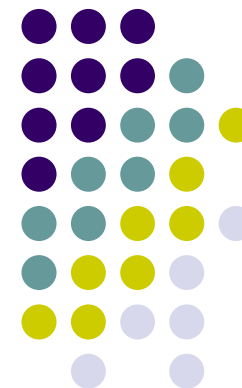


Observed New and Renewable Data in APEC and IEA

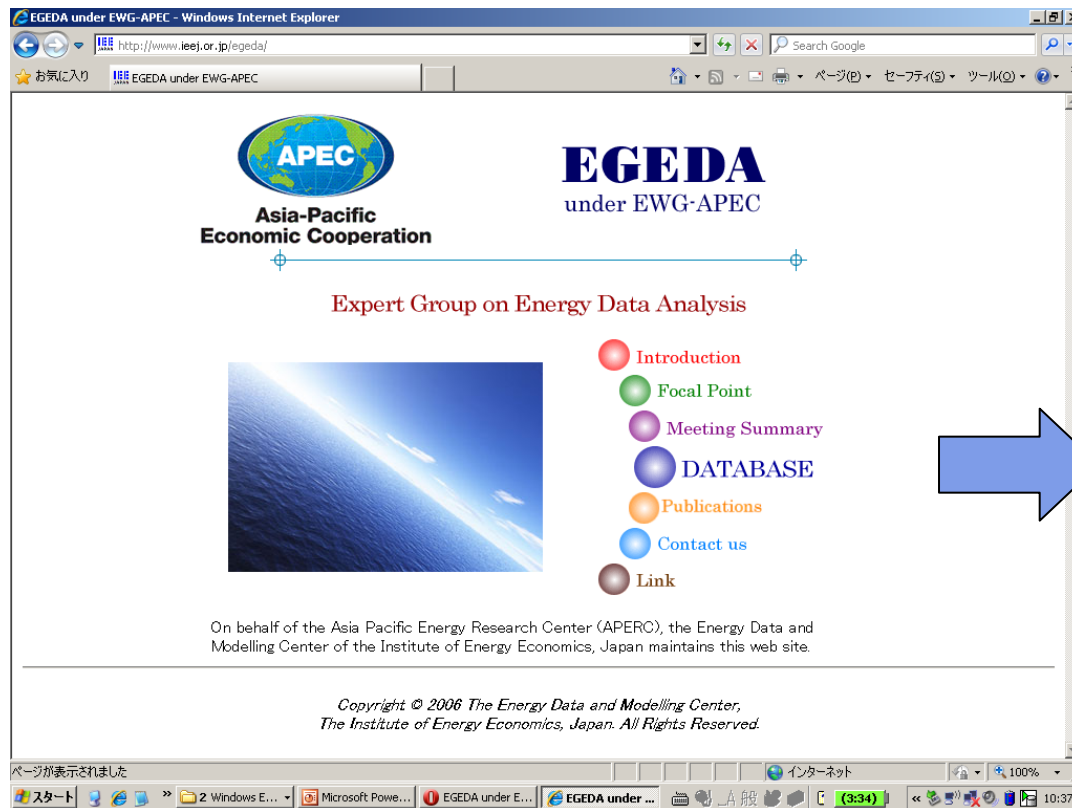
ASIA PACIFIC ECONOMIC COOPERATION (APEC)
NEW AND RENEWABLE ENERGY TECHNOLOGIES
EXPERT GROUP (EGNRET) MEETING

Prestige Hotel
Ha Noi, Viet Nam

2nd April, 2013
Takuya MIYAGAWA
EDMC, IEEJ



EGEDA: Expert Group on Energy Data Analysis



Monthly Oil & Gas data

- JODI Oil

- JODI Gas

Quarterly Energy Supply Data

Annual Energy Data

<http://www.iej.or.jp/egeda/>

History of Annual Energy Data Collection in APEC Region

1992: **1st trial** energy data collection for 1990 annual energy data.

Commercial Biomass Energy (ex. Wastes for Power Generation) were included. As supplemental, non-commercial biomass were submitted.

2005: **Revised questionnaires** are applied for annual data collection.

Non-commercial Biomass Energy and New Energy are included in the APEC questionnaire.

