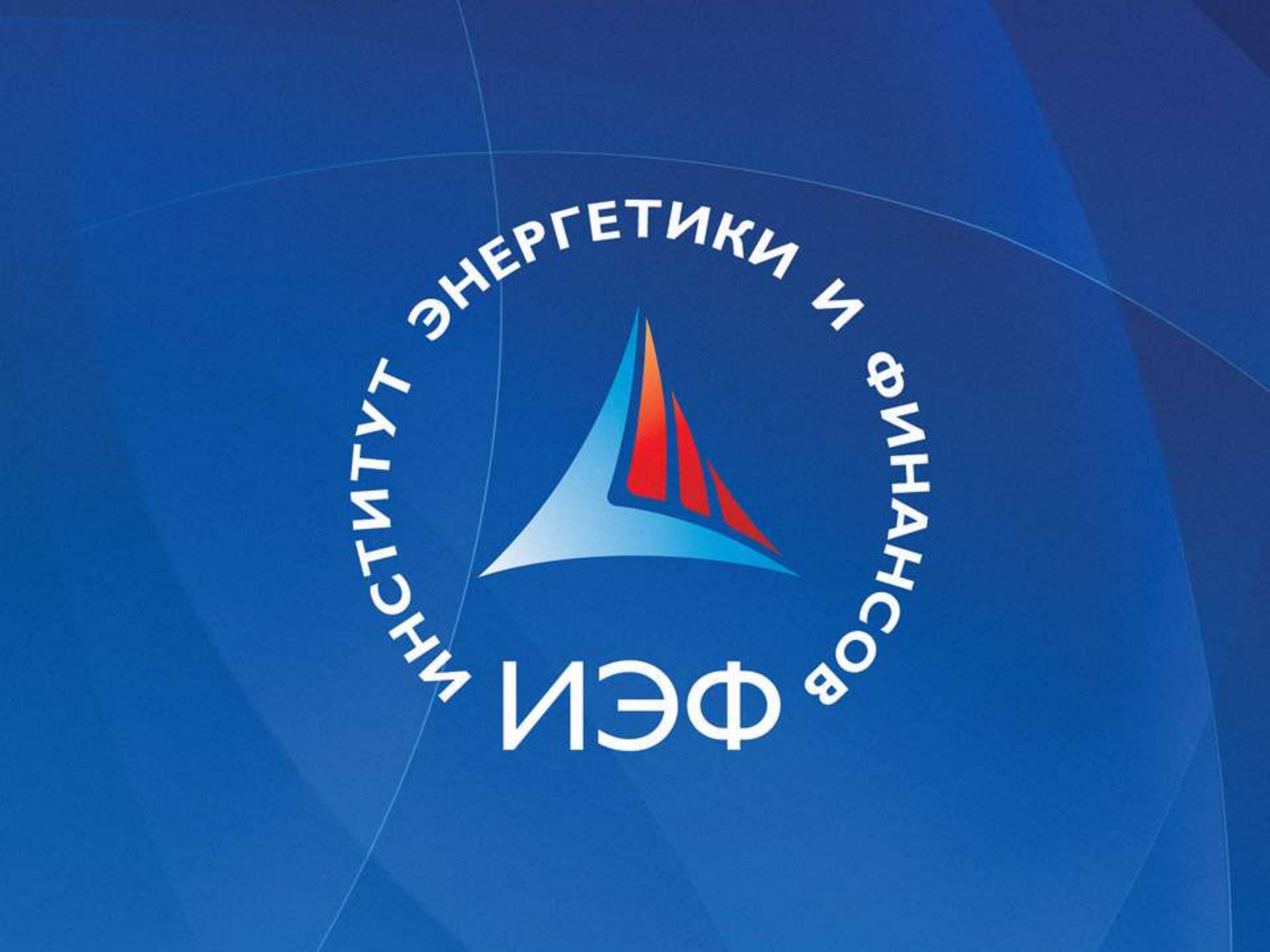
ИНСТИТУТ ЭНЕРГЕТИКИ И ФИНАНСОВ
ИЭФ

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Moscow, Russia

British Institute of Energy Economics
Informed thinking, productive debate

INTERNATIONAL DIMENSIONS OF RUSSIAN GAS

London, 5July 2013, 10a.m.-1.00 p.m.
House of Commons, Jubilee Room

Overview of the Presentation

- Russia's gas on the European energy market scene
- Gas transmission to Europe: enhancing stability of gas supply
- New gas infrastructure projects in place and under consideration:
  - The North Stream gas pipeline system expansion prospects
  - The South Stream project - abundant gas transmission capacity?
  - The Yamal – Europe – 2 gas transmission route rational
  - New international dimensions of Russia's gas
- Political aspects of EU-RF gas relations; Gas Advisory Council role
- Conclusions

