# Energy Transition Diplomacy
# **Energy Security & Energy Diplomacy**

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# Disclaimer

*“The views, information, or opinions expressed during the lecture and the following Q & A session are solely those of Dr Urban Rusnák*

*and do not necessarily represent those of the Ministry of Foreign and European Affairs of the Slovak Republic, Bratislava or the VUB Brussels Diplomatic Academy, Belgium*"

# Energy Security and Energy Diplomacy

Four pillars of the Energy Security - Security of Supply, Security of Demand, Security of Transit/Transportation, Security for the End Consumer (absence of energy poverty).

Impact of Russian invasion to Ukraine

OPEC, IEA, GECF, ECT.

Energy security trilemma.

Prevention and Early Warning of conflicts Managing emerging conflicts, resolving energy conflicts.

# Energy Diplomacy vs. Climate Diplomacy - different goals

- Energy Security

**to secure sufficient, affordable and consistent <u>supply, transit and demand</u> of energy for industrial, transport and military requirements necessary for development of nations**

- Mitigation and Adaptation to the Climate Emergency

**to combat and prevent dangerous human interference with the climate system and enable suistanable development of nations**

# Energy vs. Climate Diplomacy

**Energy Security**

- Forstering various aspects of the Energy Security

Bilateral

Multilateral

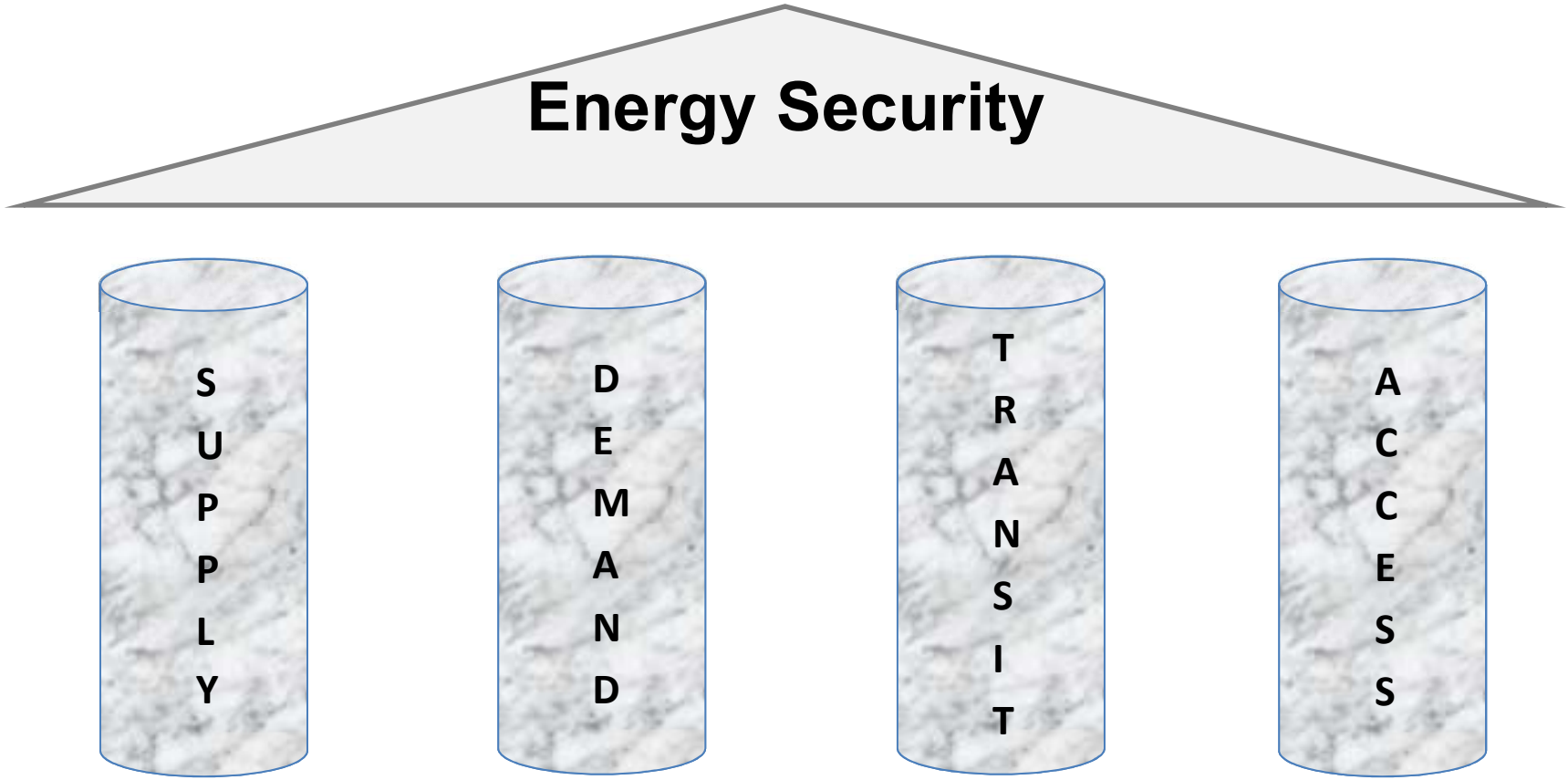
**Climate Security**

- Mitigation and Adaptation to the Climate Emergency

Plurilateral

Multilateral

# The 4 Pillars of Energy Security




Supply: The reliable security of **Energy Supply**
Demand: The reliable long term security **Energy Demand**
Transit/Transport: Safe, reliable **Transit and Transport of Energy Supplies**
Access to Energy: Access for all consumers, the **Alleviation of Energy Poverty**:

# Uninterrupted availability of energy sources at an affordable price

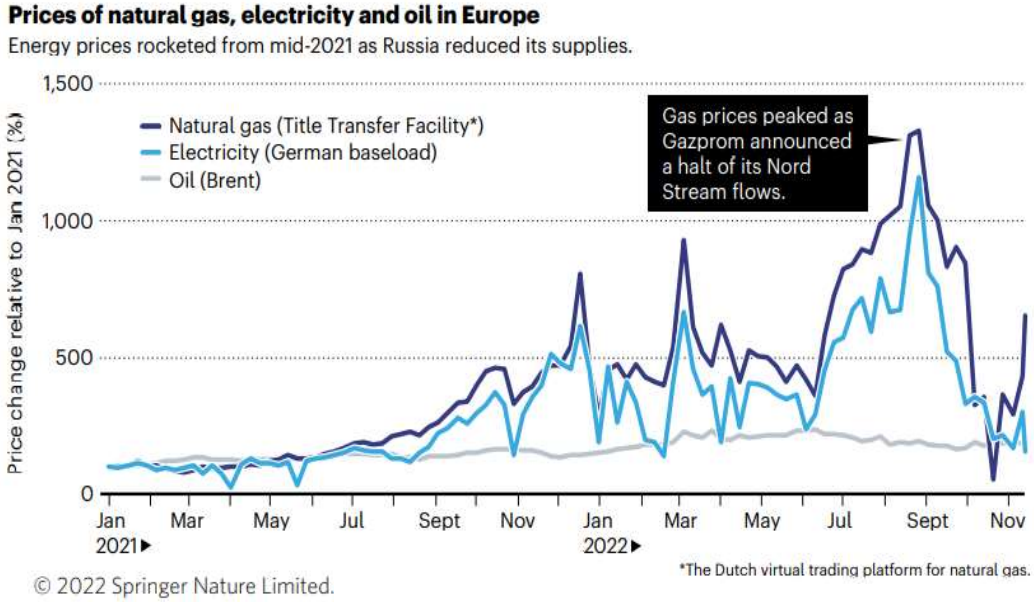
legally binding commitments

Global dialogue on energy, providing authoritative analysis, data, policy recommendations, and real-world solutions to help countries provide secure and sustainable energy for all.
Co-ordination of a collective response to major disruptions in the supply of oil (legally binding 90 day reserves)

Common rules for global energy security: investment protection, transit, energy efficiency, trade and dispute resolution (legally binding)

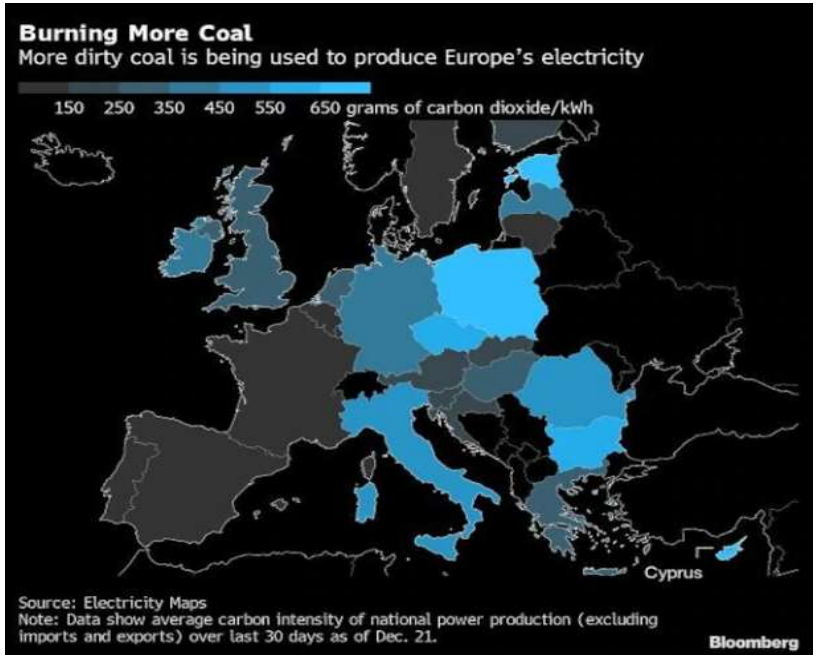
Coordinated petroleum policies for the stabilization of oil markets .. for steady income to producers and a fair return on capital for those investing in the petroleum industry. (legally binding production quotas)

