



APERC Workshop at EWG47, Kunming, China
19 May 2014

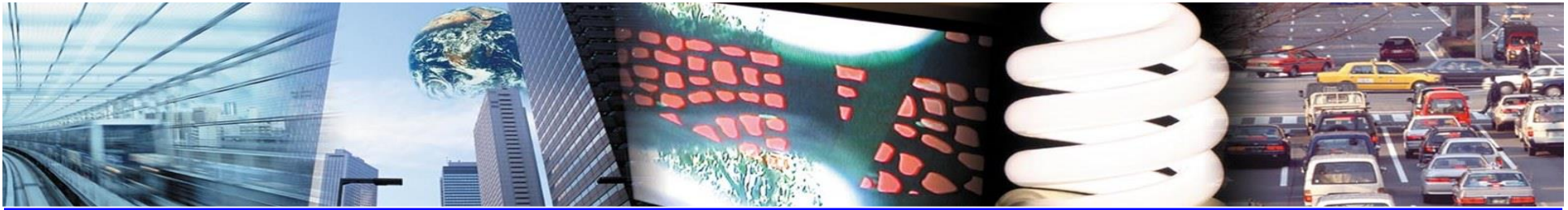
4. Oil and Gas Emergency Exercises

4-2. Joint Southeast Asian Exercise

Elvira Torres-GELINDON
Senior Researcher, APERC



Asia-Pacific
Economic Cooperation



OUTLINE OF PRESENTATION

INTRODUCTION

- Background of the 7 Economies
- Oil and Gas Supply and Demand

FIRST STAGE SCENARIO

- 1st Stage Scenario
- Response

SECOND STAGE SCENARIO

- 2nd Stage Scenario
- Response

FROM THE EXPERTS

- Comments
- Recommendations



THE SEVEN ECONOMIES

Thailand

limited domestic oil production and reserves; imports make up a significant portion of its oil consumption; holds large proven reserves of natural gas

Viet Nam

Imports about 70% of oil products; produces gas for its domestic consumption

Malaysia

well-endowed with conventional oil and gas resources, produces 13% of the world's LNG exports and exports crude oil and piped gas; both exporter and importer of petroleum products.

Brunei Darussalam

net exporter of oil and gas (LNG), but imports about half of its refined petroleum products' supply

Philippines

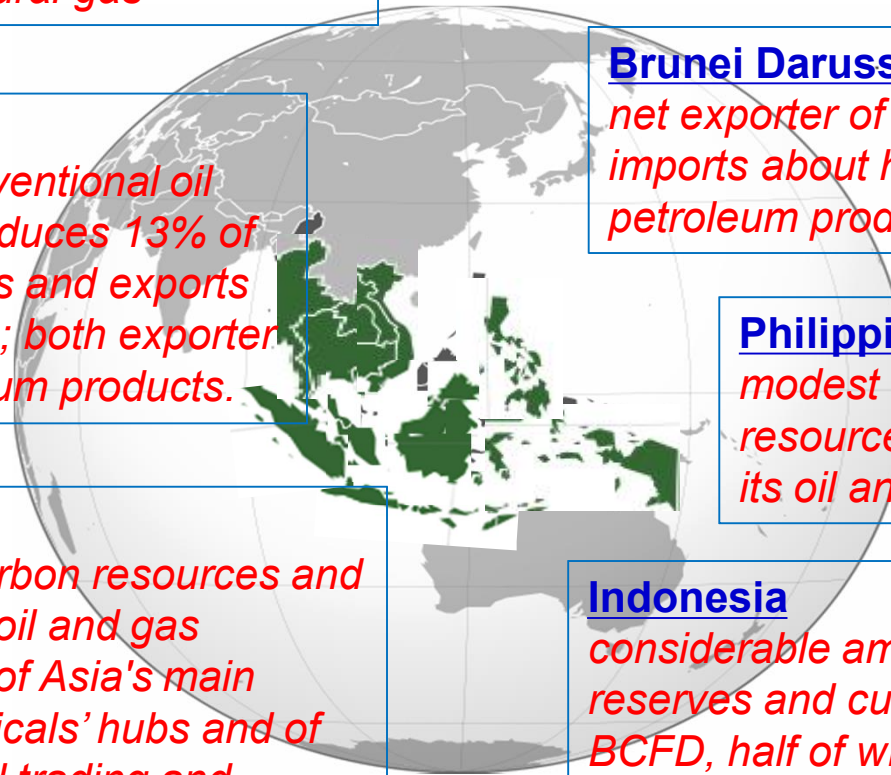
modest indigenous energy resources, and imports most of its oil and petroleum products

