The Energy Sector in Russia: At The Crossroad

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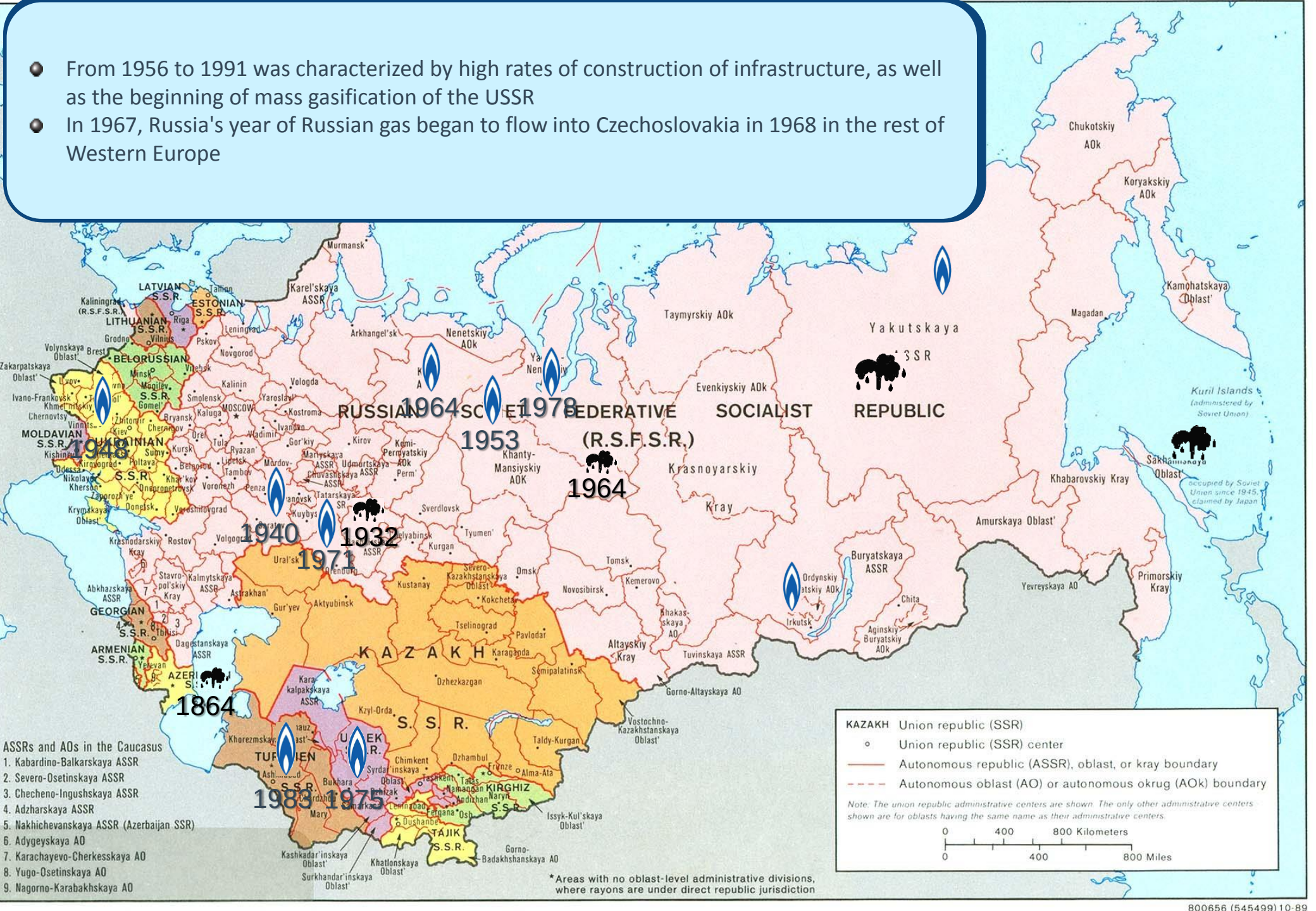
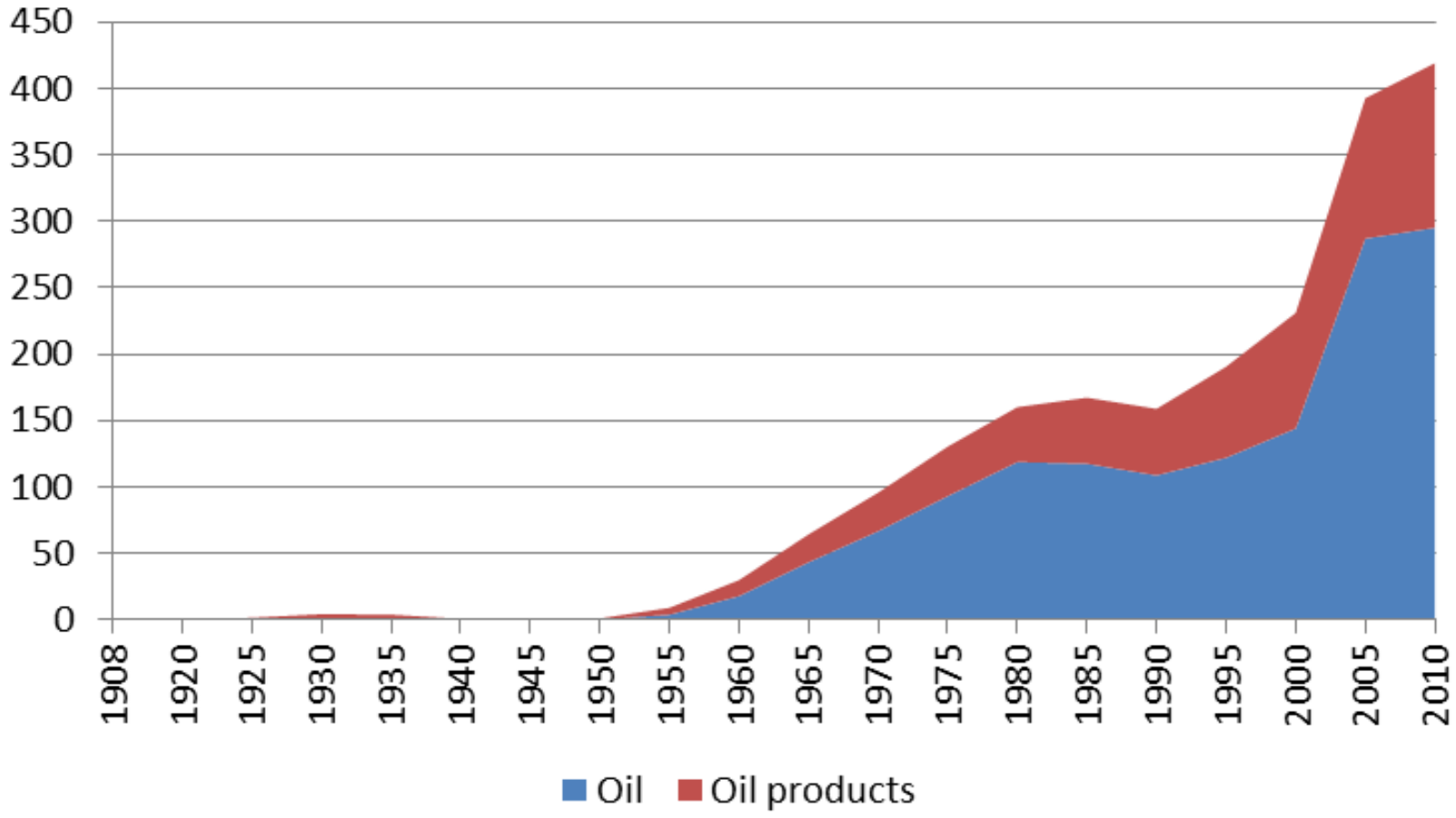
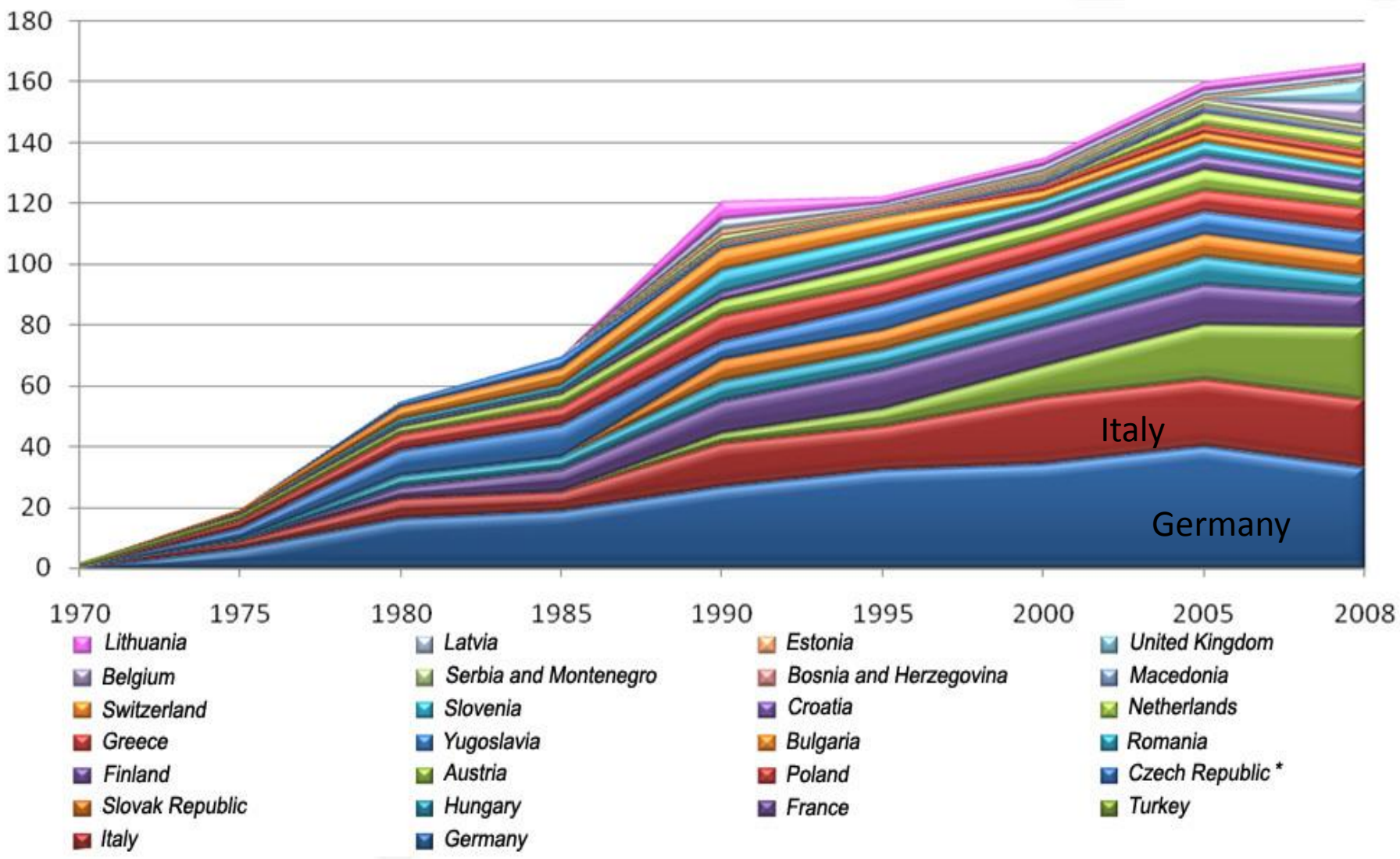
- From 1956 to 1991 was characterized by high rates of construction of infrastructure, as well as the beginning of mass gasification of the USSR
- In 1967, Russia's year of Russian gas began to flow into Czechoslovakia in 1968 in the rest of Western Europe



