

G20 Energy End-Use Data and Energy Efficiency Metrics initiative
Draft Terms of Reference For circulation and comments
July 2017

Developing international cooperation on Energy End-Use Data and Energy Efficiency Metrics

Background

Energy efficiency – often together with renewables - is essential to energy transition, energy security and climate change strategies. Many G20 countries have established energy efficiency targets and implemented policies reflecting their national circumstances.

To assess the impact of these policies, and to verify if they are on track with their targets or objectives, G20 countries have a growing interest in monitoring energy demand. However, whilst the level of ambition and maturity of monitoring systems strongly varies among G20 countries, it is recognized that the use of appropriate data and metrics to inform and monitor results of energy efficiency measures could be strengthened in many countries. It is also true that developing and maintaining a robust monitoring system for energy efficiency requires detailed energy end-use data which are not directly available from the classic energy balance.

The government of France, through its national energy efficiency agency ADEME, has long standing experience in developing and promoting energy efficiency monitoring systems in more than 60 countries including Europe¹, Latin America² and Africa. The IEA is also very active in developing and promoting energy end-use data collection and analysis through global training; multilingual manuals and guidelines; annual data collection by IEA members; and dissemination. Outputs from the IEA's work are published in the well-established annual publication "Energy Efficiency Market Report" and, starting in 2016, a new annual Energy Efficiency Indicators statistical publication. Given this common background and commitment, the French government supported by IEA had an **Energy End-Use Data and Energy Efficiency Metrics** initiative (work stream Key area 11) approved as part of the **G20 Energy Efficiency Leading Programme**, during the Chinese G20 presidency.

The first workshop under the initiative, led by the Government of France and the IEA, was held in Paris on December 12th 2016. It successfully gathered ten G20 countries (Australia, Canada, China, France, Indonesia, Italy, Korea, Mexico, UK, USA), with others previously contributing via a short on-line survey; as well as international organizations (Eurostat, APERC, IPEEC, World Bank). The agenda and presentations are available at:

<http://www.iea.org/workshops/g20-energy-end-use-data-and-energy-efficiency-metrics-initiative.html>

The workshop discussed various activities which are underway, and explored the opportunities to support the development of energy end use and efficiency data, and their use for policy monitoring, including through: production of methodological guidelines; training and capacity building; sharing practices (including on methods of data collection) analysis of data consistency and quality; work on

¹ ODYSSEE-MURE project covering 30 European countries

² UN-CEPAL-ADEME-GIZ program (BIEE data base) covering 20 LAC's including Brazil, Mexico and Argentina

metrics for policy; dissemination; and benchmarking work. Countries – which reflect very different levels of energy efficiency data and monitoring development - were positive about the added value of an international initiative, as a platform to exchange experiences; explore synergies; add international visibility to national work; learn about international methods and metrics, and develop understanding on emerging issues (like use of smart data) The discussion, as well as survey results, indicated that in most countries dissemination could be optimised, as energy efficiency data are not used to their full potential for policy advice. The ability to better quantify results from energy efficiency policies and measures, including the links to the broader policy desired outcomes (e.g. carbon efficiency, system efficiency, load demand, etc), emerged as a priority for several countries. The challenges identified during the workshop were: i) resources, e.g. the cost of getting data – especially at the scale needed for energy policy; ii) technical, e.g. the lack of clear classifications and definitions across different sources; and iii) institutional e.g. the difficulties in sharing data across institutions; the lack of strong legal frameworks; the mismatch between policy needs and what data can track.

The discussions provided consensus support for the elaboration of a draft terms of reference to be circulated among members for comments.

Objectives

Energy efficiency policies are generally designed to focus on the final consumers of energy, e.g. building codes for space heating; labels for cars; standards for electrical appliances etc, but can also include horizontal policies (i.e. taxation). However, the international agreed framework for the energy balance does not provide sufficient detail on final energy consumption and what drives it to design, monitor and quantify the impacts of single policies or policy packages. As an energy balance only provides an aggregated description of energy demand across the main sectors (industry, transport, residential, services), the data needed for policy evaluation requires additional data collection often based on end-use or consumer surveys which could be a challenge for many countries. This implies that new methodologies and new practices need to be developed and shared among countries.

