DGAP

Advancing foreign policy. Since 1955.

The energy price shock and consequences for Germany and Central & Eastern Europe

OeNB Conference on European Economic Integration

Guntram Wolff || October 22, 2022

Structure

1. Gas price shock and German reaction
2. Gas supply to Central and Eastern Europe
3. Short-term alternative energy supplies
4. Medium-term alternative energy supplies
   - Renewable energy production
   - Expansion of LNG capacity
   - New pipeline infrastructure for non-Russian gas supplies
5. Conclusion

DGAP

Advancing foreign policy. Since 1955.

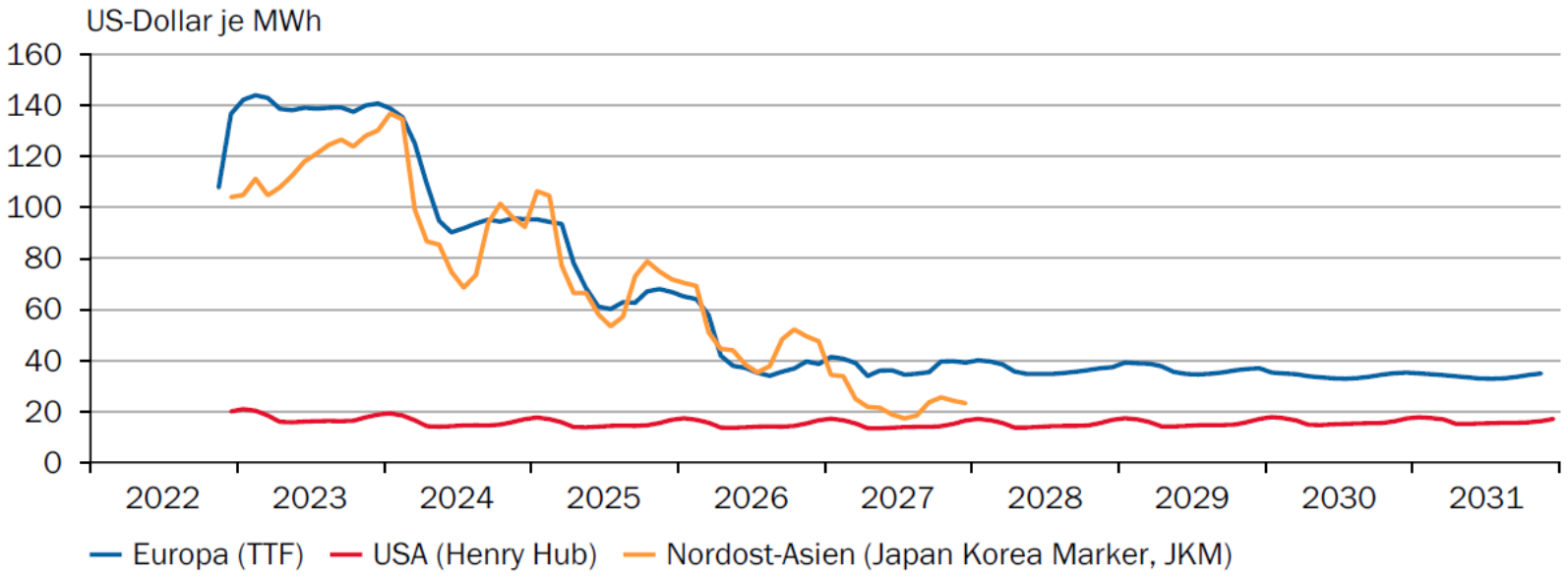
Gas price shock and German reaction

Russian gas stop and energy price shock big

- The rise in energy prices has dampened consumer spending and placed a burden on production in energy-intensive industries.
- But, doomsday scenarios from the beginning of this year have proven false. Industry managed to substitute energy intensive parts of production. Households also reduced their consumption substantially.
- Impact on GDP has been quite muted: German GDP growth is expected at 1.7 % in 2022 and - 0.2 % in 2023.
- German parliament approved a €200-billion energy relief package in October – known as the “double kaboom”.
- A partial price cap on gas will take effect in March 2023.
- It will guarantee a gas price of 12 ct/ kWh for 80 % of households’ basic consumption and 7 ct/ kWh for 70 % of typical usage by industrial firms.
- The measure aims to maintain the scarcity signal of high energy prices and incentivise saving as well as keep administrative costs low.

