Russia’s Natural Gas Production & Export Policy

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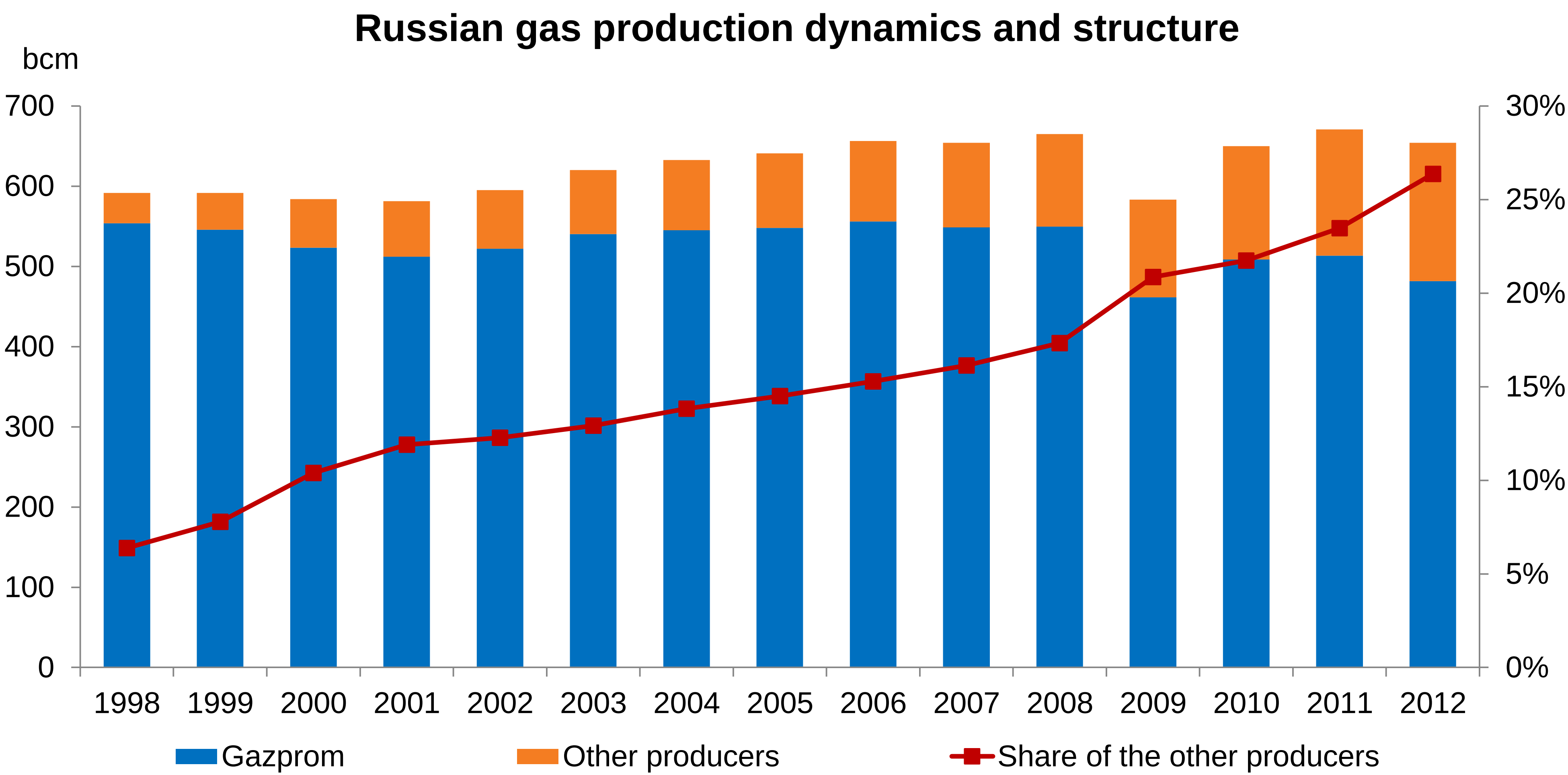
Russian gas production stagnates, independents share reached 26%



** Other producers include PSA and associated petroleum gas*

Source: CDU TEK

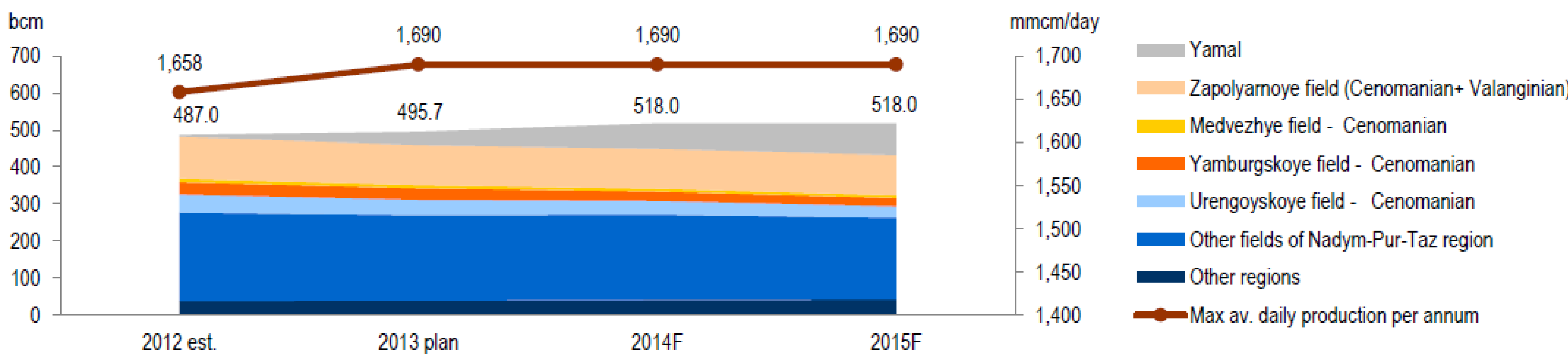
Gazporom`s short term production plans

Gazprom main production regions

Capacities commissioning forecast

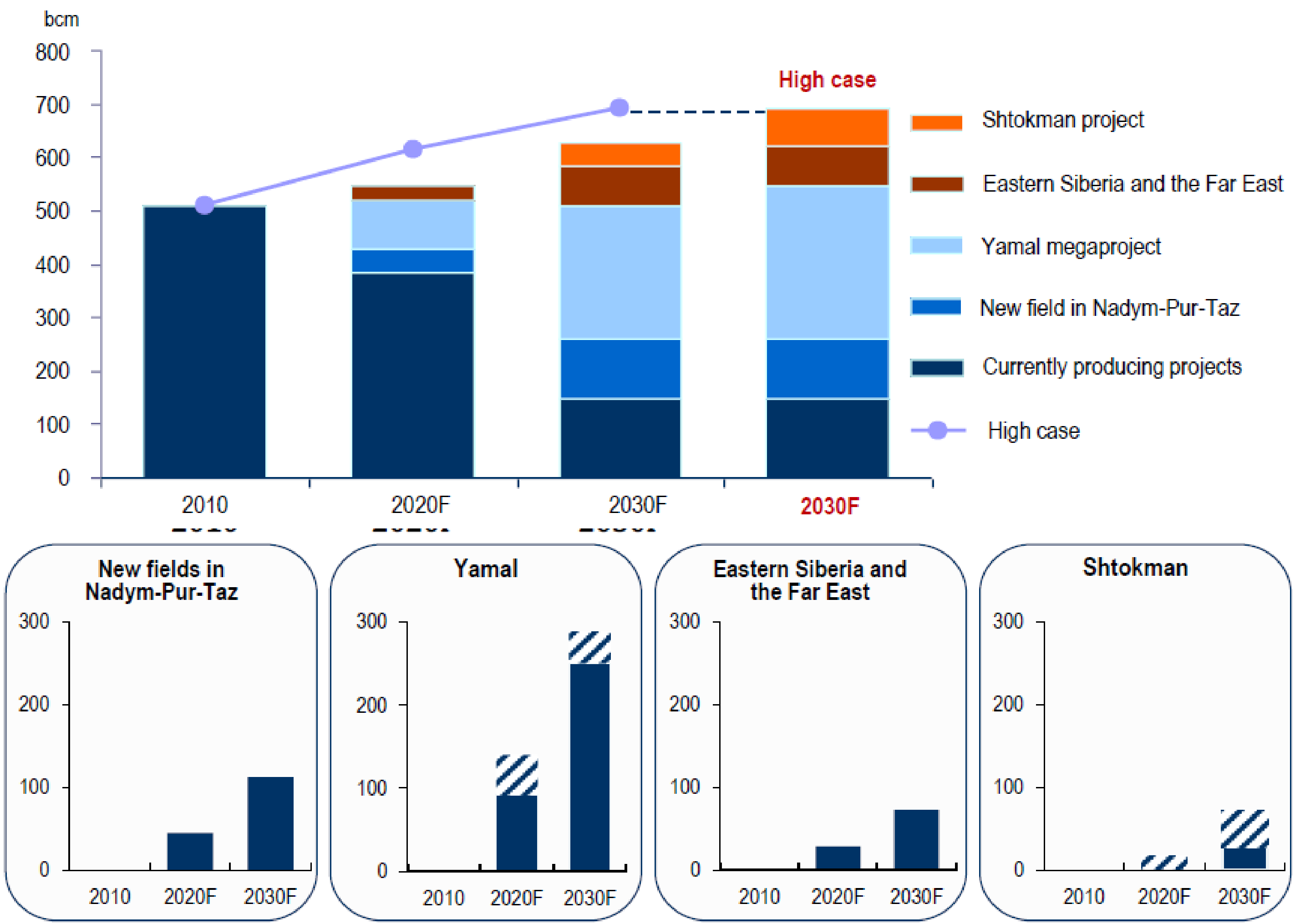
Comprehensive gas processing units/ total designed capacity	Gas pumping units/ total designed capacity	Wells
2013		
2 units /6.0 bcm p.a.	2 GPP/ 50.0 MWh	73 wells
2014		
2 CGPU/ 30.0 bcm p.a.	5 GPP/ 401.0 MWh	168 wells
2015		
2 CGPU/ 2.3 bcm p.a.	11 GPP/ 579.8 MWh	138 wells

