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Economic Commission for Europe**Committee on Sustainable Energy****Group of Experts on Cleaner Electricity Systems****Fifteenth session**

Geneva, 5-6 November 2019

Report of the Group of Experts on Cleaner Electricity Systems on its fifteenth session**I. Introduction**

1. The fifteenth session of the Group of Experts on Cleaner Electricity Systems (the Group of Experts) was held on 5-6 November 2019 in Geneva. This report summarizes the discussions and decisions of the Group of Experts at this occasion. All the documents and presentations are available on the United Nations Economic Commission for Europe (ECE) website¹.

II. Attendance

2. The meeting was attended by some fifty experts from the following ECE member States: Azerbaijan, Czech Republic, Kazakhstan, Latvia, Romania, Russian Federation, Ukraine, United Kingdom, and United States. A representative of the European Union also participated.

3. Representatives of the following non-governmental organizations participated: Assocarboni General Association of Coal Operators, inventum, Scientific and Technical Mining Association, Association of Donbass Mining Towns, Global Energy Interconnection Development and Cooperation Organization (GEIDCO), IEA Clean Coal Centre, International Ecoenergy Academy, and the Methane Center.

4. 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.5/2019/1

¹ Official documents of the session are available at <http://documents.un.org/>. Unofficial room documents and presentations are available here: <https://www.unece.org/index.php?id=51084>.



5. The Chair of the Group of Experts, Mr. Barry Worthington, opened the meeting and presented the provisional agenda, which was adopted without change.

IV. Opening remarks (agenda item 2)

6. Opening remarks presented the status of cleaner electricity systems in the ECE region and the role of electricity in achieving the 2030 Agenda on Sustainable Development (the 2030 Agenda). Electricity lies at the heart of opportunities, solutions and threats for the energy system. Reference was made to the importance of cleaner fossil fuels in a carbon-neutral society, power market design and flexibility to accommodate and enable a growing share of renewable energy, and the importance of financing clean energy projects.

V. Election of officers (agenda item 3)

7. The Group of Experts elected Mr. Barry Worthington (United States) as Chair, and Mr. Vladimir Budinsky (Czech Republic), Mr. Sergey Katyshev (Kazakhstan), Mr. Sergey Shumkov (Russian Federation), Mr. Aleksandar Puljevic (Serbia) and Professor Jon Gibbins (United Kingdom) as Vice-Chairs until the end of the seventeenth session of the Group of Experts.
8. The Chair of the Group of Experts is a Vice-Chairs of the Committee ex officio.

VI. Activities and priorities of the United Nations Economic Commission for Europe and its Committee on Sustainable Energy (agenda item 4)

9. The fifteenth session of the Group of Experts was organised to facilitate in-depth discussions on the development of a strategy to implement activities, set priorities, and position the Group's work. The discussion centred on the accelerated transition of the energy system, pressure to decarbonise electricity, the complexities to phase out and develop approaches to a "just" transition. It was in this context that agenda items 4 and 5 were explored through a blend of presentations, break-out groups and plenary discussions.

10. The secretariat highlighted activities and work of the United Nations Development System and referred to outcomes from the recent United Nations Climate Action Summit, the twenty-eighth session of the Committee on Sustainable Energy (the Committee), the tenth International Forum on Energy for Sustainable Development, and the work of the sustainable energy subprogramme. The key outcomes point to the need to accelerate and deepen shifts towards decarbonisation and sustainable energy, and the importance of electricity in achieving the goals and targets of the 2030 Agenda. Reference was made to the Work Plan of the Group of Experts and the outcomes of the Committee session on 26 September 2019 dedicated to achieving carbon neutrality in the region. The Group of Experts was also briefed on current and planned cross-cutting initiatives, including work on the transition of the energy sector and the results of phase 1 of the project "Pathways to Sustainable Energy", in which the Group of Experts had participated actively during the year to shape outcomes and recommendations for policy makers in the area of its mandate.

11. In its twenty-eighth session, the Committee recognized the importance of balancing carbon emissions from fossil fuels to reach carbon neutrality and requested the Group of Experts to tackle the challenges of delivering on the 2030 Agenda in an integrated way that is pragmatic and rational economically, socially, and environmentally.

12. The Committee further requested the Groups of Experts 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 deploying the ECE recommendations on carbon capture and storage (CCS). The Committee

requested the Groups of Experts to develop a position paper of the ECE on carbon-neutrality, containing policy recommendations on how to achieve carbon neutrality and the future role of fossil fuels including CCS (see the report of the Committee ECE/ENERGY/123 and document ECE/ENERGY/2019/2 on carbon neutrality for reference).

13. Break out groups discussed the role of fossil fuels in sustainable energy, getting to net-zero electricity sector, meeting climate goals and the role of the Group of Experts with a view on the Work Plan for 2020-2021, which had been adopted by the Committee without any changes.

14. Referring to trends on global coal production and the fact that coal currently provides 41% of global electricity and also is an essential raw material for 70% of the world's steel and 90% of cement production, the Group of Experts stressed that cleaner coal will continue to play a role in a future sustainable energy system in the medium term. An enhanced focus on outreach about the impacts of pilot projects, high-efficiency low-emission (HELE) technologies and need for carbon capture use and storage (CCUS) should be the basis for further activities. Recommendations for priority areas include CCUS, negative emission technologies, such as biomass with CCS, smart grids, efficiencies, energy storage, demand side, climate friendly R&D, and "just" transition.

