

## **17<sup>th</sup> APEC Workshop on Energy Statistics (EGEDA Workshop)**

**11-13 June 2019**

**Hotel Sunroute Ariake, Tokyo, Japan**

### **Summary Record**

The 17th APEC Workshop on Energy Statistics was held in Tokyo, Japan on 11-13 June 2019. The Energy Statistics and Training Office (ESTO) of the Asia Pacific Energy Research Centre (APERC) organized the workshop with the generous financial support of Japan's Ministry of the Economy, Trade and Industry (METI). The 17th workshop was also the first collaboration of APERC with the Joint Organisations Data Initiative (JODI) partners who are coordinated by the International Energy Forum (IEF). The workshop focused on oil and gas statistics with the objective of improving not only the monthly JODI Oil and JODI Gas data reporting in APEC but the annual oil and gas statistics as well.

Representatives from 15 APEC member economies (Australia; Brunei Darussalam; People's Republic of China; Hong Kong, China; Indonesia; Republic of Korea; Malaysia; New Zealand; Papua New Guinea; The Philippines; Russia; Chinese Taipei; Thailand; the United States and Viet Nam) attended the workshop. Aside from IEF, representatives from the JODI partner organizations such as Gas Exporting Countries Forum (GECF), International Energy Agency (IEA), Organization of Petroleum Exporting Countries (OPEC) and United Nations Statistics Division (UNSD) were also invited as speakers and resource persons. An independent energy statistics advisor was also invited to facilitate the workshop on engaging with energy business and addressing data confidentiality issues.

The summary of the proceedings is as follows:

#### **OPENING SESSION**

In his opening remarks, the President of APERC, Dr. Kazutomo Irie, welcomed the participants to the 17th workshop. He mentioned that the annual workshop was first held in 2002 and this year's workshop is the first to be held jointly with a JODI regional training workshop with the JODI partners. He hoped that member economies who have become inactive in JODI would become active again and that the problem of completeness in some economies stemming from confidentiality would be addressed by the workshop.

Mr. Fuad Al-Zayer, the JODI coordinator in IEF, also welcomed the participants and appreciated APERC's organization of the workshop. He emphasized the importance of each APEC member in data and information exchange.

The Chair of EGEDA, Mr. James Kendell, greeted the participants in the workshop and informed them of the forthcoming EGEDA meeting in Hong Kong, China on 24-27 February 2020. He also mentioned the outlook roadshow that APERC will be conducting in all APEC member economies later this year. Other JODI partners from GECF, IEA, OPEC and UNSD introduced themselves and hoped for a fruitful workshop. One of the resource persons, Mr. Shigeru Kimura of the Economic Research Institute for ASEAN and East Asia (ERIA), mentioned that ERIA is assisting Cambodia, Lao PDR and Myanmar in the preparation of their energy statistics and is also encouraging Cambodia and Lao PDR to join JODI.

### **SESSION 1: The importance of energy data transparency**

Mr. Al-Zayer of IEF discussed JODI and the importance of energy data transparency. He highlighted the oil market volatility in the late 90's that was the main reason for the birth of JODI. JODI started with data collection on oil as the fuel is historically, most widely traded. Having data on supply and demand balances not only benefits oil consumers in terms of stable prices but also the oil producers in terms of information on demand, which is important in investment decision making. He also gave a brief history of JODI as well as the current activities of IEF in promoting JODI.

To further emphasize the importance of energy data, Ms. Costanza Giovannelli, Statistician of UNSD, presented how the UN uses energy data to track the Sustainable Development Goal 7 (SDG7). SDG7 is the UN's target for ensuring universal access to affordable, reliable and modern energy services; increasing substantially the share of renewable energy in the global energy mix and doubling the rate of improvement in energy efficiency; all by 2030. Ms. Giovannelli also shared that the energy data used in tracking SDG7 are the data from all countries/economies in the world.

### **SESSION 2: JODI Oil**

Mr. Steve Gervais, Head of the Monthly Oil and Gas Statistics Unit of IEA, presented the crude oil and petroleum product flows and related statistics. He showed the key oil trends in the world and mentioned that oil continues to be the most important energy source globally. He explained the products and flows required in the JODI Oil questionnaire. He also cited the importance of other information such as density and sulphur contents of primary oil products.

