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Task Force on Industrial Energy Efficiency

Draft Industrial Energy Efficiency Action Plan, and assessment of the role of the United Nations Economic Commission for Europe in delivering on it

Note by the secretariat

Summary

The Group of Experts on Energy Efficiency, through its Task Force on Industrial Energy Efficiency in the United Nations Economic Commission for Europe Region established in 2018 with the mandate for 2019–2020, is expected to enhance involvement of industry in achieving more sustainable and energy-efficient production, logistics and consumption, to encourage collaboration between policymakers and the industrial sector, and to enable exchange of know-how and best practices among relevant experts.

The Task Force on Industrial Energy Efficiency is a platform that addresses complications associated with the existing communication gaps; asymmetry in the distribution of information, and; means to address the above to accelerate practical implementation of industry-led energy efficiency measures based on a business case approach.

The Work Plan of the Group of Experts on Energy Efficiency for 2020–2021 (ECE/ENERGY/2019/8) mandates the Task Force on Industrial Energy Efficiency to: (a) develop an industrial energy efficiency action plan, and; (b) assess the role of the United Nations Economic Commission for Europe in delivering on this action plan.

This document, prepared by the Co-Chairs of the Task Force on Industrial Energy Efficiency in collaboration with the Chair of the Group of Experts on Energy Efficiency and with the support of the secretariat, presents the draft Industrial Energy Efficiency Action Plan and assessment of the role of the United Nations Economic Commission for Europe in delivering on it. The document also includes a proposal to extend the mandate of the Task Force on Industrial Energy Efficiency for 2021–2022, with the possibility of extension, to implement the activities mentioned thereof.



I. Background information

1. The industrial sector is responsible for about one-third of the global total final energy consumption and carbon dioxide equivalent emissions nowadays. In spite of the current drastic impact on economies by the COVID-19 pandemic, it is likely that this sector will continue to grow over the coming decades.
2. Economically viable energy efficiency actions, based on the existing technology solutions, have the potential to already deliver up to 30 per cent of energy consumption reductions globally across the industry sector. This potential then increases up to 60 per cent when taking into account future technological innovation. In addition, when considering specifically growing economies, use of the existing energy efficiency solutions could achieve universal provision of access to modern energy services with 50-80 per cent less energy.
3. Even though much is being done to draw attention of industry to such cost-effective potentials, actual implementation of the available energy efficiency measures remains sporadic and slow. A key reason for this is the recurring problem of communication gaps on understanding energy efficiency and how to most effectively implement it. This problem exists within businesses themselves, between businesses and policymakers, and between numerous supporting organizations providing resources and programmes to businesses. These communication gaps are – more often than not – due to a range of barriers that exist both inside and outside the “control fence” of an enterprise, exemplarily:
 - (a) Key barriers inside the “control fence” include, among others:
 - (i) Focus of top management is on production and volumes, and not on energy efficiency, which lacks integration into daily business practices and decision-making;
 - (ii) Lack of adequate in-house knowledge and skills to assess own performance first and then for identifying, assessing, developing and implementing energy efficiency measures and projects based on a business case approach.
 - (b) Key barriers outside the “control fence” include, among others:
 - (i) Mistrust and/or lack of collaboration between governments and industry in identifying and designing mutually beneficial, effective and feasible supporting policies and programmes;
 - (ii) Limited collaboration between organizations providing supporting programmes to industry, and what is often a weak link to businesses themselves.
4. As a result, energy efficiency today remains a topic that is appreciated but widely misunderstood. Therefore, in most cases it remains treated separately from day to day operations of businesses, and the existing government policies and programmes of supporting organizations have major difficulty in achieving market transformation and critical impact. In effect, energy efficiency is not necessarily perceived as difficult but rather as complicated.
5. Energy efficiency is a means to an end, and not an end in itself. Consequently, energy efficiency should not be considered as a stand-alone solution, and it rather should be seen as a way to help improve the overall performance of operations of businesses.