# Impact of RU Invasion to UA




Price for Gas and Electricity soars

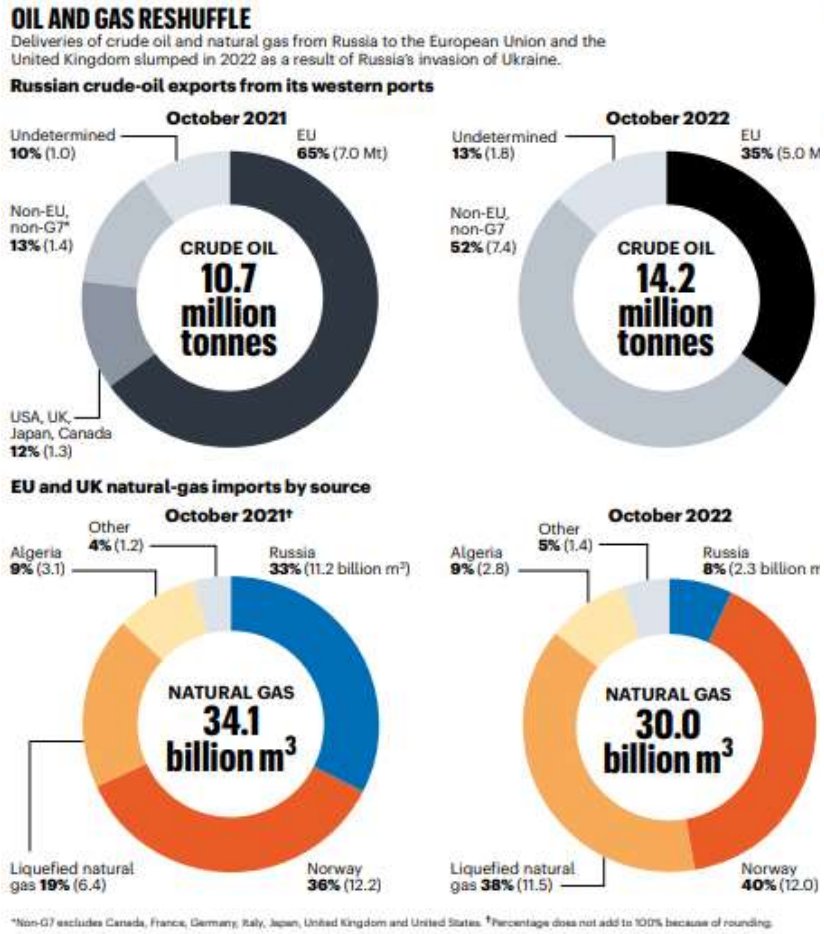
Coal is back (at least for the winter 2022/23)

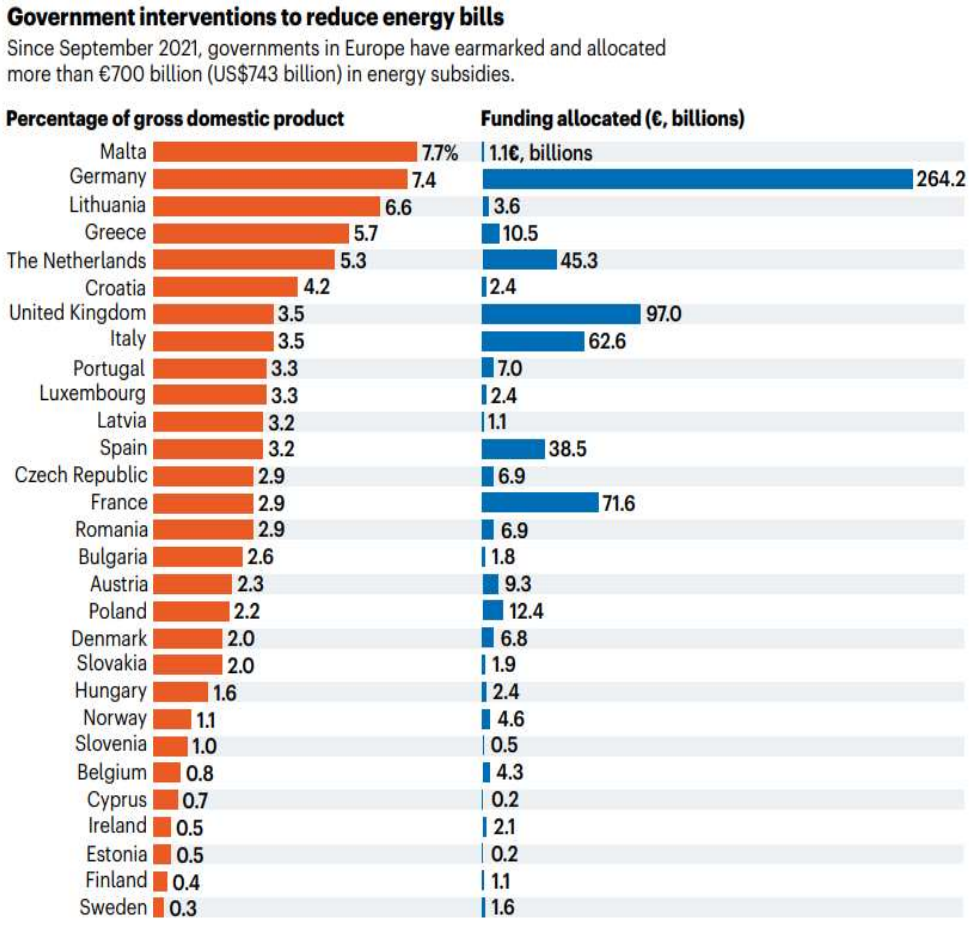


# Impact of RU Invasion to UA - Europe

Changing geography of energy flows in Europe

State interventions to reduce energy bills

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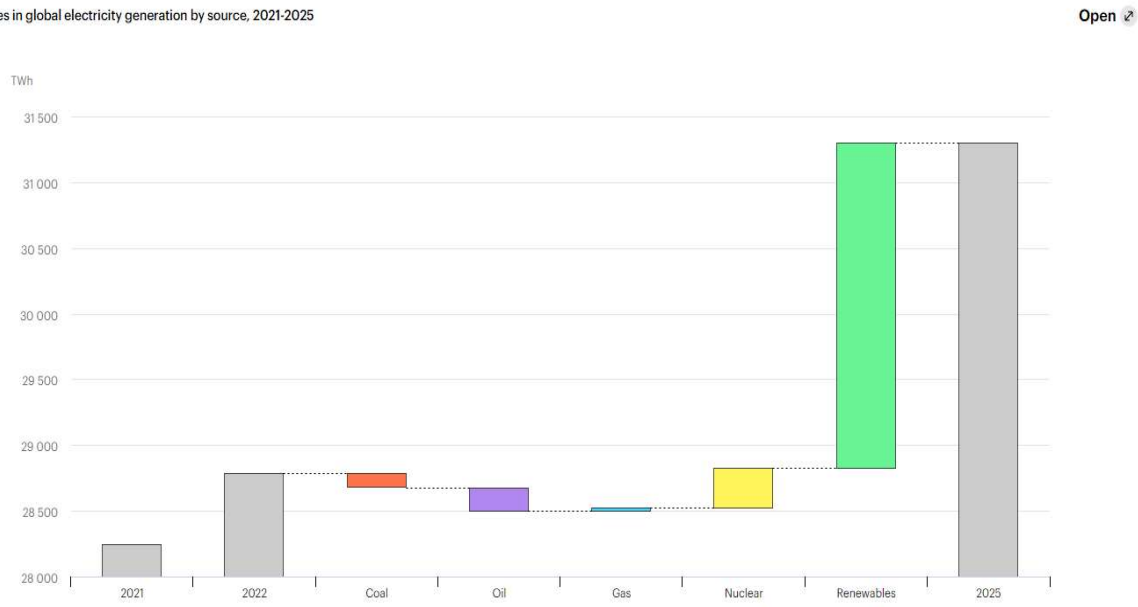
# Impact of RU Invasion to UA - World

- Rebalancing oil supply and demand / sanctions vs. new markets for Russia e.g. India, increase in China
- Redirecting LNG supplies / pricing out spot consumers in South Asia
- Uptake of coal production and consumption 2022/23
- Electricity demand

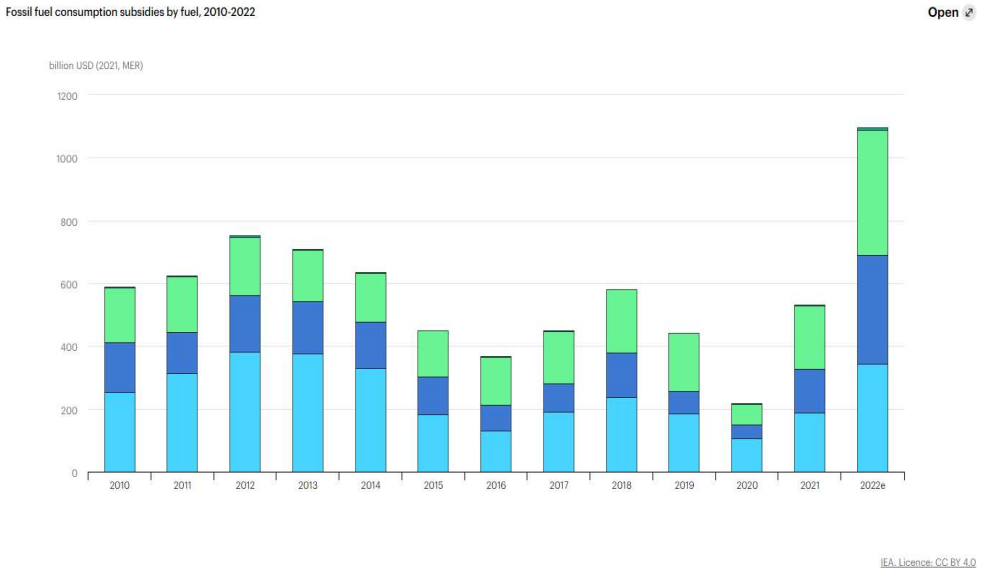
Remains resilient and low emission sources are predicted to cover most of the new demand by 2025