Russia’s Gas Resources

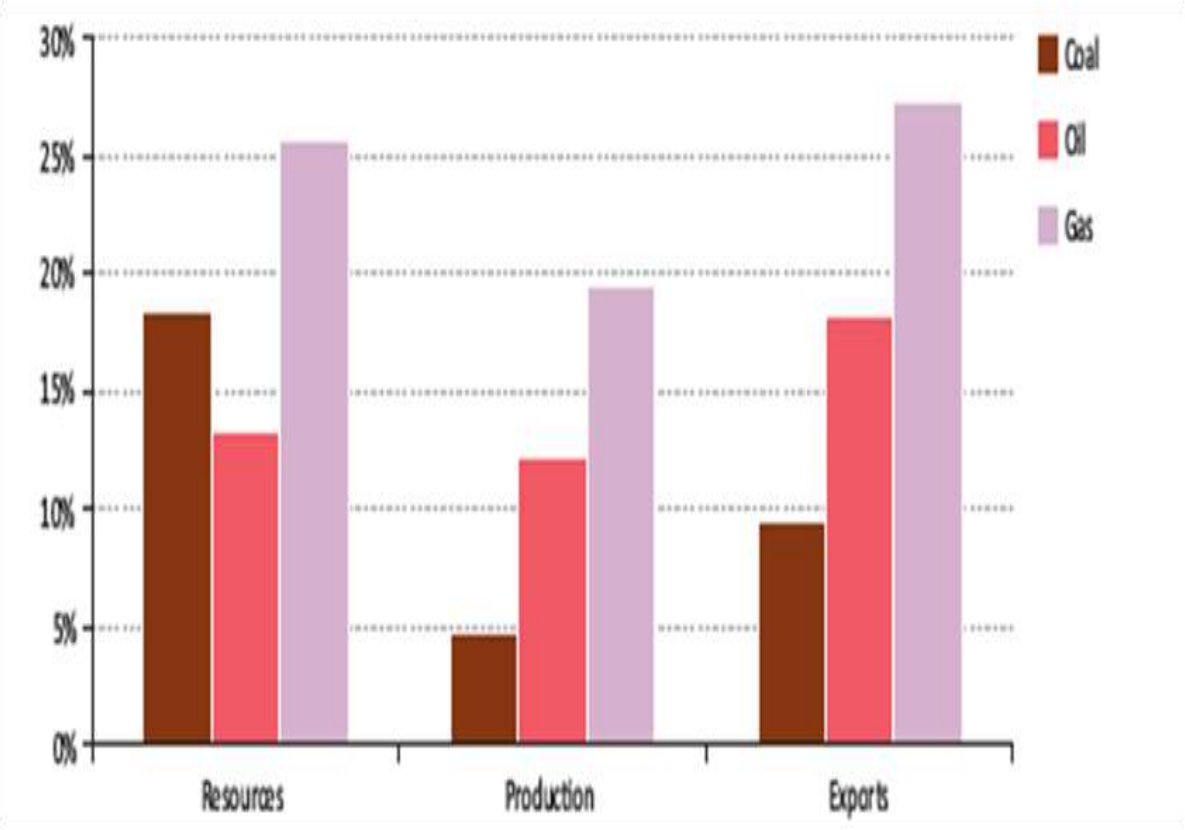
Russia’s internationally audited proven gas reserves stand at 32.9 TCM that is 17.6% of the global proved gas reserves (BP Statistical Review of World Energy, June 2013)

Russia’s national statistics bases on about 48 TCM of proven reserves.