Sources: Expert Advisory Council

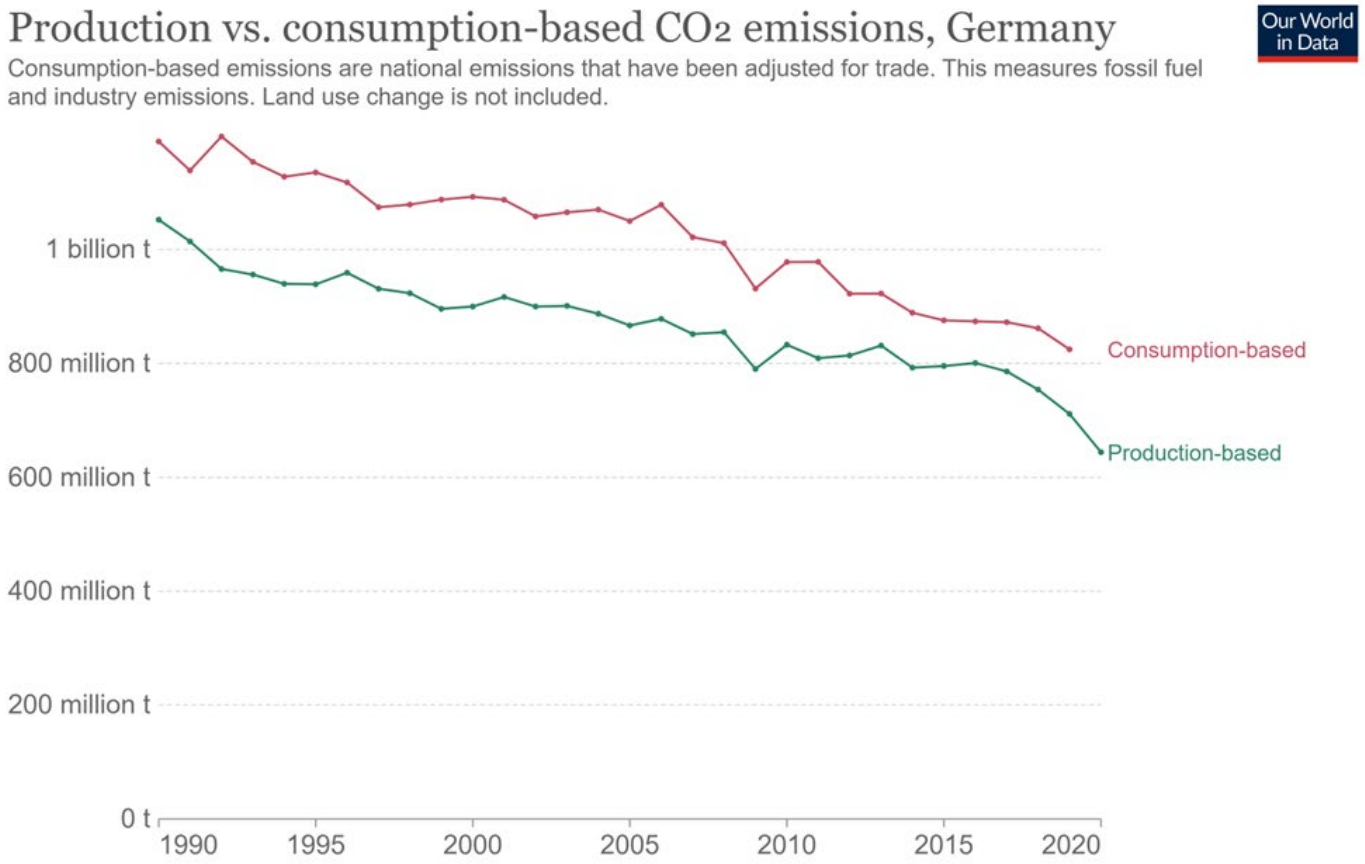
Future prices for natural gas



- Energy prices have risen sharply since the beginning of the war.
- Natural gas prices have fallen from a summer peak of €339 to around €100 per megawatt-hour.
- Energy price shock will persist and keep EU prices higher than with competitors

Source: Expert Advisory Council of the Federal Government, based on data of the Federal Network Agency

Decarbonisation in Germany. Will it accelerate? Will there be more leakage?



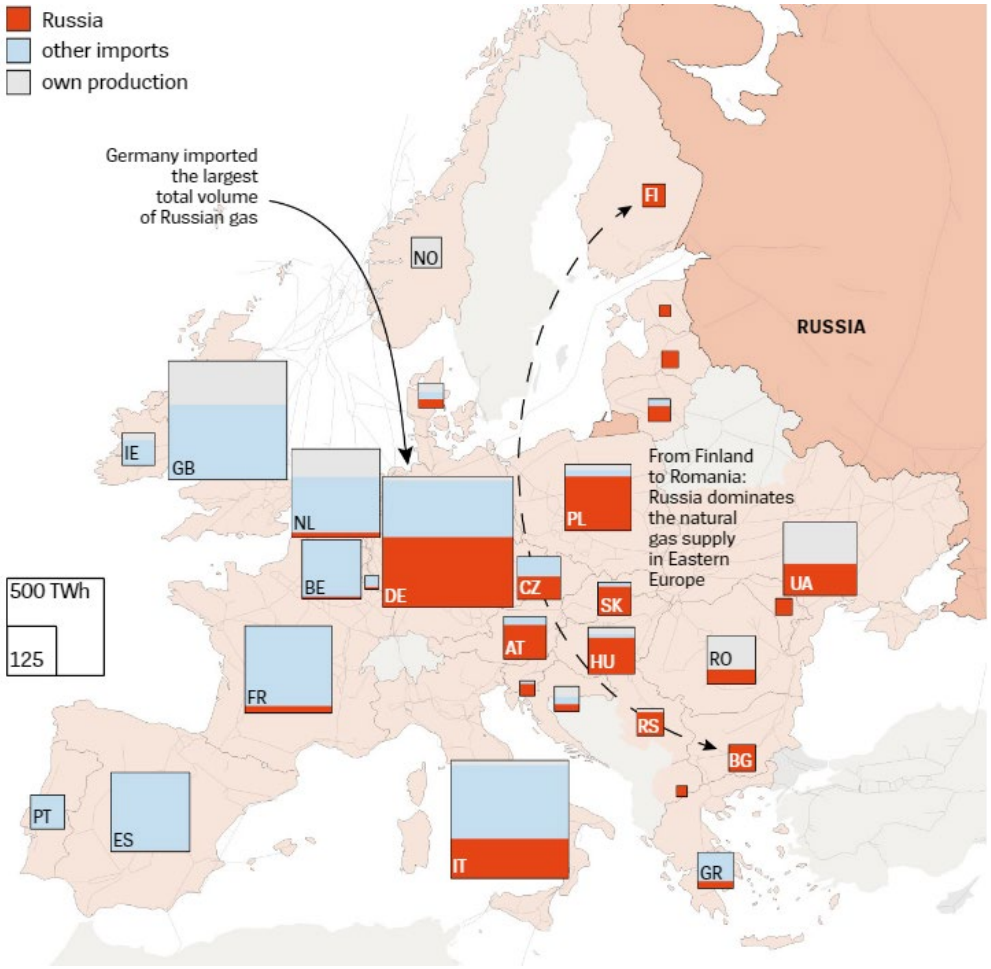
Source: Our World in Data based on Global Carbon Project

DGAP

Advancing foreign policy. Since 1955.

