Presentazione del

MED & Italian Energy Report 2023

Geopolitica dell'Energia nel Mediterraneo tra crisi internazionali e nuove commodity energetiche

CONFERENZA STAMPA | 6 dicembre 2023

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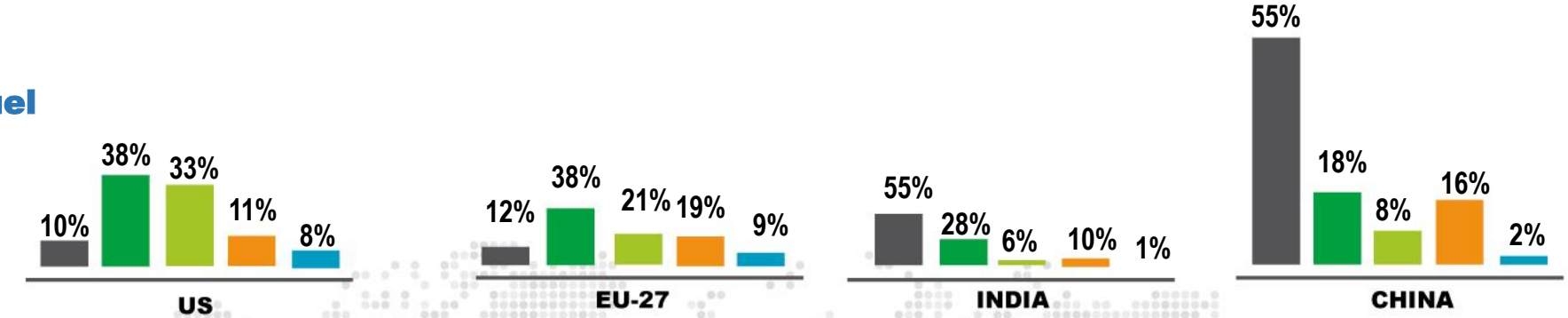
Energy consumption to GDP: an international comparison

Primary energy consumption by fuel (2022, Exajoule)



COAL

OIL

NATURAL GAS

RENEWABLES

NUCLEAR

Source: SRM on British Petroleum Data, 2023

Total Final Consumption (2022, Exajoules)

Top 3 energy areas	US	EU27	CHINA
	95.9	58.2	159.4
GDP	$25.5 Trillion	$16.7 Trillion	$17.9 Trillion

Source: SRM IMF – WEO Database, 2023

Europe has **the best energy consumption-to-GDP ratio**, consuming far less energy than China and also a little less – in proportion with GDP – than the US. **Europe still is on the road of sustainability also from the point of view of energy saving and efficiency.**

