

Russia: before and after COP26

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Problems of forecasting socio-economic and scientific-technological
development in the context of global climate change

Moscow / November 17, 2021

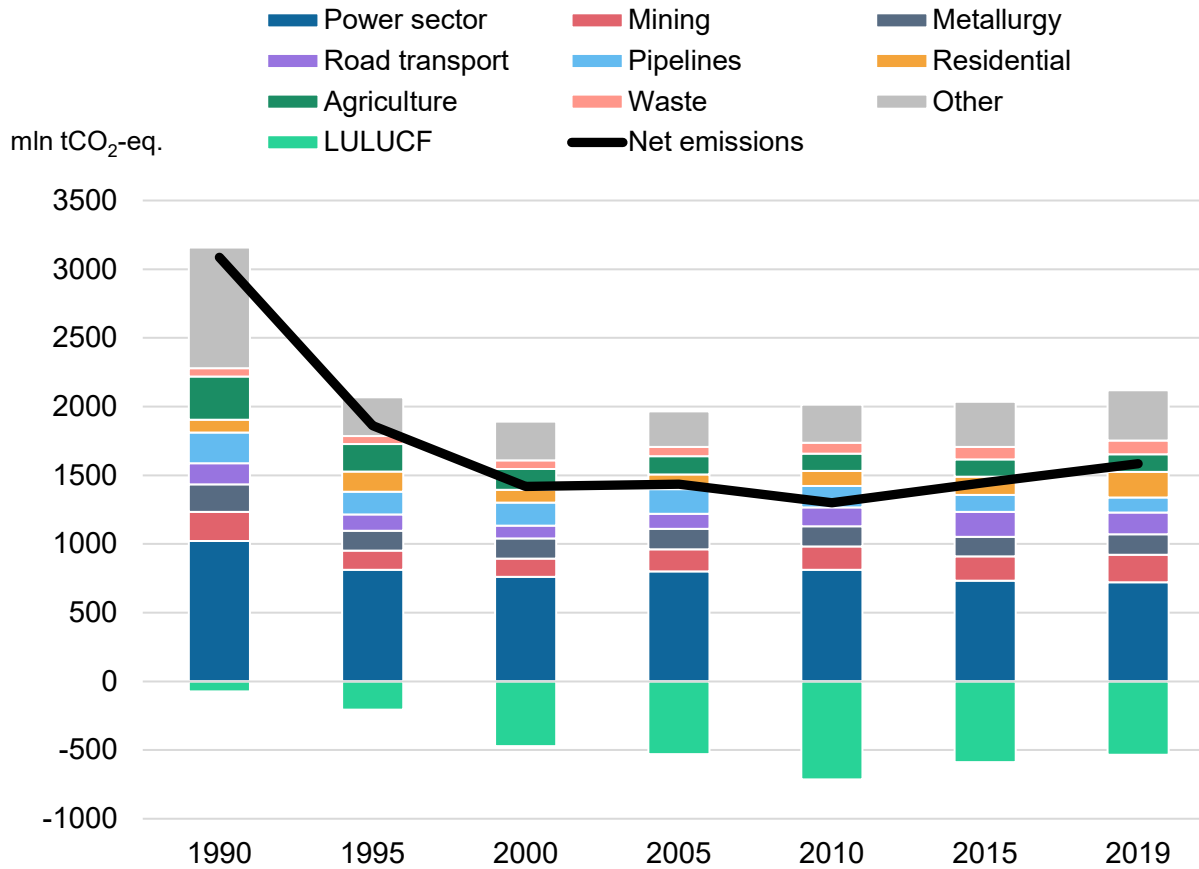


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Economic Forecasting
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Review of GHG Emissions in Russia

