "Framework for attaining carbon neutrality in the ECE region by 2050" (ECE/ENERGY/GE.5/2020/8) and concluded that the framework developed serves as a basis for further implementation of the Carbon Neutrality project.

15. The Group of Experts recommended conducting a closer assessment of the roles of energy efficiency, Carbon Capture, Use and Storage (CCUS), nuclear energy and hydrogen in attaining carbon neutrality across the power and energy intensive industries in ECE region. The Group of Experts encouraged closer collaboration with all the other Groups of Experts to deliver on the Carbon Neutrality project.

16. Mr. Jon Gibbins, Vice-Chair, provided an overview of the CCUS brief and presented a paper on "Electricity market models for carbon neutrality" (ECE/ENERGY/GE.5/2020/5). Mr. Gibbins concluded that CCS power generation is needed for carbon neutrality specifically because it differs from renewables. The Group of Experts welcomed the progress made on the CCUS brief and insights about the role of CCUS in the power sector to attain carbon neutrality.

17. Mr. King Lee, Vice-Chair of the Group of Experts on Cleaner Electricity Systems and Chair of the Nuclear Fuel Resources Working Group of the Expert Group on Resource Management presented a brief on nuclear energy. The Group of Experts noted with appreciation the progress made on the nuclear energy brief and welcomed the contribution from and the collaboration with the Expert Group on Resource Management.

18. Mr. Andrew Michener, Vice-Chair, presented a paper on "Interplay of technologies including between flexible clean coal, natural gas and renewable energy" (ECE/ENERGY/GE.5/2020/4) highlighting that there is no one-size-fits-all global energy and environmental solution in a carbon constrained world, that there is need to ensure robust operability and low carbon emissions for sustainable power generation and that establishing effective technology interplay to ensure reliable cost effective low carbon power generation is essential.

19. The Group of Experts stressed the importance of electricity for energy system transformation, including notably the interplay of technologies including flexible clean coal, natural gas and renewable energy (ECE/ENERGY/GE.5/2020/4).

20. The Group of Experts requested the Task Force to continue engaging in the dialogue on technology interplay under the auspices of the Carbon Neutrality project. The document is the basis for future work and will be expanded further to explore the roles of additional technology options.

21. The Group of Experts requested the Task Force to conduct a series of sub-regional workshops to gather data and improve understanding about market conditions in the eastern reaches of the ECE region, namely the Caucasus, Central Asia, Russian Federation and Eastern and Southeast Europe. A report on the interplay of selected technology options within the carbon neutrality concept will be presented at the seventeenth session of the Group of Experts.

# VII. Roundtable on Carbon Capture, and Storage (agenda item 5)

*Documentation:* ECE/ENERGY/GE.5/2020/5 – Alternative electricity market models in support of carbon neutrality

ECE/ENERGY/GE.5/2020/7 – Technology brief: Carbon capture, utilization and storage

22. Panellists and participants examined the potential of Carbon, Capture, Use and Storage (CCUS) technologies, discussed ways to overcome policy and regulatory barriers,

and identified financing mechanism to allow full commercialization of these technologies across North America, Europe and Central Asia.

23. The Group of Experts noted that there is need to raise awareness on the potential of CCUS across the ECE region and for institution of policy mechanisms and regulatory frameworks to advance the economic viability of CCUS projects. Both public and private sector actors need to ensure early readiness for CCUS projects before full commercialisation of CCUS technologies can be achieved.

25. The Group of Experts reiterated its view that continued financing of low carbon technologies is crucial to modernise the energy system and to meet the 2030 Agenda. In addition, the Group of Experts requested the Task Force to continue with its multistakeholder dialogue and development of financial guidelines for the modernization of the power and energy intensive industries.

# VIII. Sub-regional workshop on attaining carbon neutrality (agenda item 6)

*Documentation:* ECE/ENERGY/GE.5/2020/4 – Interplay of technologies including between flexible clean coal, natural gas and renewable energy

ECE/ENERGY/GE.5/2020/8 – Framework for attaining carbon neutrality in the ECE region by 2050

26. An interactive workshop with a focus on Eastern Europe and Central Asia allowed an exchange with the modelling team and experts to improve understanding of the role of CCUS technologies and nuclear energy to attain carbon neutrality in these regions and to advance the modelling architecture that will be used in the implementation of the Carbon Neutrality project. The dialogue provided needed insights to strengthen assumptions and cost curves featured in the model.

27. A number of presentations were delivered by [to be updated]

28. The Group of Experts requested the Task Force to explore the potential for carbon storage in the Eastern part of the ECE region, namely the Caucasus, Central Asia, Russian Federation and Eastern and Southeast Europe.

29. The Group of Experts requested the Task Force to conduct workshops with a sub-regional focus to improve understanding on similarities and differences across sub-regions.

# IX. Activities and priorities of the United Nations Economic Commission for Europe and its Committee on Sustainable Energy (agenda item 7)

30. The Group of Experts agreed to continue its activities on: (a) attaining carbon neutrality in the ECE region across the power and energy intensive industries by 2050; (b) dialogue on financial guidelines for the modernisation of the power and energy intensive industries; and (c) promoting the concept of "just" transition in collaboration with the Group of Experts on Coal Mine Methane.

31. The Group of Experts agreed to collaborate with the other Groups of Experts on appraisal of opportunities for digital technology to enhance system efficiency and accelerate attainment of country commitments.

# X. Preparations for the seventeenth session of the Group of Experts (agenda item 8)

32. The Group of Experts recommended the following topics for the substantive portion of its seventeeth session: [to be added during the meeting].

33. The seventeenth session of the Group of Experts will be held on 7-8 October 2021 in Geneva, immediately after the eighth session of the Group of Experts on Renewable Energy (5-6 October 2021).

## XI. Any other business (agenda item 9)

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## XII. Adoption of conclusions and recommendations (agenda item 10)

*Documentation:* CEP-15/2019/INF.1 - Unofficial room document: Draft Conclusions and Recommendations arising from the Group of Experts on Cleaner Electricity Systems, dated 18 October 2019

35. The adopted conclusions and recommendations are included in this report.

## XIII. Adoption of the report and close of the meeting (agenda item 11)

*Documentation:* ECE/ENERGY/GE.5/2020/2 – Report of the Group of Experts on Cleaner Electricity Systems on its sixteenth session.

36. The report of the meeting was adopted, subject to any necessary editing and formatting.