



GDE-MOIT

VIETNAM

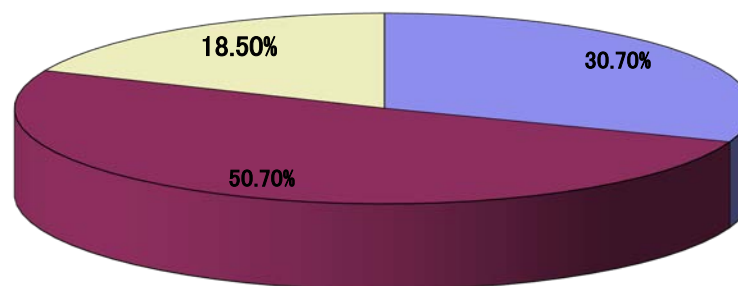
VIETNAM's UPDATE ON OIL AND GAS SECURITY

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Oil and Gas Supply and Demand Situation

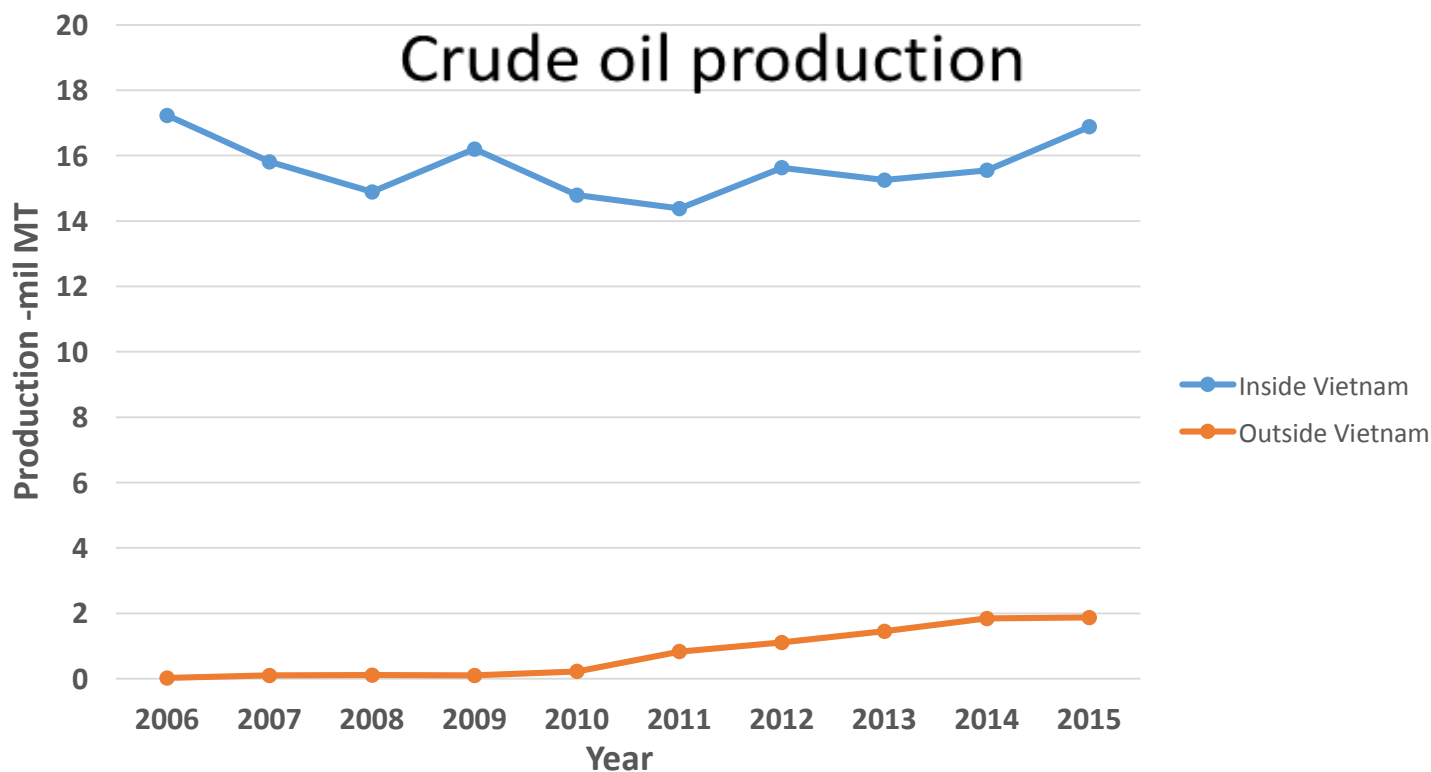
• STRUCTURE OF ENERGY COMSUMPTION IN 2015