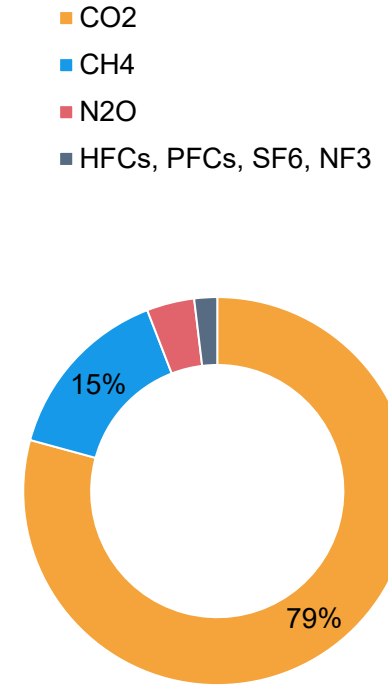
GHG emissions in Russia (with LULUCF)



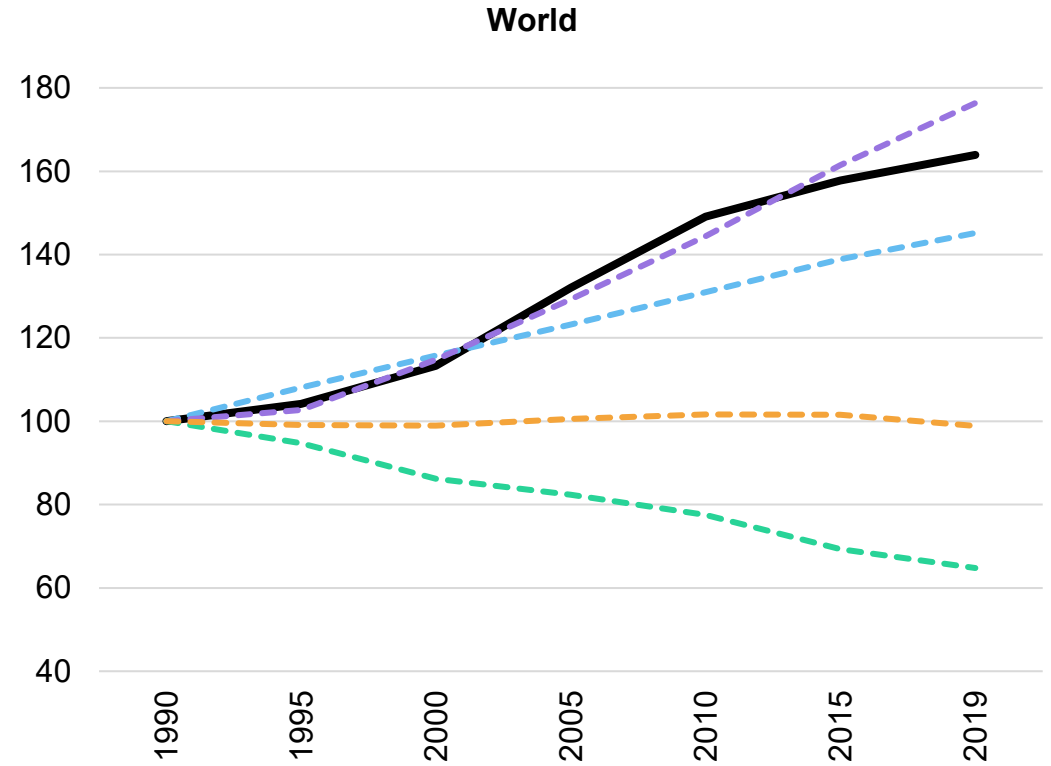
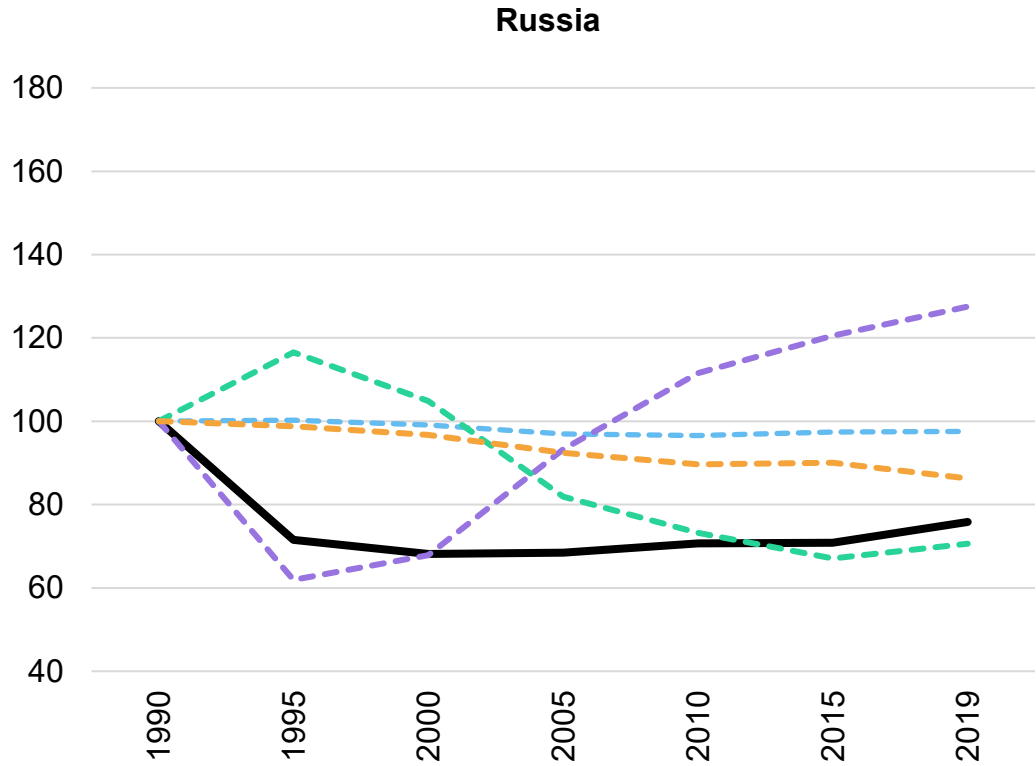
Net emissions 2019:
1585 mln tCO₂-eq.
(51% of 1990 level)

