



# Gazprom, Rosneft Shares Tumble, but the Energy Giants Are Putin's Safety Net

London-listed companies not only finance the Russian government, they have also assisted Putin's foreign policy, Western officials say

*Exiting Russian ventures is not easy to do. You can't exactly sell the shares of these joint ventures on the open market, and abandoning them essentially means giving them to Russian companies for free.*

*At the moment, multi-national companies are doing something like...*

1. Promise to get rid of them
2. Cross them off the list of "assets we own" and move them to a list of "assets we don't want to own,\*" with a little footnote saying *\*but still technically own*
3. Wait a while until things are more normal, or until you find an acceptable buyer
4. Eventually sell them for some amount of money

# Russia

2019 primary energy data in quadrillion Btu

Total Energy: Production 64.278 Consumption 33.247



Production  
10.512

Consumption  
4.901



Production  
25.714

Consumption  
17.373



Production  
24.189

Consumption  
7.251

- Russia was the world's third-largest producer of petroleum and other liquids (after the United States and Saudi Arabia) in 2020
- Russia was the second-largest producer of dry natural gas in 2020 (second to the United States).
- Europe is Russia's main market for its oil and natural gas exports, and by extension, Europe is its main source for revenues.

Figure 6. Russia's natural gas exports by destination, 2020

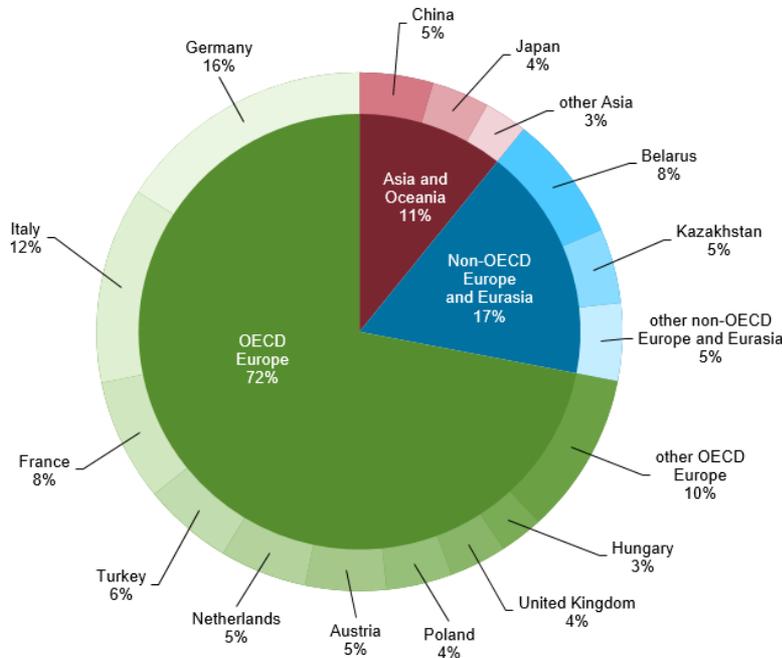
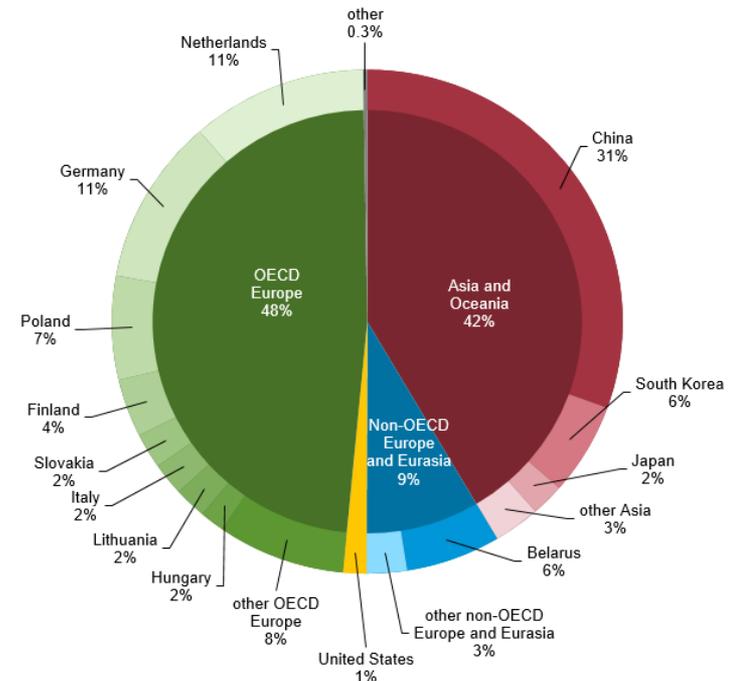
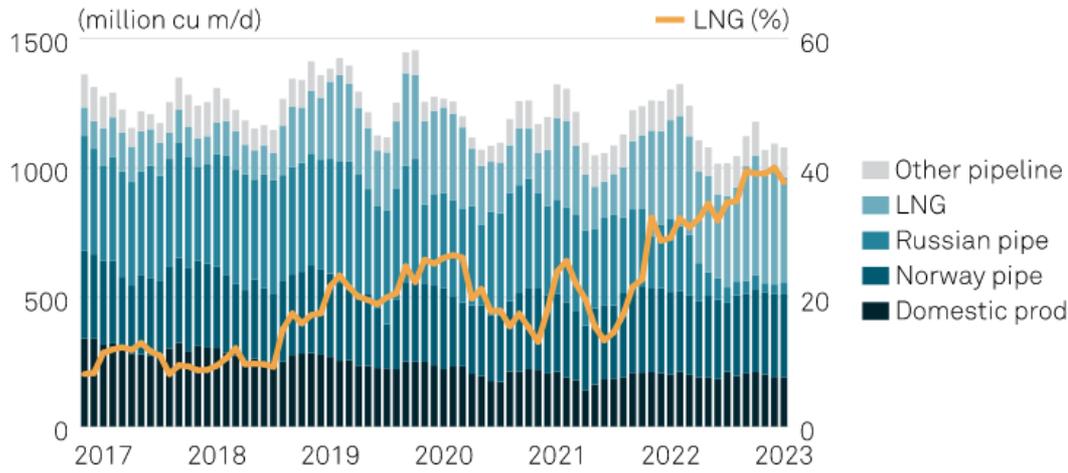