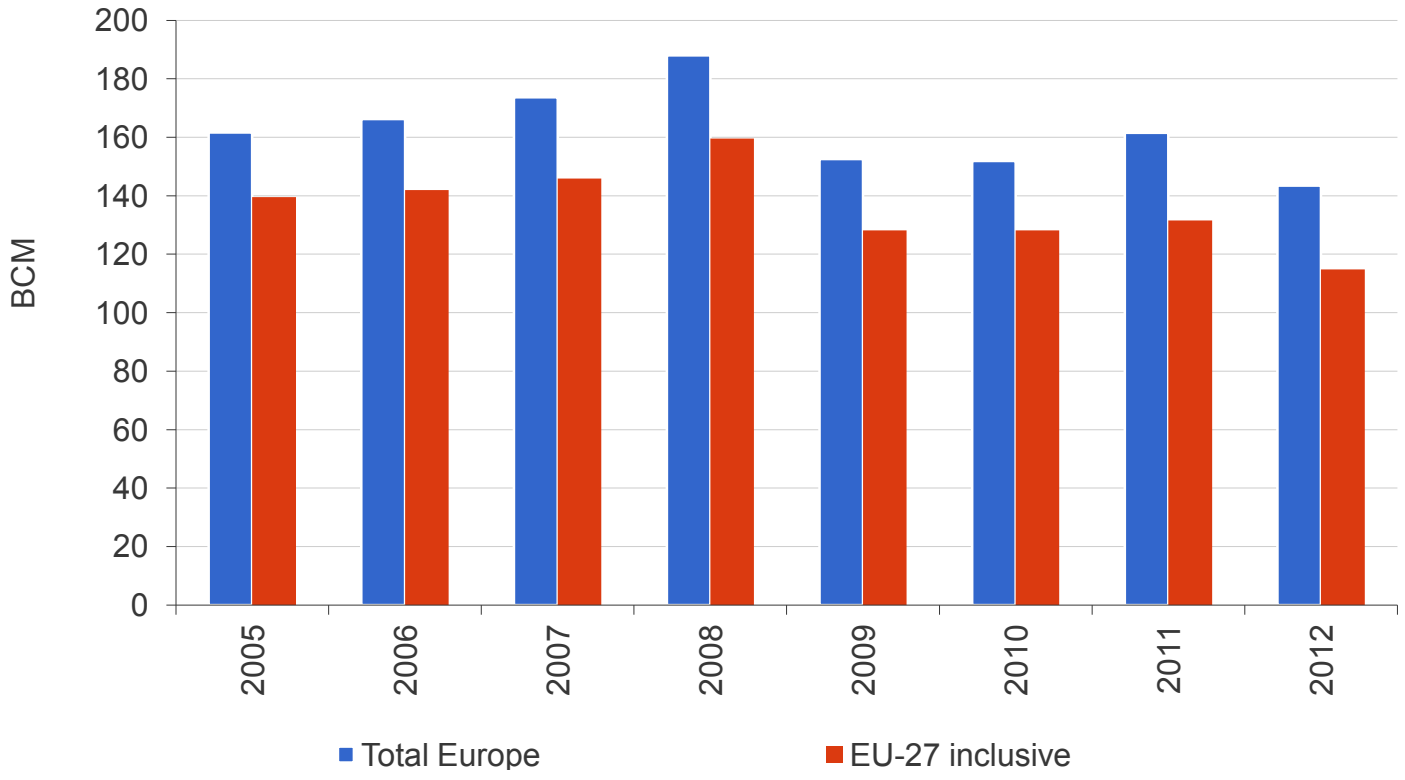
Russia’s estimate of possible reserves state is of about 250 TCM.

IEA Views

Russia’s energy indicators in percentage of global as cited from the WEO 2011 by International Energy Agency



