Trends and effects of world energy markets development

Anna Galkina
The Energy Research Institute of the Russian Academy of Sciences

Niigata
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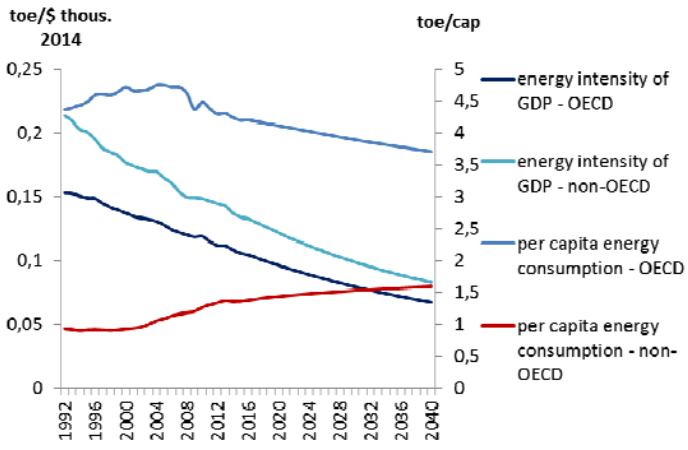
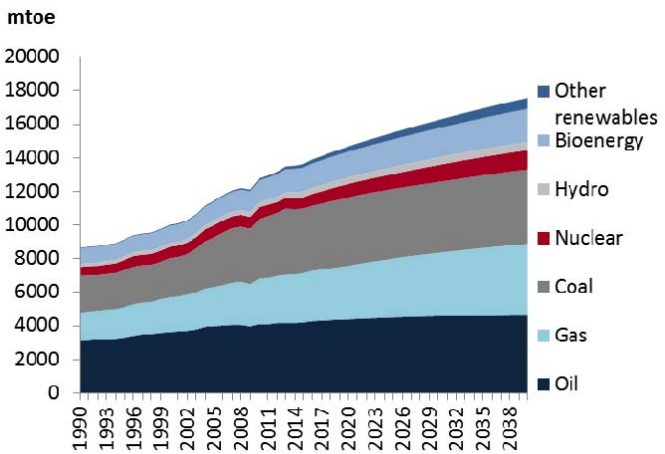
While per capita energy consumption in OECD countries continuously declines, non-OECD countries are the main drivers of world energy consumption growth (1,4 times from 2010 to 2040). The share of carbon-based fuels decreases by 5% to 76%

Energy consumption per capita and energy intensity of GDP



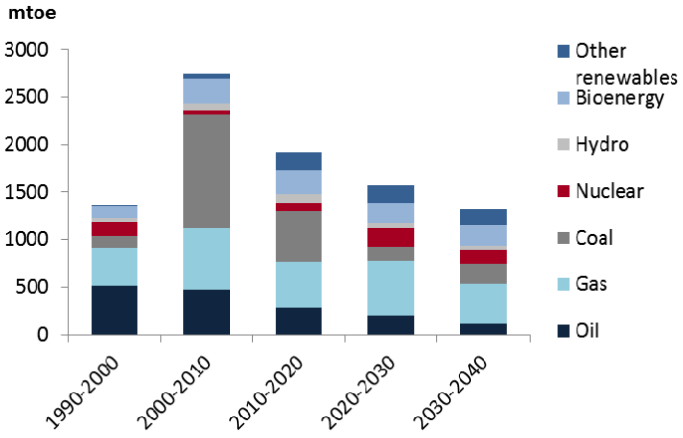
World energy consumption by fuel



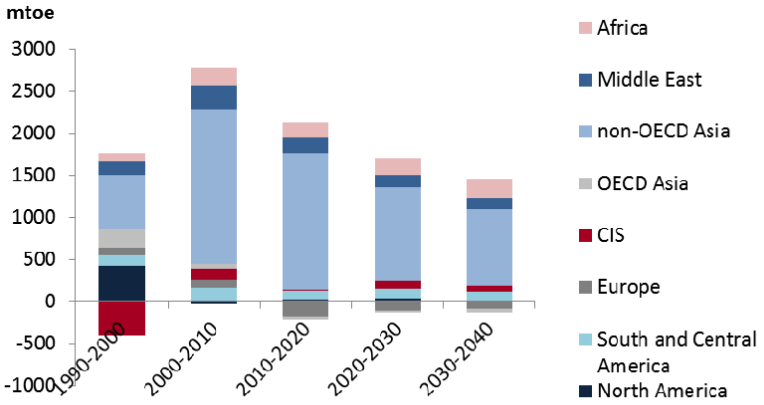
Source: ERI RAS, Global and Russian energy outlook up to 2040 (to be published in 2016), IEA World Energy Balances 2016, IMF World Economic Outlook 2016

