

Geneva Slides: Gas as the Second Best Fuel

- Draft Notes for presentation by John Roberts
- For the Gas Experts Meeting
- UNECE
- Palais Des Nations
- Geneva
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What Constitutes Energy Security - 1

- Two approaches:
- IEA:
 - “Adequate, affordable and reliable access to energy fuels and services, it includes availability of resources, decreasing dependence in imports, decreasing pressures on the environment, competition and market efficiency, reliance on indigenous resources that are commercially clean, and energy services that are affordable and equitably shared.” IEA paper, April 2007.
- Drexel Kleber:
 - “The Five Ss: having resources such as fossil fuels, alternative energy, and renewable energy; *sufficiency*, adequate quantity of fuel and services from these sources; *surety*, having access to them; *survivability*, resilient and durable sources of energy in the face of disruption or damage; and *sustainability*, reducing waste and limiting damage to the environment.” The US Department of Defense: Valuing Energy Security. *Journal of Energy Security* (June 2009): 12-22.

What Constitutes Energy Security - 2

1987: OIL FOR IMPORTING NATIONS: “Energy security depends in part on the ability of importing nations to respond to oil supply disruptions” Energy Security, A report to the President of the United States, March 1987 (Tower Commission Report).

2006: OIL & GAS FOR PRODUCERS, CONSUMERS & TRANSIT STATES ALIKE (St.Petersburg Summit, September 2006).

- 2006-2015. GAS IN EUROPE. Ukraine Crises of 2006, 2009 and 2014-5.
- 2016: GAS - and OIL ???????????

Gas - European Energy Security: Natural Gas Supplies to Europe, 2010-2014, bcm

• <u>Supplies by major gas exporters</u>	2010	2011	2012	2013	2014
• OAO Gazprom (long-term contracts)	138.6	15n/a	138.8	161.5	146.6
• Algeria (incl. LNG)	57.3	52.4	46.5	36.6	31.7
• Libya (including LNG)	10.3	2.5	6.7	5.7	6.5
• Qatar	32.9	43.9	31.3	24.4	23.7
• Nigeria	13.5	18.1	12.1	7.0	6.0
• Total	252.6	266.9	235.4	235.2	214.5
• <u>Supplies by major European producers</u>					
• Norway	115.4	109.4	121.4	114.7	116.8
• Netherlands	76.5	72.9	72.6	77.7	63.1
• UK	64.5	51.1	43.8	41.2	41.2
• Other	100.8	56.6	73.5	71.5	50.4
• Total	357.2	29n/a	311.3	305.1	271.5
• Total	609.8	556.9	546.7	540.3	486.0

• Source: Gazprom Annual Report, May 2015

Exports by major gas producers in 2014

(Source: BP Statistical Review of World Energy 2015)

	Pipeline	LNG	Total
Russia	187.4	14.5	201.9
Qatar	20.1	103.4	123.5
Norway	101.1	5.3	106.4
Canada	74.6	n/a	74.6
USA	42.3	n/a	42.3
Turkmenistan	41.6	n/a	41.6
Algeria	23.5	17.3	40.8
Malaysia	n/a	33.9	33.9
Indonesia	9.5	21.7	31.2
Australia	n/a	31.6	31.6
Netherlands	44.1	n/a	44.1
Nigeria	n/a	25.3	25.3
Trinidad & Tobago	n/a	19.3	19.3
TOP 13 TOTAL	544.3	272.3	816.5
WORLD TOTAL	663.9	333.3	997.2

Imports by major gas consumers in 2014

(Source: BP Statistical Review of World Energy 2015)

	Pipeline	LNG	Total
Japan	n/a	120.6	120.6
Germany	85.0	n/a	85.0
US	74.6	1.7	76.3
China	31.3	27.1	58.4
Italy	46.9	4.5	51.4
South Korea	n/a	51.1	51.1
Turkey	41.1	7.3	48.4
UK	32.9	11.3	44.2
France	27.4	7.1	34.5
Spain	15.4	15.5	30.9
Mexico	20.5	9.3	29.8
Belgium	26.8	2.9	29.7
Russia	24.2	n/a	24.2
Netherlands	23.2	n/a	23.2
Canada	21.8	0.6	22.4
Brazil	11.1	7.9	19.0
India	n/a	18.9	18.9
Taiwan	n/a	18.1	18.1
UAE	18.0	n/a	18.0
Ukraine	17.5	n/a	17.5
TOP 20 TOTAL	517.7	285.0	821.6
WORLD TOTAL	663.9	333.3	997.2

