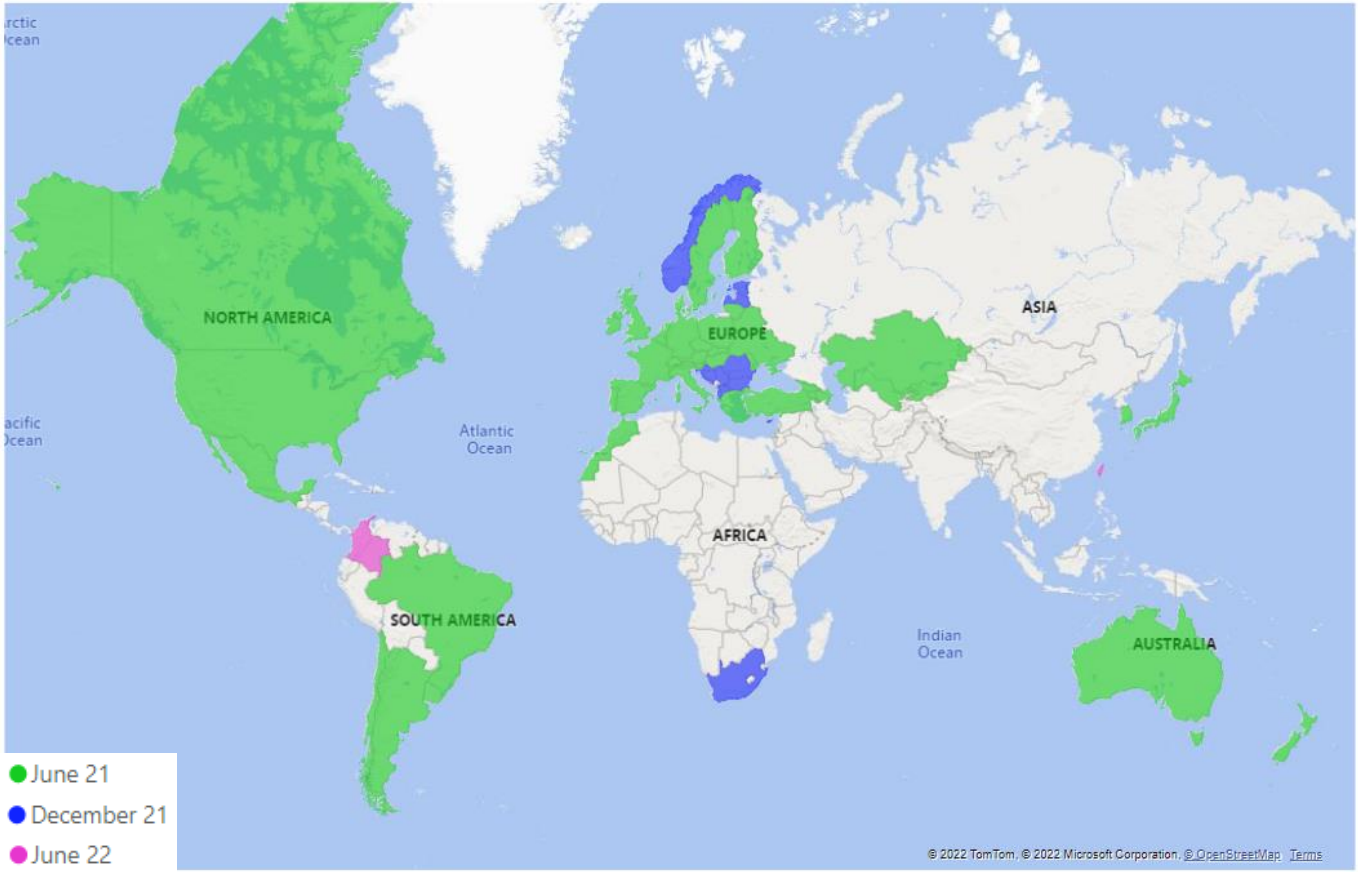
International collaboration to strengthen energy efficiency data capacity

Domenico Lattanzio, Team lead – Energy Efficiency Indicators

Joint APEC-IEA training workshop on end-use energy consumption data – Nov. 17th 2022

