

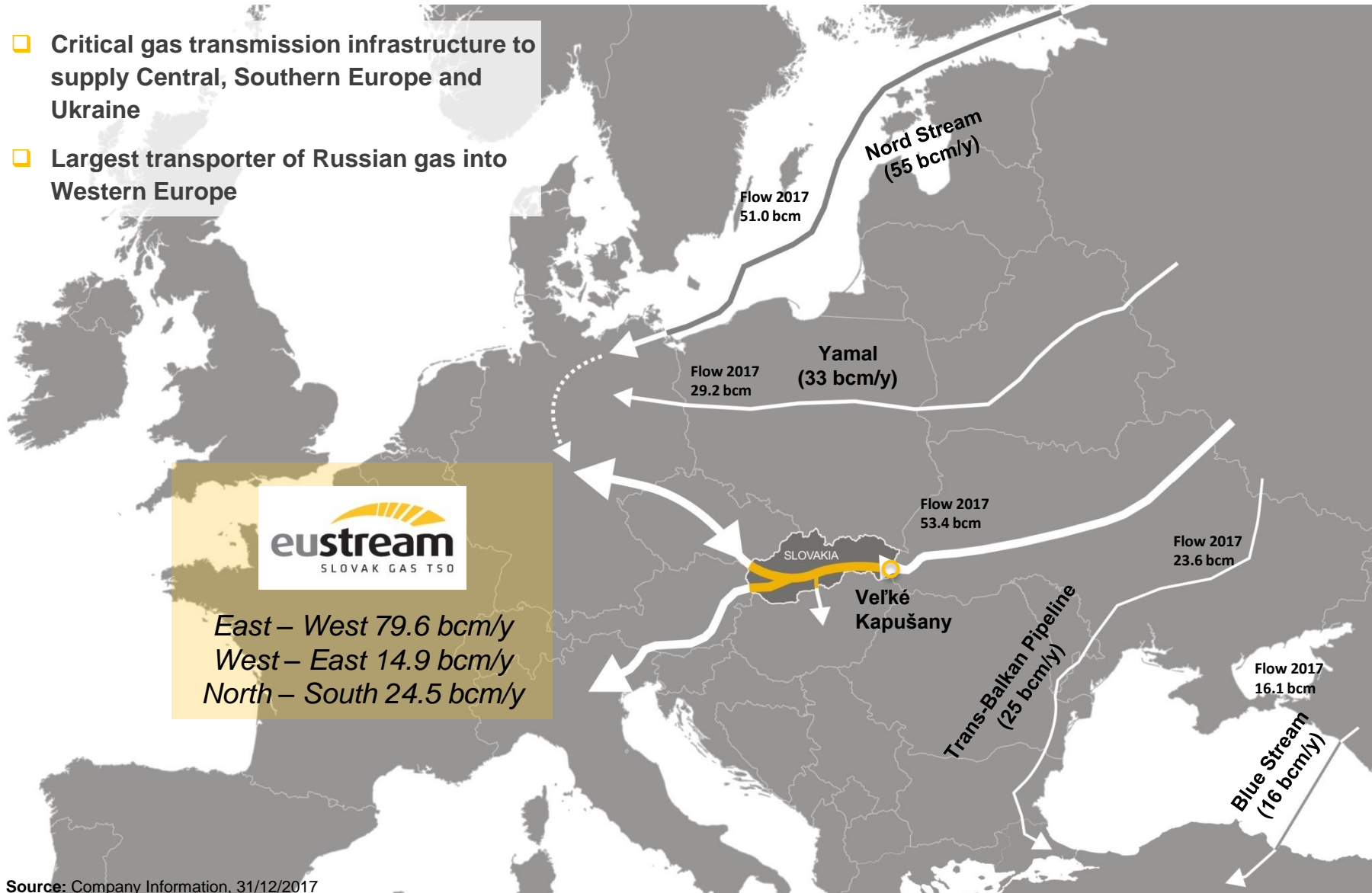
Development of gas infrastructure in the CEE and the impact on cross border trade

Eastern Partnership sub-sectoral networking group on LNG Markets

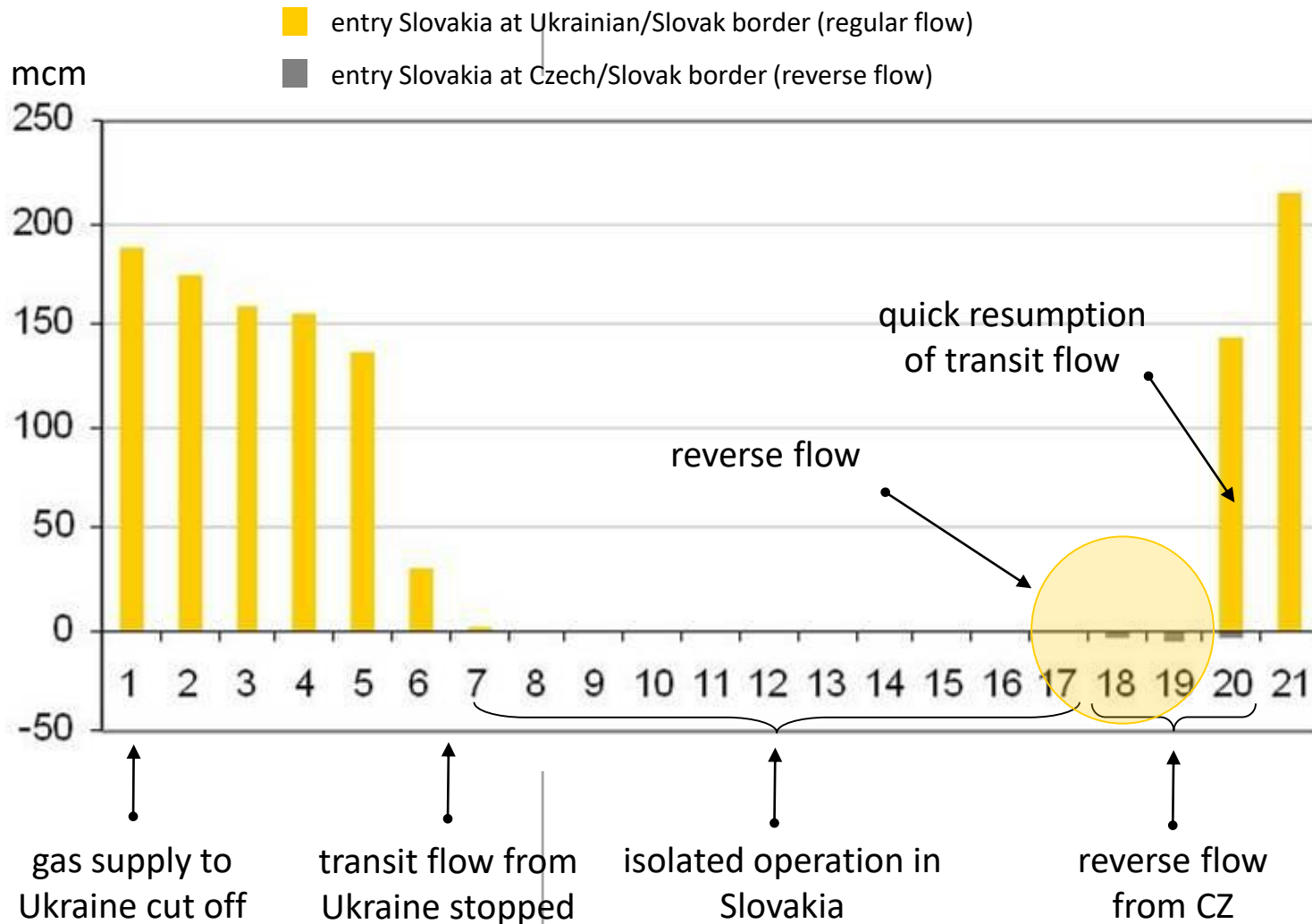
Milan Sedláček,
eustream, a.s.

