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**Economic Commission for Europe****Committee on Sustainable Energy****Twenty-eighth session**

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Item 5(e) of the provisional agenda

**Sustainable resource management:****Groups of Experts on Energy Efficiency, Renewable Energy and Coal Mine Methane: Mandates and work plans****Work Plan of the Group of Experts on Energy Efficiency for  
2020-2021****I. Introduction**

1. The Group of Experts on Energy Efficiency (Group of Experts) is mandated to carry out concrete, results-oriented activities that in line with the 2030 Agenda for Sustainable Development (2030 Agenda), and in particular Sustainable Development Goal (SDG) 7 on clean and affordable energy, help significantly improve energy efficiency in the region, thus contributing to climate change mitigation efforts and strengthen regional cooperation, 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 2021, with the possibility of extension.

**II. Concrete Activities**

4. Building on the 2018-2019 Work Plan and recommendations from the Group of Experts and its Bureau, the Group of Experts will undertake the following activities. Deliverables that require additional resources for implementation do not fall into the set of core activities to be delivered by the Group of Experts but will be developed if additional resources are provided, be they regular budget, in-kind or extrabudgetary resources. In addition, following the recommendation of the Committee on Sustainable Energy to explore opportunities for closer cooperation among its subsidiary bodies, the Group of Experts will engage in the work on transformation of the energy sector including the "Pathways to Sustainable Energy" flagship project and promoting gender-related activities.

## A. Improving energy efficiency in industry

**Description:** The Group of Experts will enable exchange of know-how and best practices among relevant experts on improving energy efficiency in the industry sector in the region with the goal to establish energy efficiency as a resource in its own right. The work will be undertaken collaboratively with other organizations, such as: Copenhagen Centre on Energy Efficiency (C2E2), Energy Charter Secretariat, European Bank for Reconstruction and Development (EBRD), European Commission, International Energy Agency (IEA), International Partnership for Energy Efficiency Cooperation (IPEEC), Organisation for Economic Co-operation and Development (OECD), United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP), United Nations Framework Convention on Climate Change (UNFCCC), United Nations Industrial Development Organization (UNIDO), the World Bank and International Finance Corporation (IFC), sister United Nations Regional Commissions (UN RCs), academia and other relevant organizations.

5. The Group of Experts expects this activity to enhance the involvement of industry in achieving more sustainable and energy efficient production, logistics and consumption. Additional financing will be required to scale up the activity to greater practical effect. This activity will support the Industry Accelerator of the Global Energy Efficiency Accelerator Platform.

6. The Group of Experts will use its Industrial Energy Efficiency Task Force established in 2018 to support capacity building for energy efficiency improvements in industry, including a network of industrial energy efficiency experts, and to encourage collaboration between policy makers and the industrial sector. This activity will depend on extrabudgetary funding to widen the activity in the entire region and to encourage more collaborative actions in member States.

### **Work to be undertaken:**

(a) Identify the key operational policy priorities in industry for member States and provide platforms for collective action;

(b) Provide an interactive platform for expanding already developed policies and measures in industry across countries in the region based on the best energy efficiency policy practices developed by the Group of Experts;

(c) Identify minimum industrial energy efficiency standards for important individual industry sectors to promote the best policy practices. The emphasis will be on industries with the greatest potential for improving energy efficiency. This activity will depend on the availability of additional resources and/or extrabudgetary funding;

(d) Identify best available techniques for increasing energy efficiency in industry sector in the ECE region and promote exchange of information and data between Member States. This activity will depend on the availability of additional resources and/or extrabudgetary funding;

(e) Organize information sharing activities (workshops, seminars, roundtables, etc.) for exchange of experience on energy efficiency best practices, measures, and policies in industry;

(f) Identify barriers and options for developing delivery of energy efficiency by utilities (including energy performance contracting) and related approaches in the ECE region.

### **Deliverables:**

(a) An industrial energy efficiency action plan drawing on all of the work items listed previously;

(b) An assessment of the roles of ECE and other stakeholder organizations in delivering on the action plan;

**Timeline:**

- (a) Finalization of an industrial energy efficiency action plan based on the completed work activities by December 2020;
- (b) Endorsement of the role of ECE at the 2020 session of the Committee on Sustainable Energy.

