

China's OIL AND GAS SECURITY

He Jianyu

Director

National Energy Administration, China

Oil and Gas Supply and Demand Situation

oil and gas demand and supply situation (2005-2016)

unit:10⁴t

年份	生产量	消费量	原油生产量占比	原油消费量占比	自给率
year	Crude oil production	Crude oil consumption	vs. total energy production	Vs. total energy consumption	self-sufficiency level
2005	18135	32858	11.31%	18.32%	55.19%
2006	18477	35268	10.78%	17.92%	52.39%
2007	18632	37018	10.08%	17.30%	50.33%
2008	19044	37749	9.81%	16.99%	50.45%
2009	18949	39223	9.46%	16.89%	48.31%
2010	20301	44789	9.29%	18.01%	45.33%
2011	20288	46419	8.52%	17.27%	43.71%
2012	20748	48628	8.44%	17.40%	42.67%
2013	20992	50721	8.36%	17.47%	41.39%
2014	21143	52677	8.35%	17.73%	40.14%
2015	21456	55973	8.47%	18.57%	38.33%
2016	19969	59051	8.23%	19.35%	33.82%

Oil and Gas Supply and Demand Situation

crude oil production, exports and imports (2005-2015/2016)

unit:10⁸t

年份	生产量	出口量	进口量	自给率
year	Crude oil production	Crude oil exportation	Crude oil importation	self-sufficiency level
2005	1.81	N/A	N/A	55%
2006	1.85	0.06	1.45	52%
2007	1.86	0.04	1.63	50%
2008	1.90	0.04	1.79	50%
2009	1.89	0.05	2.04	48%
2010	2.03	0.03	2.39	45%
2011	2.03	0.03	2.54	44%
2012	2.07	0.02	2.71	43%
2013	2.10	0.02	2.82	41%
2014	2.11	0.01	3.08	40%
2015	2.15	0.03	3.35	38%
2016	2.00	0.03	3.81	34%

Oil and Gas Supply and Demand Situation

refinery capacity and production (2005-2016)

unit:10⁸t

年份	炼制能力	生产量	出口量	进口量
year	Refinery capacity	Refinery production	Refinery production export	Refinery production importation
2005	3.6	1.75	0.1178	0.0537
2006	N/A	1.83	0.1038	0.0819
2007	N/A	1.94	0.1195	0.0921
2008	4.3	2.09	0.0999	0.1669
2009	4.7	2.31	0.1797	0.0992
2010	5.1	2.42	0.1878	0.0916
2011	5.4	2.55	0.1602	0.1121
2012	5.8	2.82	0.1583	0.0978
2013	6.6	2.96	0.2044	0.0981
2014	7.0	3.17	0.2387	0.0779
2015	7.0 ⁺	3.38	0.2947	0.0805

Oil and Gas Supply and Demand Situation

natural gas production and import&export and self-sufficiency level and non-power application ratio

unit:10⁸m³

年份	生产量	进口量	出口量	自给率	工业使用
year	natural gas production	natural gas importation	natural gas exportation	self-sufficiency level	non-power application chemical & electricity
2005	493.2	—	29.7	467.6	328.8
2006	585.5	9.5	29	561.4	384
2007	692.4	40.2	26	705.2	479.7
2008	803	46	32.5	812.9	531.6
2009	852.7	76.3	32.1	895.2	577.9
2010	948.5	164.7	40.3	1075.8	687.3
2011	1026.9	311.5	31.9	1305.3	840
2012	1071.5	420.6	28.9	1463	946.7
2013	1208.6	525.4	27.5	1705.4	1129.1
2014	1301.6	591.3	26.1	1868.9	1221.3
2015	1346.1	340.6	32.5	1589.1	1234.5

Source: National Bureau of Statistics of China

Oil and Gas Supply and Demand Situation

natural gas import sources (piped gas) / (LNG) and regasification facility

unit: 10^8m^3

年份	管道天然气进口 Importation from pipeline				液化天然气进口 Importation in form of LNG			
year	Turkmenistan	Burma	Uzbekistan	Kazakhstan	Qatar	Australia	Indonesia	Yemen
2010	35.5	0	0	0	16.1	52.1	24.5	7.0
2011	142.5	0	0	0	31.7	49.5	27.2	11.0
2012	214.4	0	1.5	0.0	67.9	48.4	33.0	8.1
2013	273.6	0	28.9	0.7	92.0	48.4	33.1	15.2
2014	313.0	30.0	24.0	4.0	92.0	52.0	35.0	14.0
2015	204.03	28.85	11.34	2.62	48.12	55.37	28.65	3.76
2016	216.34	28.61	31.64	3.14	49.69	119.76	27.89	–

Besides, there were also LNG import from Malaysia, Papua new guinea, Rusia and Nigiria.

As to the Regasification station, there are many study on the internet.

Oil and Gas Security Policy

- Oil Supply Security Policy
 - China oil supply security mainly rely on Government Petroleum Reserve. Besides pushing forward GPR, recently we are motivating a regulation about State Petroleum Reserve, one most important content of which is establishing enterprise oil reserve. Any of within-territory oil related enterprise should found its own oil reserve.
 - Chinese government only possess crude oil reserve now. In 2016, Crude oil stockpiling reach 33250000 ton, about 22 day consumption, 32 day net imports .
 - Nowadays , we adapt IEA standards, use 90 days net imports as a indicator to estimate the security of healthy supply. So there will still be a lot of work to do.

Oil and Gas Security Policy

- Gas Supply Security Policy
 - Gas Supply Security Framework

For the following years, we will continue enlarging the construction of gas supply infrastructure, aiming at 1000000 kilometre by the end of 2020. At the same time, we will work hard to develop gas storage, especially underground storage utilize abandoned salt caverns. We also concern on the appliance foreground of lined rock caverns based on storing for the natural gas stored underground.
 - Gas stockpiling

Now our gas stockpiling is 55×10^8 cube metre, (absolute amount and for how many day consumption/imports)

Bilateral/Regional Agreements

- Existing bilateral/regional agreements related to oil and gas supply security (other than IEA and ASEAN) (if any). Explain the salient provisions of such agreement(s).
- So far, we have no such agreements.

Oil and Gas Security Policy

o Needed Policy Reforms to Strengthen Oil and Gas Supply Security

So far the construction of oil and gas storage and other transport or utilizing infrastructure mainly rely on government investment. China is a developing country, promoting people living standards is our priority goal of government budget. We are now addressing the policy to attract private investment into this area.

China is the second largest oil consumption country. In term of oil production, only ranking at fifth, and the gas production ranking is even lower. China is committing at strengthen domestic oil and gas production, and increasing stockpiling level at same time. It would be beneficial to the world as a whole.

Thank you very much...

Email Address: hejy@ndrc.gov.cn
Contact Number: +86-010-68504319