Share of coal in absolute volumes of the world energy consumption growth will significantly decrease. Up to 2040 natural gas will be the fastest growing fuel

World energy consumption growth by fuel



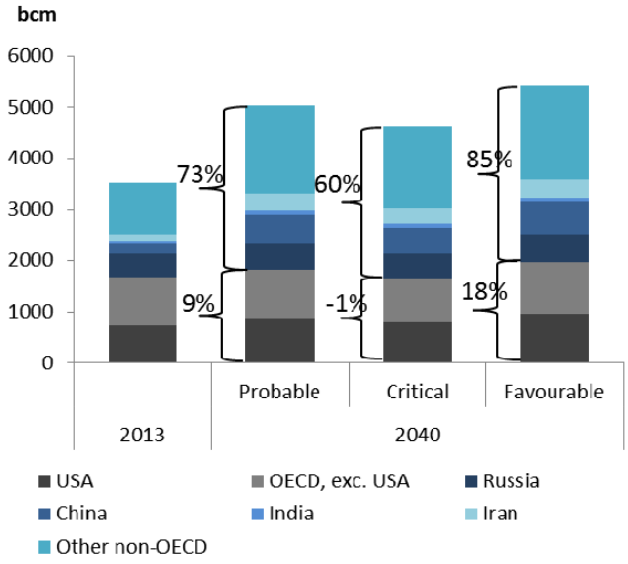
World energy consumption growth by region



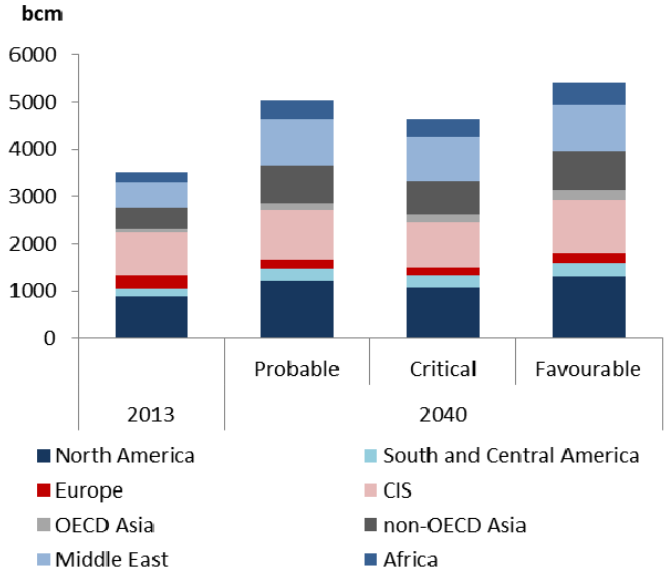
Source: ERI RAS, IEA World Energy Balances 2016

Level of world gas demand in 2040 will also be mostly defined by non-OECD consumption growth. The demand will be met through increase of gas production in all regions, except for Europe

