

IGA-677 / RusNatSecPol / Lecture 20

Energy and Natural Resources

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Today's objectives

1. *Take stock:* Russia's status as "energy superpower"
2. *Consider:* how gas can be used as a geopolitical instrument
3. *Discuss:* lessons from Russia's coercive gas diplomacy

Overview

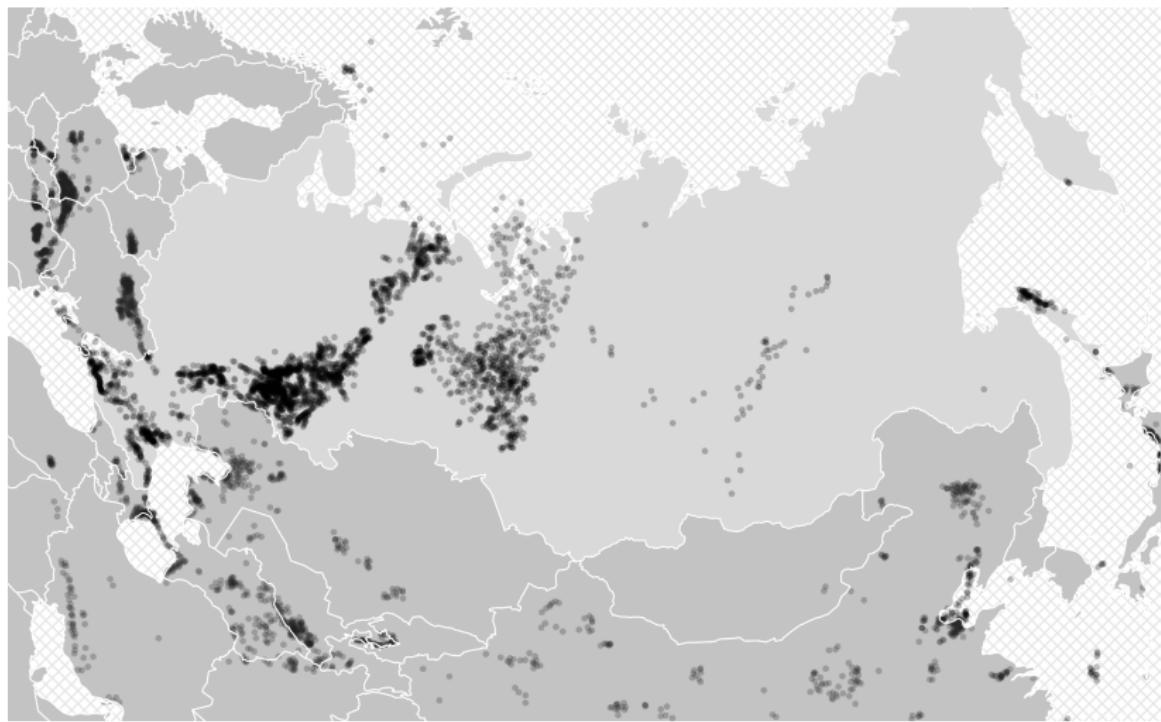


Figure 1: Oil and natural gas fields, 2017

Russia is world's **3rd largest energy producer and consumer**
(data from DOE's Energy Information Administration, 2021)

Table 1: Total Energy Production

Ranking	Country	quadrillion Btu
1	China	135.0
2	United States	98.3
3	Russia	64.1
4	Saudi Arabia	26.6
5	Canada	23.4

Table 2: Total Energy Consumption

Ranking	Country	quadrillion Btu
1	China	165.2
2	United States	97.9
3	Russia	34.2
4	India	32.0
5	Japan	18.1

Oil

(2021 data)

1. Reserves

- a) 8th largest reserves
(80 billion barrels)

2. Production

- a) 2nd largest producer
(12 million barrels/day)

3. Consumption

- a) 4th largest consumer
(3.7 million barrels/day)