LULUCF removes
25% of total emissions

GHG emissions structure, 2019

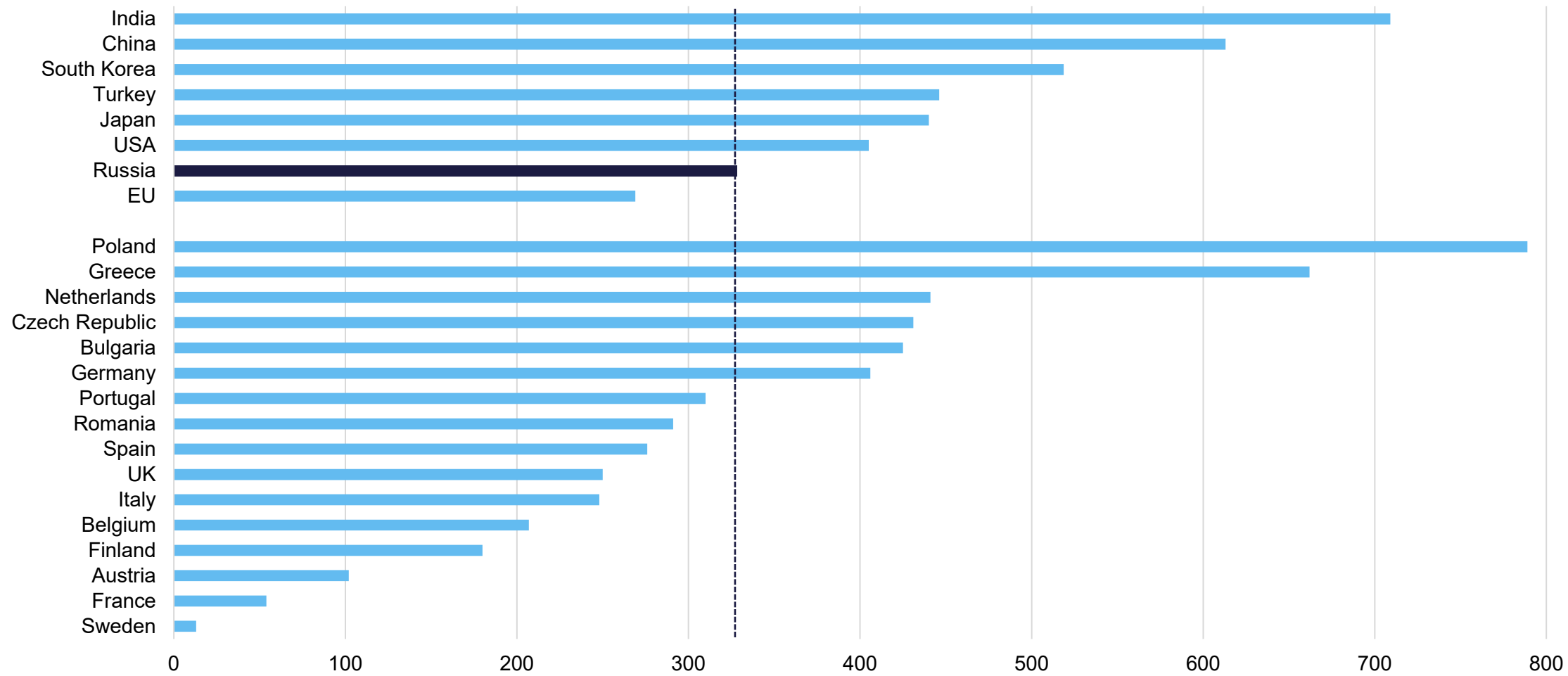


CO₂ Emissions Drivers (1990 = 100)