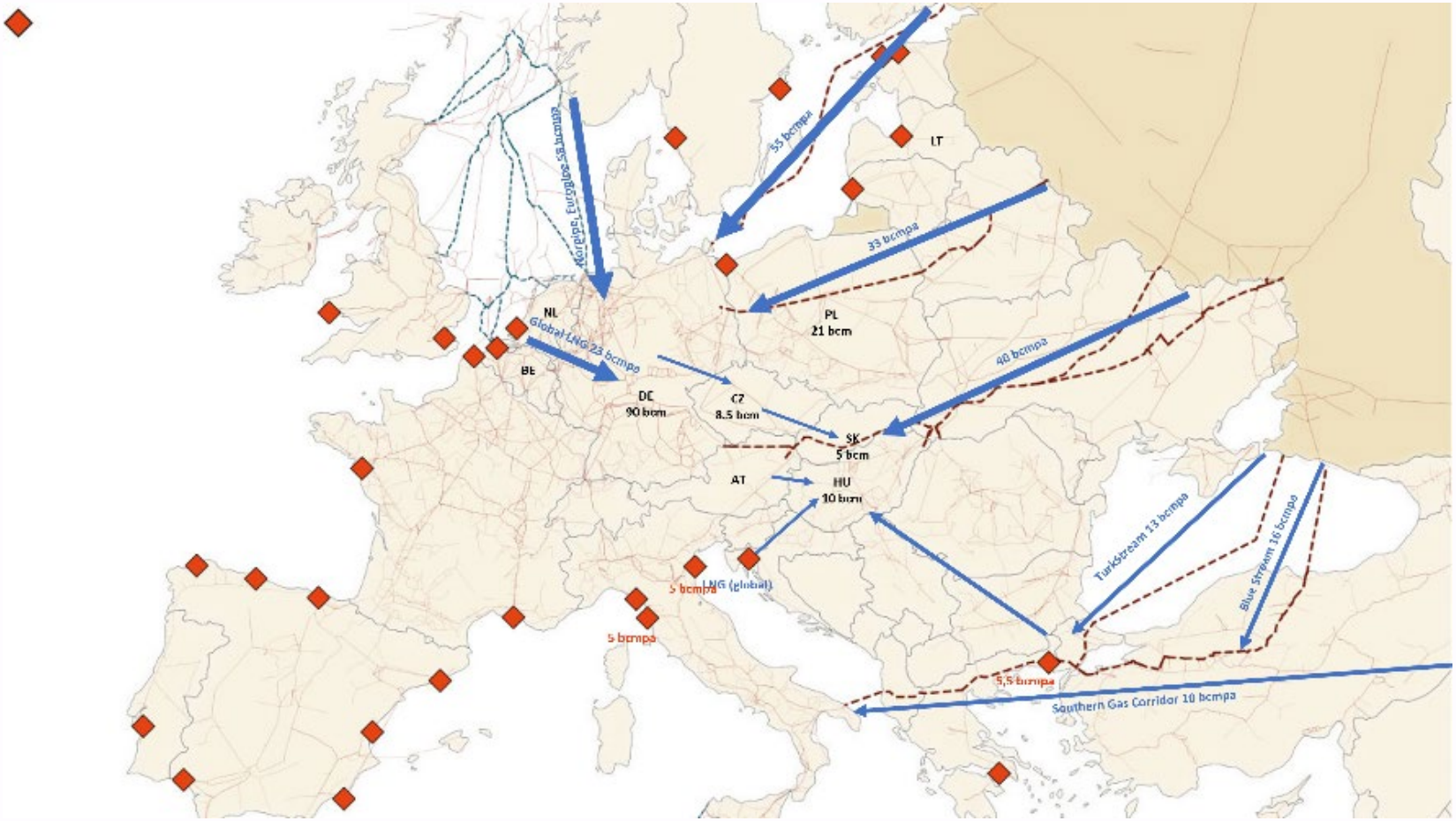
Gas supplies to Central and Eastern Europe

Origin and volume of natural gas consumed (in 2021)