Gazprom production 2012-2015



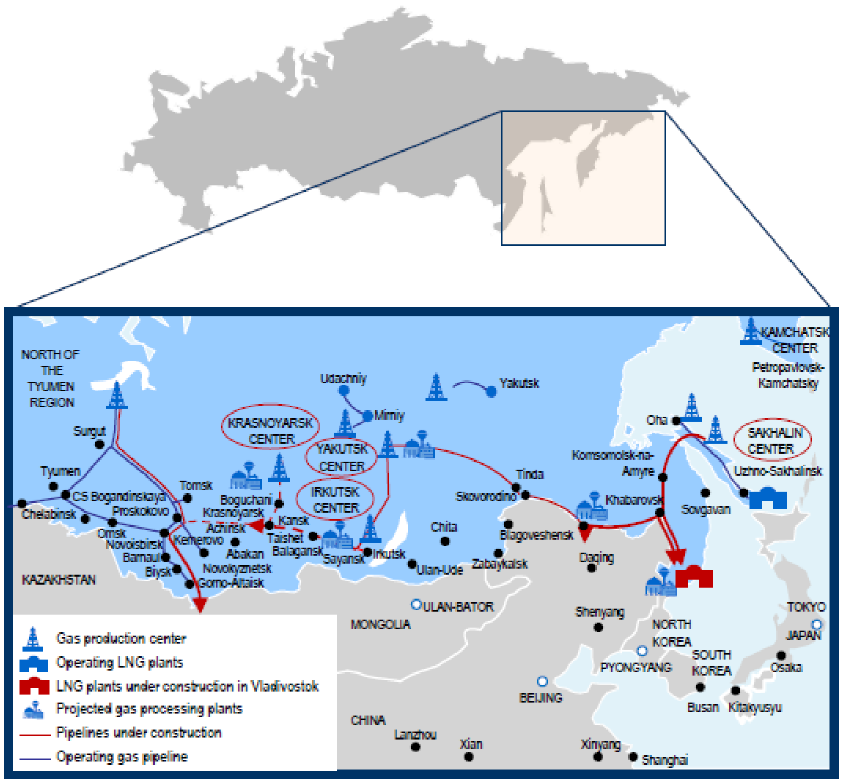
Source: Gazprom`s Investor Day Presentation. 2013.

Gazporom`s long term production plans

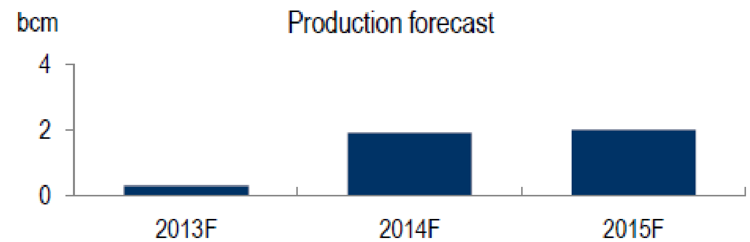


Source: Gazprom`s Investor Day Presentation. 2013.

Eastern Gas Program



Kirinskoye field



Sakhalin gas production center

C1+C2 Reserves	746.3 bcm of gas	93.4 mm tons of condensate
Peak annual production	13 bcm of gas	n/a

Yakutsk gas production center - Chayandinskoye field

C1+C2 Reserves	1.4 tcm of gas	21.4 mm tons of condensate
Peak annual production	25 bcm of gas	0.4 mm tons of condensate

Irkutsk gas production center - Kovyktinskoye field

C1+C2 Reserves	1.5 tcm of gas	76.7 mm tons of condensate
Peak annual production	35.3 bcm of gas	2.3 mm tons of condensate

Combined CAPEX for Eastern Program development[1]

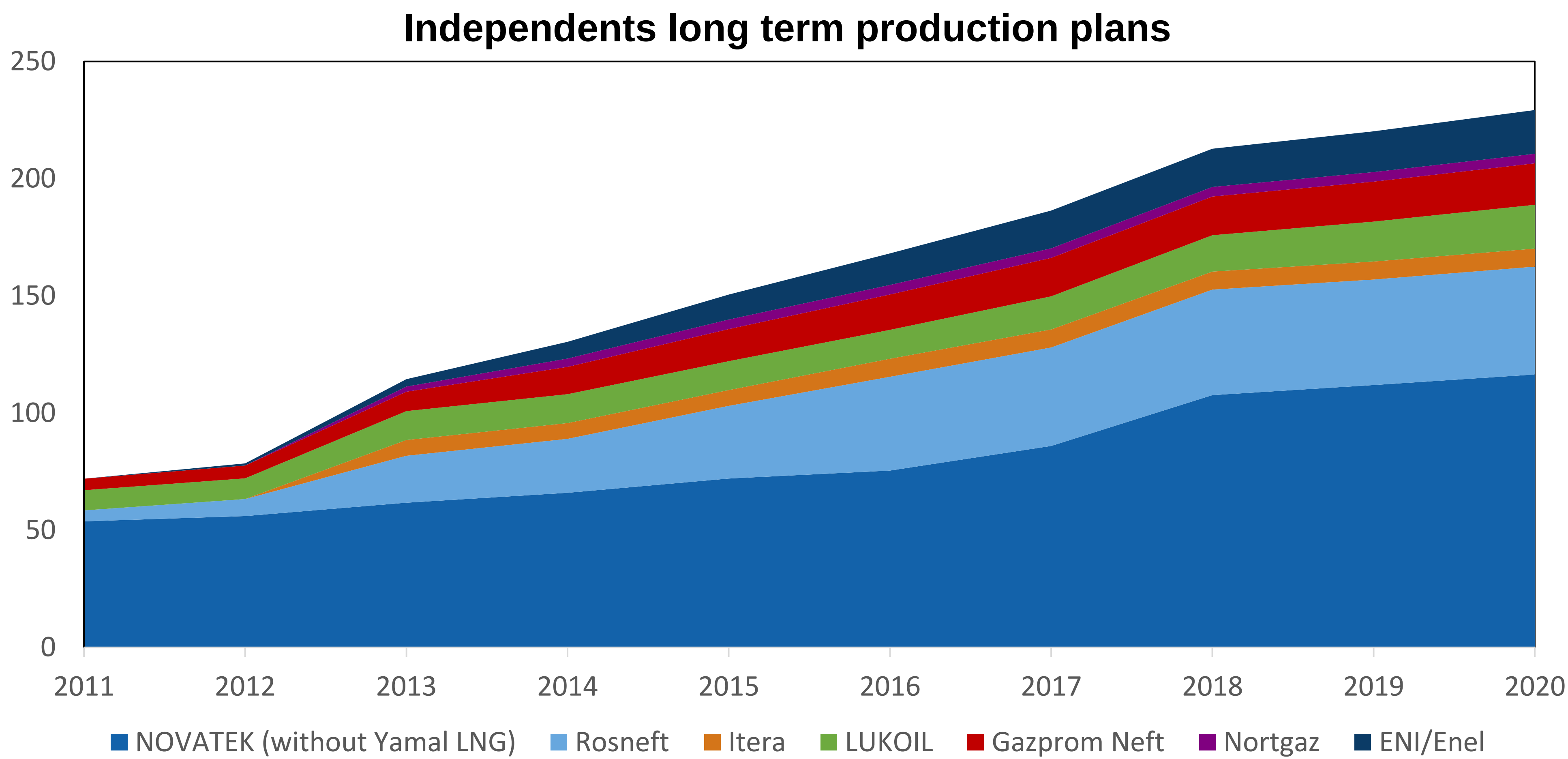
2013 F	2014 F
USD 1.7 bn	USD 0.2 bn

Krasnoyarsk gas production center - Sobinskoye field

C1+C2 Reserves	154.9 bcm of gas	8.4 mm tons of condensate
Peak annual production	5.0 bcm of gas	0.4 mm tons of condensate

Source: Gazprom`s Investor Day Presentation. 2013.

