

ECONOMIC COMMISSION FOR EUROPE

EXECUTIVE COMMITTEE

119th meeting

Geneva, 16 December 2021

Item 4(a)

Informal Document 2021/30

**Meeting with the Chair
of the Committee on Sustainable Energy**

Report by the Chair

Report by the Chair of the Committee on Sustainable Energy

I. Achievements over the past twelve months

1. The theme of the thirtieth session of the Committee on Sustainable Energy (22-24 September 2021) was “Concrete Actions to Attain Energy for Sustainable Development.” The session took place during the same week as the Secretary-General’s High-Level Dialogue on Energy and just over a month before the Conference of Parties in Glasgow (COP26) during which the energy sector was the primary focus. The work of the Committee on Sustainable Energy (the Committee) remains central to member States’ efforts to attain the objectives of the 2030 Agenda for Sustainable Development (2030 Agenda) and the Paris Agreement.

2. The world is not on track to achieve the objectives of the Paris Agreement. Despite the economic slow-down and behavioral shifts imposed by the COVID-19 pandemic, the share of fossil fuels has risen to 82% in the region of the United Nations Economic Commission of Europe (UNECE) of an even greater energy pie with corresponding increases in greenhouse gas emissions.

3. In addition to the climate crisis, countries are concerned with delivering quality of life for their citizens. The COVID-19 pandemic has put in stark relief the dangers of poverty for equitable outcomes and social cohesion and highlighted the potential benefit of collaborative approaches.

4. Delivering on the 2030 Agenda remains an important pre-condition for the world to take serious action on the climate agenda and to buttress resilience in the face of the crises to come. Every country has its own endowment of natural resources and its own cultural, regulatory, and legislative heritage and its own pathway to a future that meets the objectives of the 2030 Agenda and the Paris Agreement.

5. Energy remains the critical sector as it underpins quality of life, is the source of most greenhouse gas emissions, and can be transformed in ways that address our challenges and meet our objectives with integrated solutions.

6. Those realities made the theme for this session of the Committee essential. It is imperative that member States take tangible steps to secure energy for sustainable development.

7. The work of this Committee resonated throughout the High-Level Dialogue on Energy and the preparations for COP26. UNECE distributed a note to member States over the summer that observed that bold action in just three areas has the potential to deliver tangible, near-term outcomes and, longer-term, contribute to the achievement of the 2030 Agenda and the Paris Agreement (i) achieve superior performance in buildings, (ii) address growing concentrations of methane in the atmosphere, and (iii) modernize resource management. The “Commitment Trifecta”^a paper that the Committee considered set forth the case for these actions. The secretariat also prepared and distributed an informal “Push to Pivot”^b document as a companion to the

^a <https://unece.org/sed/documents/2021/08/commitment-trifecta>

^b <https://unece.org/sed/documents/2021/08/push-pivot>

Commitment Trifecta. It set out three longer-term actions to achieve the 2030 Agenda while mitigating climate change: (i) achieve carbon neutrality by 2030, (ii) ensure a just transition to remove social obstacles to real transformative action, and (iii) enable a hydrogen ecosystem. The Committee took note of both documents and called on member States to consider taking action in the six areas indicated in the documents.

8. Member States embarked upon a strategic review of the energy subprogramme building on a draft prepared by the six expert groups, and the results of that strategic review were endorsed at the session. The strategic review (ECE/ENERGY/2021/4) sets forth priorities for the sub-programme going forward.

9. Created in 1947 to ensure coal, gas, and electricity supplies in an east-west post-war context, the UNECE energy subprogramme's work has evolved over the past thirty years. The Committee has delivered, early on in the areas of energy security, subsidies and pricing, coal, and gas, and, more recently, in supporting energy system transitions, reducing the environmental footprint of energy, and managing resources sustainably.

10. Today the Committee is at the heart of the global dialogue led by the United Nations on energy, partnering with stakeholders to enhance reliability, affordability, and sustainability of current and future energy systems. The current objective is to help ensure that energy makes an optimal, enduring contribution to countries' economies, to quality of life, and to responsible environmental stewardship.

