



The Philippine Update

OIL AND GAS SECURITY

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June 29, 2017
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Oil and Gas Supply and Demand Situation

Philippines

□ Percent Share to Primary Energy Supply Mix: 2005 - 2016

	2005	2010	2015	2016	Average (2005-2016)
%Share to TPES					
Oil	35.84	33.15	34.17	35.52	32.80
Natural Gas	0.07	0.07	0.06	0.06	0.07
Self-Sufficiency (%)					
Oil	4.5	6.7	4.0	3.8	5.31
Natural Gas	100.0	100.0	100.0	100.0	100.00

□ Percent Share to Final Energy Demand: 2005 - 2016

	2005	2010	2015	2016	Average (2005-2016)
% Share to Final Demand (including Fuel Input to Power Generation)					
Oil	31.9	28.6	28.0	29.5	28.1
Natural Gas	6.2	6.6	5.0	5.6	6.3

□ Supply/Demand Average Annual Growth Rate (AAGR): 2005-2040

Oil	2.8%
Natural Gas	1.8 %

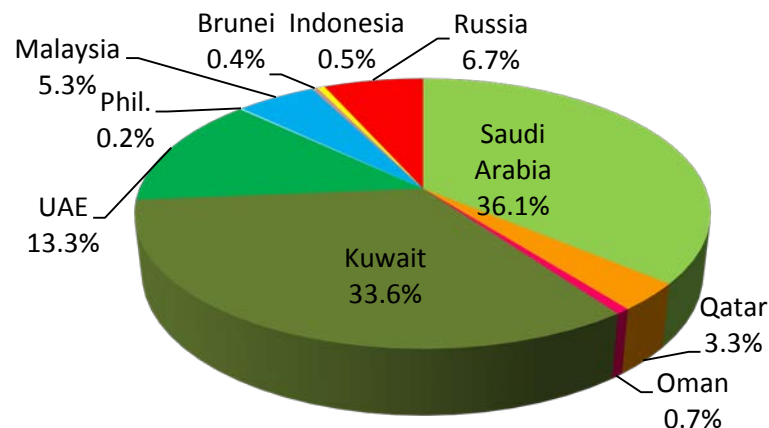


Oil and Gas Supply and Demand Situation

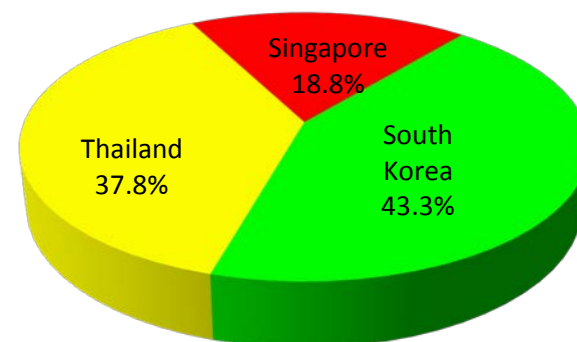
Philippines

Crude Oil Production, Import and Export

Year	Supply (MB)		Total Supply	% of Imports to Total Supply	Exports
	Local Production ¹	Imports ^{1/2}			
2016	2,014	78,772	80,786	97.5	1,804
2015	2,410	78,060	80,470	97.0	2,441
2014	3,079	65,015	68,094	95.5	2,833
2013	1,883	56,343	58,226	96.8	2,833
2012	1,638	63,717	65,355	97.5	1,401
2011	2,326	69,615	71,941	96.8	2,447
2010	3,010	66,774	69,784	95.7	2,612
2009	2,920	50,561	53,481	94.5	1,912
2008	965	69,500	70,465	98.6	504
2007	184	74,380	74,564	99.8	-
2006	181	78,261	78,442	99.8	-
2005	208	77,863	78,071	99.7	-