Eustream is a Critical Piece of Infrastructure Serving European Gas Demand

- ❑ Critical gas transmission infrastructure to supply Central, Southern Europe and Ukraine
- ❑ Largest transporter of Russian gas into Western Europe



2009 gas crisis boosted cooperation and development



2009 gas crisis boosted cooperation and development

Increasing flexibility

- Bidirectional pipelines
- New interconnectors
 - SK-HU (in operation)
 - SK-UA (in operation)
 - PL-SK (in construction)
 - PL-CZ (in operation)
 -
- New LNG terminals (Swinoujscie (PL), Krk (HR), ...)

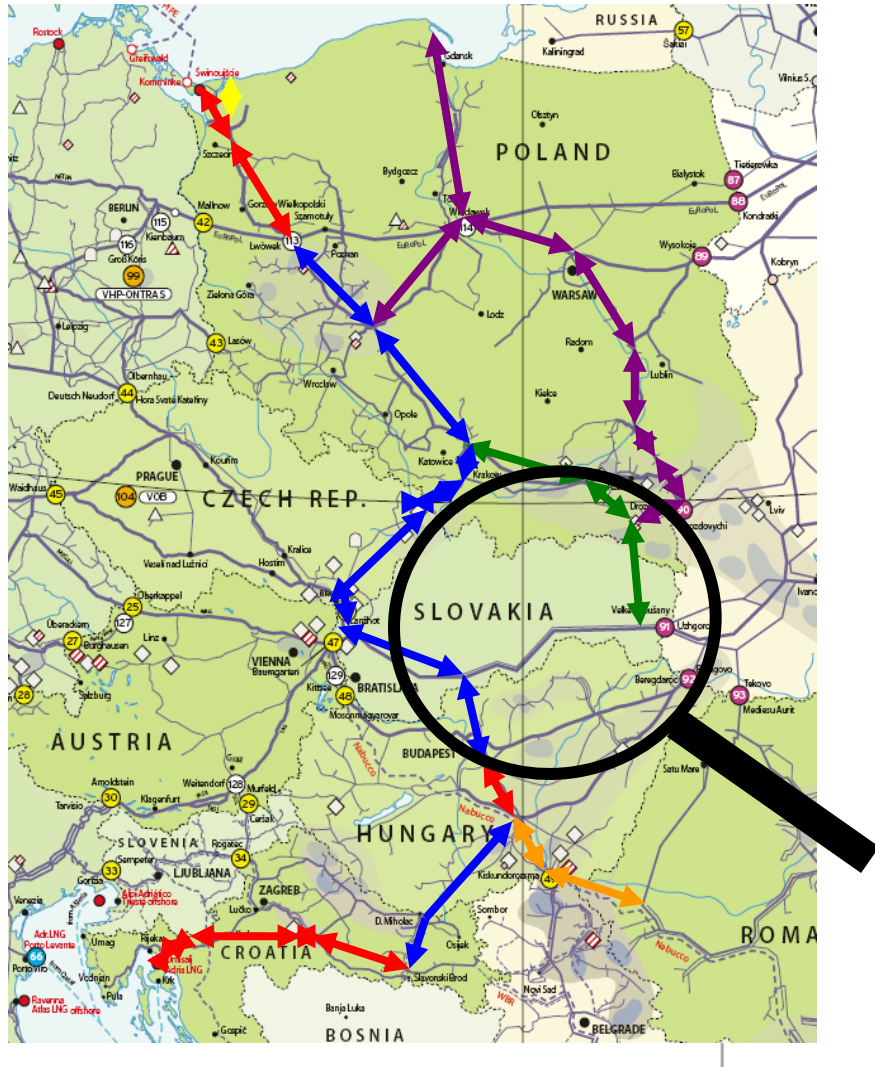
Legal Framework

- SoS Regulation(s)
- EEPF and CEF financing schemes of EU

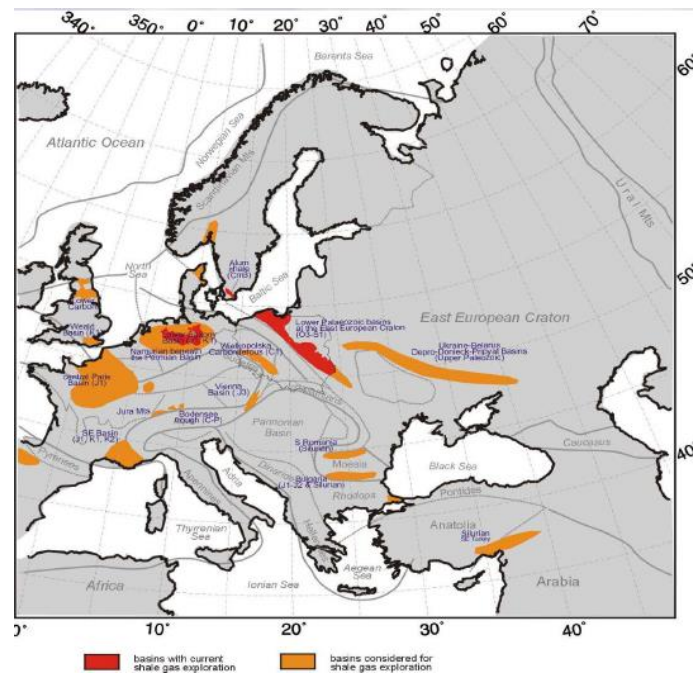


$$N-1[\%] = \frac{EPm+Pm+Sm+LNGm - Im}{Dmax} * 100, N-1 \bullet 100\%$$

North South Corridor in CEE



- Connecting Baltic sea with CEE
- Internal market creation
- Security of supply
- Diversification of routes
- Diversification of sources
- Price convergence
- Elimination of bottlenecks