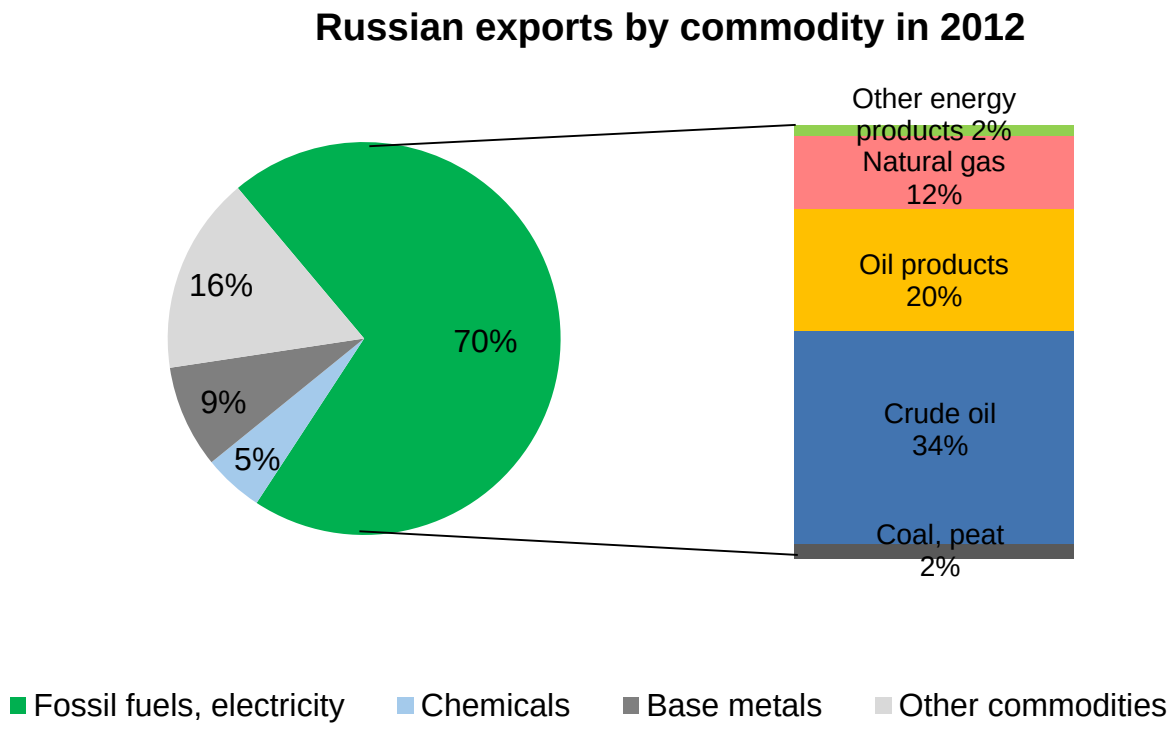
Soviet and Russian oil and petroleum products exports growth



Soviet and Russian gas export growth

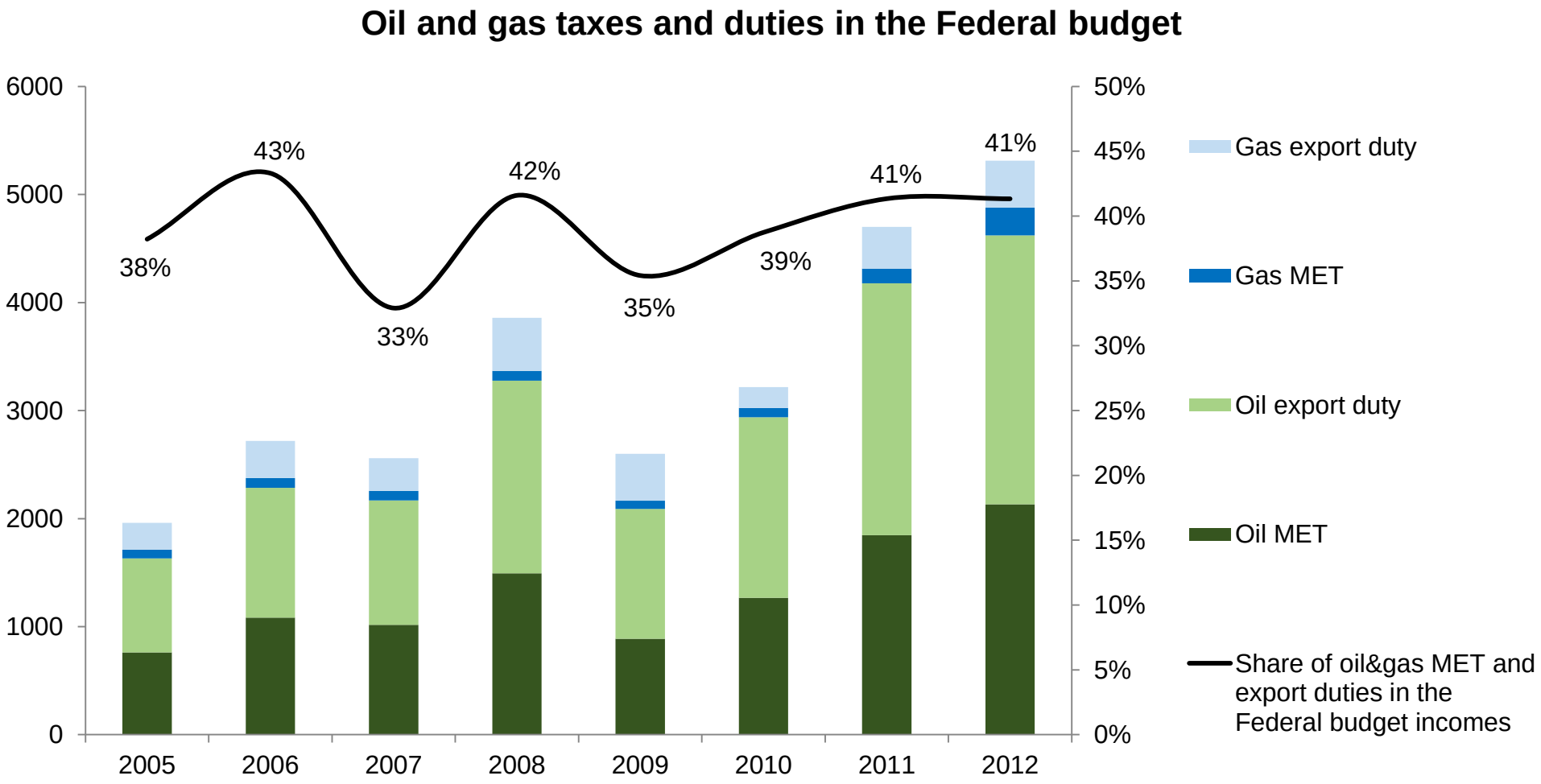


Energy resources are now providing the major part of the Russian export



Source: Russian Customs Service

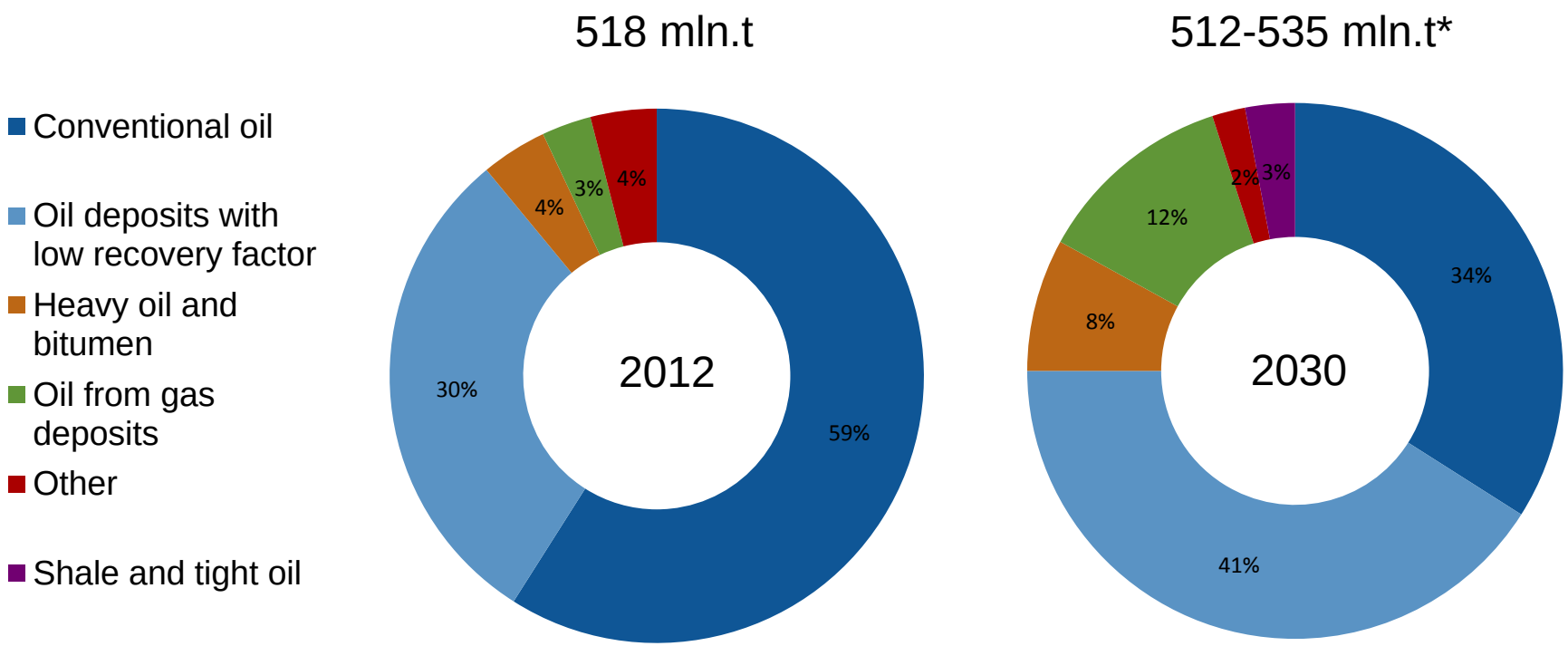
The role of oil and gas for the Russian Federal budget is huge



Source: http://www.roskazna.ru/reports/fb.html

Main part of the Russian conventional oil is concentrated in the depleting Soviet-time fields