FY 2016 Crude Import by Origin
78,772 MB



FY 2016 Crude Export by Destination
1,804 MB

¹ FY 2016 Crude import classification : 47% light, 35% medium, 18% heavy

² FY 2016 Crude local production : 97% light, 3 % heavy

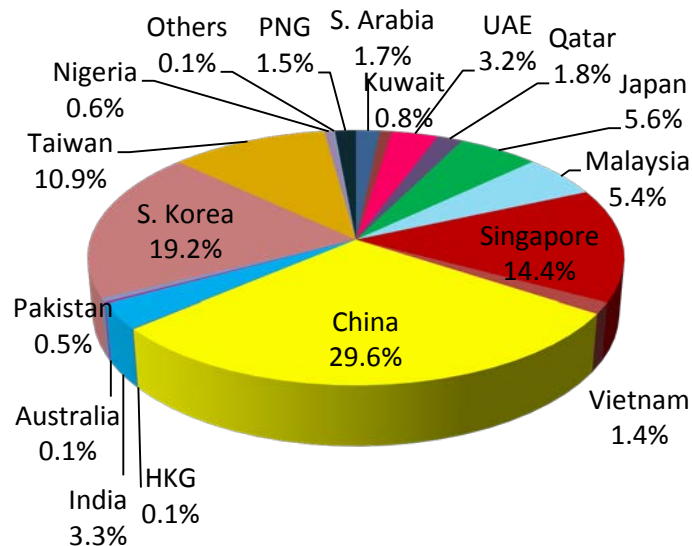


Oil and Gas Supply and Demand Situation

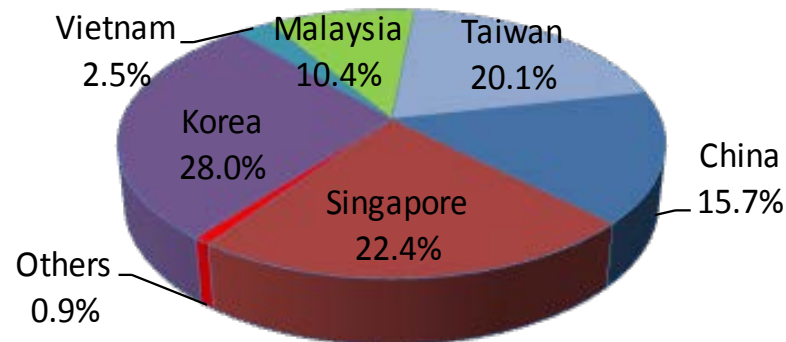
Philippines

Year	Refinery Capacity (MBSD)	Refinery Production	Product Imports	Product Exports
2016	285	78,113	86,108	13,772
2015	285	75,751	76,276	13,988
2014	285	59,301	69,658	9,561
2013	284	56,047	62,517	8,616
2012	275	60,293	54,780	9,395
2011	275	67,375	46,671	13,470
2010	278	63,614	54,607	12,031
2009	281	51,640	57,843	10,779
2008	284	64,868	48,307	17,833
2007	279	72,127	45,712	18,673
2006	290	74,808	41,046	18,503
2005	293	75,268	41,079	15,479

FY 2016 Product Import by Origin
86,108 MB



FY 2016 Product Export by Destination
13,772 MB





Oil and Gas Supply and Demand Situation

Philippines

Historical Share of Natural Gas: 2005-2016

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Fuel Input Mix, MTOE	2.56	2.38	2.93	3.08	3.10	2.90	3.10	2.97	2.71	2.85	2.70	3.08
Self-Sufficiency%	61.93	66.23	64.06	63.32	62.33	58.60	59.31	58.48	53.89	53.06	52.14	52.60
Share of Gas%	2.56	2.38	2.93	3.08	3.09	2.90	3.11	2.98	2.71	2.85	2.70	3.08
Power Gen Mix, Gwh	16,861	16,366	18,789	19,576	19,887	19,518	20,591	19,642	18,791	18,690	18,878	19,854
Share of Gas%	29.80	28.81	31.51	32.18	32.10	28.81	29.77	26.93	24.97	24.19	22.90	21.86