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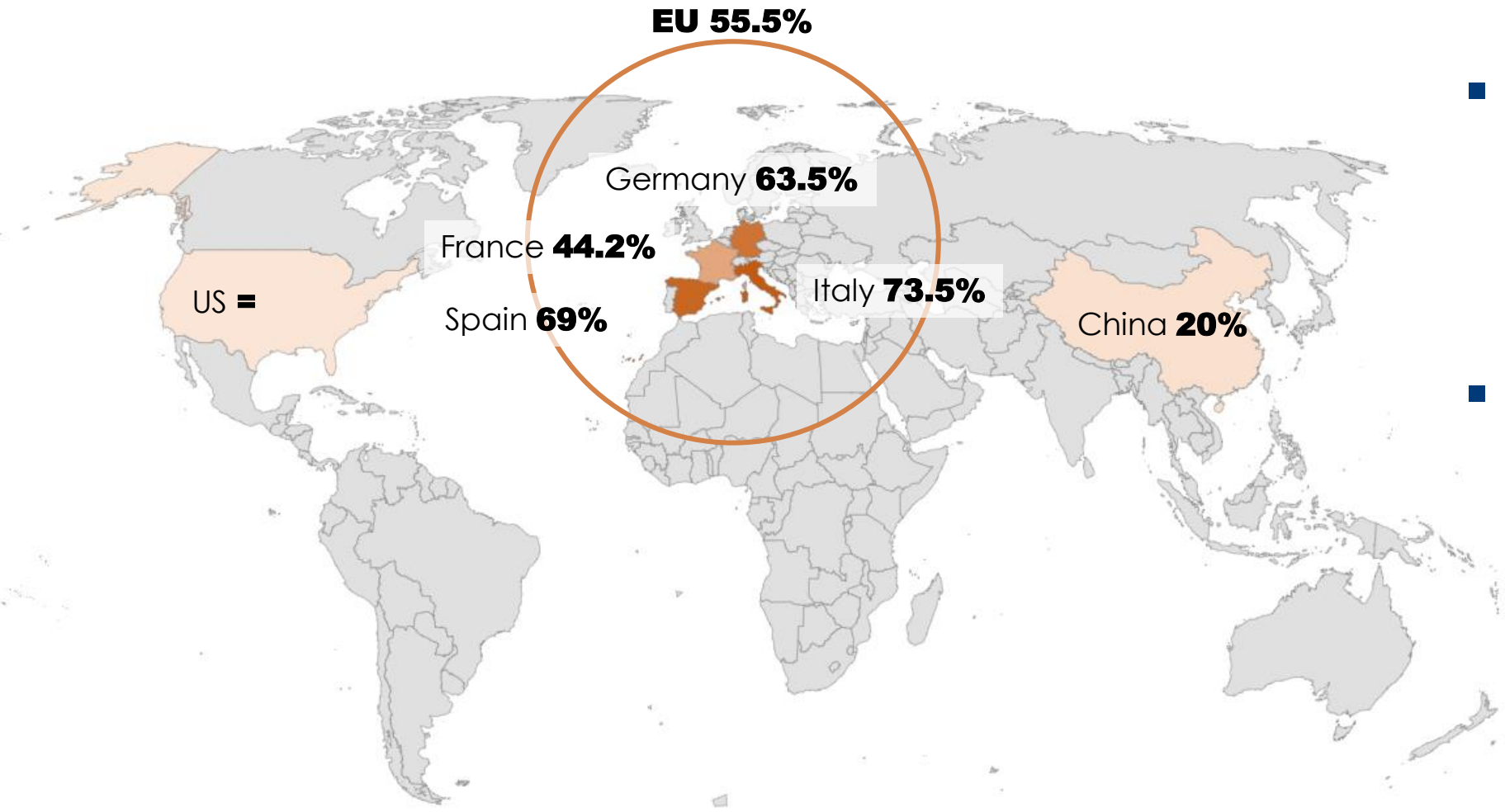
Energy dependency in the EU, US and China