Singapore

no indigenous hydrocarbon resources and imports all of its crude oil and gas requirements, but one of Asia's main energy and petrochemicals' hubs and of the world's top-three oil trading and refining centers

Indonesia

considerable amount of natural gas reserves and currently producing 8 BCFD, half of which are exported as LNG and piped gas; imports about 40% of its crude oil





SUPPLY and DEMAND

OIL (ktoe)	BD	IND	MAS	PH	SIN	THA	VN
Supply	773	81733	29127	12753	13862	45222	20203
Indigenous	8876	51322	31311	313		19259	16053
Import	276	41123	20882	15029	144994	43890	12703
Export	(8200)	(21332)	(21315)	(1420)	(83790)	(11145)	(9652)
Demand	624	64519	23903	11296	8766	37472	18131
	Transpo	Transpo	Transpo	Transpo	Transpo	Transpo	Transpo
Stockpile policy	31 days	HSD/ADO -21 COD; Avgas-28 COD.	No existing policy	Commercial oil stockpile of 30 days		Mandatory oil stock = 45 days	60 days

GAS (ktoe)	BD	IND	MAS	PH	SIN	THA	VN
Supply	2621	46214	28819	3473	6605	39913	8123
Indigenous	11890	81992	48075	3473		31093	8123
Import			5977		6605	8820	
Export	(9291)	(35778)	(25233)				
Demand	27	16996	7347	82	123	6414	493
	Power	Power	Industry	Power	Power	Power	Power



FIRST STAGE SCENARIO

WAR



Anonymous

- hit the key infrastructures in Iran (2.68 mbpd), Iraq (3.14 mbpd) and the GCC countries 17 mbpd), resulting in a temporary disruption of oil and gas productions;
- Saudi Arabia (crude oil production: 9.56 mbpd in 2013) and Qatar (crude oil production: 0.73 mbpd in 2013)

suspend crude oil and gas production and exports, at least 10 days



JIHAD



Al-Qaida

Al-Qaida stages surprise terrorist attacks on major GCC crude oil and gas export facilities, e.g. Ras Tanura (SA), Mina al-Ahmadi (Kuwait), Messaid and Ras Raffan (Qatar), Ruwais and Das Island (UAE)

spot crude oil price - \$130/bbl
 spot LNG price - \$20/million BTU

spot crude oil price - \$170/bbl
 spot LNG price \$25 per million BTU

crude oil and LNG exports thru' the Strait of Hormuz halved for at least 2 months



EMERGENCY RESPONSE

Government's Initial Actions

“ Emergency arrangement together with affected government

Assessment of Direct Impact

“ Implications or economic damage

Basic Stance of the Government

“ Priority policy

Energy Supply Measures

“ Energy supply action which will be taken by concerned government

Demand Side Measures

“ Energy measures to be taken for each consumption sector

Other Points for Consideration

“ Other possible measures to be taken



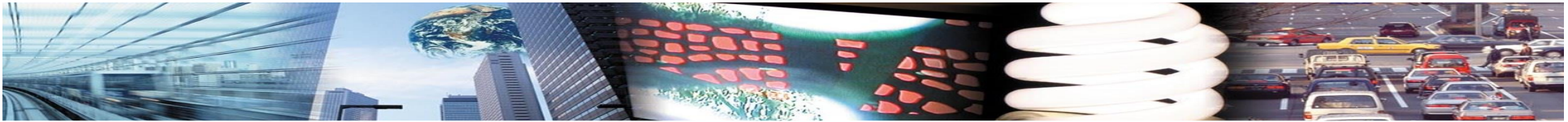
ECONOMY'S RESPONSE

Government's Initial Action



Responses vary according to the available resources and contingency plans of the seven economies. Generally, the government's initial action involves the mobilization of the agencies concerned with energy and emergency situations:

- ❖ **Brunei**- coordinate with its lead disaster agency, NDMC;
- ❖ **Indonesia** –monitor the situation and work closely with APEC RTEIS;
- ❖ **Malaysia** - direct relevant agencies to prepare reports on the impact of the emerging situation, such as the PETRONAS, office of the Prime Minister, etc;
- ❖ **Philippines** –convene the Inter-Agency ECC which consists of the DOE as the Lead Agency, DOF and DBM;
- ❖ **Singapore** – monitoring through the Risk Assessment Horizon Scanning (RAHS) programme office;
- ❖ **Thailand** – meet with Fuel Management Committee and several agencies;
- ❖ **Viet Nam** – MOIT leads the emergency meeting with Committee on the State Management of Domestic Market;

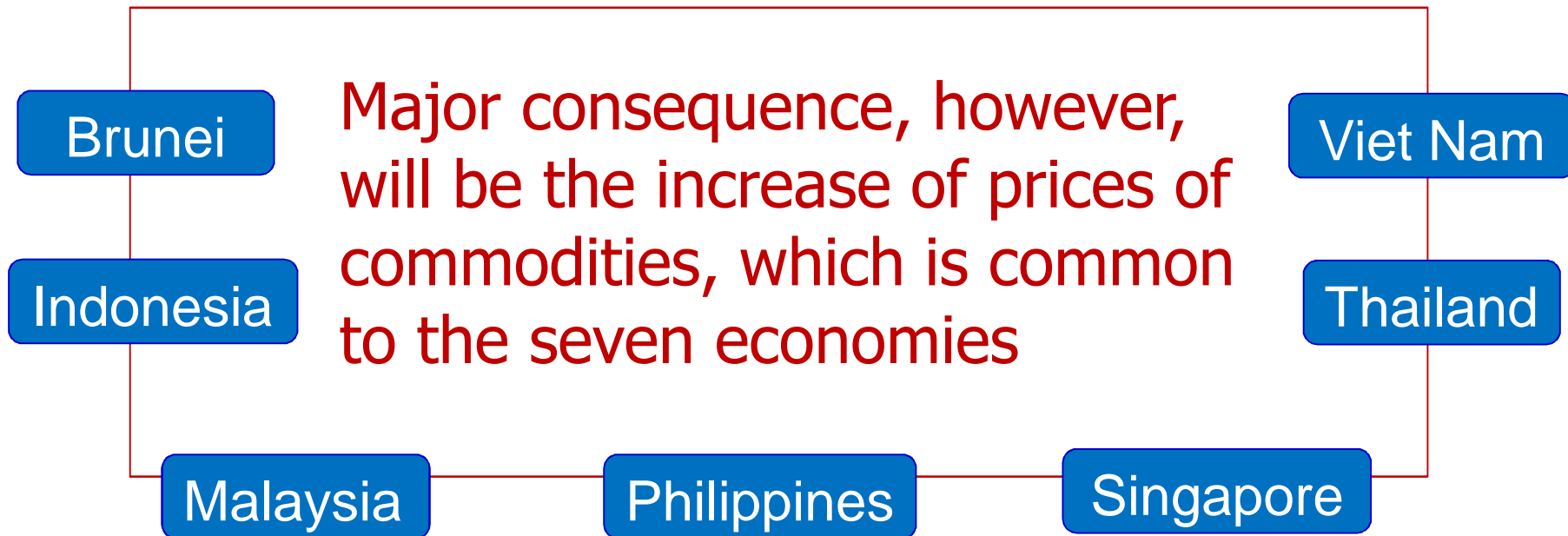


ECONOMY'S RESPONSE

Economic Impact



Oil/Gas price increases will initially benefit exporting economies





ECONOMY'S RESPONSE

Energy Supply Measures



diversification of oil and gas sources to meet domestic demands



Increasing respective domestic productions and decreasing exports to give priority to own demand



Releasing oil stock; reducing feedstock for non-energy use; activation of APSA; rationing