Figure 2. Russia's crude oil and condensate exports by destination, 2020



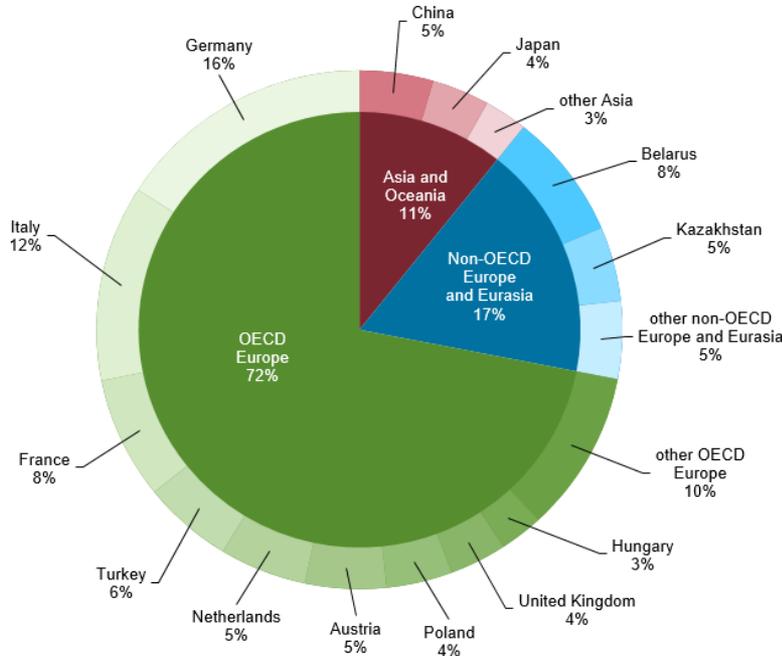
# LNG share in European gas supply rises