Natural Gas Final Energy Demand by Sector in kTOE: 2005-2016

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Total Final Energy Consumption	52.11	76.70	70.15	70.13	69.67	77.65	58.79	62.89	76.98	49.79	64.80
INDUSTRY	52.11	76.70	69.77	69.71	69.31	76.57	57.59	62.08	76.89	49.79	64.80
TRANSPORT	-	-	0.38	0.42	0.36	1.08	1.19	0.81	0.08	-	-

Historical Natural Gas Consumption, in MMSCF : 2005-2016

Sector	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Power	110,217	104,229	124,103	129,044	131,433	121,943	133,732	127,616	116,549	122,305	115,788	132,350
Non-Power	525	2,193	3,316	2,947	3,037	3,059	3,335	2,524	2,700	3,306	2,138	2,782
Total	110,742	104,231	127,419	131,991	134,470	125,002	137,067	130,140	119,249	125,611	117,926	135,132



Oil and Gas Supply and Demand Situation

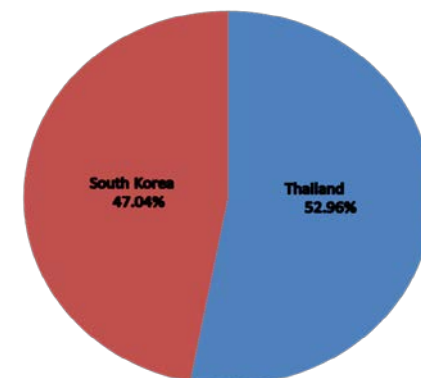
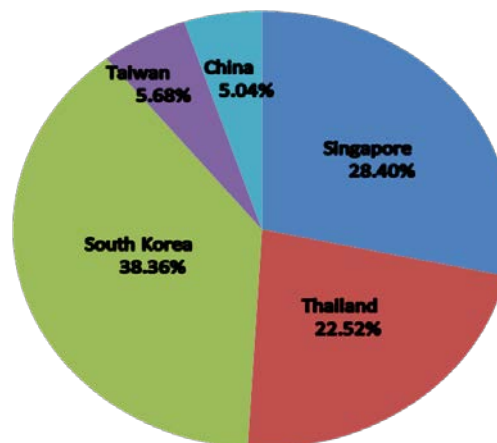
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Historical Natural Gas/Condensate Production and Condensate Exports 2005-2016

Year	Natural Gas Production (in mmscf)	Condensate Production (in Barrels)	Condensate Gross Export (in Barrels)
2016	140,516	4,146,202	3,732,006
2015	122,541	3,731,773	3,764,872
2014	130,351	4,172,730	4,113,520
2013	123,944	4,083,711	3,821,394
2012	134,563	4,594,116	4,587,018
2011	140,368	5,072,026	4,905,941
2010	130,008	4,894,843	4,589,746
2009	138,030	5,456,583	5,467,970
2008	137,073	5,606,499	5,565,940
2007	130,211	5,752,819	6,098,027
2006	108,606	5,123,158	5,180,386
2005	115,966	5,576,349	5,688,996
Total	1,552,177	50,332,834	49,434,306

Proposed Regasification Facility

Proponent	Capacity	Target Operation
Energy World Corporation	2X130,000 m3	2018
Shell Gas and Energy Philippines	3-6 MTPA	2020
First Gen	P1: 1.0-1.4 MTPA P2: 3.6-5.0 MTPA	2020
VIRES Energy	170,000 m3	2019
Philippine National Oil Company	5 MTPA	2020



Natural gas supply is 100 % self- sufficient...