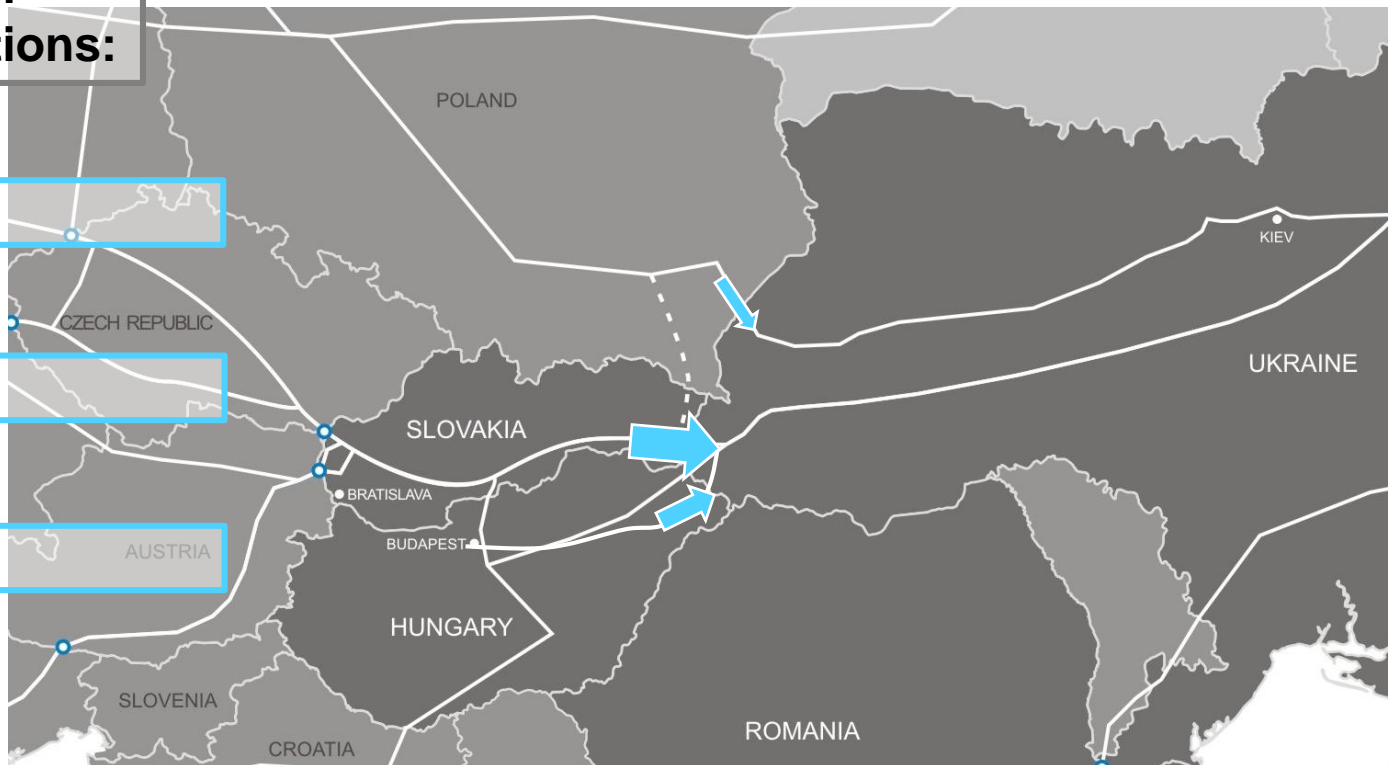
Eustream has built reverse flow pipeline to Ukraine from the EU (Budince)

Existing Ukrainian Reverse Flow Options:

from Poland

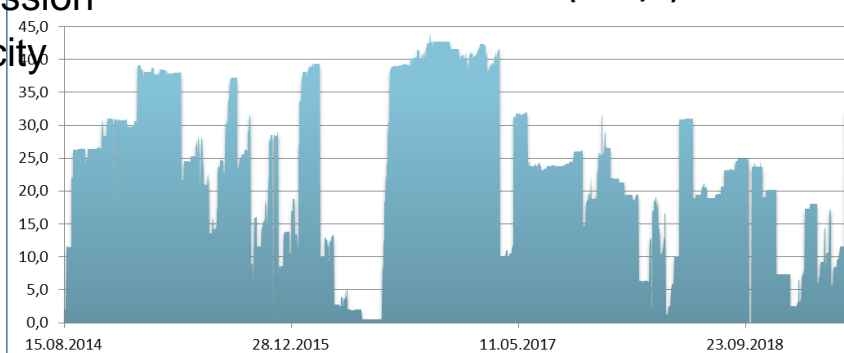
from Slovakia

from Hungary



Eustream has an important position within gas transmission to Ukraine thanks to offering the biggest reverse capacity, ready to increase it if interest of shippers arises; In case of no reverse flows, Ukraine would not be able to overcome winter post-Maidan.

Exit nominations Budince (mcm/d)



PL-SK gas Interconnector

Gateway for LNG and Baltic pipe gas

Planned operation 2021

CS1 Veľké Kapušany (SK) – Strachocina (PL)

Length 164 km (103 km SK)