IEA. Licence: CC BY 4.0

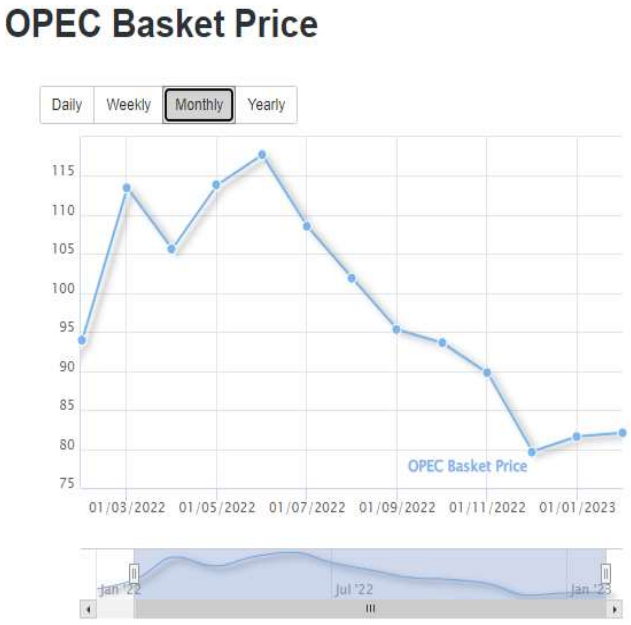
# Impact of RU Invasion to UA - World

## Global fossil fuels subsidies highest on records





Oil prices are reflecting fundamentals, but price differential reflects sanctions




| MONTHLY BASKET PRICE | |
|---|---|
| 01/02/2023 | $ 82.06 |
| 01/01/2023 | $ 81.62 |
| 01/12/2022 | $ 79.68 |
| 01/11/2022 | $ 89.73 |
| 01/10/2022 | $ 93.62 |
| 01/09/2022 | $ 95.32 |
| 01/08/2022 | $ 101.9 |
| 01/07/2022 | $ 108.55 |
| 01/06/2022 | $ 117.72 |
| 01/05/2022 | $ 113.87 |

Previous Next

# Long term Energy Security

- Investment – *Investment* - **Investment**
- Supply/Demand Balance
- Legal Framework
- Technological Evolution
- Climate Emergency
- Non-Proliferation and Nuclear

Organization of the Petroleum Exporting Countries

ISA

INTERNATIONAL ENERGY CHARTER

IRENA
International Renewable Energy Agency

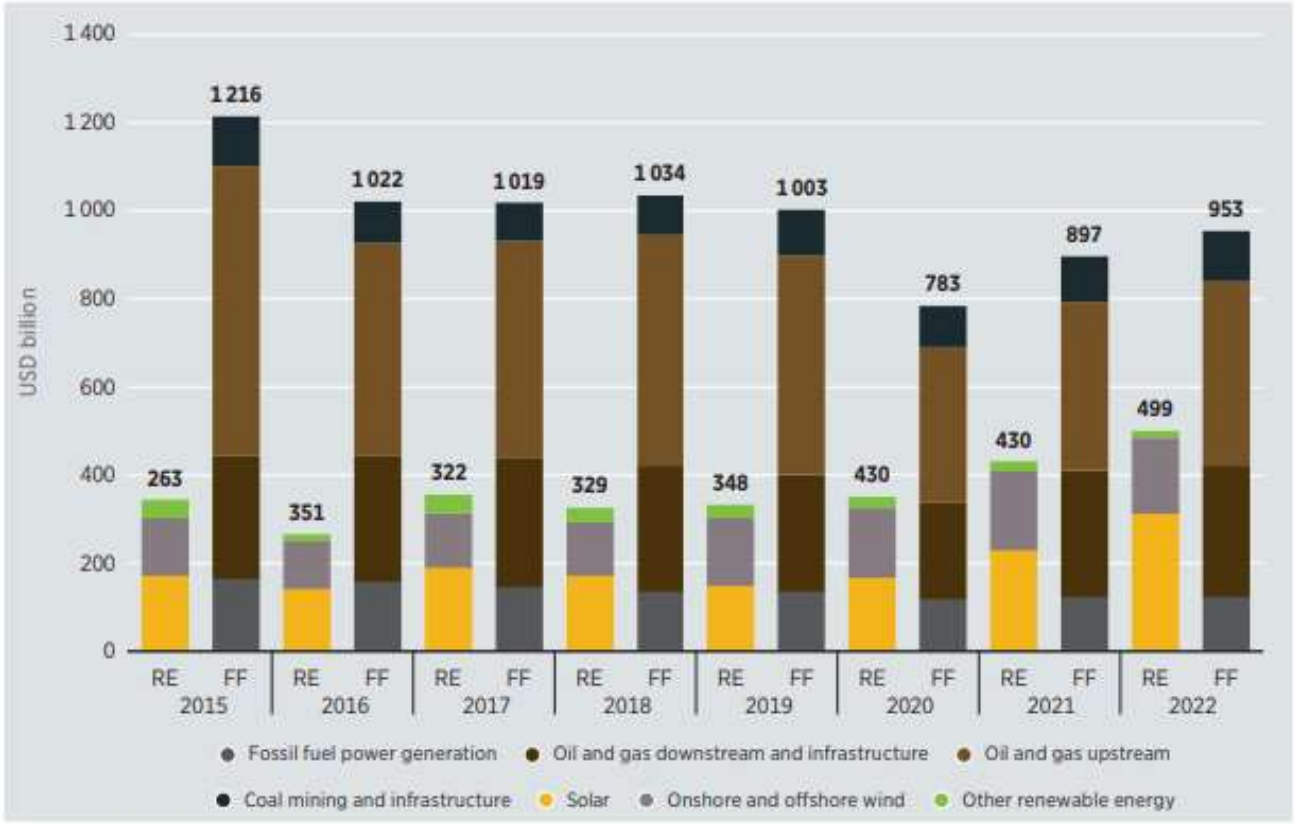
United Nations
Framework Convention on
Climate Change

