# **ACE's Energy Data Collection**

## 16<sup>th</sup> APEC Workshop on Energy Statistics 10-12 July 2018 Minato-ku, Tokyo, JAPAN

Presented by:

Visal Veng
Senior Officer Energy Research Analyst
Policy Research and Analytics Programme
ASEAN Centre for Energy





## Disclaimer

The views, opinions, and information expressed in this presentation were compiled from sources believed to be reliable for information and sharing purposes only, and are solely those of the presenter; do not necessarily reflect the views and opinions of the ASEAN Centre for Energy (ACE) and/or the ASEAN Member States. Any use of this presentation's content should be by ACE's permission.



### Contents

- I. ASEAN Energy Database System
- **II. Energy Data Collection Process**
- **III. Type of Energy Data Collection at ACE**



### **About ACE**



#### **Think Tank**

Identifying and surfacing innovative solutions



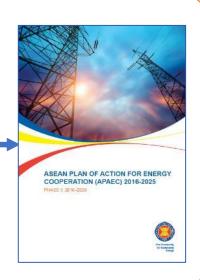
### Catalyst

 Unify and strengthen ASEAN Energy Cooperation and Integration



#### **Data and Knowledge Hub**

Provide a knowledge depository for AMS



ASEAN Power Grid

Trans-ASEAN Gas Pipeline

(1) Coal and Clean Coal Technology

(1) Energy Efficiency and Conservation

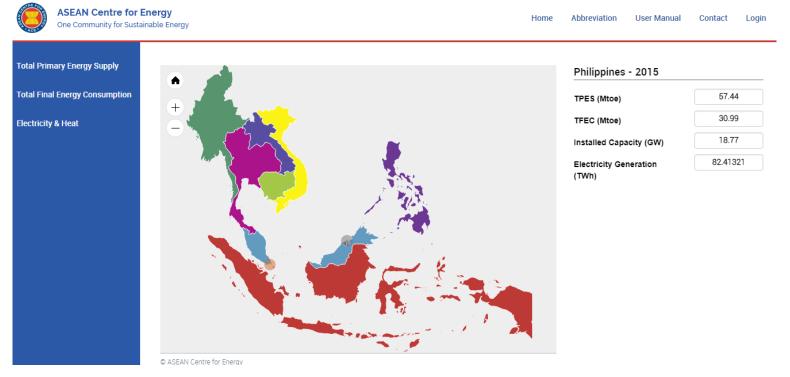
( Renewable Energy

(In the second Planning Regional Energy Policy and Planning Regional Energy Policy Energy Policy and Planning Region R

Civilian Nuclear Energy



## **ASEAN Energy Database**



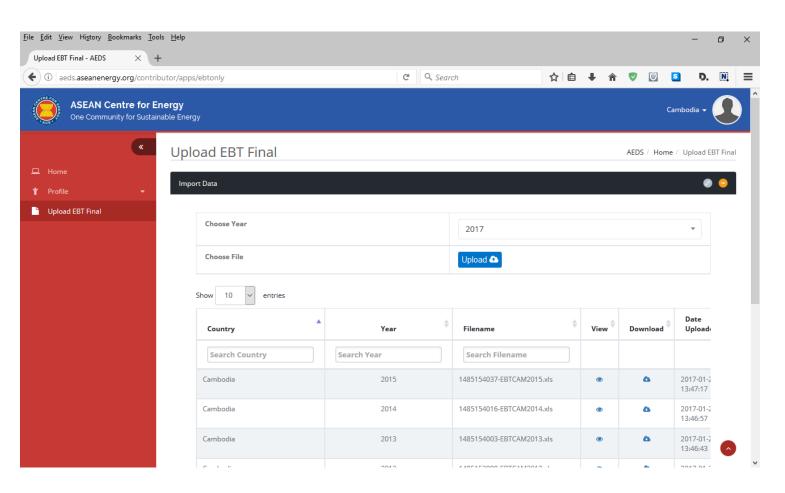
- ASEAN energy data hub.
- 3 layers of users: public, registered, contributors.
- Updated 2004-2015\* data of 10 AMS on TPES, TFEC and Electricity.
- Enhancement process for more verified and comprehensive data with robust system.

http://aeds.aseanenergy.org

Sources: ASEAN Energy Database System, as of 2018.



## **ASEAN Energy Database - Contributor**



- As contributors, the AMS experts would upload the all the questionnaires to generate the EBT inside.
- The five questionnaires are Coal, Oil, Gas, Renewable and Electricity. The separated one is oil price which is not a part of materials to generate electricity.
- The contributor would upload them annually.

http://aeds.aseanenergy.org

Sources: ASEAN Energy Database System, as of 2018.