Energy efficiency indicators: a growing database



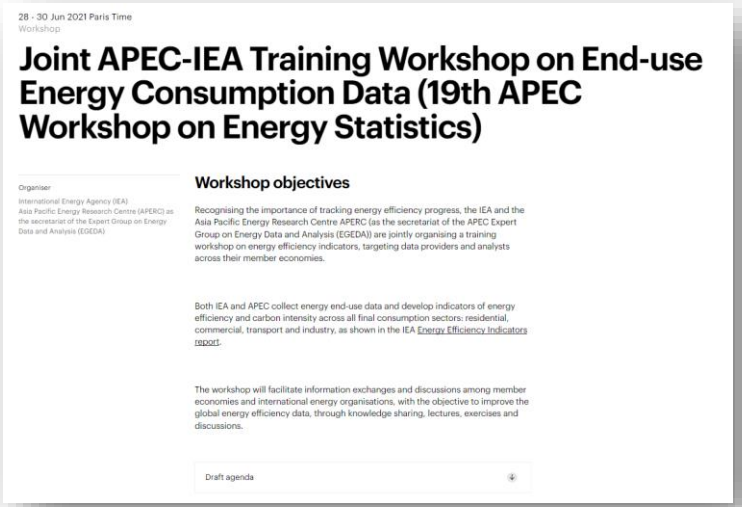
The role of international collaboration

The role of the international and regional activities

Gathering and estimating energy consumption by end-use at national level and developing efficiency indicators can be challenging. It requires the right resources at national level and the support of the international and regional entities is key.

Some examples of relevant IEA initiatives

Joint APEC-IEA Training Workshop on End-use Energy Consumption data



28 - 30 Jun 2021 Paris Time
Workshop

Joint APEC-IEA Training Workshop on End-use Energy Consumption Data (19th APEC Workshop on Energy Statistics)

Organiser
International Energy Agency (IEA)
Asia Pacific Energy Research Centre (APERC) as the secretariat of the Expert Group on Energy Data and Analysis (EGEDA)

Workshop objectives

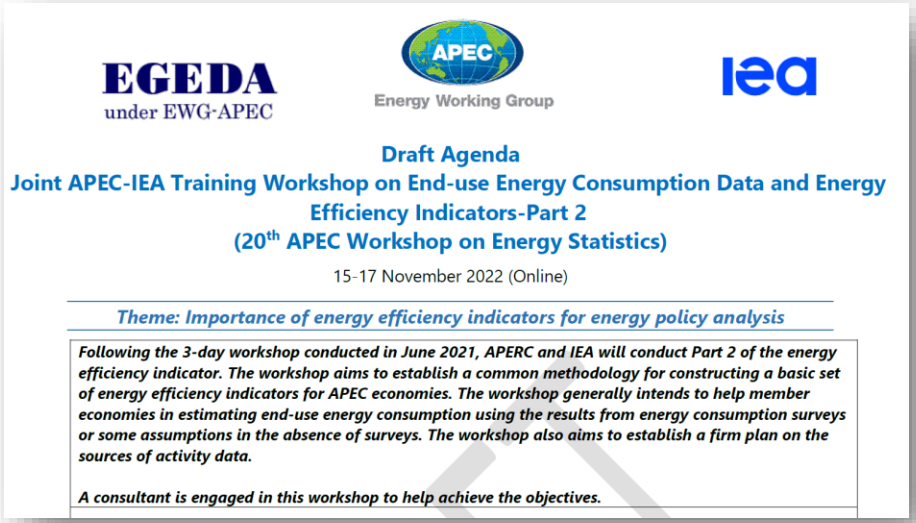
Recognising the importance of tracking energy efficiency progress, the IEA and the Asia Pacific Energy Research Centre APERC (as the secretariat of the APEC Expert Group on Energy Data and Analysis (EGEDA)) are jointly organising a training workshop on energy efficiency indicators, targeting data providers and analysts across their member economies.

Both IEA and APEC collect energy end-use data and develop indicators of energy efficiency and carbon intensity across all final consumption sectors: residential, commercial, transport and industry, as shown in the IEA Energy Efficiency Indicators report.

The workshop will facilitate information exchanges and discussions among member economies and international energy organisations, with the objective to improve the global energy efficiency data, through knowledge sharing, lectures, exercises and discussions.