**B. Improving energy efficiency in buildings**

**Description:** Buildings are central to meeting the sustainability challenge. The energy performance of buildings must be managed, and the capability to meet the challenge exists today. High-performance buildings are key to achieving the 2030 Agenda. They help deliver on many of the SDGs including:

- (a) SDGs 9, 11, 12: promoting sustainable urban development by recognizing buildings as complex systems embedded in community, city, and country-level energy networks;
- (b) SDGs 1, 7: tackling poverty by making energy more affordable;
- (c) SDGs 7, 9: accelerating the sustainable energy transition by improving the efficiency with which buildings' energy services are provided; and
- (d) SDG 13: supporting climate action by reducing the energy requirements of buildings to a point at which residual needs can be met by no or low-carbon energy sources.

7. ECE has launched a programme on high-performance buildings to deploy its Framework Guidelines for Energy Efficiency Standards in Buildings (the Framework Guidelines) and its Geneva UN Charter on Sustainable Housing with the aim of accelerating the transformation of the world's building stock. Full deployment of the initiative will require substantial additional resources. Over the coming years the High-Performance Buildings Initiative aims to achieve the following objectives:

- (a) Moving the dial on building energy performance: grow the number of localities with building codes aligned with Framework Guidelines; ensure new buildings are certified compliant; ensure the new building "fleet" has the best energy performance levels and significantly increase the performance of existing buildings;
- (b) Advancing on GHG emissions and indoor air quality: reduce CO<sub>2</sub> emissions associated with meeting buildings' energy service needs; increase the amount of carbon "stored" in buildings; improve indoor air quality and reduce pollution-linked health issues;
- (c) Improving the global supply chain for the construction business: enhance "carbon storage" by increasing embedded carbon in buildings, recycle building materials and building products and by reducing waste;
- (d) Extending the network: recruit new international centres of excellence and academic institutions (centres) to accelerate uptake of high-performance best practices.

8. Knowledge transfer based on a multilateral train-the-trainer approach can help to accelerate the dissemination of good practices throughout the ECE region and thereby to help improve the quality of new buildings and renovations. In seminars and accompanying materials offered and adopted to the needs of member States with assistance from international experts and integrating local partners, ECE could contribute to disseminate the needed skills (building design and physics, building envelope, heating/ventilation/air conditioning, power generation, automation and controls, integrated planning and cost-effectiveness).

9. This work will be undertaken jointly with the ECE Committee on Urban Development, Housing and Land Management (previously the Committee on Housing and Land Management) under the auspices of the Joint Task Force on Energy Efficiency Standards in Buildings of the ECE Region for 2020-2021 (see Annex). The activities will engage other organizations, such as the North American Passive House Network, the Passive

House Institute (PHI), the Buildings Performance Institute Europe (BPIE), ICP Europe, the European Committee for Standardization (CEN), the European Committee for Electrotechnical Standardization (CENELEC), International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), and other key stakeholders. ECE's role is particularly valuable in promoting the multiple benefits of building efficiency measures, matchmaking policy to sub-region/country situation, encouraging data collection and evaluation, promoting relevant tools, and highlighting best practices. This activity will support the Buildings Efficiency Accelerator of the Global Energy Efficiency Accelerator Platform. This activity is dependent on extrabudgetary funding.

**Work to be undertaken:**

- (a) Review and update the Framework Guidelines as needed;
- (b) Conduct workshops and seminars on application of the Framework Guidelines in collaboration with partners;
- (c) Integrate the communities and work of the International Centres of Excellence on High-Performance Buildings and the Geneva UN Charter Centres.

**Deliverables:**

- (a) Improved Framework Guidelines, if necessary;
- (b) A set of workshops and train-the-trainer seminars on high performance energy efficiency standards in buildings in line with Framework Guidelines.

**Timeline:**

- (a) Final draft of updated Framework Guidelines by June 2020;
- (b) Workshops and seminars – ongoing in 2020–2021 (pending extrabudgetary resources);
- (c) Additional centres supporting the Framework Guidelines – ongoing in 2020–2021 (pending engagement of additional centres).