IAEA
International Atomic Energy Agency

Beware of the Geopolitical shift

# Global annual energy investment

**Figure S.2** Annual investment in renewable energy vs. fossil fuels, 2015-2022



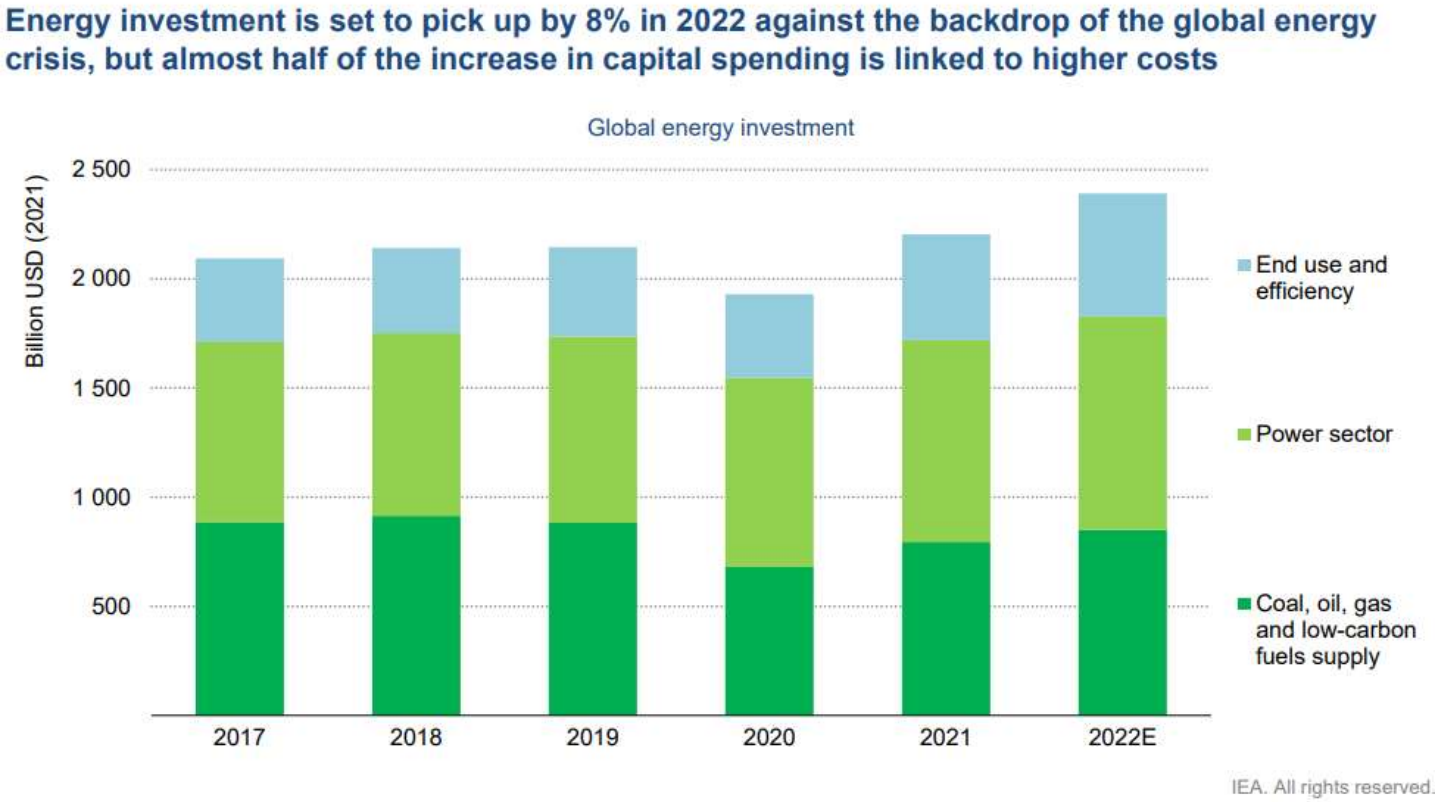

**Note:** FF = fossil fuel; RE = renewable energy.
**Based on:** CPI (2022a) and IEA (2022b).

Recent increase of RES investments started before the war

IRENA
International Renewable Energy Agency

IRENA, Annual in RES vs. FFS, 2015-2022, Abu Dhabi

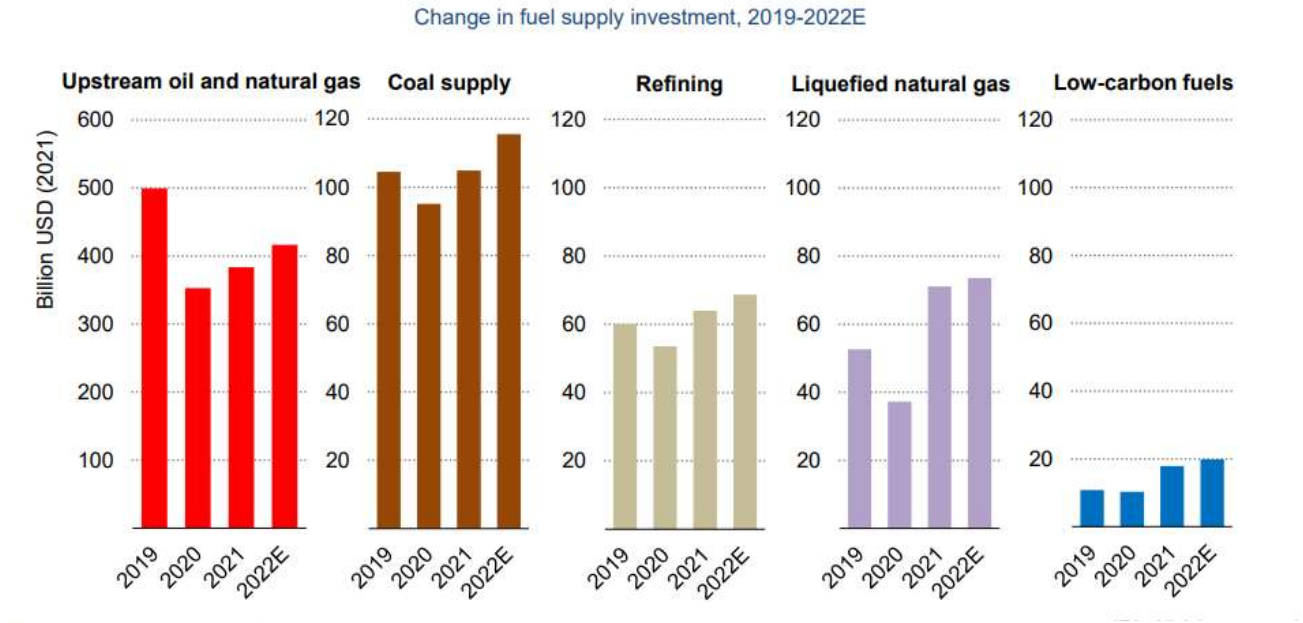
# Global annual energy investment

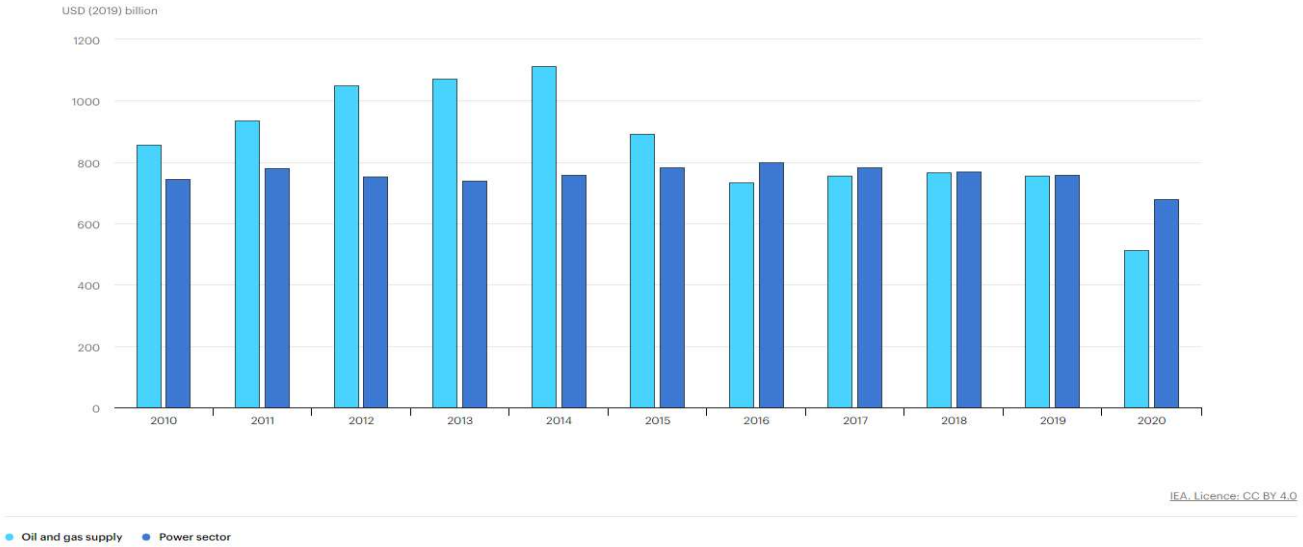



High prices, rising costs, economic uncertainty, energy security concerns and climate imperatives are reflected in current trend

IEA, World Energy Investment 2022, Paris

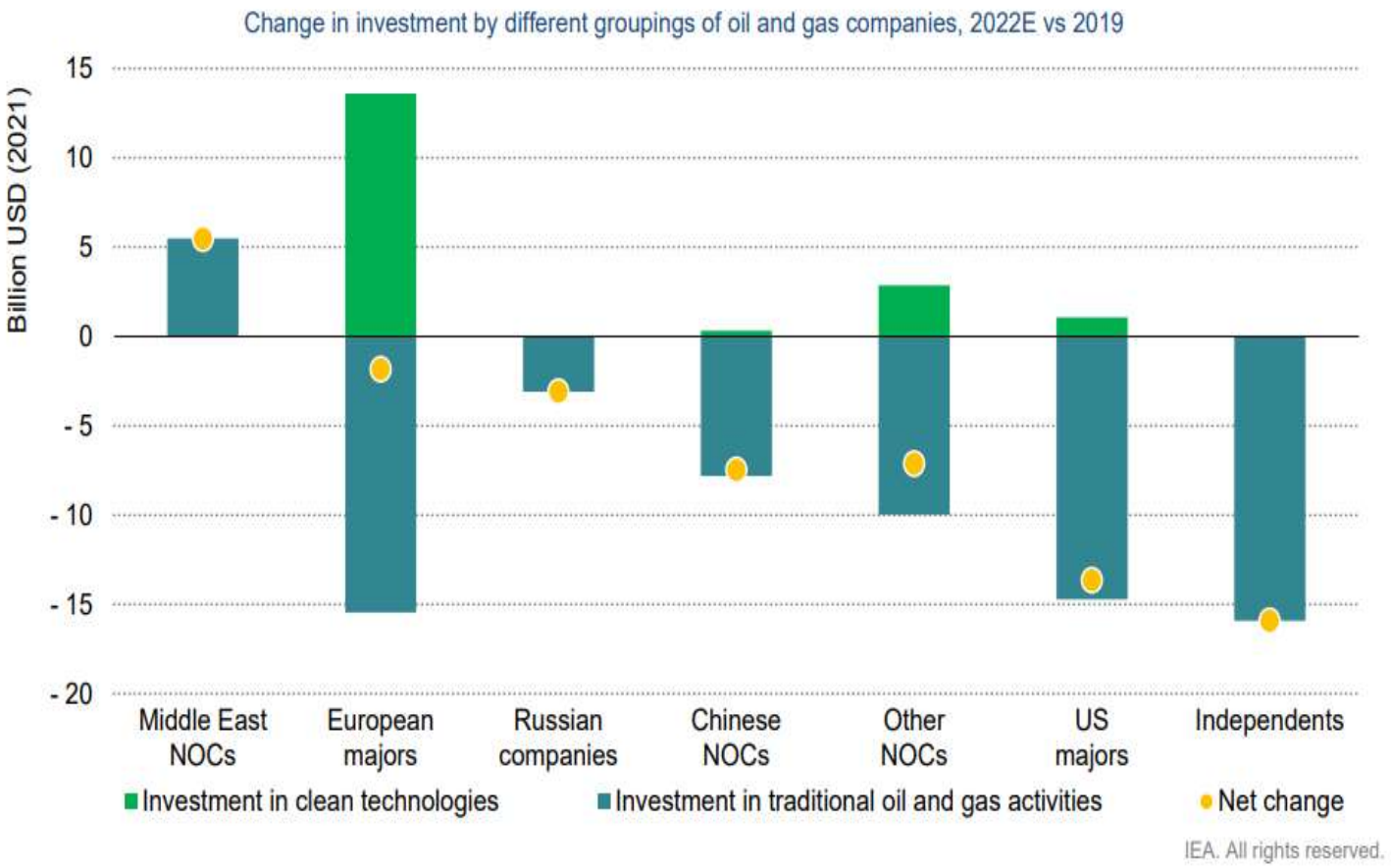
# Global annual energy investment




The energy crisis and Russia's invasion of Ukraine are spurring new investment in fuels, including an expansion of coal supply in emerging Asian economies, but there is historical underinvestment relative to the overall energy consumption