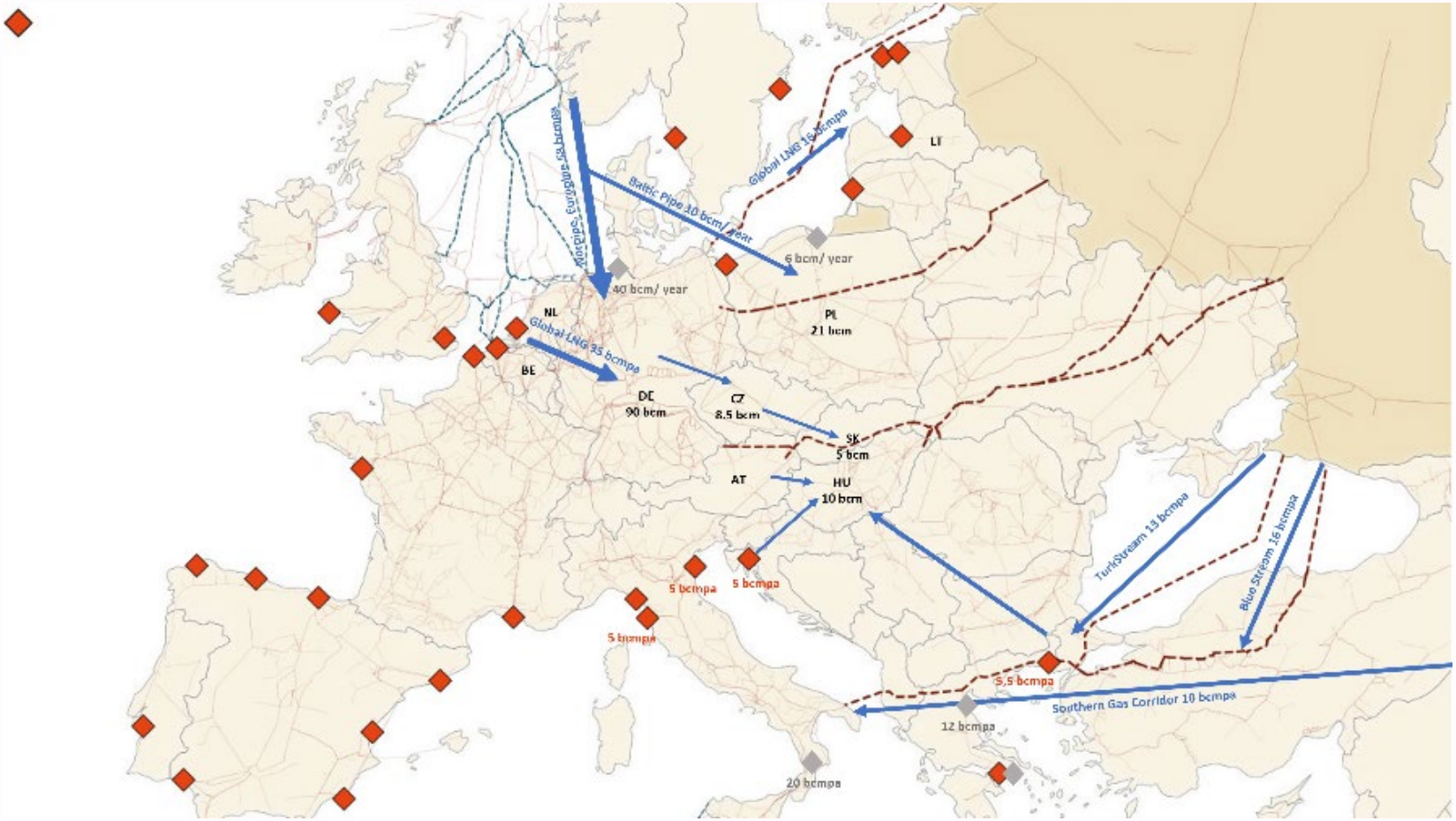


Source: Spiegel based on Bruegel, Eurostat

Pre-war gas flows



Emerging gas flows

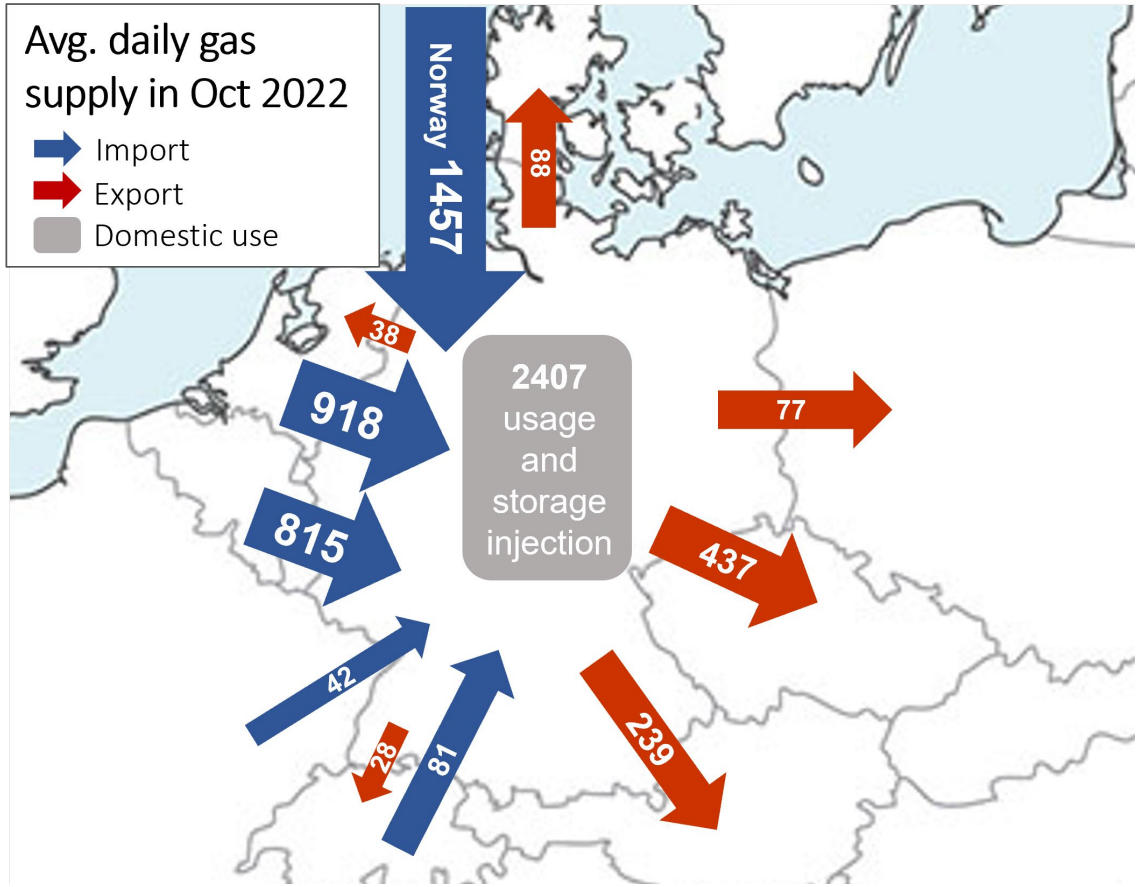


Germany as a transit hub

- Gas arteries from Russia account for 42 % of European gas import capacity. Other pipelines jointly account for 30 % of import capacity.
- Russian gas transmission to the EU largely stopped. It continues only via the TurkStream pipeline and Ukraine transit, both averaging 30-40 mcm/ day (325-435 GWh/ day) in deliveries.
- As a major gas transit hub, Germany is key to ensuring gas supplies to neighbouring countries. 46.1 % of German gross gas imports were exported in 2021.
- Germany is compensating missing Russian gas with increased gas imports from Norway as well as LNG via the Netherlands and Belgium.
- The Czech Republic continues to be the main destination for German gas exports as in previous years, followed by Austria and Poland, to whom exports increased in 2022.

Sources: IMF WP/22/145, Federal Ministry for Economic Affairs and Climate Action, Federal Network Agency

Natural gas imports and exports in October (in GWh/ day)



Source: Own image based on data from the Federal Network Agency

DGAP

Advancing foreign policy. Since 1955.

