



НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ  
УНИВЕРСИТЕТ

# Deep decarbonization by 2050: Russia's perspective

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# Russian official strategic plans

Energy Strategy-2035, all other strategies and programs aim at a deeper carbon lock-in



Increase of extraction, consumption and export of coal, gas and oil

Rise of fossil fuel - based power generation

Expansion of export infrastructure for fossil fuels and carbon intensive products

# New coal projects in Russia



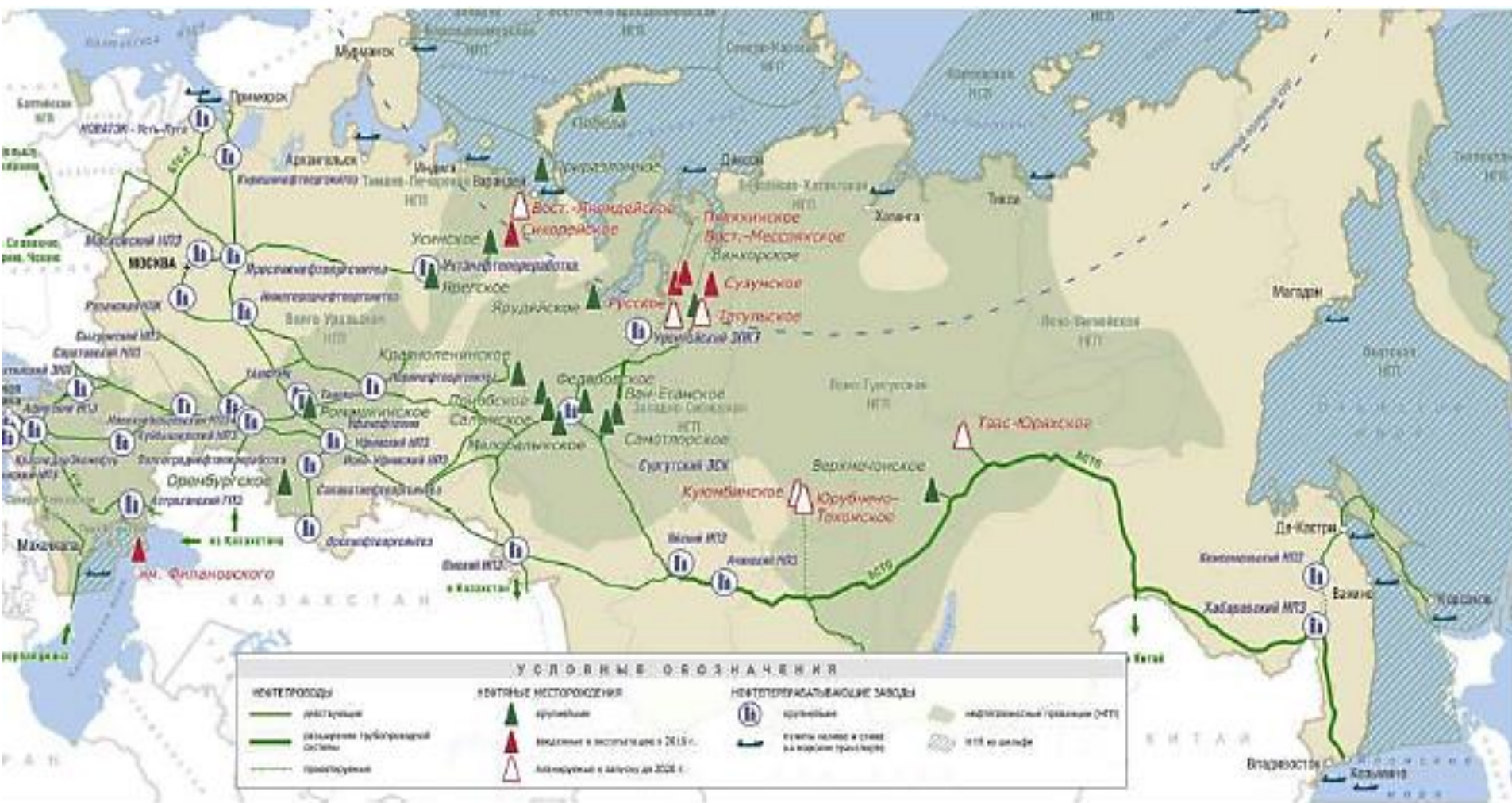
Source: Ministry of Energy of Russia (2019)