### **C. Regulatory and policy dialogue addressing barriers to improve energy efficiency**

10. **Description:** A number of legislative, policy, economic, and financial barriers remain to improve significantly energy efficiency. Naming energy efficiency as “the first fuel” has not yet been converted into adequate investment that would make possible achieving target 7.3 of SDG 7 – by 2030, double the global rate of improvement in energy efficiency. The results of the survey on overcoming barriers to investing in energy efficiency show that self-financing and direct financing from public budgets remain the main sources in most countries of the ECE region. However new opportunities for financing continue to be developed. Local commercial banks in many countries are providing financing through credit lines offered by international financial institutions and/or national central bank funds targeted at sustainable energy. Bond financing of energy efficiency is an emerging opportunity for energy efficiency. National energy efficiency funds, particularly those set as a revolving fund, is another option.

11. Energy service companies (ESCOs) are becoming an important, and in some countries leading, source of financing. There is a need for an increased effort to consider energy market policies that mandate, enable and motivate utilities and ESCOs to profit from improved retail and distribution policies and practices. The role of digitalization and increased use of big data and geo-spatial data in provision of energy services and improving energy efficiency will be explored. The analysis will provide guidance to member States through successful case studies and comparison of different roles for utilities and ESCOs in delivering energy efficiency improvements to their clients.

12. Women continue to be underrepresented in the energy (efficiency) industry (construction, supply, etc.), particularly at the highest levels of decision-making. At the same

time, energy efficiency is at the forefront of energy access and affordability and quality of life generally, and thus affects women in a number of ways. Equitable and meaningful participation of both genders in decision-making and having access to financing of energy efficiency projects and measures will help in addressing existing barriers. The Group of Experts will explore the role of energy efficiency in attaining SDG 5: Achieve gender equality and empower all women and girls.

13. The Group of Experts will continue to explore which financing strategies work best, how governments can improve their bankability and scope to expand private financing of energy efficiency, and which policies and legislation have been proven to deliver results, with due consideration given to the gender aspect. This work will be conducted in cooperation with Governments of member States, financial institutions, international organizations, and other stakeholders. This activity will support the Finance Accelerator of the Global Energy Efficiency Accelerator Platform. This activity is dependent on extrabudgetary funding.

14. Further, the Group of Experts has been actively driving the flagship project “Pathways to Sustainable Energy”, which allows the Committee on Sustainable Energy to explore alternative pathways that countries might consider achieving their national targets while contributing to global and regional objectives. The role of energy efficiency in sustainable energy and the opportunities deriving from related measures to help countries close gaps will continue to play a vital role in future phases of this project. This activity is dependent on extrabudgetary funding.

**Work to be undertaken:**

(a) Identify policies and legislation that increase the bankability of energy efficiency, including exploring alternative approaches to energy performance contracting;

(b) Prepare a report on barriers, options, and best practices for developing utility or ESCO delivery of energy efficiency improvements in the ECE region under existing regulatory approaches;

(c) Explore the role of digitalization and increased use of big data and geo-spatial data in provision of energy services energy efficiency policies;

(d) Explore energy efficiency policies with a gender perspective and determine to what extent gender concerns are addressed when policy and long-term decisions are made;

(e) Explore the effects of energy efficiency policies vis-à-vis new energy supply generation to identify the viability and the breaking point of energy efficiency as “the first fuel”;

(f) Continue to drive inputs and policy recommendations for the project *Pathways to Sustainable Energy*, in particular phases related to the role of various technologies in sustainable energy and their subregional application. Pending available resources, disseminate the results from the *Pathways to Sustainable Energy* project through regional workshops, policy recommendations and viable business models for ECE member States.

**Deliverables:**

(a) A report on barriers, options, and best practices for energy efficiency improvements in the ECE region;

(b) A report on gender equality in energy efficiency (pending extrabudgetary resources);

(c) A report on viable energy efficiency policies to reach “Pathways to Sustainable Energy” scenarios (pending extrabudgetary resources).

**Timeline:**

(a) First draft of the reports for discussion – October 2020;

(b) Final reports – October 2021.