APEC Annual Energy Data Collection:

- Coal
- Oil
- Gas
- Electricity & Heat
- New & Renewables

Energy Balance Table

Member : Vietnam

Year : 2010

Unit:KTOE

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
	Coal	Coal Prod	Crude Oil	Petroleum	Gas	Hydro	Nuclear	Geotherm	Others	Electricity	Heat	Total
1. Indigenous Production	24,646		16,053		8,123	2,455			14,710			65,988
2. Imports	576	79		12,703						482		13,840
3. Exports	-11,031	-72	-8,121	-1,531						-83		-20,838
4. International Marine Bunkers												
13.1 International Aviation Bunkers												
5. Stock Changes	532		-499	1,597								1,630
6. Total Primary Energy Supply	14,723	7	7,434	12,769	8,123	2,455			14,710	399		60,620
7. Transfers			-817	817								0
8. Total Transformation Sector	-4,837		-5,606	4,545	-7,631	-2,455			-15	8,215		-7,784
8.1 Main Activity Producer	-4,720			-632	-7,378	-2,455			-2	7,947		-7,240
8.2 Autoproducers	-117			-529	-253				-13	268		-644
8.3 Gas Processing												
8.4 Refineries			-5,606	5,706								100
8.5 Coal Transformation												
8.6 Petrochemical Industry												
8.7 Biofuel Processing												
8.8 Charcoal Processing												
8.9 Other Transformation												
9. Loss & Own Use			-1,011							-1,085		-2,095
10. Discrepancy	0	0	0	0	0				0	-53		-53
11. Total Final Energy Consumptions	9,886	7		18,131	493				14,695	7,476		50,687
12. Industry Sector	8,298	7		4,883	493				2,584	4,000		20,266
13. Transport Sector				11,164								11,164
14. Other Sector	1,588			2,084					12,111	3,475		19,258
14.1 Residential & Commercial	1,568			1,577					12,111	3,394		18,650
14.2 Agriculture	20			507						81		607
14.3 Fishing												
14.4 Others												
15. of which Non-Energy Use				2,756								2,756

New & Renewable Questionnaire for APEC Annual Energy Data



4 Tables for New & Renewable Energy

- Supply
- Transformation
- Final Consumption
- Conversion Factor

APEC-ASEAN Joint Format for Annual New and Renewable Energy Data																	P.1
Supply Sector (Table 1)																	
Update	FuelWood & Woodwaste	Bagasse	Charcoal ²	Other Biomass ³	Biogas	Industrial Waste	Municipal Solid Waste	Liquid Biofuels	Hydro	Geothermal		Solar			Tide, Wave & Ocean	Wind	
	1000t	1000t	1000t	1000t	10 ¹⁰ kcal (gross)	1000t	1000t	1000t	GWh	Electricity	Heat	Photovoltaic	Thermal		GWh	GWh	
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
Production ¹	(+) 1																
Imports	(+) 2																
Exports	(-) 3																
Stock Changes (+ or -)	(+) 4	0	0	0	0	0	0	0									
Gross Inland Deliveries (calculated)	(=) 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Statistical Differences	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Gross Inland Deliveries (observed)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL STOCKS on NATIONAL TERRITORY																	
Total stocks on national territory - Opening	8																
Total stocks on national territory - closing	9																