11. The concept of resilience is key to the work. It can fall into several categories.

- There is ***physical resilience***: how do we build back better to create reliable, flexible and climate-resilient energy infrastructure that can withstand the more and more damaging extreme weather manifestations? How do we strengthen energy system resilience? How can energy systems deliver in remote locations and environmentally fragile areas of the world?
- There is ***economic resilience***: how do we engineer a timely energy transition that delivers growth and jobs? How do we leverage the power of markets, provide a price for carbon to drive investments to clean energy? Do energy interventions take into account the most vulnerable peoples?
- And there is ***social resilience***: how do we ensure a just energy transition? How can we best support groups and communities heavily affected, especially displaced people and host communities? How can we best phase out harmful subsidies while protecting the energy poor? How do we establish mechanisms to ensure the full participation of the most vulnerable such as displacement-affected people?

12. Specific achievements over the past year to note include:

- (a) Further development and deployment of the United Nations Framework Classification of Resources, its ongoing extension to a United Nations Resource Management System, and its connection with both the Secretary-General's Initiative on Extractive Industries and the G7's activities in the area of critical raw materials.
- (b) Further development and deployment of the high-performance buildings initiative with expansion of the network of international centres of excellence, collaboration with the institutions undertaking research and education in support of UNECE's guidelines, dialogue with industry leaders on development

- of relevant proofs of concept and case studies, and convening thought leaders to initiate discussions about a possible protocol on high performance building.
- (c) Progress on developing a UNECE position on carbon neutrality including notably the work on the possible contributions of hydrogen, carbon capture use and storage, and nuclear power.
 - (d) Approval of best practice guidelines for methane emissions for abandoned mines, deployment of the existing best practice guidance on coal mine methane, and continued activities in methane management across the energy sector.
 - (e) Showcasing UNECE's sustainable energy subprogramme work on climate action during COP26 in Glasgow leading events on carbon neutral housing, UNECE high-performance buildings initiative, decarbonizing energy intensive industries and on climate finance; intervening in the Climate and Clean Air Ministerial meeting to discuss methane management and in the Ministerial Segment of the International Atomic Energy Agency (IAEA) on the role of nuclear and renewables for a carbon-neutral future; participating in a variety of other energy-related meetings such as on universal access to clean energy; and organizing a post-COP26 event in Geneva with the United Kingdom to discuss the role of critical minerals for the transition to a net-zero economy.
 - (f) Renewable Energy "Hard Talks" held in the countries of South East Europe, Eastern Europe, Central Asia, the Caucasus and the Russian Federation. These multi-stakeholder dialogues help countries identify key issues, possible solutions and provide concrete recommendations on what is needed to accelerate investments in renewable energy.
 - (g) Progressive implementation of an Industrial Energy Efficiency Action Plan that promotes the concept of energy productivity and provides a value proposition in the framework of carbon neutrality. The action plan involves research in the industrial energy efficiency domain, contributing to relevant sustainable energy initiatives, capacity building, and offering insights through high-profile events.
 - (h) A study of the gap between the performance objectives set forth in the Framework Guidelines for Energy Efficiency Standards in Buildings and current energy efficiency standards and their implementation in the countries of South-Eastern and Eastern Europe, the Caucasus, Central Asia, and in the Russian Federation has been completed. It was complemented by three in-depth national studies for Armenia, Kyrgyzstan, and the Republic of Moldova. National training seminars on high-performance energy efficiency standards in buildings are being conducted.

II. Major activities planned for 2022 and beyond

Current priorities:

13. ***Sustainable Resource Management.*** Resource production, transformation and use, if properly managed, can ensure beneficial social and environmental outcomes. UNECE is extending the United Nations Framework Classification for Resources (UNFC) to a full-fledged management system for resources (the United Nations Resource Management System (UNRMS)). The objective is to develop, disseminate and deploy them both. The subprogramme has engaged with the Secretary-General's

initiative on extractive industries and is working with partners on supply of critical raw materials. We anticipate continued strong emphasis in this area as UNECE has proposed a robust five-point action plan for sustainable resource management.

14. **Methane Management.** Reducing methane emissions offers significant climate change benefits, especially in the near term, as there is a large economic reduction potential and cost-effective mitigation technologies often are readily available. The subprogramme continues its work on both monitoring and reporting and on remediation in methane emissions from the energy sector. We have asked countries to support a call for an International Decade for Methane Management at the United Nations General Assembly.

