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Work Plan of the Group of Experts on Energy Efficiency for 2022-2023

I. Introduction

1. The Group of Experts on Energy Efficiency (Group of Experts) is mandated to carry out concrete, results-oriented activities to help significantly improve energy efficiency in the region, thus contributing to climate change mitigation efforts, and strengthen regional cooperation in energy efficiency, with a view to reducing greenhouse gas (GHG) emissions (ECE/EX/2013/L.15).

2. According to its Terms of Reference, the Group of Experts will concentrate on: (a) Regulatory and policy dialogue addressing financial, technical and policy barriers to improve energy efficiency; and (b) Collecting and sharing experience and best practices in the field of energy efficiency in the United Nations Economic Commission for Europe (ECE) region, including on strengthening institutional capacity in energy efficiency to reduce GHG emissions.

3. The Group of Experts requests the Committee on Sustainable Energy to renew its mandate until 31 December 2023, with the possibility of extension.

II. Concrete Activities

4. The Group of Experts argues that significant improvements in energy efficiency would limit growth in or even reduce energy consumption in the ECE region, thus helping improve access to affordable and clean energy for all, reduce greenhouse gas emissions, and reduce the carbon footprint of the energy sector.

5. Achieving a high level of energy efficiency must be fundamental for a broader strategy. Before investing in energy infrastructure, opportunities to improve energy efficiency in production, transmission, distribution, and consumption of energy should be pursued as a priority to the extent that they are operationally, technically, and economically feasible. This provides a rationale for valuing energy efficiency as ‘the first fuel’ and positions it at the core of a sustainable energy system as an energy “source” in its own right.

6. Building on the Work Plan of the Group of Experts for 2020-2021, recommendations from the Group of Experts and its Bureau, and guidance from its parent bodies, the Group of Experts will undertake the activities described below while maintaining its focus on the

transformation of the energy sector and on promoting gender-related activities jointly with the other subsidiary bodies of the Committee on Sustainable Energy. Deliverables that require additional resources will be produced by the Group of Experts if such additional resources are provided, be they regular budget, in-kind, or extrabudgetary.

A. Improving Energy Efficiency in Industry

Description: The Group of Experts, through its Task Force on Industrial Energy Efficiency working with other relevant organizations and academia, enables exchanges of know-how and best practices among relevant experts on improving energy efficiency in the industry sector in the ECE region.

7. By the means of capacity-building activities aiding increased collaboration between policymakers and the industrial sector, the Task Force on Industrial Energy Efficiency acts with a view to enhance involvement of industry in achieving more sustainable and energy-efficient production, logistics and consumption.

8. The Task Force on Industrial Energy Efficiency recognizes the evolving scope, priorities, challenges, and opportunities in advancing industrial energy efficiency. All of its activities and outputs are subject to regular consultations with the Committee on Sustainable Energy, the Group of Experts on Energy Efficiency, partner organizations, donors, and members of the Task Force on Industrial Energy Efficiency. The Task Force on Industrial Energy Efficiency also considers additional activities over the longer-term.

9. This activity is dependent on extrabudgetary resources and/or in-kind contributions.

10. The Task Force on Industrial Energy Efficiency will seek to secure extrabudgetary resources by preparing funding proposals and recruiting partners willing to share their findings and resources to serve as multiplier.

Work to be undertaken:

(a) Assess industrial energy demand, identify and develop approaches to implement best practices in increasing energy efficiency in key industries, and explore policy actions to foster implementation of energy efficiency measures and progress towards carbon neutrality by industry;

(b) Expand membership of the Task Force on Industrial Energy Efficiency with experts representing the ECE member States, relevant organizations, business community, and academia; encourage increased engagement between organizations leading industrial energy efficiency initiatives to promote exchange of information and increase awareness of the existing means of support;

(c) In collaboration with relevant organizations, organize workshops to exchange experience and share information on barriers, drivers, and options for improving energy efficiency and energy productivity in industry;

(d) Promote the concept of energy productivity;

(e) Provide input to relevant extrabudgetary projects;

(f) Support closer cooperation between the subsidiary bodies of the Committee on Sustainable Energy on cross-cutting issues such as systemic efficiency improvements.