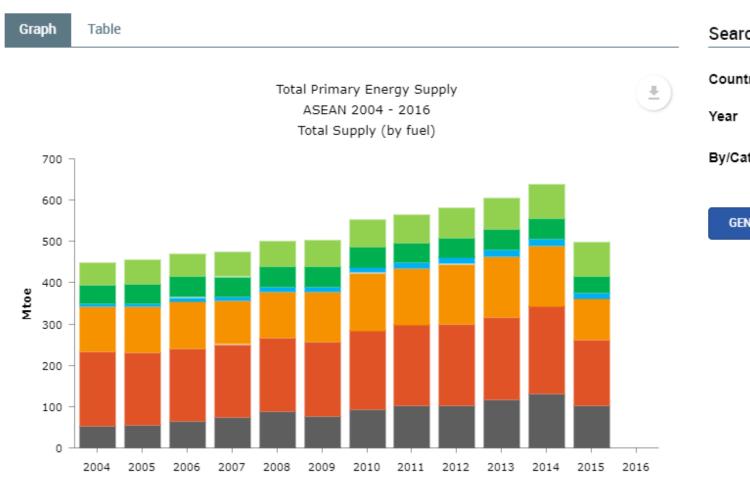
### **ASEAN Energy Database - Users**

One Community for Sustainable Energy

Total Primary Energy Supply

**Total Final Energy Consumption** 

**Electricity & Heat** 



■ Coal ■ Oil ■ Natural Gas ■ Nuclear ■ Hydro ■ Traditional Biomass

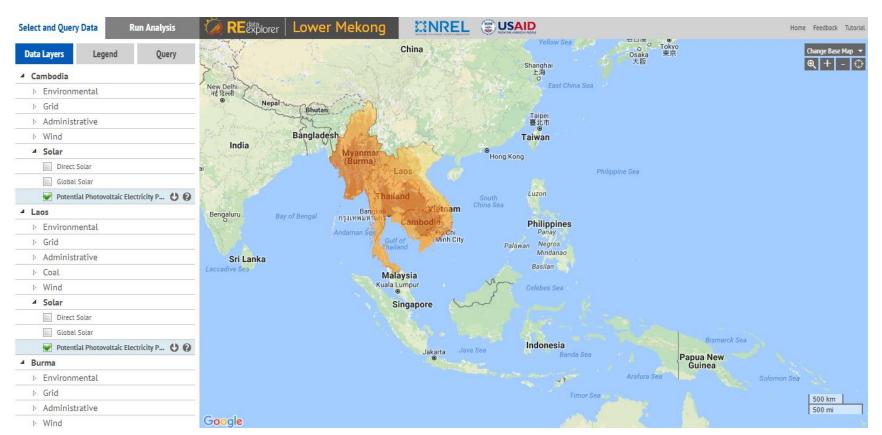
#### Search Parameters



GENERATE



### **REDE – A tools for Enhancement of AEDS**



USAID Workshop - March, USAID team introduced REDE to AMS, where

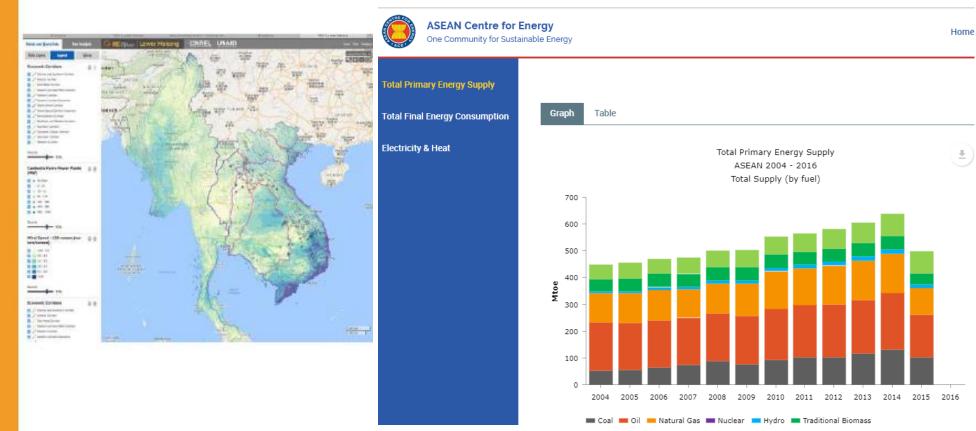
- Resource map that shows RE potential in each country/region to be further utilised as reference for power planning
- 2) Provides sets of data to balance the supply and demand systems, as response to the existing RE system's inability to control voltage and frequency





# The RE Data Explorer includes:

- Renewable resource data
  - Gridded solar and wind resource data
  - Biomass, geothermal, hydro, and conventional resources can also be added
- Base data
  - · Elevation and slope
  - Land use/land cover
  - Protected areas
  - · Political boundaries
  - Cities/towns
  - Rivers and lakes
- Infrastructure data
- Transmission lines
- Roads and railroads
- Power plants
- Other data of interest, for example,
  - · Meteorological stations
  - Rural development priorities (schools, electrification, etc.)



ASEAN interest to use REDE does not only come from its member states, but also from HAPUA, in attempt to green the grid (RE).



#### ASEAN Energy Database System (AEDS)

### **ASEAN Questionnaires**



**5 Questionnaires** 



Oil



**Natural Gas** 



Coal



Electricity



Renewable Energy

+ 1 Questionnaire



**Energy Prices** 

Each Q has:

**Primary Supply** 

Transformation

Import Export

Final Consumption Specific Sheets: Conversion for RE or Gas Process



One Community for Sustainable Energy

Please fill in the following information.