Source: S&P Global Commodity Insights

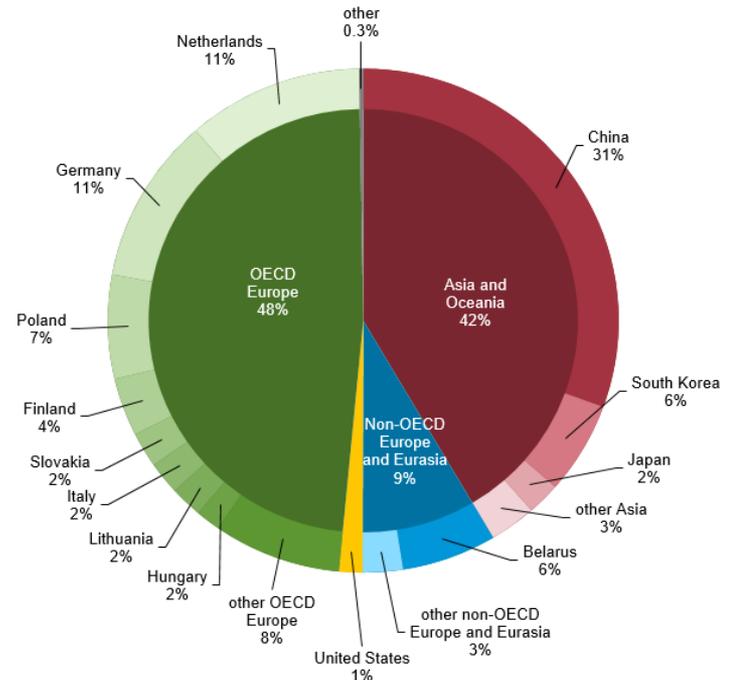
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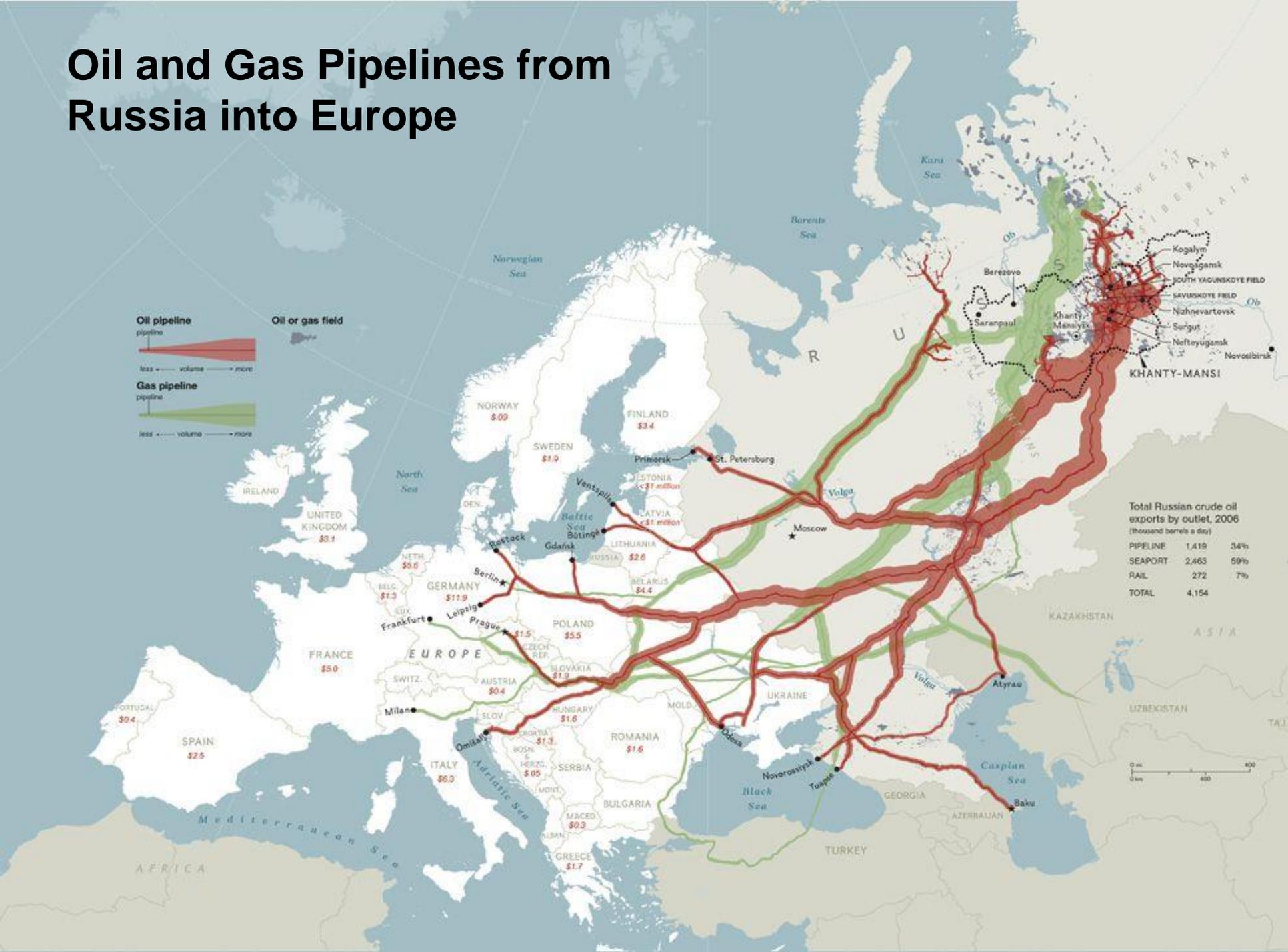
Source: Graph by the U.S. Energy Information Administration, based on Russian export statistics and partner country import statistics from Global Trade Tracker and on delivery statistics from Gazprom