ECONOMY'S RESPONSE

Energy Demand Measures



Car pooling



Shifting in working hours



use of alternative fuels

Energy demand measures involved, strict implementation of energy conservation



SECOND STAGE SCENARIO

BRUNEI DARUSSALAM

accident in a pipeline from an offshore gas field to Lumut

INDONESIA

explosion at one of the pipeline's eight compressors and receiving stations

MALAYSIA

accident in an offshore pipeline from the West Natuna Gas Field

PHILIPPINES

production halt at the Malampaya Gas Field due to typhoon

SINGAPORE

accident at the production and shipment facilities of the West Natuna Gas Field

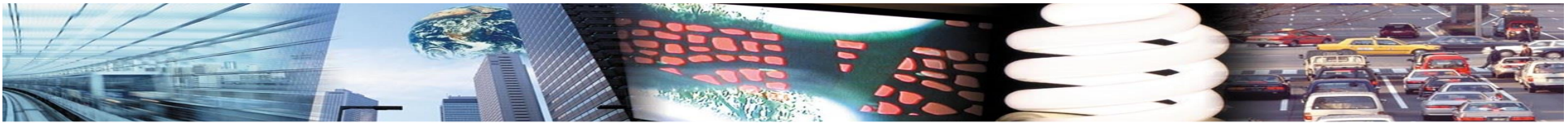
THAILAND

accident in a JDA district

VIET NAM

accident in a pipeline from the Bach Ho/Rong Gas Field

Specific to economy



ECONOMY'S RESPONSE



Alternative fuel for power and transportation



Energy Conservation



Rationing and limiting exportation



Activation of APSA *

** APSA - is covenant among member states in the ASEAN that establishes petroleum sharing scheme aimed at assisting member state(s) in time of emergencies due to petroleum supply shortages.*



COMMENTS (1)

- Commended the participating economies' immediate response, especially for the 2nd scenario, which was very short; participants were very knowledgeable;
- Improvement on the response by providing additional information on the specific coordination with oil and gas suppliers/traders;
- Alternative fuel use is an effective mitigating measures, only for the long term, but for an ongoing emergency situation such as oil disruptions due to civil wars, natural calamities, etc; alternative fuels or RE may not be a feasible immediate solution



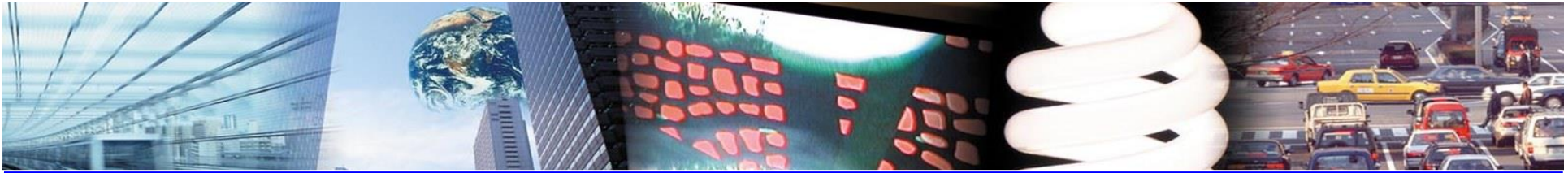
COMMENTS (2)

- ❑ May include measures to be undertaken for those economies which has an existing oil and gas trade agreements with other economies/countries;
- ❑ Though not yet clear how it works, most economies are positive on APSA as potential vehicle for regional cooperation for oil and gas supply crises;
- ❑ Clearly for gas emergency situations, there is much less knowledge of mechanisms/policies to deal with supply disruptions as compared to oil emergency situation.