15. The Group of Experts took note of the Committee's focus on decarbonising the electricity sector, the outcomes from the United Nations Climate Action Summit, and trends towards new business models and innovation. In response, the Group of Experts agreed to develop the requested position paper in collaboration with other expert groups and relevant partners. To this end, the Group of Experts seeks volunteers for a Task Force to help the secretariat draft such a position paper to be presented at the Committee's twenty-ninth session.

16. The Group of Experts noted that it has delivered on its 2018-2019 work plan and concluded that its current terms of reference and work plan for 2020-2021 encompass the activities discussed under Agenda Item 4.

VII. Electricity as driver for achieving deep transformation of the energy system (agenda item 5)

17. In addition to the aspects discussed under agenda item 5, the Group of Experts stressed the importance of electricity as a key factor for energy systems transformation. The Group of Experts concluded that a focus on the interplay of technologies, including among flexible clean coal, natural gas and renewables; on coal gasification and liquefaction; on power market design (including enabling distributed generation); and other topics as listed in the Work Plan 2020-21 would be critically important to enhance the overall efficiency of the energy systems of ECE member States.

18. The Group of Experts sees the flagship project "Pathways to Sustainable Energy" as a major vehicle for its future work and looks forward to providing input into future phases of the project. To this end it nominated Mr. Farhad Aliyev as focal point for the "Pathways to Sustainable Energy" project.

VIII. Modernisation and decarbonisation of electric power system (agenda item 6)

19. This agenda item allowed discussion about financing options for fossil fuel infrastructure, the role of technologies, generic guidelines on minimum efficiency and carbon dioxide reduction standards in the ECE region and HELE technologies deployment, digitalization and "just" transition. Interactive panel discussions facilitated by presentations allowed a consultation with the Group of Experts.

20. On financing options, panellists stressed the importance of CCUS projects and their financing, and that the benefits of such CCUS projects for the climate were not publicised

enough. Further remarks were made about the increasing coal use in China, India and South East Asia and the dominance of Chinese private financing for these coal projects.

21. The Group of Experts believes that continued financing of cleaner coal technologies is crucial to modernise the energy system and to meet the 2030 Agenda. It has formed a Task Force to develop guidelines for investments in fossil energy to be presented to the Committee at its twenty-ninth session. It will do so in collaboration with the other groups of experts under the Committee. This has to be seen as the beginning of a longer-term process that could lead to a standard if requested by member States.

22. On technologies, panellists stressed the importance of all technologies in a future energy system and towards decarbonisation. The main goal is to manage net emissions to levels that are consistent with the objectives of the 2030 Agenda and the Paris Climate Agreement through technologies like HELE, CCUS and ultra-supercritical plants. It also considered the exponential growth path of battery energy storage to support the decarbonisation of the electricity system. The Group of Experts also supported activities on modernization of existing thermal power plants to allow increased renewable energy integration by using fossil fuels for balancing.

23. On digitalization, panellists considered the digital needs that smart systems have, in particular to balance grids, same time CO₂ measurements and (global) grid interconnection. The Group of Experts will seek collaboration with the UNECE Group of Experts on Energy Efficiency and their Task Force on Industrial Energy Efficiency for activities in the digital space.

24. On “just” transition, panellists discussed the value of a “just” transition as an integrated approach to sustainable development, which brings together social progress, environmental protection and economic success. Panellists discussed the deep structural shift that is ongoing and the challenges this brings. Fears of job losses, disruptive structural and cultural changes, economic decline, and negative political implications influence the debate.

25. The Group of Experts will strengthen links with the Group of Experts on Coal Mine Methane on the concept of reducing methane emissions from coal mines and oil and gas with the Group of Experts on Gas and would be delighted to collaborate also with the Group of Experts on Renewable Energy on areas of grid integration.

IX. Promote a gender perspective in the work of the Committee on Sustainable Energy and its Groups of Experts (agenda item 7)

26. For technical reasons related to the audio and video equipment the discussion could not take place. The Group of Experts will be presented with the presentation and notes on the development of gender-responsive policy recommendations to ensure gender equality in access to sustainable energy, in participation in decision-making and management of the energy and related sectors, and in opportunities for jobs and career development.

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

27. The sixteenth session of the Group of Experts will be held on 23-24 November 2020, directly preceding the twenty-ninth session of the Committee on Sustainable Energy on 25-27 November 2020, in Geneva.

28. The Group of Experts recommended the topics of the Work Plan for the substantive portion of its sixteenth session, with achieving carbon neutrality as a priority, and address other issues as time allows.

XI. Any other business (agenda item 9)

29. The Group of Experts noted the need to expand its membership from both within and beyond the ECE region to embrace experts from the industries affected by the issues listed in the work plan and to secure additional extrabudgetary resources. Both are prerequisites to be able to deliver on the expanded Work Plan. The Group requested the secretariat to work, in cooperation with the Bureau, to identify new members, as well as potential sources of funding.

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

30. 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.5/2019/2 – Report of the Group of Experts on Cleaner Electricity Systems on its fifteenth session

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