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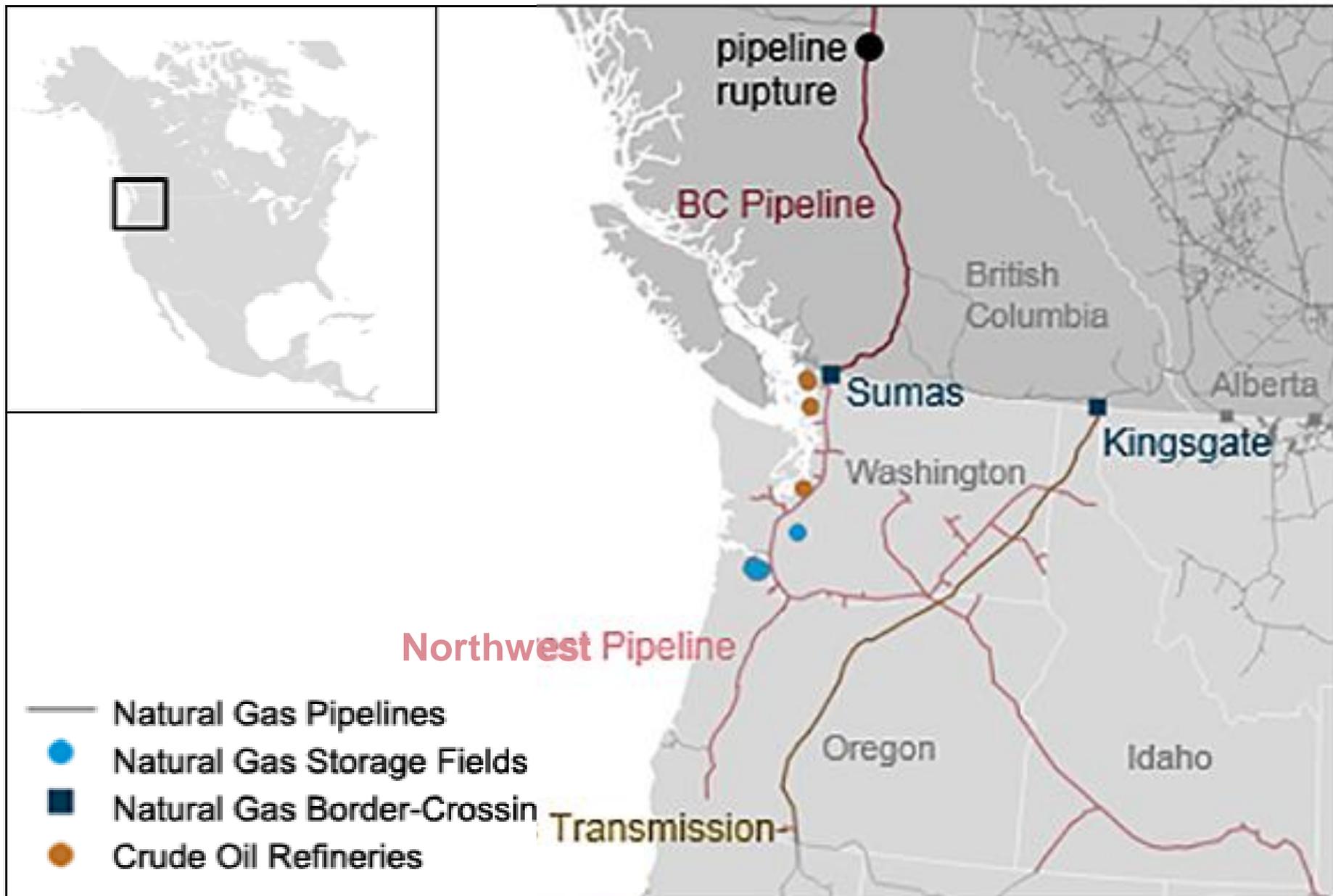