II. Recap on Industrial Energy Efficiency Task Force

6. The Task Force on Industrial Energy Efficiency in the United Nations Economic Commission for Europe (ECE) region (the Task Force) was established under the Group of Experts on Energy Efficiency (the Group of Experts) with the primary mission to help address the communication gaps that continue to hinder the widespread uptake of energy efficiency within industry. Taking into account the Sustainable Development Goals of the 2030 Agenda for Sustainable Development (the 2030 Agenda), endeavours to achieve carbon neutrality and in an effort to generate values for investors and society, the objectives of the Task Force are to:

(a) Communicate clearly on what industrial energy efficiency really means, how it fits into the overall energy for sustainable development concept and what its non-energy business orientated benefits are;

(b) Help businesses understand and navigate the range of the existing industrial energy efficiency solutions and support structures to be able to make best use of those that can address their specific needs;

(c) Help policymakers both learn of energy efficiency best practices and understand the reality of market constraints for businesses to support the development of transformative policies.

7. The Task Force aims to achieve its objectives by primarily acting as a facilitator and enabler on the topic of industrial energy efficiency in relation to three key types of stakeholders: businesses, policymakers, and organizations providing supporting programmes.

8. The role of the Task Force as a facilitator is to bring these types of stakeholders together in active engagement so that each party can directly learn of the challenges the other parties face in relation to implementing, supporting or legislating industrial energy efficiency, and thereby also collaboratively develop solutions.

9. The Task Force fulfils its second role as an enabler by working to develop a comprehensive overview of the wide range of the existing industrial energy efficiency supports and solutions provided by supporting organizations for businesses. Building upon its facilitator actions, the Task Force can then actively support the upscaled use of these initiatives.

10. As the COVID-19 pandemic threatens to adversely impact the achievement of the 2030 Agenda and the Paris Agreement on Climate Change, it is especially important that the business case for energy efficiency measures is clearly understood and communicated. The experience gained through the Task Force will therefore also be used to support the development of government policies in the ECE member States that respond better to the need for support of the business case for industrial energy efficiency to further increase implementation rates. Innovative industrial policies, and the type of technical cooperation coordination the Task Force supports will be crucial in mitigating the impact of the pandemic on industrial sectors and ensuring inclusive and sustainable economic development in post-COVID-19 times.

11. The Task Force has been actively focused on its role as a facilitator since its inception to support the original objectives. Its key initiatives to date include a range of international events that focused on engaging with the key stakeholder types. The workshops had the main objective to demonstrate the benefits of supporting collaboration between businesses and policymakers to support the development of transformative policies that took into account more effectively the perspective of the energy end-users. However, an additional important outcome of these workshops was identification of the core barriers that businesses faced when trying to translate the common complexities of energy efficiency into standard business investment strategies.

12. As stated in the Work Plan of the Group of Experts for 2020–2021 (ECE/ENERGY/2019/8), over the planned period the Task Force is mandated to work on the following items:

(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.

13. The Task Force's deliverables are as follows:

(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.

14. The draft Industrial Energy Efficiency Action Plan and assessment of the role of the United Nations Economic Commission for Europe in delivering on it are presented in Section III below. The Group of Experts would like to propose extending the mandate of the Task Force for 2021–2022, with possibility of extension, to implement the activities mentioned thereof, with the overall approach and methodology as set out in ECE/ENERGY/2018/10 – ECE/ENERGY/GE.6/2018/3 (para. 8-12). The Terms of Reference for the Task Force for 2021–2022 are set out in the Annex.

