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Economic Commission for Europe

Committee on Sustainable Energy

Group of Experts on Cleaner Electricity Systems

Twentieth session

Geneva, 16-17 September 2024

Item 1 of the provisional agenda

Adoption of the agenda

Annotated provisional agenda for the twentieth session

to be held at the Palais des Nations, Geneva, starting at 10:00 on Monday, 16 September 2024*

I. Provisional agenda

1. Adoption of the agenda.
2. Opening remarks.
3. Election of officers.
4. Implementation of the Work Plan of the Group of Experts on Cleaner Electricity Systems for 2024-2025 and its contribution to the activities and priorities of the Committee on Sustainable Energy.
5. Creating favourable conditions for effective transformation of electricity systems
6. Maintaining future electricity supply reliability in the period of transition of five to ten years
7. Inter-sectoral cooperation on cross-cutting issues.
8. Other business.
9. Dates of the next meeting.
10. Adoption of the report and close of the meeting.

* Delegates attending meetings at the Palais des Nations are requested to register online. Please register at <https://indico.un.org/event/1012019/>. Should you experience difficulties with registering online, please send a message to: cleaner.electricity@un.org. Delegates participating in person are requested to present themselves at least 45 minutes prior to the start time at the Pass and Identification Unit of the United Nations Office at Geneva Security and Safety Section, located at the Pregny Gate, 14, Avenue de la Paix, opposite the International Committee of the Red Cross (ICCR) headquarters (see the map [here](#)) for the issuance of an identification badge. Registration is open every workday at the Pregny Gate from 8.00 a.m. to 4.45 p.m.



II. Annotations to the provisional agenda

1. Adoption of the agenda

Documentation: ECE/ENERGY/GE.5/2024/1 – Annotated provisional agenda

In accordance with the rules of procedure of the United Nations Economic Commission for Europe (ECE), the first item of the provisional agenda is the adoption of the agenda.

Documents for the session will be published on the website as they become available.¹ A detailed timetable will be posted to the website closer to the meeting.

The session of the Group of Experts on Cleaner Electricity Systems (the Group of Experts) will take place in the framework of the Sustainable Energy Week 2024, in conjunction with the eleventh session of the Group of Experts on Energy Efficiency and the eleventh session of the Group of Experts on Renewable Energy, and will be followed by the thirty-third session of the Committee on Sustainable Energy (the Committee).

2. Opening remarks

The Chair will deliver opening remarks that will address activities and priorities of the Committee amongst other topics.

3. Election of officers

The Group of Experts will be invited to elect Bureau members whose term ends at the conclusion of the twentieth session and who stand for re-election, as well as any new nominations to serve until the end of the twenty second session of the Group of Experts in 2026.

During its nineteenth session in 2023, the Group of Experts elected representatives of Tajikistan and the United Kingdom of Great Britain and Northern Ireland as Vice-Chairs and invited representatives from DigiTransfo Expertise and ZSDNP to continue their service on the Bureau as Vice-Chairs until twenty-first session in 2025.

At its eighteenth session in 2022, the Group of Experts elected the representative of the United States of America as its Chair and representatives of the World Nuclear Association, International Centre for Sustainable Carbon, and Électricité de France to serve as Vice-Chairs for two years.

The election of officers will take place simultaneously with that of the Group of Experts on Energy Efficiency and the Group of Experts on Renewable Energy, as detailed in ECE/ENERGY/GE.6/2024/1 and ECE/ENERGY/GE.7/2024/1.

4. Implementation of the Work Plan of the Group of Experts on Cleaner Electricity Systems for 2024-2025 and its contribution to the activities and priorities of the Committee on Sustainable Energy

Documentation: ECE/ENERGY/2023/9 – Work Plan of the Group of Experts on Cleaner Electricity Systems for 2024-2025

ECE/ENERGY/2023/1 - Draft programme of work of the Sustainable energy subprogramme for 2024

ECE/ENERGY/2023/3 - Revised publication plan for 2023 and draft publication plans for 2024 and 2025

¹ See: <https://unece.org/info/Sustainable-Energy/Cleaner-Electricity-Systems/events/390826>

ECE/ENERGY/2023/11 - United Nations Economic Commission for Europe Platform on Resilient Energy Systems Work Plan

ECE/ENERGY/2024/1 - Draft programme of work of the Sustainable energy subprogramme for 2025

According to its Terms of Reference,² the Group of Experts focuses on activities related to (a) regulatory and policy dialogue, (b) sharing of best practices in the field of cleaner electricity production in the ECE region; (c) Carbon Capture Utilization and Storage (CCUS); and (d) advanced technologies for power generation.

The participants will be informed on the status of implementation of the Work Plan of the Group of Experts for 2024-2025 (ECE/ENERGY/2023/9).