Dr. Hossein Hassani, Statistical Systems Coordinator of OPEC, discussed on the importance of conversion factors. He mentioned that densities of primary and secondary oil products vary so widely that using typical values could result in substantial errors. He cited as an example crude oil, which has a density that could vary between 5.5-8.6 barrels/ton. Not reporting the conversion factor would make JODI partner assume the typical value of 7.33 barrels/ton.

Ms. Elvira Gelindon, Senior Researcher of APERC presented the JODI Oil questionnaire and JODI Oil manual. Ms. Gelindon explained the specific products and flows in JODI Oil. She touched upon non-oil products that enter the oil flow and how these could be reported in the JODI questionnaire. Examples of these products are natural gas liquids (NGLs) that are consumed as petroleum products without being produced in oil refineries. She also cited the major differences of JODI Oil to the annual oil questionnaire. Mr. Kimura of ERIA mentioned that there should be a better way to report petroleum products from NGL from the current way of reporting them as other products and then using inter-product transfer to put these products in their final classification.

Dr. Hassani of OPEC presented the methods of assessing JODI Oil data quality. He started with what data checks can be conducted by national statisticians before submitting the data to their organization. These are the balance, internal consistency and other checks that would ensure some level of accuracy before data submission. He also mentioned that metadata which are as important as the data.

### **SESSION 3: JODI Gas**

Dr. Roberto Arenas Lara, Head of Data and Information Services Department of GECF, presented natural gas statistics. He started by giving the definition of natural gas, both conventional and unconventional gases, LNG, NGLs and gas-to-liquids (GTL). He also mentioned the monthly natural gas data being collected by GCEF from its 12 member countries.

Mr. Edito Barcelona, Research Fellow and Head of ESTO, presented the JODI Gas questionnaire and JODI Gas manual. He also gave snapshots of historical global natural gas production and the increasing share of non-OECD production. On reporting natural gas data, Mr. Barcelona mentioned that the reported production should be the marketable amount. This is dry natural gas after removal of moisture and impurities. He further emphasized that the liquids from natural gas separation are to be reported in JODI Oil. Finally, he showed the APEC monthly gas and JODI Gas questionnaires and gave the definitions of the products and flows that should be reported and the corresponding reporting units.

Mr. Mohamed Arafat, Databank Analyst of GECF, presented the JODI gas data quality assessment. In assessing the quality of data submitted to GECF, Mr. Arafat advised the participants to make sure that definitions in the JODI Gas manual are followed. The web-based data collection, analysis and reporting system is accessible to all GECF members so that data providers will be able to conduct initial data quality checks. Time series or visual checks ensure that seasonal patterns are established and outliers will be spotted. He further explained how

GECF can assess JODI Gas participation automatically. Another data assessment technique is comparing monthly data with data from other sources.

#### **SESSION 4: Economy presentations**

Mr. Terry Bradley, Statistician of Australia's Department of the Environment and Energy (DEE), presented the introduction of mandatory reporting of petroleum data in Australia. He mentioned that although the mandatory scheme ultimately gives access to a much richer set of data from industry and other government departments, the move to the mandatory scheme has not been easy. Many companies have had problems with the new reporting scheme and the DEE spent a great deal of time supporting them through the change. Data from other government departments is not as timely nor formatted as the DEE would like and in many cases has definitional differences, which need to be accounted for. Mr. Bradley further mentioned that the DEE should have put more effort into trying to understand and mitigate for these potential problems before starting the scheme. Australia's mandatory reporting scheme is a good example for other economies.

Dr. Andi Tabrani, Economic Officer of the Ministry of Energy, Manpower and Industry of Brunei Darussalam, presented the oil and natural gas flows and statistics in Brunei Darussalam. He explained the oil and natural gas industry in the economy and how data are collected. He later clarified with the JODI partners the correct way of reporting oil products that are returned to the crude oil tanks as well as the petroleum products that are by-products of LNG production.

Mr. Zhang Zhan, Director of Department of Energy Statistics of the National Bureau of Statistics (NBS) of China, reported on the oil and gas development and monthly statistics in China. Mr. Zhang reported that China used to be an oil exporter and self-sufficient in natural gas. However, currently, China imports substantial amounts of crude oil and natural gas to meet domestic demand. On oil and gas statistics, Mr. Zhang mentioned that NBS collects data from industrial and service enterprises, oil companies and General Administration of Customs. Monthly oil and gas data are released on the NBS website. Responding to a question on stocks data, Mr. Zhang responded that the NBS release the stock change data.