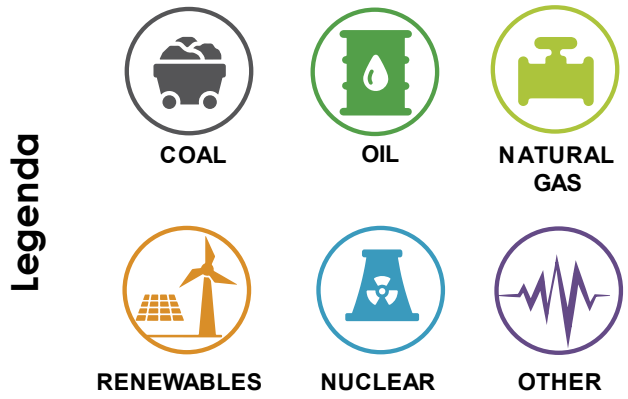


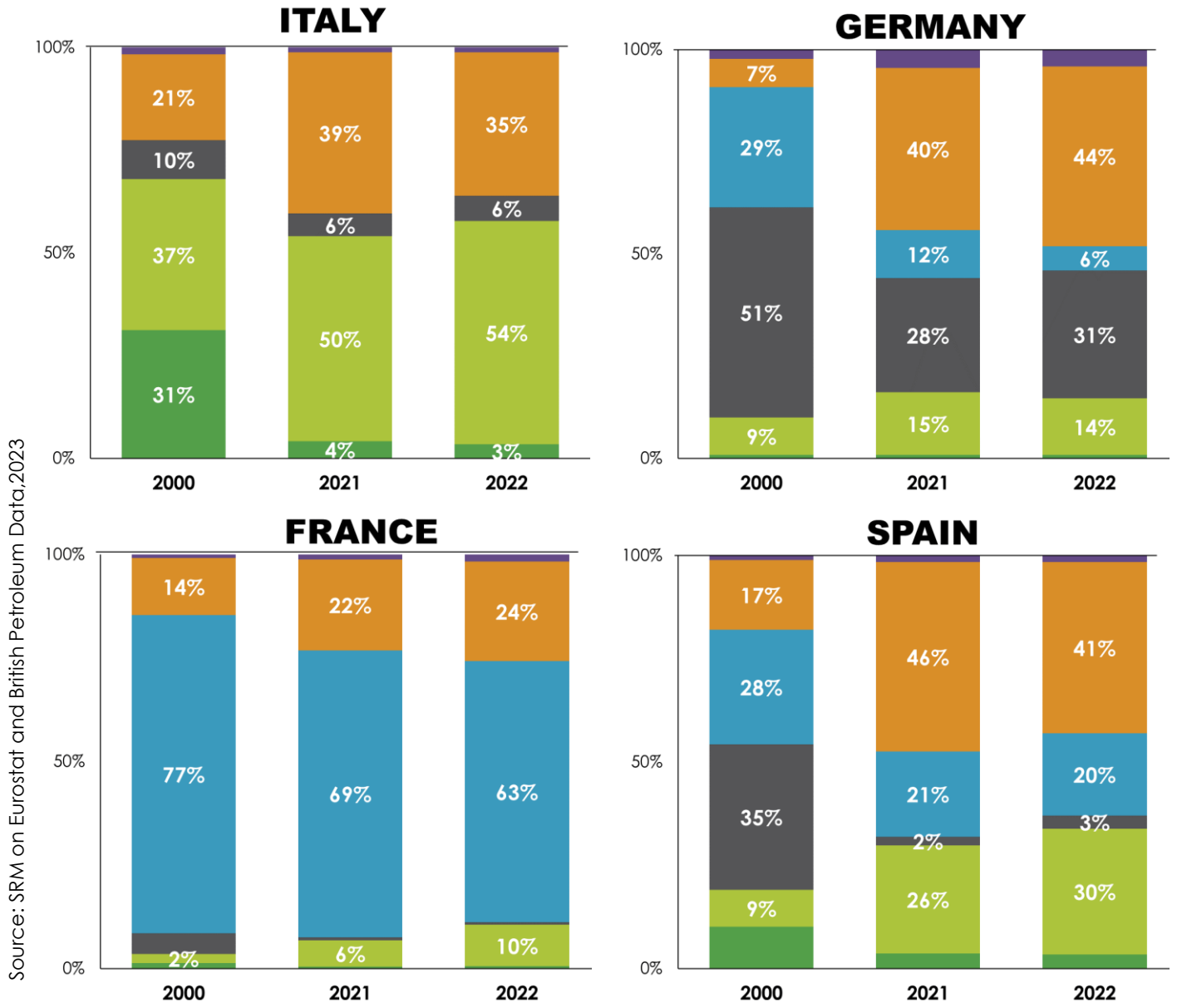
- Dependency from foreign countries energy imports is also high in nations such as France, where nuclear power is used.
- Among the major European countries, Italy shows the highest level of energy dependency: 73.5%.

Source: SRM on EUROSTAT and IEA Data, 2023

Electricity generation mix: Italy vs main partners

- **Italy:** significant use of gas and renewables. Nuclear not used.
- **Spain:** the most balanced mix.
- **Germany:** still significant use of coal and highest renewables.
- **France:** significant use of nuclear; low contribution of gas and Renewables less developed than other countries.



