Notable Development on Oil and Gas in Thailand

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Highlights of Recent Changes in Demand and Supply on Oil and Gas in Thailand



Production, Consumption and Import (Net) of Primary Commercial Energy in Thailand

	2013	2014	2015	2016	2017*			
Consumption	1,994	2,038	2,069	2,096	2,132			
Production	1,063	1,058	1,015	1,018	973			
Import (Net)	1,130	1,171	1,251	1,275	1,359			
Import/Consumption (%)	57	57	60	61	64			
Growth Rate (%)								
Consumption	1.7	2.2	1.5	1.3	1.6			
Production	0.4	-0.5	-4.0	0.3	-4.7			
Import (Net)	4.2	3.6	6.8	1.9	6.0			
GDP (%)	2.8	0.9	2.8	3.2	3.8**			

Unit: KBD crude oil equivalent

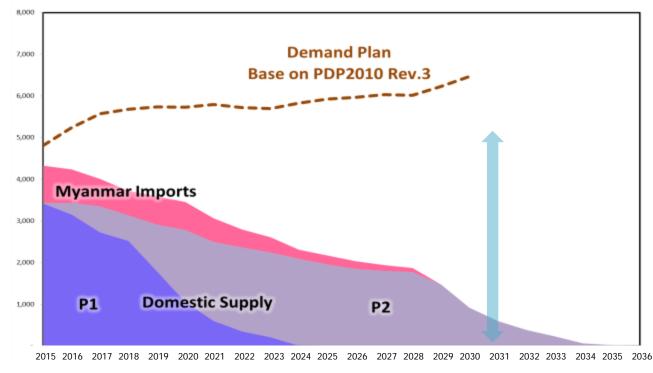
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** Jan - Sep

Recent notable developments in policies of oil and gas in Thailand.



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Natural Gas Demand and Supply (PDP2010)



Trends

- Domestic production will start to decline in 2017
- GSP can only take less than 50% of their capacity intake by 2029
- Import will increase 19.9%/year
- Dependence on 100% of LNG import in 2034
- LNG import will reach 5,500 MMsfd or 40 million tons/year by 2030

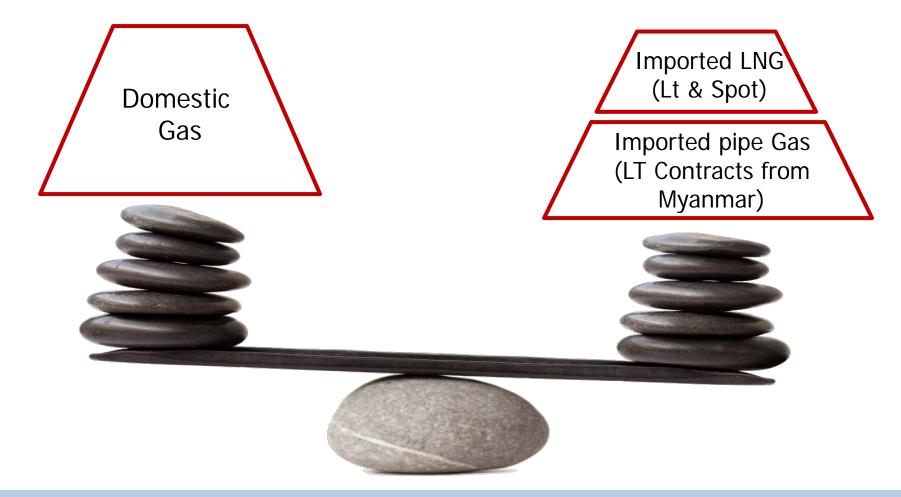
Gas plan, therefore, aims to manage Thailand's natural gas demand and supply by 4 strategies as follows;

- 1) Slow down the demand for natural gas
- 2) Prolong domestic natural gas production
- 3) Procure and manage LNG
- 4) Develop infrastructure for LNG import





Management on Gas Supply



On Supply –Side, management under Gas Plan aims to balance between supply produced from Domestic Fields and supply imported from Outside; via pipeline from Myanmar and in the form of LNG.

Thailand LNG Import

2.5

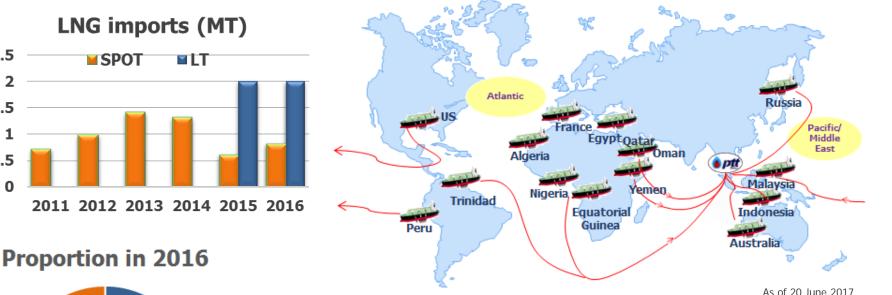
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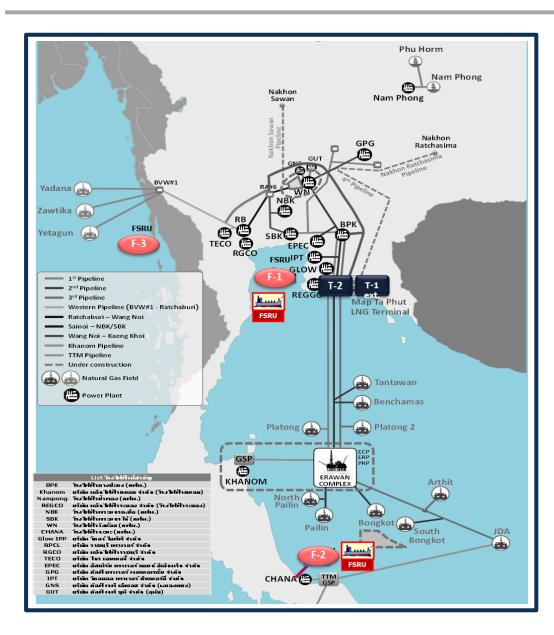
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- Thailand's LNG demand is expected to reach 3.6 MTPA in 2017 increasing from 2.9 MTPA from last year
- We expect more than 75% of total import this year will be procured under long term contracts to ensure security of supply in our country.

