The 13th International JODI Conference
Institute of Mechanical Engineers
10-11 October 2017

Capacity Building on Energy Statistics in APEC

Edito Barcelona
Energy Statistics and Training Office
Asia Pacific Energy Research Centre

APERC
Asia Pacific Energy Research Centre

APEC Asia-Pacific Economic Cooperation

Why train APEC energy statisticians?

Who do we train?

What do we teach?

Who pays?

Way forward

Why train energy statisticians?

Increase the capability of energy statisticians in APEC economies

Enhance human resource network between APEC economies and the coordinating agency, APERC ESTO

Improve reliability of the APEC energy database

Provide hands-on experience on data processing and analysis

Who do we train?

Prospective trainees:

- <u>Short-term</u>: beginners on energy statistics
- <u>Middle-term</u>: energy statisticians with at least 1 year of experience

Number of short-term trainees:

- <u>2014</u>: 3 (Mexico, Russia and Thailand)
- <u>2015</u>: 5 (Brunei Darussalam, Malaysia, Papua New Guinea, Russia and Viet Nam)
- <u>2016</u>: 8 (Chile, Malaysia, New Zealand, Papua New Guinea, the Philippines, Russia, Thailand and the USA)
- <u>2017</u>: 9 (Brunei Darussalam, Chile, China, Malaysia, Mexico, Papua New Guinea, the Philippines, Russia, and Thailand)

Number of medium-term trainees:

- <u>2014</u>: 2 (Philippines and Thailand)
- <u>2015</u>: 2 (Mexico and Viet Nam)
- <u>2016</u>: 2 (Singapore and Thailand)
- <u>2017</u>: 2 (Indonesia and Philippines)

- Short-term course:
  - Duration: 2 weeks
  - Classroom lectures, hands-on exercises, mini-workshop
- Medium-term course:
  - Duration: 8 weeks
  - Internship at the Energy Statistics and Training Office (ESTO)
  - Classroom lectures, hands-on exercises and desk work (assisting ESTO in the preparation and review of annual APEC energy statistics publication)

What do we teach?

APEC definitions of energy products and flows

- Primary oil products and oil refining (including JODI Oil)
- Natural gas production and associated liquids flows (including JODI Gas)
- Coal and coal transformation
- Electricity and heat generation
- New and renewable energy

Conversion from physical to energy units and among physical and energy units

Building the energy balance table

Calculating CO_2 emissions using IPCC methodologie

What do we teach?

Uses of energy data

- Calculating CO2 emissions
- Calculating and analyzing energy indicators

Energy modeling

- Fundamentals of energy modeling
- Energy demand forecasting using econometrics
- Supply optimization analysis

End-use energy consumption data

- How to conduct an energy consumption survey
- Preparation of the survey questionnaire

APERC
Asia Pacific Energy Research Centre

How do we teach?

Classroom lectures

Hands-on exercises

- Filling out the APEC energy questionnaires including JODI Oil and JODI Gas
- Units conversion
- Building the energy balance tables
- Calculating and analyzing energy indicators
- Calculating CO_2 emissions

Mini-workshops

- Group exercises on final energy demand and electricity supply optimization analysis
- Preparation of end-use energy consumption survey questionnaire

For the medium-term course, desk work – trainees assist ESTO in the preparation of APEC energy statistics publication

Who pays?

APERC provides the following financial support:

- Round trip economy class air ticket between Tokyo and member economy
- Transportation in Tokyo (airport to and from hotel)
- Cost of accommodation in a hotel near APERC
- Daily allowance

- The training courses will continue until 2023

- The materials will be improved continuously to catch up with developments in the energy sector

- APERC to have more stringent criteria in selecting trainees

- Hopefully, the people we trained become trainers in their countries/economies

- Plans to coincide the short-term and medium term courses in the first two weeks to optimize manpower resources

- JODI will always be part of the training agenda

APERC
Asia Pacific Energy Research Centre

Thank you for your kind attention

http://aperc.ieej.or.jp/

Classroom lecture

Hands-on Exercises