New & Renewable Questionnaire for APEC Annual Energy Data

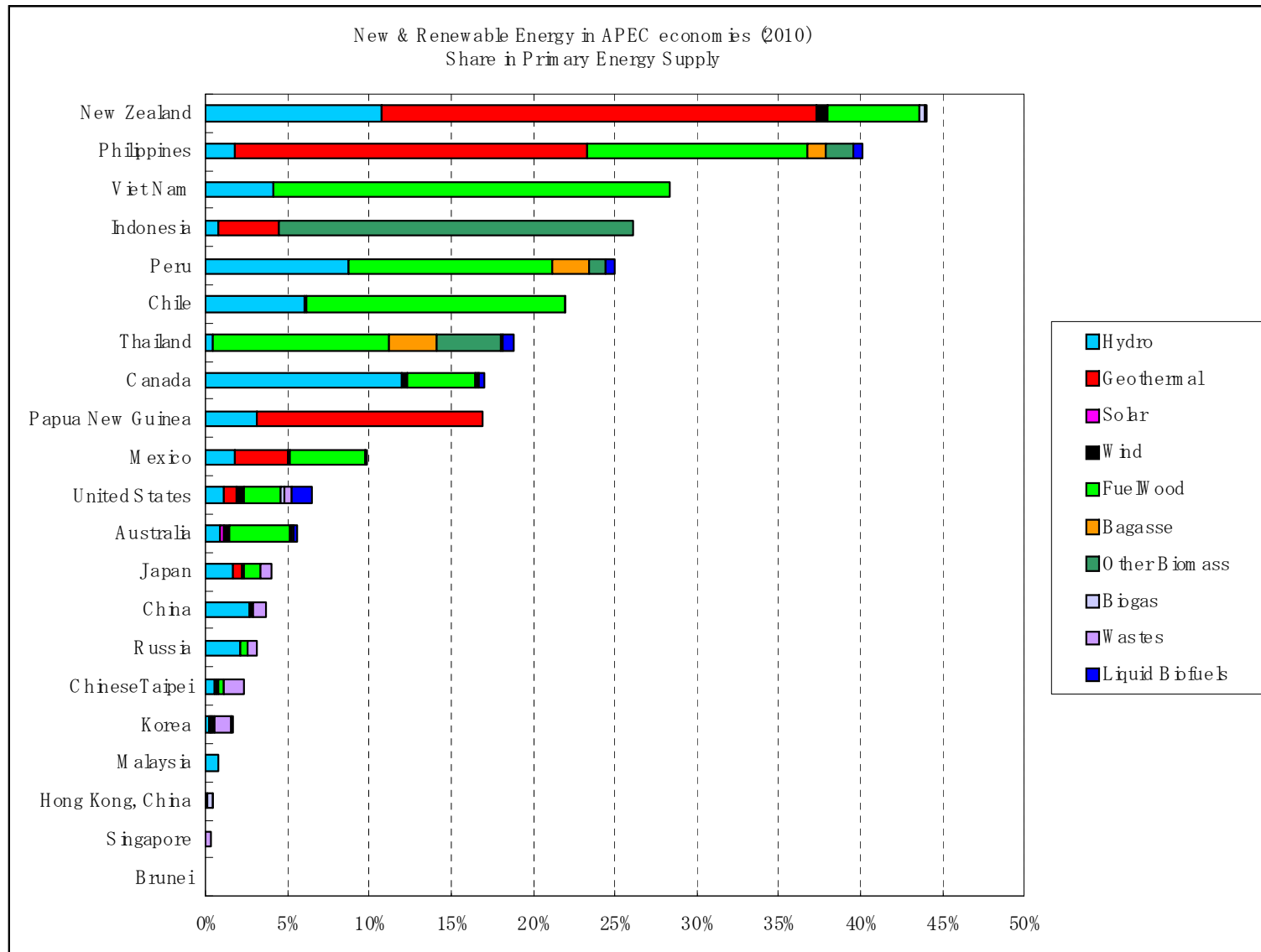


Products in New & Renewable Questionnaire

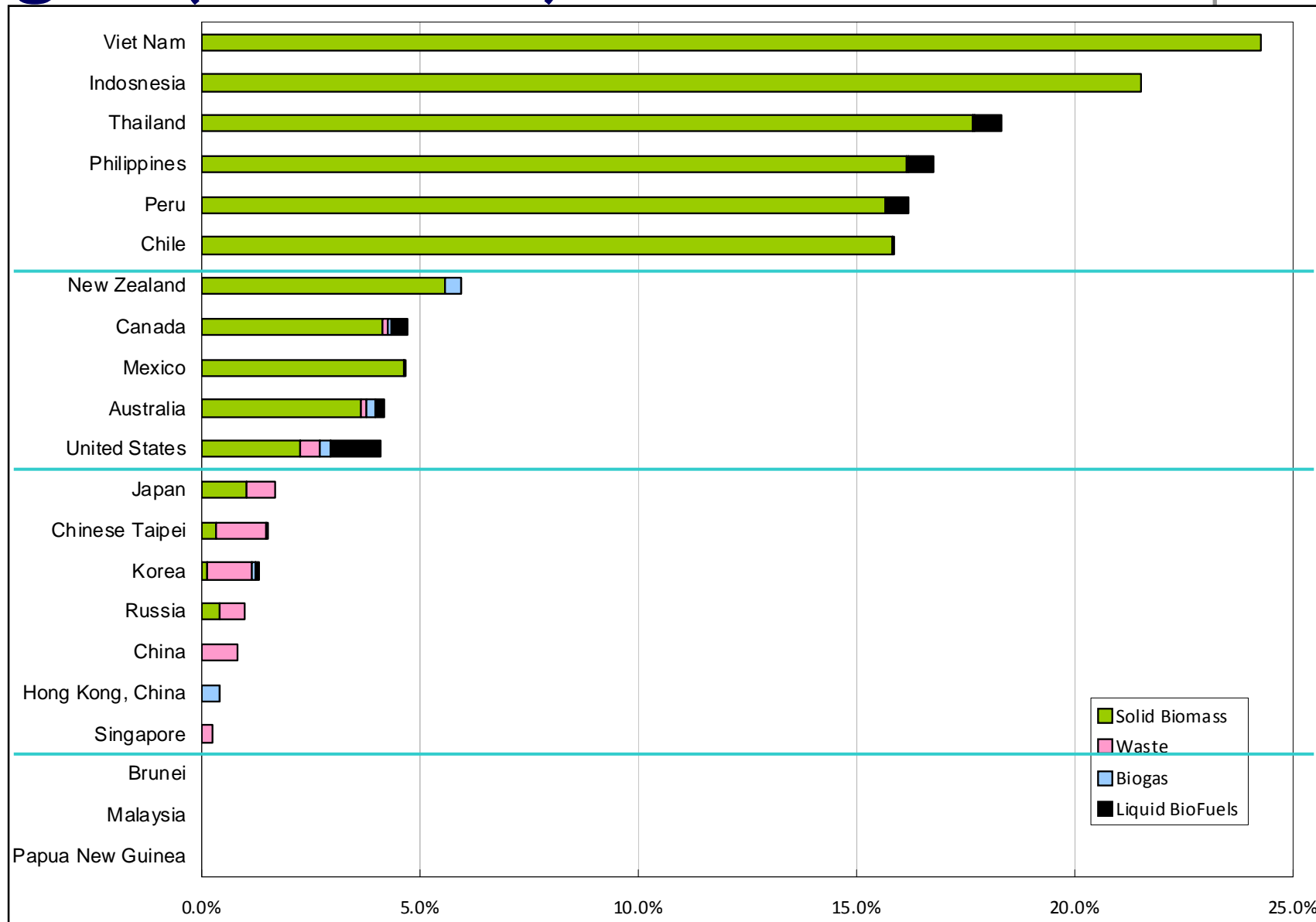
- Fuelwood and Woodwaste
- Bagasse
- Charcoal
- Other Biomass
- Biogas
- Industrial Waste
- Municipal Solid Waste
- Liquid Biofuels
- Hydro
- Geothermal (Electricity / Heat)
- Solar (Photovoltaic / Thermal)
- Tide, Wave and Ocean
- Wind

