

Committee of Permanent Representatives
Subcommittee Meeting
Thursday, 5 October 2023
10:00 – 13:00 (GMT+3)
Hybrid meeting
Conference Room 2 (in person)
and Microsoft Teams (online)

Agenda item 2: Briefing on the United for Efficiency Country Saving Assessments – Energy-Efficient and Climate Friendly Appliances and Equipment.

This note serves as an information background document for consideration of agenda item 2, whereby the Subcommittee will be provided a presentation on the United for Efficiency Country Saving Assessments – Energy-Efficient and Climate Friendly Appliances and Equipment.

Following the presentation, Member States and stakeholders are invited to engage in an exchange of views with the presenter on the United for Efficiency Country Savings Assessments and the complementary tools and resources available from the programme to assist Governments in transitioning their markets to more energy-efficient lighting, appliances and equipment.

Data for Decision Making: UNEP's Assessment of the Potential Savings from a Transition to More Energy-Efficient Products

Introduction

UNEP's [United for Efficiency](#) (U4E) initiative is a global effort supporting developing countries and emerging economies to move their markets to energy-efficient lighting, appliances and equipment. It was established in 2010 (under the en.lighten initiative) and originally focused on the transition to efficient lighting worldwide. Building on the success of en.lighten, U4E broadened the scope to other high-efficiency product categories in 2014, including commercial, industrial and outdoor lighting, residential and commercial refrigerators, air conditioners, electric motors and distribution transformers.

Lighting



All Lighting

Cooling



Residential Refrigerators



Commercial Refrigeration



Room Air Conditioners

Equipment



Industrial Electric Motors



Distribution Transformers

In 2023, work commenced to extend U4E guidance to include ceiling fans, off-grid refrigeration and heat pumps.

U4E supports countries in the transition to energy-efficient products through published guidance, tools and capacity building in partnership with national governments and regional bodies. It partners with countries and regional associations to support them in the implementation of a proven [integrated policy approach](#).

Through this approach the needs and priorities of key stakeholders – consumers, businesses, civil society and officials– are addressed in each of five key areas:

- Regulations and standards
- Supporting policies, such as labelling and consumer awareness campaigns
- Finance and financial delivery mechanisms
- Monitoring, verification, and enforcement
- Environmentally sound management and health



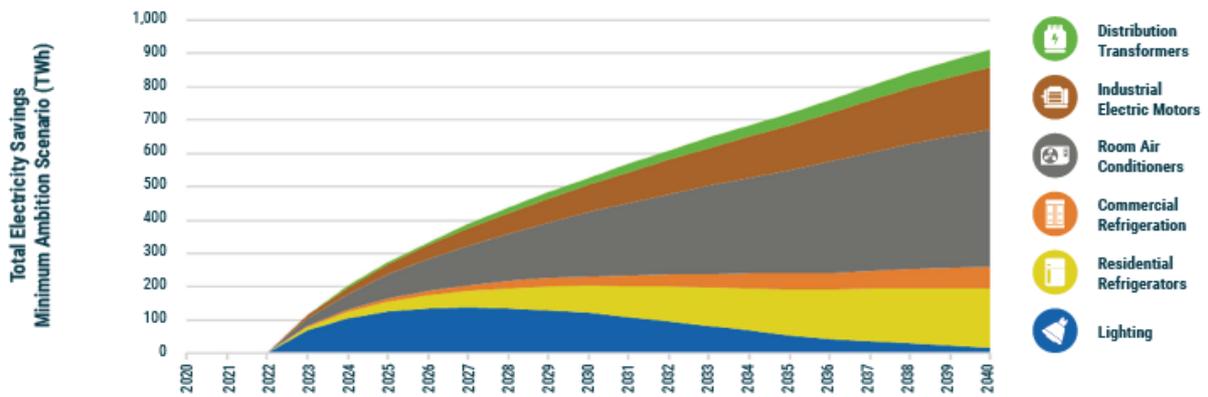
U4E's Country Savings Assessments are at the core of this work. By providing information on the potential financial, environmental, energy savings that are possible by transitioning a market to energy-efficient and climate-friendly products, they allow policymakers to identify priority actions and carry out cost/benefit analyses and make the case for developing and implementing standards, regulations and supporting policies for energy efficient products to meet their nationally determined contributions whilst providing them an overview of potential carbon emissions that could be offset.