15. **Pathways Programme.** The subprogramme has been actively engaged with member States in exploring the alternatives they have in attaining their commitments and objectives under the 2030 Agenda and the Paris Agreement. The “Pathways to sustainable energy programme concept note” provided contextual background to member States for discussions related to: (i) deep dives on UNECE sub-regions, starting with a focus on Central Asia and including assessments of specific opportunities and challenges, testing strategic options, capacity building, and further development of an early warning system and (ii) achieving carbon neutrality by optimal deployment of relevant technology:

- The Committee called on member States and other partners to provide extrabudgetary resources to enable continuation of the Pathways programme, including its second phase with its sub-regional focus, early warning system, and training in the use of its analytical architecture, and the carbon neutrality project with its review of technologies, business models, and additional economic sectors. Noting the connections between the work on the Pathways programme and the support for regional analyses under the Global Tracking Framework to track progress of UNECE member States to the energy-related objectives of the 2030 Agenda and the Paris Agreement, the Committee mandated the secretariat to raise funds to support the regional work of the Global Tracking Framework.
- **Carbon Neutrality** is considered a first step in meeting the climate change challenge. Work in this area is designed to help member States that plan to do so move to carbon neutrality in the energy sector in accordance with their national plans. Analysis indicates that achieving carbon neutrality while ensuring a just transition will require a technologically open strategy. However, UNECE member States recognise that they take different views regarding the use of fossil fuels with carbon capture and storage and the use of nuclear power. There must be much stronger emphasis on energy efficiency and energy productivity.

16. **Renewable Energy.** UNECE’s work on renewable energy involves helping member States accelerate the uptake of renewables. The issues of market design and system-level analyses are critically important.

17. **Gases.** Natural gas is considered by certain UNECE member States as a transition fuel to a low carbon economy. Our experts are working to develop normative instruments to ensure that its role in this transition is in line with the 2030 Agenda and the Paris Agreement. Deeper decarbonisation can proceed through deployment of a hybrid energy system that uses a full spectrum of gases (natural gas, low carbon,

decarbonised and renewable gases including hydrogen) and that closely coordinates the gas and power sectors.

18. **Investment Guidelines** are needed to ensure that investments in resources and infrastructure are aligned with the 2030 Agenda and the Paris Agreement. Experts are working to develop investment guidelines for more accessible, reliable and sustainable energy services to minimize and eliminate or offset entirely the greenhouse gas (GHG) emissions associated with fossil fuel use. These guidelines will be developed in close collaboration with international financial institutions.

19. **High-performance Buildings**. ECE's High-Performance Buildings Initiative aims to: (i) move the dial on buildings' energy performance, GHG emissions and indoor air quality; (ii) improve the global supply chain for the construction business; and (iii) accelerate the uptake of high-performance best practices.

20. **Post-Covid-19 recovery**. The Committee's activities on sustainable and green recovery after the Covid-19 crisis included developing: 1) Guidelines and Best Practices for micro-, small, and medium enterprises (MSMEs) in delivering energy efficient products and in providing renewable energy equipment; and 2) Guidelines and Best Practices for MSMEs to assure resiliency and progress towards a circular economy in sustainable resource management and critical raw material supply chain solutions. This activity is implemented under the United Nations Development Account project "Global Initiative towards post-Covid-19 resurgence of the MSME sector". This year these two sets of Guidelines and Best Practices will be updated. Nationally -customized Guidelines and best practices have been developed for eleven UNECE member States.

Forthcoming activities:

21. Transitions to a carbon-neutral economy, although technology driven, have a strong social component – "**just transition**" – aimed at achieving a greener and fairer society. Coal-based infrastructure in many member States is at the heart of industrial complexes that include mines, power stations, steel, cement and concrete production, other affiliated industries, and urban areas. Substantial industrial and urban ecosystems have developed around the coal facilities and represent an important socio-economic and hence political barrier to diversifying away from coal mining. The Committee requested the groups of experts to submit an overview of challenges and barriers to a just transition in the UNECE region with a focus on coal mining regions and invited member States to provide financial support for extrabudgetary projects on *Just Transition*. The Committee further requested development of principles or standards that address not only the technical, economic, and environmental issues associated with mine closure, but also the socio-economic challenges faced by the surrounding communities and associated industries. The Committee requested organization of a region-wide forum on Just Transition including preparing a draft agenda for review and approval by the Committee.