- Coal: 30.70%
- Oil and Gas: 50.70%
- Electricity: 18.50%



■ Coal ■ Oil and Gas ■ Electricity

Oil and Gas Supply and Demand Situation



Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	Total
Inside Vietnam	17,23	15,81	14,89	16,20	14,79	14,38	15,63	15,25	15,55	16,88	156,63
Outside Vietnam	0,02	0,10	0,11	0,10	0,22	0,83	1,11	1,45	1,84	1,87	7,65
Total	17,25	15,91	15,00	16,30	15,01	15,21	16,74	16,71	17,39	18,75	164,28

Oil and Gas Supply and Demand Situation

■ Export destination for crude oil

No	Country	Year	2011	2012	2013	2014	2015
I	Total (mil.ton)		9.037	10.261	7.326	9.306	9.181
II	Destination (%)						
1	ASEAN		13.1	22.1	22.3	27.8	39.2
2	Australia		17.8	20.4	22.7	25.7	15.5
3	Japan		21.8	30.7	28.7	20.8	16.0
4	China		14.9	12.6	0.0	17.0	21.8
5	Korea		11.2	9.7	10.0	0.0	3.9
6	Others		10.2	14.1	16.3	8.8	3.4

Oil and Gas Supply and Demand Situation

■ Type of import crude oil

No	Type of Crude oil	Country	2010	2011	2012	2013	2014	2015	2016	2017
1	Champion	Brunei		162,499	644,173	717,317	160,565	81,820	158,507	0
2	Sleb	Brunei		40,217						
3	Kaji	Indonesia		43,088						
4	Kikeh	Malaysia	232,111	333,802		75,806				
5	Labuan	Malaysia		80,690						
6	Miri	Malaysia	124,102	49,811		142,760				
7	Azeri	Azerbaijan	53,396			352,545	412,864		276,258	279,830
8	Amna	Lybia			83,528					
9	ESPO	Russia						100,126		
10	Nkossa	Congo					119,096			
	Total		409,608	710,108	727,701	1,288,428	692,525	181,946	434,765	279,830

Oil and Gas Supply and Demand Situation

○ Historical (2005-2015/2016) oil and gas demand and supply situation

Vietnam imports mostly petroleum product before 2010 and started producing for 30% petroleum product consumption from 2010.

Unit:1000 tons

Petroleum Products	2008	2009	2010	2011	2012	2013	2014	2015	2016
Demand	14,388	15,789	16,509	16,904	16,897	16,485	16,720	16,703	16,081
Supply	794	2,308	6,484	6,259	6,200	7,190	8,454	7,088	7,901
Balance	-13,594	-13,481	-10,025	-10,645	-10,698	-9,294	-8,276	-9,615	-8,180