Annual savings* for 156 countries and the five product groups in 2040

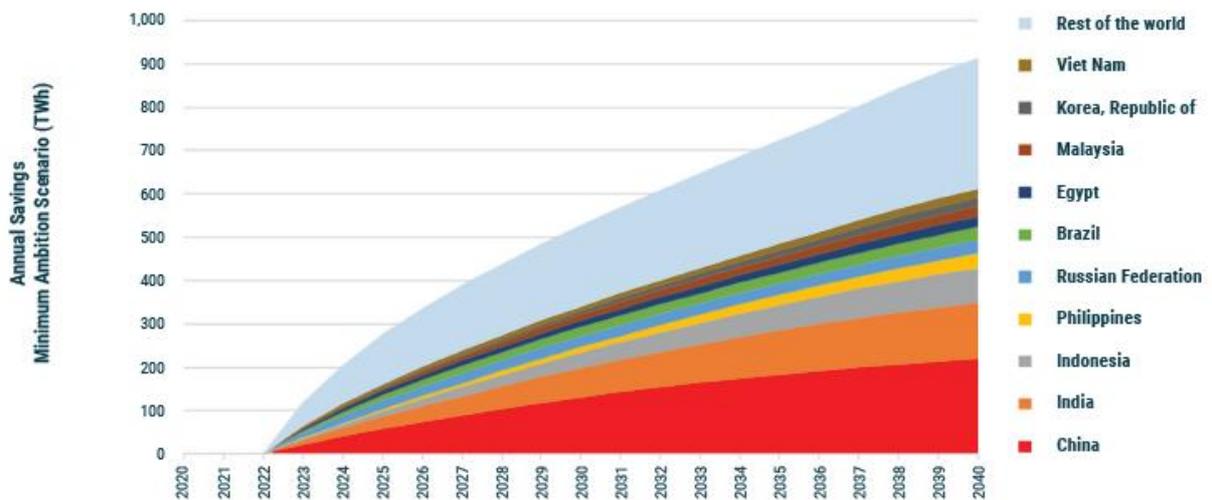
Electricity consumption of		MINIMUM AMBITION SCENARIO	HIGH AMBITION SCENARIO	
		910 TWh	1,900 TWh	
Which is equivalent to approximately		416	849	power stations [500 MW each]
		820	1,700	million tonnes of CO ₂
		130	270	billion USD on electricity bills

*numbers are rounded

Electricity savings for each product in 2040



Electricity savings by country in 2040



For example, U4E has been working with the ASEAN Centre for Energy (ACE) and ASEAN member states since 2020 to help establish a regional, and national, roadmap for room air conditioners and to work towards harmonized testing standards and energy efficiency levels. Based on the U4E Country Savings Assessments, the implementation of updated minimum energy performance standards for room air conditioners across the region could result in annual savings in 2040 of:



Energy savings of nearly **144 TWh/year**



GHG emissions avoided of over **111 million tCO₂/year**



Savings on electricity bills of **17 billion USD/year**



65 new power plants (500 MW) avoided

Relationship to UNEP's Programme of Work, Multilateral Environment Agreements and Other Projects

U4E sits within the Global Climate Action Unit of UNEP's Industry and Economy Division Energy and Climate Branch. It is part of UNEP's portfolio of projects addressing its Climate Action strategic objective under the Energy sector of its six-sector solution model. It primarily contributes to the UNEP Programme Coordination Project on Decarbonization, which runs from 2022-2025.