Deliverables and Timeline:

(a) Two reports on industrial energy efficiency in line with the Industrial Energy Efficiency Action Plan (ECE/ENERGY/GE.6/2020/3) and activities of the Committee on Sustainable Energy; first drafts for discussion by October 2022, final drafts by October 2023;

(b) Workshops and information sharing sessions on relevant topics of interest; ongoing 2022-2023.

B. Improving Energy Efficiency in Buildings

Description: The work on improving energy efficiency in buildings is carried out by the Joint Task Force on Energy Efficiency Standards in Buildings, hosted by the Group of Experts and coordinated jointly by the Sustainable Energy Division and the Forests, Land and Housing Division. In 2020-2021, the Joint Task Force on Energy Efficiency Standards in Buildings implements its activities in accordance with its Terms of Reference (ECE/ENERGY/2019/8, Annex). At its 69th session (20-21 April 2021), the Commission requested its sectoral committees on Sustainable Energy and on Urban Development, Housing and Land Management to undertake dissemination, education and research, consultation, and engagement among stakeholders on high-performance buildings and to support member States further developing and deploying normative instruments to improve energy efficiency in buildings (E/ECE/1500). The Terms of Reference guiding the Joint Task Force on Energy Efficiency Standards in Buildings are contained in the Annex to the present document.

11. The ECE High-Performance Buildings Initiative aims to deploy the Framework Guidelines on Energy Efficiency Standards in Buildings (ECE/ENERGY/GE.6/2020/4) along with the "Geneva UN Charter on Sustainable Housing" to accelerate the transformation of the world's building stock and thereby reduce the carbon footprint of buildings and improve health and quality of life. The initiative comprises three pillars: (1) International centres of excellence provide implementation-oriented education and assistance to building developers, contractors, architects, and engineers, as well as regulatory and planning officials; (2) The Global Building Network undertakes research and advanced education in building materials, design, and construction for current and next generation architects, engineers, policy makers and other stakeholders; (3) Case studies illustrate the application of the Framework Guidelines on Energy Efficiency Standards in Buildings in countries around the world to demonstrate their validity in different climates, stages of development, and regulatory, legislative, and physical infrastructure. The work undertaken to raise the performance of buildings and the built environment will support the development of normative instruments such as minimum performance standards and provide more clarity on the quantified outcomes in terms of energy and carbon performance, indoor air quality and health, and affordability, social equity, and resilience.

12. This activity is dependent on extrabudgetary resources and/or in-kind contributions.

Work to be undertaken:

(a) Conduct workshops and seminars on the application of the Framework Guidelines on Energy Efficiency Standards in Buildings in collaboration with partners;

(b) Contribute to sustainable energy activities and initiatives, participate in development of project proposals, and provide guidance, as appropriate, within the scope of its expertise and in line with its Terms of Reference.

Deliverables and Timeline:

(a) A set of workshops and train-the-trainer seminars on high performance energy efficiency standards in buildings in line with the Framework Guidelines on Energy Efficiency Standards in Buildings, ongoing in 2022-2023 (pending extrabudgetary resources);

(b) Contribution, within the scope of expertise, to activities of the Group of Experts and the Committee on Sustainable Energy and its subsidiary bodies; ongoing in 2022-2023;

(c) Additional centres of excellence on High-Performance Buildings supporting deployment of the Framework Guidelines on Energy Efficiency Standards in Buildings, undertaking research, and providing implementation-oriented advanced education and assistance; ongoing in 2022-2023 (pending engagement of additional centres of excellence).