Independents are ready to increase their production, with peak in 2023-2025



Sources: companies plans, ERI RAS

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Gas production in Russia

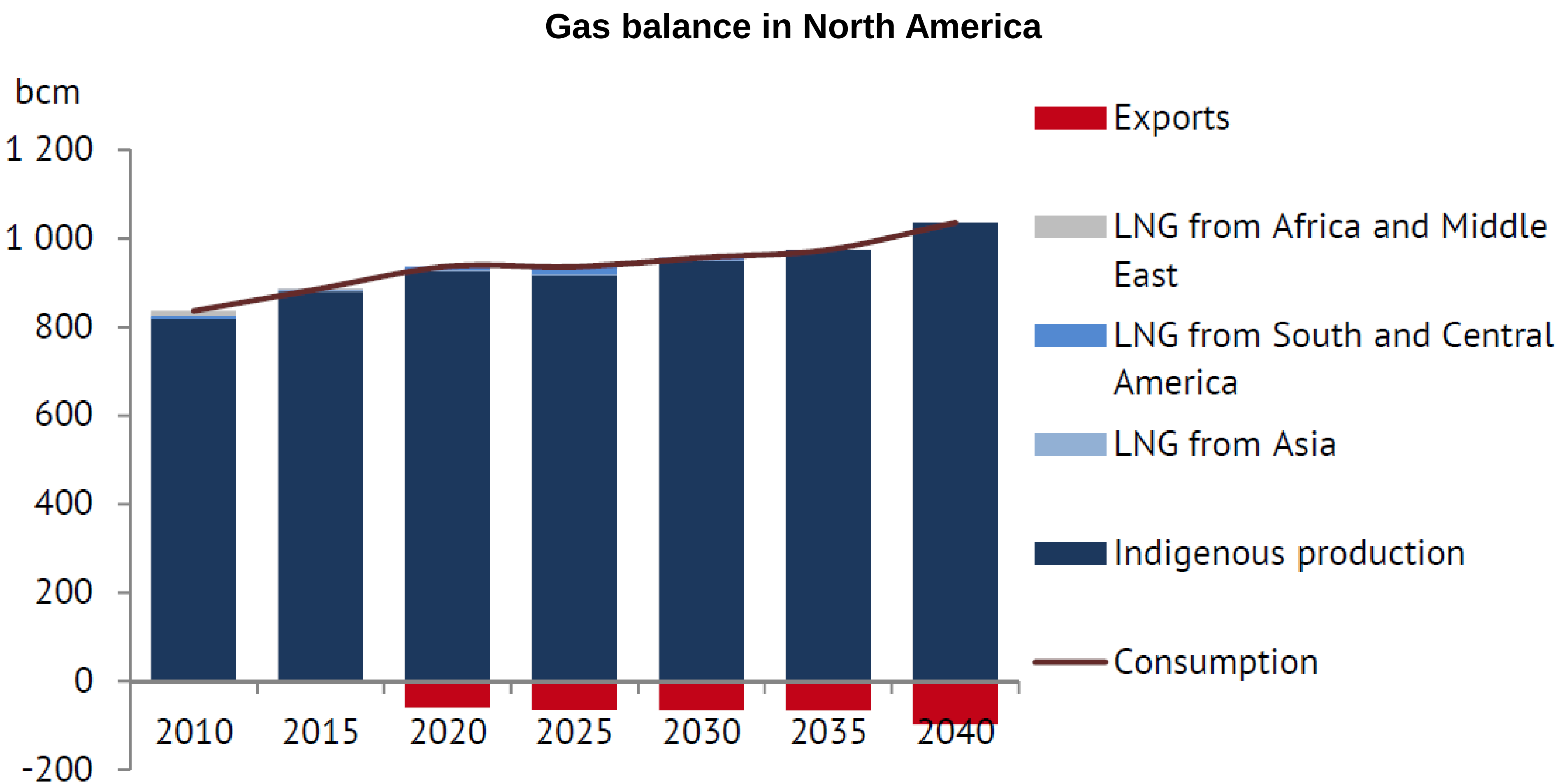
2

Where are the markets?

3

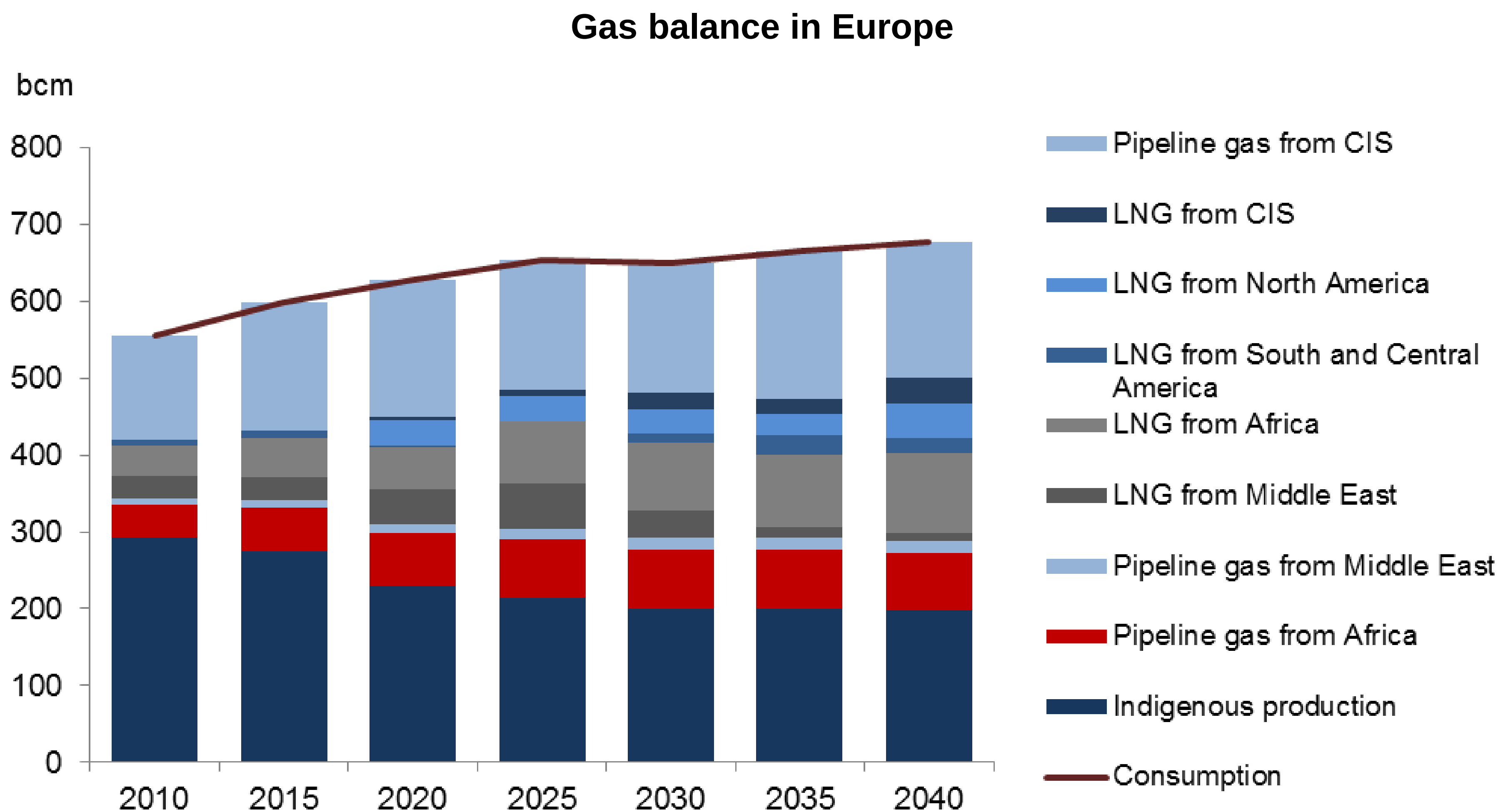
So what is the Russian`s response?

No market niche in North America any more



Source: Global and Russian Energy Outlook up to 2040. ERI RAS-AC. 2013.

Market niche in Europe: strong competition in the future

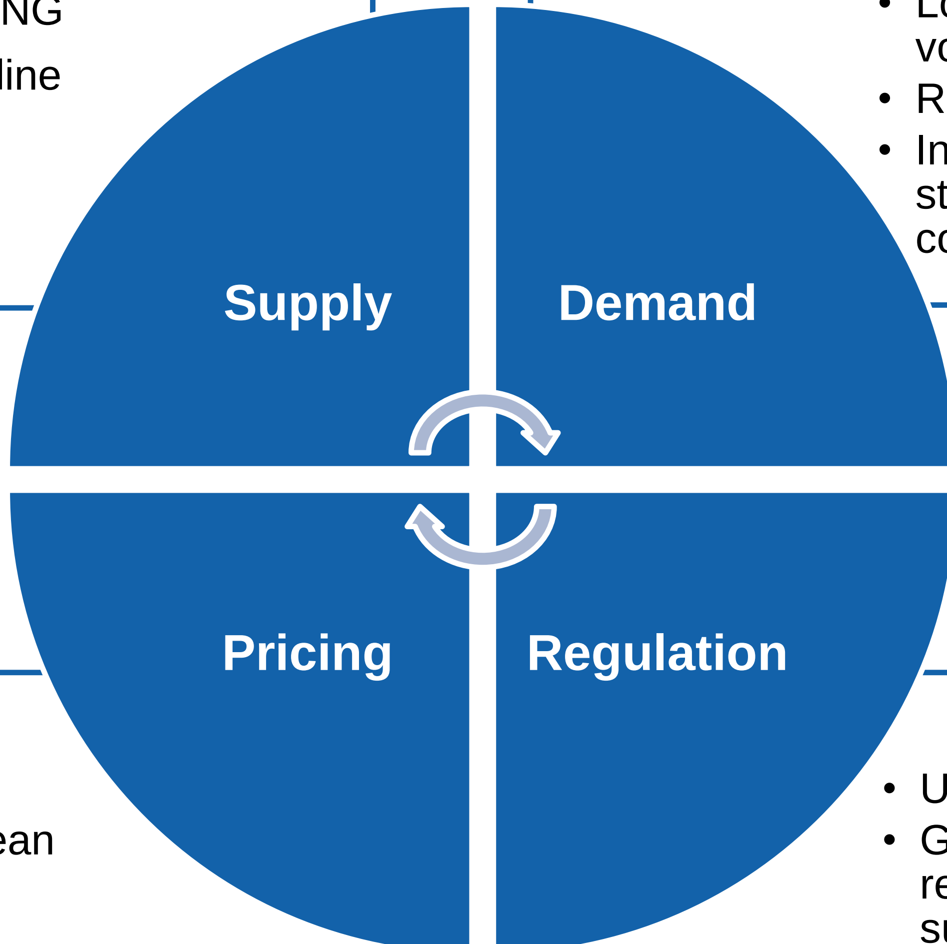


Source: Global and Russian Energy Outlook up to 2040. ERI RAS-AC. 2013.