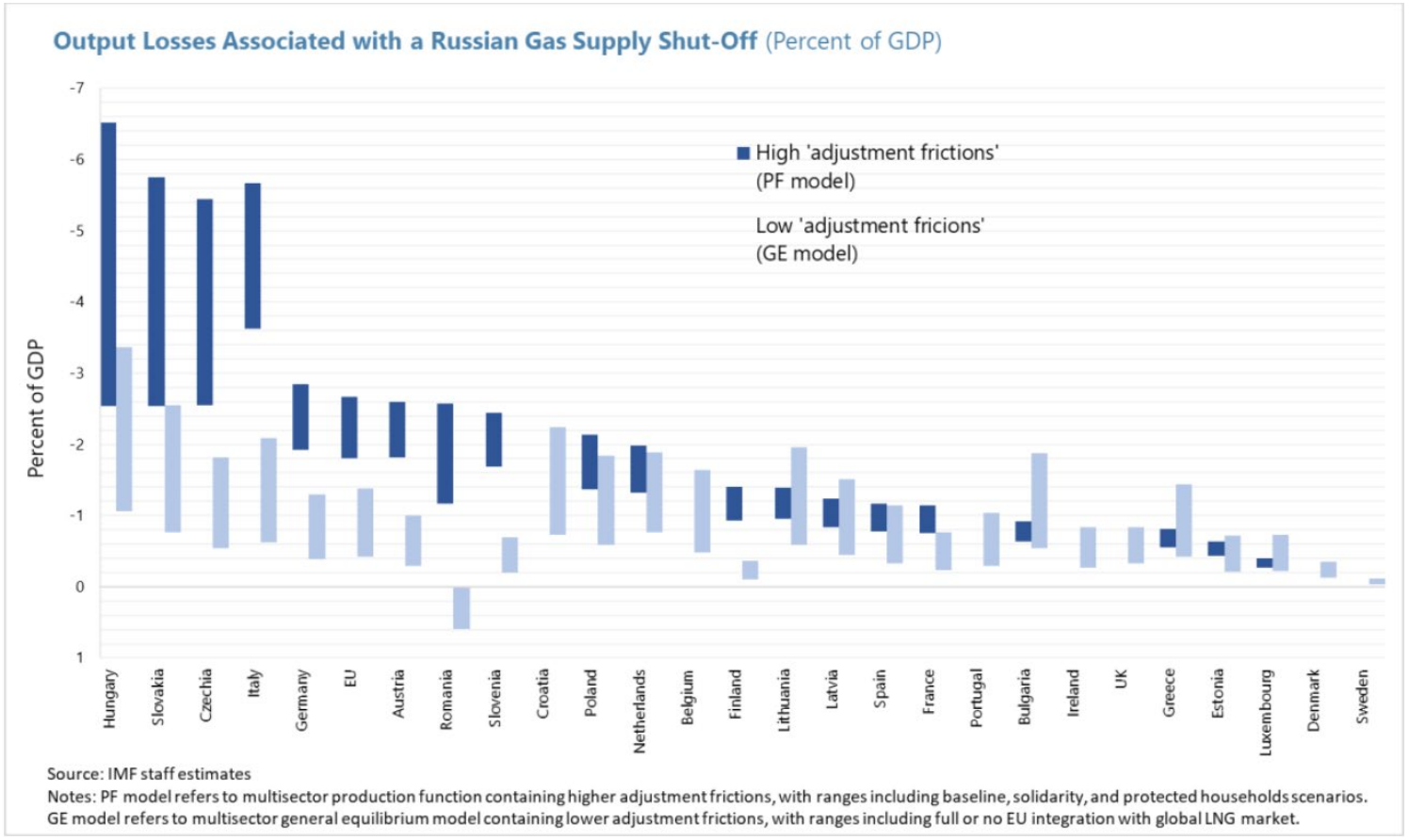
Short-term alternative energy supplies

Short-term measures in Central and Eastern European countries

- Short-term measures include new gas deals with alternative gas suppliers, gas-to-coal switching in power generation, increased reliance on nuclear power and the expansion of domestic gas production.
- Poland has secured imports of Norwegian gas through the newly opened Baltic Pipe and expanded LNG capacity. A bi-directional interconnector between Poland and Slovakia opened in 2022.
- These infrastructure developments are important for the region as they increase capacity to Slovakia and Czech Republic. Czech republic and Slovakia have both increased imports of gas from Norway as well as LNG via Dutch, Italian and Croatian terminals.
- Austria, Greece, Hungary and Romania went back on commitments to phase out coal. EU coal consumption is estimated to have increased by 10 % and is expected to keep rising in 2022.
- Hungary and Serbia continue to receive Russian gas via TurkStream and have attempted to contract larger volumes.

Sources: Bruegel National energy policy responses dataset (2022)

Economic importance of facilitating gas flows



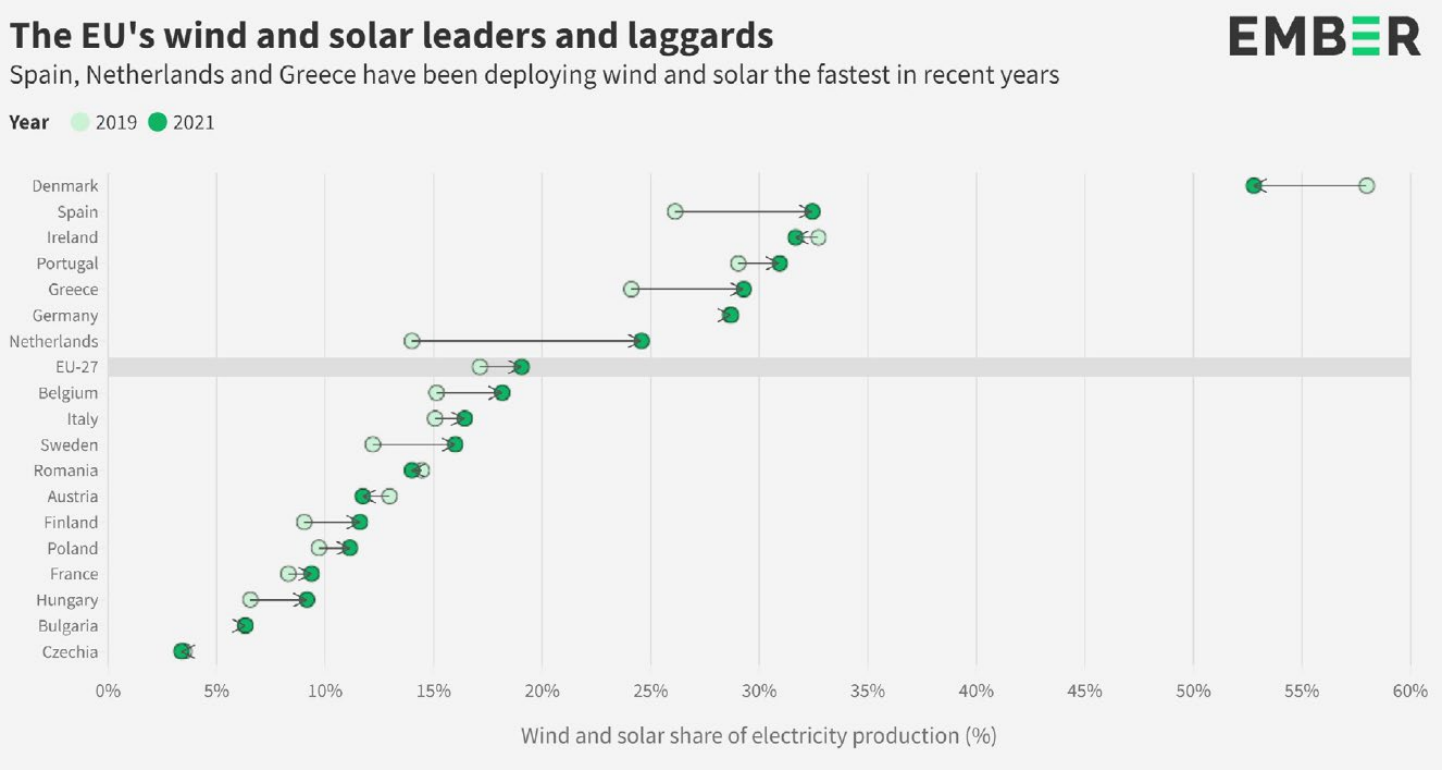
Source: IMF "Natural Gas in Europe" WP/22/145

DGAP

Advancing foreign policy. Since 1955.