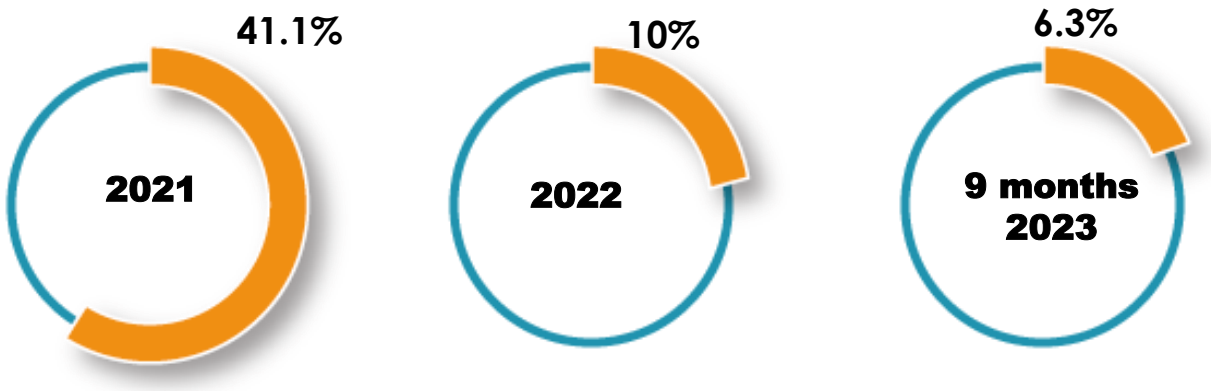


Source: SRM on Eurostat and British Petroleum Data,2023

The impact of the war in Ukraine on supply security for EU and Italy

Russia's presence in Eu gas imports

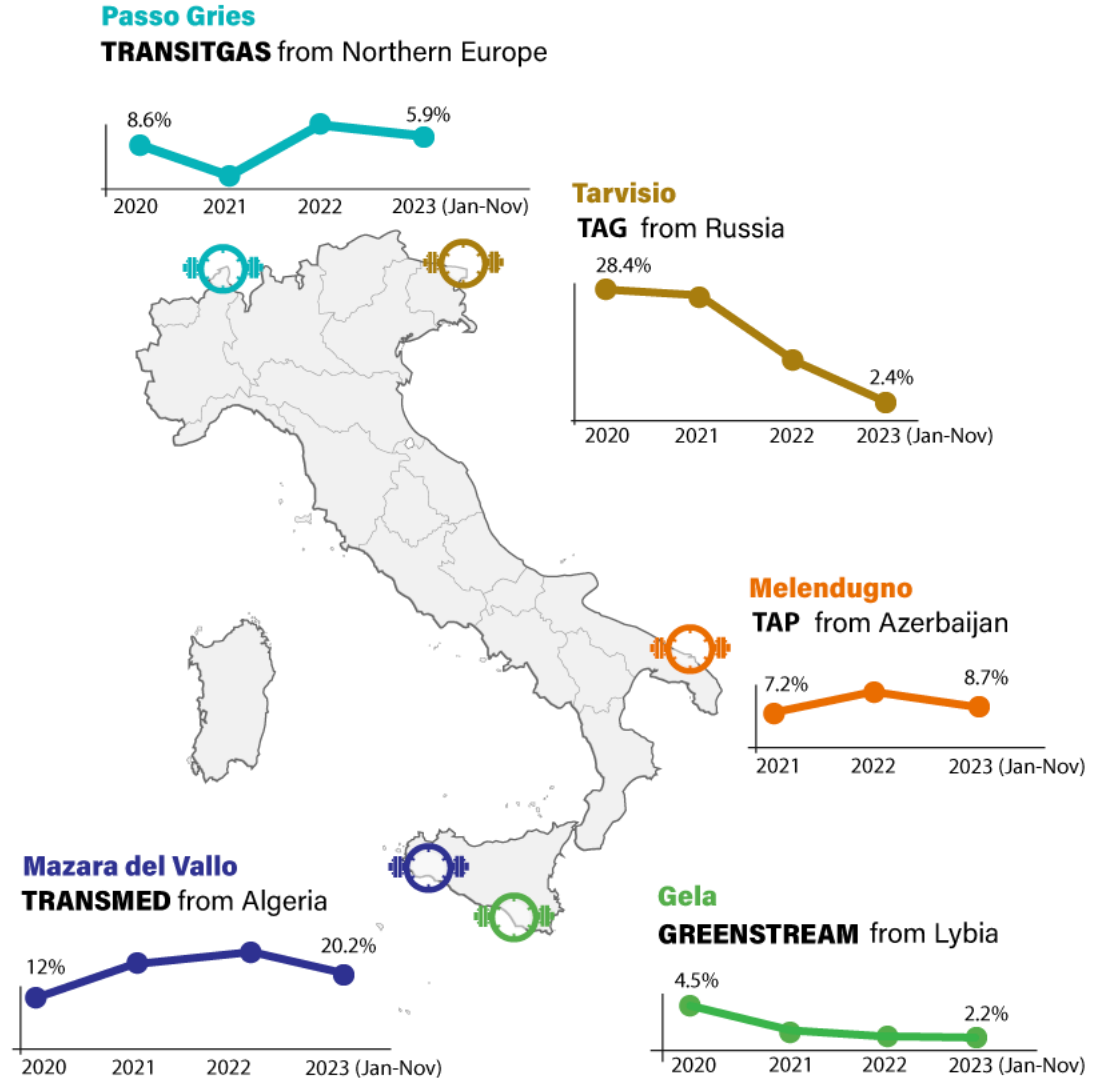
IMPORT of Natural Gas FROM RUSSIA



- **Russia's presence in Eu's energy mix was revised down as a result of the war**. **Russian gas** before the beginning of the war (**in 2021**) was **more than 41%** of the total gas import of the European Union.
- **In the first 9 months of 2023**, the import of Russian gas was around **6.3%** of the total for the EU.