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# Oil and Gas Pipelines from Russia into Europe

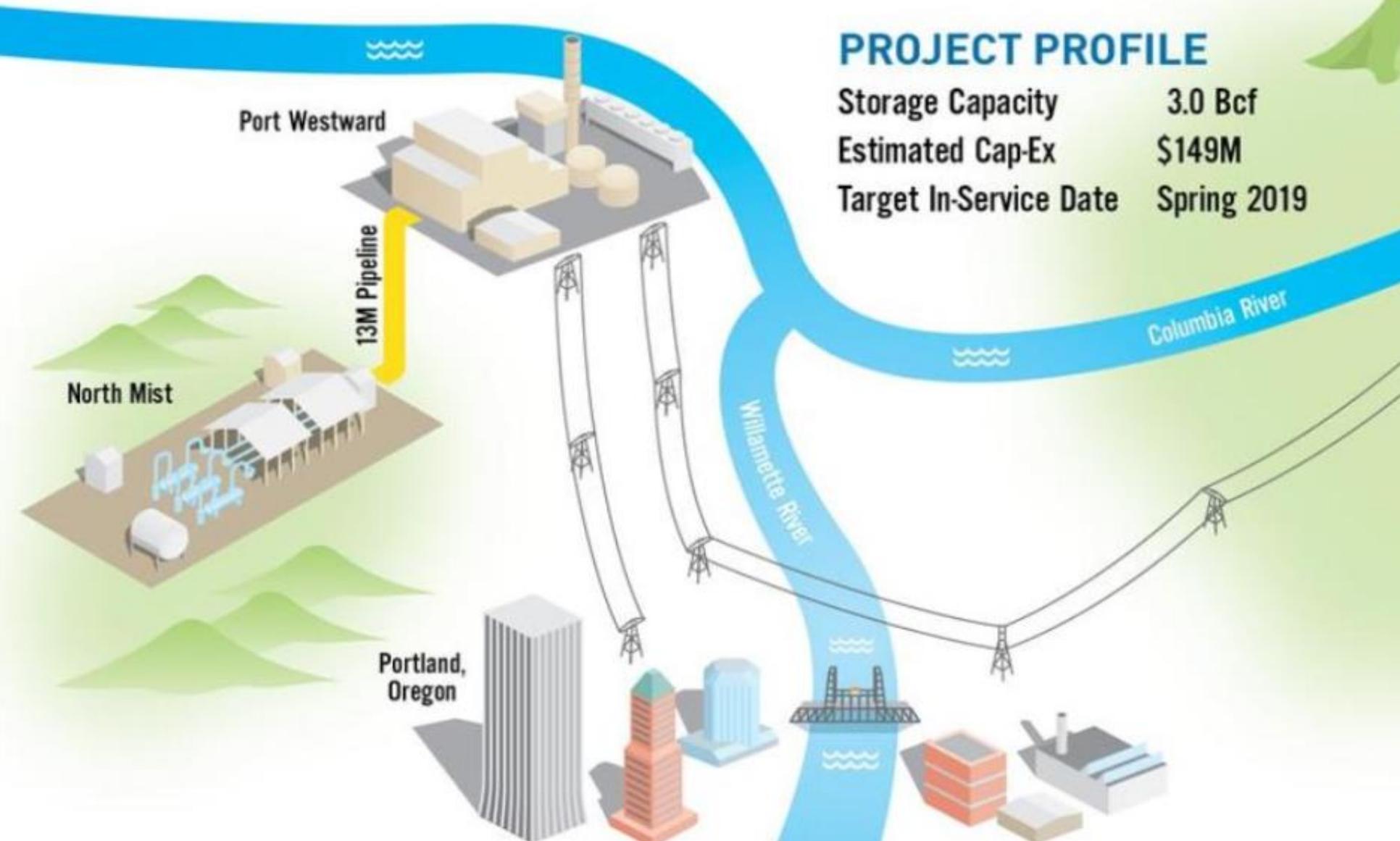


# Pipelines and Refineries in the Pacific Northwest



Source: EIA

# NW Natural Gas in the Pacific Northwest

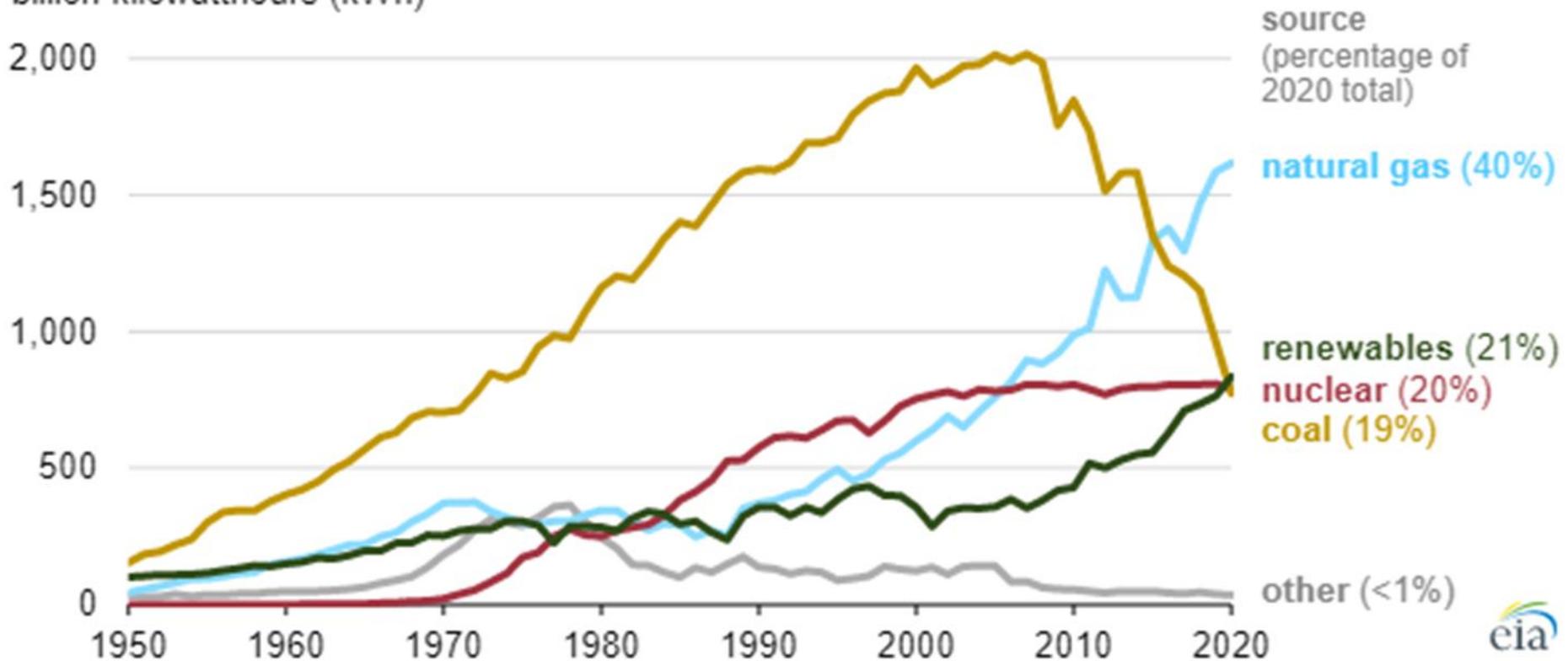


## PROJECT PROFILE

Storage Capacity	3.0 Bcf
Estimated Cap-Ex	\$149M
Target In-Service Date	Spring 2019

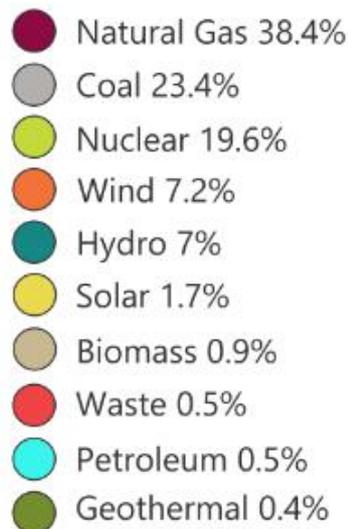
# Trends in USA Electricity Generation are Changing Rapidly!

Annual U.S. electricity generation from all sectors (1950–2020)  