22. There are important opportunities for and issues in leveraging a **future electricity system for deep transformation** of the energy system from power generation through to end use including widespread expansion into non-traditional end uses for electricity such as transportation, industrial process, and space heating. It is recognised that electricity will be the critical vector driving and shaping energy system transformation. The Committee requested the groups of experts to explore the opportunities and barriers to reforming energy market design towards greater sustainability.

23. Attaining the objectives of the Paris Agreement may not be possible for some countries without deployment of *carbon capture, use, and storage (CCUS)*. The Committee recommended to evaluate the role that CCUS may play in attaining carbon neutrality. The Committee requested the Group of Experts on Cleaner Electricity Systems to consider the impact of CCUS and sustainable hydrogen on embedded carbon in steel, concrete, and other hard-to-abate sectors and to assess business models. The Committee has asked the groups of experts to explore technology interplay among low- and no-carbon technologies, negative carbon technologies, and carbon storage, and other innovative solutions.

24. Gases will play a key role for some member States in achieving carbon neutrality by 2050. Renewable and low-carbon gases, including sustainable *hydrogen*, already are an important energy vector. As member States take different views on the least cost and emissions path to a carbon-neutral society, a “portfolio approach” might be needed. A future decarbonized energy system could be characterized as an optimal combination of “photons, electrons and molecules”, in which variable renewable electricity (photovoltaics and wind) and gas systems interlink progressively. In this model the existing gas infrastructure could accelerate the transition to a carbon-neutral economy through energy system integration. The Committee concluded that it is necessary to agree on terminology and classification of different types of hydrogen to provide a clear taxonomy, foster collaboration and investment flows, and support better understanding of the origin of hydrogen to accelerate its sustainable deployment.

25. The Strategic Review (ECE/ENERGY/2021/4) developed in consultation with member States proposed 16 areas of work for the Committee (including some that are current or forthcoming):

- (a) Measuring and monitoring Sustainable Development Goals (SDGs): closer involvement of the sustainable energy subprogramme in the statistical work of UNECE and the custodian agencies of the Global Tracking Framework;
- (b) Developing standards, protocols, or other normative instruments for high-performance buildings;
- (c) Enhancing a future hydrogen ecosystem by enabling sustainable production, transport, and use of hydrogen, including by scaling up renewable hydrogen, and exploring the possible role of the Committee on Sustainable Energy in developing normative instruments;
- (d) Promoting best practices in methane management and reduction within the UNECE region and beyond including through existing international initiatives;
- (e) Conceiving standards and/or practices for just and inclusive transitions;
- (f) Preparing investment guidelines for more accessible, reliable and sustainable energy services (to be developed in close collaboration with international financial institutions);
- (g) Improving energy efficiency and treating energy efficiency as a priority means of providing access to energy services;
- (h) Assessing energy subsidies and their implications for attainment of the 2030 Agenda and the Paris Agreement;
- (i) Studying how to address efficient use of energy resources, and in this regard the impact of subsidies as well as carbon pricing options;

- (j) Developing UNFC hydropower specifications, and, subject to needs, guidelines;
- (k) Accelerating deployment of variable renewable electricity generation; developing normative instruments for sustainable production, distribution and consumption of gas in the UNECE region in full support of the transition to a low carbon economy and in this context, ensuring that the role of gas in this transition is in line with the 2030 Agenda and the Paris Agreement;
- (l) Assessing energy market/power market design, including grid and interconnections management;
- (m) Mapping and removing barriers to international energy trade;
- (n) Enhancing the effective deployment of digitalization;
- (o) Assessing risks, vulnerabilities, and energy system resilience;
- (p) Assuring energy security.

26. The outcome of this work would be development of normative instruments that are appropriate and necessary for the UNECE region. Once those instruments are in place, whether best practice guidance, standards, regulations, or conventions/protocols, the Committee and its subsidiary bodies could support deployment through capacity-building, dissemination, and training.

III. Any proposed change to the subsidiary structure of the Committee

27. An outcome of the strategic review was agreement amount member States on the 16 distinct areas (above) that should be reflected in future activities pending available resources. The activities fall into four distinct categories:

- (a) Reducing the environment footprint of the energy system,
- (b) Supporting member States in their transitions to a sustainable future,
- (c) Ensuring sustainable management of resources, and
- (d) Assisting member States in exploring alternative approaches to attaining their commitments.