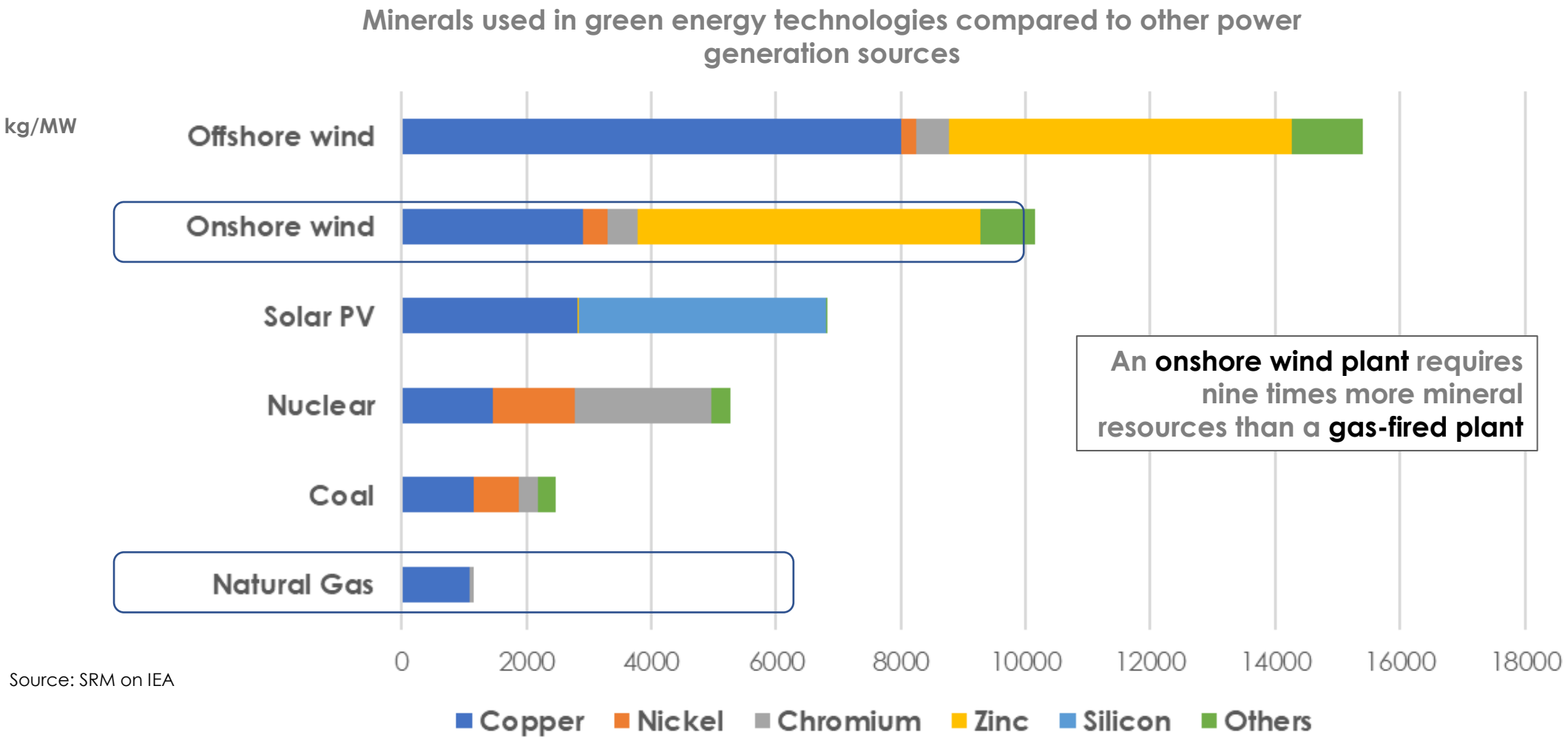
Source: SRM on EUROSTAT

Algeria replaced Russia as the main gas supplier to Italy



Source: SRM on Mite, SNAM

The shift to a green energy system is set to drive a huge increase in the demand for critical raw materials