GENERAL RECOMMENDATIONS (1)

- ❑ A need to include some statistics to clearly show the implication of an emergency situation in the economies' supply and demand situation;
- ❑ Further analysis on the effect of oil and gas emergency situation particularly in the demand side and the key measures to be implemented accordingly;
- ❑ For better understanding of the effect; a need to include the other sectors of the economy which would likely be affected by oil and gas emergency situation other than the energy sector;



GENERAL RECOMMENDATIONS (2)

- ❑ Identify further the strengths and weaknesses that an oil and gas emergency situation can bring to the economy;
- ❑ Need to show the possibility of integrating the emergency responses to the respective economies' Plan of Action;
- ❑ Need to identify further the possible institutions of the economy that would be involved in the emergency exercise; and the respective institutions' key priorities;
- ❑ Need to include plans for human capability enhancement who can be tapped during oil and gas emergency situation;



THE EXPERTS

“ Mr.
Cuauhtemoc
**LOPEZ-
BASSOLS**

IEA



“ Mr.
Victorino
Salvaleon
BALA

ASCOPE



“ Dr. Eri
PRABOWO

HAPUA



“ Dr.
Phoumin
HAN

ERIA



• Dr. Ken
KOYAMA

IEEJ



“Dr.
Chatchawan
CHAICHANA

Thai
Academe



“Dr. Ucok
Welo Risma
SIAGIAN

Indonesian
Academe



“Dr.
Woonam
SEOK

Korea



“ Ms.
Junko
YADA

Japan



• Mr.
Koichiro
TANAKA

IEEJ/JIME



“ Mr. Hiroshi
HASHIMOTO

IEEJ





APERC TEAM

“ Mr. Takato
OJIMI

APERC



“ Dr.
Kazutomo
IRIE

APERC



“ Mr. Goichi
KOMORI

APERC



“ Ms. Elvira
Torres-
GELINDON

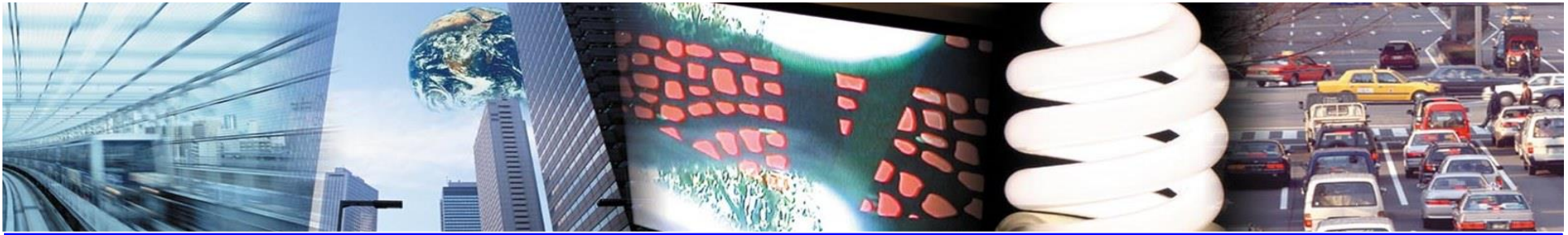
APERC



“ Mr.
Chrisnawan
ANDITYA

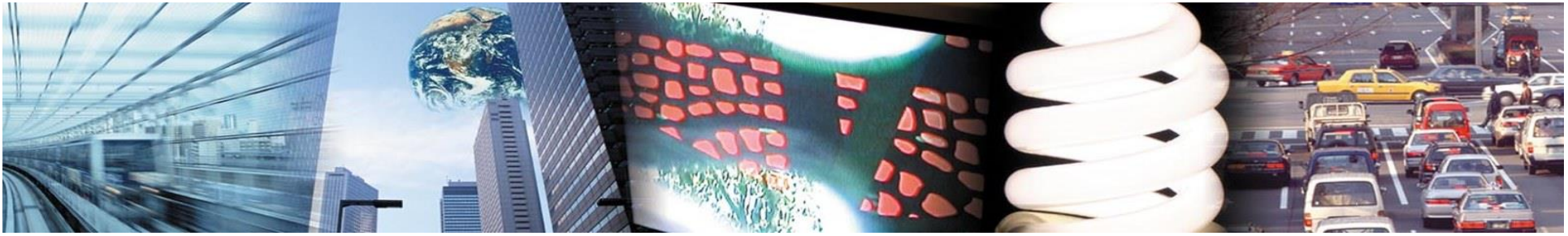
APERC





PHOTOS





THANK YOU FOR YOUR ATTENTION