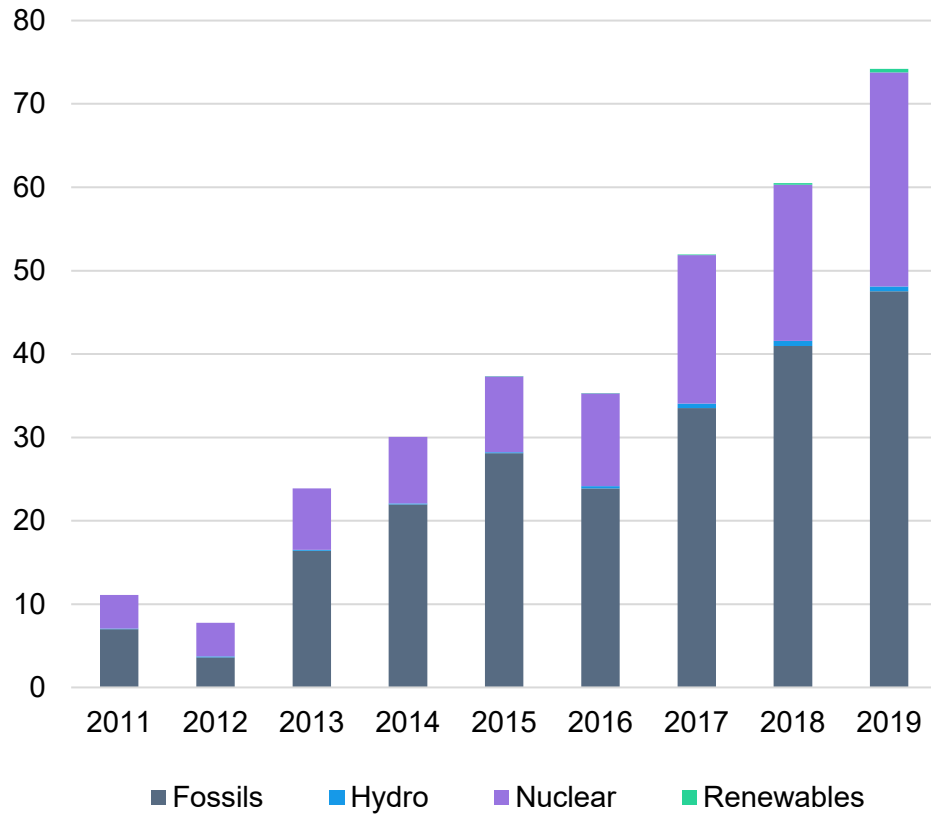
CO2 emissions
 Population
 GDP per capita
 Energy intensity of GDP
 Carbon intensity of Energy