C. Digitalization in Energy

Description: New and emerging digital technologies-based solutions enable advances in connectivity, data, and analytics, bring potential to accelerate achievement of Sustainable

Development Goals including Goal 7, and can greatly increase overall efficiency of the energy system. Digital innovations offer new ways of looking at the existing energy efficiency challenges and finding exceptional ways to address them.

13. The newly established Task Force on Digitalization in Energy is mandated to explore the role of digitalization to improve the efficiency of the overall energy system and ensure progress toward its continuous improvement, with the aim to provide a clear and balanced view on the matter to policymakers and stakeholders. The goal is to develop evidence-based policy recommendations and guidelines on digitalization to achieve higher levels of efficiency in the energy system while ensuring its security and sustainability.

14. To ensure a more comprehensive assessment of opportunities and challenges that digitalization presents to the energy system, the Task Force on Digitalization in Energy calls on the subsidiary bodies of the Committee on Sustainable Energy to join efforts and to implement the following activities.

15. All mentioned activities and outputs are subject to regular consultations with the Committee on Sustainable Energy, the Group of Experts and other subsidiary bodies of the Committee on Sustainable Energy, partner organizations, and donors, might be subject to adaptations.

16. This activity is dependent on extrabudgetary resources and/or in-kind contributions.

Work to be undertaken:

(a) Further expand membership to include energy industry experts representing i.a. other subsidiary bodies of the Committee on Sustainable Energy and maintain a list of digital solutions and improvement opportunities relevant to the work of the subsidiary bodies of the Committee on Sustainable Energy;

(b) Further explore digitalization opportunities and challenges and develop at least two reports covering different topics on energy digitalization in line with the activities of the other subsidiary bodies of the Committee on Sustainable Energy;

(c) Develop a compendium of successful case studies that have significant potential of replication;

(d) Organize workshops and information sharing sessions on relevant topics of interest, with the aim to bridge the gap between academic research, industrial innovations, and policy needs;

(e) Organize a roundtable for policymakers from ECE member States engaged on energy digitalization agenda, to share activities of the Task Force on Digitalization in Energy, brainstorm on stakeholder complexities as well as implementation challenges, and shape the future activities of the Task Force on Digitalization in Energy;

(f) Contribute, within the scope of its expertise, to sustainable energy activities and projects overseen by the Committee on Sustainable Energy. Pending available resources, disseminate results through regional workshops, policy recommendations and viable business models for ECE member States;

(g) Seek opportunities for joint activities with other relevant organizations.

Deliverables and Timeline:

(a) Two reports covering different topics on digitalization in energy in line with the activities of the other subsidiary bodies of the Committee on Sustainable Energy; first drafts for discussion by October 2022, final drafts by October 2023;

(b) Compendium of case studies with a standard template of information for each case; by January 2023;

(c) Workshops and information sharing sessions on relevant topics of interest; ongoing in 2022-2023;

(d) Roundtable on energy digitalization policy for policymakers; by March 2022.

D. Regulatory and Policy Dialogue Addressing Barriers to Improve Energy Efficiency

Description: A few legislative, policy, economic, and financial barriers to significantly improve energy efficiency remain. The Group of Experts will continue its regulatory and policy dialogue to address these barriers, while also focusing on activities that can make an important contribution to foster circular and more resource-efficient economies in the ECE region and beyond.

17. In its document ECE/ENERGY/GE.6/2020/5, the Group of Experts outlined possible ways of accelerating the transition to sustainable energy systems in the ECE region from the energy efficiency standpoint (ibid., para. 17) and set forward related policy recommendations (ibid., para. 18).

18. With reference to the above, the Group of Experts will undertake further work to promote energy efficiency "as the first fuel" and assist international efforts to convert this notion into adequate investment in energy efficiency improvements, while maintaining its continuous focus on ensuring gender equality in the energy sector.