28. The one change to the subsidiary structure of the Committee is a change of name of the Group of Experts on Coal Mine Methane to Group of Experts on Coal Mine Methane and Just Transition.

29. Activities by informal teams of specialists under the expert groups are not considered to be changes to the subsidiary structure of the Committee. These activities would include, for example, the task forces established under the Expert Group on Resource Classification and the work under the high performance buildings initiative that falls under the Group of Experts on Energy Efficiency and its Joint Task Force with the Committee on Urban Development, Housing and Land Management.

IV. Follow-up to the 2021 session of the Economic Commission for Europe

30. The Committee reviewed progress on decisions and recommendations concerning the sustainable energy subprogramme coming from the sixty-ninth session of the Economic Commission for Europe on: (i) methane management; (ii) high-performance buildings; (iii) a global framework for sustainable resource management; and (iv) subsidies and carbon pricing:

Methane management

31. The Committee welcomed the attention given by many member States to mitigate and/or prevent methane emissions from abandoned coal mines and called upon member States to address methane emissions from active coal mines. The Committee invited member States to obtain a better understanding of the amounts of methane being released from active coal mines through improved measurement and reporting methods, more accurate inventories, and participation in the work of the Group of Experts on Coal Mine Methane and international fora fostering exchange of information and experience on these emissions. The Committee endorsed the contribution of the Group of Experts on Coal Mine Methane to the development and dissemination of standards for mine closure.

32. The Committee called on member States to undertake tangible action to mitigate methane emissions and encouraged member States to support a resolution at the United Nations General Assembly on declaring an International Decade for Methane Management.

33. Regarding the Best Practice Guidance for Effective Methane Recovery and Use from Abandoned Coal Mines, the Economic Commission for Europe had called on the Economic and Social Council to take several actions regarding the Best Practice Guidance. At its 12th plenary meeting, on 21 July 2021 (Decision 2021/249), the Economic and Social Council, noting that the Economic Commission for Europe, at its sixty-ninth session, held on 20 and 21 April 2021, endorsed the Best Practice Guidance for Effective Methane Recovery and Use from Abandoned Coal Mines, recommended that the Best Practice Guidance be disseminated widely, invited States Members of the United Nations, international organizations and the regional commissions to consider the possibility of taking appropriate measures to ensure the application of the Best Practice Guidance in countries worldwide, and proposed to the Council that it recommend the application of the Best Practice Guidance in countries worldwide, noting also that this proposal does not have financial implications, and recalling its decision 2011/222 of 25 July 2011, invited States Members of the United Nations, international organizations and the regional commissions to consider the possibility of taking appropriate measures to ensure the application of the Best Practice Guidance in countries worldwide.

High-performance buildings

34. The Committee requested the secretariat to continue developing the network of international centres of excellence on high-performance buildings, to support the global building network of academic institutions working on research and education for the

built environment, to extend the industry leadership group to develop case studies on application of high performance buildings principles, to continue convening the thought leadership group to elaborate the outcomes expected of high-performance buildings.

A global framework for sustainable resource management

35. The Committee encouraged member States to ensure the application of UNFC worldwide and recommended accelerated development of UNRMS. Requested the secretariat to raise funds and mobilise the expert communities needed to advance development of UNRMS. Mention was made at the session of the role of International Centres of Excellence in Sustainable Resource Management to promote collaboration, knowledge-sharing, and capacity-building. The Committee noted the growing interest from Member States, including in Kazakhstan, Russian Federation, Slovenia, United Kingdom, China, and Mexico to establish such centres and requested the secretariat to work to facilitate their institution;

36. The Committee requested the Expert Group on Resource Management to support the application of UNFC and UNRMS to renewable energy in close cooperation with the Group of Experts on Renewable Energy. The Committee further requested the Expert Group on Resource Management, and the Groups of Experts on Gas and on Cleaner Electricity Systems to develop:

- international standards for hydrogen classification and management, including labelling according to its origin and CO₂ footprint,
- a standard for transparency and traceability that compares, among other things, the carbon footprint of all energy sources on a life cycle assessment basis.