Ms. Peony So, Engineer of the Electrical and Mechanical Services Department (EMSD) of Hong Kong, China, presented the challenges in JODI data collection and reporting in her economy. The sources of monthly data in Hong Kong, China are the Gas Division of EMSD, CLP Power Hong Kong Ltd, Hong Kong Electric, and Census and Statistics Department. Ms. So also reported that after the EGEDA meeting in February 2019, Hong Kong, China was able to improve the completeness of their JODI data.

Ms. Farida Lasnawatin, Head of Data Management of the Center for Data and Information on Energy and Mineral Resources (PUSDATIN) of the Ministry of Energy and Mineral Resources,

presented the oil statistics and issues in Indonesia. She mentioned that PUSDATIN collects oil and gas data from state oil and gas companies, state electricity company, other ministries and other general directorates of the ministry. However, Ms. Lasnawatin lamented the frequent staff turnover in the companies and government agencies that are sources of JODI data resulting in delays or even stoppage of data submission. This necessitates coordination and education of new personnel regarding data submission.

Mr. Himchul Shin, Associate Research Fellow of the Korea Energy Economic Institute (KEEI), presented the monthly oil and gas data collection system in Korea. Korea has a well-defined oil and gas industry such that data collection has a legal basis making it relatively easy for the KEEI to collect information. The only remaining challenge is the increasing number of natural gas direct import companies and no penalty is imposed for non-submission of data. KEEI is looking at jointly creating a reporting system with the Gas Industry Division of the Ministry of Industry, Trade and Energy.

Ms. Noor Aizah Binti Abdul Karim, Deputy Director of the Department of Industry and Planning, Energy Commission of Malaysia, reported the oil and gas statistics in Malaysia. She outlined the oil and gas resources in the economy as well as the oil and gas production and consumption. Regarding data collection, she enumerated the various sources of data in Malaysia.

Mr. Daniel Griffiths, Manager, Markets of The Ministry of Business, Innovation and Employment (MBIE), presented New Zealand's contribution and challenges in JODI reporting. He explained that the current spreadsheet-based data system in New Zealand is prone to errors. He also mentioned that treatment of intermediate products in the refinery is resulting in confusing data. He reported that New Zealand is developing a new data system that will dramatically improve their ability to meet deadlines and quality standards in international reporting.

Ms. Anita Capate and Ms. Gloria Ferranco of the Department of Energy of the Philippines presented the natural gas data reporting and enhanced oil data management in the Philippines, respectively. On natural gas, there seem to be no problem in data collection in the economy as concerned agencies and companies cooperate well in the government's data collection. On oil data, measures were applied to enhance energy data by enforcing government authority and requesting additional capital outlay to improve computer systems.

Ms. Ekaterina Meshcheriakova, Chief Expert of the Foreign Statistics and International Project, Federal Statistics Service (Rosstat), presented the challenges in energy data collection in the Russian Federation.

Mr. Jen-yi Hou, Director of Research Division IV, Taiwan Research Institute and Vice-chair of EGEDA presented the challenges in monthly oil and gas data reporting system in Chinese Taipei. Although Chinese Taipei has a very good data collection system, Mr. Hou identified eight challenges. Solutions have already been identified and just need to be implemented.

Ms. Bubpha Kunathai, Policy and Plan Analyst, Information and Communication Technology Center, Energy Policy and Planning Office, presented the oil and gas data reporting in Thailand. She identified several challenges, which were mostly delays from original sources as well as human errors. However, she mentioned that these are not serious issues.

Mr. William Brown, Senior Analyst, Office of Integrated and International Energy Analysis, U.S. Energy Information Administration, presented the U.S. data exchanges with international organizations. He reported the EIA's domestic petroleum surveys and how the results are disseminated in a number of online publications.

### **SESSION 5: Engaging with business**

Mr. Duncan Millard, an independent statistical advisor and former chief statistician of IEA, facilitated the workshop session on how to engage with businesses which were the sources of data for governmental statistical agencies and on dealing with confidentiality.

He asked the participants to form groups of two or more and discuss among themselves what they think is the value of JODI data to oil and gas businesses in their respective economies. The participants mentioned that businesses will gain the following: supply chain knowledge; understand the energy markets/potential customers; more data services; data for researchers for planning, strategies and investment decision; monitoring the price/operation; market stability; information on their market share; better relations with government and better business decision.