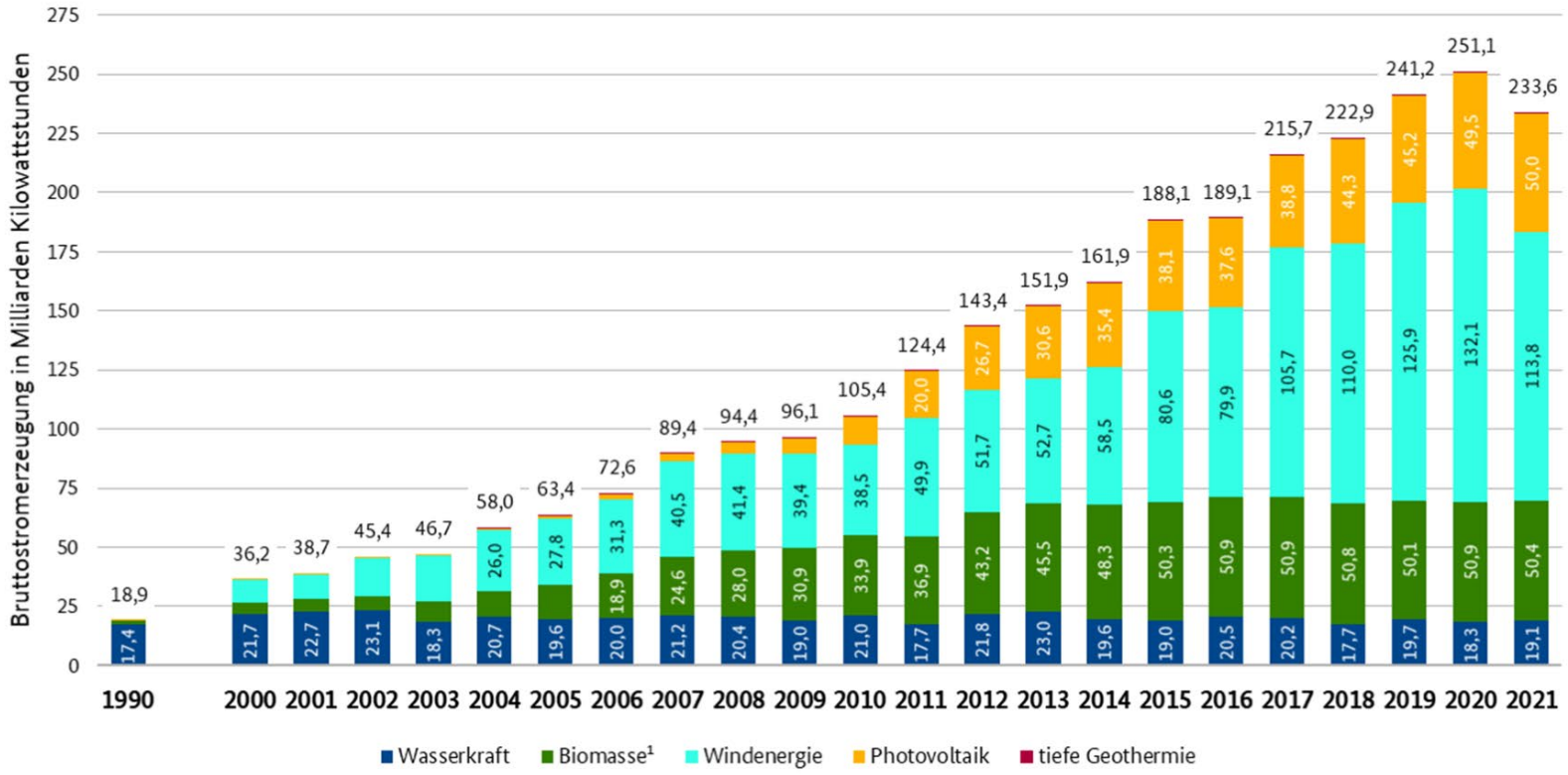
Medium-term alternative energy supplies

Wind and solar expansion in the EU



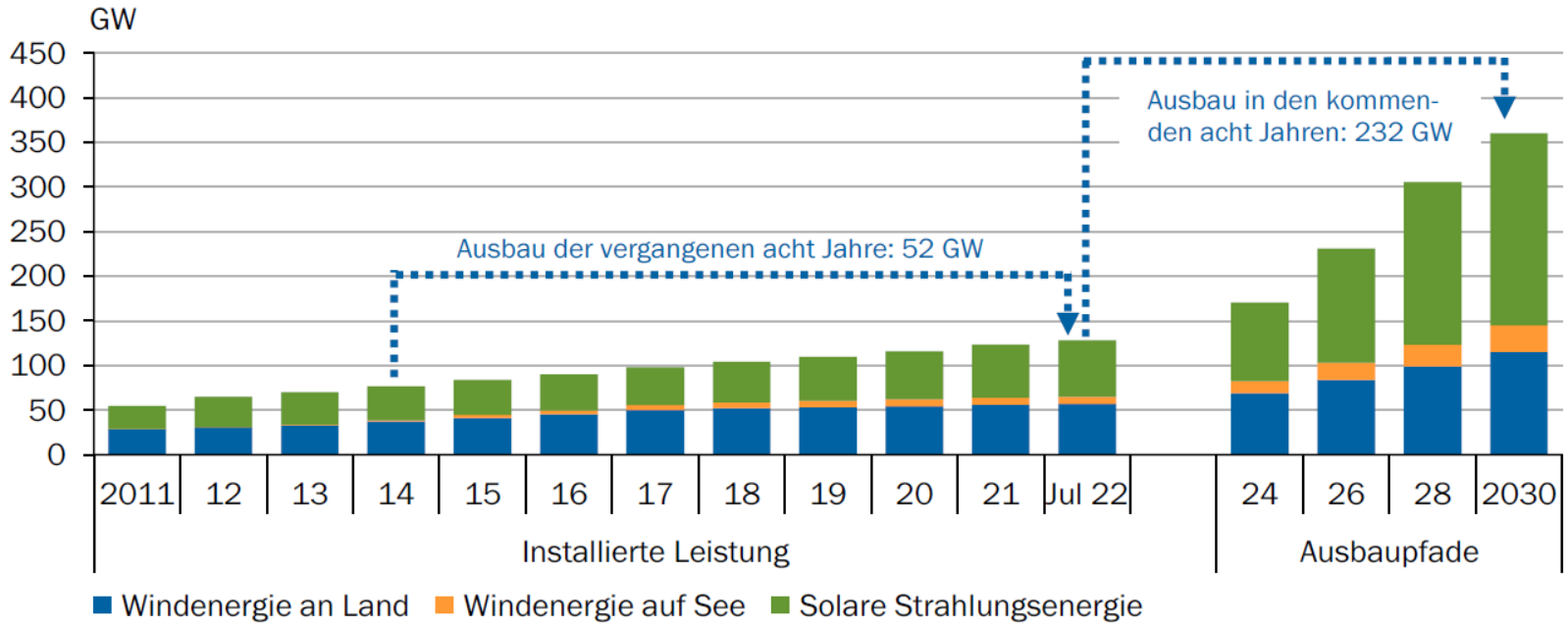
Source: Ember "European Electricity Review" (2022)