III. The Industrial Energy Efficiency Action Plan

15. The activities introduced in the below Industrial Energy Efficiency Action Plan (the Action Plan) serve as a guide to achieve the Task Force priorities laid out in the Work Plan of the Group of Experts for 2020–2021. The purpose of the Action Plan is to outline the general direction for the Task Force with a proposed scope of activities and goals for 2021–2022. The Action Plan also provides an outlook for the medium term beyond this period by applying the following key approaches:

(a) Identify specific partner resources which can be combined through collaboration efforts to improve communication on explaining the business case for industrial energy efficiency;

(b) Work with energy efficiency experts and supporting organizations to develop a platform that will function as facilitator between businesses, policymakers, and energy efficiency initiatives;

(c) Engage with businesses through existing initiatives to support the increased awareness and uptake of the existing industrial energy efficiency solutions and supports.

A. The Task Force Activities

16. The following section describes the activities to be carried out in 2020–2021. The level of output for each phase will be highly dependent on the support of partners, the Group of Experts and in particular on extrabudgetary resources and in-kind contributions. The latter will be required for the everyday operation of the Task Force and its expected outputs over the course of implementation of the Action Plan. The identification and planning of these resources (excluding extra-budgetary resources) will take place during the course of 2020 under the responsibility of the Task Force Co-Chairs, with the support of the Group of Experts.

17. The Task Force facilitation platform:

(a) Research (see para. 12 (a)):

(i) Work with the Group of Experts and partners (e.g., Organisation for Economic Co-operation and Development (OECD), United Nations Industrial Development Organization (UNIDO), International Energy Charter, Climate Group, etc.) to identify the key operational policy priorities in industry for the ECE member States, agree on priority energy efficiency topical areas, including the consideration of policies, technical assistance, training and financing approaches currently applied or relevant for the ECE member States, in addition to understanding the national policy priorities in the area;

(ii) Review potential platform structures best suited to list this information based on existing online solutions;

(iii) This phase will also include specific collaboration with the Institute for Energy Efficiency in Production of the University of Stuttgart, Fraunhofer Institute for Manufacturing Engineering and Automation IPA, and the 'Energy Efficiency Barometer of Industry' network to get a better understanding of the industrial demand side: assess the status quo in terms of awareness, preparedness and ambitions to act in relation to industrial energy efficiency, business realities, barriers and drivers in terms of intended policies;

(iv) Resources: this work will be carried with a strong emphasis on the cooperation of the ECE member States to provide information from their country and the support of the Task Force partners to provide input on industrial energy efficiency best practices and general insights. Data management activities will be supported through the use of available in-kind resources.

(b) Platform development (see para. 12 (b)):

(i) Determine whether the web page related to the ECE work on industrial energy efficiency, or a stand-alone web page including option to use partner web facilities, is best suited to host an initial basic project platform to, i.a., provide results of research and gap analysis from the phase described in para. 17 (a).

(ii) Consider how the development of the platform could potentially be carried out through collaboration with the existing sustainable energy projects, activities and initiatives. On the basis of the outcome of this review, an initial project stage platform will be developed, which will then be expanded upon over the course of the Action Plan (pending availability of additional resources);

(iii) Resources: this work will be carried out with the support of the secretariat and/or the Task Force partners. Data management activities will be supported through the use of available in-kind resources.

18. Barriers and best practice:

(a) Industrial energy efficiency standards (see para. 12 (c)):

(i) In collaboration with the Group of Experts, non-governmental organizations (NGOs), research institutes, information platforms (such as, e.g., the International Energy Agency (IEA) Policies and Measures Database (PAMS), Green Industry Platform, etc.) and international organizations (specifically, UNIDO) identify minimum industrial energy efficiency standards for key industry sectors to implement best practices. The emphasis will be on industry sector with the greatest potential for improving energy efficiency. A focus will be to collaborate with existing initiatives to develop an overview of the outcomes of their experience with implementing industrial energy efficiency in the key sectors;

(ii) A subsequent step would be to integrate outputs into the Task Force platform;

(iii) Resources: this work will depend on the availability of additional resources, including extrabudgetary funding.