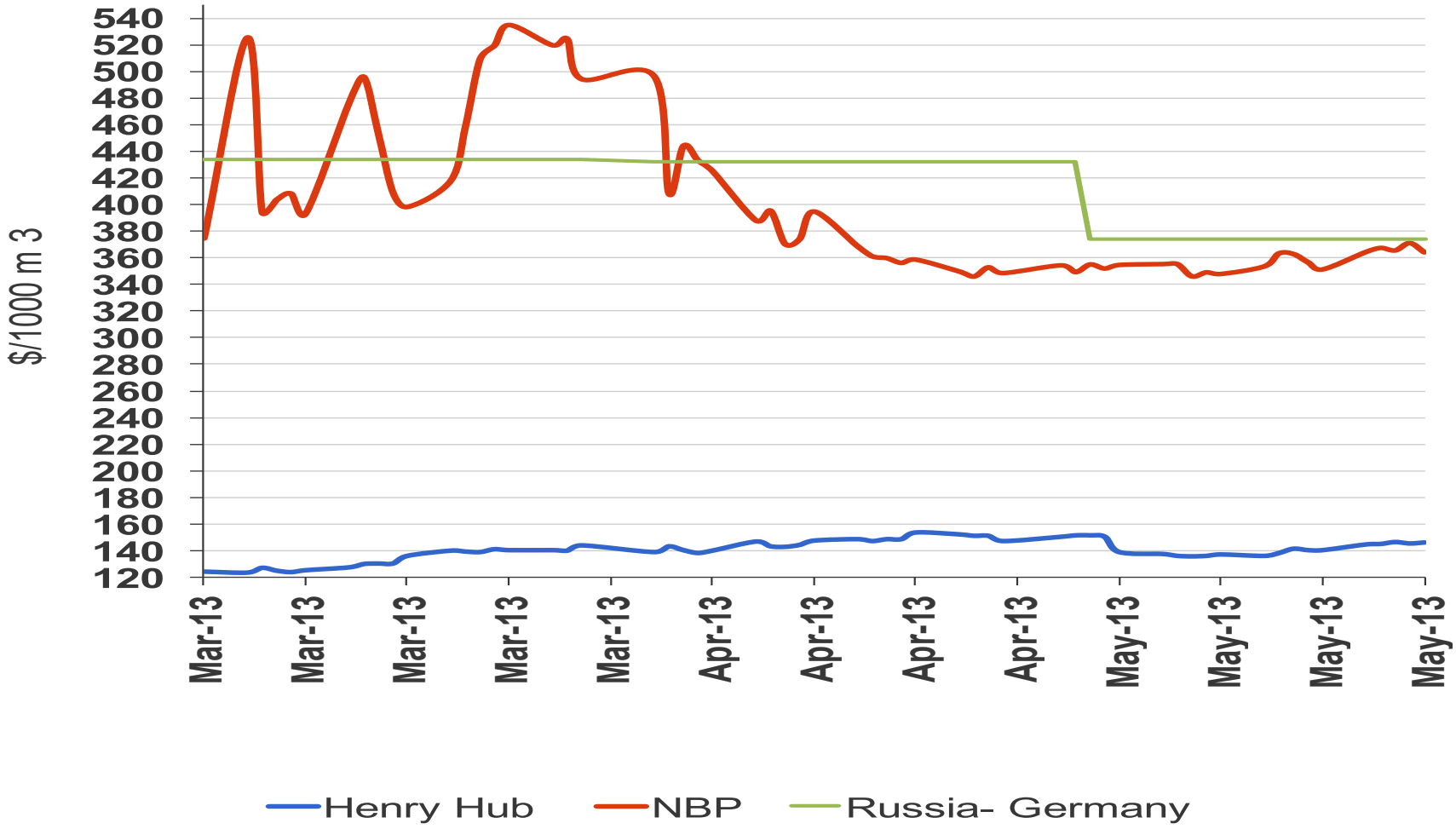
2012 GAZPROM GROUP's GAS SUPPLIES TO EUROPE



Measures to be taken to enhance Russia's gas transit reliability

Project	Status	Capacity, BCM/Y	Commissioning time
North Stream	In operation	55	
Case 1	Expansion under consideration	27.5	2018 – 2020 ?
Case 2	Expansion under consideration	55	2018 – 2020 ?
South Stream	Early stage		
Phase 1	1	31.5	By 2018?
Phases 1+2	2	63	By 2020?
Yamal - Europe - 2	Under consideration	15	Beyond 2018 ?
Subtotal 1	Case 1 + Phase 1	59	2018 – 2020?
Subtotal 2	Case 2 Phases 1+2	118	2018 – 2020?
Subtotal 3	Case 2 + Phases 1+2 and YE-2	133	Beyond 2018?

Gas prices: Henry Hub June futures, NBP OTC Day-ahead and Russia -Germany LTC's, March – May 2013, $/1000 cum



LTC's gas price for individual EU countries and Turkey

Russian gas supplies to individual countries, $/Mcm

	2010	2011	2012	% change 2010-2012	% change 2011-2012
Austria	305	387	394	29.2	1.8
Bosnia and Herzegovina	339	429	500	47.5	16.6
Bulgaria	311	356	435	39.9	22.2
Czech Republic	326	419	500	53.4	19.3
Denmark	–	480	394	–	-17.9
Finland	273	358	373	36.6	4.2
France	306	399	398	30.1	-0.3
Germany	270	379	353	30.7	-6.8
Greece	359	414	475	32.3	14.7
Hungary	350	383	416	18.9	8.6
Italy	331	410	438	32.3	6.8
Macedonia	381	462	558	46.5	20.8
Netherlands	308	366	346	12.3	-5.5
Poland	331	420	433	30.8	3.1
Romania	325	390	424	30.5	8.7
Serbia	341	432	405	18.8	-6.25
Slovakia	371	333	428	15.4	28.5
Slovenia	312	377	400	28.2	6.1
Switzerland	296	400	333	12.5	-16.75
Turkey	326	381	416	27.6	9.2
Average	305.33	383.38	401.74		