He also solicited from the participants the common reasons given by business whenever they are not able or delayed in supplying the requested data. The participants cited several reasons such as: data are just company estimates; staff on leave; data are secret/confidential; they have resources issues; there is confusion on data being requested; data are provided already to another government agency; there are IT problems; too busy; what good does it do them; and needing senior officers' approval.

From the responses to the two questions, he asked the participants to match the identified benefits to businesses that could be used to address the issues/reasons for not supplying the data. The exercise, allowed the participants to see the importance of explaining to businesses how supplying data to JODI would be beneficial to the businesses themselves. He added that maintaining good relations with businesses would improve data collection.

On confidentiality, Mr. Millard mentioned that the rules on confidentiality should be observed to establish trust with businesses. The government may still accept longer time lag and aggregated data in order to obtain data. He concluded that communication with business is vital to build confidence and relationships.

## **SESSION 6: Dialogue with participating economies**

Mr. Yuichiro Torikata, JODI coordinator of IEF, presented his assessment of the JODI data of member economies that participated in the workshop. He showed specific data issues and asked the participants for clarification. The exercise provided the member economies better understanding of their respective data problems and they promised to send revisions.

## **SESSION 7: JODI hands-on Exercises**

Mr. Gervais of IEA and Mr. Barcelona of APERC gave hands-on exercises in filling-out the JODI Oil and JODI Gas questionnaires, respectively. Data were prepared for the exercises beforehand. The participants needed to put the data in the questionnaires correctly.

In the JODI Oil exercise, participants needed to look at the automatic checks that are built into the questionnaire and understand why error messages appear and how these could be corrected.

In the JODI gas exercise, the data included; wellhead production of natural gas, NGL separated from the wet gas, flared gas, imports of piped gas, LNG and goods-in-transit as well as biogas. Participants were also expected to enter the information correctly in the questionnaire.

In the ensuing discussions, the participants understood refinery feedstocks and backflows as well as how to correctly report biofuels that are blended with petroleum products. Participants also understood how goods-in-transit should be reported in the questionnaire.

## **SESSION 8: Increasing data transparency across all energy data collection**

Ms. Giovannelli of UNSD, presented the International Recommendations for Energy Statistics (IRES). She mentioned that the energy world is continuously changing. Therefore, there is a need for more transparency and better coverage of global energy data. There is also a need to improve energy data quality in all countries and economies. This led to the preparation of the IRES.

The IRES includes the standard international energy product classification (SIEC) to serve as a basis for developing or revising national classification schemes for energy products to make them comparable with international standards.

Ms. Giovannelli also mentioned that the UNSD has issued the Energy statistics compilers manual (ESCM) with practical guidance and country examples in the preparation of energy statistics and energy balances to complement IRES. This is not a set of UN recommendations or best practices

but a set of voluntary guidance and examples for countries to use. The white-cover version of the ESCM is available at <https://unstats.un.org/unsd/energy/ESCM.htm>.

### **SESSION 9: Wrap-up session**

Mr. Kendell, started the wrap-up session by asking the participants if there is anything more they think that APERC can do to strengthen cooperation among JODI partners. IEF and GECF shared that they will continue to cooperate with partners to improve the training workshop. Training should be particularly focused in concerned economies. IEA mentioned that there are online videos in IEA that could be useful. Training should not just be about how to fill-out the forms but also the importance of data.

Further on training, OPEC shared that it has regular training courses that are open to APEC member economies that OPEC is getting data from, particularly, Brunei Darussalam, Papua New Guinea, Malaysia and Russia.

There was a comprehensive discussion regarding the issues raised during the three-day workshop on data gaps, staff turn-over, timeliness, confidentiality and monthly reporting. On timeliness, it is a choice between timeliness and estimated data just to meet the deadline. IEF mentioned that JODI's objective is to publish official data and there is no intention to compete with EIA, IEA, etc.

On staff-turnover issues, it was suggested that there should be robust process documentation so that new staff can adapt to the work immediately. There should be respondent's training/online manual and step-by-step guidelines on how to fill the forms.

Mr. Al-Zayer of IEF appreciated the workshop, which he found to be very active, informative, very engaging and commended the participating statisticians on the work they have done.

In closing, the EGEDA chair encouraged members to plan how to solve data problems.

### **ADJOURNMENT**

The workshop adjourned with the EGEDA chair thanking delegates for participating in the workshop, and wishing them to enjoy the remaining time in Tokyo and a safe journey home.