Energy generation from renewables in Germany



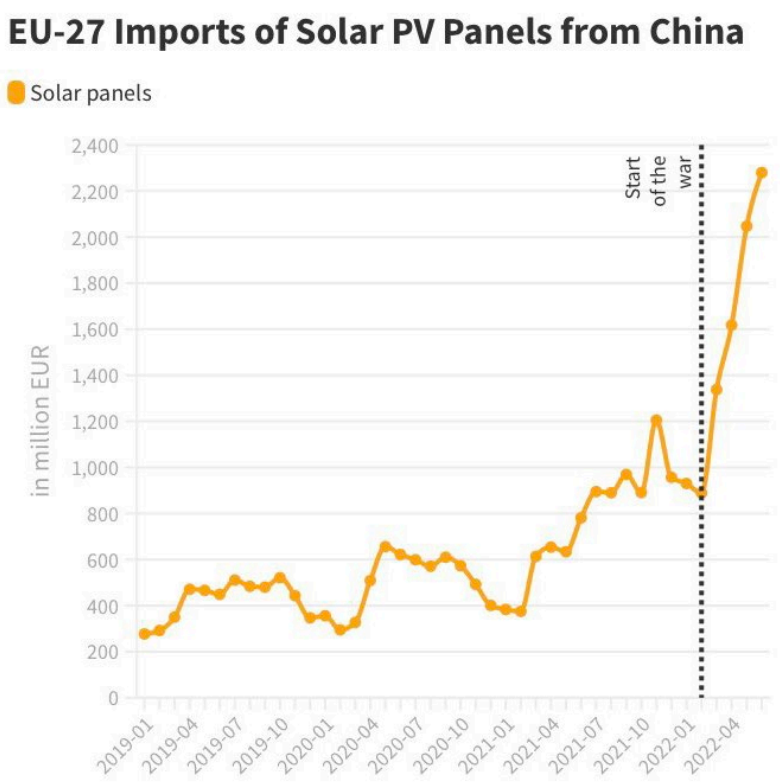
Source: Federal Ministry for Economic Affairs and Climate Action (2022)

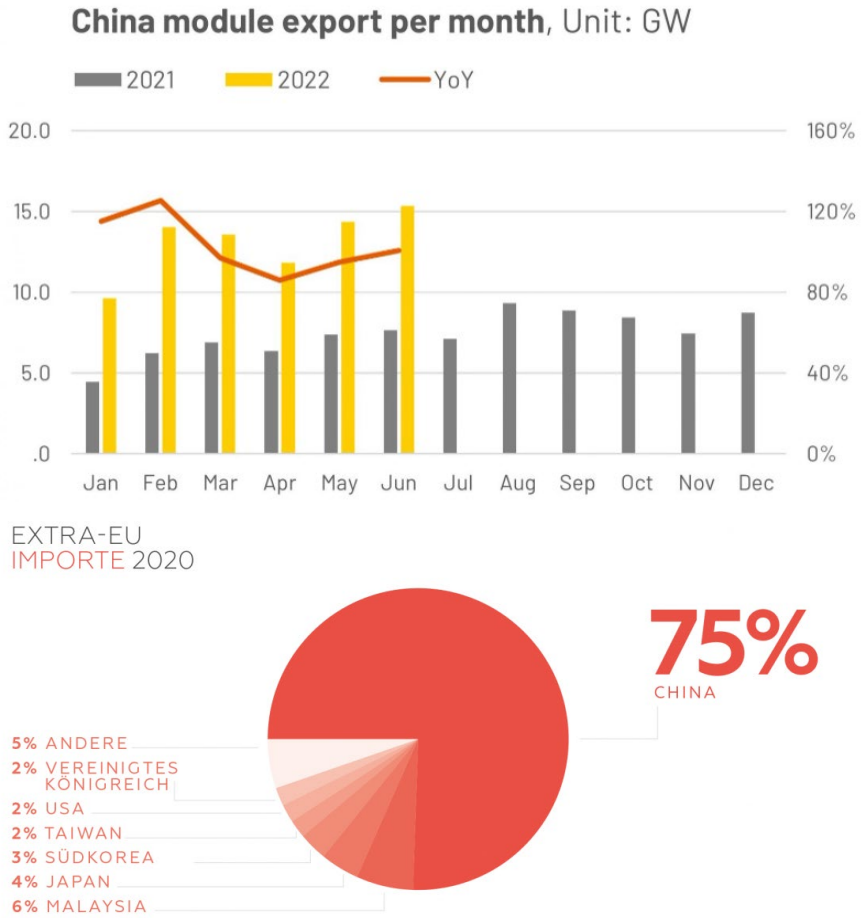
Installed gross production of wind and solar energy in Germany by 2030



Source: Expert Advisory Council of the Federal Government, based on data of the Federal Network Agency

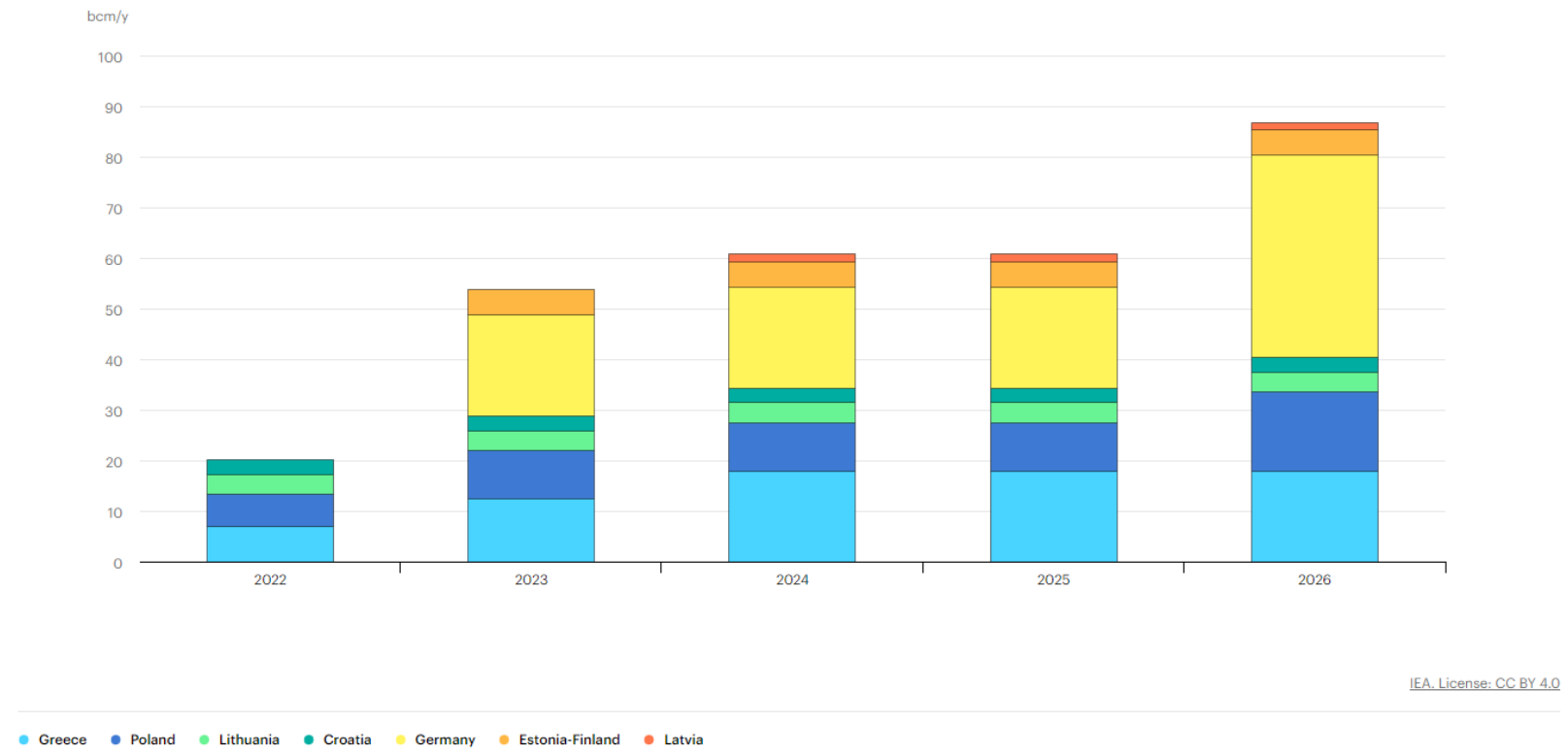
Increase in solar PV panel imports from China





