

Proposed project on preparation of survey instruments for end-use energy consumption data collection

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Outline

Background

The project

- Phase 1 – workshop for the preparation of survey instruments
- Phase 2 – conduct of pilot survey
- Phase 3 – workshop for the presentation of the result of the pilot survey and lessons learned

Expectations

Background

Background: 10-year history

| | |
|---------------|---|
| 2014 Dec | Energy Efficiency Indicators (EEI) template |
| 2015 Dec | EEI template & User Manual sent to member economies |
| 2016 Mar–Apr | Collection of EEI templates |
| 2016 May–June | Data evaluation |
| 2016 Nov | 28th EGEDA: Reported the progress; low turnout |
| 2017 June | EEI template revised |
| 2017 Sept–Oct | Submission, evaluation, and data analysis |
| 2017 Nov | 29th EGEDA: Reported the progress; still low turnout |
| 2018 Jan | EEI template revised to include transport and industry sectors as agreed in 29th EGEDA |
| | Requested OECD/IEA members to share their submitted IEA-EEI template |
| 2019 February | 30th EGEDA: Two OECD APEC Economies shared the IEA-EEI template submitted to IEA. |
| 2020 November | 31st EGEDA/55th EGEEC Joint (Virtual) Meeting |
| 2021 June | 1st APEC-IEA Joint Training Workshop on End-use Energy Consumption Data (19th APEC Workshop on Energy Statistics) |
| 2021 October | 32nd EGEDA: Number of submission improved |
| 2022 April | APEC adopted IEA template |
| 2022 May | HKC and CT EEI templates submission to IEA |
| 2022 November | 2nd APEC-IEA Joint Training Workshop on End-use Energy Consumption Data (20th APEC Workshop on Energy Statistics) |
| 2022 October | 33rd EGEDA: 7 OECD Economies and 6 non-OECD Economies submitted their EEI Template |
| 2023 April | 34th EGEDA/58th EGNRET Joint Meeting |
| 2023 December | Calculated a sample of end-use energy consumption for economies that conducted surveys (BD, MAS, PHL) |
| 2024 January | 35th EGEDA: Initial proposal of the methodology for estimating end-use consumption |

What can we learn from the EEI template?



How much energy is consumed in the production of various products, such as a ton of cement, a ton of steel, etc.?



How much energy is required for heating or cooling a square meter of floor area in residential or commercial buildings?



What is the average fuel consumption per passenger-kilometer for a car, bus, or train?



Is there a noticeable improvement in energy efficiency over time?



Using the EEI template, policymakers can identify which sectors should be prioritized.

Why improve energy efficiency?



Energy efficiency means using less energy to provide the same level of energy service



Saving energy will lower energy costs in all sectors

Residential/commercial
Transportation
Industrial production
Agriculture, Forestry and Fishing
Electricity generation



Benefits of energy efficiency

Reduce demand, which increases export opportunities for energy exporters and decreases the need to import energy for energy importers
Lower greenhouse gas emissions

Data requirements (1): Beyond Energy Balances

The template requires significantly more energy than what traditional energy balances can provide

Industry energy use

- Clinker
- Cement
- Pulp
- Paper
- Iron and steel
- Non-ferrous metals
- Aluminum

Residential/services

- Space heating
- Space cooling
- Water heating
- Cooking
- Lighting
- Refrigerators/freezers
- Other building use
- Non-building use

Transport energy use

- Passenger transport
- Freight transport
- Cars
- Personal light trucks
- Motorcycles
- Buses
- Passenger trains
- etc

Data requirements (2): Activity Data

Industry Gross Value Added and Production

- Clinker
- Cement
- Pulp
- Paper
- Iron and steel
- Non-ferrous metals
- Aluminum

Residential Data and Services

- Population
- Number of dwellings
- Floor area of dwellings
- Household occupancy
- Heating degree-days
- Cooling degree-days
- Services employment
- Services floor area
- etc

Transportation activity by type of vehicles

- Passenger-km
- Ton-km
- Number of vehicles in use by type of vehicles
- etc

Status of EEI template submission

APEC OECD (8 Economies)

- Submit the template to the IEA
- Share the template to the EGEDA secretariat

APEC non-OECD (13 Economies)

- Only two economies can fill-out the template

Efforts to enhance the capacity of members to complete the EEI template



Collaborated with IEA on two APEC workshops on energy statistics



Hired a consultant to assess data gaps and prepare end-use energy estimation models



Integrated end-use energy consumption modelling in the annual training course on energy statistics



Calculated a sample of end-use energy consumption for economies that conducted surveys but have not yet calculated the total values for the whole economy