Diameter DN 1,000 mm

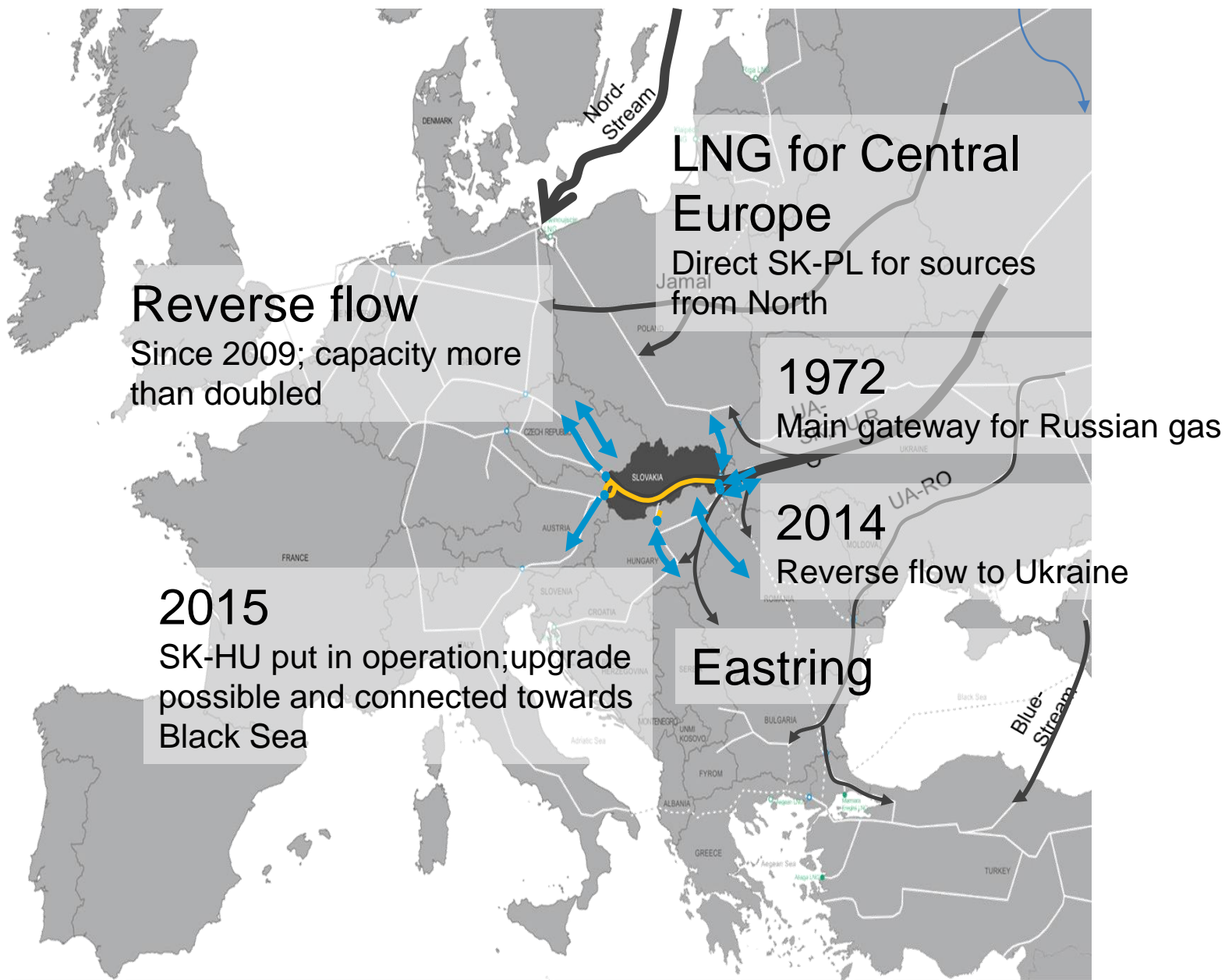
Flow bidirectional

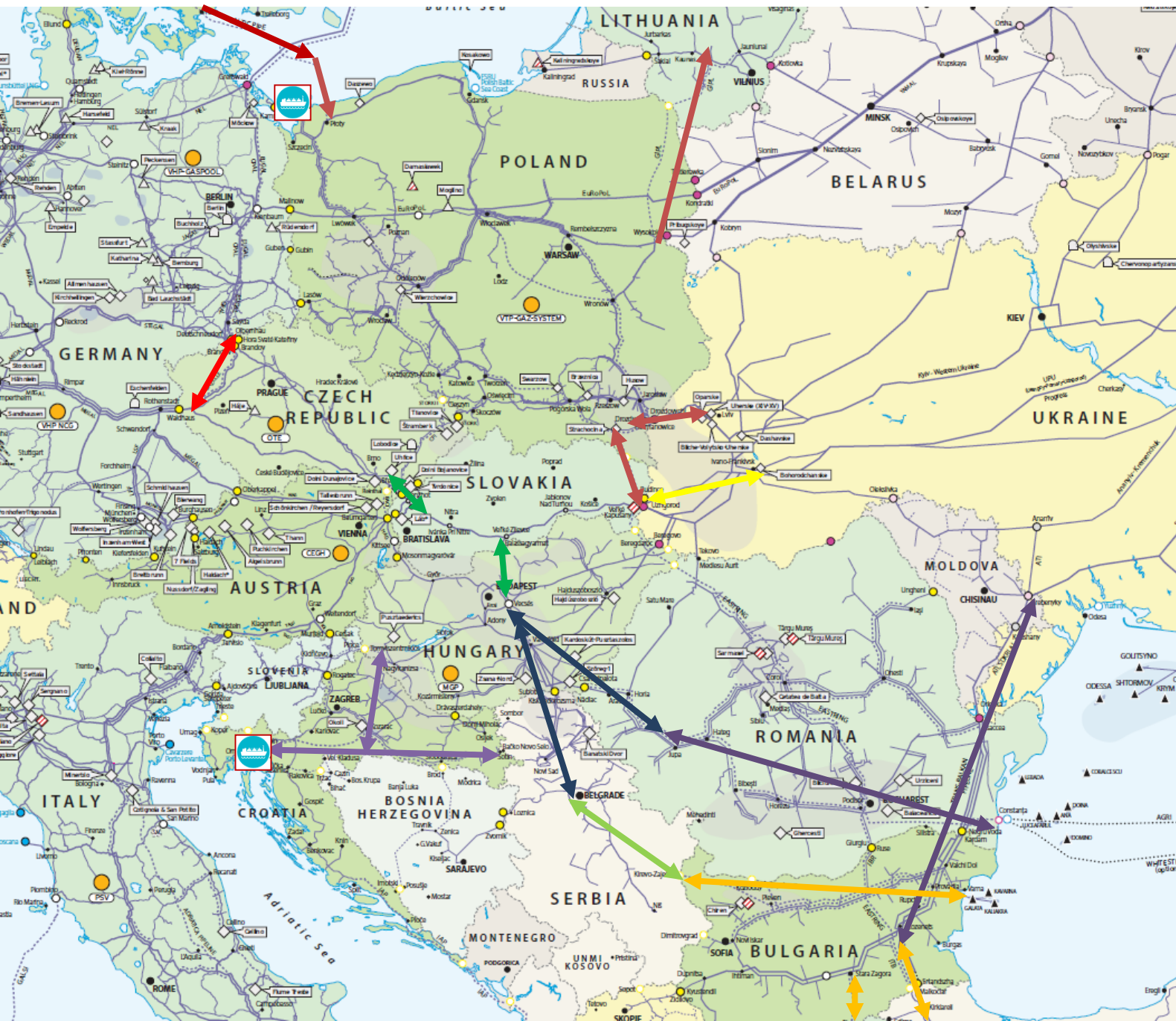
Technical capacity

4.7 bcm/y (PL-SK), 5.7 bcm/y (SK-PL)