Condensate Export by Destination
2005-2016



Oil and Gas Security Policy

Philippines

□ Update on Policy Framework on Supply Security

➤ Oil Supply Security Policy

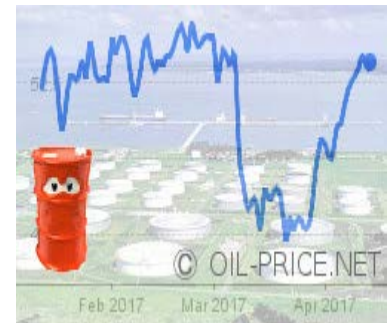
- Republic Act No. 7638 – An Act Creating the Department of Energy
- Republic Act No. 8479 - An Act Deregulating the Downstream Oil Industry, and for other Purposes
 - *The Department of Energy is mandated to ensure sufficient, stable, secure and reasonably-priced energy supply*
- Republic Act No. 9367 - Biofuels Act

➤ Strategic Oil Stockpiling (Commercial Stockpiling)

- EO 134 - Minimum Inventory Requirement
 - ✓ Refiners – 30 days in-country stocks of crude/products
 - ✓ Importers – 15 days in-country stocks of finished products
 - ✓ LPG Importers – 7 days in-country stocks of LPG

➤ Indicators to Gauge Supply Security

- EO 134 - Minimum Inventory Requirement
- Oil Supply Monitoring through Oil Companies' Submissions of the following:
 - Monthly Reports on Actual Imports, Exports, Refinery Production, Demand and other related data
 - Weekly and End-Month Inventory Report





Oil and Gas Security Policy

Philippines

Gas Supply Security Policy

o Gas Supply Security Framework

- ❖ Republic Act No. 7638 – An Act Creating the Department of Energy
- ❖ Administrative Order No 38 –Institutionalizing the Department of Energy
- ❖ Executive Order No. 66 - Designating the DOE as lead agency in developing the Philippine natural gas industry
- ❖ Department Circular No. 95-06-006 (Policy Guidelines on the Overall Development and Utilization of Natural Gas in the Philippines)
- ❖ Department Circular No. 2002-08-005 (Interim Rules and Regulations Governing the Transmission, Distribution and Supply of Natural Gas)
- ❖ Executive Order 60 Philippine Upstream Petroleum Taskforce ((Security, Environment of Upstream Facilities
- ❖ Promote development of domestic oil/natural gas resources through PECR
- ❖ Promote LNG importation

o Indicators to Gauge Supply Security

- ❖ Department Circular No. 2010-03-003-Directing all Power Generation Companies, Transmission Service provider and all DUs to ensure adequate and reliable electric power supply in the country
 - During scheduled maintenance of Malampaya gas facilities, all affected generation companies shall maintain at least 15 days running inventory of alternative fuel
- ❖ Natural Gas Supply/Demand Monitoring :
 - Monthly Production
 - Monthly Consumption
 - PMS and Unscheduled Maintenance and Equipment Breakdown





❑ Technical Assistance:

- US DOE on Strategic Petroleum Reserves
- Japan METI Assistance on Regional Oil Stockpiling
- UK-IHS Assistance on LNG Policy Roadmap

❑ Joint Cooperation on Oil and Gas Activities

- MOU between RP-DOE and Thailand MOE
- MOU between PNOC and PTT
- MOU on Energy Cooperation between RP-DOE and Russia-Ministry of Energy

❑ Participation in in ASEAN and ASEAN+3 Working Group meetings, Forum and Dialogue

- Development of Oil Stockpiling Roadmap (OSRM) in ASEAN+3
- Oil Market and Natural Gas Forum and Business Dialogue in ASEAN+3
- Trans-ASEAN Gas Pipeline





Oil and Gas Security Policy Gaps

Philippines

❑ Needed Policy Reforms on Oil and Gas Supply Security

- Strengthen commitment to ASEAN Petroleum Security Agreement (APSA).
- Memorandum of Understanding (MOU) on cooperation in oil and gas activities with other oil and gas suppliers.
- Study viability of maintaining a strategic oil stockpile.

❑ Strengthened Capacity Building of APEC Members

- Holistic capacity program at domestic and regional level that covers the total value chain in energy security (i.e. maritime transport, emergency preparedness)
- Cooperation and Partnership in energy security research and development



Thank you very much...

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