Work to be undertaken:

(a) Continue its regulatory and policy dialogue addressing barriers to improve energy efficiency;

(b) Consider solutions towards practical implementation of the policy recommendations outlined in ECE/ENERGY/GE.6/2020/5 and explore other policy actions to overcome the identified challenges;

(c) Continue monitoring and assessing barriers for delivery of energy efficiency improvements in the ECE region, notably in the areas of resource efficiency, energy productivity, energy performance standards, management of energy supply chains, and other that serve advancement of a circular economy and impact favourably on (including, but not limited to) Sustainable Development Goal 7 on Ensuring access to affordable, reliable, sustainable and modern energy for all.

Deliverables and Timeline:

(a) A set of workshops and seminars to enable policy dialogue addressing barriers to improve energy efficiency; ongoing in 2022-2023;

(b) A report on barriers for delivery of energy efficiency improvements in the ECE region, notably in the areas of resource efficiency, energy productivity, energy performance standards, management of energy supply chains, and other; pending extrabudgetary resources; first draft for discussion by the ninth session of the Group of Experts; final draft by the tenth session of the Group of Experts;

(c) A report on the existing mechanisms promoting energy efficiency uptake and more efficient use of energy resources, including through subsidies as well as carbon pricing options, in the ECE region; pending extrabudgetary resources; first draft for discussion by the ninth session of the Group of Experts; final draft by the tenth session of the Group of Experts.

E. Assessing Energy Consumption and Emissions of Electric Vehicles

Description: The electric vehicle (EV) fleet has significantly increased worldwide over the last decade, alongside expansion of charging infrastructure. Coupled with technology advances and supported by favourable regulatory and fiscal measures, the uptake of EV is expected to only accelerate in the future.

19. Powered solely by electric motors, EV have zero tailpipe emissions. Yet, EV virtually emit carbon when being charged, as electricity has its greenhouse gas footprint. Despite most studies use average annual carbon content of the electricity mix to derive well-to-tank emissions from EVs, these may vary over time depending on multiple factors including the source of energy used for electricity production. Depending on accounting methods, the

influence of EV on regional emissions profile may be underestimated if only emissions in transportation are considered. A 'well-to-wheel' approach, considerate of time and location of EVs charging, is therefore thought to be expedient for assessing real environmental benefits of locally carbon-neutral EVs. The achievement of this target, however, is reliant on improved vehicle connectivity, reporting of real-time data of carbon dioxide equivalent content, and decision-making support for more economically rational and environmentally favourable EVs recharging options – all enabled by information and communications technology and digitalization. This also requires knowledge and expertise from both energy (power generation, transmission, and distribution) and automotive industries to ensure net benefit to energy system and its actors.

20. The below deliverables will be produced jointly with the Informal Working Group on Electric Vehicles and the Environment (hosted by the Working Party for Pollution and Energy of the World Forum for harmonization of Vehicle Regulations (WP.29)). All activities and outputs are subject to regular consultations with the Group of Experts and other subsidiary bodies of the Committee on Sustainable Energy, the Informal Working Group on Electric Vehicles and the Environment and its parent bodies, partner organizations, and donors, and might be subject to adaptations.

21. This activity is dependent on extrabudgetary resources and/or in-kind contributions.

Work to be undertaken:

(a) Continue dialogue among vehicle and energy experts to assess energy consumption and emissions of electric vehicles and explore pathways for a balanced integration of electric mobility;

(b) Assess how digital technologies could enable more accurate measurement and reporting of real-time emissions of EV.

Deliverables and Timeline:

(a) A set of workshops and seminars; ongoing in 2022-2023;

(b) A report containing considerations on viable pathways for a balanced integration of electric mobility; pending extrabudgetary resources; first draft by December 2022, final draft by the tenth session of the Group of Experts.

Annex

Terms of Reference for the Joint Task Force on Energy Efficiency Standards in Buildings for 2022–2023

I. Background

1. The Joint Task Force on Energy Efficiency Standards in Buildings (the Joint Task Force) was established by the Committee on Sustainable Energy and the Committee on Urban Development, Housing and Land Management (jointly referred to as the parent bodies) for 2016-2017 with a possibility of extension of its mandate. The mandate was extended for 2018-2019 and for 2020-2021. The mandate of the Joint Task Force is proposed to be extended for the period of 2022-2023 following the request of the Commission at its 69th session (20–21 April 2021), with a possibility of further extension.