At the end – interconnected

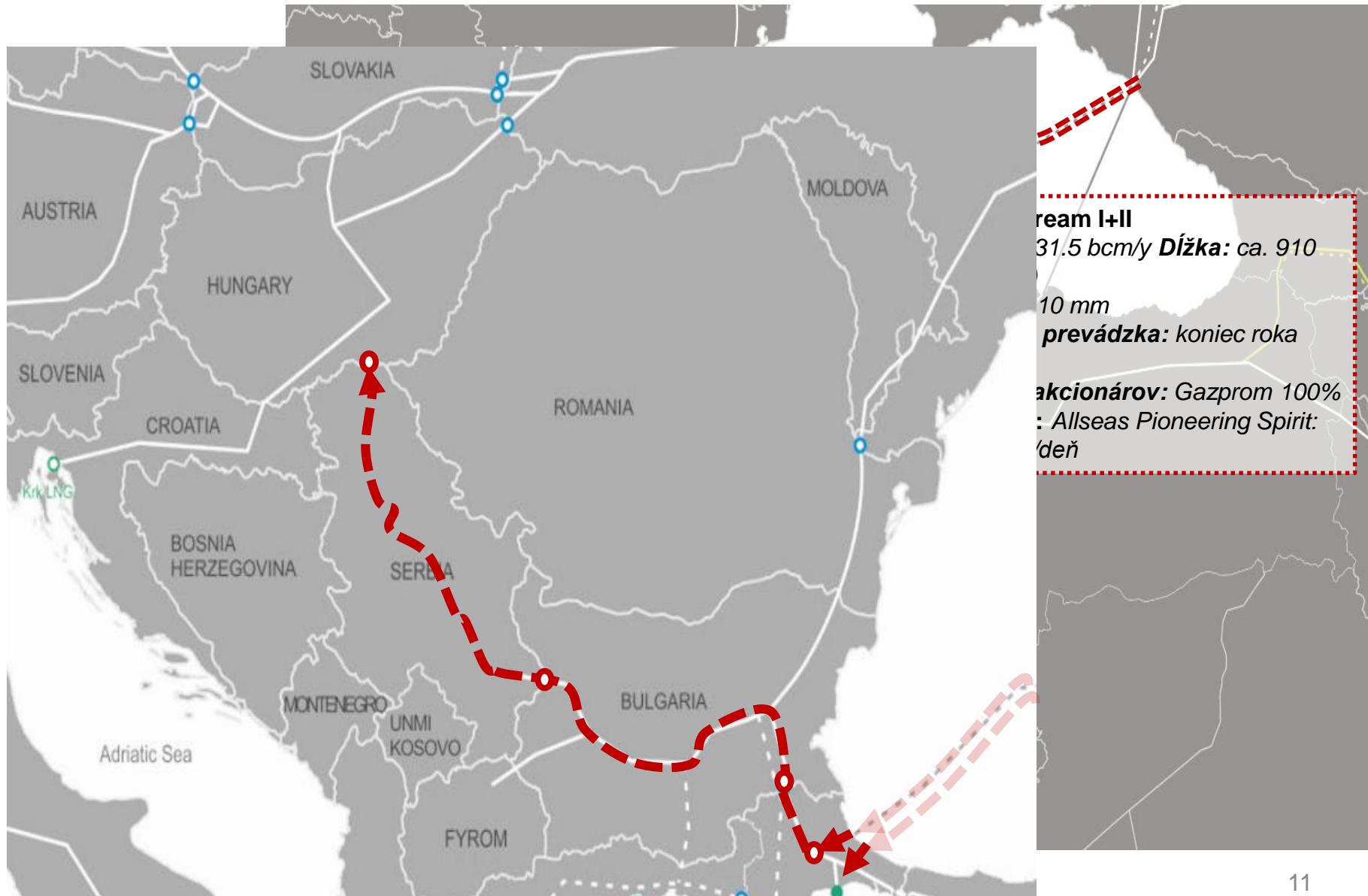




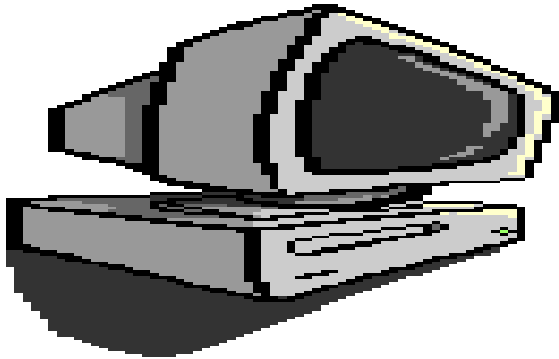
HU-(SK)- AT project



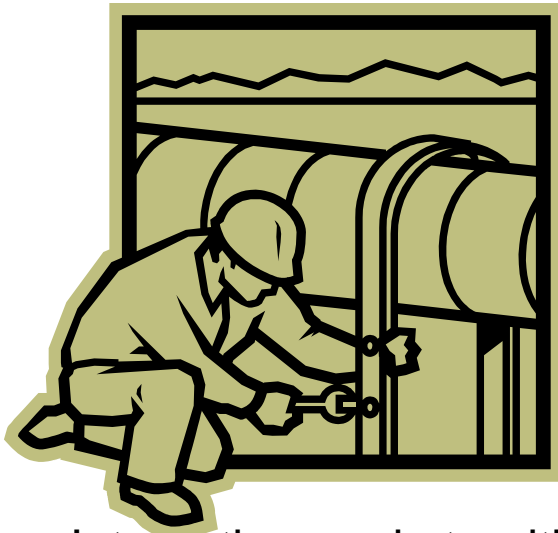
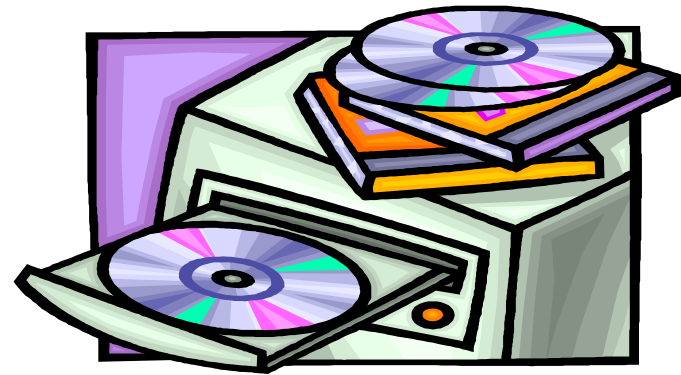
Turkish Stream I+II (big influence)



Hardware and the software – both are needed



+



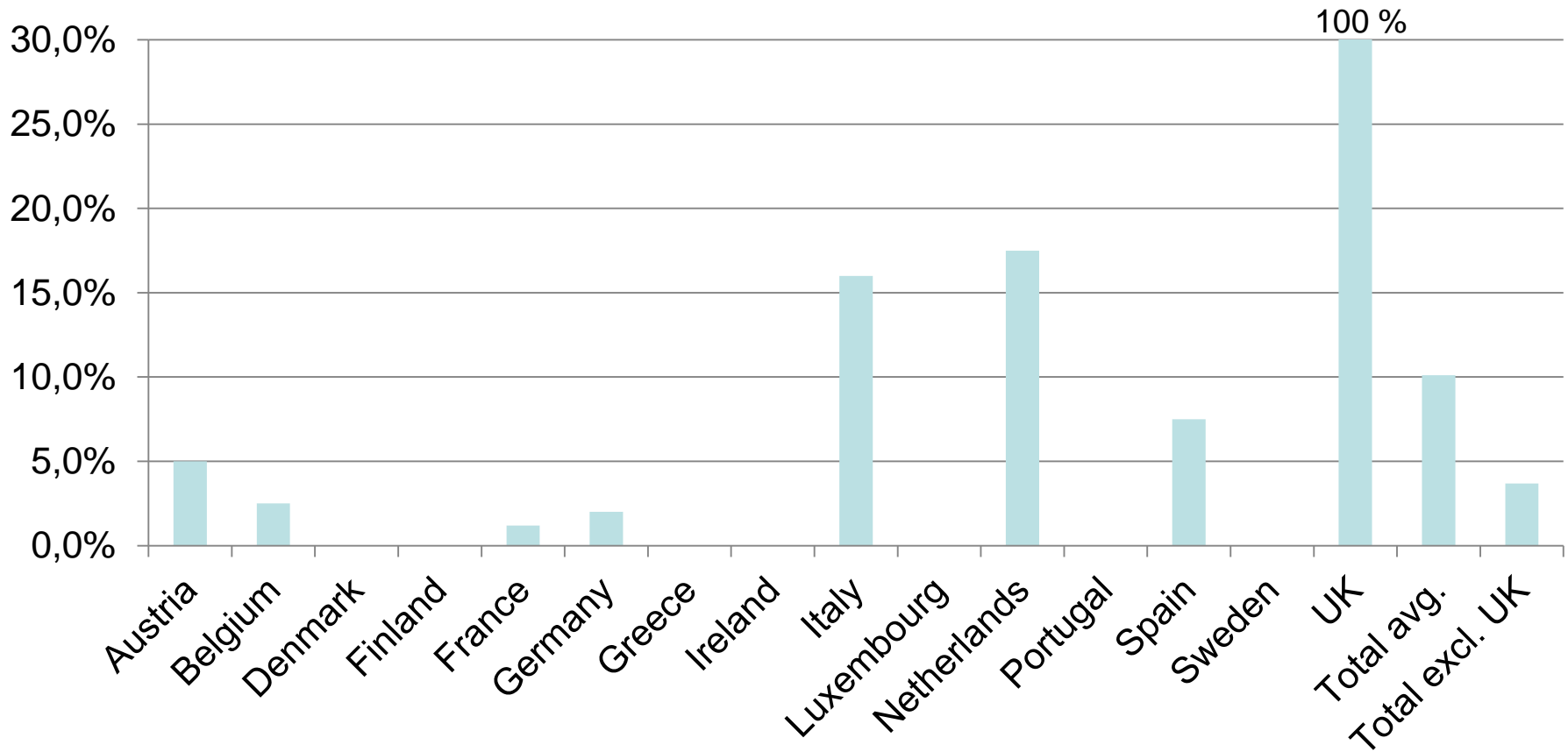
- Integrating markets with new interconnectors
- Interconnections to western markets and north- south

After interconnectors are in place then:

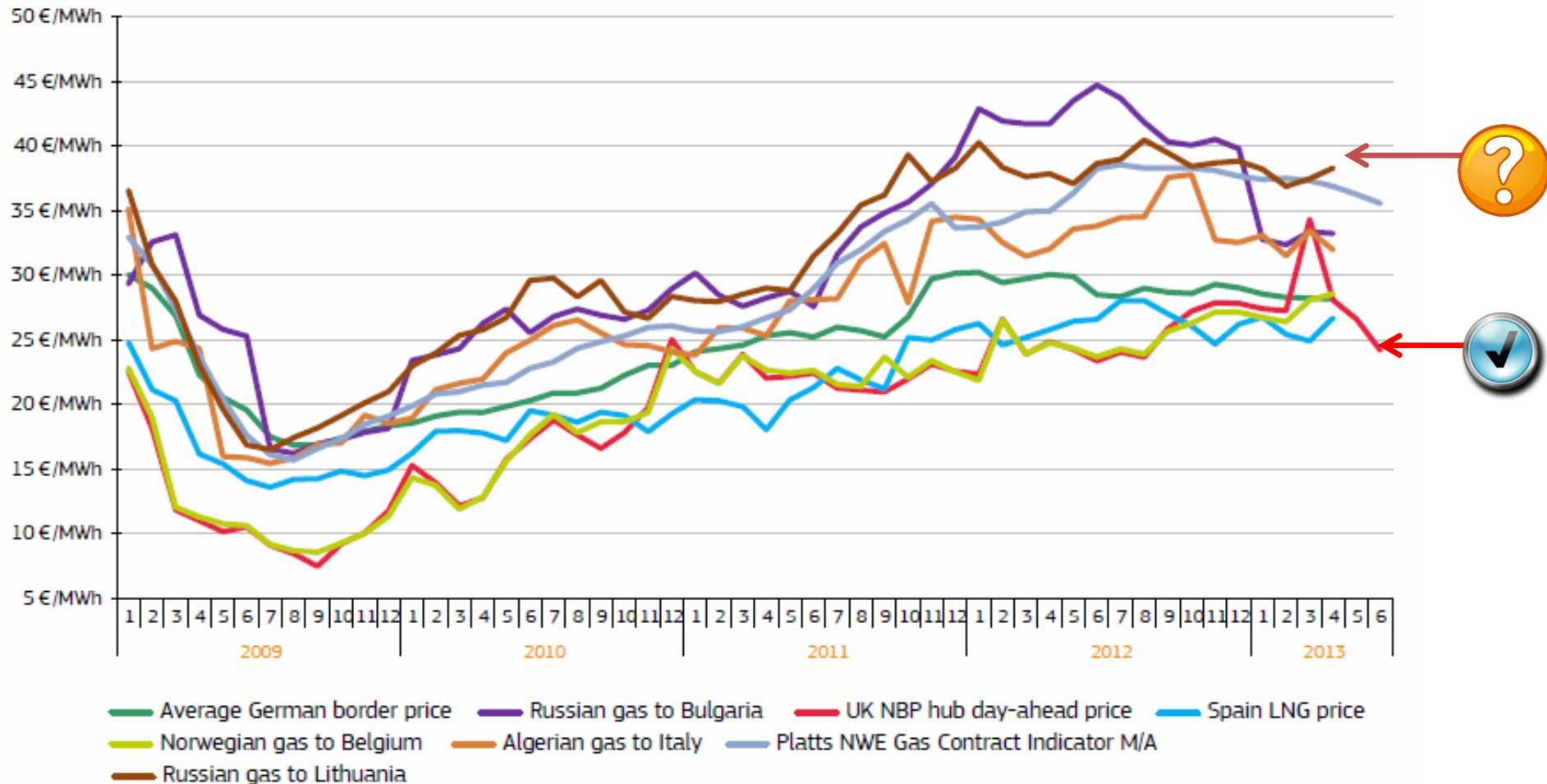
- products
- hubs
- market design

Time is running fast: gas transmission in 2001

Gas carried by Third Party Access provisions as % of total - March 2001

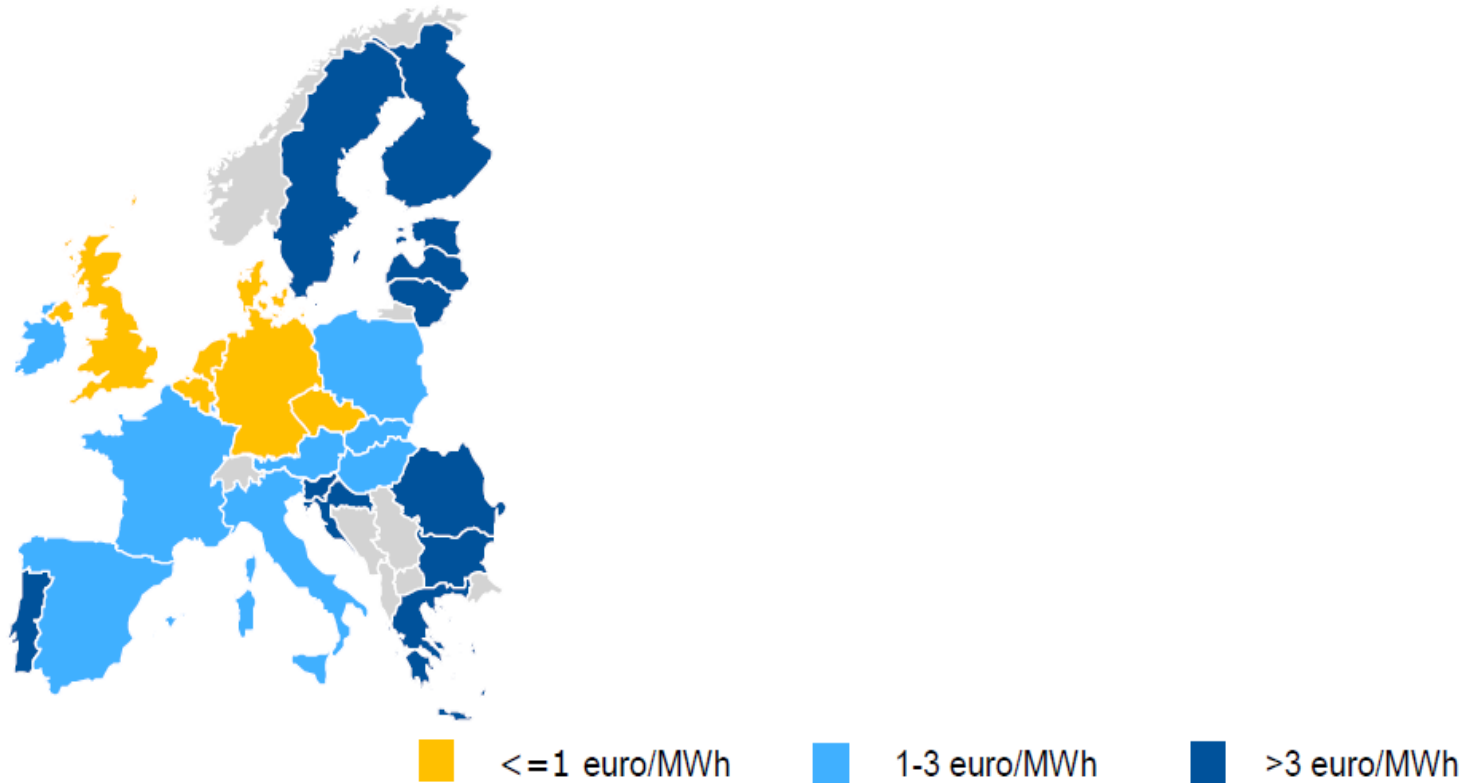


Is diversification of sources needed?