Source: Gazprom

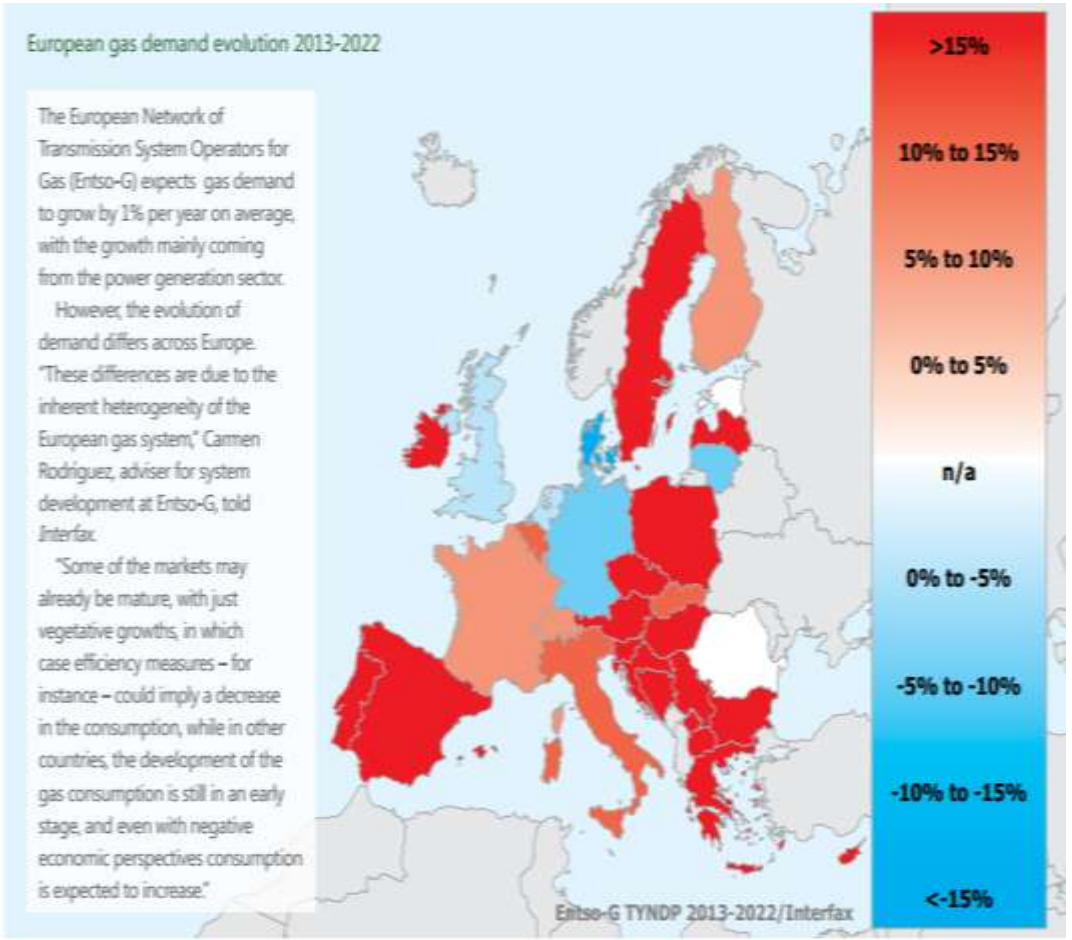
EU Gas Demand Evolution (by ENTSOG)

Gas demand evolution over 2013 -2022 as presented by The European Network of Transmission System Operators of Gas

ENTSO (G)

According to this projections major decrease is forecasted in Germany and the United Kingdom

Generally, gas demand in the EU-27 might develop by 1% per year (on average)



Direct gas flow capacities not requiring transit

FLOW	Cross - border point	BCM/Y
to Estonia	Narva	1.4
to Latvia	Korneti	5.4
to Lithuania	Kotlovka	10.5
to Finland	Imatra	7.4
to Turkey	Blue Stream	16
to Germany	North Stream Greifswald	55
Subtotal		95.7