World gas consumption by scenario



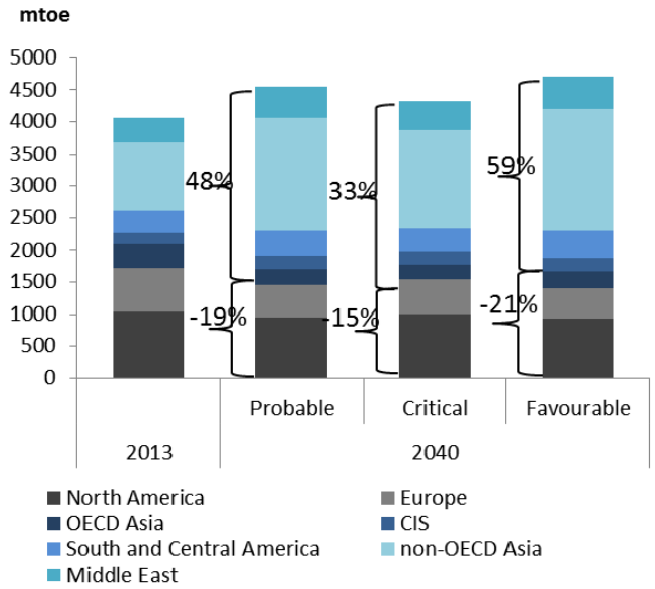
World gas production by scenario



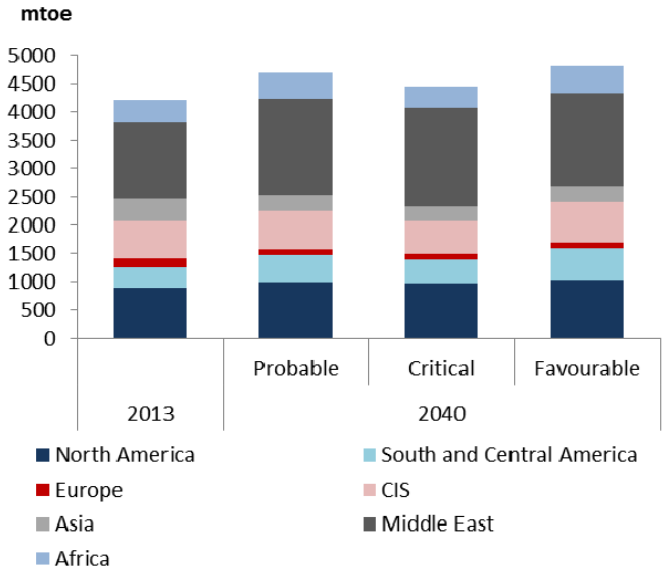
Source: ERI RAS, IEA World Energy Balances 2016

World oil consumption will inevitably continue to decline in OECD countries – the faster the bigger economic growth. Share of the Middle East in oil production will grow to 34-39%

World oil consumption by scenario



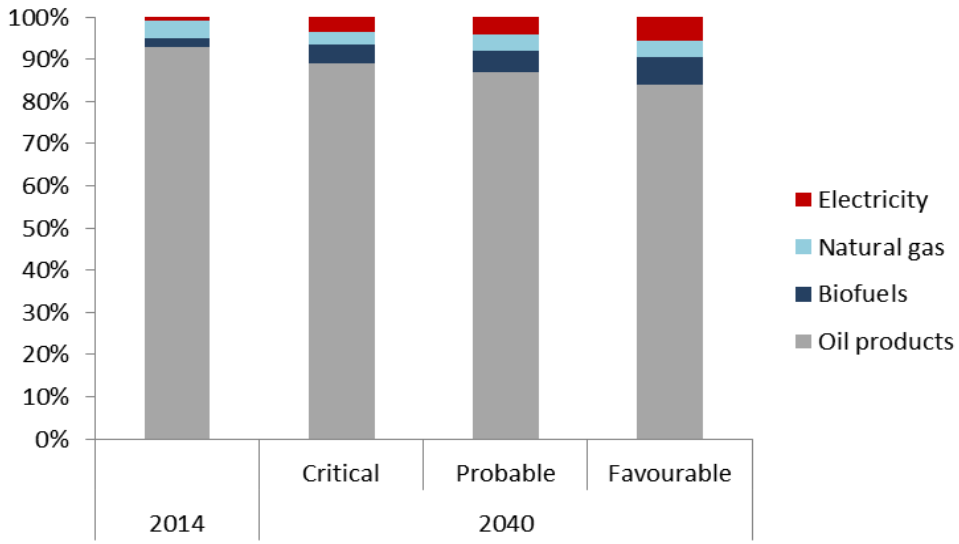
World oil production by scenario



Source: ERI RAS, IEA World Energy Balances 2016

Despite an anticipated substantial growth of electricity and biofuels use the share of oil products in transport sector energy consumption will be more than 80% by 2040

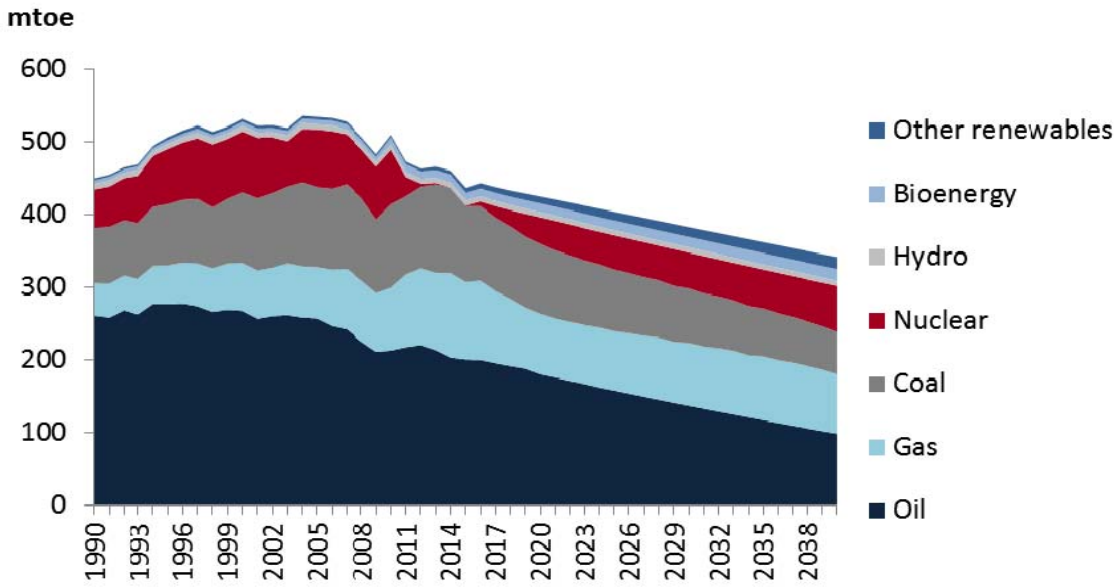
Energy consumption in transport sector by fuel by scenario