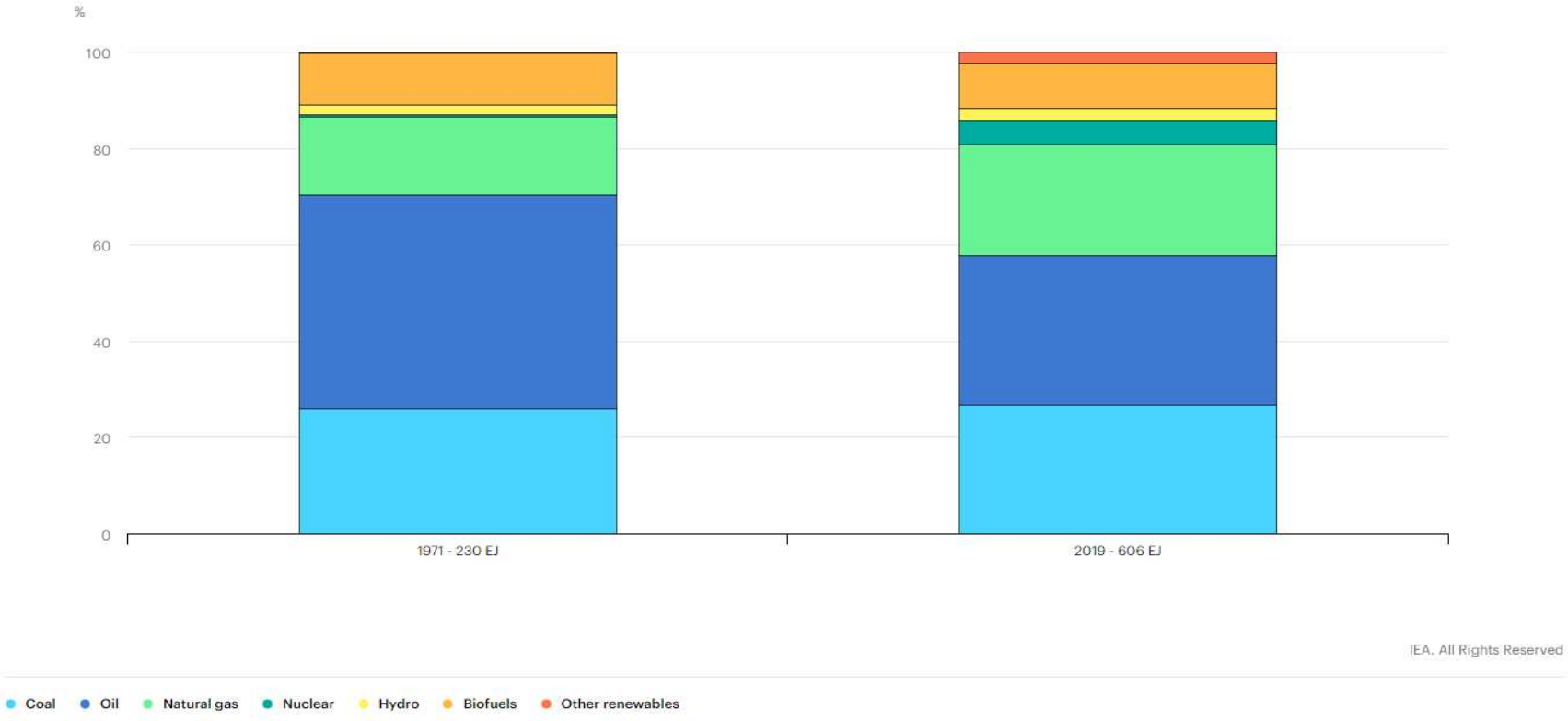
# Change in energy investment




Investment in fossil fuels is on a rising trend, but is still almost 30% below where it was when the Paris Agreement was signed. Only Middle East NOCs are investing more in Oil & Gas than 5 y ago

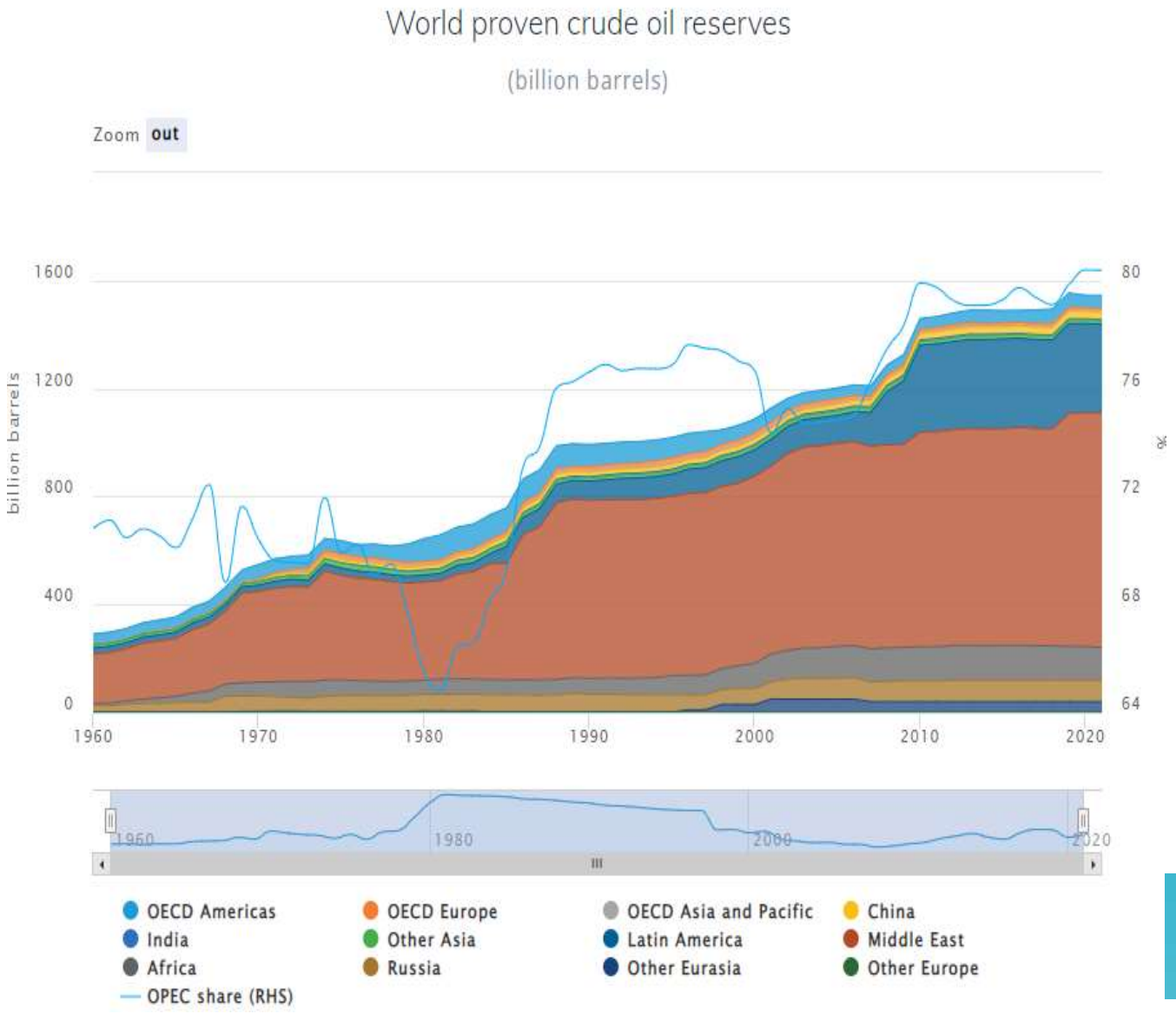
IEA, World Energy Investment 2022, Paris

# Total primary energy supply by fuel




IEA, Total primary energy supply by fuel, 1971-2019, IEA, Paris

# Energy Security / Security of Demand




Security of Energy demand dilemma: How much and when to invest to meet future demand for fuel?

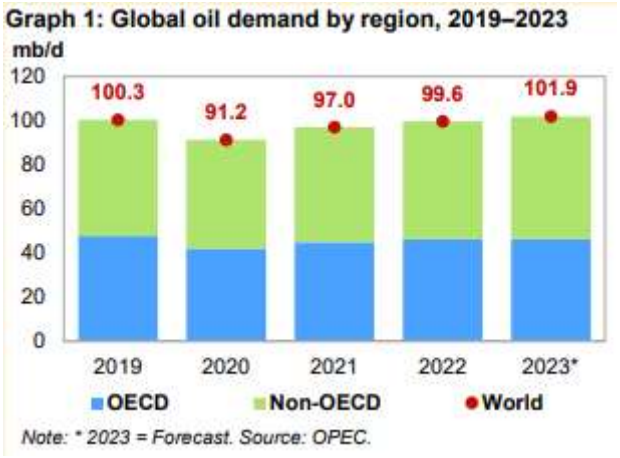
# Energy Security / Security of Demand

**OPEC predictions 2006**

OPEC **Oil demand outlook, mb/d**

| Reference | 2005 | 2010 | 2015 | 2020 | 2025 |
|---|---|---|---|---|---|
| OECD | 49.8 | 51.4 | 52.7 | 53.8 | 54.7 |
| DCs | 29.0 | 34.4 | 40.3 | 46.4 | 52.8 |
| Transition economies | 4.8 | 5.1 | 5.4 | 5.7 | 5.9 |
| Total World | 83.6 | 90.9 | 98.4 | 105.9 | 113.4 |

- World economic growth averages 3.5% p.a. over next two decades
- "Dynamics-as-usual": observed patterns, no new strong policy drives
- Oil demand increases by 30 mb/d by 2025, or 1.5 mb/d annually
- Four-fifths of the increase in demand comes from developing countries
- Transportation continues to be the dominant source of growth (~60 %)
- Many uncertainties: GDP, technology, policy




Predictions are based on the past experience, but investments are made for the future

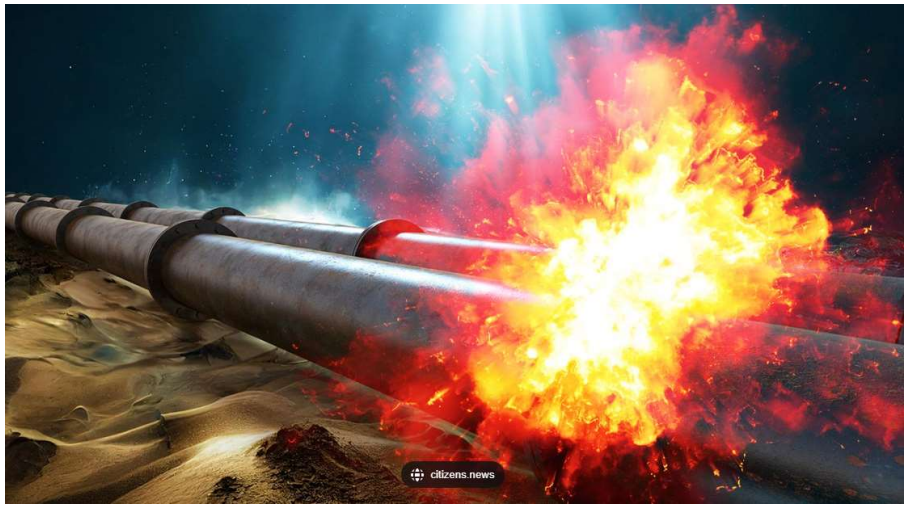
Global oil demand is set to rise by 1.9 mb/d in 2023, to a **record 101.7 mb/d**, with nearly half the gain from China following the lifting of its Covid restrictions. Jet fuel remains the largest source of growth, up 840 kb/d.
OECD oil demand slumped by 900 kb/d in 4Q22 as weak industrial activity and weather effects lowered use, while non-OECD demand was 500 kb/d higher.