(b) Best available techniques (see para. 12 (d)):

(i) Work with the aforementioned partners and the Group of Experts to identify and review the best available techniques and industrial energy efficiency resources

(e.g., training assistance, technical guides, training, etc.) for increasing energy efficiency in industry sector in the ECE region and promote exchange of information between the Member States. A strong focus will be to collaborate with the existing initiatives with experience of supporting industrial energy efficiency implementation to develop an overview of their insights on the best available techniques and industrial energy efficiency resources;

(ii) A Subsequent step would be to integrate outputs into the Task Force platform;

(iii) Resources: this work will depend on the availability of additional resources, including extrabudgetary funding.

(c) Barriers & drivers (see para. 12 (f)):

(i) Work with the aforementioned partners and the Group of Experts to identify barriers and options for developing delivery of energy efficiency via utilities. This phase will ideally build upon the outputs of phases described in para. 18 (a) and (b) to provide the information with which a review of current utility programmes and energy performance contracting models can be carried out and to provide recommendations on how to further support industrial energy efficiency uptake through utility level efforts;

(ii) Depending on the level of resources achieved for the aforementioned phases, this phase would include a comprehensive survey of utilities, the Task Force partners and the ECE member States to provide the basis of the analysis;

(iii) Subsequent step would be to integrate outputs into the Task Force platform;

(iv) Resources: this work will be carried out with the support of the Task Force partners and the Group of Experts, as well as potentially additionally resources, depending on resources made available for phases described in para. 18 (a) and (b). Data management activities will be supported through the use of available in-kind resources.

19. Networking and sharing information:

(a) Outreach (see para. 12 (e)):

(i) Develop collaboration with key outreach partners (e.g., Alliance to Save Energy, Institute for Energy Efficiency in Production of the University of Stuttgart, etc.) to organize (or co-operate in the existing) information sharing events (workshops, seminars, roundtables, etc.) for exchange of experience on energy efficiency best practices, measures, and policies in industry, as well as review of barriers and drivers, and options for developing delivery of energy efficiency;

(ii) Work with the Task Force partners and key stakeholders to disseminate findings to policymakers in the ECE member States (information on best practice policies, barriers, etc.) and to industry (overview of existing resources and best available techniques guidance), using the Task Force platform as a basis. The outputs of this phase will be dependent on resources available for development of the proposed collaborations and activities. Options will range from integration of the activity within the existing events held under the auspices of ECE to the development of completely new events;

(iii) Resources: this work will be carried out with the support of the Task Force partners and the Group of Experts. Development of new events will be dependent on additional resources and/or extrabudgetary funding. Data management activities will be supported through the use of available in-kind resources.

(b) Industrial Energy Efficiency Network:

(i) Building upon the previous activities, in particular described in para. 16 (a) and 18 (b), this activity will focus on developing a regional structure that brings together the key stakeholders, international organizations and NGOs in the ECE member States in the form of a formal Industrial Energy Efficiency Network to share information and experiences between them. Such a network will build on the experience of similar

national initiatives. The regional Industrial Energy Efficiency Network will be based on a format that enables continuous updating of the priorities and focus areas described in the previous activities. Interested stakeholders will also have the option to join a possible expert review group;

(ii) Resources: This work will depend on the availability of additional resources and/or extrabudgetary funding.

20. Leveraging the impact of the Task Force, and extending its activities requires additional in-kind resources and extrabudgetary funding. Therefore, this activity will:

(a) Identify possible donor organizations (such as funding agencies or philanthropic organizations or calls for project proposals suiting the proposed activities);

(b) Include preparation of required funding proposal(-s); and

(c) Aim to identify key partners willing to share findings and resources, respectively to serve as multiplier;

(d) Resources: this work will depend on the availability of additional resources and/or extrabudgetary funding.