37. Regarding the updated United Nations Framework Classification for Resources of 2019, the Economic Commission for Europe had called on the Economic and Social Council to take several actions regarding the updated classification. At its 12th plenary meeting, on 21 July 2021 (Decision 2021/250), the Economic and Social Council, noting that the Economic Commission for Europe, at its sixty-ninth session, held on 20 and 21 April 2021, had endorsed the updated United Nations Framework Classification for Resources of 2019,¹ recommended that the updated Framework Classification be disseminated widely, invited States Members of the United Nations, international organizations and the regional commissions to consider the possibility of taking appropriate measures to ensure the application of the updated Framework Classification in countries worldwide, and proposed to the Council that it recommend the application of the updated Framework Classification worldwide, noting also that this proposal does not have financial implications, and recalling its decisions 1997/226 of 18 July 1997 and 2004/233 of 16 July 2004, invited States Members of the United Nations, international organizations and the regional commissions to consider the possibility of taking appropriate measures to ensure the application of the updated Framework Classification worldwide.

Subsidies and carbon pricing

38. The Committee reiterated the need to continue to explore how best to address efficient use of resources and in this regard the impact of subsidies and carbon pricing options and called on member States to provide extrabudgetary resources to that end.

39. With respect to implementation of the high-level theme “Circular economy and sustainable use of natural resources” (decision E/ECE/1500), the sustainable energy sub-programme is pursuing implementation and deployment of a five-point programme on sustainable resource management, embracing circular economy principles in its high performance buildings initiative, and integrating resource recovery and management in its work on methane, carbon capture, use, and storage, and hydrogen.

V. Intersectoral activities: new activities and/or progress in existing intersectoral activities

40. The energy subprogramme has contributed substantially to UNECE’s nexus activities on sustainable use of natural resources, sustainable and smart cities for all ages, sustainable mobility and smart connectivity, and measuring and monitoring progress towards the SDGs. That work will continue, but we also have cross-cutting areas of opportunity on circular economy and circular carbon economy. The latter brings to bear our work on carbon capture and storage and on hydrogen. In addition, further activities on digitalization, mobility, resilience, the built environment, and water are under discussion.

VI. Technical cooperation activities

41. The Committee was advised of regional advisory services since its last session. The report included information on adjusting regional advisory services, including capacity-building and technical assistance activities in light of the COVID-19 crisis. Field projects under implementation, including those that were developed as a rapid response to the crisis, and ongoing fundraising activities were reported. The Committee welcomed the work done by the secretariat with the use of regional advisory services on exploring the role of women in energy transition and post-COVID-19 socio-economic recovery.

42. The Committee considered the role of women in the energy transition. The secretariat prepared a report “Women entrepreneurship in natural resource management: Challenges and opportunities for the micro-, small, and medium enterprises (MSME) sector in the post-COVID-19 socio-economic recovery” and conducted an online workshop. A report “Energy Transition and Post-Covid-19 Socio-economic Recovery: Role of Women and Impact on Them” is being prepared. Presentations on this topic were delivered at the Committee session and at the sessions of several Groups of Experts, in particular in the Women in Resource Management Working Group. This work will continue over the coming year.

VII. Cooperation with other organizations

43. A review of UNECE collaboration with the United Nations and other partners in delivering on energy for sustainable development was undertaken in 2020. The Committee noted the results of the review, the management response and follow-up actions to be undertaken, including:

- (a) to diversify sources of funding;

- (b) to introduce gender-responsive indicators to measure progress made regarding the gender mainstreaming agenda and to continue to encourage active participation of female subject-matter experts in relevant activities; and
- (c) to plan impact evaluations for recently established International Centres of Excellence at the programme level or through future Technical Cooperation projects of the sustainable energy subprogramme to be submitted to UNECE Executive Committee (EXCOM) by December 2022.

44. About one hundred experts met in Almaty, Kazakhstan, on 1-3 November 2021 to exchange views about the status of energy and water infrastructure in Central Asia to reinforce regional economic cooperation. The discussions led to recommendations for projects that would bring several Central Asian countries together to advance a common agenda on sustainable living. Follow up events together with partners from the UNECE Environment Division, UNESCAP, National Academy of Sciences of Kazakhstan, The International Green Technologies and Investment Centre, The International R&D Centre of Energy Integration, and The Kazakh British Technical University will be held in 2022.