Member Economy Name:	
Year:	
Name of contact person:	
Organization:	
Email Address:	
Date:	

The Coordinating Agency for Expert Group on Energy Data Analysis
The Institute of Energy Economics, Japan.

Please send accomplished questionnaire to: apeced@edmc.ieej.or.jp

4 A	В	С	D	E	F	G	н	1	J	к	L	М	N	0	Р	Q	R	s	Т	U	٧	_
APEC-ASEAN Joint I	APEC-ASEAN Joint Format for Annual New and Renewable Energy Data																					
2 Supply Sector (Table 1)																						
3																						
4		FuelWood			Other				·						Geoth	ermal		Solar				
5		&	Bagasse	Charcoal <sup>2</sup>	Biomass <sup>3</sup>	Biogas	Industrial Waste	Municipal Solid Waste	Liquid Biofuels	of which	of which	of which	of which	Hydro	Electricity	Heat	Photovoltai	The	mal	Tide, Wave & Ocean	Wind	
6		Woodwaste								Biogasoline	Bioethanol	Bio-jet	biodiesels				С	Electricity	Heat			
7		1000t	1000t	1000t	1000t	10 <sup>10</sup> kca1 (gross)	1000t	1000t	1000t	1000t	1000t	1000t	1000t	GWh	GWh	10 <sup>10</sup> kcal (gross)	GWh	GWh	10 <sup>10</sup> kcal (gross)	GWh	GWh	
8		A	В	С	D	E	F	G	H	I	J	K	L	M	N	0	P	Q	R	S	T	
9 Production <sup>1</sup>	(+) 1																					
0 Imports	(+) 2																					
1 Exports	(-) 3																					
2 Stock Changes (+ or -)	(+) 4	0	0	0	0	0	0	0	0	0	0	0	0									
3 Gross Inland Deliveries (calculated)	(=) 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4 Statistical Differences	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5 Gross Inland Deliveries (observed)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6 TOTAL STOCKS on NATIONAL TERM	ITORY																					
7 Total stocks on national territory - Opening	8																					
8 Total stocks on national territory - closing	9																					
19																						



One Community for Sustainable Energy

4	A	В	С	D	E	F	G	Н	I	J	K	L	М	N	0
1	APEC-ASEAN Joint Format for Annual Oil Data														
0 1	Imnor	ts by Origin / Exp	norts	hy Desti	nation										
3 4	шрог	to by Origin / La	ports	by Desti	паноп										
4															
5															
	mports by	Origin:													
7				FuelWood &					Industrial	Municipal Solid					
9				Woodwaste	Bagasse	Charcoal <sup>2</sup>	Other Biomass <sup>3</sup>	Biogas	Waste	Waste	Liquid Biofuels	of which Biogasoline	of which Bioethanol	of which Bio-jet	of which biodiesels
10				1000t	1000t	1000t	1000t	10 <sup>10</sup> kcai (gross)	1000t	1000t	1000t	1000t	1000t	1000t	1000t
11				A	В	С	D	Е	F	G	Н	I	J	K	L
	APEC Econ	omies	1	0	0	0	0	0	0	0	0	0	0	0	0
13	Australia		2												
14	Brunei Da	arussalam	3												
15	Canada		4												
16	Chile		5												
17	China		6												
18	Hong Kon		7												
19	Indonesia		8												
20 21	Japan Republic	-f.V	10												
22	Malaysia	or Korea	11	<b> </b>											
23	Mexico		12												
24	New Zeals	and	13												
25	Papua Nev		14												
26	Peru		15												
27	Philippine	es	16												
28	Russian F	ederation ederation	17												
29	Singapore		18												
30	Chinese T	l'aipei	19												
31	Thailand		20												
32		ates of America	21												
33	Viet Nam		22												
34	ASEAN (no	n-APEC) economies	23	0	0	0	0	0	0	0	0	0	0	0	0



#### ASEAN Energy Database System (AEDS)

### **How ACE Updates the Data and Verify Our Data**













**Integration to AEDS** 



**ACE** 









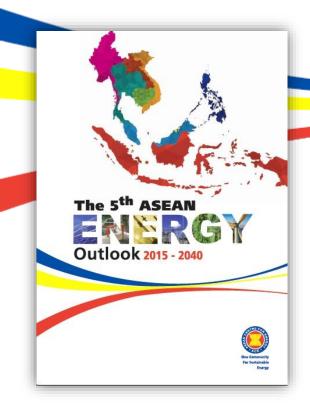






**Submission** 





ACE (2017). The 5<sup>th</sup> ASEAN Energy Outlook (AEO5). ASEAN Centre for Energy (ACE), Jakarta.

This report is available for download from <a href="https://www.aseanenergy.org/publications">www.aseanenergy.org/publications</a>

For further information or to provide feedback, please contact ACE at <a href="mailto:secretariat@aseanenergy.org">secretariat@aseanenergy.org</a>