The initiative mainly aims to provide a **forum** for participating countries to share knowledge, methodologies and experience in collecting and using energy demand and energy efficiency data for policy making. Data collection activities may emerge at a further stage, based on interest from countries.

The target participants of the initiative would be all stakeholders involved in production and use of energy efficiency data and metrics, mainly but not only from the two wide groups of statisticians and policy advisors, at national and international level.

Based on the conclusions of the workshop and on further discussion of the draft TOR, the initiative should provide a platform to share information and good practices, with a goal to ensure all countries can benefit from developments in any country, covering three main areas::

Technical :

- A range of technical topics, such as survey methodologies, access to non-survey data; smart appliances to get new data; use of administrative data including new sources of data such as “big data” or “digital data” for policy use; mobilisation of partners, policy monitoring and quantification of results from energy efficiency measures including impacts on various areas of policy concern (e.g. carbon efficiency; system efficiency; load demand; etc); links between modelling and data gathering.

Communication

- How data and indicators can best be presented and explained to policy makers, business and the public to maximise their impact
- How can results from energy efficiency measures and policy monitoring can be shared with policy advisors.
- An element could include the development of key set of data that all countries could look to produce, alongside local data.

Wider outreach:

- How to ensure that efficiency goes hand in hand with greater access to energy services, in emerging and developing economies.

Project implementation

The initiative can be taken forward through several channels: workshops, training, on-the-job assistance and reports. While the initial focus is on knowledge and practice sharing, the initiative could also develop new data if there is interest from countries to do so.

Activities will be implemented based on countries interest and on availability of resources as needed, from the portfolio of activities described below.

Technical activities

a) **International workshops**

- To organise **one or two workshops** per year rotating the host country, with proceedings made available by IEA and ADEME.
- **Topics** would be determined by participating countries and the host with input from the IEA and ADEME
- An international workshop on energy efficiency trends analysis could be considered for a selection of G20 country volunteers or at the entire G20 level.

b) **Training sessions**

- To complement the existing IEA Energy Statistics Training Week, national or regional training could be organised on topics emerging from workshop recommendations. These would be run in collaboration between the IEA and ADEME, and any other relevant stakeholders.
- Options to move training beyond traditional “classroom” based training should be explored – such as the use of webinars etc.
- All training material produced for the initiative would be publically available on-line.
- Capacity building could be organised through training sessions, e.g. at national level, and through in-country on-the-job assistance.

Communication and outreach based activities

More needs to done to better communicate energy efficiency analysis and the importance of policy monitoring to policy makers as well as to the public and business.

a) **Dissemination activities:**

- A set of slides on the main lessons learned and findings could be prepared by the IEA and ADEME and made available to G20 participating countries.
- Dissemination of national or regional reports or workshop recommendations held by the G20 countries.

- Use of a web-based platform where all documents related to the initiative will be stored.
- Reporting and disseminating in order to improve decisions and make policies more effective.

b) Information sharing

- Sharing practices among countries (e.g. on designing a system to collect end-use data; on sharing data across institutions; etc.).
- The IEA would develop its on-line data base of country practices to support the initiative, with the assistance of participants.
- Outreach that goes beyond the G20 such as non-G20 countries participating in regional training.
- Any other relevant activity identified by participating countries during the initiative.

2017 Work plan

A work plan will be annually defined taking into account G20 countries desires and available funding. The 2017 work plan could be as follows:

- Consultation on the TOR among participating countries (February-March 2017).
- Finalisation of the TOR by the French government summer 2017.
- Identification of various levels of support that countries could provide – e.g. sharing information, participation in workshops, etc. summer 2017.
- First workshop/training session of the initiative jointly organised in a G20 country by the French government and IEA, on topics based on G20 participating countries interests and needs (second half 2017/start of 2018).