Average carbon intensity of electricity in 2018, g CO₂ / kWh

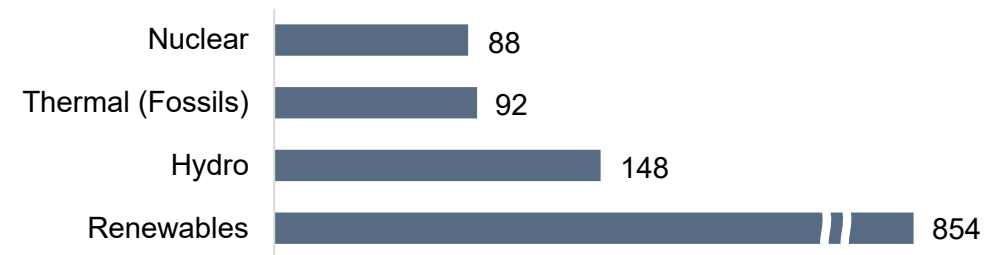


Efficiency of GHG emissions reduction in the Russian power sector

Emissions “saved” by new power plant projects, mln tCO₂

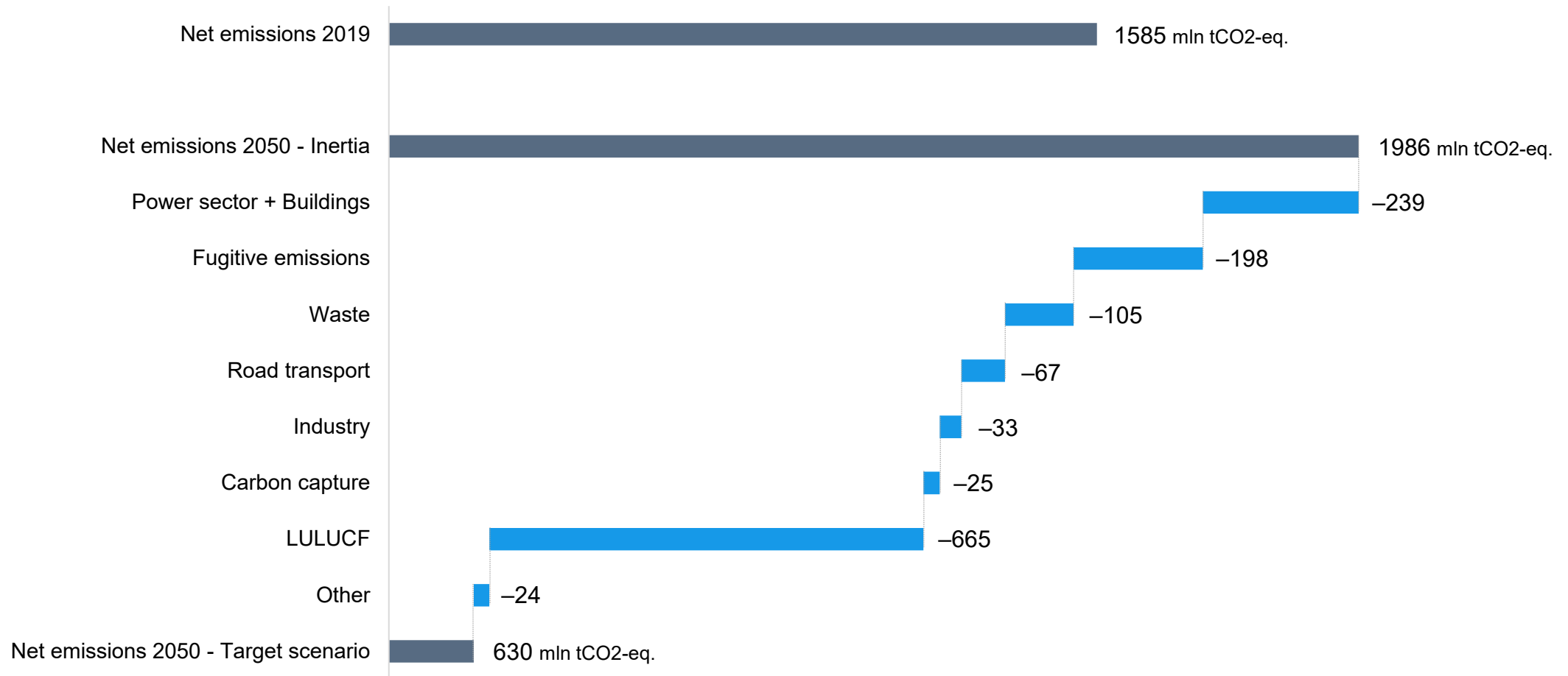


Cost of “saved” emissions by new power plant projects (2019-2019 average), euro per tCO₂