Gas flow capacities via Byelorussia (high reliability transit factor)

FLOW	Cross - border point	BCM/Y
to Poland	Teterovka	0.2
	Kondratki	33.5
	Vysokoye	5.4
	Drozdovichi	4.3
Subtotal		43.5

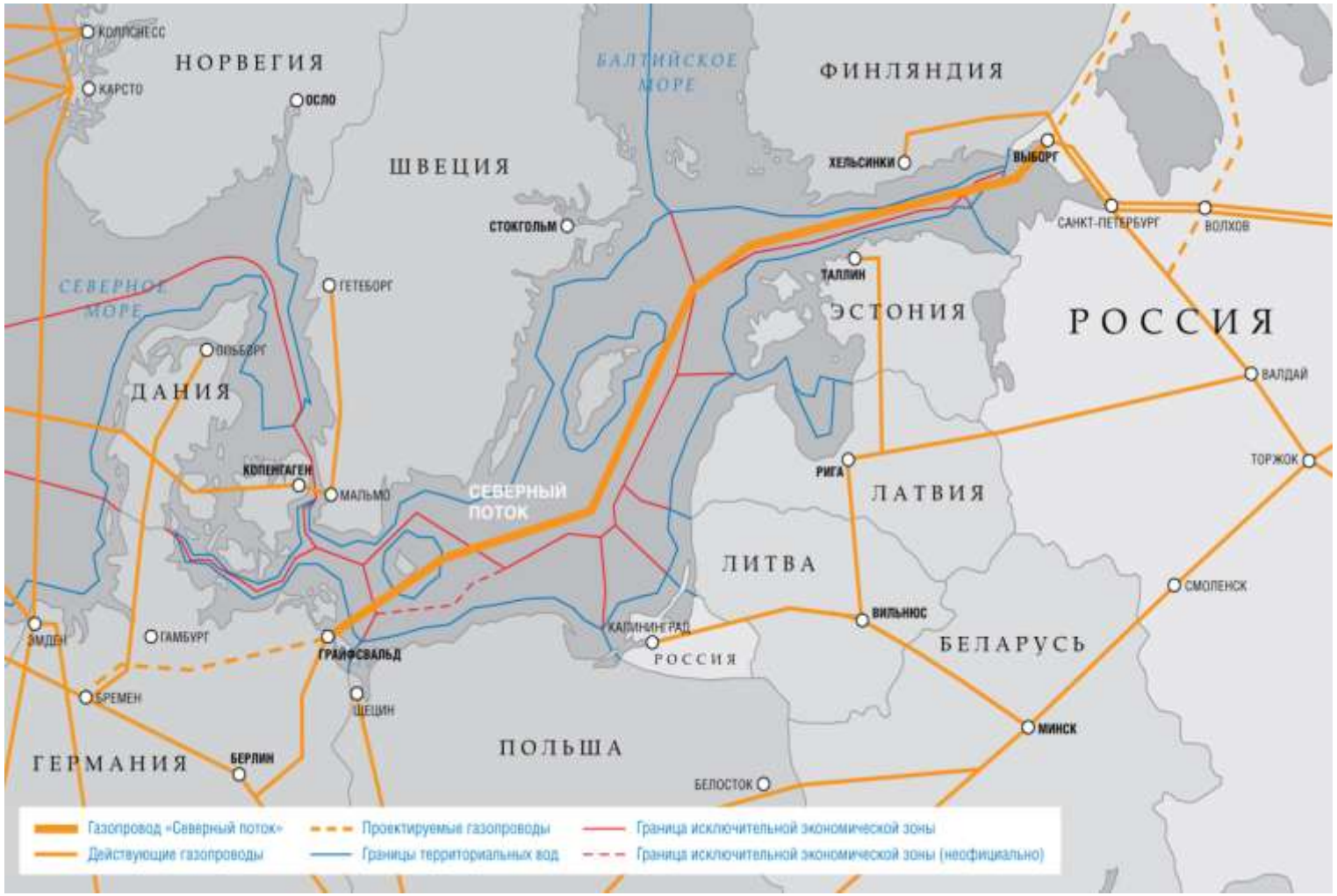
Gas flow capacities (low reliability transit factor) - Major gas flow via Ukraine (Route I)

to Slovakia	**V.Kapushany**	**99.8**
to Hungary	Beregovo	19.5
to Romania	Tekovo	3.7
	Orlovka	8
Subtotal 1		131