More detailed plans will be developed based on a more complete understanding of available resources and priorities identified by participating countries.

Working arrangements

a) Countries participation:

- G20 countries participation is on a **voluntary basis**, although the initiative would benefit from the exchange of information from the largest number of participants possible.
- Participation of non G20 countries would be encouraged if it brings value to the initiative.
- Participation is free (i.e. no annual fees).
- Countries can choose to contribute in-kind (expertise, staff-time, workshop organization, etc); or through dedicated funding.
- Countries can choose to participate in some or all of the different topics.
- Countries can participate **as providers or beneficiaries** of capacity building.
- Countries are encouraged to participate to the **benchmarking of metrics**.

b) Resources

- **The achievement of any of the suggested objectives will depend on G20 countries involvement, in-kind contributions and funding availability.**



- G20 countries which have a specific interest can contribute to the initiative beyond the French governmental initial funding.
- Additional funding may be possible for BRICS countries for a national funding from GEF/CBIT funds supporting MRV efforts dedicated to energy efficiency.³

Governance of the initiative

The governance and project implementation will be organised as follows:

- a) The co-chairs of the initiative are the French government-ADEME and the IEA.
- b) As technical coordinators, ADEME-IEA will jointly:
 - Develop strategic documents (road map, TOR etc.);
 - Produce technical and methodological documents (surveys, guidelines, training documents etc.);
 - Prepare (invitations and agenda) and organise workshops with other stakeholders if any (for instance a G20 country);
 - Organize and make training sessions to complement to existing ones (energy efficiency week or session on energy statistics at IEA);
 - Perform in-country on-the-job assistance on request (depending on funding);
 - Review or produce deliverables; and
 - Disseminate the results at the country, regional or G20 level.
- c) IEA will:
 - Manage data collection (if any) and any data base stemming from the work under the initiative.
- d) The French Government will:
 - Chair the G20 EUDDEEM committee
 - Report and disseminate results to G20
- e) The initiative is implemented with a view to support the global collaboration on energy efficiency, notably among G20 economies.

³ Following the Paris Agreement, the Global Environmental Facility (GEF) received funds to support countries develop metrics and meet their obligations under the agreement. This led to the creation of the **Capacity Building Initiative for Transparency (CBIT)** to all emerging countries are eligible (Argentina, Brazil, Mexico, Russia, India, Indonesia, China, South Africa).

Additional advancements in the areas discussed could be supported through the following activities:

- a) Elaborating and producing Energy Efficiency Metrics for volunteer countries
- b) Managing an Energy Efficiency Data base
- c) Analysing end-use data and metrics (strategies, approaches, methodologies)
- d) Organising benchmarking on metrics among G20 countries
- e) In country on-the-job assistance
 - a. Interested G20 countries could request assistance on all relevant issues of EUDDEEM which would be provided by the IEA and ADEME, subject to available funding
- f) National reporting for volunteer countries
 - a. G20 countries, on a voluntary basis, can carry out a national report on energy efficiency trends based on all or part of the IEA questionnaire;
 - b. The report can be reviewed by the IEA and ADEME on request
- g) G20 report on energy efficiency trends
 - a. **If there is support for coordinated data collection and sharing via a G20 data base, the IEA could produce a report on G20 energy efficiency trends with the support of ADEME.**
 - b. This report could include case studies coming from national reports.
 - c. The report will be reviewed by the G20 countries.
 - d. Reporting to the G20 EELP by the French government and IEA on the G20 energy efficiency trends report.

For these activities:

- The initiative will focus on enhancing and complementing any ongoing activity in the area.
- The initiative will ensure optimal use of resources.
- Particular attention will be paid to ensuring complementarity with and **avoiding any duplication** of other ongoing work carried out both at a national (including bi-lateral or multilateral funded projects) or at an international level. Examples of relevant work include activities of key partners like the European Commission and Eurostat at the European level.