Situation on the European gas market does not favor Russian exports

- Growing supplies of LNG
- Diversification of pipeline supply sources

- Lower than contracted volumes
- Recovers very slowly
- In the power sector gas is strongly competing with coal



- Spot volumes are increasing very fast (30-40% p.a.)
- Majority of the European stakeholders support transition to the spot pricing

- Unbundling
- Gas Target Model requires all gas to be supplied at the virtual hubs

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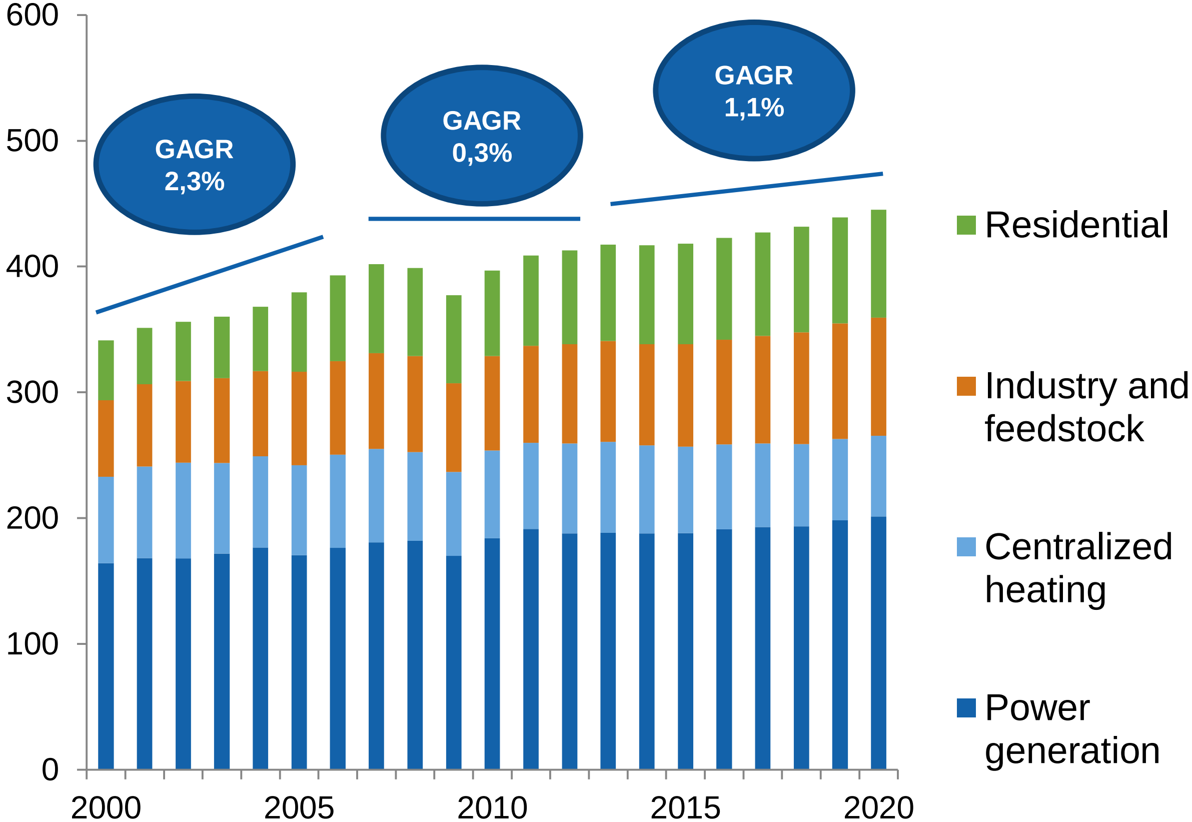
Limited demand growth on the domestic market

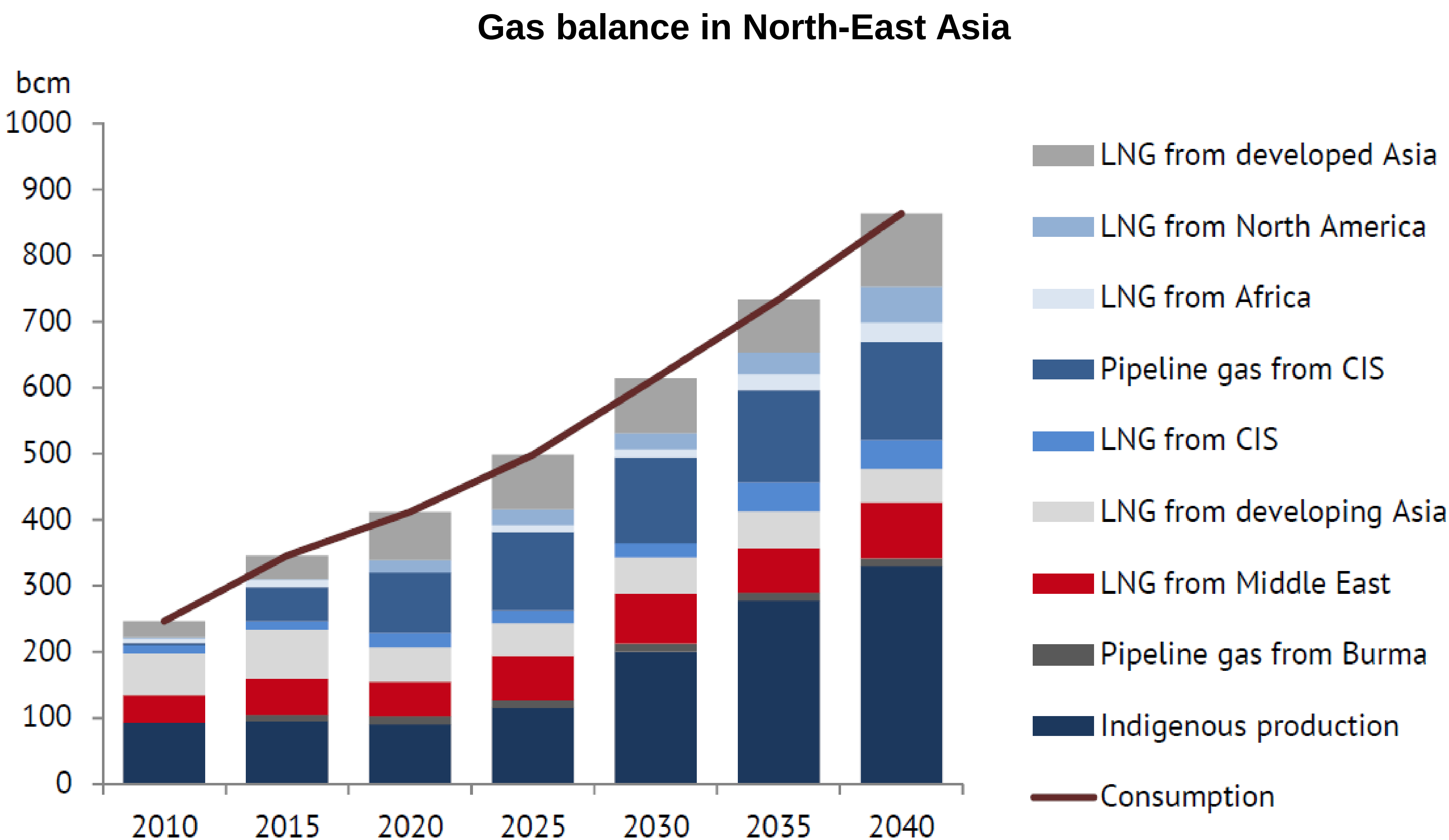
Russian gas demand by sector until 2020 (optimistic scenario)



	2012	2020	Δ	AGR 2012-2020
Total consumption	428	468	40	1,12%
Power generation	188	201	14	0,88%
Centralized heating	72	64	-7	-1,36%
Industry and feedstock	79	94	15	2,17%
Residential	75	86	11	1,78%