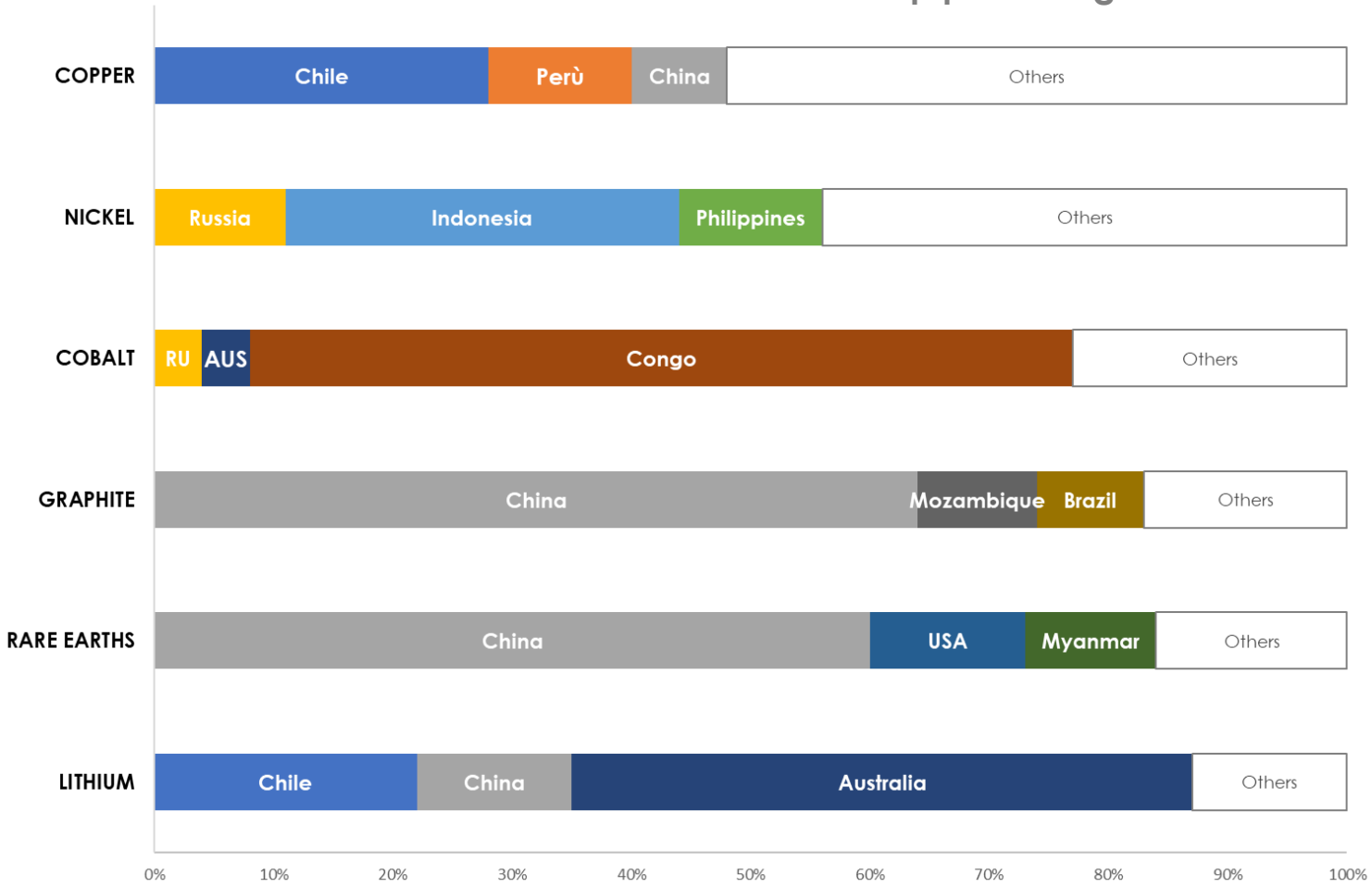
Source: SRM on IEA

- Since 2010 **the average amount of raw materials needed for a new unit of power generation capacity has increased by 50% as renewables increase** their share of total capacity addition.

… with potential new risk on geopolitical side

The supply chain for the green energy technologies and their raw materials is more geographically concentrated than that of oil or natural gas