Draft agenda

First joint IEA-APEC workshop held in June 2021



EGEDA under EWG-APEC

APEC Energy Working Group

Draft Agenda
Joint APEC-IEA Training Workshop on End-use Energy Consumption Data and Energy Efficiency Indicators-Part 2
(20th APEC Workshop on Energy Statistics)

15-17 November 2022 (Online)

Theme: Importance of energy efficiency indicators for energy policy analysis

Following the 3-day workshop conducted in June 2021, APERC and IEA will conduct Part 2 of the energy efficiency indicator. The workshop aims to establish a common methodology for constructing a basic set of energy efficiency indicators for APEC economies. The workshop generally intends to help member economies in estimating end-use energy consumption using the results from energy consumption surveys or some assumptions in the absence of surveys. The workshop also aims to establish a firm plan on the sources of activity data.

A consultant is engaged in this workshop to help achieve the objectives.

Agenda for the second workshop to be held in November 2022

The objective of the workshops is to improve the collection of end-use and activity data, strengthening the capacity of economies to develop efficiency indicators

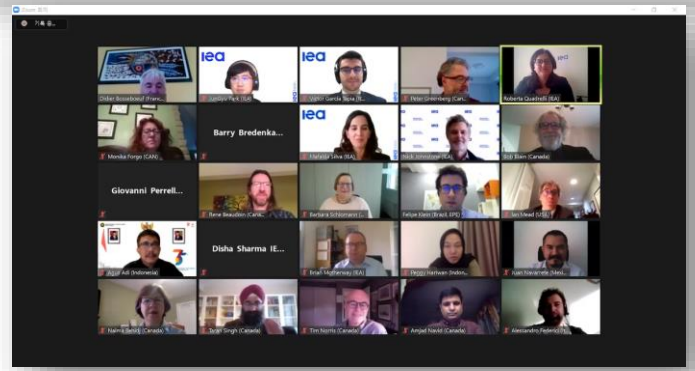
G20 Energy Efficiency data initiative

The objective of the G20 work stream "energy end-use data and energy efficiency metrics" is to provide a forum for participating G20 countries to share knowledge and experience in collecting and analysing energy end-use demand and energy efficiency data including the strategies, approaches and methodologies that can lead to better metrics and ultimately improved decisions and more effective policies.

The initiative is co-led by the IEA and France through the French National Agency for Energy Management (ADEME).

G20 2016 CHINA

G20 Energy Efficiency Leading Programme



Under the G20 Energy efficiency data initiative four workshops were organized. Currently, IEA and ADEME are planning the next collaboration under the G20 presidency of India

Eurostat work on the end-use disaggregation

Eurostat is active in the space and has been working on questionnaires for collecting disaggregated end-use consumption collecting data for **Residential** and **Transport** and currently rolling out **Industry** and **Services** will be added to the data collections.

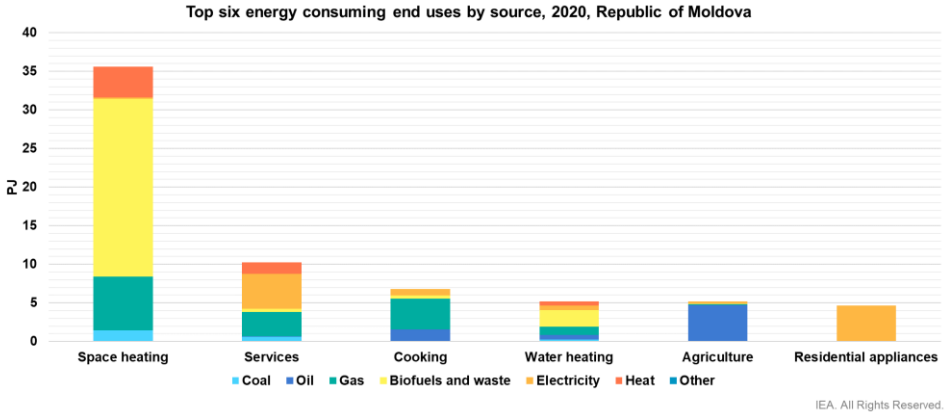
Those data collections **help raise awareness on the topic** and are well aligned with the objectives of the already existing data collection in the space as the one of the IEA.

It is important to keep the methodologies comparable in order to have similar data across the world and to be able to create meaningful benchmarks.

The work of regional bodies is key to enhance the data availability and quality. It is key to have comparable data collections to ensure that the burden on the NSOs is as low as possible and to have coherent analyses.