The secretariat will provide an overview of recent activities of the Committee following its thirty-second session, 13-15 September 2023, as well as any decisions taken related to the work of the Group of the Experts including by the Executive Committee of ECE.

The Chairs of the three Groups of Experts meeting during the Sustainable Energy Week 2024 in Geneva and the secretariat will inform participants on how their respective Groups of Experts are supporting the Sustainable Energy subprogramme in its work to ensure secure access to affordable, reliable, sustainable and modern energy for all and to reduce greenhouse gas emissions and the carbon footprint of the energy sector in the region.

5. Creating favourable conditions for effective transformation of electricity systems

Documentation: ECE/ENERGY/GE.5/2024/5 – Creating favourable conditions for effective transformation of electricity systems

The Group of Experts will look at the aspects for transitioning to a greater use of electricity in the energy mix and ensuring a resilient network. They include market reforms, accelerated project development, and comprehensive grid planning. It is also crucial to set ambitious renewable energy targets, introduce regulatory incentives, and foster competitive electricity markets. Securing financing through mechanisms such as green bonds, feed-in tariffs, and renewable energy auctions, as well as significant investment in research and development for innovative technologies, is vital for this transition. Engaging stakeholders, sharing best practices, and implementing policies that prioritize the transformation of electricity systems are essential for achieving progress in clean energy.

Delegates are invited to discuss the challenges associated with the transformation of electricity systems and the conditions that influence the effectiveness of these processes. Key areas of focus will include the emissions market, market design, policy, regulation, and financing.

The role of the emissions market is important in this transformation by imposing a carbon price, which could make fossil-fuel electricity more costly and thereby enhance the competitiveness of renewable energy. A well-structured emissions market provides flexibility for electricity producers to reduce emissions in cost-efficient ways and invest in cleaner technologies. Revenue from emission allowances can support renewable energy projects and drive innovation in clean technologies.

The EU's experience with its carbon emissions market highlights the need for a fair, global emissions payment scheme. Addressing discrepancies in carbon pricing is essential to prevent "carbon leakage," where industries might relocate to regions with lower carbon costs, thus damaging competitiveness.

Market design should enable customer choice, create a framework conducive to investment, and guarantee a secure supply. Eurelectric recommends the thorough implementation of existing EU laws and regulations, eliminating barriers, and leveraging market-based solutions to encourage the transition of the power system towards net-zero emissions.

² See: https://unece.org/DAM/commission/EXCOM/Key_documents/Decision_A65.pdf

Government support in this process is crucial, offering financial backing and forward-thinking policies that incorporate feedback from multiple stakeholders, ensuring coordinated policy implementation.

Effective regulation also plays an important role and should be adaptable, responsive, and dynamic to successfully address the challenges of achieving net-zero emissions. This involves balancing coordination between stakeholders, incentivizing appropriate actions, and managing transaction costs. Regulation needs to be viewed as an ongoing process that adapts to evolving contexts.

Securing financing is vital for advancing renewable energy projects, fostering technological innovations, upgrading the grid, and boosting energy efficiency. It is crucial to ensure access to affordable capital, de-risk investments, and provide financial incentives to motivate private sector participation and ensure an equitable transition.

Delegates will also discuss how collaborative stakeholder engagement and the integration of innovative technologies can facilitate achieving the effective transformation of electricity systems.

6. Maintaining future electricity supply reliability in the period of transition of five to ten years

Documentation: ECE/ENERGY/GE.5/2024/4 –Outline for a Roadmap for a Regionally Interconnected Energy System in Central Asia

The Group of Experts will be invited to discuss how to maintain future electricity supply reliability for ensuring that the electric grid consistently delivers power without interruption, supporting daily activities, business operations, and enhancing the overall quality of life. Utilities, regulators, and policymakers need to prioritize reliability and resilience within the electricity system. By analysing varied approaches and examples, key stakeholders can adapt and implement strategies that suit their circumstances to maintain a reliable power supply in the future.

Different energy resources, including renewable energy sources, fossil fuels, and nuclear power, have varying impacts on electricity supply reliability. Renewable sources such as solar, wind, hydro, and geothermal power are sustainable and reduce greenhouse gas emissions. They diversify the energy mix and provide stable power generation but their variability and intermittency can create challenges for grid operators. Conversely, fossil fuel and nuclear power plants offer reliable and dispatchable electricity, critical for meeting baseload demand and ensuring grid stability, though they come with environmental concerns and other risks.

Energy storage technologies and smart grid solutions play an important role in managing the variability of renewable energy sources. Batteries and pumped hydro storage can store surplus energy, balance supply and demand, and enhance grid resilience. These technologies require ongoing advancements and supportive policies for widespread adoption. Additionally, demand-side management can enhance electricity supply reliability by promoting efficient use, reducing peak demand, and integrating distributed energy resources.