Share of top producing countries of selected minerals

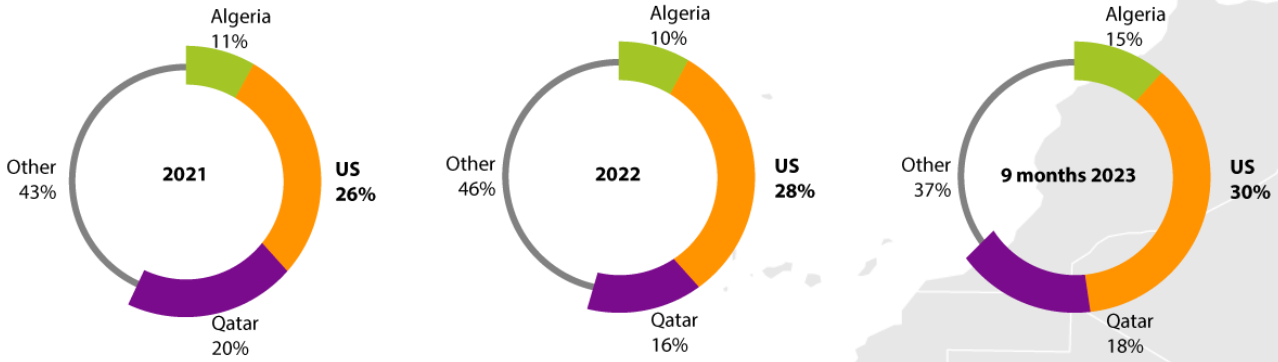


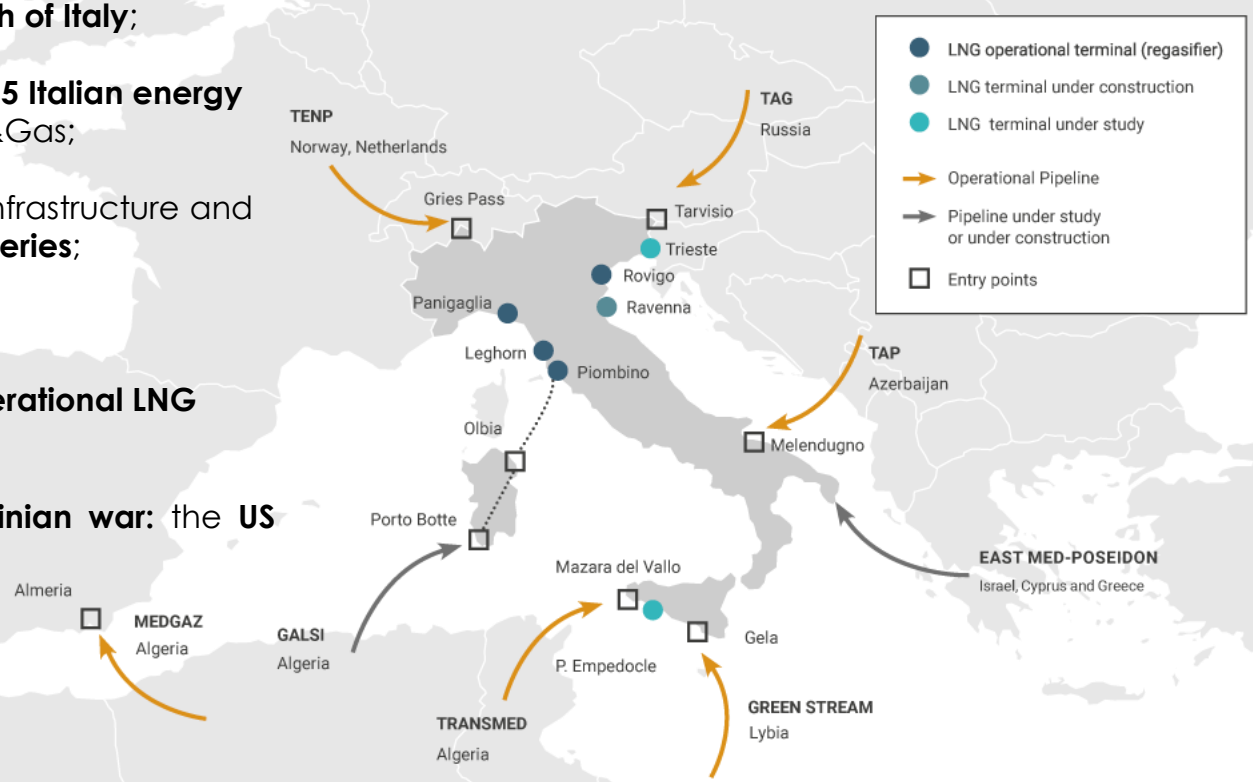
- In some cases, a single country is responsible for around half of worldwide production. For **lithium**, **cobalt** and **rare earth elements**, the world's top three producing nations (**China**, **Congo**, **Australia**) control well over three-quarters of global output.
- **Congo** is responsible for some 70% of global production of **cobalt**, and **China** accounted for 60% of global **rare earths** production.
- The picture for **copper** and **nickel** is slightly more diverse, but **still around half of global supply is concentrated in the top three producing countries.**

Source: SRM on IEA

Ports are not only logistics nodes but also strategic energy hubs. Right now for fossil fuels, but in the near future…

- **Ports are entrance points for oil & gas pipelines:** energy flows from North Africa and the Caspian area to Europe. **77% of the gas imported in Italy via pipeline arrives in the South of Italy**;
- **The top 30 European energy ports** move 740 million tonnes of Oil&Gas; the **top 5 Italian energy ports** (Trieste, Cagliari, Augusta, Milazzo and Genoa): 118 million tonnes of Oil&Gas;
- **Energy gateways:** refineries are access points to hydrocarbon transportation infrastructure and are usually located near ports; **13 plants** are active **in Italy,** including **2 biorefineries**;
- **Ports normally host the petrochemical industry plants**;
- **Ports are locations for LNG storage and/or production. Euro-Med area: 103 operational LNG terminals** (World: 178, source Clarksons);
- **LNG** was crucial in **diversifying** the gas suppliers for Europe after the **Ukrainian war:** the **US increased LNG export to Europe**, followed by **Qatar** and **Algeria**.





Source: SRM on EUROSTAT

Grazie per l'attenzione