Source: ERI RAS

Energy resources consumption in Japan has started to decrease since 2005 as well as in most developed countries

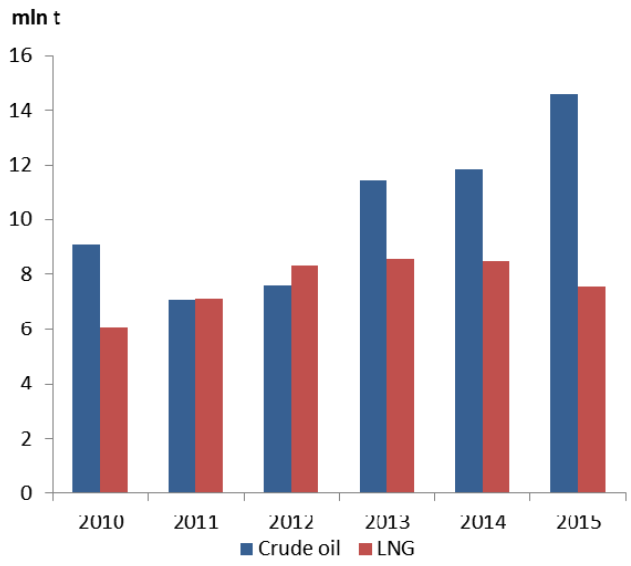
Energy consumption of Japan by fuel in 1990-2040



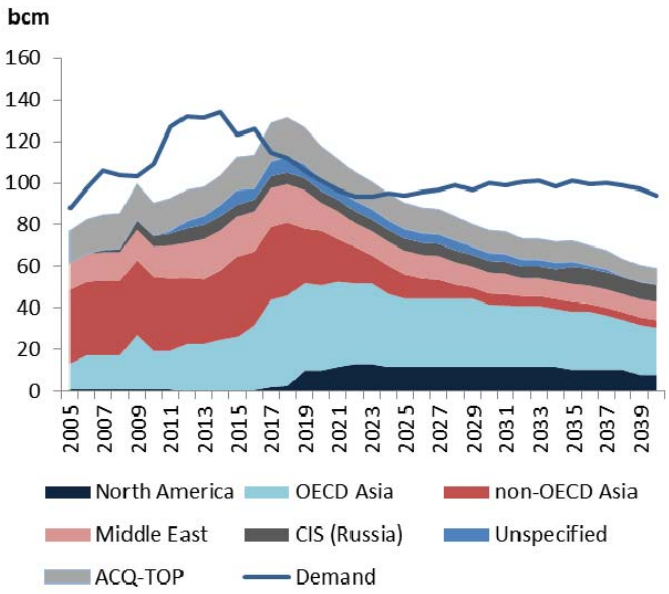
Source: ERI RAS, IEA World Energy Balances 2016

Oil exports from Russia to Japan increases, while existing long-term gas contracts to Japan leave little room for additional gas supplies up to 2020-2025