Calculated gas sourcing cost* compared to TTF - estimates

2014: TTF = 23.7 € /MWh



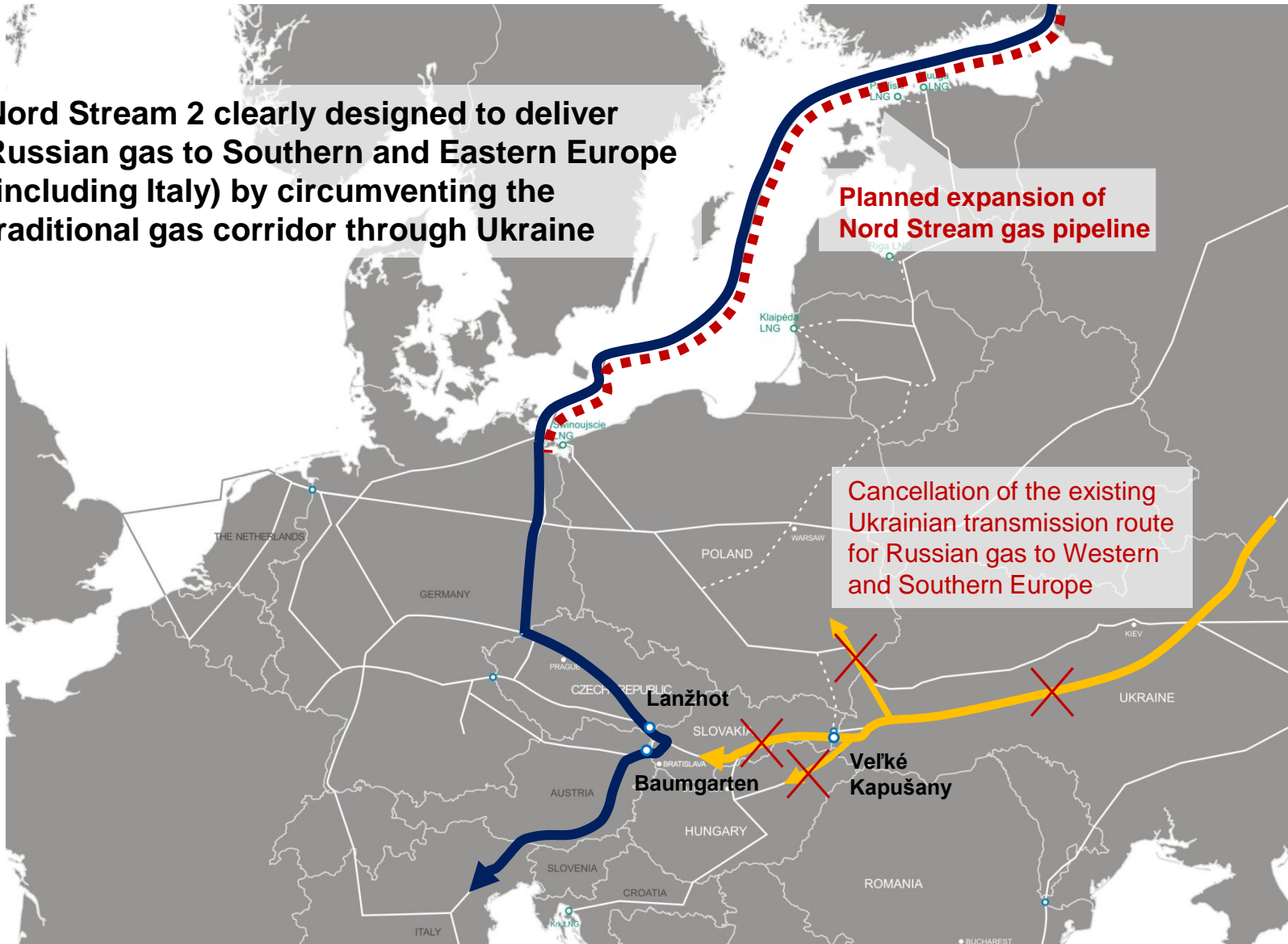
Source: ACER base, Market monitoring report

Nord Stream 2 Influence on Ukraine Transmission System

Nord Stream 2 clearly designed to deliver Russian gas to Southern and Eastern Europe (including Italy) by circumventing the traditional gas corridor through Ukraine

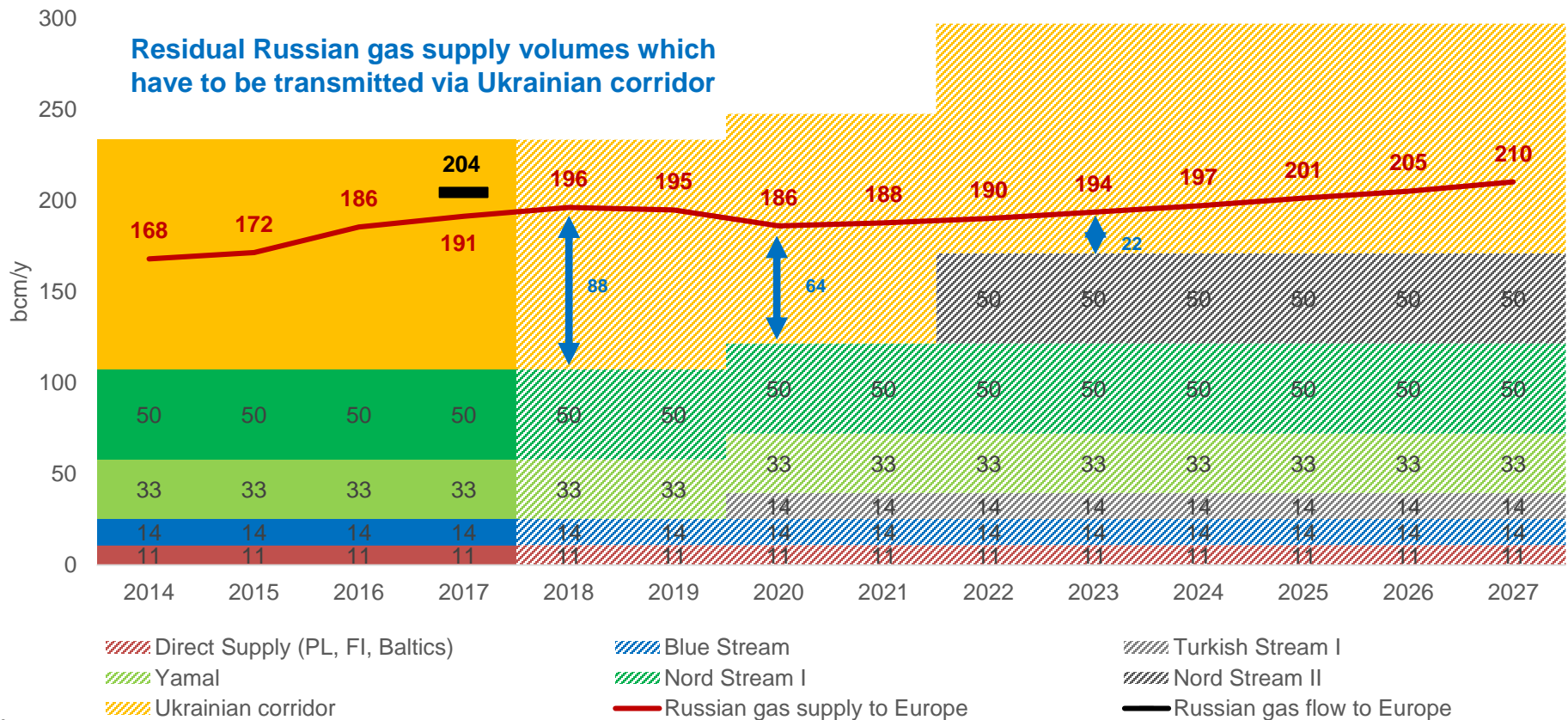
Planned expansion of Nord Stream gas pipeline