Eastern Europe and Caucasian countries – EU4Energy

EU4Energy is a collaboration between the **IEA**, the **European Union**, EU's Eastern Partnership and other implementing parties, designed to support the aspirations to implement sustainable energy policies and foster co-operative energy sector development at the regional level.



This project is co-funded by the European Union

Energy Community

CEER

The Programme's aim is to improve energy data capabilities and enhance data collection and monitoring of the beneficiary countries. Currently, 7 countries are able to produce energy efficiency indicators at national level and report to the IEA. This is a good example of the importance of the international collaboration to build capacity and sustainable data collections.

IEA Energy Efficiency in Emerging Economies (E4)

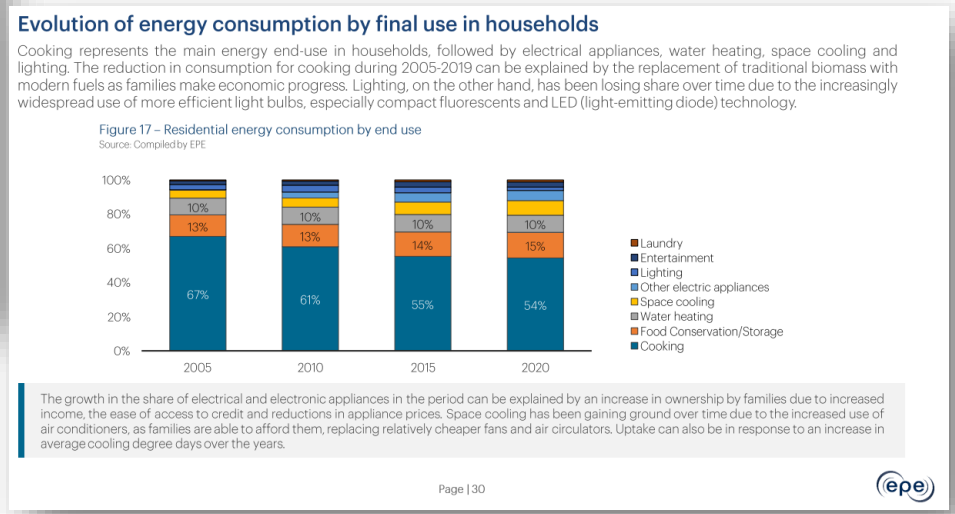
Brazil, China, India, Indonesia, Mexico and South Africa together consume one third of the world's energy – expected to rise to 40% under current policy directions.

The collaboration under the E4 umbrella falls into three main categories:

- Understanding the potential of energy efficiency to enable a secure, sustainable energy system
- **Setting targets and tracking progress through energy efficiency indicators** and policy evaluation for continuous improvement;
- Developing strategies and policy design to deliver energy efficient prosperity

Ad hoc webinars and targeted discussions with countries help their development of solid datasets. Were also organized bilateral meetings with other countries that have comparable challenges to share experiences (eg mining in Chile and South Africa)

Bilateral collaboration with Brazilian Energy Research office (EPE)



Evolution of energy consumption by final use in households

Cooking represents the main energy end-use in households, followed by electrical appliances, water heating, space cooling and lighting. The reduction in consumption for cooking during 2005-2019 can be explained by the replacement of traditional biomass with modern fuels as families make economic progress. Lighting, on the other hand, has been losing share over time due to the increasingly widespread use of more efficient light bulbs, especially compact fluorescents and LED (light-emitting diode) technology.

Figure 17 – Residential energy consumption by end use

Source: Compiled by EPE

The growth in the share of electrical and electronic appliances in the period can be explained by an increase in ownership by families due to increased income, the ease of access to credit and reductions in appliance prices. Space cooling has been gaining ground over time due to the increased use of air conditioners, as families are able to afford them, replacing relatively cheaper fans and air circulators. Uptake can also be in response to an increase in average cooling degree days over the years.

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Also direct collaboration with focus economies can have an impact in supporting projects of energy efficiency data collection and ensure that a common international approach is applied.

Takeaways

Takeaways

- **Energy Efficiency indicators are key to the energy transition** to achieve carbon neutrality**.** We need to inform policies with relevant data**.**

- Some economies may struggle with gathering the relevant information needed, **international cooperation can help** them **identify the right and less expensive path to have relevant indicators**.

- International bodies **can facilitate international knowledge sharing**.

- International cooperation can create the right environment for an **effective energy efficiency experts community**

International cooperation is key to enhance the quality and comparability of energy efficiency indicators.