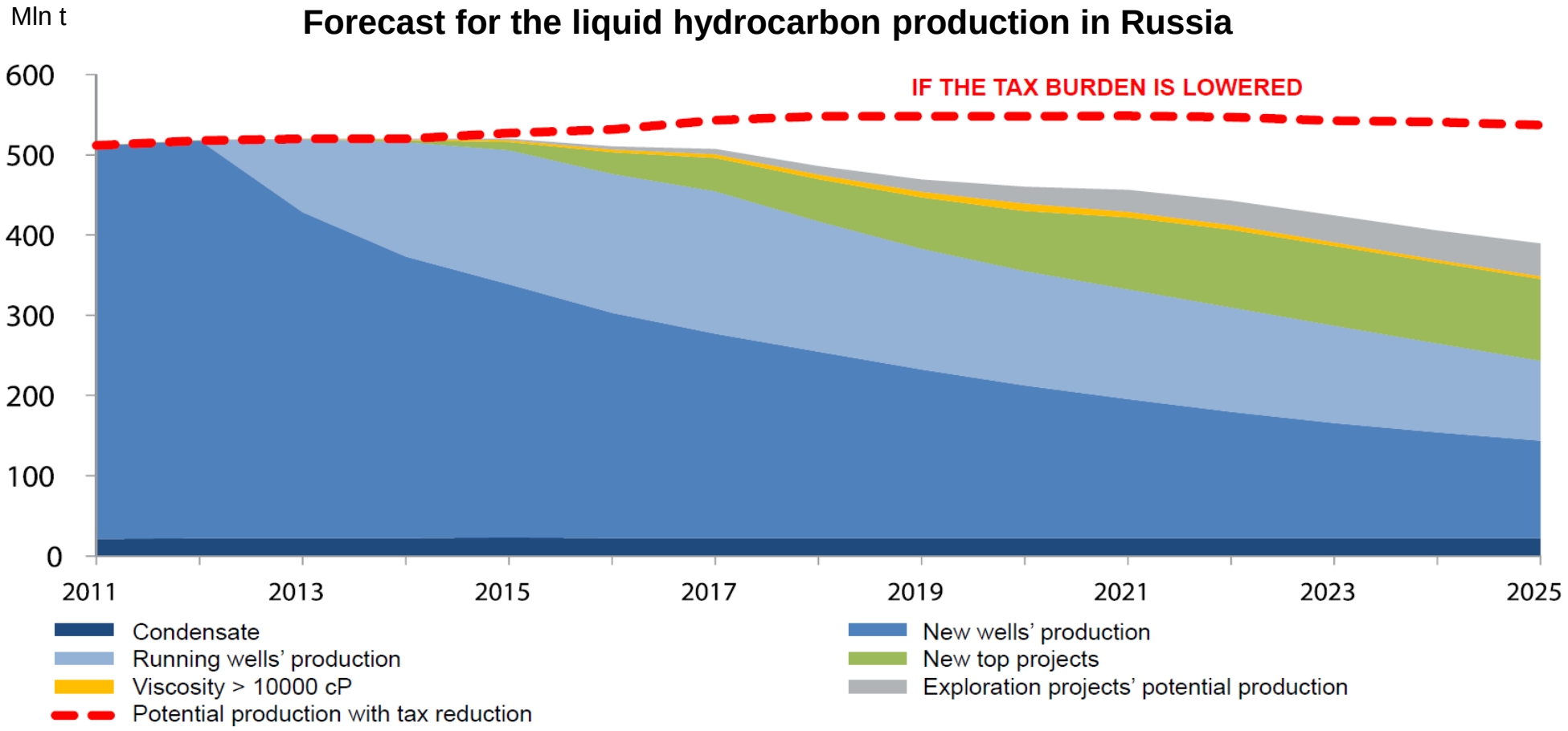
Structure of the Russian oil production



** According to the Energy Strategy-2030 and Social-Economical Development Forecast Up To 2030*

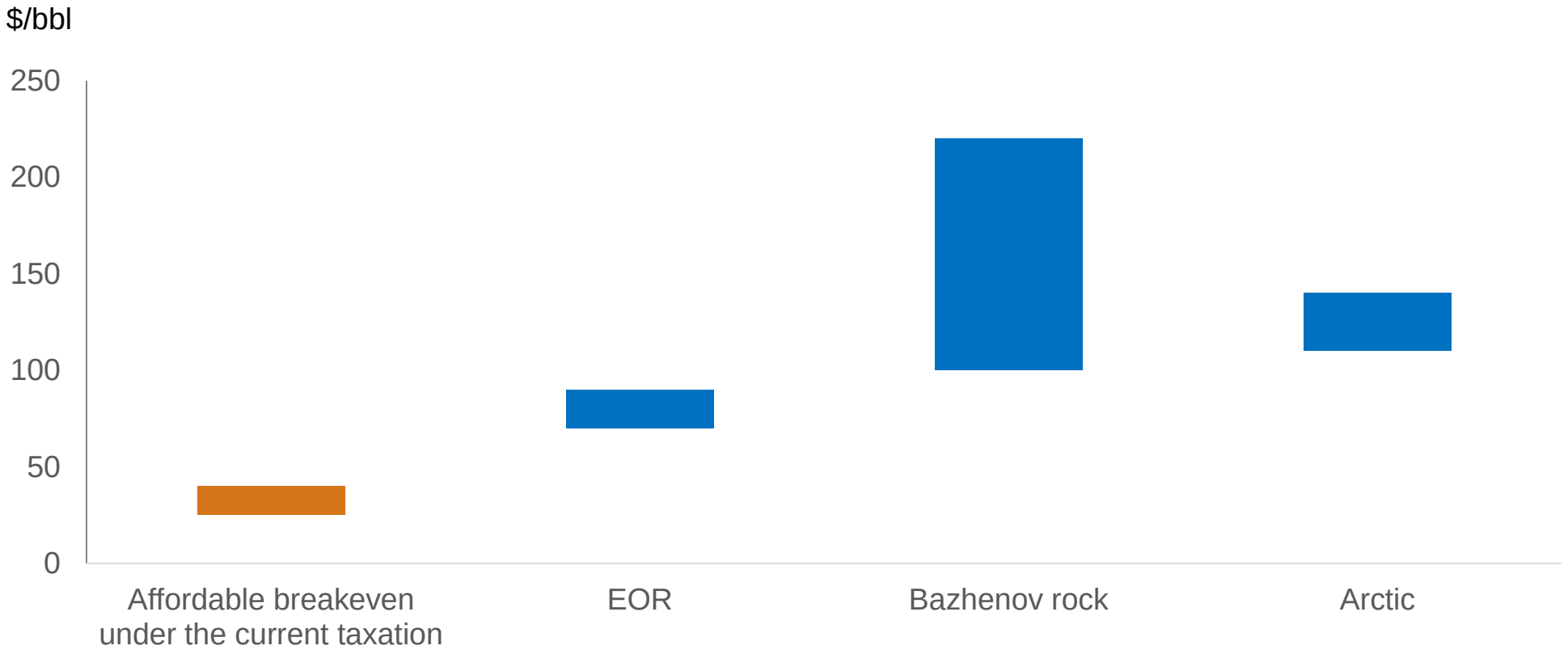
Source: ERI RAS.

…which, however, are not competitive under the current tax regime: higher production estimates are justified by the vast resource base, but require completely different taxation system



Sources: CDU TEK, LUKOIL.

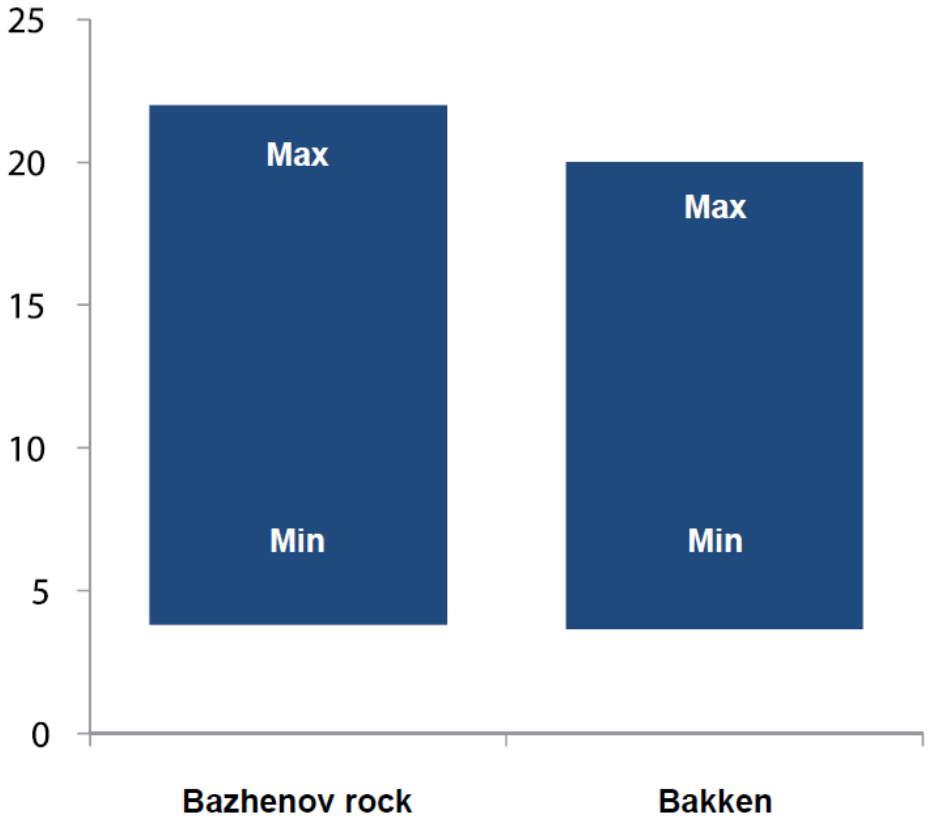
The normal Mineral Extraction Tax and export tax require much lower breakeven costs, then all sources of new supply have; the Government is not ready to change the system for profit-based taxation, therefore all the exemptions are currently adjusted in the manual regime



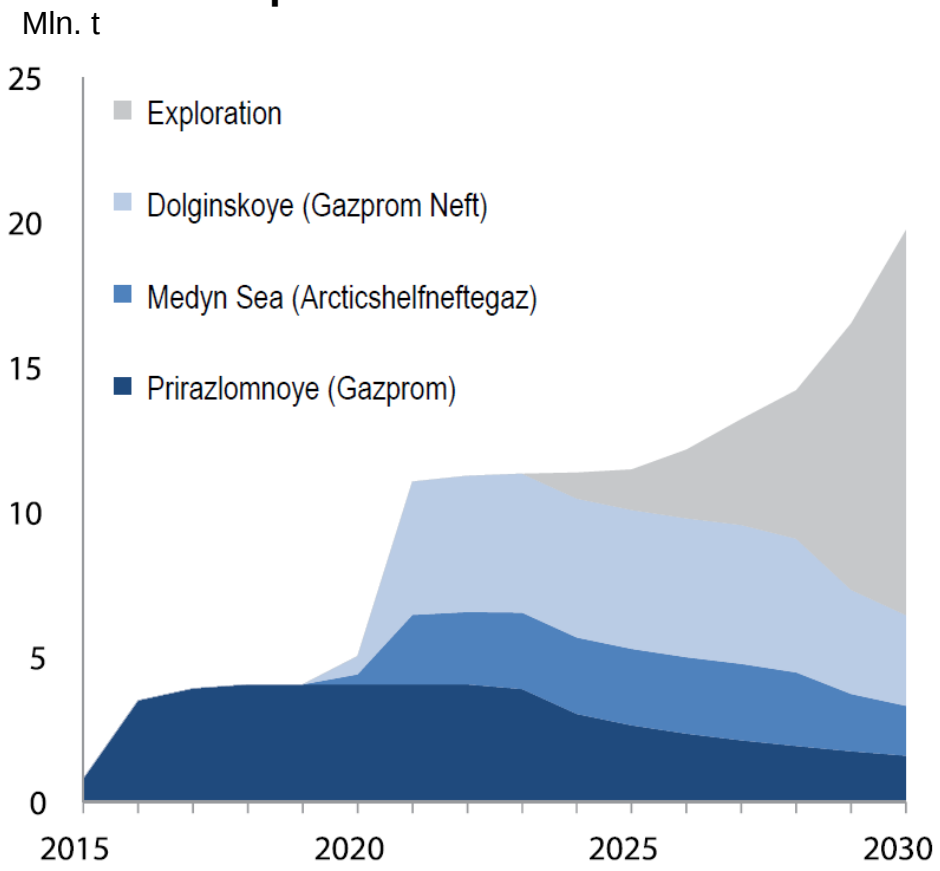
Source: ERI RAS.