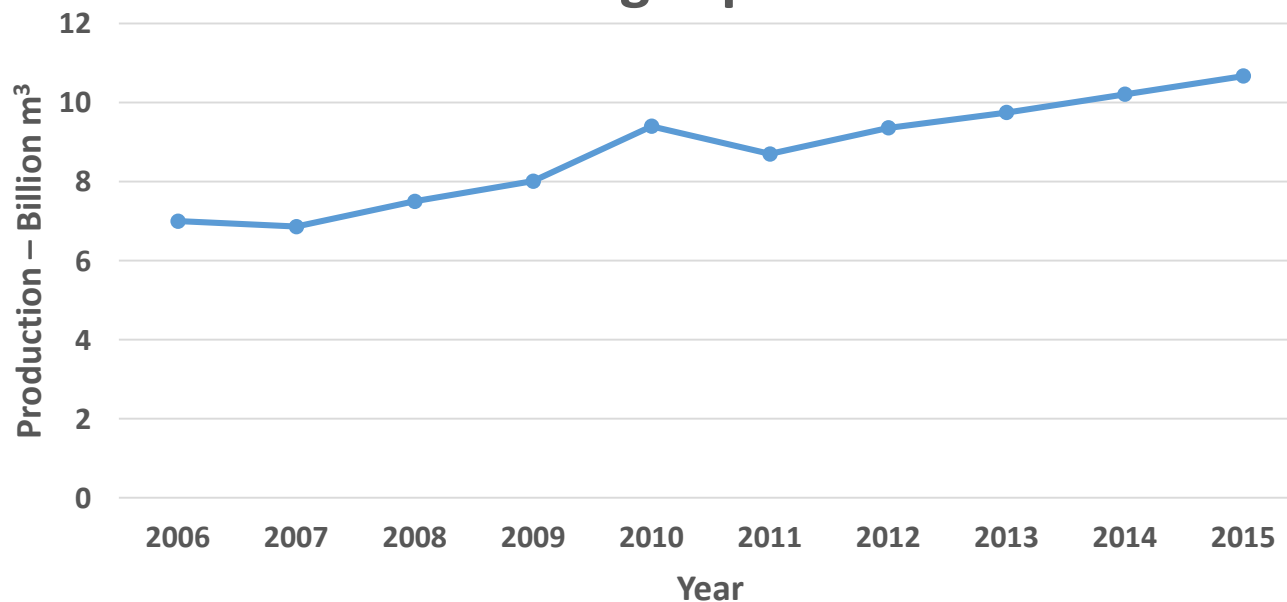
Oil and Gas Supply and Demand Situation

o Historical (2005-2015/2016) refinery capacity and production

Year	Domestic crude oil	Import crude oil	Total (ton)
Design	5.525.000	975.000	6,500,000
2009	2,337,777	0	2,337,777
2010	5,794,033	409,608	6,203,641
2011	5,343,235	710,108	6,053,343
2012	5,369,552	727,701	6,097,253
2013	5,973,784	1,288,428	7,262,212
2014	5,628,719	692,525	6,321,244
2015	7,155,967	181,946	7,337,914
2016	7,057,032	434,765	7,491,796
2017 (4 months)	2,758,656	279,830	3,038,486

Oil and Gas Supply and Demand Situation

Natural gas production

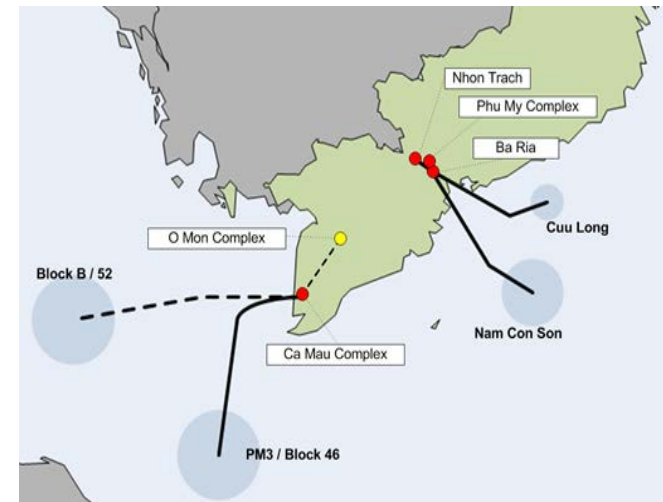


Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Production (billion m ³)	7.00	6.86	7.50	8.01	9.40	8.70	9.36	9.75	10.21	10.67	10.30