UNEP's Programme of Work recognizes that to effectively target climate action, policymaking and decision making for climate action must be informed by the latest science-based analysis and data generation. U4E's Country Savings Assessments contribute to this by providing robust and transparent data on the savings that can be achieved through the implementation of energy efficiency regulations that are aligned with international best practice. Furthermore, they provide evidence with which public support and political engagement for climate action may be catalyzed and enables countries to initiate systemic change by supporting policymaking, changes in behaviours and attitudes, development of norms and standards, and institutional strengthening.

Appliances and equipment can also have other environmental and health impacts, including ozone and GHG emitting refrigerants in air conditioners, mercury in some lighting products and PCBs (polychlorinated biphenyls) in older transformers. Therefore, U4E works closely with colleagues working on other multilateral environment agreements, including the Montreal Protocol on Substances that Deplete the Ozone Layer, Stockholm Convention on Persistent Organic Pollutants and Minamata Convention on Mercury.

U4E works closely with other initiatives within the Industry and Economy Division Energy and Climate Branch, such as the Cool Coalition and the Global Alliance for Buildings and Construction (GlobalABC), where there are clear synergies. For example, within the cooling industry, improving energy efficiency together with the transition to climate-friendly refrigerants could reduce between 210 and 460 billion tonnes of carbon dioxide equivalent emissions over the next four decades (UNEP-IEA 2019). To this end, U4E and Cool Coalition collaborate on events and publications and on the promotion of each other's materials. In particular, the Global Cooling Pledge provides a platform for furthering these joint agendas, such as including minimum energy performance standards as one of the Cooling Pledges. Similarly, U4E is able to complement Global ABC's vision of a zero-emission, efficient and resilient buildings and construction sector, with supporting expertise on the energy efficiency of the services, such as lighting, air conditioning and electric motors, within the building and on sustainable

public procurement and how these can be built into government strategies for the sector. Together, improving the energy efficiency of the construction sector, the building fabric and the building infrastructure will contribute to the Buildings Breakthrough ambition that near-zero emission and resilient buildings are the new normal by 2030.

Next steps

The key next step is to cascade and reinforce the message that energy efficiency should be the first fuel that a country considers –the energy that you don't use is the greenest energy and the potential savings are huge– and present the evidence provided by U4E's Country Savings Assessments on the estimated financial, environmental, energy, and societal benefits that are possible with a transition to energy-efficient lighting, appliances and equipment.

In addition, national policymakers national standards bodies and enforcement agencies should consider the wider range of U4E resources and guidance and explore using:

1. U4E's model regulation guidelines as a foundation to set national energy efficiency standards and regulations for lighting, appliances and equipment.
2. U4E's product registration systems guidance and resources to more effectively implement monitoring, verification and enforcement activities.
3. U4E's sustainable public procurement resources to leverage government and public sector purchasing power to generate demand for energy-efficient products and services.

Recommendations/relevance for the CPR

Policymakers, officials and technical staff within government ministries and agencies play a crucial role in the development and implementation of regulations and supporting policies to drive the transition of their national markets to energy-efficient and climate-friendly lighting, appliances and equipment. In particular, Ministries of Energy and standards bodies are key focal points as they drive the energy agenda in their countries and, as such, have the influence to enable and accelerate the market transformation to energy-efficiency.

It is recommended that CPR members engage with these key stakeholders to encourage them to:

1. Review the energy, financial and climate benefits potential for their country from implementing energy efficiency regulations and contact U4E to find out how UNEP can help to implement a robust and sustainable market transformation programme.
2. Use the Country Savings Assessment data for their country as an aid in devising/revising their Nationally Determined Contributions (NDCs) and Kigali Implementation Plans (KIPs) of the Montreal Protocol.
3. Investigate the range of U4E's resources and guidance and explore the steps outlined above.
4. Contact U4E with questions and requests for assistance: unep-u4e@un.org.