The China-Russia-Turkmenistan Triangle - 1

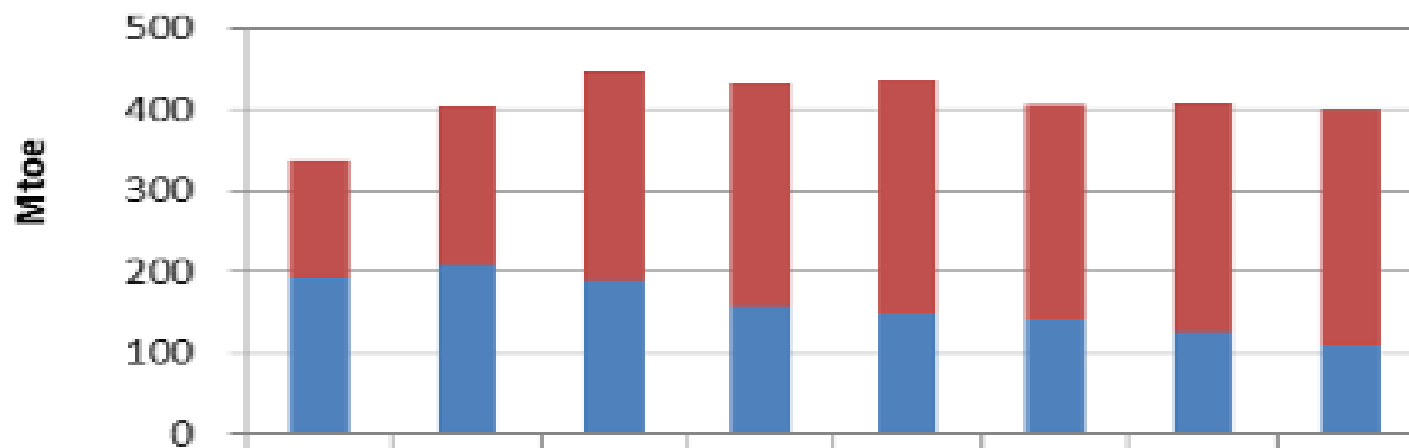
The IEA's View in 2009

	2010*	2020	2035	Actual
Caspian net exports	42	100	135	2014 69.2
▫ to China	3	37	57	c.40-45
Russia net exports (b)	190	214	328	178.7
▫ to China	1	13	75	0.2
Chinese LNG imports in 2014	27.1 bcm		(26.5 bcf/d)	
Chinese LNG imports in 2015	26.5 bcm		(26.0 bcf/d)	

Russia's Opportunity: European Union Gas Demand to 2030

Natural Gas Projections until 2030

Reference Scenario



	1995	2000	2005	2010	2015	2020	2025	2030
Net Imports	146	193	258	276	286	266	284	290
Production	191	209	191	159	149	141	125	110

Net Imports

Year	bcm
1995	146
2000	193
2005	258
2010	276
2015	286
2020	266
2025	284
2030	290

Source: European Commission: In-depth study of European Energy Security, 2 July 2014.

Current Realities - European Gas Demand in 2015

Gas demand in the European Union is expected to increase 7% in 2015 compared to 2014.

“The first half of 2015 saw a significant increase of approximately 9% in demand, compared with the same period in 2014. This data shows the resilience of the gas market to cope with strong fluctuations in consumer demand.”

Source: Eurogas, Brussels, 23 October 2015 .

Iran: Gas Prospects 2016

- Post-Sanctions (Jan 17, 2016) :
 - Revenue constraints
 - A focus on oil output and oil exports
 - A need for gas injection.
- Generic:
 - South Pars expansion
 - Domestic priorities
 - A limited Medium-term export focus on Oman and Pakistan
 - A long-term focus on LNG