Oil and Gas Supply and Demand Situation

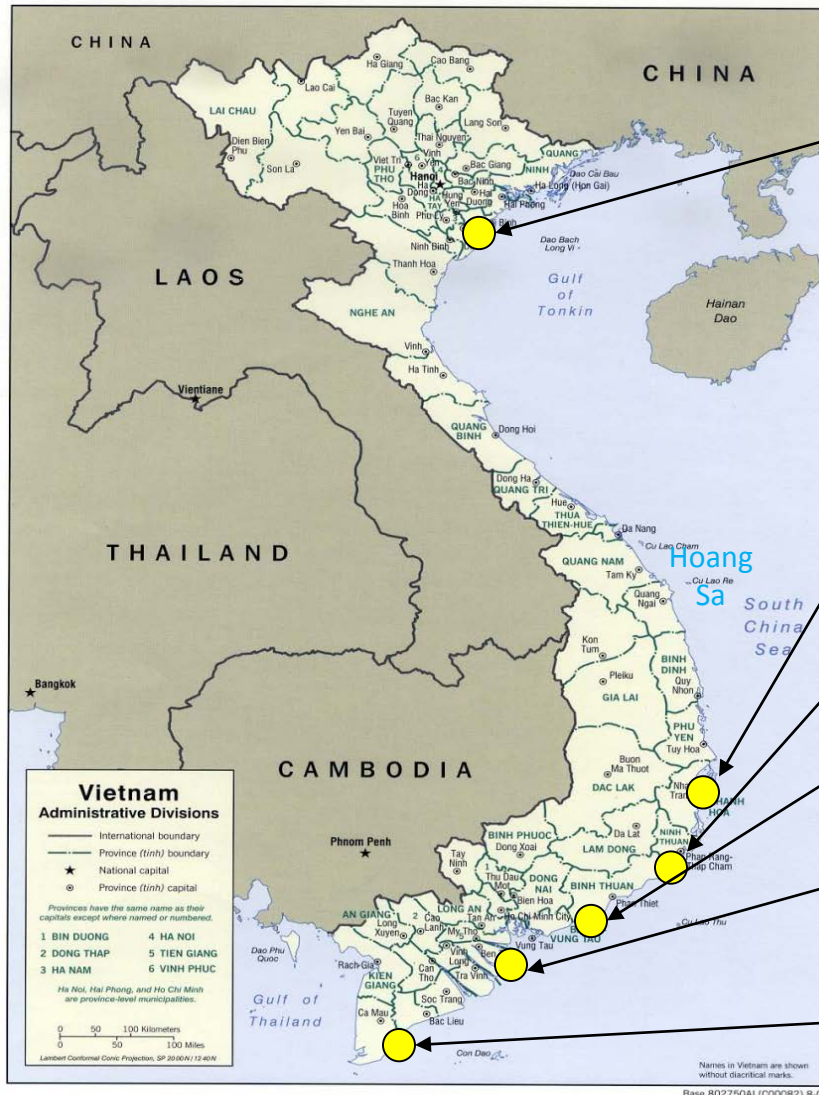
• Existing transnational pipeline

- Seven tertiary basins have been identified along the continental shelf. Major gas reserves have been found in four of them: Song Hong, Nam Con Son, Cuu Long and Malay - Tho Chu.
- The total gas reserves have been reported at around 871 Bcm. The accumulated production by the end of 2016 was 128 Bcm.
- Existing gas infrastructure includes:
 - Cuu Long basin pipelines system – 300km, 1995
 - Nam Con Son 1 pipeline system – 460km, 2003
 - Nam Con Son 2 pipeline system – 261.5km, 2016
 - Phu My – HCM pipeline system – 55km, 2008
 - PM3-Ca Mau pipeline system – 315km, 2007
 - Ham Rong - Thai Binh pipeline system – 20km, 2015