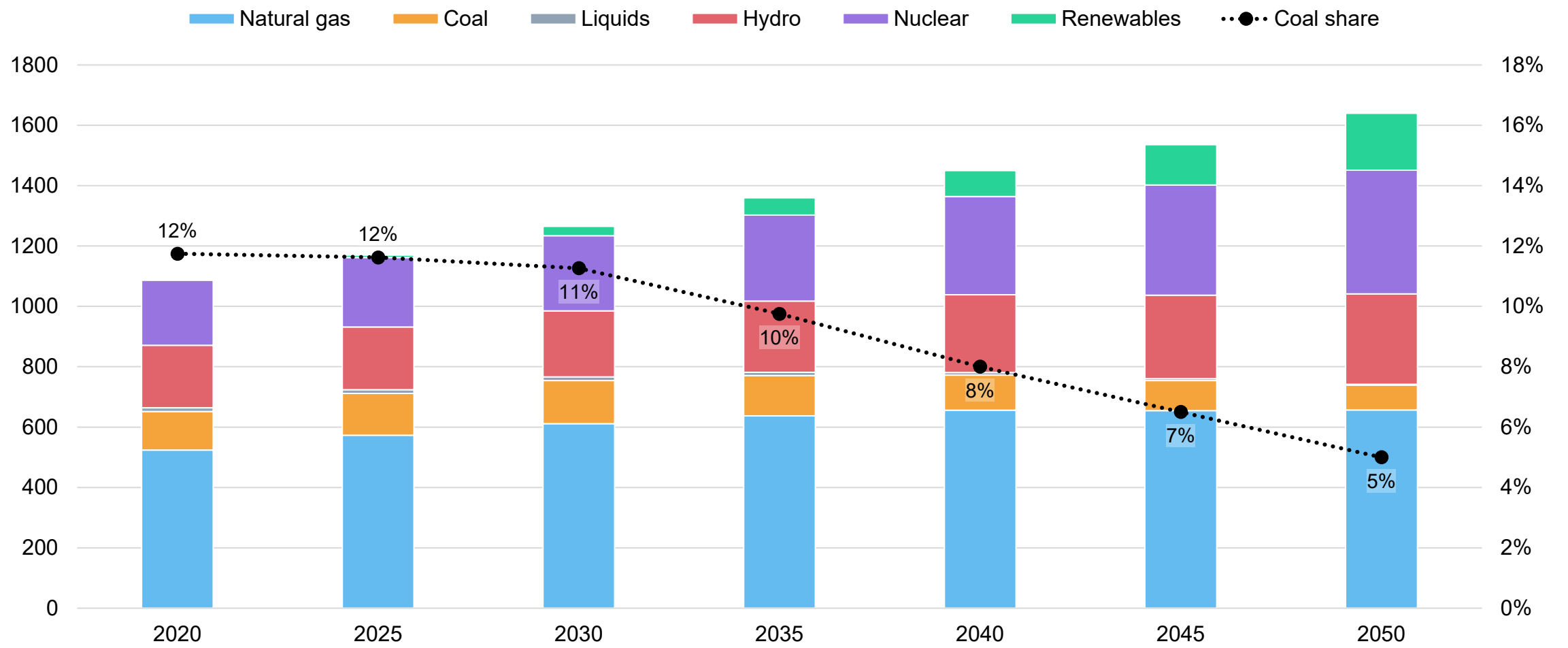


- The least costly “carbon-saving” way is the construction of new nuclear power plants. “Saving” emissions due to building new hydro power plants is 1.5 times more expensive; due to renewables – almost 10 times more expensive
- Even though new thermal power plants use carbon-containing fuels, they are comparable to nuclear power plants in terms of improving the carbon intensity of electricity generation

Strategy for the socio-economic development of Russia with a low level of GHG emissions until 2050 – Ways to decrease emissions, mln tCO₂-eq.