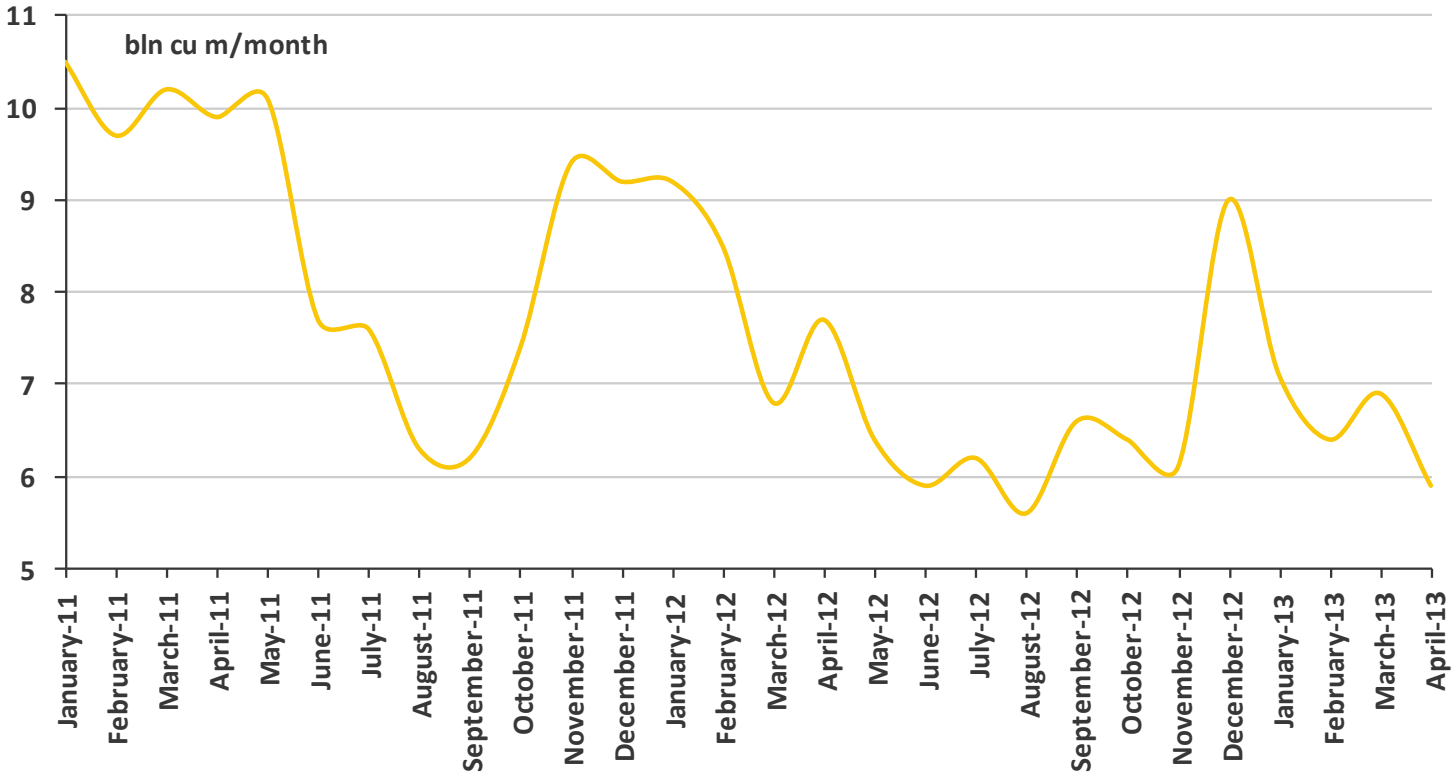
Gas flow capacities (low reliability transit factor) - Minor gas flow via Ukraine (Route II)