# Gas projects in Russia



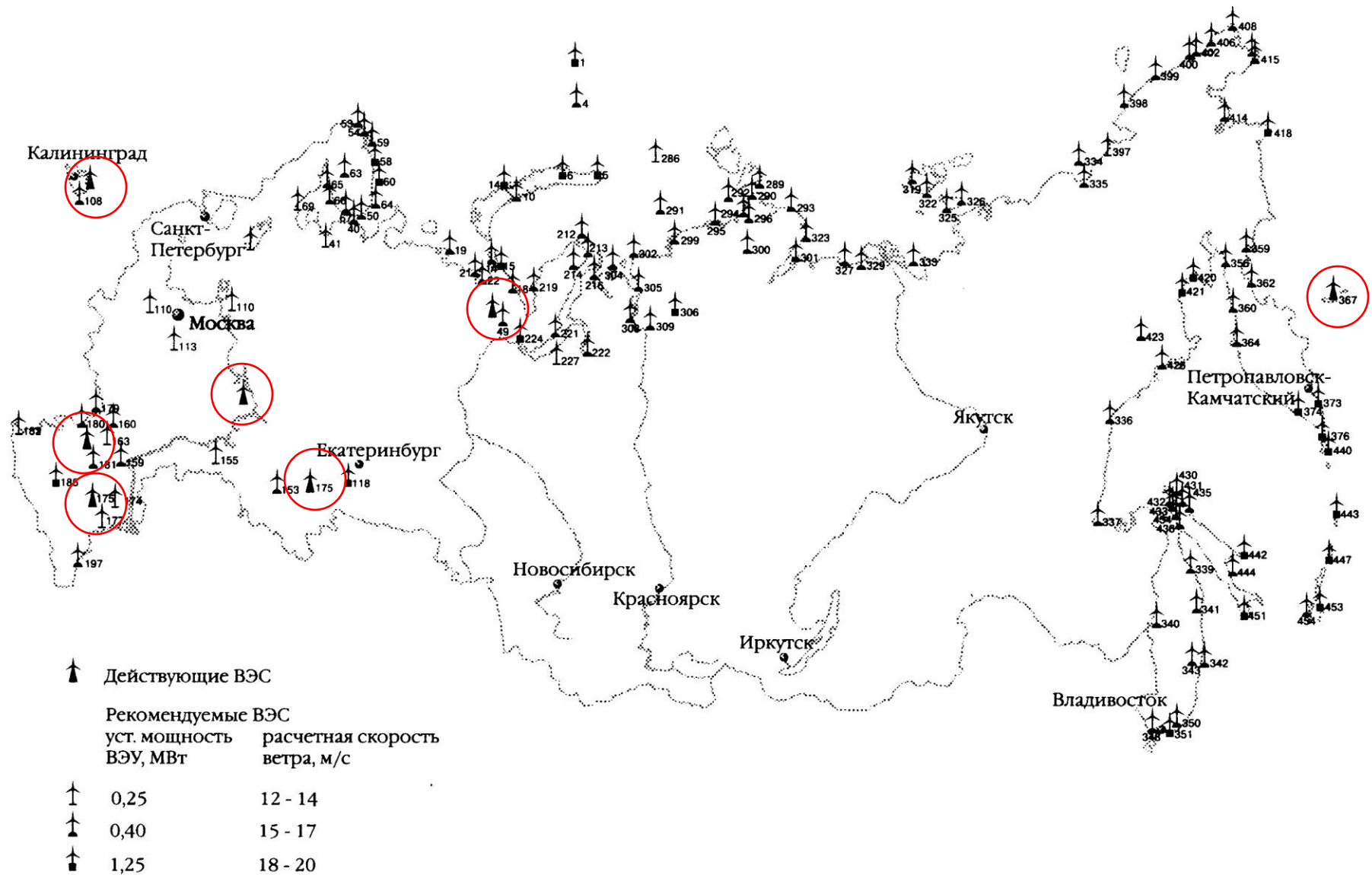
# Crude oil projects in Russia



**On the other hand:**  
huge resources of renewables



# Wind energy potential in Russia



# Solar energy potential in Russia





[illegible]