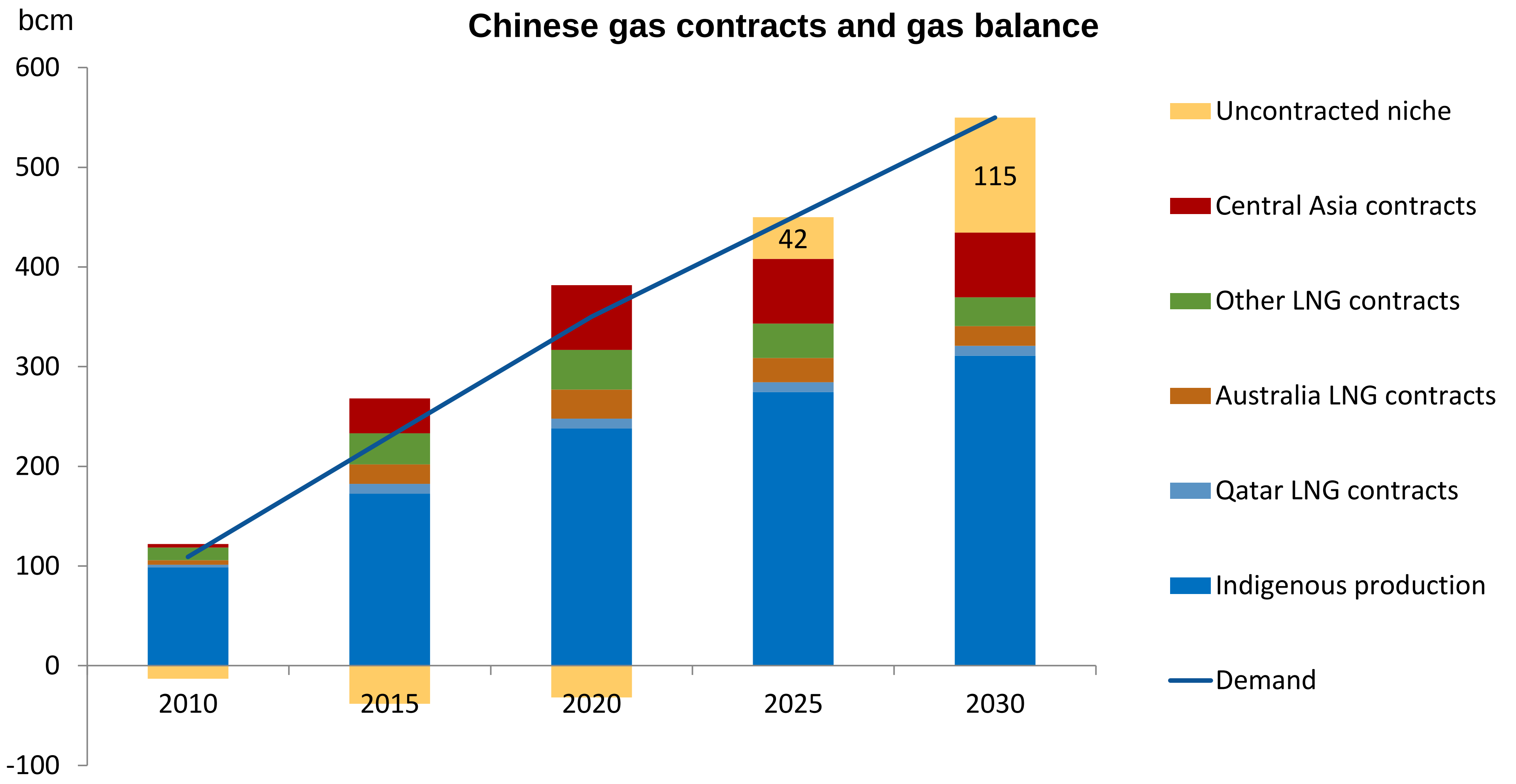
Source: ERI RAS

Growing market in Asia, but…



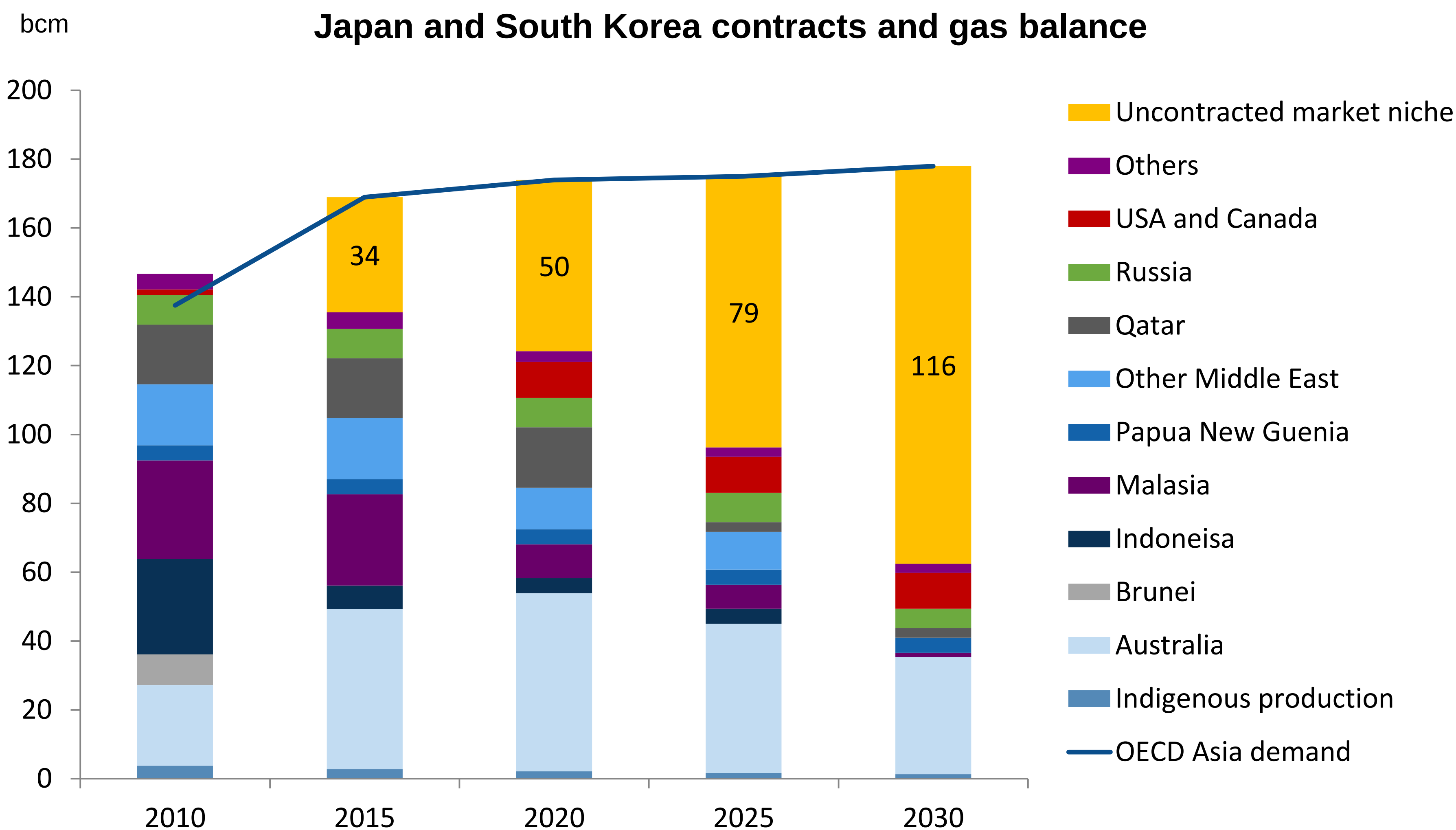
Source: Global and Russian Energy Outlook up to 2040. ERI RAS-AC. 2013.