to Moldova	2
to Romania	6
to Turkey	15
to Bulgaria	5
Subtotal 2	28

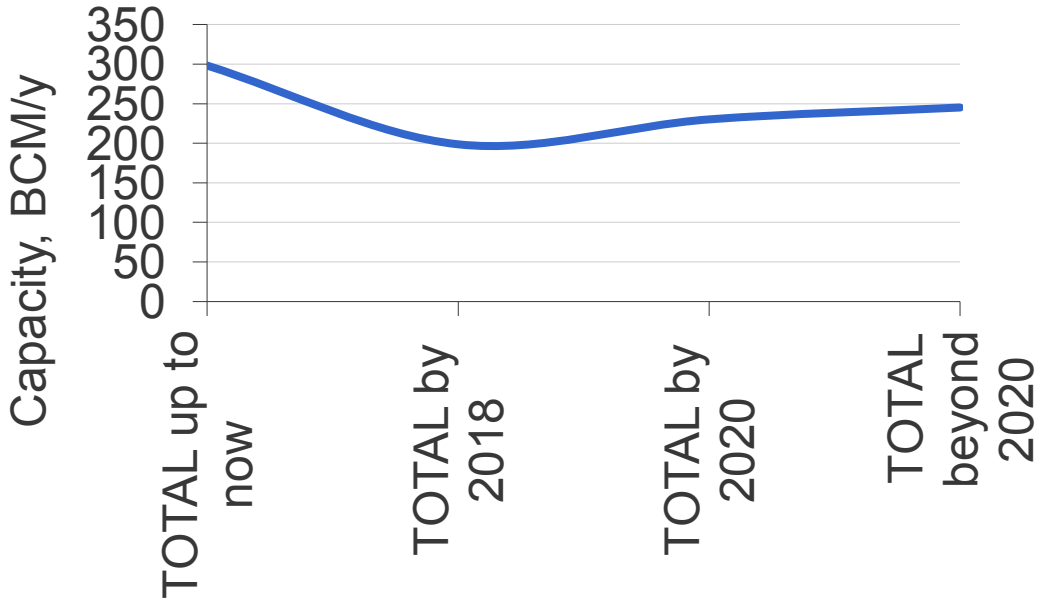
North Stream commissioning was the first stage of phasing out unreliable transit partner



Gas transit via Ukraine - I



Capacity without Ukraine's Route I plus SS with phase by phase commissioning by 2020 and YE-2 operational beyond 2020



The Yamal Europe - 2 project rational

The Yamal Europe 2 project will be needed only in case South Stream is completely put in place phase by phase and the goal is to exclude Ukraine from the delivery of Russian gas beyond several Central European countries neighboring to Ukraine.

RUSSIA'S LNG PRODUCTION PROJECTS: ACTUAL AND PROSPECTIVE

	YEAR	Capacity	Extension	Maximum capacity
				MLN T/Y
Sakhalin II	2009 two trains in operation	9.9	0.5	10.4 (since 2012 up to 2015)
			Third train after 2015 ?	Pending
Yamal LNG	2013 start of construction			
	2016 first phase		SLATED	
	2018 second& third phase		SLATED	15
Vladivostok LNG	2013 start of construction	10	SLATED	15
	2017-2020 start of operation			
Leningrad region LNG	By 2018	10	SLATED	10
Pechora LNG	2018 start of operation	2.6	SLATED	8
TOTAL additional by 2020				48.5

Russian gas to China

Interim Conclusions

- Russian gas under recent developments on the global gas markets, particularly in Europe, is becoming more attractive alternative compared to other gas sources capable to substantially meet European energy needs
- Today, Key European LTCs' prices are comparable with spot gas market indicators making spot market mechanisms more exposed to gas price fluctuations with S/D equilibrium in the middle ground market
- Under these circumstances gas transmission, specifically gas transit via unstable territories is becoming more a factor of economy in global gas business
- Reliability of gas flow over multi thousand kilometers distances require diversity of transmission routes, as well as stronger political control over gas transit infrastructure
- Commissioning South Stream gas transmission project works for these ideals and for substantial rearrangement of conventionally organized routing of pipeline gas going from Russia to Europe

Continuation

- The key issues for Russian gas export perspectives are:
  - Cost/economy efficiency
  - Flexibility in contractual terms incl. for power sector
  - Adaptation of the RF export terms and gas role in Europe with the EU regulation and strategic developments
  - Diversification of LNG projects and exporters

Continuation

- Key political aspects seems to be:
  - Rigidity towards excessive EU dependence on external suppliers
  - Pressure on immediate move to sizable reduction of carbon emissions and belief in reachable global climate agreement
  - Overvaluation of REN contribution to energy mix
  - Lack of mutual understanding of goals and means.
- On the positive side
  - Vienna bilateral expert consultations on TEP since early 2010
  - Gas Advisory Council activity since autumn 2011
  - EU-RF Energy Cooperation Roadmap until 2050 – signed in March 2013

Thank you for your attention!

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