Unconventional oil and Artic: huge potential, but high costs and of technological challenges make these projects marginal under the current taxation; they will become visible only post 2020

Unconventional oil reserves



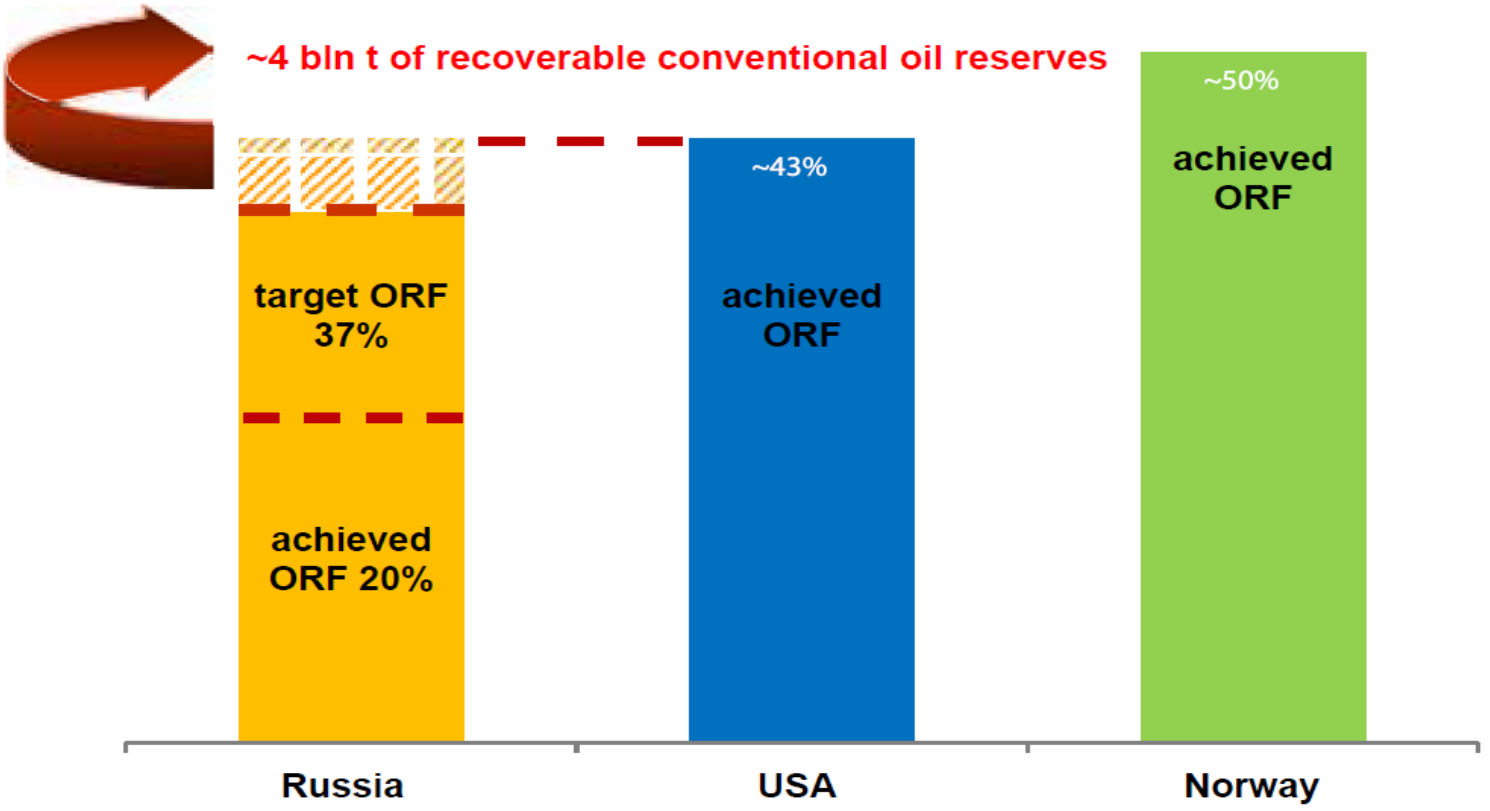
Arctic production volume forecast



Sources: Energy Ministry, LUKOIL.

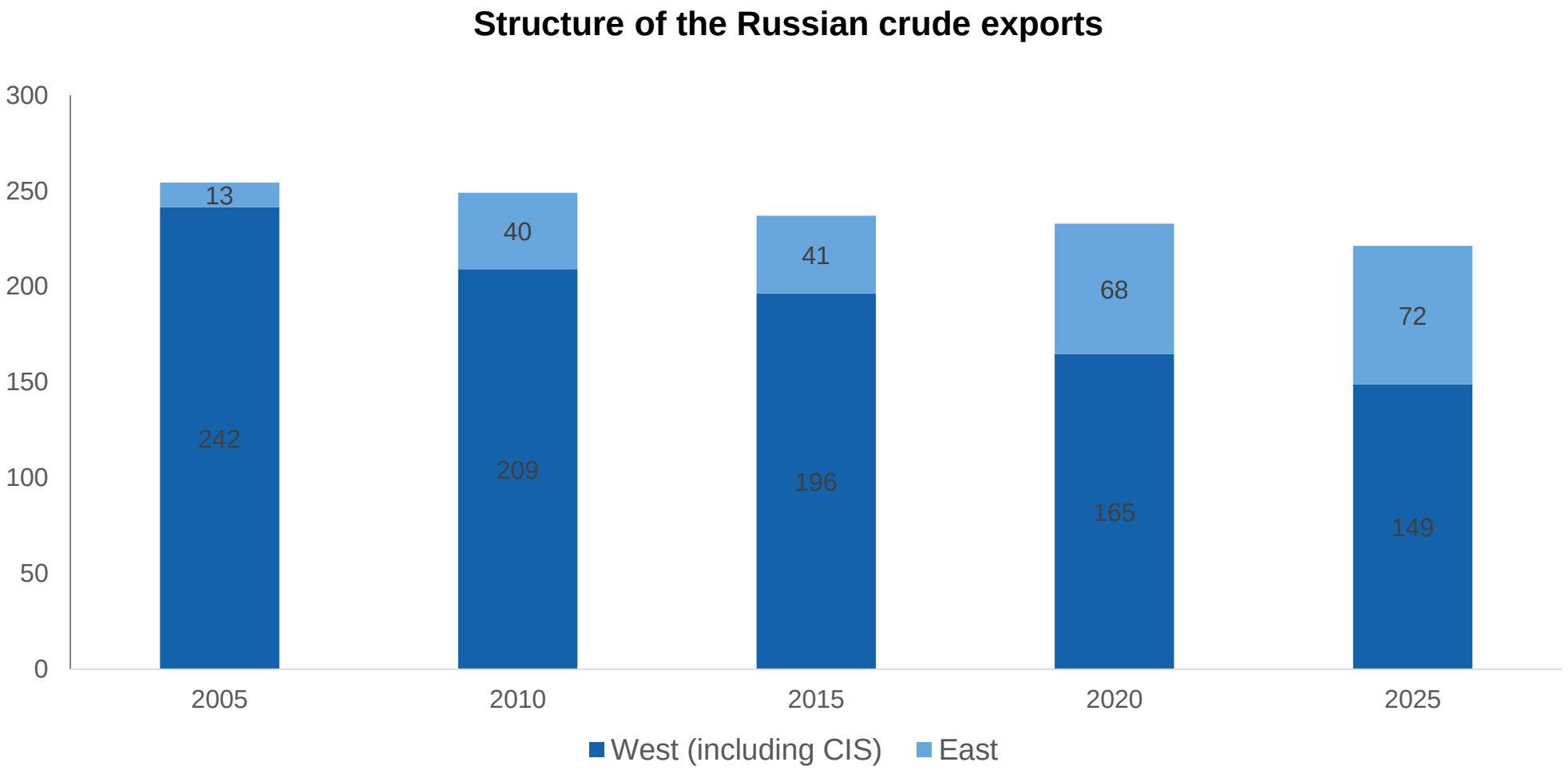
Russia has a huge potential for Enhanced Oil Recovery: best practices could provide additional 4 bln t without the need to build new infrastructure, but adjustments of the tax regime are necessary

Potential for increasing ORF in Russia



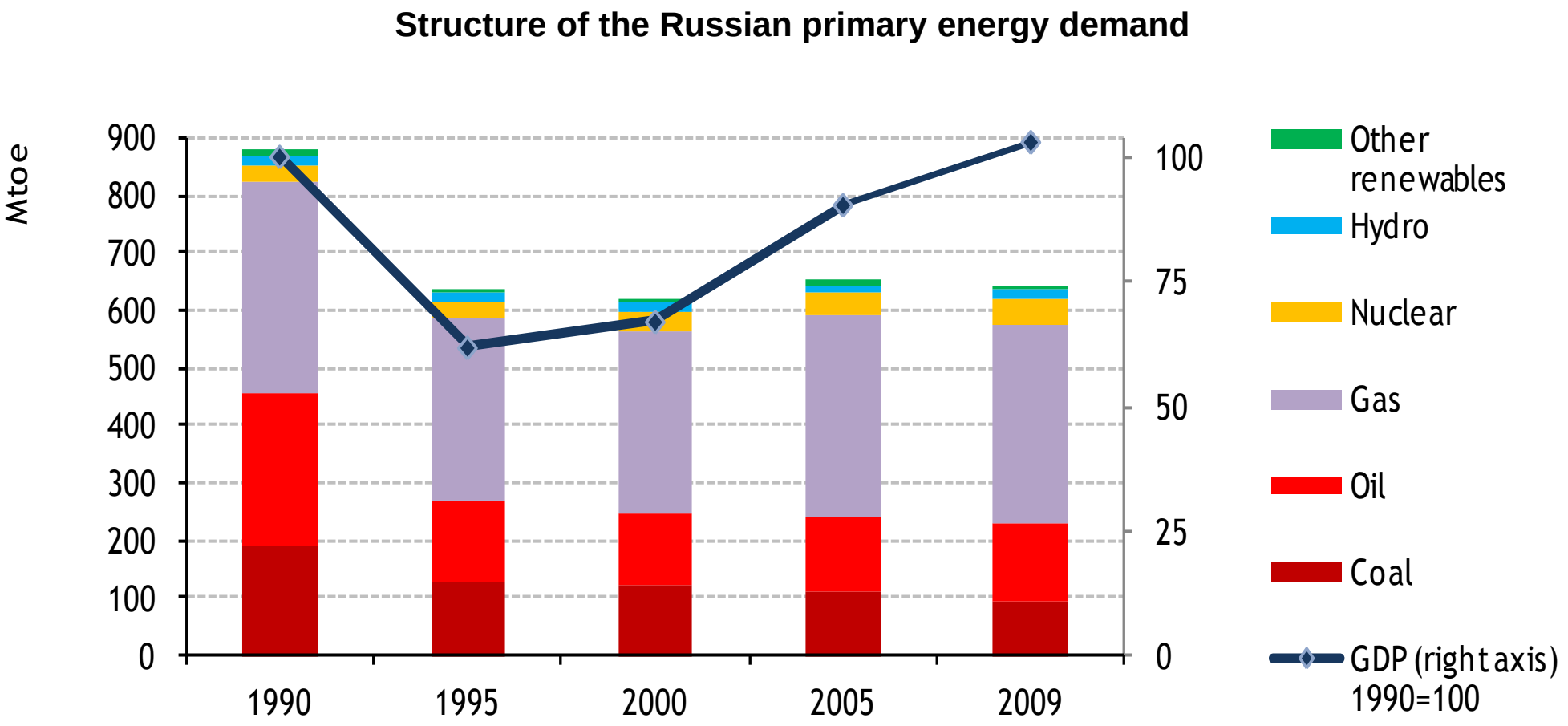
Sources: Energy Ministry, LUKOIL.