By 2020 there is no market niche in China, by 2030 the niche might reach 66 bcm



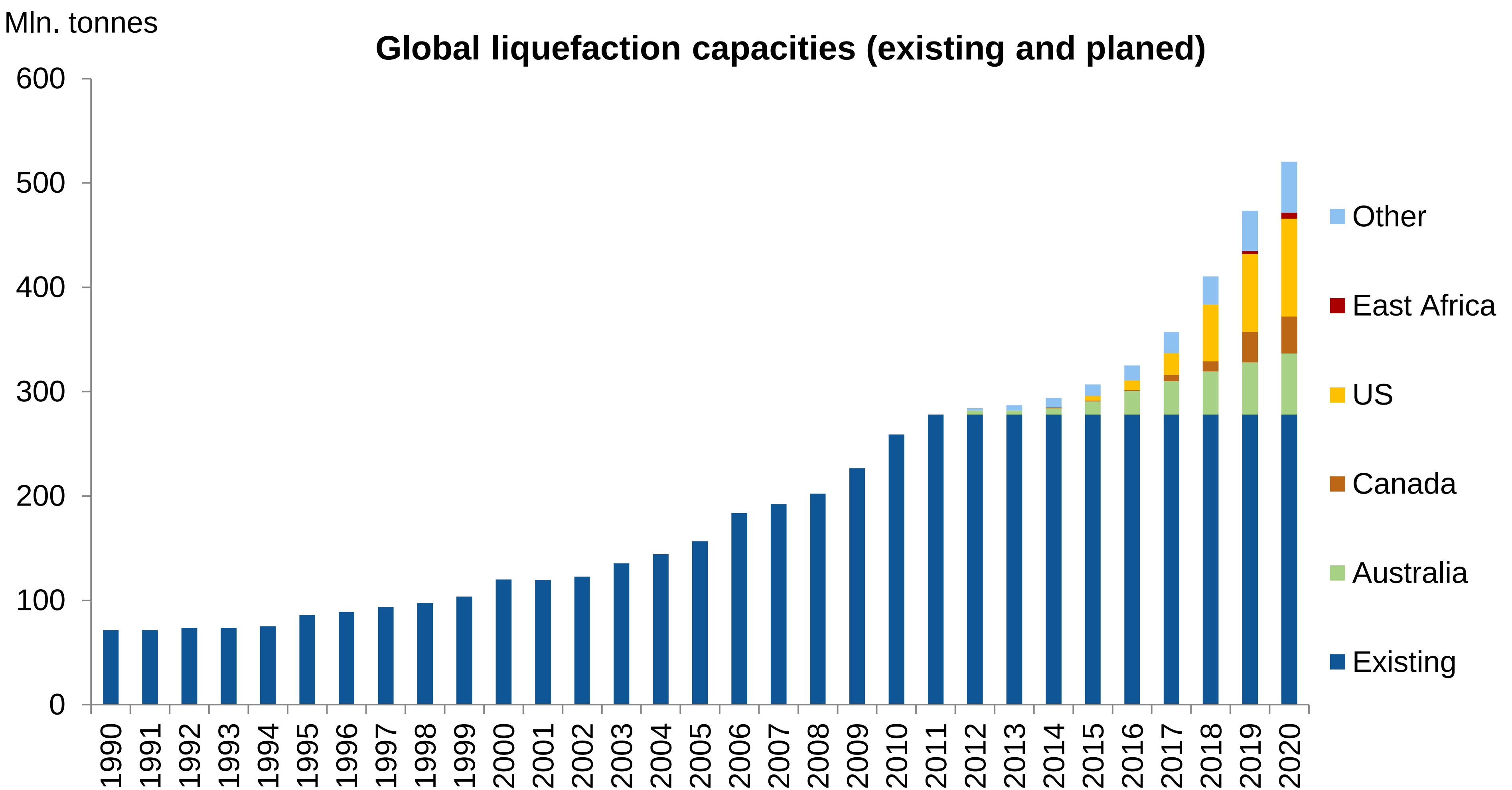
Source: ERI RAS

OECD Asia is already contracting the North American LNG



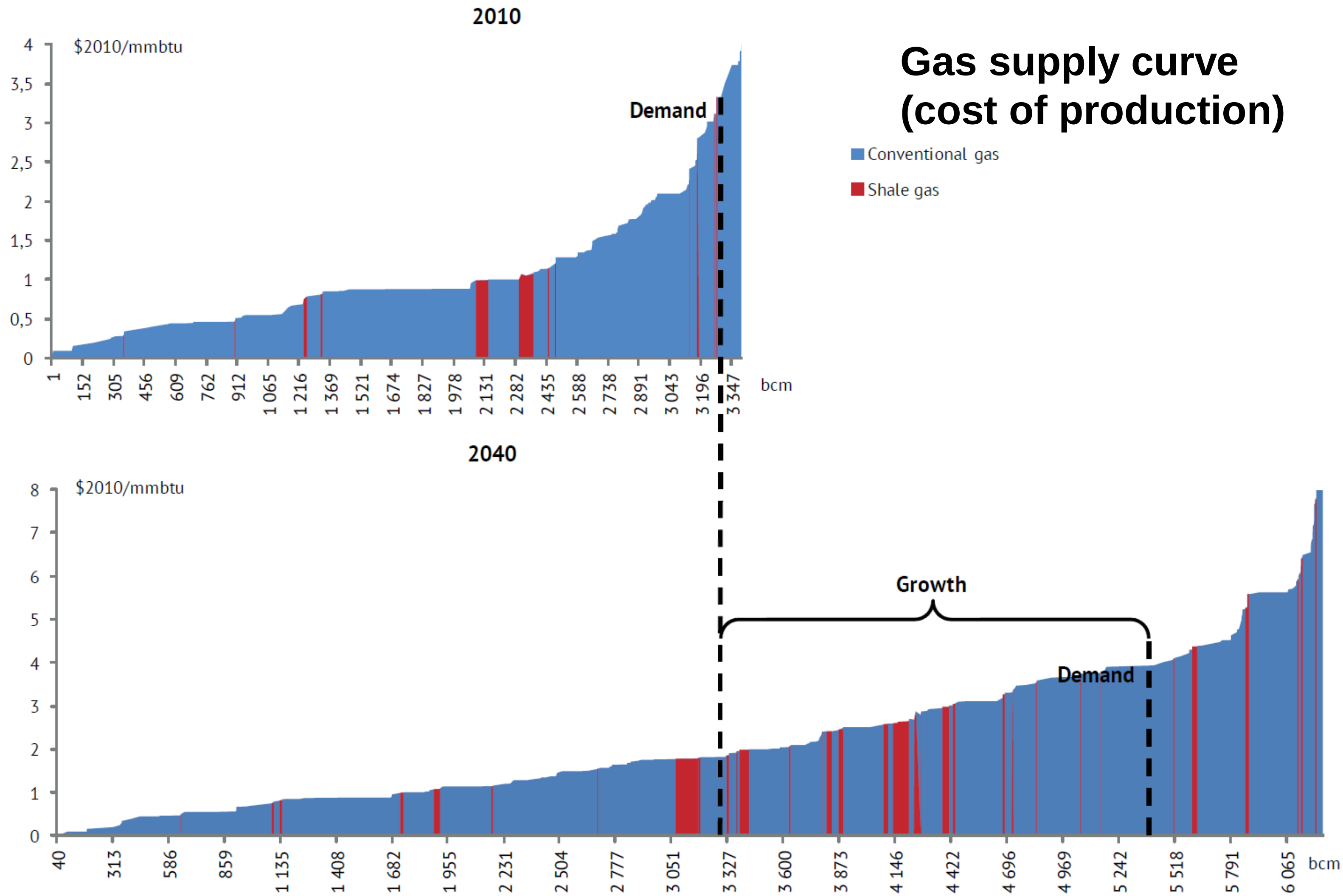
Source: ERI RAS

Global LNG supply is expected to boom during the next decade



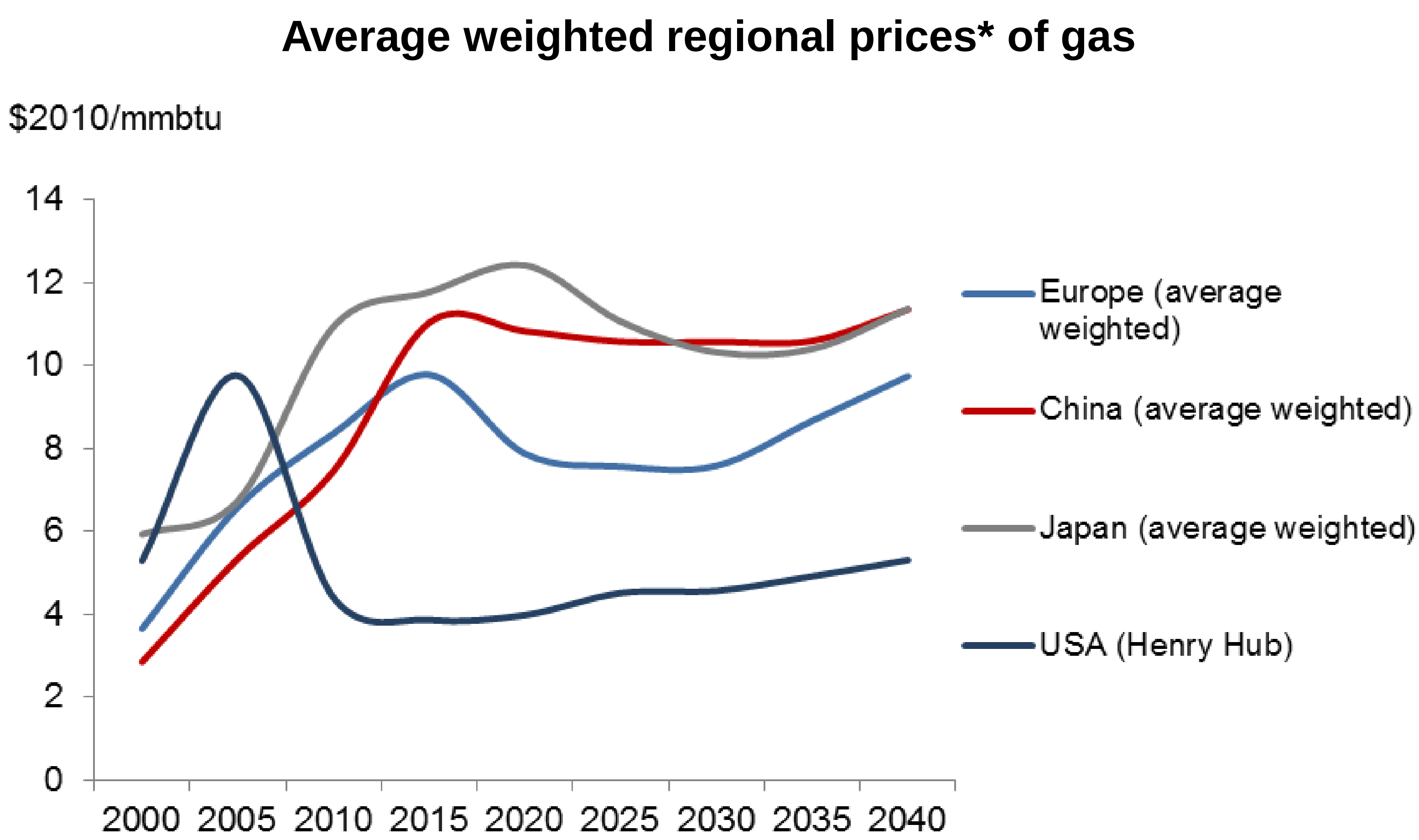
Source: ERI RAS

There is enough gas to expand gas production by 2 tcm by 2040 at the production costs below 4 $/MBtu



Source: Global and Russian Energy Outlook up to 2040. ERI RAS-AC. 2013.

Regional equilibrium gas prices are not expected to grow



* Weighted average price between the prices of long-term contracts linked to alternative fuels, and spot prices.

Source: Global and Russian Energy Outlook up to 2040. ERI RAS-AC. 2013.

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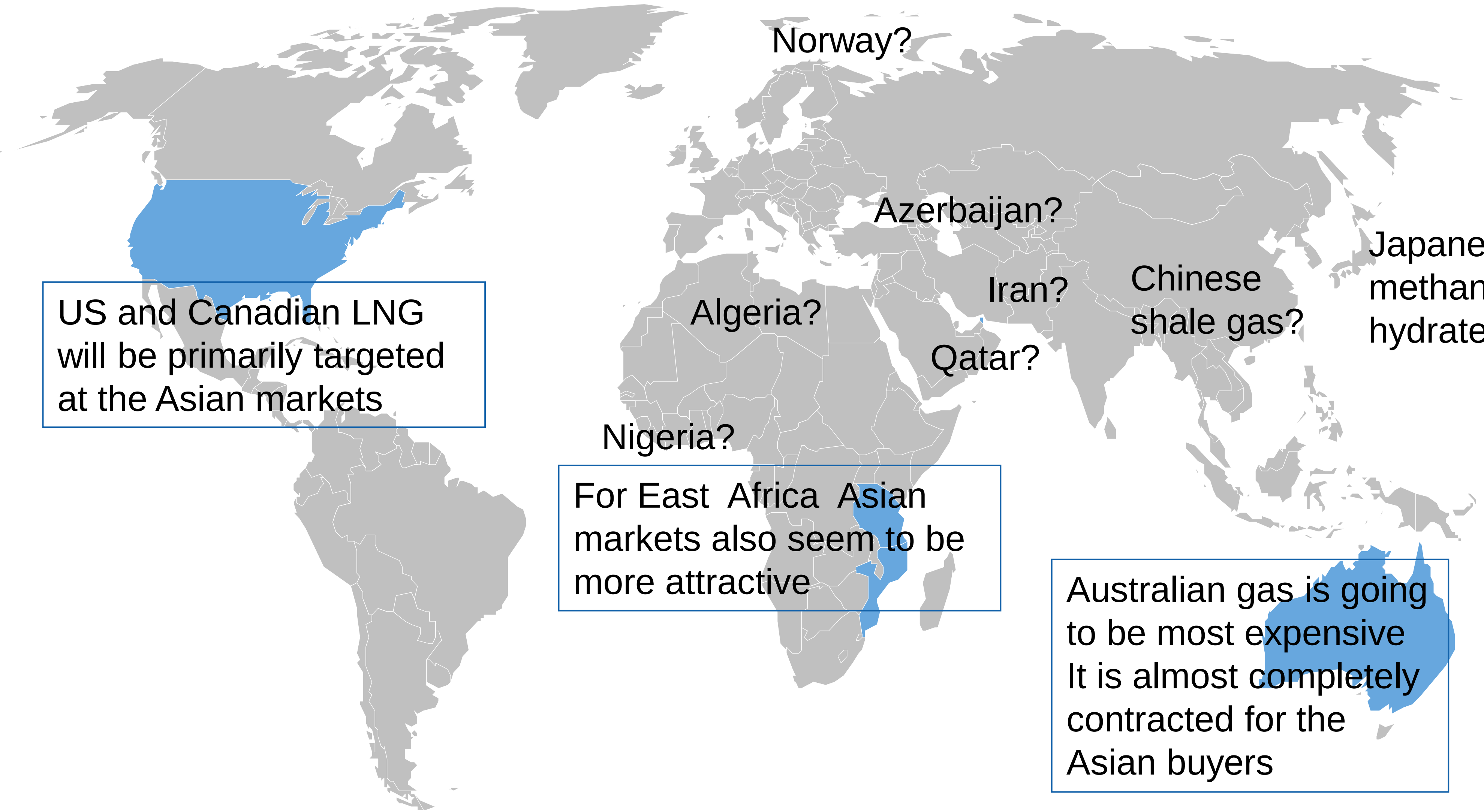
2 Where are the markets?