Natural Gas Infrastructure









LNG Receiving Terminals in Thailand

	Existing Capacity (MTPA)	New Approval Capacity (MTPA)	Operator	Status
MTP Terminal Phase 1	5	10.0 + 1.5	PTT Group	Operating since 2011
MTP Terminal Phase 2	5	10.0 + 1.5	PTT Group	Under Construction
Second LNG Terminal		5.0-7.5	PTT Group	Approved
FSRU at upper part of Gulf of Thailand		5.0	3 rd Party	Feasibility Study





Principles behind Oil Plan 2015



Objective

- 1. Energy Security
- 2. Economic Efficiency
- **3. Environmental Protection**





Support EEP measures on fuel saving in transportation sector



Manage types of transportation fuels

Restructure fuel prices

Promote the use of biofuel

Support investment in infrastructure system

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Notable Development on Oil and Gas in Thailand

Notable development in industry

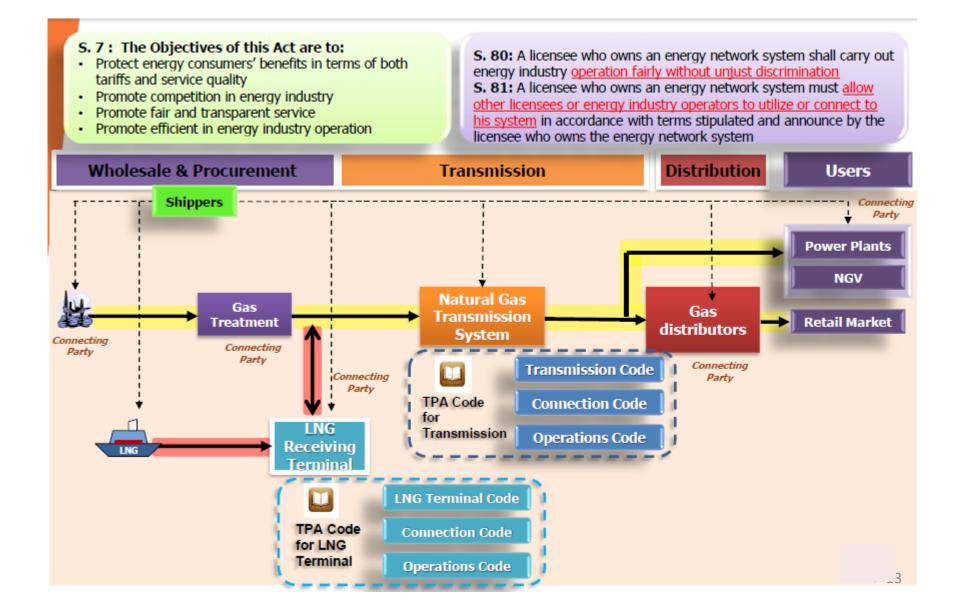
- Latest notable developments on oil and gas in Thailand. Update of existing, new, and future developments.
 - In 2015, the Energy Regulatory Commission issued third-party access codes for the gas transmission pipelines and LNG regas terminal. Currently, while PTT is still the only company utilising the country's regas facility with its capacity of 10 mmtpa, while EGAT – Thailand's biggest power company – has secured 1.5 mmtpa regas capacity at the terminal from 2019 onwards.
- Can these developments categorized into policy, infrastructure, business and industry, GDP improvement and etc.?
 - This has been categorized as the development in policy in market liberalization for third party access

Notable Development on Oil and Gas in Thailand

Impacts to economy

- What are the expected outcomes and the impacts of these developments for Thailand?
 - The third party access will promote competition in the market which will ultimately benefit the consumers
- Can these be quantifiable into costs and benefits to Thailand?
 - As this is the initial stage of market liberalization, the cost benefit has not been analyzed yet.

Third Party Access Regime: TPA Regime Under Energy Industry



Changes to global oil and gas

- Would these developments have an impact on oil and gas industry in the regional economies and/or in the global scale?
 - o The third party access will only affect Thailand
- Would these developments result in structural changes to oil and gas industry in the regional economies and/or in the global scale?
 - o The development of market liberalization will only affect Thailand

 What are the policies and potential developments that should be formulated and adopted to promote cooperation in oil and gas for APEC?

I think that the APEC economies should continue to share information and experience as a platform for further development of the future energy security cooperation.

Thank you very much...

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