Anyway Russian oil exports will decrease, with fast decline in the western-oriented supplies and increasing focus on the East



Source: ERI RAS

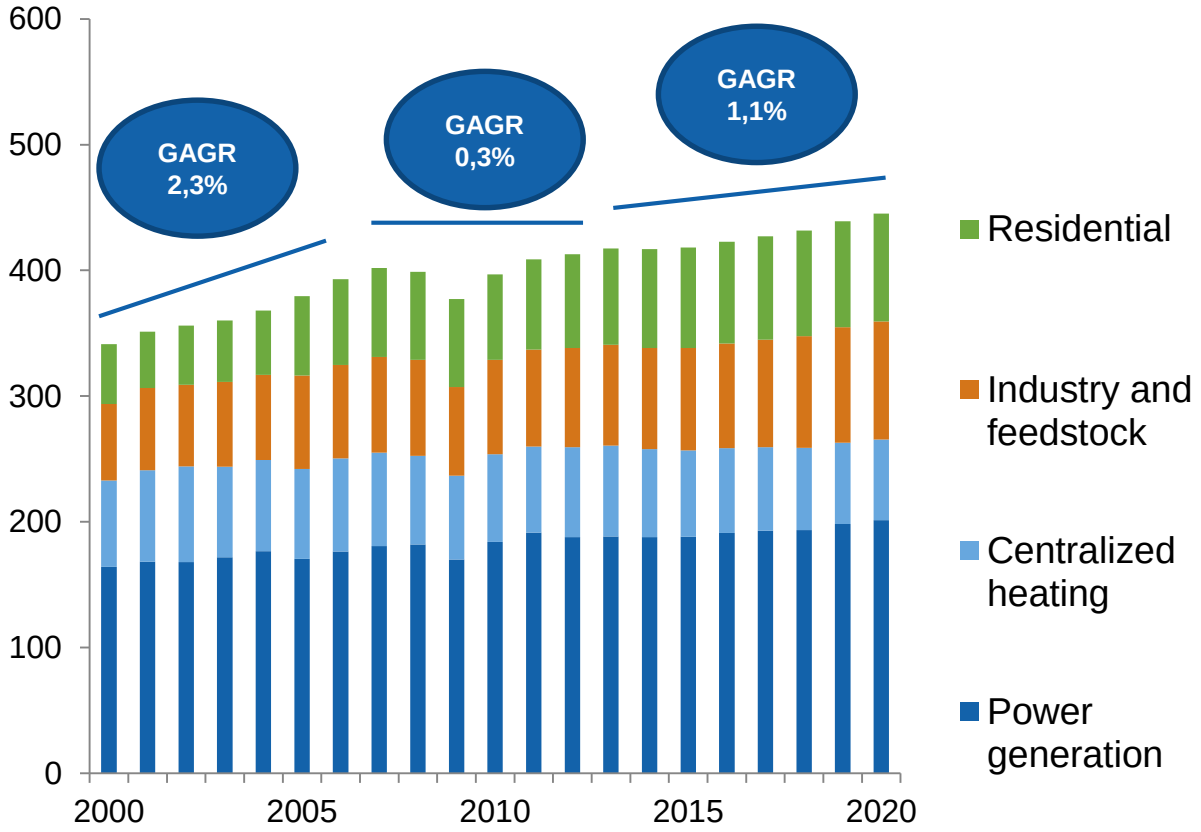
Gas is dominating Russian primary energy demand



Source: IEA

Though during the last years due to the weak economic performance demand is stagnating enforcing competition between major players

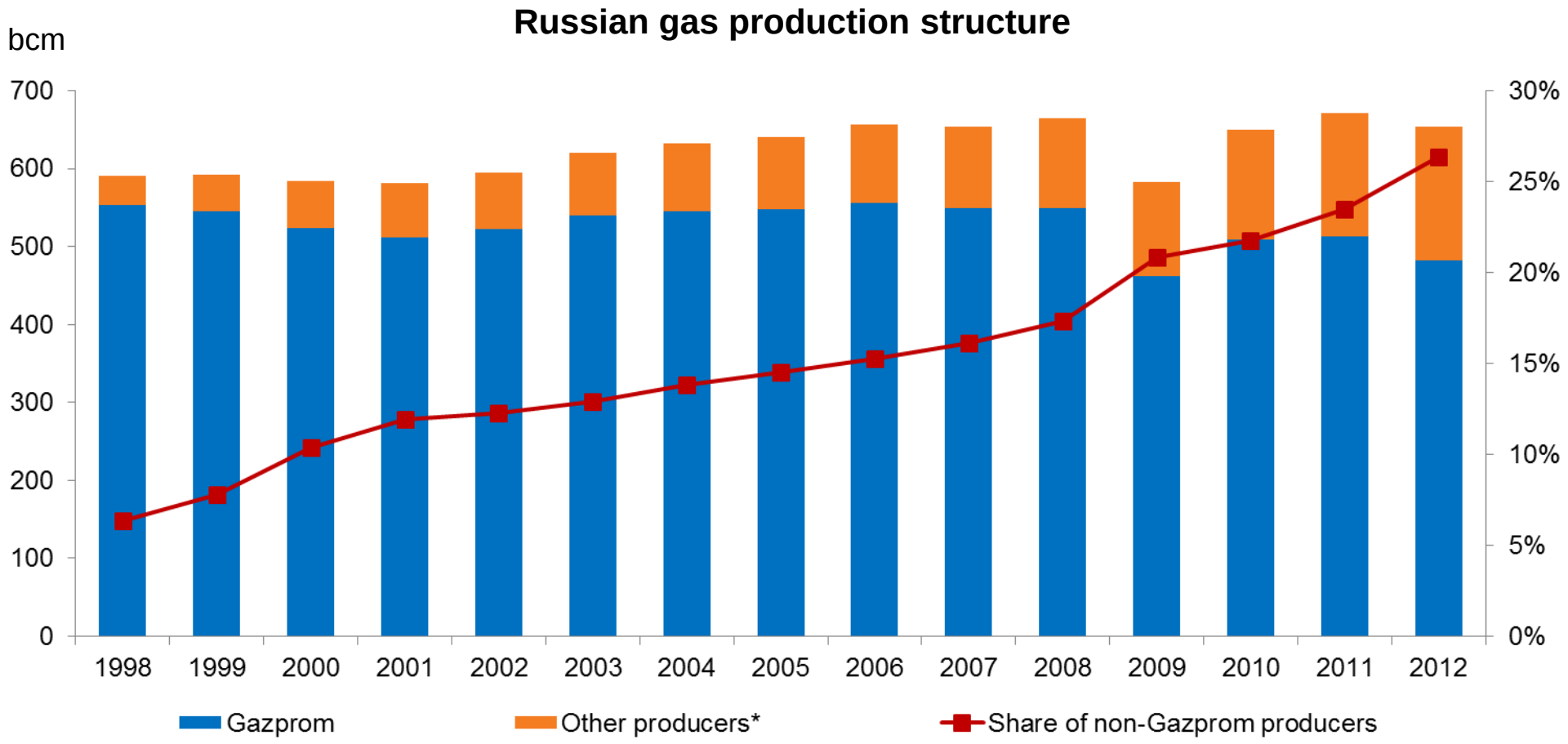
Russian gas demand by sector until 2020 (optimistic scenario)



	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%

Sources: Rosstat, ERI RAS.

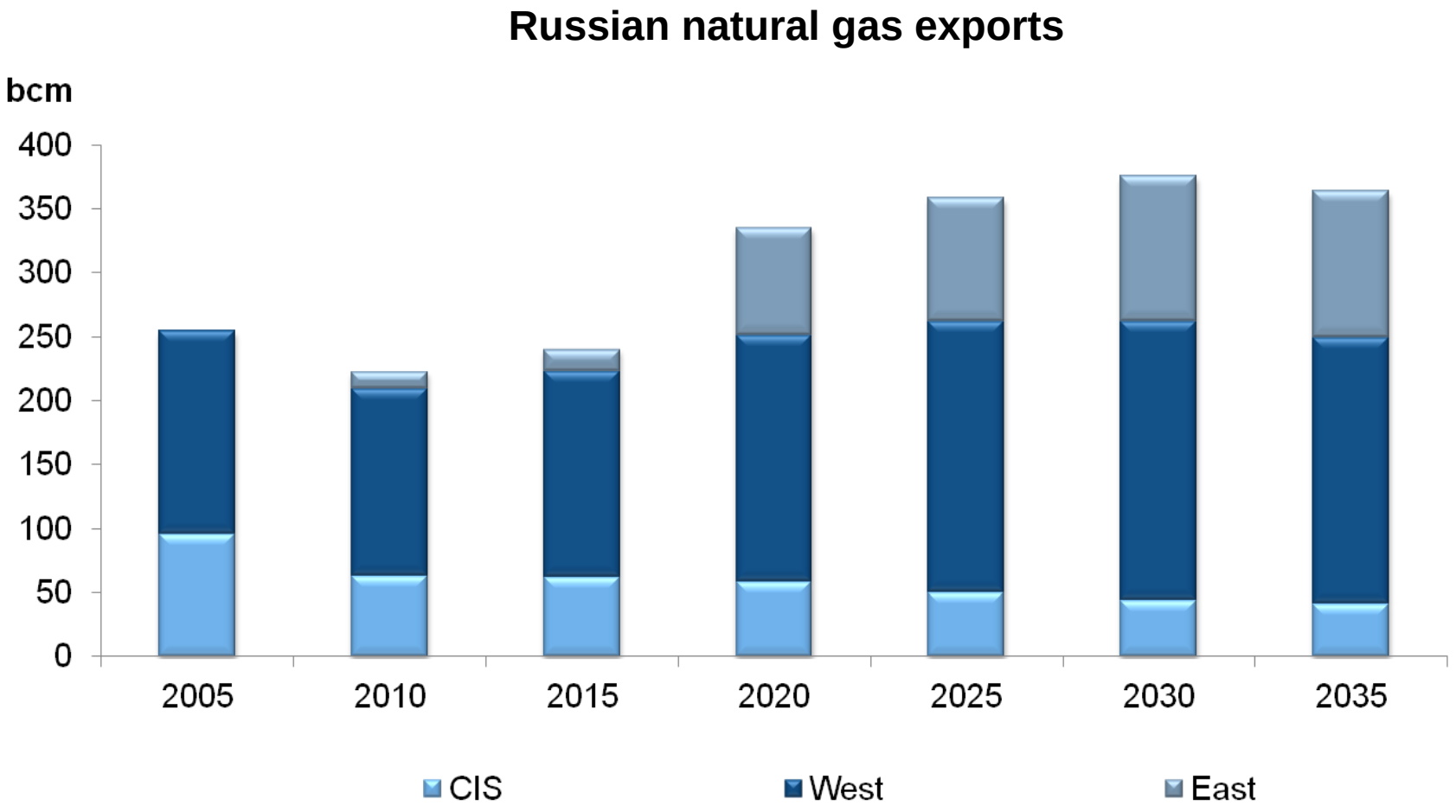
Independents are improving their positions on the domestic market, though complete market liberalization and Gazprom`s ownership unbundling are not currently under discussion