3 **So what is the Russian`s response?**

Evolution of the Russian gas export strategy: what will be the Russian response?

Traditional strategy 1990-2002	Miller`s team strategy 2002-2008	Anti-crises strategy 2009-2013	??? 2013-2020
Volume maximization, Price damping	Price maximization and volume growth	Minimal price adjustments acceptable for the consumers (price maximization in the new conditions), stagnating volumes	Most probably price maximization
One target market – Europe Only pipeline gas	One target market – Europe Only pipeline gas	Attempts to diversify markets (Asia) Strong desire to develop LNG	
Russian role – dominant regional supplier	**Russian role – dominant regional supplier**	**Russian role – regional swing producer**	**Russian role – global swing producer**

Devil is in the details:
new additional gas to Europe - where will it come from?

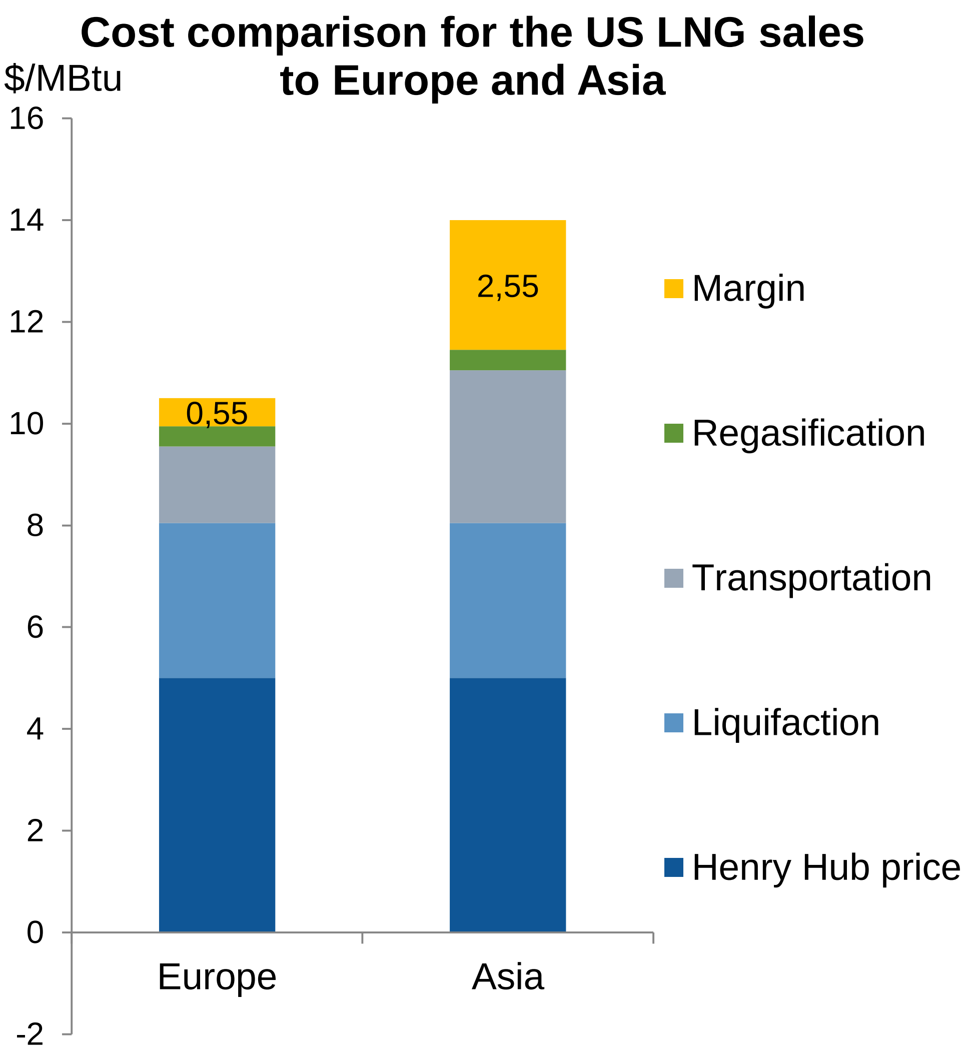


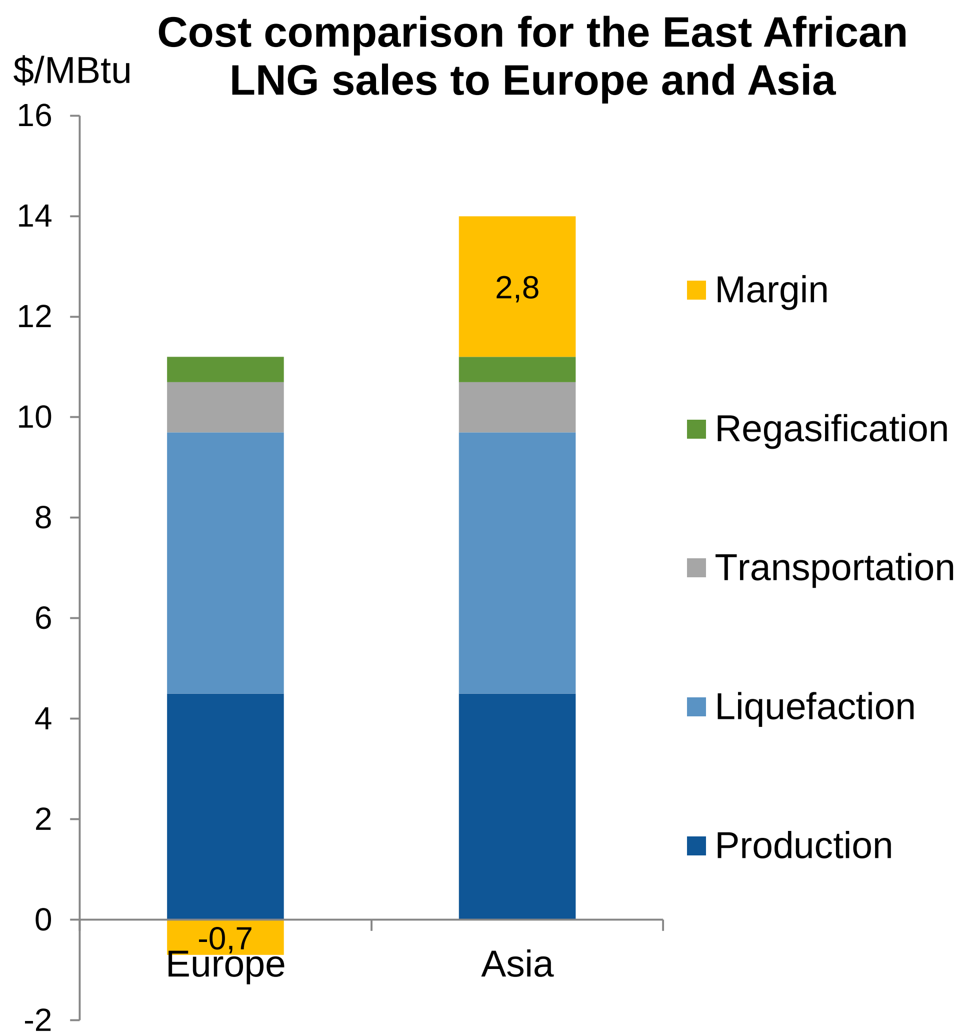
US and Canadian LNG will be primarily targeted at the Asian markets

For East Africa Asian markets also seem to be more attractive

Australian gas is going to be most expensive
It is almost completely contracted for the Asian buyers