billion kilowatthours (kWh)

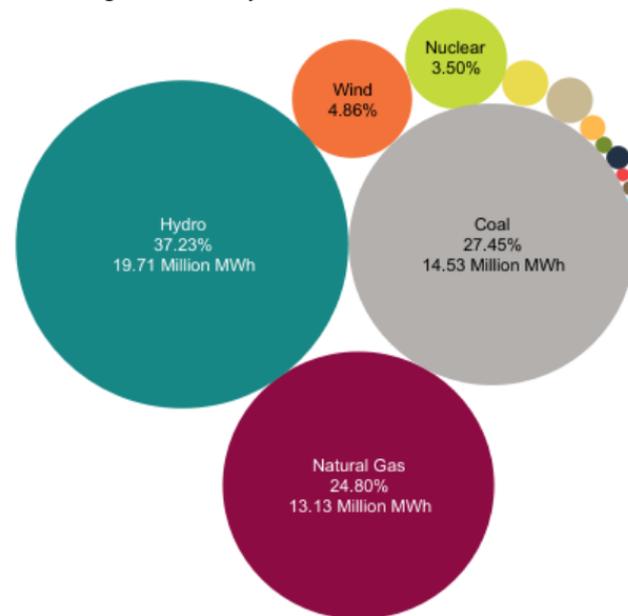


# Sources of Electricity in Oregon (Portland General Electric / PGE)

## National Electricity Resource Mix for 2019



## Oregon Electricity Use: Resource Mix Over Time



We own and operate several highly efficient natural gas-powered plants. The newest are Port Westward Unit 2 (adjacent to PGE's Port Westward and Beaver plants in Clatskanie, Oregon) and the 440-megawatt Carty Generating Station, near Boardman, Oregon.

We closed our last Oregon-based coal-fired power plant in October of 2020, 20 years ahead of schedule, as part of an agreement with stakeholders, customer groups and regulators to significantly reduce air emissions from power production in Oregon.

While we still generate a small amount of power at Colstrip, a coal-fired power plant that we share ownership of near Billings, Montana, we are planning to eliminate it from our resource mix no later than 2035. The Colstrip Power Plant started dismantling generating equipment in July of 2020.