Cancellation of the existing Ukrainian transmission route for Russian gas to Western and Southern Europe



CEE gas markets are linked to Ukraine

- There is no option for Europe other than Ukrainian corridor to deliver residual Russian gas;
- Veľké Kapušany (the entrance to Eustream's system from Ukraine), represents the major part of the Ukrainian corridor;
- Even if all capacities are utilized 90%, Ukrainian capacity still needed to deliver substantial Russian gas;



Notes:
 90% utilization of technical capacities of all presented pipes / corridors
 Nord Stream capacity assumed on level of 2016 flow
 Nord Stream 2 (technical capacity 55 bcm) and Turkish Stream (technical capacity 16 bcm) are also presented

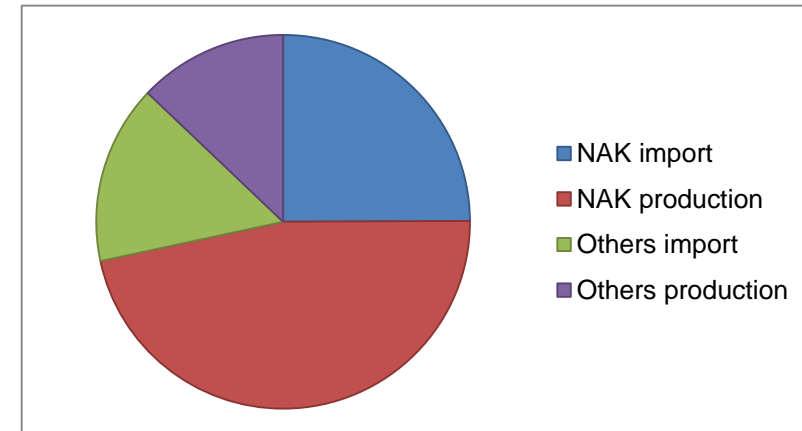
Ukraine: country is loosing reform pace

Pros:

- Ukraine imports gas from Europe
- Big number of importers and suppliers
- EU gas suppliers start open offices in Ukraine
- Daily balancing coming
- Commercial gas stock reserve requirement no longer damaging

Cons

- Legal framework for cross-border trade and storage is still not perfect
- Real regulatory independence and power
- **Unbundling of the transmission is yet to be completed**
- Retail sector prices under the PSO decree, retail sector is not open for competition
- **Future of gas transit uncertain**



Gas in Europe faces challenges!

EU energy objectives? Affordable + Secure + Clean energy

Internal market/ competition

Security of Supply

Decarbonization

Union Package
Energy Package

DECARBONIZATION

2050
Minus
xx%

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Home News Energy & Environment Energy Energy Infrastructure No future' for fossil gas in Europe, Greens insist

By Frédéric Simon | EURACTIV.com 1435

Supporter
gie Gas Infrastructure Europe

From Twitter
Tweets by @GIEEurope

Natural gas of fossil origin has "no future" in Europe, Greens have warned as EU energy ministers prepared to sign a declaration on Tuesday (2 April) supporting "smart gas infrastructure" as part of a low-carbon energy mix for 2050.

The EU's 28 energy ministers are expected to endorse a political declaration on "Sustainable and Smart Gas Infrastructure for Europe" during an informal meeting in Bucharest on Tuesday (2 April).

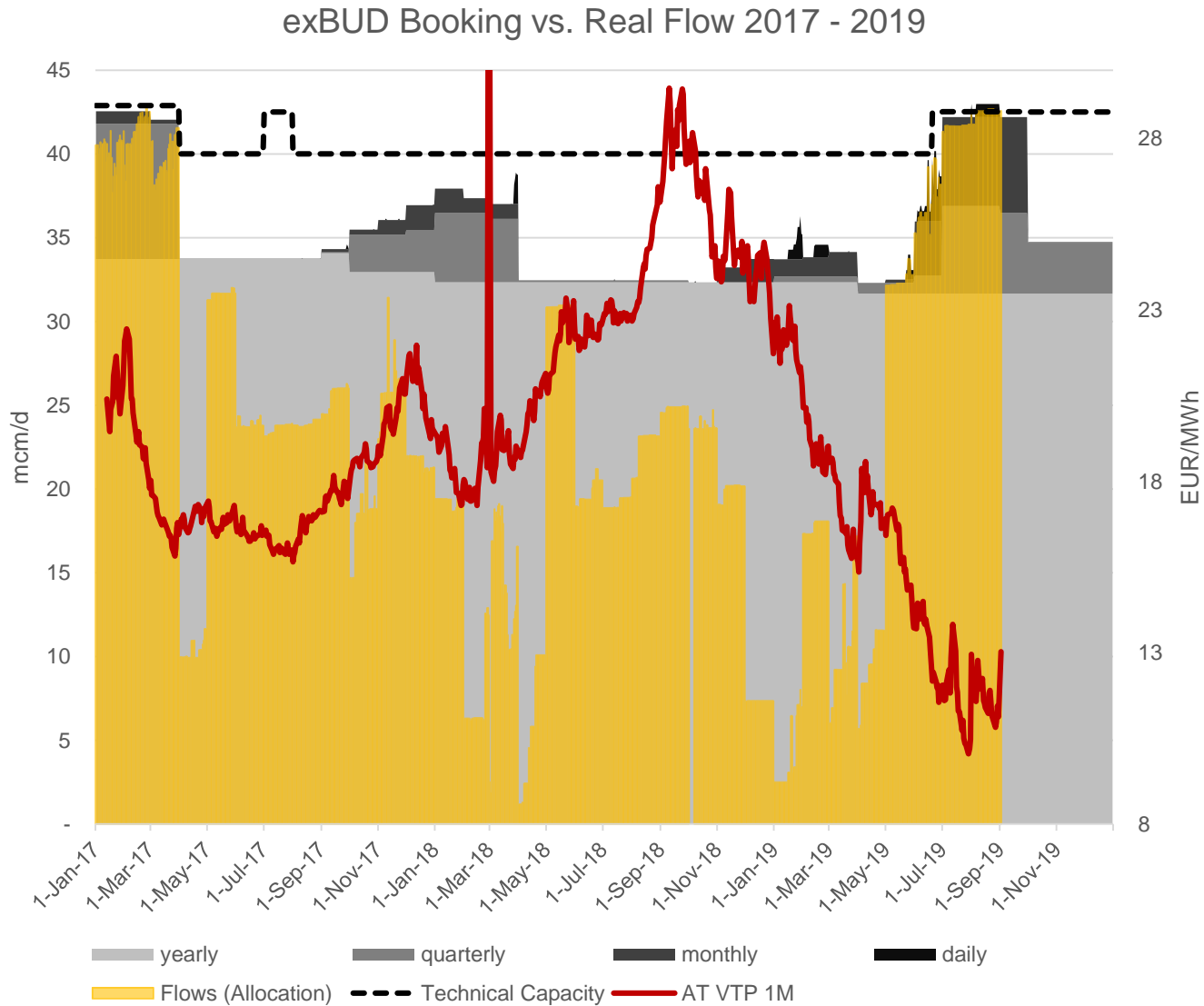
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Gas is perceived as bad:

Any crisis:

Long crisis:

Preparation of Ukraine for the winter



Preparation of Ukraine for the winter