Supply Sector (Table 1)																	P.1
Update	FuelWood & Woodwaste	Bagasse	Charcoal ²	Other Biomass ³	Biogas	Industrial Waste	Municipal Solid Waste	Liquid Biofuels	Hydro	Geothermal		Solar			Tide, Wave & Ocean	Wind	
										Electricity	Heat	Photovoltaic	Thermal				
		1000t	1000t	1000t	1000t	10 ¹⁰ kcal (gross)	1000t	1000t	1000t	GWh	GWh	10 ¹⁰ kcal (gross)	GWh	Electricity	Heat	GWh	GWh
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	
Production ¹	(+) 1																
Imports	(+) 2																
Exports	(-) 3																
Stock Changes (+ or -)	(+) 4	0	0	0	0	0	0	0									
Gross Inland Deliveries (calculated)	(=) 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Statistical Differences	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Gross Inland Deliveries (observed)	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
TOTAL STOCKS on NATIONAL TERRITORY																	
Total stocks on national territory - Opening	8																
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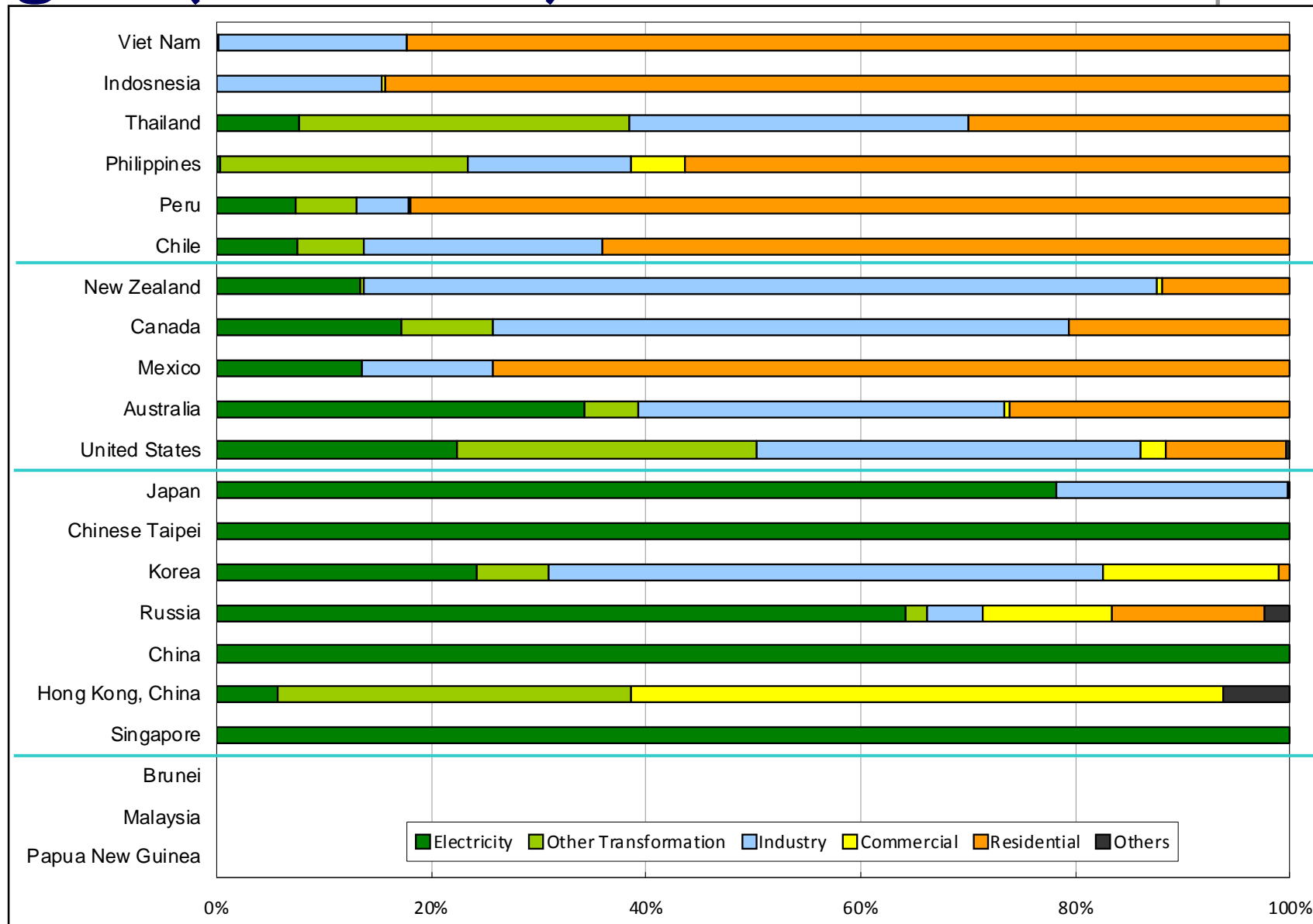
New and Renewable Energy Share in Total Energy Supply (Year 2010)



Biomass Energy Supply in APEC Region (Year 2010)



Biomass Energy Supply in APEC Region (Year 2010)