4. Exports

- a) 2nd largest exporter
(5.2 million barrels/day)
- b) 82% tanker, 18% pipeline
- c) 2022:
 - 42% to EU
 - 36% to China
 - 12% to India

Table 3: Petroleum production

Ranking	Country	1000 barrels/day
1	United States	20,301
2	Saudi Arabia	12,144
3	Russia	10,938
4	Canada	5,694
5	China	5,119

Table 4: Crude oil exports

Ranking	Country	1000 barrels/day
2	Saudi Arabia	7,341
1	Russia	5,196
4	Iraq	3,976
1	Canada	3,177
5	UAE	2,427

Natural gas (2021 data)

1. Reserves

- a) world's largest reserves
(1,688 trillion cubic feet)

2. Production

- a) 2nd largest producer
(25 Tcf/year)
- b) 71% consumed domestically

3. Consumption

- a) 2nd largest consumer
(15.8 Tcf/year)

4. Exports

- a) world's largest exporter
(8.9 Tcf/year)
- b) 85% pipeline, 15% LNG
- c) 2021: 61% to EU (5.4 Tcf)
2022: 16% to EU (1.4 Tcf)

Table 5: Natural gas production

Ranking	Country	Tcf
1	United States	34.5
2	Russia	24.8
3	Iran	8.8
4	China	7.5
5	Canada	6.4

Table 6: Natural gas exports

Ranking	Country	Tcf
1	Russia	8.9
2	United States	6.7
3	Qatar	4.4
4	Norway	3.9
5	Australia	3.7

Natural Gas as Foreign Policy Instrument



Figure 2: Natural gas pipelines, 2023

Table 7: Russia's major natural gas export pipelines (2021 data)

Pipeline	Capacity	Length	Origin	Markets	Transit
Yamal-Europe	1.2 Tcf	2,552 mi	W Siberia	Poland, Germany, N Europe	Belarus
Blue Stream	0.6 Tcf	754 mi	W Siberia	Turkey	Black Sea
Nord Stream	1.9 Tcf	761 mi	W Siberia	Germany, N Europe	Baltic Sea
Nord Stream 2	1.9 Tcf	761 mi	W Siberia	Germany, N Europe	Baltic Sea
Soyuz, Brotherhood	1.1 Tcf	2,800 mi	W Siberia, C Asia	Europe	Ukraine
TurkStream	1.1 Tcf	580 mi	W Siberia	Turkey, SE Europe	Black Sea
Europe total	7.8 Tcf				
Sakh.-Khab.-Vlad.	0.2 Tcf	1,118 mi	Sakhalin	NE China, Vladivostok LNG	
Power of Siberia	2.2 Tcf	5,040 mi	E Siberia	NE China	
Asia total	2.4 Tcf				

Gas and Geopolitics

How Russian gas is different from oil

1. Infrastructure
 - a) only ways to transport gas are pipelines & liquefied natural gas
 - b) both very expensive to build (investments tied to long-term, state-sanctioned contracts)
 - c) storage facilities also costly (vulnerable to disruptions)
2. Markets
 - a) can't buy gas on spot markets (harder to diversify sources)
 - b) no global "market price" for gas (seller can dictate price)
 - c) gas can be sold direct to customer (Gazprom = local energy utility)
3. Ownership
 - a) no private gas production, sales (Gazprom is state monopoly)



Figure 3: Option 1



Figure 4: Option 2

How did Europe get hooked on Russian gas?