** Other producers include PSA and APG*

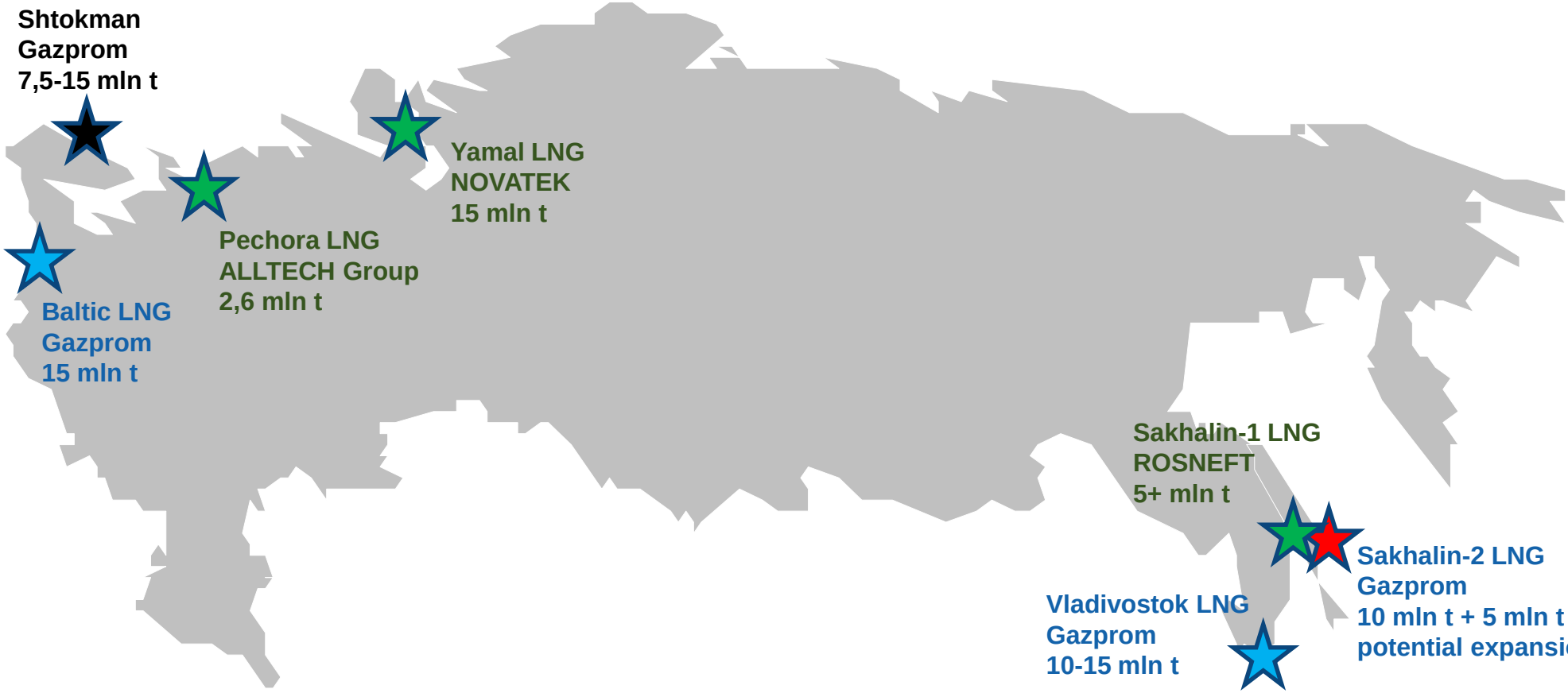
Sources: CDU TEK, ERI RAS

The main increase in gas exports will be to the East



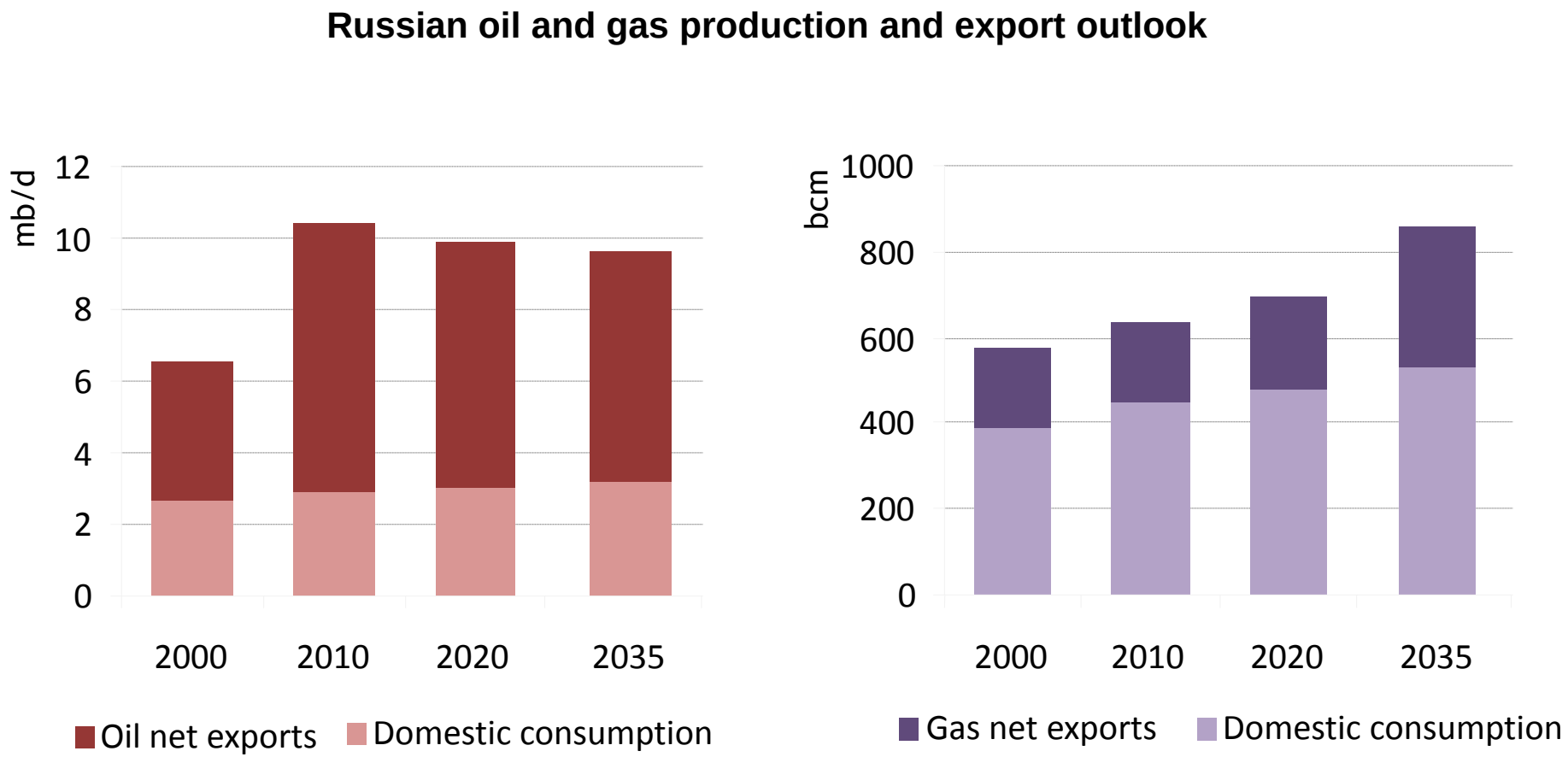
Source: ERI RAS.

There are 7 Russian LNG projects under consideration currently, but all of them face commercial, technical and regulatory challenges



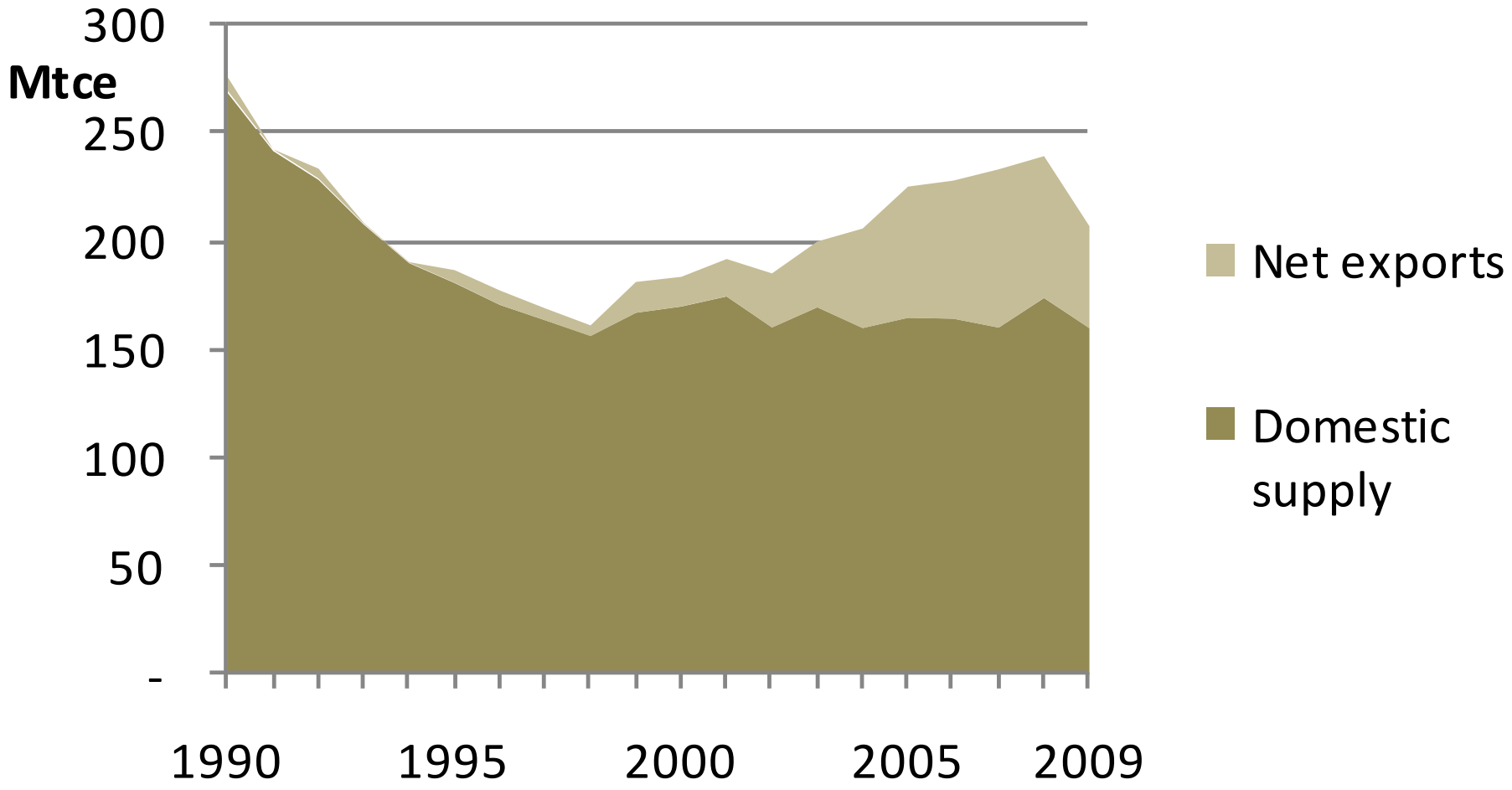
LNG export permissions might be approved only for special cases and only under very strict control of the State. Due to the limited volumes and long lead time these LNG projects will not significantly affect Russian and global balance during this decade. In the longer term Russian LNG export could reach up to 50-70 bcma.

In the long term the role of oil will reduce, while the role of gas will increase considerably