Strategy for the socio-economic development of Russia with a low level of GHG emissions until 2050 – Electricity generation, TWh



COP26 topics:

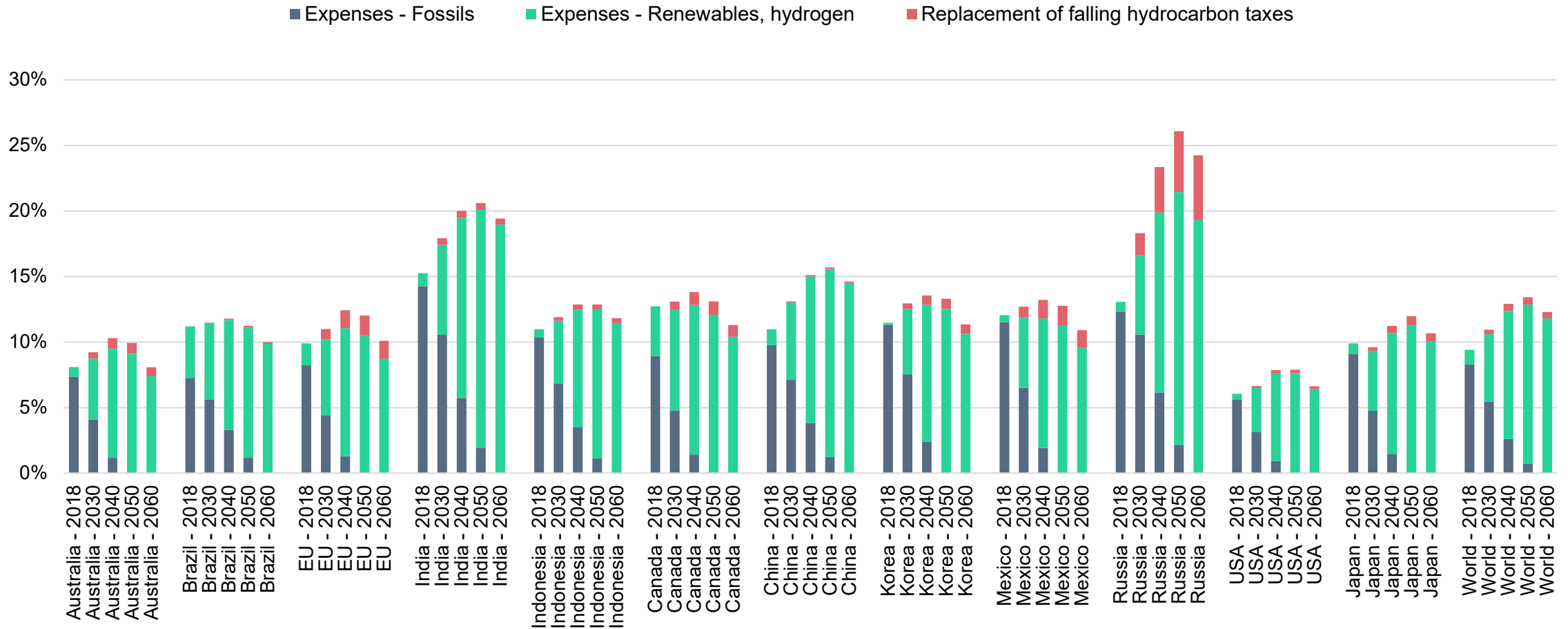
- to end deforestation by 2030
- to slash methane
- to “phase down” unabated coal
- to secure global net zero by mid-century

Russia’s impact:

- significant LULUCF improvement (value – 1,3% of global GHG emissions)
- decreasing fugitive emissions (value – 0,4% of global GHG emissions)
- 5% target for coal share in power sector + CCS
- net-zero by 2060

P.S. Is technological way to reach global net-zero by 2050 affordable?

Energy cost as share of GDP



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