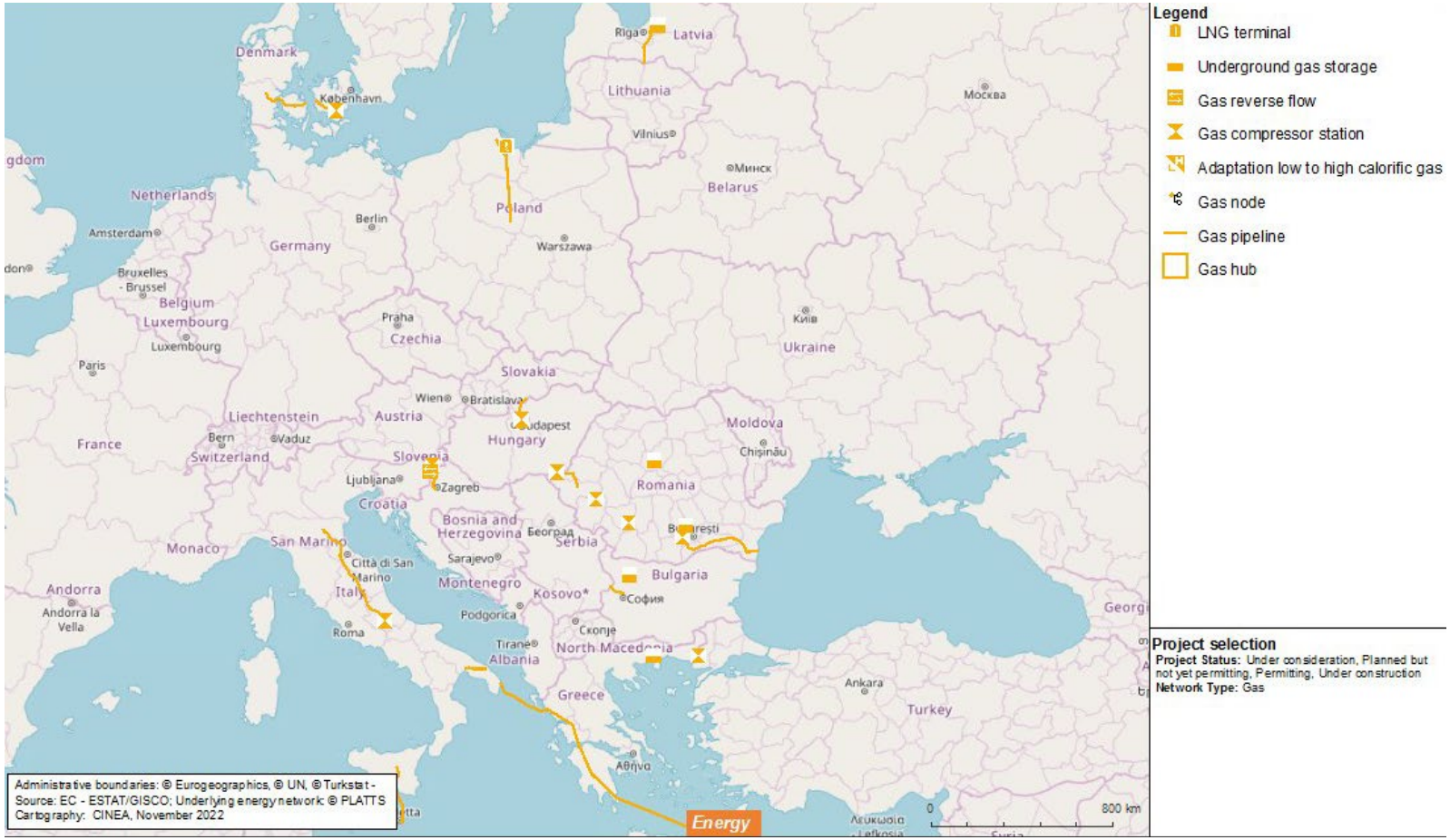
Source: Bruegel based on Eurostat, InfoLink Group

LNG import capacity in CEE



Source: International Energy Agency "Accelerating energy diversification in Central and Eastern Europe" (2022)

Projects of common interest



Source: European Commission ESTAT/ GISCO

Conclusions

1. Maintaining the integrity of the energy market is particularly crucial for the economies of gas-dependent Eastern European countries and – by virtue of their interdependence – for the German economy.
2. Germany's function as a European gas transit hub has increased in importance for the short-term security of supply of its Eastern neighbours. This is due to the replacement of Russian gas deliveries through LNG and gas from Norway.
3. The pipeline infrastructure from Norway is particularly critical and needs to be protected against hybrid attacks.
4. In the short- and medium-term, the emergence of new interconnections and expanded LNG capacity in the Baltics and Poland indicate that north to south flows will increasingly play an part in supplying landlocked Central and Eastern European states.
5. Simultaneously, new pipeline and LNG capacity in South-eastern Europe, coupled with improved interconnections, will contribute to supply security in CESEE countries.

Conclusions

6. The expansion of renewable energy capacity has gained momentum and will facilitate the shift away from dependence on fossil fuels. Yet, late (2025)

7. As EU builds up its renewable capacities, it needs to be mindful of new dependencies emerging.

8. Developing hydrogen capacity is central to replacing natural gas in industrial processes that require high temperatures. This is particularly relevant for Germany and other Central and Eastern European economies in which heavy industries are dominant.