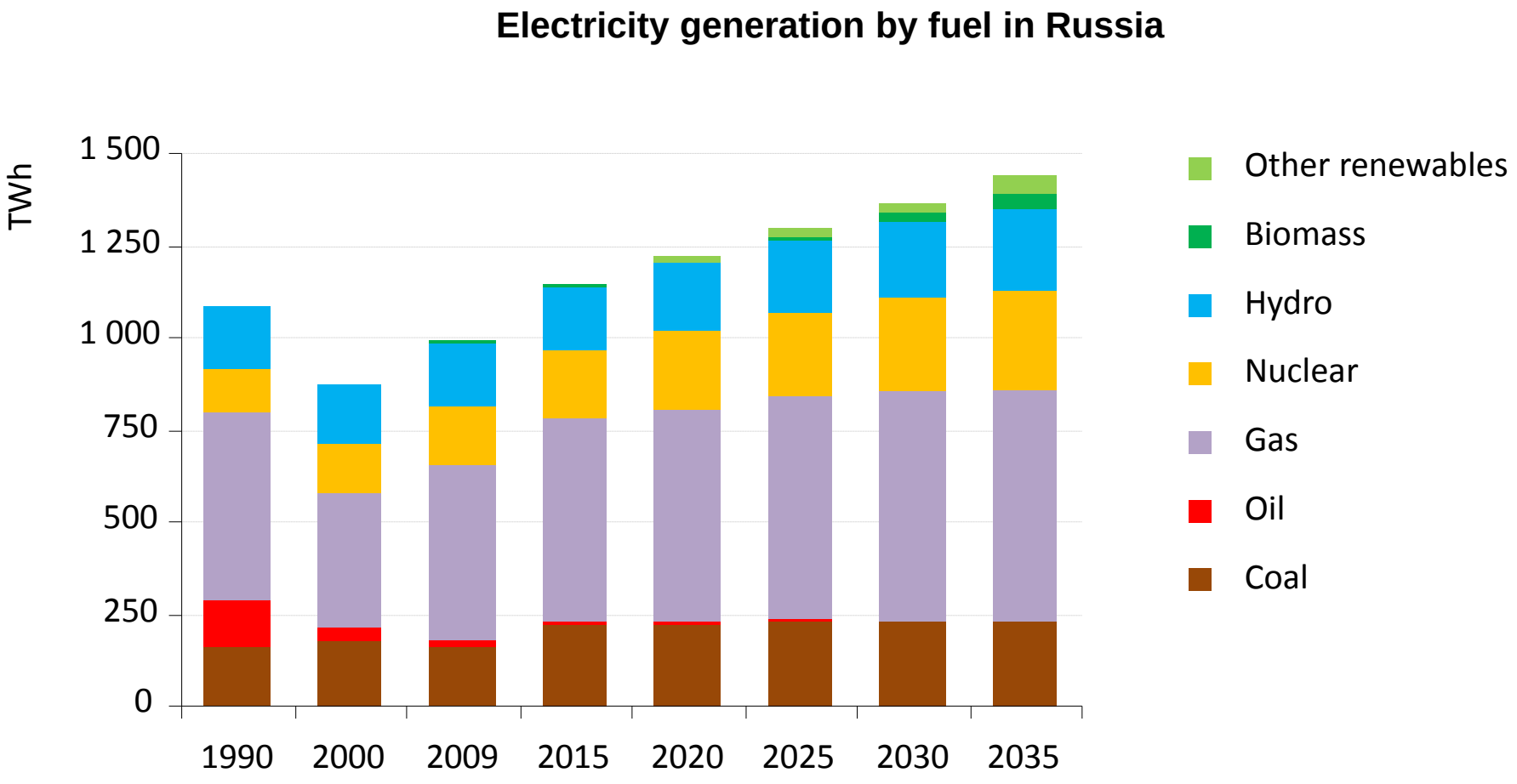
Source: IEA

Russian coal consumption and export



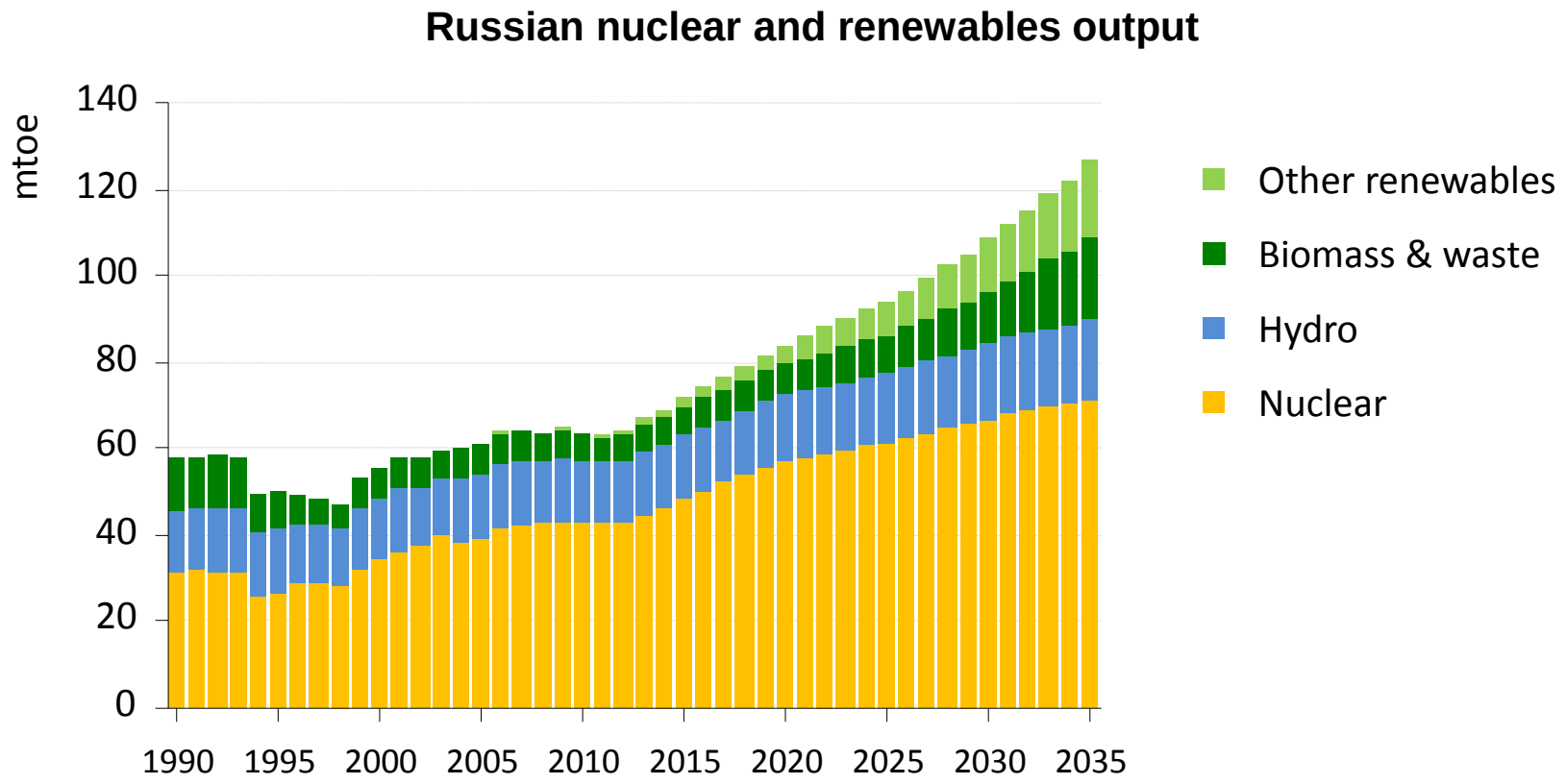
Source: IEA

Gas remains the backbone of Russia's power sector, but nuclear power & renewables expand more rapidly



Source: IEA

Nuclear and renewables are step by step taking a larger share in the energy mix

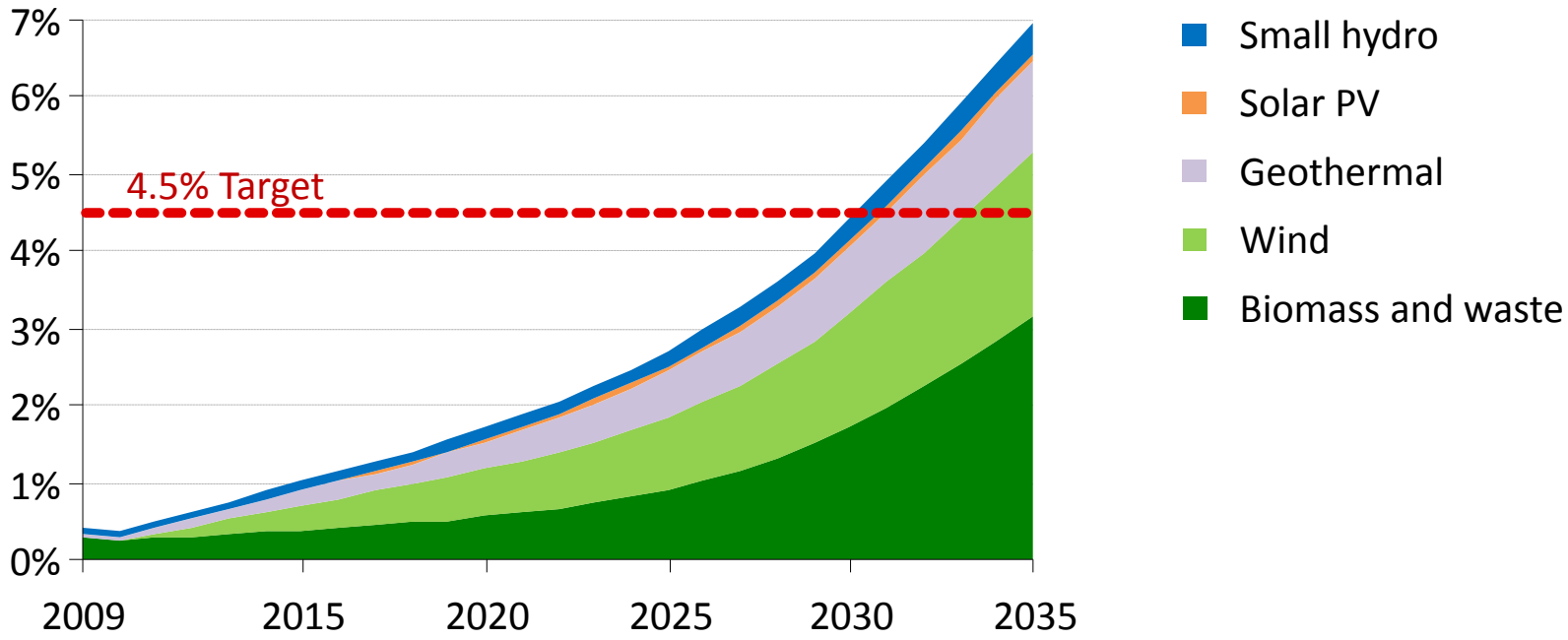


Source: IEA

The contribution of nuclear power and renewables is projected to increase steadily, with their share in Russia's primary energy supply rising from 10% in 2009 to 15% in 2035.

A modestly greener energy future

Share of renewables (excluding large hydropower) in power generation in Russia

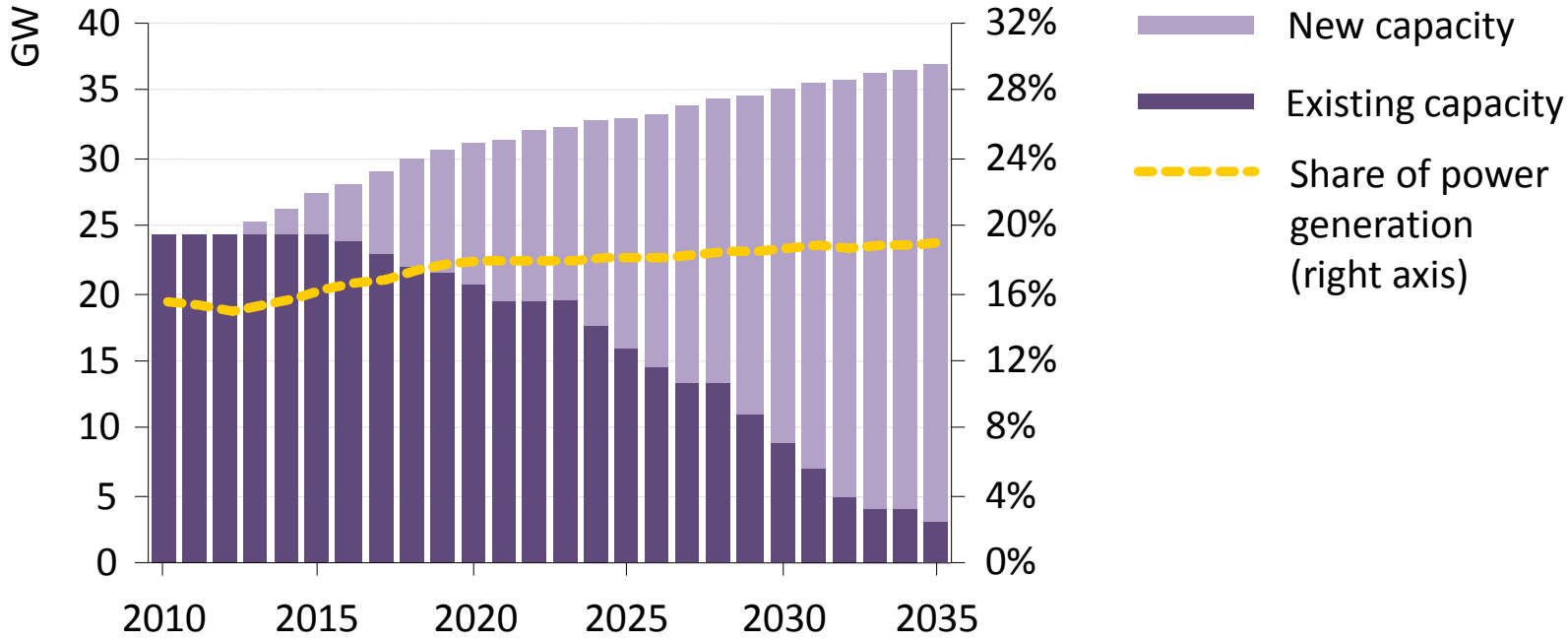


Source: IEA

The contribution of non-hydro renewables increases as support mechanisms are put in place and technology costs fall, but remains small relative to other fuels and to the large potential