B. Medium-term perspective of the Task Force

21. In order to ensure the continuous relevance of the activities described previously, attention needs to be paid to the evolving scope, priorities, challenges and opportunities in advancing industrial energy efficiency. Therefore, the Task Force aims to consider additional activities over the longer-term:

(a) Work to promote the concept of energy productivity and provide the value proposition within the framework of carbon neutrality, to continue to support the business case that reduced consumption of energy and resources will benefit businesses' competitiveness;

(b) Work with the other subsidiary bodies of the Committee on Sustainable Energy, specifically the Group of Experts on Renewable Energy, the Expert Group on Resource Management, and the Group of Experts on Cleaner Electricity Systems to discuss complementary approaches on the path to carbon neutrality of the industry sector;

(c) Work with the UNIDO Industry Working Group to encourage industry taking more practical action on harnessing their energy efficiency and productivity potentials, as well as potential for reducing carbon intensity, irrespective of pending policy implementation; further facilitate identifying the principle range of activities for companies to avail of in achieving the best mix of measures required to optimize companies' energy efficiency, productivity and carbon neutrality strategies.

IV. The role of ECE in delivering on the Action Plan

22. ECE will play an important role in delivering the Action Plan, as it has the particular advantage, through its strong links to its member States, industry initiatives and supporting organizations to be able to provide the required links between the many different stakeholder types. Clear communication bridges especially between industry and policymakers will be a key element to the success of the activities of the Action Plan.

23. Understanding the barriers and drivers to energy efficiency uptake within industry requires access to industry representatives in different countries, which ECE is able to facilitate through its comprehensive connections to its member States and industry initiatives. Engagement with industry is overall important to the action plan activities as it also supports raising awareness amongst companies as to such business benefits of energy efficiency as improved production performance, quality, and competitiveness.

24. Bringing together the international best practice knowledge on industrial energy efficiency will be facilitated in considerable part through the ECE network of supporting

organizations, such as international organizations, NGOs and research institutes engaged in delivering global, regional and national energy efficiency programmes.

25. Through its position as a central link between the many different stakeholders, ECE will be in position to collect and analyse the overall experience gained through the activities of the Task Force. Following this, ECE will provide key recommendations to support the development of government policies in the ECE member States that will be able to increase energy efficiency implementation rates by being more aligned with the business case for energy efficiency.

26. The Task Force will remain guided by recommendations and decisions of the Group of Experts and the Committee on Sustainable Energy and will facilitate the ECE support towards the achievement of the targets set by the 2030 Agenda and the Paris Climate Agreement.

Annex

Terms of Reference for the Task Force on Industrial Energy Efficiency in the United Nations Economic Commission for Europe Region for 2021-2022

I. Background

1. The Task Force on Industrial Energy Efficiency (the Task Force) was established under the Group of Experts on Energy Efficiency (the Group of Experts) by the Committee on Sustainable Energy at its twenty-seventh session on 26-28 September 2018 for the period of 2019-2020. The mandate of the Joint Task Force is proposed to be extended for the period of 2021-2022 with a possibility of extension.

II. Reporting

2. The Task Force will report to its parent body, the Committee on Sustainable Energy, and to the Group of Experts.

III. Objectives

3. The Task Force has the following key objectives:

(a) Provide a platform for industrial energy efficiency experts. This platform will enable experts to come together and develop a unified voice on industrial energy efficiency, which will deliver constructive critique and assessment of existing and planned industrial energy efficiency and related sustainable energy initiatives;

(b) Bring together energy efficiency information resources for companies. Such a resource will help companies navigate the wide and often complex range of national and global industrial energy efficiency and related sustainable energy initiatives (ongoing and planned), and thereby increase their active engagement with specific initiatives in a manner most appropriate to their needs and business models.

4. The overall goal of the Task Force is to bring together experts to assess and harmonize the information produced by key national and international industrial energy efficiency and related sustainable energy initiatives, in order to better assist companies to achieve higher levels of energy efficiency as part of their everyday operations. The idea behind this approach is to reduce the perceived complexity of industrial energy efficiency by companies and help them make best use of existing resources for support and advice on energy efficiency, that in many cases they can be unaware of.