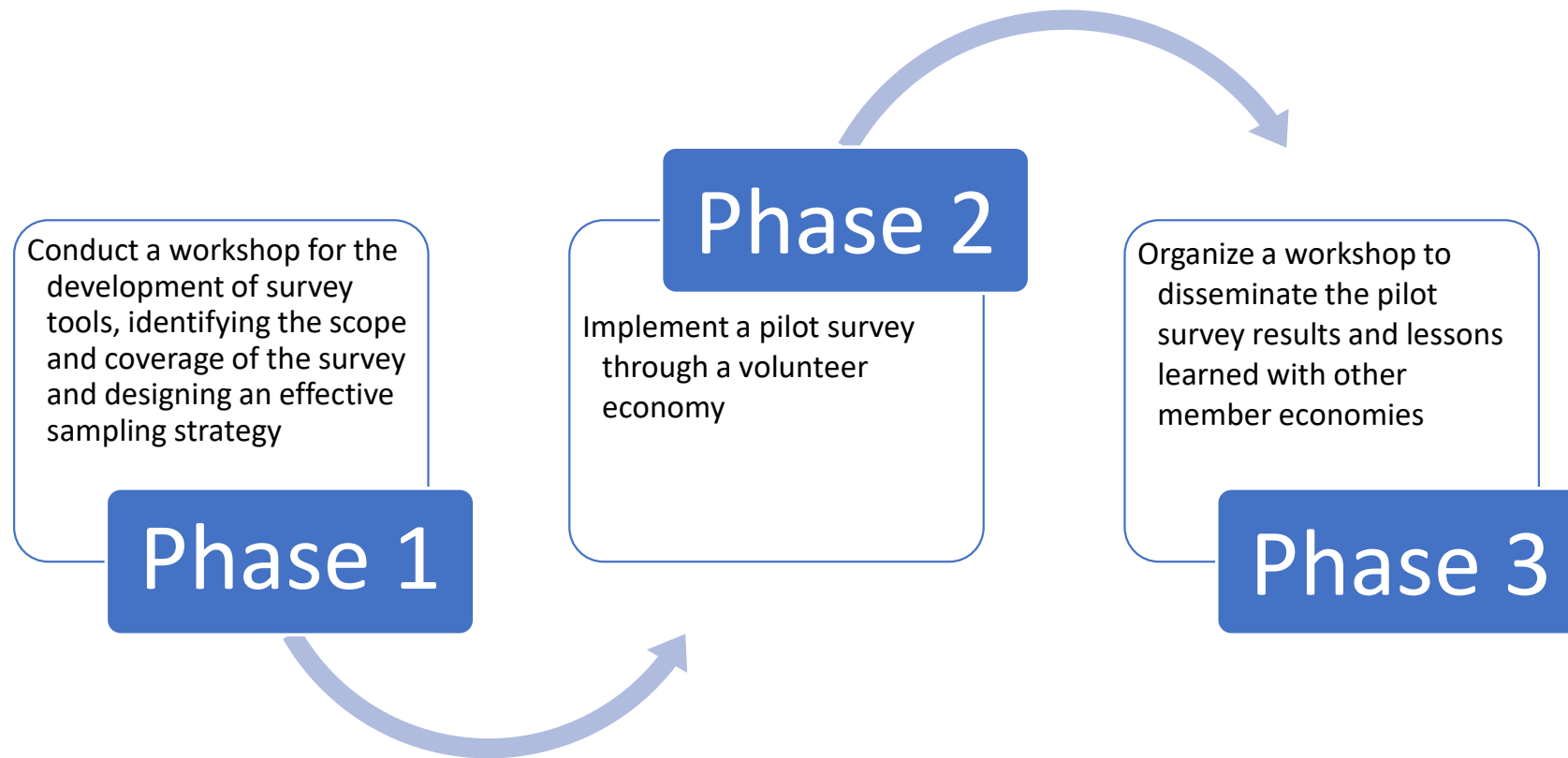


Developed a project for the preparation of instruments for end-use energy consumption surveys

The proposed project

Project objectives

To enhance the capacity of member economies in collecting end-use energy consumption data through energy consumption survey



Phase 1

- Workshop on the preparation of end-use energy consumption survey instruments
- To be held in Tokyo in September 2025
- Survey experts will be invited as resource persons
- Topics
 - Sharing of experiences by member economies
 - Survey goals and objectives
 - Scope and coverage
 - Questionnaire design
 - Sampling design

Phase 2

- Conduct the Pilot Survey
 - Implemented by a volunteer economy
 - Focus on testing and refining the research design, methodology, and survey instrument
 - Target Implementation: 2026
- Analysis of survey responses

Phase 3

- Workshop in Tokyo in 2027
- The results of the pilot survey conducted in Phase 2 will be presented
- Lessons learned and areas for improvement will be discussed
- Encourage other member economies to use the survey instrument for their own pilot surveys and provide feedback for further enhancements.
- Promote the execution of the full survey.

Expectations and the way forward

The secretariat hopes that the output of the proposed project will be an example that other economies could follow.

Member economies would be encouraged to seek funding from their governments for conducting pilot and full surveys.

Member economies would be able to accomplish the EEI template by 2027 or earlier.

EGEDA secretariat will continue enhancing the members' capacities in end-use data collection.

If needed, the EGEDA secretariat can also assist the members in developing energy consumption surveys.

Thank you for your kind attention!

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