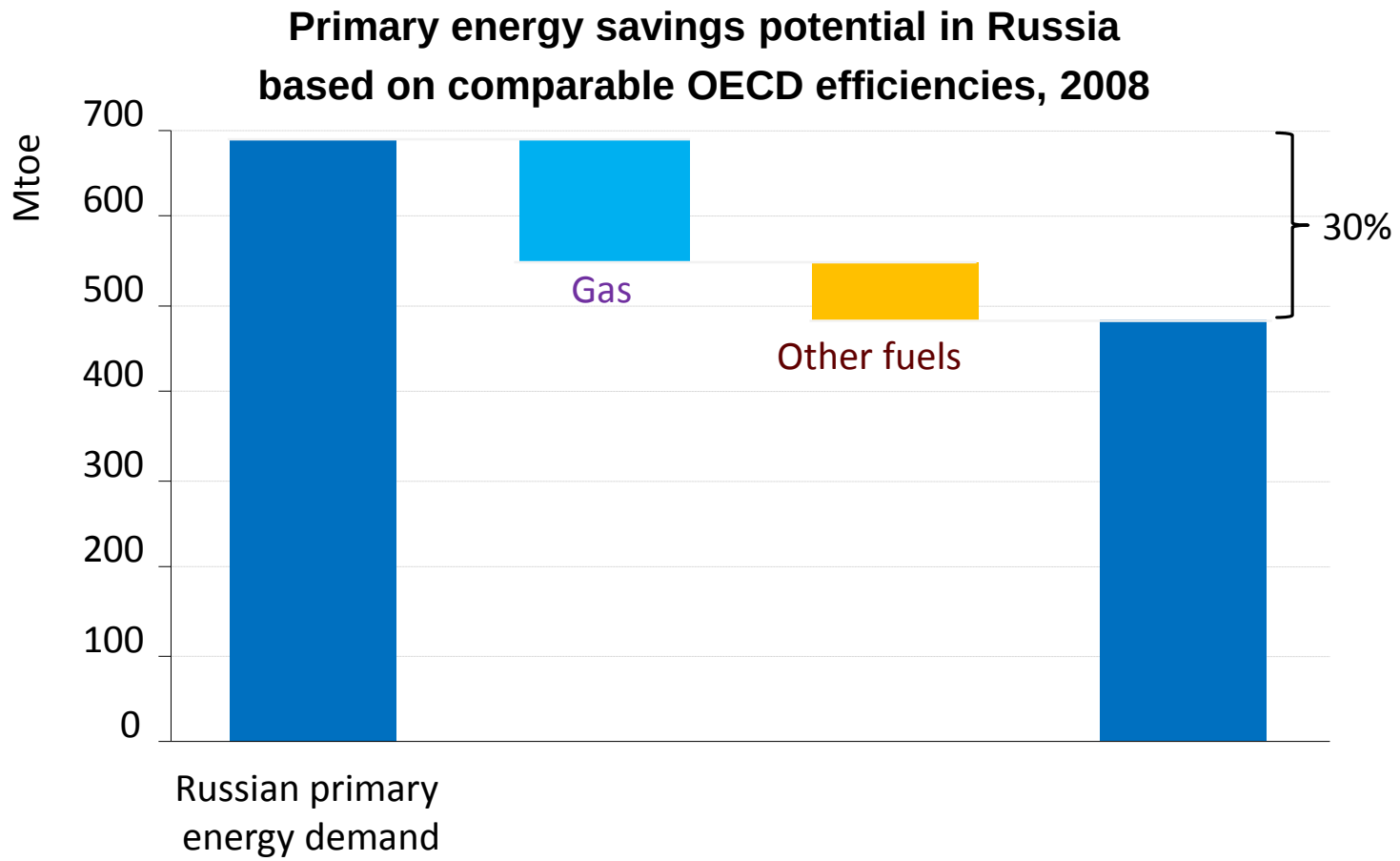
An expanded role for nuclear power

Russian installed nuclear capacity & share of electricity generation



Russia's nuclear capacity increases to 37 GW in 2035, but growth is held back by high capital costs, financial resource constraints and lengthy commissioning periods.

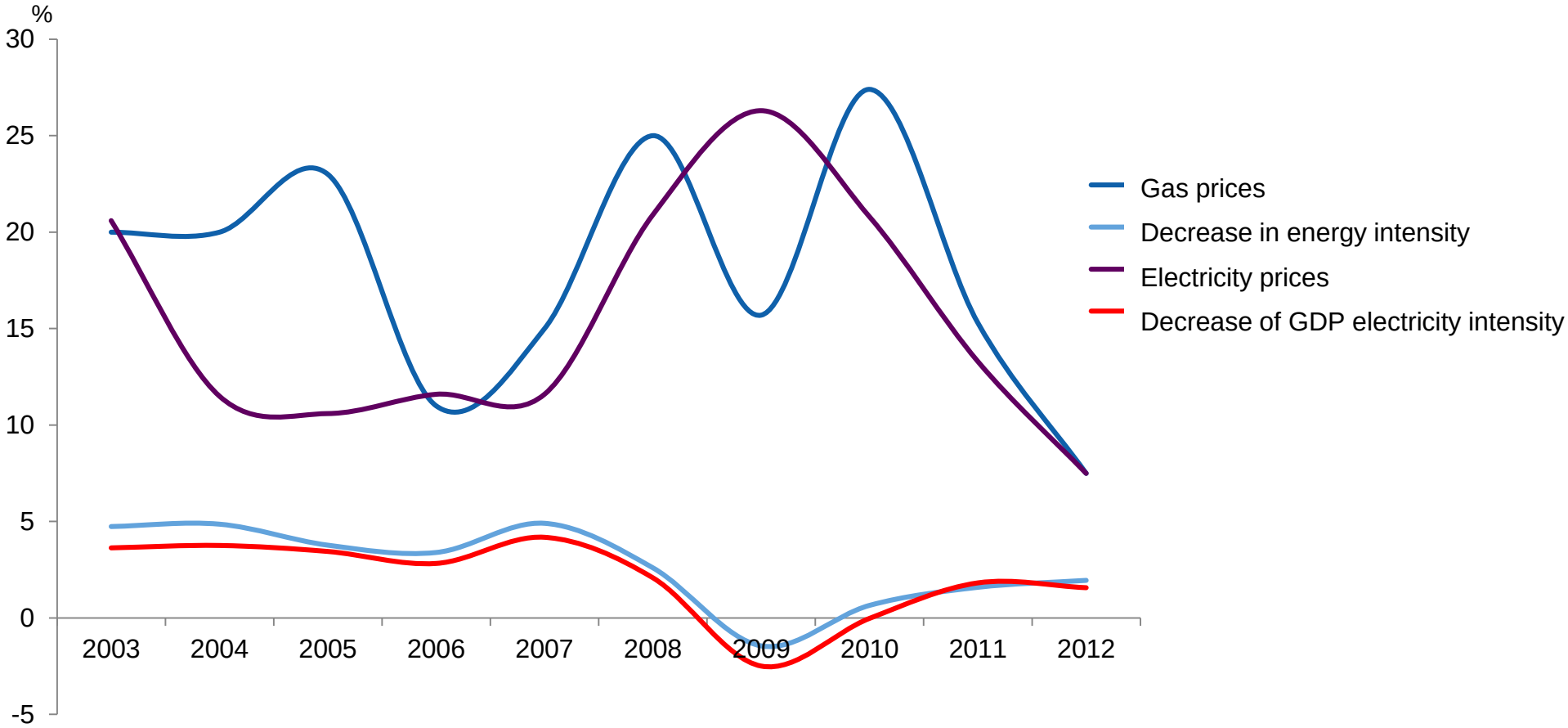
Russia has huge potential to use energy more efficiently: energy consumption could be decreased by 30%; There is much real concern for improving efficiency in government plans, but…



Source: WEO 2011. IEA.

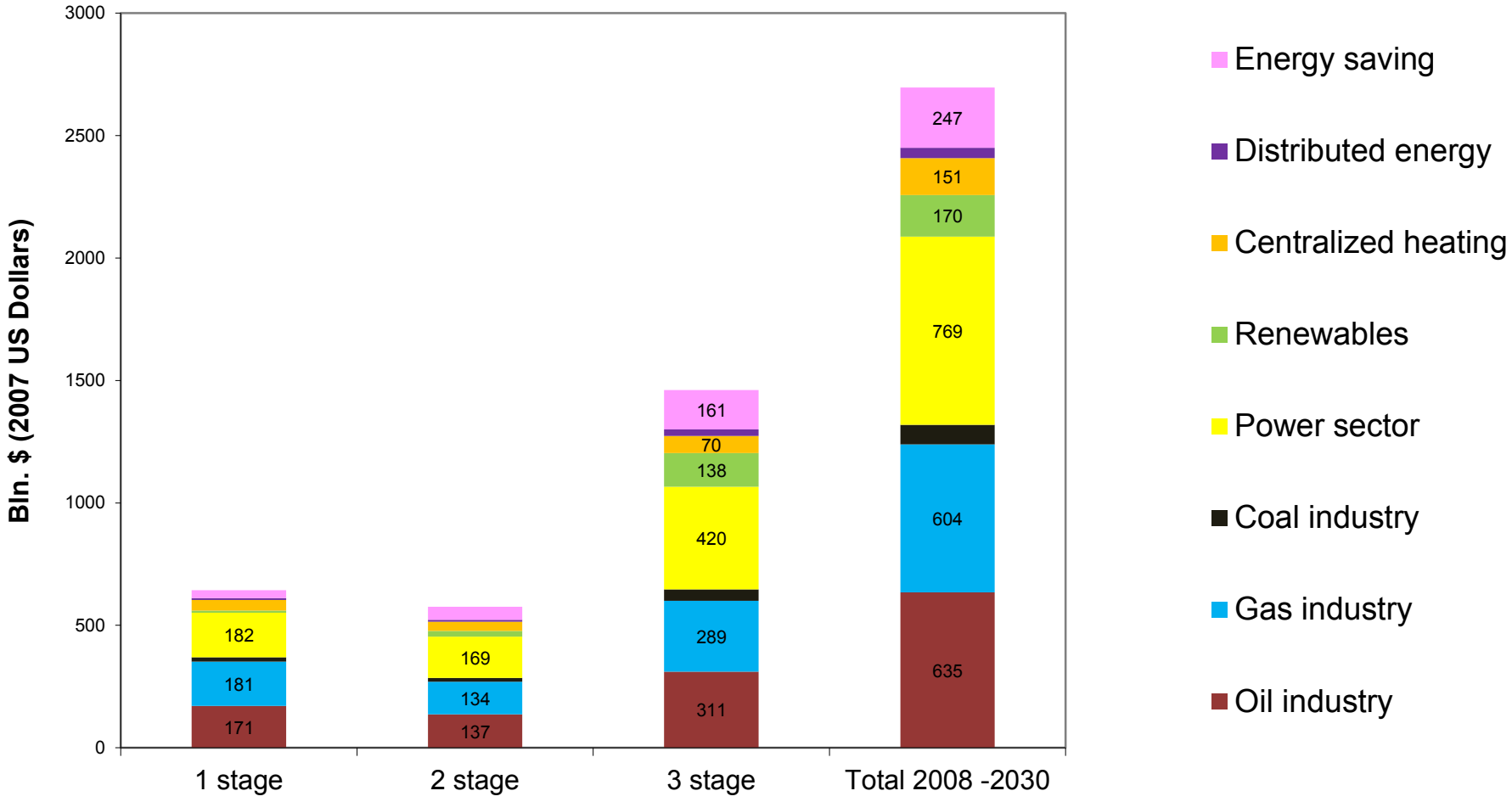
…it is not working, moreover even higher prices do not lead to stronger energy saving due to administrative barriers, high cost of the capital and overall investment climate

Gas and electricity prices growth rates and rates of energy and electricity intensity reduction



Sources: Rosstat, ERI RAS

Investment needs of the Russian energy sector



Source: ERI RAS

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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