Enhancing energy connectivity is also essential for maintaining future electricity supply reliability and can be done by enabling efficient energy exchange, integrating renewable energy resources, enhancing grid flexibility, and supporting emergency response efforts.

Delegates will be invited to discuss how various energy assets contribute to maintaining and improving grid reliability, featuring examples from different countries to highlight effective strategies and solutions.

7. Inter-sectoral cooperation on cross-cutting issues

Documentation: ECE/ENERGY/GE.6/2024/3-ECE/ENERGY/GE.5/2024/3– Impact of Artificial Intelligence on the digital and data transformation in the electricity sector

GEEE-11/2024/INF.2 – The twin transition in non-electricity sector

GECE-20/2024/INF.1-GEEE-11/2024/INF.2-GERE-11/2024/INF.2 – Integration of e-mobility into electricity system, and the impact that it has on the latter’s design and operations.

Increasing resilience of energy systems requires an integrated approach and a multi-stakeholder dialogue. A cross-cutting perspective and action can start in: (a) integrating energy efficiency and renewable energy in distributed power systems; (b) developing infrastructure, ensuring integration with grid, and resource planning for electrification of mobility; and (c) considering the increasingly relevant role of digitalization in energy.

Delegates will be invited to share their views and experiences on how sustainable and resilient cleaner electricity systems can be achieved within each of these three cross-cutting and inter-sectoral cooperation areas:

(a) Integrating energy efficiency and renewable energy in the distributed power systems;

Increasing the share of renewable energy and improving energy efficiency may be achieved through fostering decentralized generation. The future power generation system will include distributed generation sources and smart energy distribution. A future energy system could be decentralized at all levels – regional, state and local – with widely deployed capacities (including reserved capacities) for alternative energy generation and transmission.

Delegates are invited to share country experiences in promoting the integration of energy efficiency and renewable energy in distributed power systems, trying to highlight key bottlenecks, solutions and possible actions towards a resilient energy system.

(b) Electrification of mobility: development of infrastructure, integration with grid, resource planning;

Exploring the impact of e-mobility integration on electric system design and operation is a key development of future and resilient energy systems. Electric mobility is an enabler of the digital and green transformations in the ECE region. Policymakers are increasingly supporting e-mobility adoption and enhancing of electric vehicles expertise through various tools and support mechanisms.

Delegates are invited to discuss possible ways and means to adopt e-mobility policies and instruments in the ECE region.

(c) Digital and data transformation in the energy sector.

Digital solutions enable advances in connectivity, data, and analytics, and can greatly increase overall efficiency of energy system and facilitate achievement of Sustainable Development Goals. Digital innovations offer new ways of addressing challenges in the overall energy delivery process.

As part of the broader discussion on opportunities and benefits of digitalizing energy systems, delegates are invited this year to a discussion on the impact of Artificial Intelligence on the Digital and Data Transformation in the Electricity Sector. The discussion will focus on possible applications of AI in the electricity sector and on benefits and outline challenges and recommendations for consideration by public authorities, private sector actors, and end-users.

8. Other business

At the time the provisional agenda was prepared, there were no issues to be raised under this item. The Group of Experts may discuss any other pertinent issues that arise before or during

the session, and that fall within the scope of the mandate of the Group of Experts. Delegations are encouraged to notify the secretariat and Bureau members in advance of any issue(s) they may wish to raise under this agenda item.

9. Dates of the next meeting

The twenty first session of the Group of Experts on Cleaner Electricity systems is scheduled to take place in Geneva on 29-30 September 2025. The Group of Experts confirmed its proposal from previous sessions that its meetings may take place in venues outside Geneva.

10. Adoption of the report and close of the meeting

Documentation: GECES-20/2024/INF.1 – Draft conclusions and recommendations arising from the twentieth session of the Groups of Experts on Cleaner Electricity Systems

ECE/ENERGY/GE.5/2024/2 – Report of the Group of Experts on Cleaner Electricity Systems on its twentieth session

Draft conclusions and recommendations arising from the twentieth session of the Group of Experts on Cleaner Electricity Systems (GECES-20/2024/INF.1) will be circulated to participants and Geneva Permanent Representations at least ten days before the start of the session. The Group of Experts will be invited to adopt conclusions and recommendations.

The Chair of the Group of Experts, with the assistance of the secretariat, will summarize the agreed conclusions and recommendations and draft a report on the session, including conclusions and recommendations, for discussion by delegates.

The Group of Experts will be invited to adopt its report based on the prepared draft, following which the Chair will close the meeting.