II. Reporting

2. The Joint Task Force is hosted by the Group of Experts on Energy Efficiency and reports to the Committee on Sustainable Energy and the Committee on Urban Development, Housing and Land Management.

III. Objective

3. The objective of the Joint Task Force is to enhance the harmonization of the markets for products and technological appliances that increase energy efficiency in buildings of the member States of the United Nations Economic Commission for Europe (ECE). It broadens the exchange of experiences and approaches to increased uptake of energy efficiency measures in buildings among the member States. The Joint Task Force is guided by recommendations and decisions of its parent bodies.

4. The Joint Task Force will facilitate ECE support towards the achievement of the targets set by international initiatives such as the 2030 Agenda for Sustainable Development (2030 Agenda), the Sustainable Energy for All Initiative (SEforAll), and the "Geneva UN Charter on Sustainable Housing". All of these initiatives stress the importance of energy efficiency to ensure energy security, mitigate greenhouse gas emissions and ensure access to affordable, reliable, sustainable and modern energy for all.

IV. Planned activities and outputs

5. To achieve its objectives, the Joint Task Force will undertake the following activities:

(a) Based on the conducted gap analysis, evaluate options for the development, adoption or promotion of energy efficiency standards in buildings;

(b) Prepare guidance materials;

(c) Promote partnerships with other international organizations;

(d) Maintain a network of experts on energy efficiency in buildings;

(e) Develop and organize training programmes;

6. The Joint Task Force will deliver the following outputs:

(a) Assess barriers to adopting and implementing high-performance standards in housing with a focus on financing energy efficiency measures in and maintenance of multi-apartment housing;

(b) Maintain and update an online database of experts on energy efficiency in buildings tailored for the needs of the ECE region;

(c) Organize training seminars in selected ECE member States on energy efficiency standards in buildings;

(d) Further explore the contributions that the built environment can make to the 2030 Agenda for Sustainable Development and the Paris Climate Agreement and consider policies and actions that could assist countries in achieving their objectives and commitments.

7. All the above-mentioned activities and outputs are subject to regular consultations with and between the parent bodies, the Working Party on Regulatory Cooperation and Standardization Policies (WP.6), partner organizations, donors, and members of the Joint Task Force, and might be subject to adaptations.

V. Funding

8. The activities of the Joint Task Force are supported by extrabudgetary resources and in-kind contributions. The listed activities will be implemented depending upon the availability of resources.

VI. Timetable

9. The mandate of the Joint Task Force will cover the period of 2022-2023 with a possibility of extension.

VII. Methods of work

10. The Joint Task Force is expected, subject to availability of resources, to have two to four face-to-face meetings during its mandate. The Joint Task Force will also work via various means of electronic communications. Donors are invited to provide voluntary contributions to support its work.

VIII. Membership

11. The Joint Task Force is open to all ECE member States. Representatives from other Member States and Intergovernmental Organizations are also welcome to participate. Representatives of the private sector and academia and independent technical experts on building standards and state of the art technologies are invited to support the work of the Joint Task Force by providing written contributions and participating in its meetings.

IX. Secretariat support

12. The Joint Task Force will have two Co-Chairs representing its parent bodies. The Committees on Sustainable Energy and on Urban Development, Housing and Land Management will jointly service the Joint Task Force. This will include:

(a) Servicing the Joint Task Force meetings (with interpretation and translation where possible), including the preparation of meeting agendas and reports;

(b) Preparing background documents and studies for the Joint Task Force at its request;

(c) Arranging for financial support for members of the Joint Task Force from ECE member States, so that they can participate in its meetings.

13. Provision of the secretariat support is dependent on the availability of additional resources as described in Section V.