IEA Energy Data



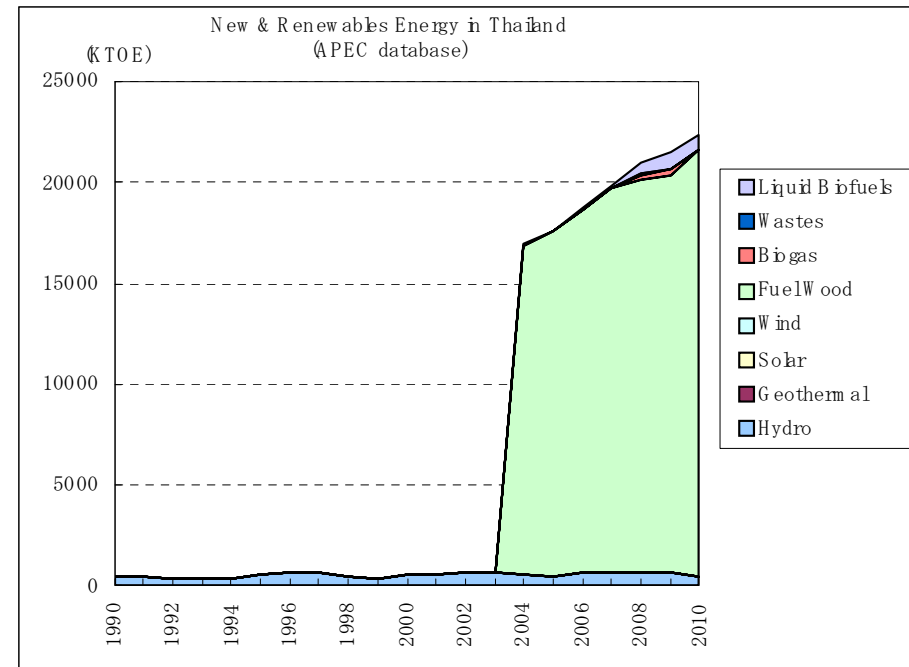
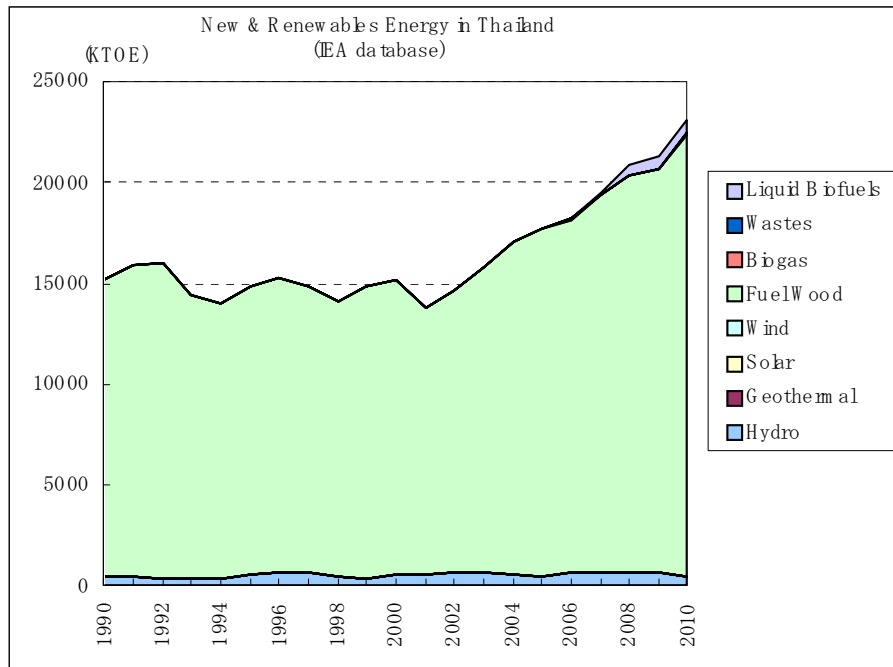
IEA Publication:

Energy Statistics / Energy Balances
of OECD Countries

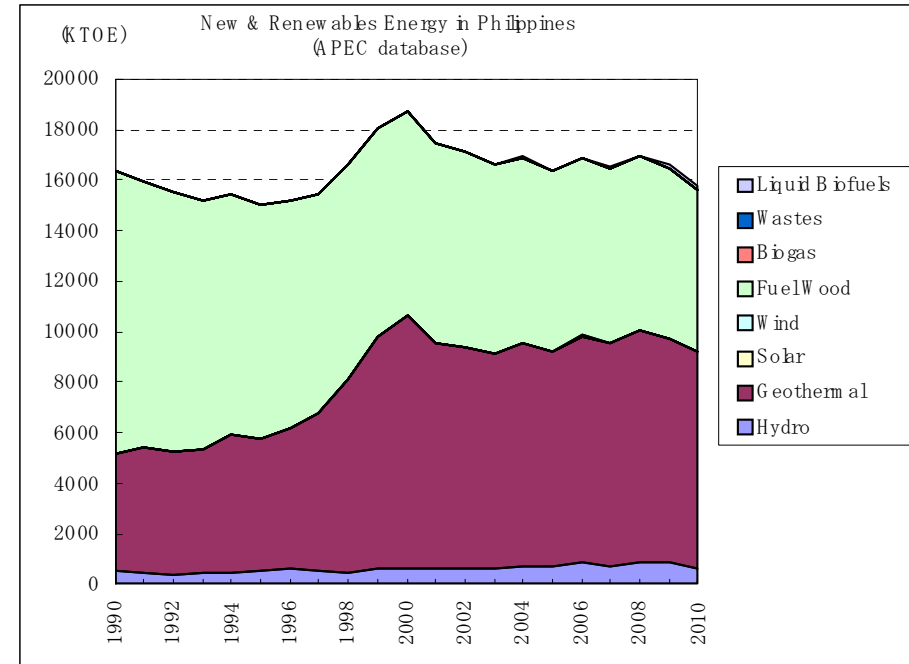
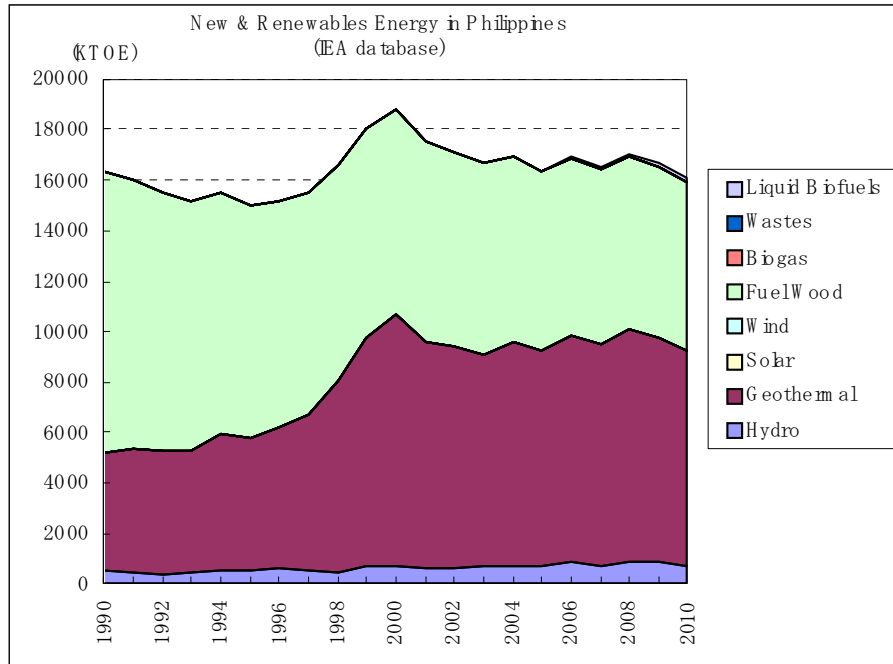
Energy Statistics / Energy Balances
of non-OECD Countries