Oil Market Report IEA, 2023,

ISA

# Energy Security / Security of Transit

- Transit by pipelines / NordStream sabotage 2022





- Transit by sea / Piracy

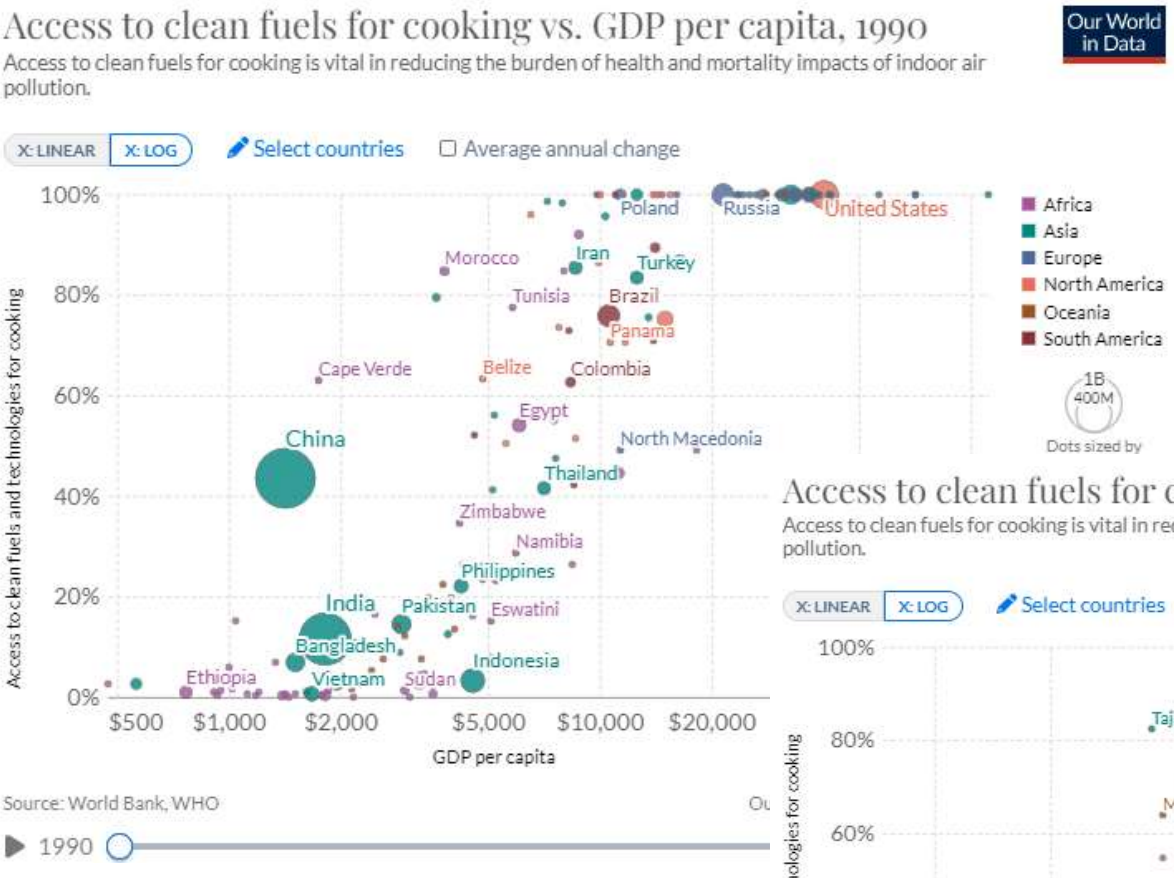
Gulf of Aden

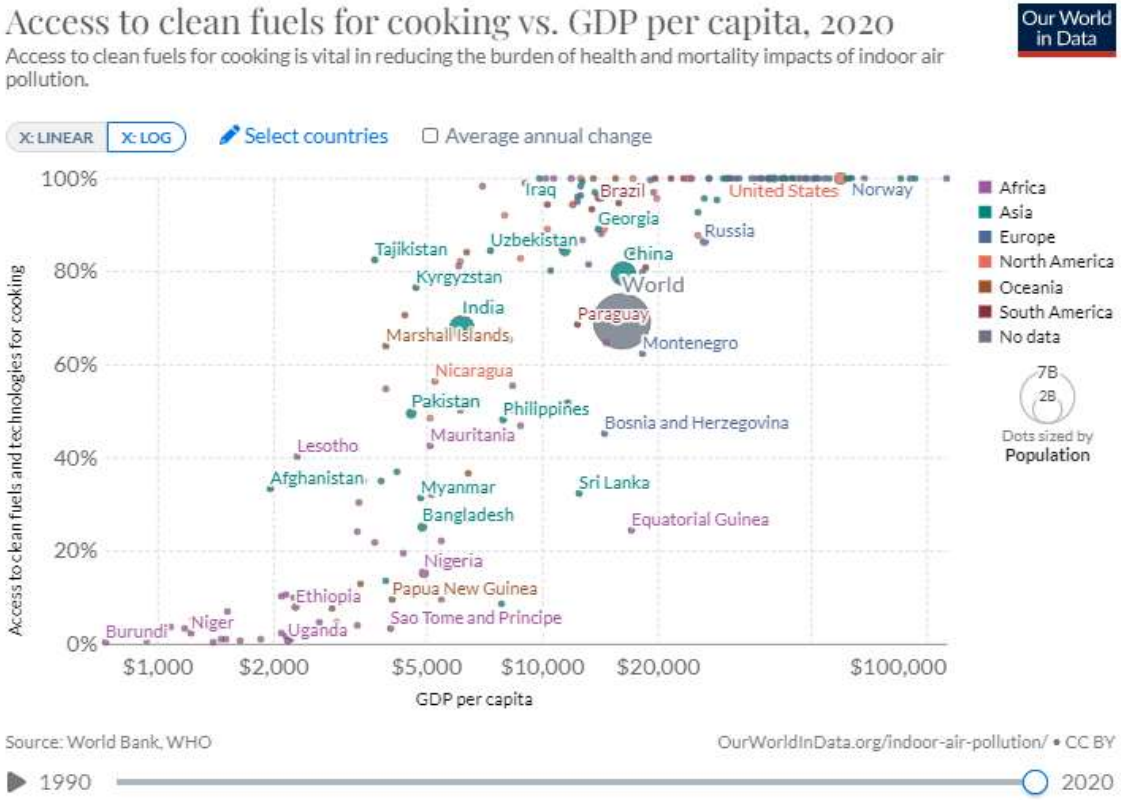
West Africa

Malacca Straights

(ransom, oil theft)  decline since 2014

# Energy Security / Energy Poverty



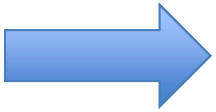

Energy poverty manifestation – no access to clean cooking fuels and technologies

# Geopolitical vulnerabilities

- **Interdependencies between producers and consumers – mutual benefit, stability and predictability**

  **NOT ANY MORE**

- Ideological division/conflict

interdependencies  vulnerabilities

- Diversification, Resilience , Fuel substitition

Elusive peace dividend ….

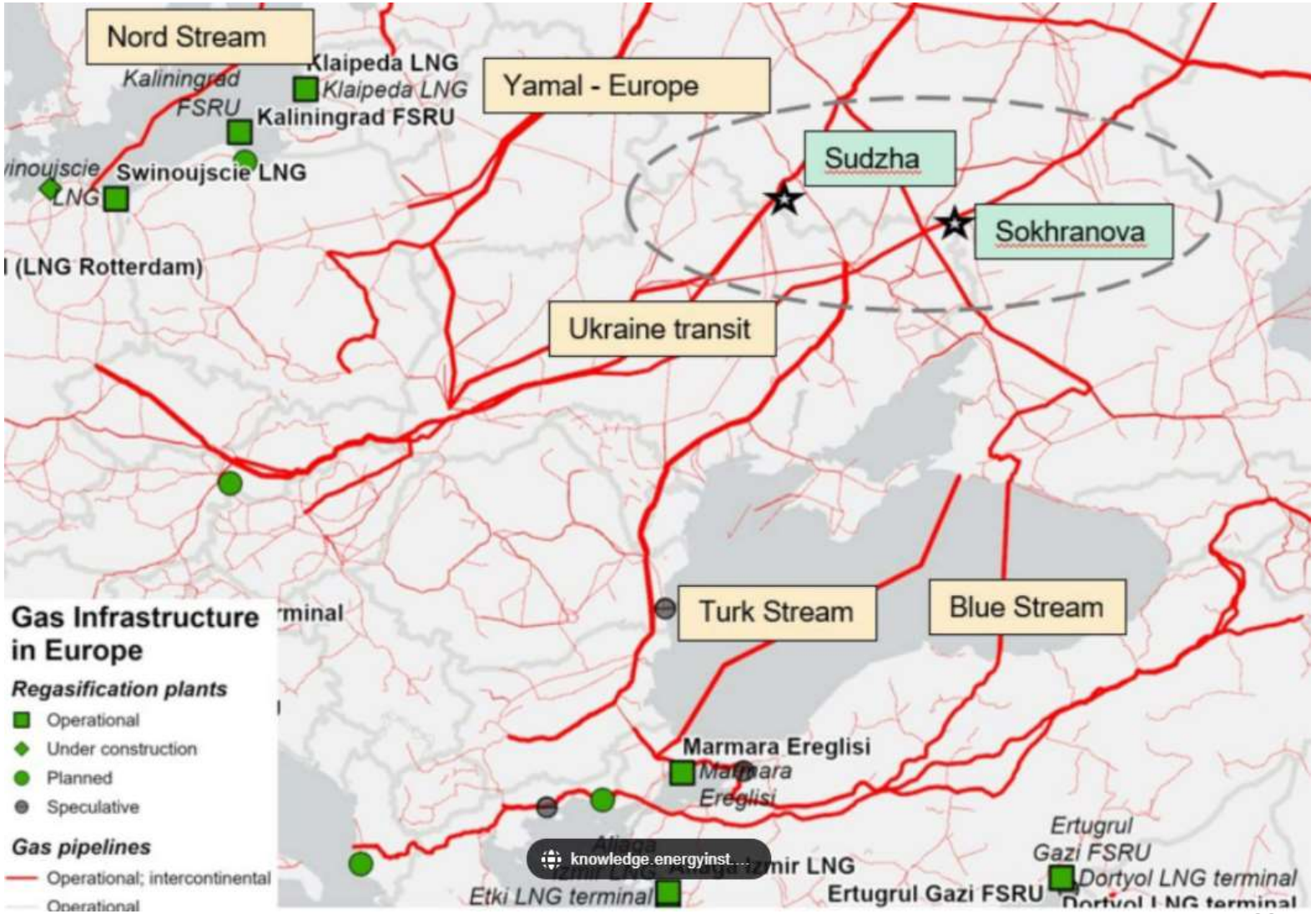
OPEC-USA (West) OECD 1973-74

Russia-Ukraine (West/OECD) 2022-?