Oil and Gas Supply and Demand Situation

LNG Terminals

**Cat Hai – Hai Phong LNG Terminal**

- Capacity: 3 MMTA
- Schedule: 2030 - 2035

Son My – Binh Thuan LNG Terminal

- Capacity: 6-9 MMTA
- Schedule: 2023-2031

My Giang – Khanh Hoa LNG Terminal

- Capacity: 3 MMTA
- Schedule: 2030 - 2035

Tan Phuoc – Tien Giang LNG Terminal

- Capacity: 4-6 MMTA
- Schedule: 2022 - 2025

Thi Vai – Vung Tau LNG Terminal

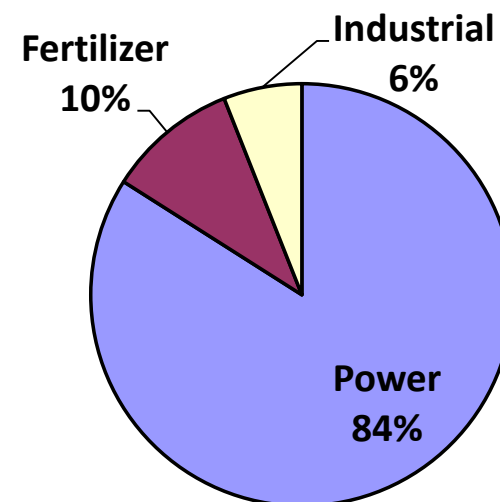
- Capacity: 1 MMTA
- Schedule: 2020 - 2025

Hon Khoai – Ca Mau LNG Terminal

- Capacity: 3 MMTA
- Schedule: 2022 - 2026

○ Historical share (2005-2015/2016) of natural gas

- Power generators: more than 84% (12 gas turbine mix power plants with gas consumption 8.2 billion m³ per year);
- Fertilizer production: 10% (02 Fertilizer plants with capacity of 800.000 MT/year/each, gas consumption 1 billion m³ per year);
- Other users: 6 %.



Oil and Gas Security Policy

○ Update on Policy Framework on Supply Security

- Oil Supply Security Policy

- Oil and Gas Supply Security Framework

- Master plan for Oil and Gas Industry in period to 2025, vision to 2035;
 - Decree for Oil and Gas Exploration and Production
 - Master plan for Gas Industry;
 - Decree for Gas Business.

- Oil stockpiling for crude oil and petroleum products

- Decree for petroleum product business: 30 consumption days of commercial stockpile; 12 days of crude oil for refinery production and 10 days for petroleum products of refinery production.
 - Master plan for Oil Stock piling: The target of oil stockpiling: total 90 days of net import in 2025 (35 days of commercial stockpile; 30 days of refinery production and 20 days of national stockpile).

Bilateral/Regional Agreements

- **Existing bilateral/regional agreements related to oil and gas supply security (other than IEA and ASEAN)**
 - The MOU between Vietnam and Lao Government for the petroleum product pipeline and storage project from Quang Binh - Vietnam to Kham Muon – Lao;
 - The MOU/Agreements between PetroVietnam (Vietnam) and Rosneft (Federal of Russian) for the crude oil supply for the refinery.
 - The Agreements between Vietnamese Enterprise and Foreign Enterprise (from Japan, Federal of Russian, US for the oil and gas cooperation, especially in LNG business).

Oil and Gas Security Policy Gaps

- For the APEC-wide regional cooperation, the policy gaps that need to be addressed or policies that should be formulated and adopted to strengthen regional oil and gas security?
 - Cooperation in the conducting the domestic system for emergency preparedness.
 - Exchange the information and experiences from each others, expecially from Federal of Russia, Japan and US.
 - Implementation of the agreements for Oil and Gas Security: APSA, ...

Thank you very much!

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