## D. Energy consumption and emissions of Electric Vehicles

15. **Description:** Advanced Electric Vehicles (EV) represent a promising opportunity to reduce overall energy consumption. EVs are able to have an effect on combating climate change, especially if the usage of EV is combined with renewable energy supply. The expected rapid growth in EV usage in the future is in part because of increasingly stringent regional CO<sub>2</sub> regulations. However, the development of EVs can also lead to displaced emissions from the vehicle to electricity grids. Depending on the GHG accounting methods, the influences of EVs on a region's emissions profile may be underestimated if only emissions in transportation are considered. A standardized method for calculating and stating Well to Wheel (WTW) energy consumption and the associated GHG emissions for EVs is recommended for consideration. Such a method could consider the upstream emissions of vehicle energy, which requires knowledge from both vehicle and energy industries. It is therefore proposed to undertake this work jointly with the Electric Vehicles and the Environment Informal Working Group (EVE IWG). The GEEE mandate focuses on the energy performance issues on affected technologies and the EVE IWG mandate focuses on vehicle level performance. The two groups could explore jointly the possibilities of increasing the energy efficiency (lower consumption), vehicle efficiency and reducing GHG emissions through informative solutions to the EV owners, for example through a joint task force. This activity is dependent on extra-budgetary funding.

### **Work to be undertaken:**

- (a) Form a joint task force to develop the procedures for energy consumption and emissions that could be applied by EV manufacturers, either voluntarily or legally binding;
- (b) Organize a set of activities to bring together vehicle and energy experts to streamline the development of energy consumption and emissions of EVs.

### **Deliverables:**

- (a) Terms of Reference for a Joint Task Force on Energy Consumption and Emissions of EV;
- (b) Method for monitoring and information of energy consumption and emissions of EV.

**Timeline:** 2020 -2021

## Annex

# Terms of Reference for the Joint Task Force on Energy Efficiency Standards in Buildings of the ECE Region for 2020-2021

## I. Background

1. The Joint Task Force on Energy Efficiency Standards in Buildings (Joint Task Force) was established by the Committees on Sustainable Energy and on Urban Development, Housing and Land Management (previously the Committee on Housing and Land Management) with the participation of the Working Party 6 on Regulatory Cooperation and Standardization Policies (WP 6) for 2016-2017 with a possibility of extension. Its mandate was extended for 2018-2019. The mandate of the Joint Task Force is proposed to be extended for the period of 2020-2021 with a possibility of extension.

## II. Reporting

2. The Joint Task Force will report to its parent bodies, the Committees on Sustainable Energy and 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 ECE member States. 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 SDG 7, 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 GHG 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) Prepare gap analysis based on previously conducted mapping of energy efficiency standards and technologies in buildings;
- (b) Evaluate options for the development, adoption or promotion of energy efficiency standards in buildings;
- (c) Prepare guidance materials;
- (d) Promote partnerships with other international organizations;
- (e) Establish a network of experts on energy efficiency in buildings;
- (f) Develop and organize training programmes;

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

- (a) A gap analysis addressing 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) Maintaining and updating an online database of experts on energy efficiency in buildings tailored for the needs of the ECE region;

(c) Organizing national training seminars in selected ECE member States on high-performance energy efficiency standards in buildings;

(d) A roadmap for future ECE activities on standards.

7. All the above-mentioned activities and outputs are subject to regular consultations with and between the parent bodies, the 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 extra-budgetary funds and in-kind contributions. The listed activities will be implemented depending upon the availability of funds.

## **VI. Timetable**

9. The mandate of the Joint Task Force will cover the period of 2020-2021 with a possibility of extension.

## **VII. Methods of work**

10. The Joint Task Force is expected, subject to availability of funds, 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 UN member States and Intergovernmental Organizations are also welcome to participate. It comprises experts from the Committee on Sustainable Energy, the Committee on Urban Development, Housing and Land Management, and WP 6, other ECE bodies, international organizations, such as the International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), the International Partnership for Energy Efficiency Cooperation (IPEEC), the Copenhagen Centre on Energy Efficiency (C2E2), the Consortium for Energy Efficiency (CEE), the Pacific Northwest National Laboratory, the National Renewable Energy Laboratory (NREL), the Buildings Performance Institute Europe (BPIE), the Global Buildings Performance Network (GBPN), the North American Passive House Network, the Passive House Institute (PHI), and other relevant experts, to ensure a cross-sectoral approach to addressing energy efficiency standards and building codes. Independent technical experts on building standards and state of the art technologies are invited to support the work of the 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.