Oil and gas exports to Japan from Russia



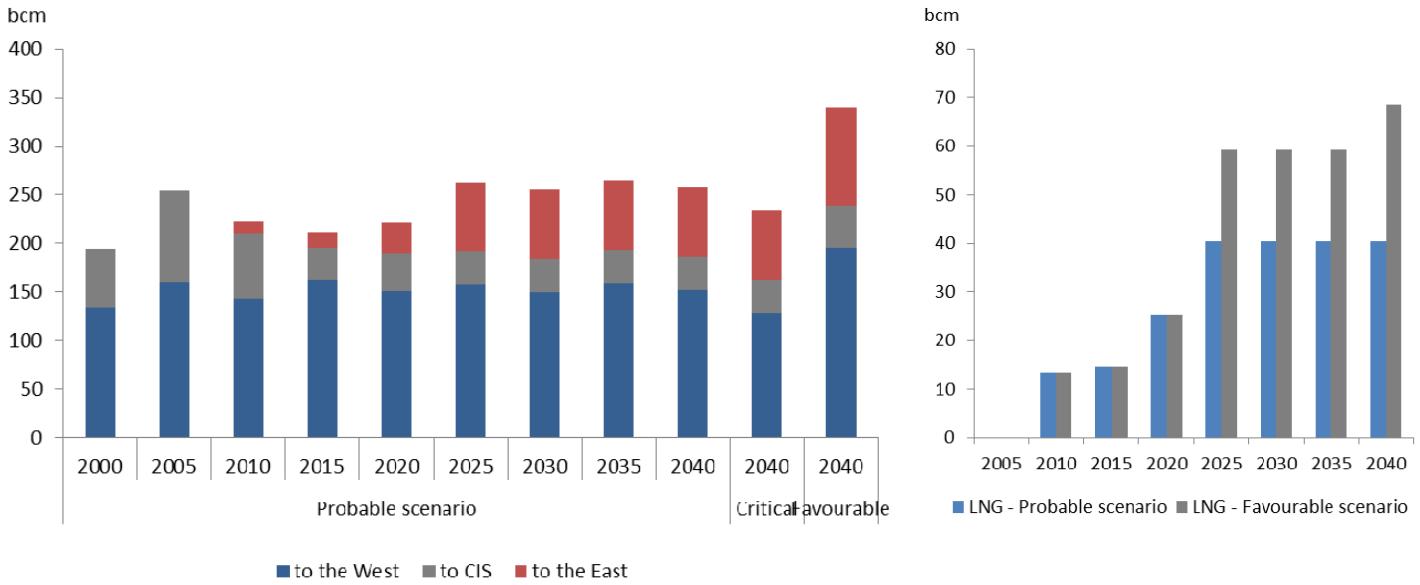
Gas demand and supply contracts to Japan



Source: ERI RAS, Nexant August 2016, Russian Customs, Japanese Customs

Pipeline gas exports from Russia to the West depends primarily on European gas demand. Almost all the growth of Russian gas exports will be to Asia

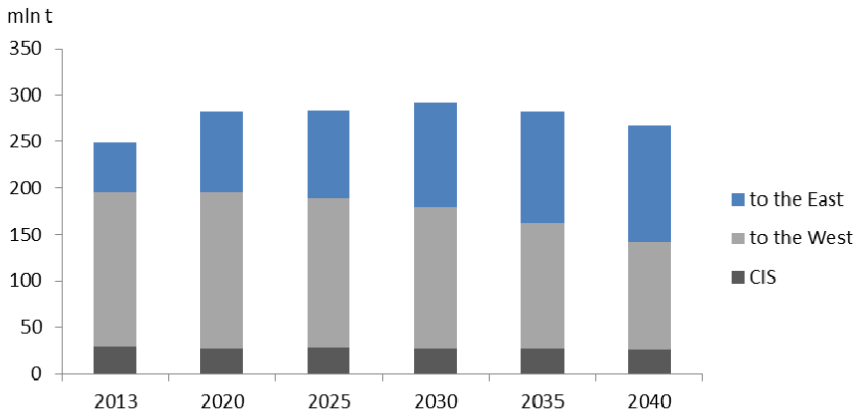
Gas exports from Russia by scenario and destination



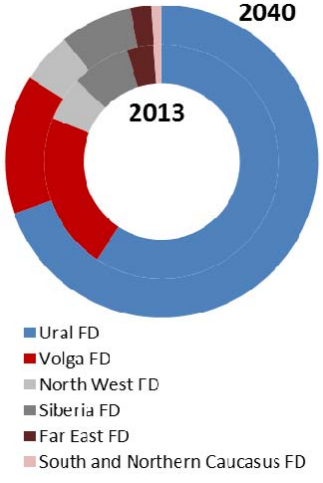
Source: ERI RAS

In all scenarios crude oil exports from Russia will decrease to Europe and increase to Asia. Exports to Asia will grow by 2-2,5 times

Crude oil and NGL from Russia and destination, Probable scenario



Russian crude oil production by Federal District



Source: ERI RAS

Contacts

The Energy Research Institute of the Russian Academy of Sciences

31/2 Nagornaya str, 117186, Moscow,
Russian Federation

phone: +7 926 612 87 69
fax: +7 499 123 44 85

web: www.eriras.ru
e-mail: galkina@outlook.com