1. Diversification from Middle East
 - a) 1973 oil crisis price shocks
 - b) USSR seen as potentially more reliable supplier
 - c) assumption: USSR to be “one of several” alternatives
2. Search for alternative fuel sources
 - a) reduce reliance on coal & oil (natural gas is relatively clean-burning fossil fuel)
 - b) phase out nuclear (Germany)
3. Russian efforts vs. competition
 - a) lobbying vs. S Caucasus pipeline (NABUCCO)
 - b) efforts to destabilize alt transit routes (Georgia)
 - c) price discounts

Table 8: Exports to region, 2021

	Region	Tcf
1	Europe	7.36
2	Asia	1.12
3	Rest of world	0.38

Table 9: Exports to country, 2021

	Country	Tcf
1	Germany	1.70
2	Turkey	0.95
3	Italy	0.92
4	Belarus	0.70
5	France	0.62
6	China	0.56
7	Poland	0.37
8	Japan	0.32
9	United Kingdom	0.17
10	South Korea	0.14

How is Europe quitting Russia? (2022)

1. Supply shocks
 - a) oil:
 - ban on seaborne oil imports
 - global oil price cap (G7)
 - b) gas:
 - Nord Stream 2 suspended
 - Nord Stream 1 disabled
2. Switch to LNG
 - a) 77% increase in LNG imports
(mostly from US, but also Russia)
 - b) build new LNG terminals
3. Conserve
 - a) fill storage tanks (82 pct in 2023)
 - b) reduce consumption
4. Get lucky
 - a) mild winter 2022-2023

Russia gas share of Europe's energy:
40% (2021) → 10% (2022)



Figure 5: Storage tanks

Case Study: Ukraine 2006 Gas Crisis

Russia's coercive gas diplomacy

1. Set prices
 - a) sell at “below-market rates”
 - b) wait for low rates to become baseline for destination country’s economy, industry
 - c) threaten to raise rates to extract policy concessions
2. Collect/cancel debts
 - a) ignore under/non-payments
 - b) then offer to cancel debt in exchange for concessions (e.g. pipeline equity stake)
3. Control local gas distribution
 - a) contacts include shares of local, transit pipelines
 - b) direct sales to customers



Figure 6: “property of V.P.”

Background to 2006 crisis

1. Pre-2005
 - a) 80% of Russia's NG exports transit through Ukraine
 - b) existing agreement: Ukraine pays \$50/tcm until 2009 (lower than Russian domestic customers)
2. 2005
 - a) Yushchenko elected president, sets course for EU/NATO
 - b) Gazprom request price hike to \$160-\$230/tcm (almost 5-fold)
 - c) Putin offers loan to help Kyiv pay
 - d) Yushchenko rejects offer
3. January 2006
 - a) Gazprom cuts volume of gas (new = old – Ukraine's share)
 - b) Ukraine withdraws same amount as before, cutting gas to Europe



Figure 7: Viktor Yushchenko



Figure 8: Hordiyiv vuzol

The Deal

1. Sketchy middleman to the rescue
 - a) GazpromExport sells to Naftohaz Ukrainy through intermediary: RosUkrEnergo (RUE)
 - b) RUE buys
 - Russian gas at \$230/tcm
 - Turkmen gas at \$60/tcm
 - c) RUE sells to Ukraine at \$95/tcm
 - d) RUE becomes sole importer of Russian gas to Ukraine
2. Who is RosUkrEnergo?
 - a) Swiss-registered company
 - b) co-owned by Dmytro Firtash
3. Criticism
 - a) numbers don't add up
(need 80/20 Turkmen/Russia mix just to break even at this price)
 - b) complete lack of transparency



Figure 9: Man in the middle



Figure 10: A trusted brand

Discussion:

- a) How did these corrupt deals help Russia geopolitically? What is the “theory of cause and effect”?
- b) How successful was Russia’s coercive gas diplomacy in achieving its intended political effects? (i.e. keeping countries in Russia’s orbit)
- c) Why didn’t Russia play similar game with countries in Western/Central Europe?
- d) Is this still a viable strategy as Russian exports pivot to China?

NEXT MEETING

Information, Hybrid and Cyber Warfare (Tu, Nov. 14)

- How has Russia leveraged new technologies of warfare?
- Can these new technologies prove decisive on the battlefield?