5. The Task Force will focus its attention on consolidating outputs from various initiatives and policies, while also enabling better linkage and collaboration between the different organizations who lead them. An underlining driver of the Task Force is to ensure that the industrial energy efficiency policy development and policy end use aspects are considered together. As a result, a key output of the Task Force, in addition to the objectives detailed above, will be to provide information that can be used to improve industrial energy efficiency policy development processes within individual countries.

6. The Task Force is guided by recommendations and decisions of the Committee on Sustainable Energy and its subsidiary body Group of Experts on Energy Efficiency and will facilitate the support of ECE towards the achievement of the targets set by international agreements, such as the 2030 Agenda for Sustainable Development, in particular Sustainable Development Goal 7 (SDG7) on affordable, reliable, sustainable and modern energy, and the Paris Climate Agreement, as well as the Sustainable Energy for All (SEforALL) Initiative of the Secretary-General of the United Nations. These initiatives stress the importance of energy

efficiency to ensure energy security, mitigate greenhouse gas (GHG) emissions, and ensure access to affordable, reliable, sustainable and modern energy for all.

IV. Planned activities and outputs

7. To achieve its objectives, the Task Force will undertake the following activities:
 - (a) Development of industrial energy efficiency expert platform:
 - (i) Establish a network of industrial energy efficiency experts from ECE member States, relevant organizations (e.g., United Nations International Development Organization (UNIDO), ClimateWorks, International Energy Agency (IEA), We Mean Business, Energy Efficiency Financial Institutions Group (EEFIG), Copenhagen Centre on Energy Efficiency, etc.), business community, and academia;
 - (ii) Actively encourage increased engagement between the organizations leading industrial energy efficiency initiatives to promote improved collaboration between them when communicating to the industry sector.
 - (b) Energy efficiency resources for companies:
 - (i) Through the expert platform bring together energy efficiency resources, in particular information related to industry orientated initiatives, that will provide targeted support and guidance to companies. A focus will be on improving access to existing information rather than developing new resources;
 - (ii) Actively encourage direct engagement between companies and the organizations leading industrial energy efficiency initiatives to increase awareness of existing means of support and guidance specifically targeted at companies.
8. The Task Force will deliver, in particular, the following outputs:
 - (a) An expert platform with a database of experts specialized in industrial energy efficiency;
 - (b) Mapping of industrial energy efficiency resources relevant to companies and an overview of industrial energy efficiency and their associated lead organizations.;
 - (c) A roadmap for future ECE activities on industrial energy efficiency.
9. All the above-mentioned 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 and might be subject to adaptations.

V. Funding

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

VI. Timetable

11. The mandate of the Task Force will cover the period of 2021–2022 with a possibility of extension.

VII. Methods of work

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

VIII. Membership

13. The Task Force will be open to all ECE member States. Other UN Member States are also welcome to participate. The Task Force comprises experts from the Committee on Sustainable Energy, the Group of Experts on Energy Efficiency, other ECE bodies, international organizations (*e.g.*, UNIDO, IEA, EEFIG, *etc.*), non-governmental organizations (NGOs) and business associations (*e.g.*, Carbon Disclosure Project (CDP), World Business Council on Sustainable Development (WBCSD), We Mean Business, ClimateWorks, *etc.*), business community (*e.g.* industry associations, individual companies), and academia (*e.g.*, Fraunhofer Institute, EEP - Institute for Energy Efficiency in Production, University of Geneva, *etc.*). Technical experts on industrial energy efficiency will be in particular invited to support the work of the task force by actively contributing their expertise, collaborating with each other and participating in its meetings and activities.

IX. Secretariat support

14. The Task Force will have the Chair, or Co-Chairs, elected at an annual session of the Group of Experts for the period of two years. The secretariat of the Committee on Sustainable Energy and the Group of Experts will service the Task Force. This will include:

- (a) Servicing the 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 Task Force at its request;
- (c) Arranging for financial support for members of the Task Force from the ECE member States, so that they can participate in its meetings.

15. Provision of the secretariat support is dependent on the availability of additional resources as described in Section V of these Terms of Reference.