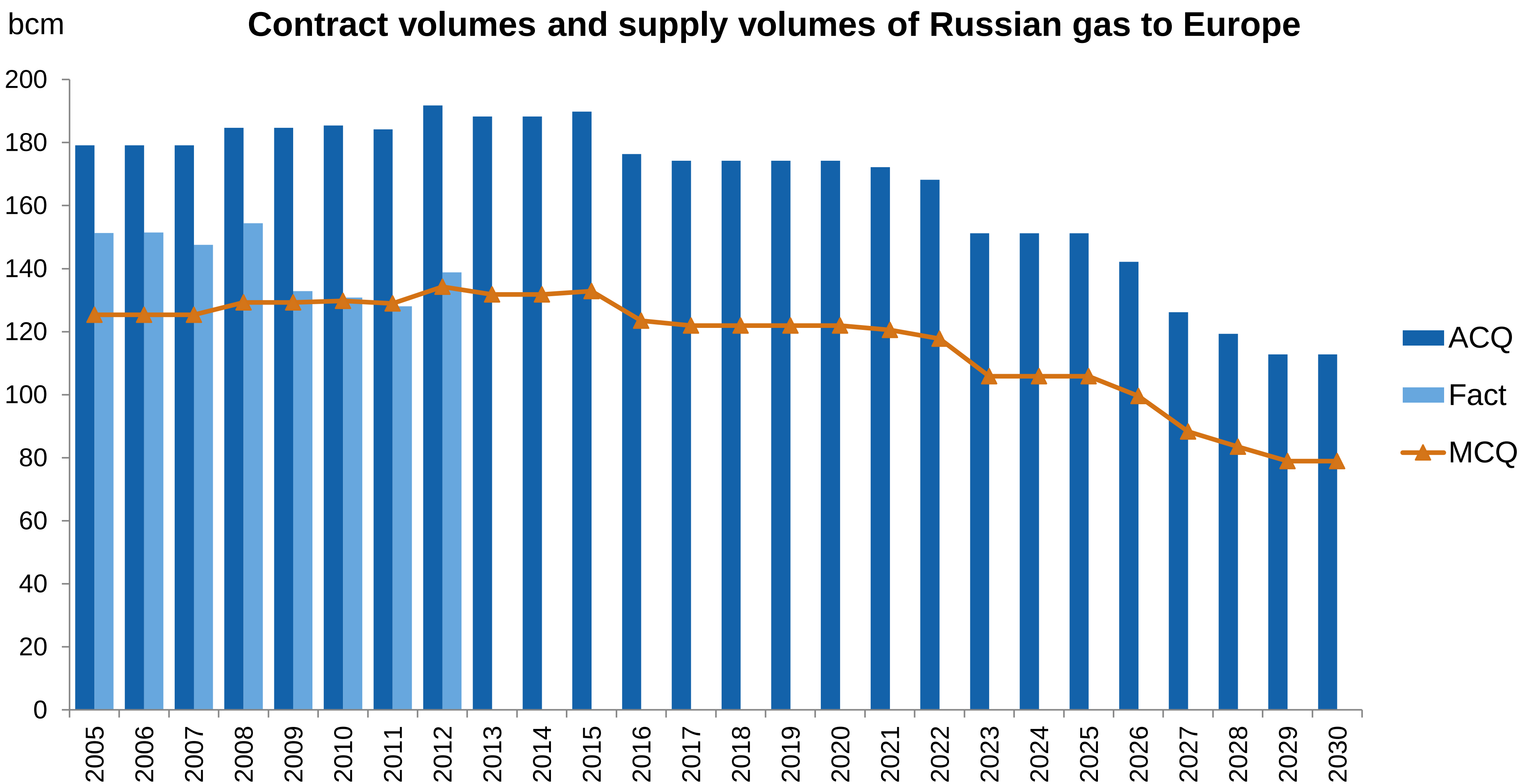
Both for the North American and for East African LNG Asia seems to be much more attractive market





Source: ERI RAS

Existing long-term contracts guarantee stable sales volumes for Russia until at least 2022



Sources: Cedigaz, Gazprom, ERI RAS.

Gazprom`s contracts renegotiations

Company and Country	Contracted Volumes (bcm)	Contract Status
Italy		
Edison	2,0	The Parties agreed on a discount (70 $/mcm acc. to Morgan Stanley). Total compensation of €200 mln. for FY2011.
Eni	3,0	15% spot pricing
ERG	N/A	15% spot pricing
SinergieItaliane	N/A	15% spot pricing in 2009. Price discount (lower P0) in 2012.
Germany		
E.ON	20,0	15% spot pricing in 2009. Price revised down by 10% in 2012.
RWE	8,0	Lawsuit in arbitration.
Verbundnetz Gas	6,4	Discount negotiated
BASF	N/A	In negotiations with Gazprom
Wingas		Price discount (lower P0) in 2012
Baltics		
Estonia	0,4	15% discount granted
Latvia	0,7	15% discount granted
Lithuania	2,7	Demands a 15% discount
Others		
PGNiG(Poland)	9,0	Demands a 10% discount, lawsuit filed to Stockholm arbitration Court
Botas(Turkey)	6,0	6,5% discount granted in 2009. 10% discount granted in 2011. Turkey declined to extend the expiring contract.
GDF Suez (France)	8,0	15% spot pricing in 2009, price discount (lower P0) in 2012
Econgas (Austria)	5,6	15% spot pricing in 2009. In 2012 price discount (lower P0)
SPP (Slovakia)	N/A	Price discount (lower P0) in 2012

Sources: MorganStanley. press

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Arguments: oil indexation vs. gas indexation

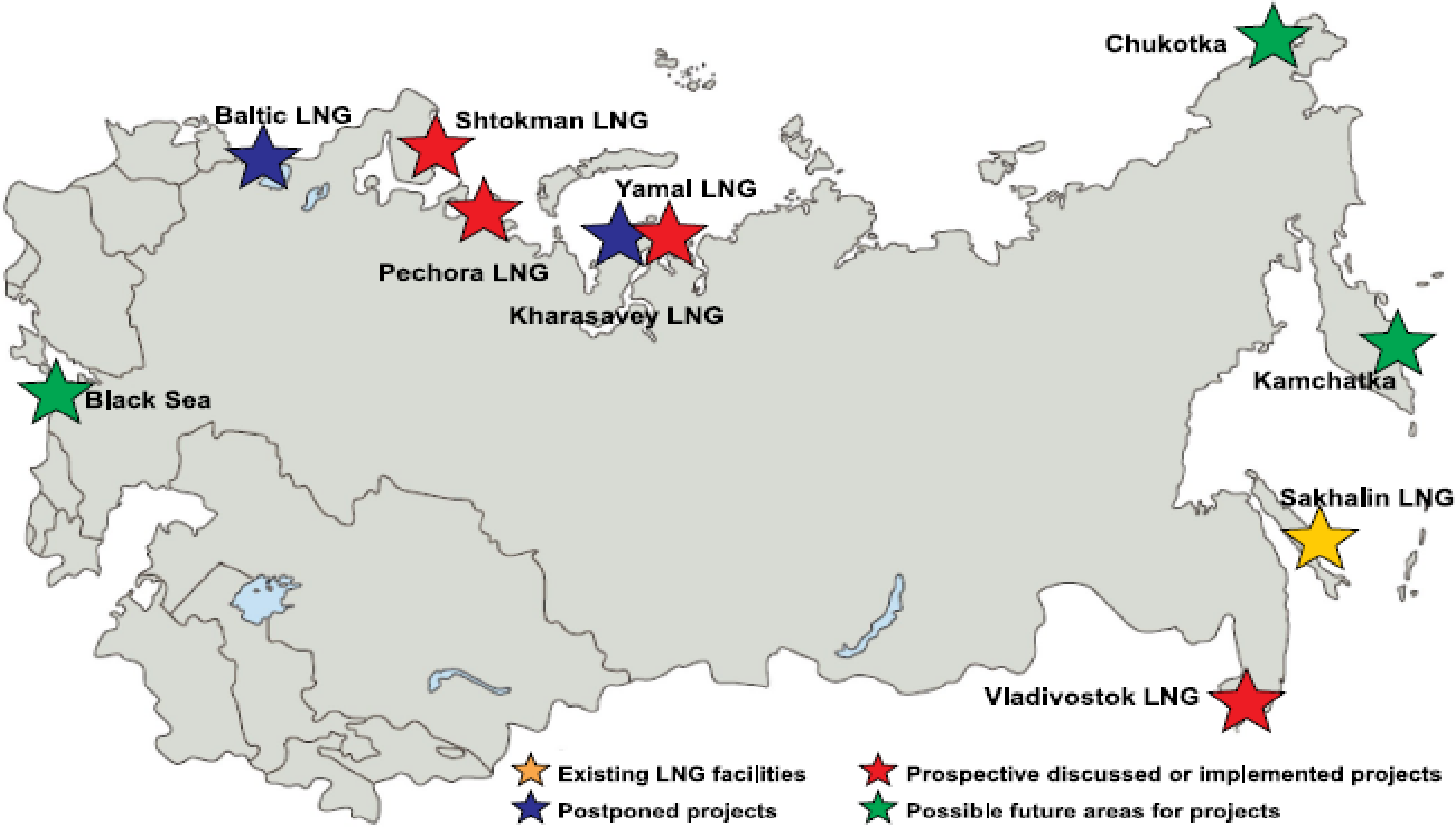
Oil indexation	Spot indexation
▪ Disappearing gas glut on the European gas market in the medium term – gap between oil-indexed and spot prices will narrow ▪ Arbitration lasts for several years ▪ Gazprom will face price reopening and contract expiration only after 2015 ▪ With high oil prices even lower sales volumes are providing high revenue ▪ New projects need high prices ▪ Oil indexation is needed for the project financing	▪ Strong pressure from the customer side ▪ Gazprom could demand financial compensation for contract review + 3rd Package exemption for the South Stream and NEL + transitional period for price adjustments + European-level financial support for its mega-projects (like EBRD and other European financial institutions) ▪ Gazprom could become a dominant player dictating prices at the spot market by changing its supply volumes

There are strong commercial reasons for Gazprom to protect the oil indexation at least during the next 3 years

Eastern Gas Program: from discussion to the real investments

Sources: Gazprom

Russian LNG projects: challenges and increasing competition



Source: ERI RAS

Conclusions

» Resources and production possibilities are not a limiting factor

» Growing costs and taxes of the domestic production

» Russia is for the first time facing demand constraints on its export markets

» European policy and market situation create no incentives to invest in additional gas supplies to Europe

» There are strong commercial reasons for Gazprom to protect the oil indexation at least during the next 3 years, and there is strong political will to protect oil linkage

» Russia will have to market more expensive gas from the new projects, revenue maximization seems to be more attractive

» Russian gas export policy response so far includes three pillars:

- Price reviews with minor adjustments (remaining oil indexation as a basis)
- Eastern development
- LNG

Contacts

Energy Research Institute of the Russian Academy of Sciences

"Global and Russian Energy Outlook up to 2040"

http://www.eriras.ru/files/Global_and_Russian_energy_outlook_up_to_2040.pdf

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