**Source: Russian Association of Geothermal Energy Society**

# Wood waste and biofuel production in Russia





# Agricultural waste potential in Russia





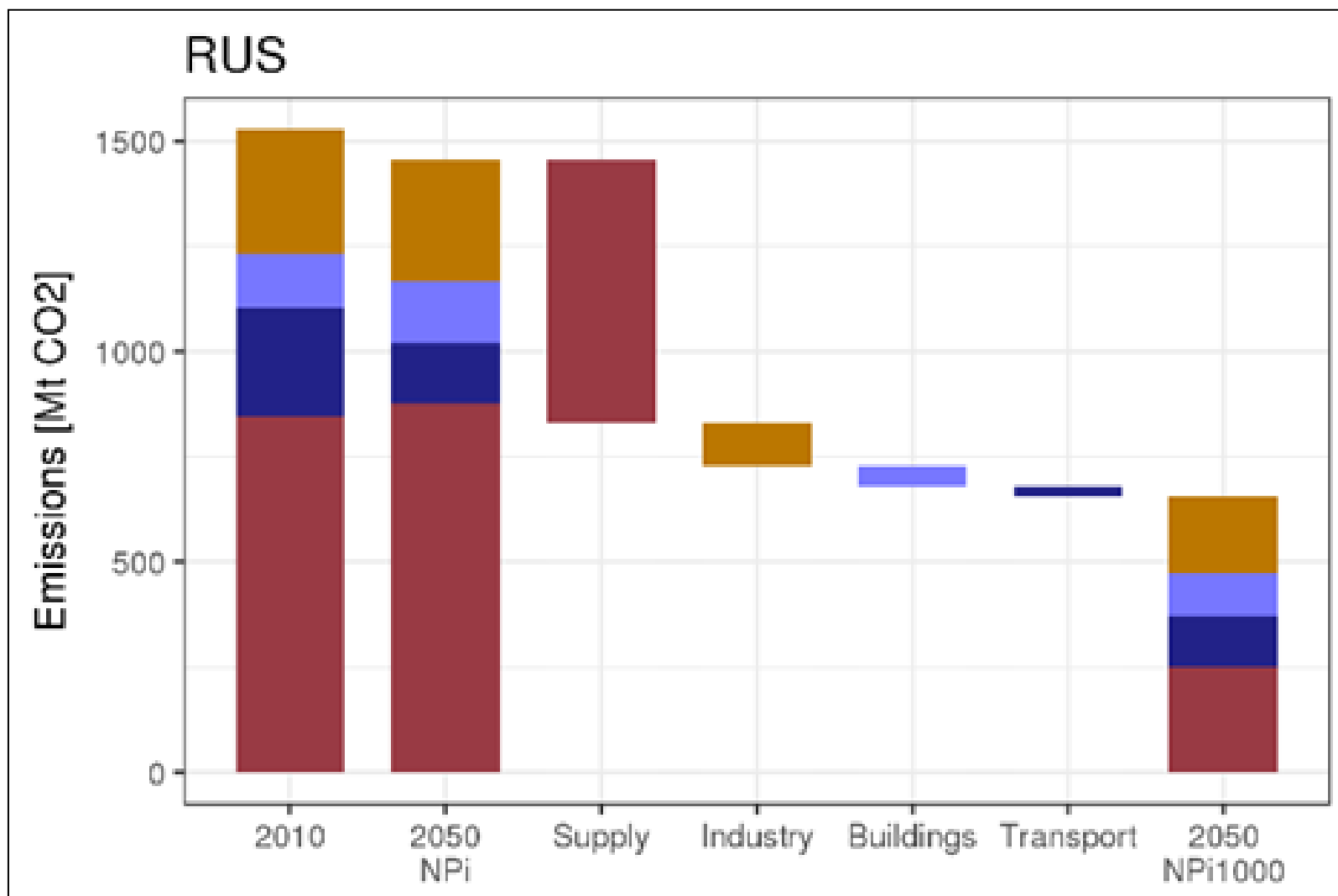
# Renewable energy potential in Russia

	Technical potential, mln tce/yr
Geothermal	11 868
Mini hydro	126
Biomass	140
Low heat (heat pumps)	194
Wind energy	2 216
Solar energy	9 676
TOTAL	24 221