>> 20 / 21 APEC economies are
included in these publications

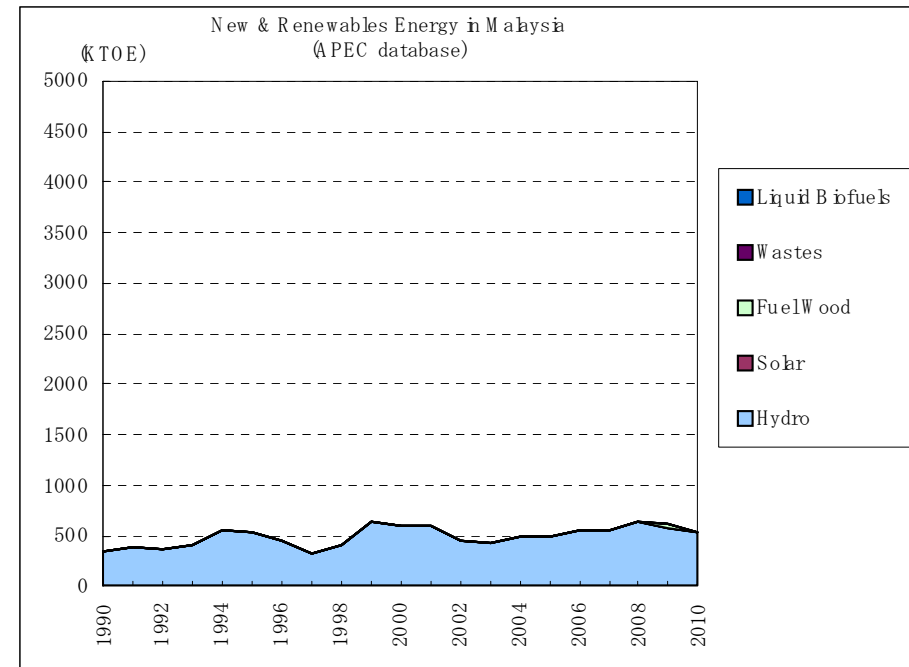
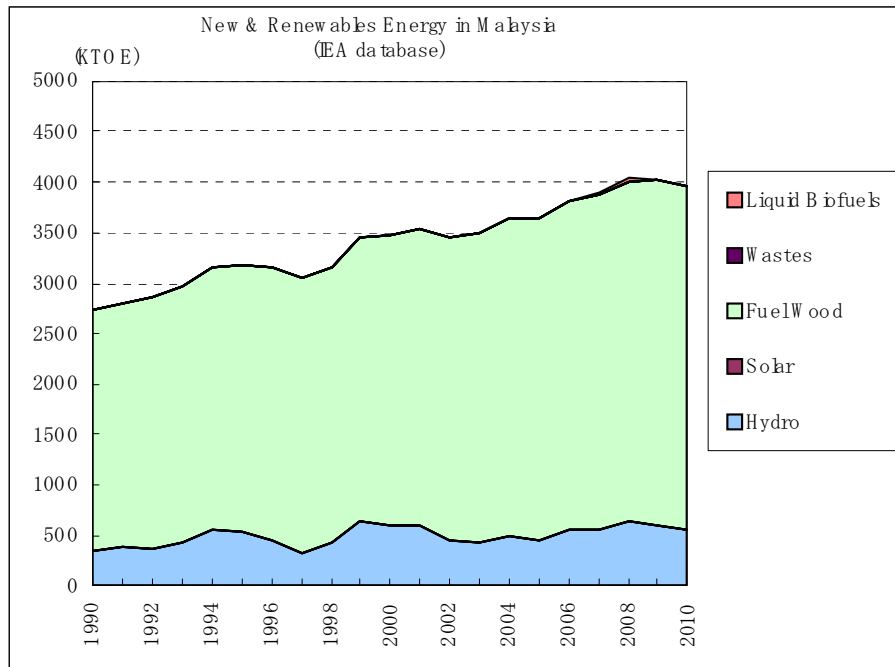
APEC Data & IEA Data: Thailand



APEC Data & IEA Data: Philippines



APEC Data & IEA Data: Malaysia



For 2012 data collection:

Example: Revised Definition for Natural Gas

1. Natural Gas

- **Associated Gas:** natural gas produced in association with crude oil.
- **Non-Associated Gas:** natural gas originating from fields producing hydrocarbons only in gaseous form.
- **Colliery Gas:** methane produced at coal mines *as byproduct of coal*, piped to the surface and consumed at collieries or transmitted by pipeline to consumers.
- **Shale Gas:** *natural gas produced from hydrocarbon rich shale formation. Shale gas is typically a dry gas primarily composed of methane (90% or more methane), but some formations do produce wet gas.*
- **Coal Seam Gas:** *Coal seam gas (also known as coal bed methane or coal seam gas) is a form of natural gas extracted from coal beds.*