Russia-China ?

# Gas supply routes to Europe

## from Eurasia, 2022




Source: Rystad Energy

# Russian agression to Ukraine

## Gas supplies interruption

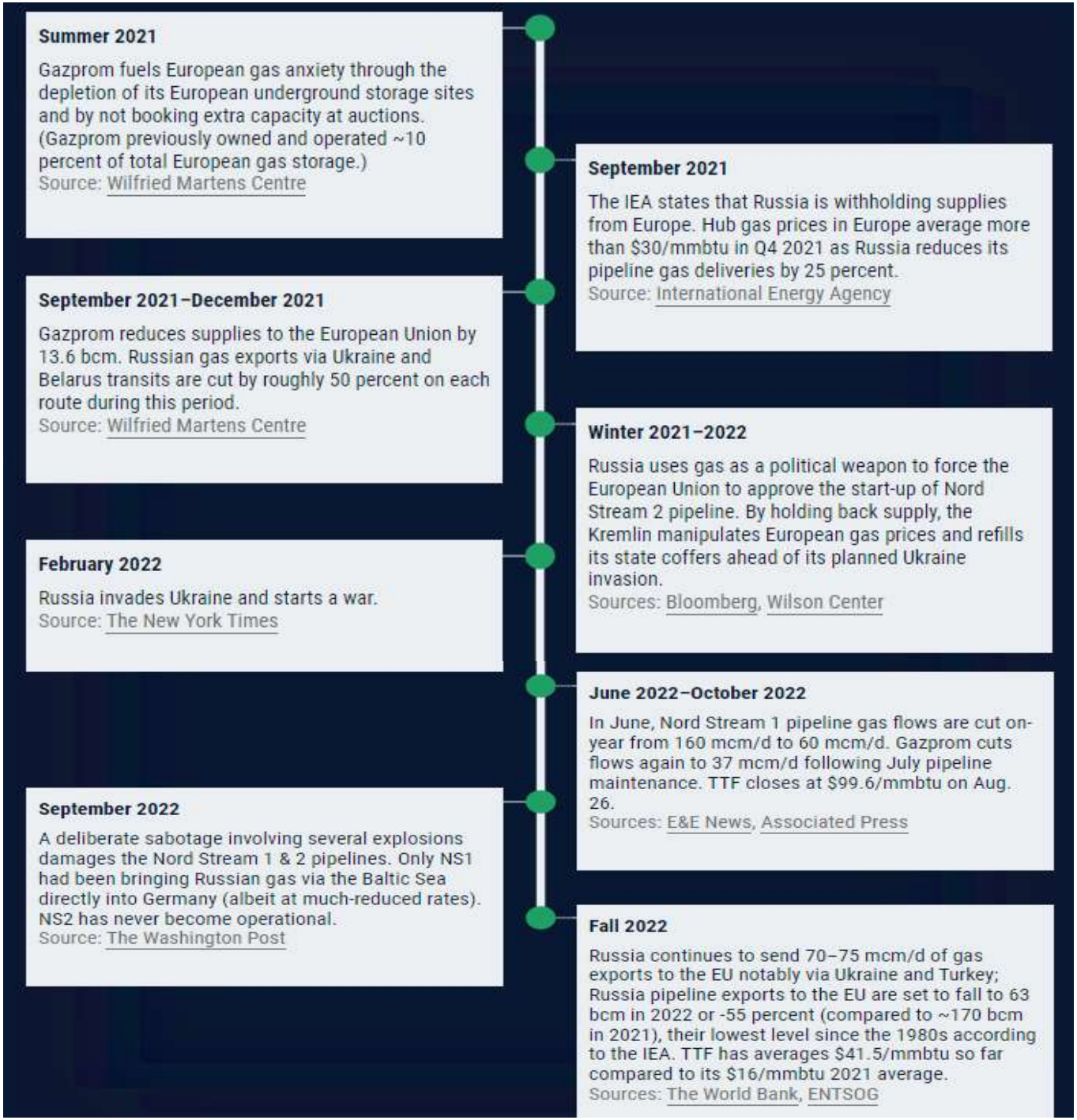
**2006**, 1-4 January - Russia interrupted gas flow to UA due to gas price and debt dispute

**2009**, 7 January - Russia interrupted gas flow to EU / RU-UA Gas price dispute. EU COM – "commercial conflict", in reality geopolitics. Supplies and transit renewed on 20.1.2009. In **2010** Charkiv agreement (2017-2042 RU Black Sea fleet lease for gas price reduction – terminated by RU on 31 March 2014)

**2014**, 14 March - Russia annexing Crimea, armed conflict in Donbas. Energy Charter EWM – three meetings of contacts group / no supply interruption, no attacks on energy infrastructure

**2022**, 23 February - Russia invading Ukraine, full armed scale conflict – no supply interruption, but: EU/US sanctions, changes in contracts (RUB), heavy attacks on energy infrastructure, cash flows from RU to UA for gas and oil transit, from EU to RU for commodities, from UA to EU for gas and fuel

# Weaponisation of Gas Supplies by Russia 2021/2022



# How to reduce EU reliance on Russian Gas (March 2022)

- **1. No new gas supply contracts with Russia**
- **2. Replace Russian supplies with gas from alternative sources**
- **3. Introduce minimum gas storage obligations to enhance market resilience**
- **4. Accelerate the deployment of new wind and solar projects**
- **5. Maximise generation from existing dispatchable low-emissions sources: bioenergy and nuclear**
- **6. Enact short-term measures to shelter vulnerable electricity consumers from high prices**
- **7. Speed up the replacement of gas boilers with heat pumps**
- **8. Accelerate energy efficiency improvements in buildings and industry**
- **9. Encourage a temporary thermostat adjustment by consumers**
- **10. Step up efforts to diversify and decarbonise sources of power system flexibility**

# Energy Security and the war in Ukraine 1/3

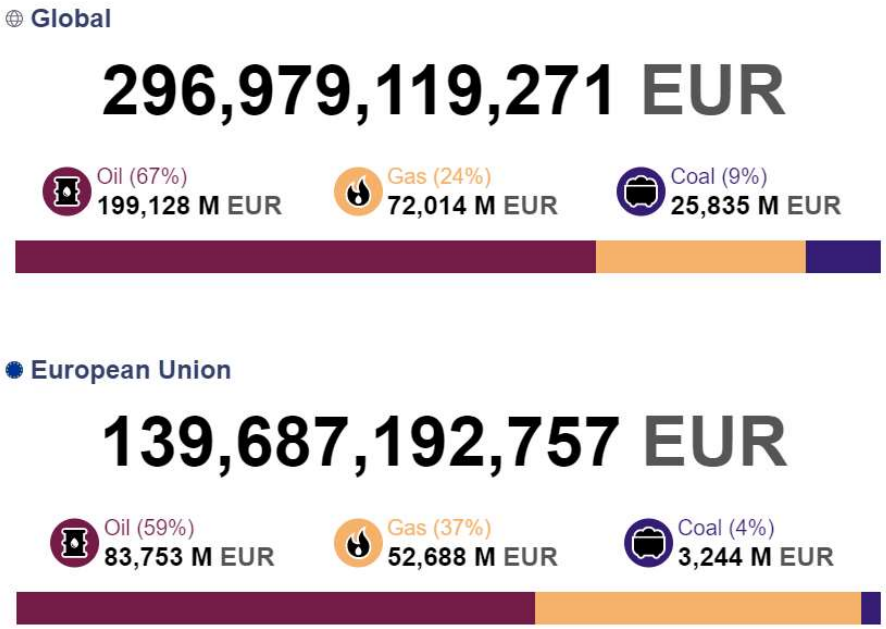




**Figure 1** | Heatmap of Russian fossil fuel shipments in the first six months of the invasion

Russia exported fossil fuels for over USD 300 bln. since the invasion in Ukraine started (27 Feb 2023)

CREA
Centre for Research on Energy and Clean Air

# Energy Security and the war in Ukraine 2/3

- Safety of Nuclear sites

Feb-Mar 2022

Former Chernobyl NPP area

Aug-Sep 2022

Zaporizhzhia NPP

(6x1100 MW) – shut down

# Energy Security and the war in Ukraine 3/3

Critical energy infrastructure – is it legitimate military target or state terror?