*Source: Energy Institute (ENIN)*

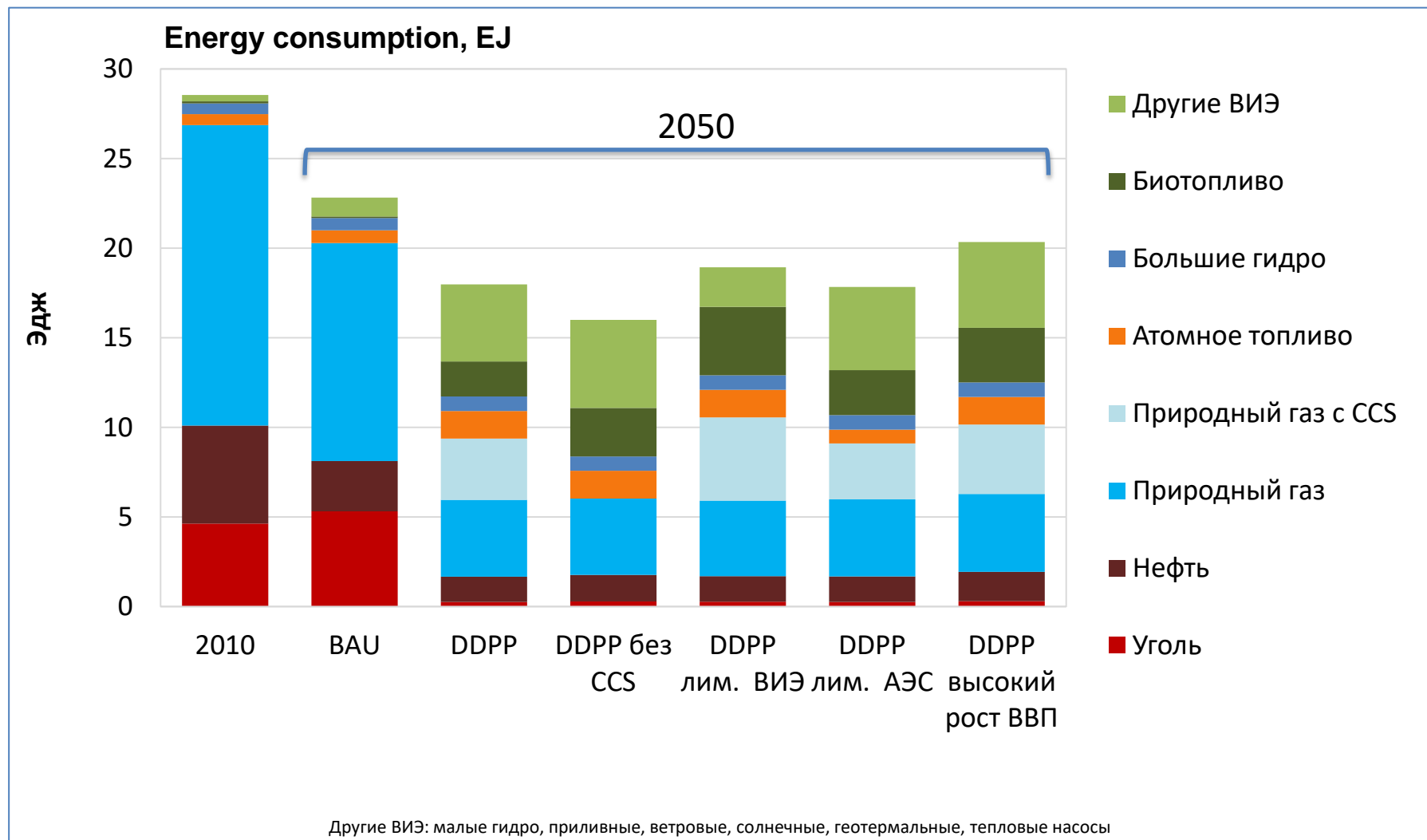
**Annual technical potential of RES exceeds  
total primary energy production in Russia by 25 times!**

# Scenario of deep decarbonization in Russia



Source: COMMIT project (2019)

# Alternative decarbonization scenarios in Russia





# Conclusions

- Russia has huge potential in all types of renewable energy resources
- Modern technologies allow to utilize them in commercially viable way
- Deep decarbonization pathways are feasible, multiple options
- **BUT...** the current policy priority is to take as much rent from fossil fuels as possible
- Only international pressure can switch Russia's policy making and corporate behavior to climate-friendly way:
  - Domestic incentives are weak, while fossil fuel lobby is strong
  - Border adjustment tax, carbon pricing, carbon regulation/standards, obligatory emission reporting...

# Thank you!

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