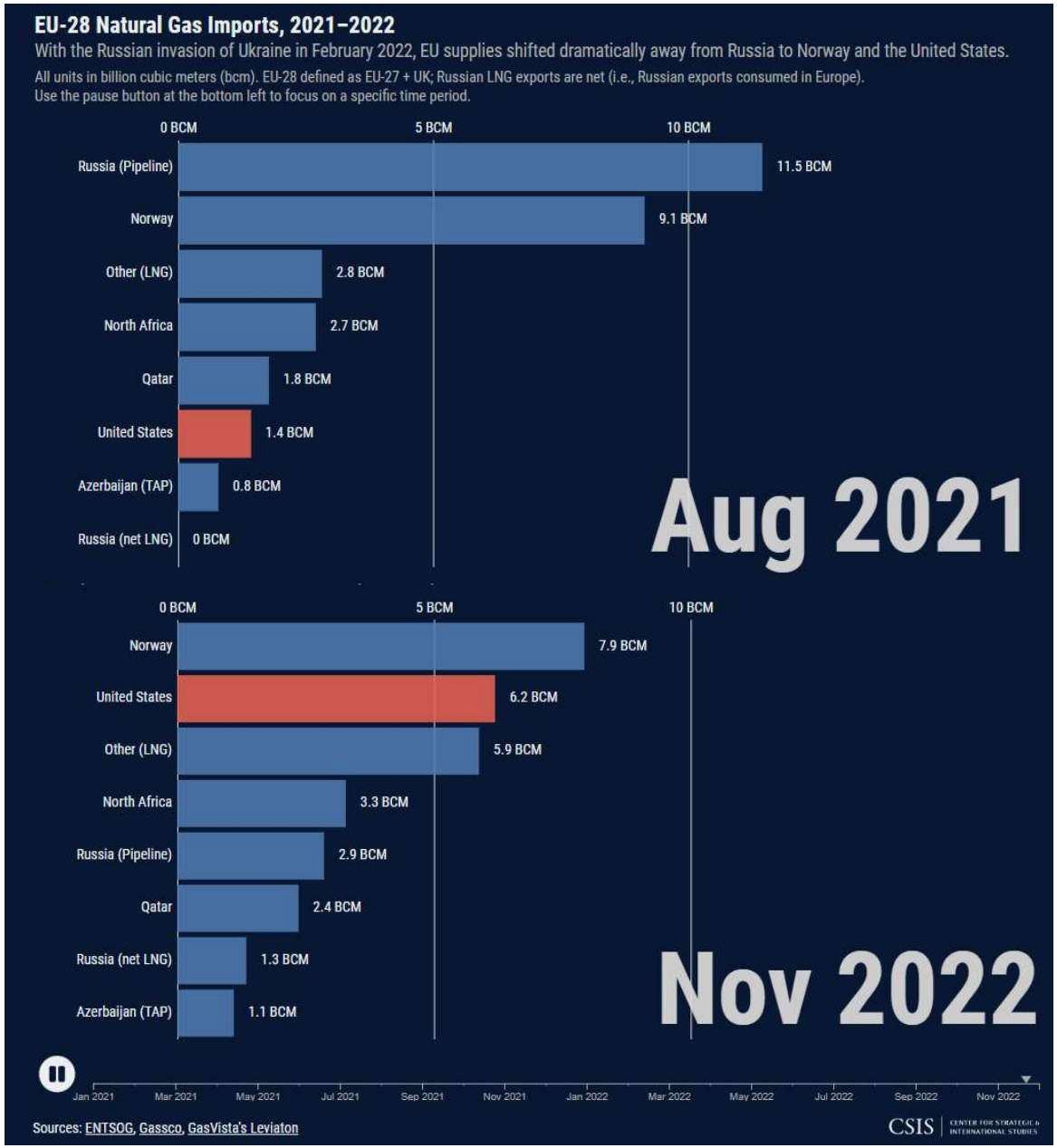
Crude Oil/ Refineries /Fuel

Natural Gas / Gas Pipelines

Electricity Generation and Grid

- Price manipulation and sanctions
- Energy Transformation to local sources

# EU-US LNG Energy Security Arrangement





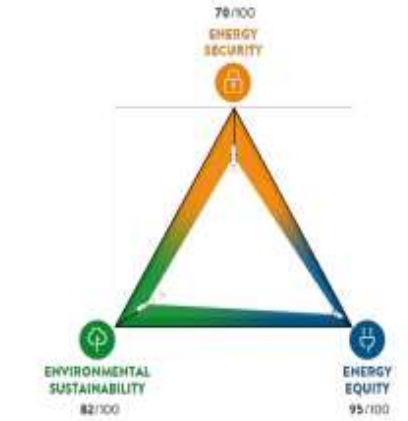
Suppliers, volumes and gas prices in EU 2021-22

# Energy Security Trilemma

WORLD ENERGY COUNCIL

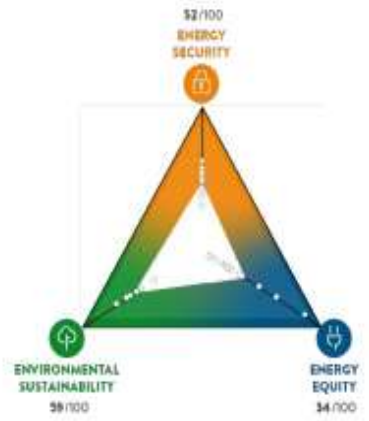
## 2022 TOP PERFORMERS AND IMPROVERS

### TOP 10 RANK OVERALL PERFORMERS




| Rank | | Grade | Score |
|---|---|---|---|
| 1 | Sweden | AAAa | 84.3 |
| 2 | Switzerland | AAAa | 83.4 |
| 2 | Denmark | AAAa | 83.3 |
| 3 | Finland | AAAa | 82.7 |
| 4 | United Kingdom | AAAa | 82.4 |
| 4 | Canada | AAAa | 82.3 |
| 5 | Austria | AAAa | 82.2 |
| 6 | France | AAAa | 81.1 |
| 6 | Norway | BAAa | 81.0 |
| 7 | Germany | AAAa | 80.6 |
| 8 | New Zealand | AAAa | 80.3 |
| 9 | Slovenia | ABAa | 78.8 |
| 9 | Estonia | ABAa | 78.7 |
| 10 | United States | AACa | 78.5 |

### TOP 10 COUNTRIES OVERALL IMPROVERS




| Rank | | Grade | Score | Improvement since 2000 |
|---|---|---|---|---|
| 72 | Cambodia | CDDd | 47.5 | 42% |
| 68 | Kenya | BDBc | 51.5 | 30% |
| 77 | Ethiopia | DDCd | 42.6 | 24% |
| 63 | India | BDDC | 53.6 | 23% |
| 66 | Mongolia | DCDc | 52 | 22% |
| 78 | Bangladesh | DDDd | 42.1 | 19% |
| 84 | Nepal | DDDd | 39 | 19% |
| 23 | Malta | DAAa | 73.4 | 16% |
| 21 | Lithuania | BBAa | 74.5 | 16% |
| 40 | China | ABCb | 65.3 | 15% |

### World Energy Trilemma Index

**Energy Security**

- Reflects a nation's capacity to meet current and future energy demand reliably, withstand and bounce back swiftly from system shocks with minimal disruption to supplies.

**Energy Equity**

- Assesses a country's ability to provide universal access to affordable, fairly priced and abundant energy for domestic and commercial use.

**Environmental Sustainability**

- Represents the transition of a country's energy system towards mitigating and avoiding potential environmental harm and climate change impacts.

Source: World Energy Council

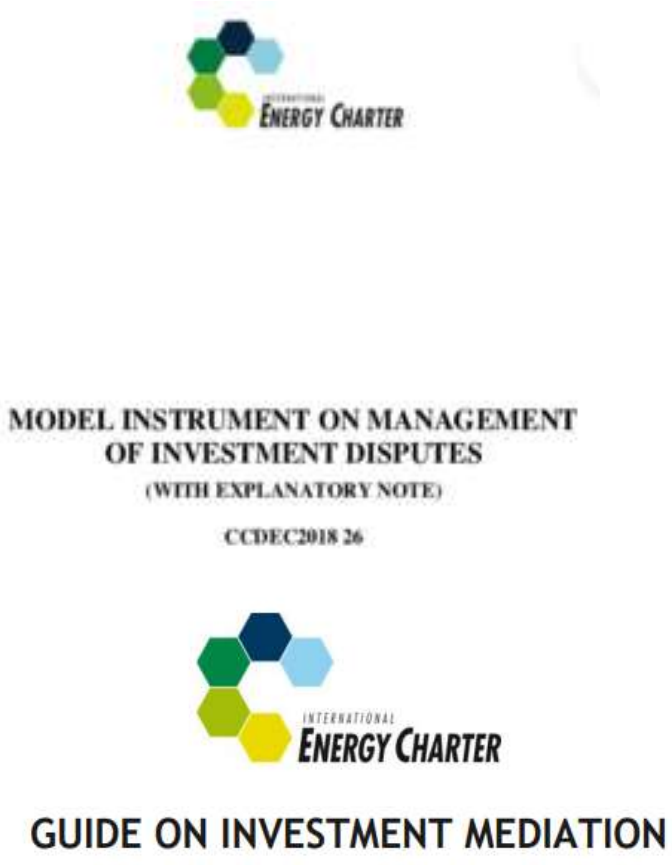
# Early Warning of Energy Conflicts

**EU-Russia Early Warning Mechanism (2009)**
To shield EU consumers from future potential RF-UA gas disputes
(EC+RF - UA not invited !!!)

**Energy Charter Treaty Early Warning Mechanism (2014)**
To prevent energy supplies disruptions
Open for all ECT Members and Observers

In 2014 three meetings of the Energy Security Contact Group convened by ECT Secretary General / no gas flow interruption

# Energy Related Disputes Management




**Energy Charter Treaty** provides for dispute resolution of Investment disputes (art. 26, 27), certain Environmental disputes (art. 19), Transit disputes (art. 7), Competition disputes (art. 6) and Trade disputes (for non members of the WTO (Art. 5).

**WTO** provides dispute resolution mechanism for its members

**U.S.-Mexico-Canada Agreement 2020 (USMCA – replaced NAFTA), BITs, EU Agreements** (Canada, Singapore, Japan,…)

# ??? Questions for Participants ???

What covers Energy Security?

What are the impacts of Russian Invasion on EU Energy Security?

What are the impacts of Russian Invasion on Global energy Trends?

What are the available dispute resolution mechanisms in energy cooperation?

# Key Takeaways

- Achieving Energy Security is in vital interest of any state entity. However its content may differ broadly
- Energy interdependency doesn’t bring peace dividend on its own merit
- Only handful of countries can provide full energy security / autarchy based on its own resources
- Energy investment and variability of resources and transit routes strengthen resilience and energy security
- Energy Security is not free of charge
- Reaction to crises is shaping the future
- In the short term states prioritise energy security measures over climate security

# People in Energy Transition Diplomacy

B.N.Zanganeh, Iran, F.Kishida, Japan. Energy Charter Conference 2016, Tokyo

# The End

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LESSON 6 – ENERGY SECURITY AND DIPLOMACY

NEXT

LESSON 7 – CLIMATE DIPLOMACY