22/01/2025

Overview of the European gas infrastructure situation

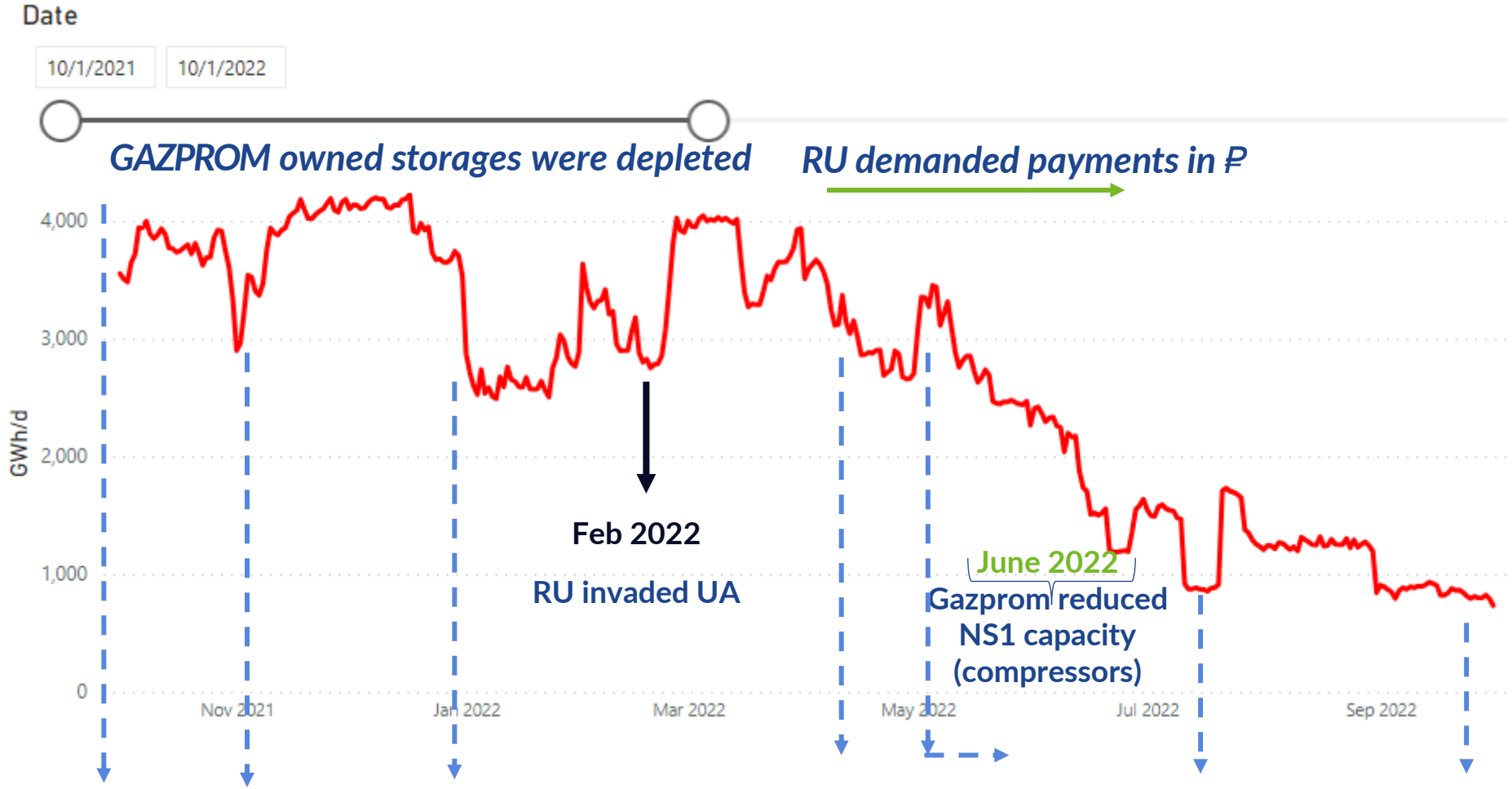
Green Gas Conference 2025

Kacper Żeromski, Deputy Director, System Development, ENTSOG

Copenhagen

Lessons learned – impact on the European infrastructure

How RU supplied gas to Europe - gas year 2021/22



1st Oct 2021

Lowest storage level ever observed

(76%)

1-4 Nov 2021

Outage in Bulgaria

Dec 2021

RU limiting flow through BY

April 2022

RU stops using Yamal and exports to number of EU countries

May 2022

RU sanctioned European assets of Gazprom (nationalised)

July 2022

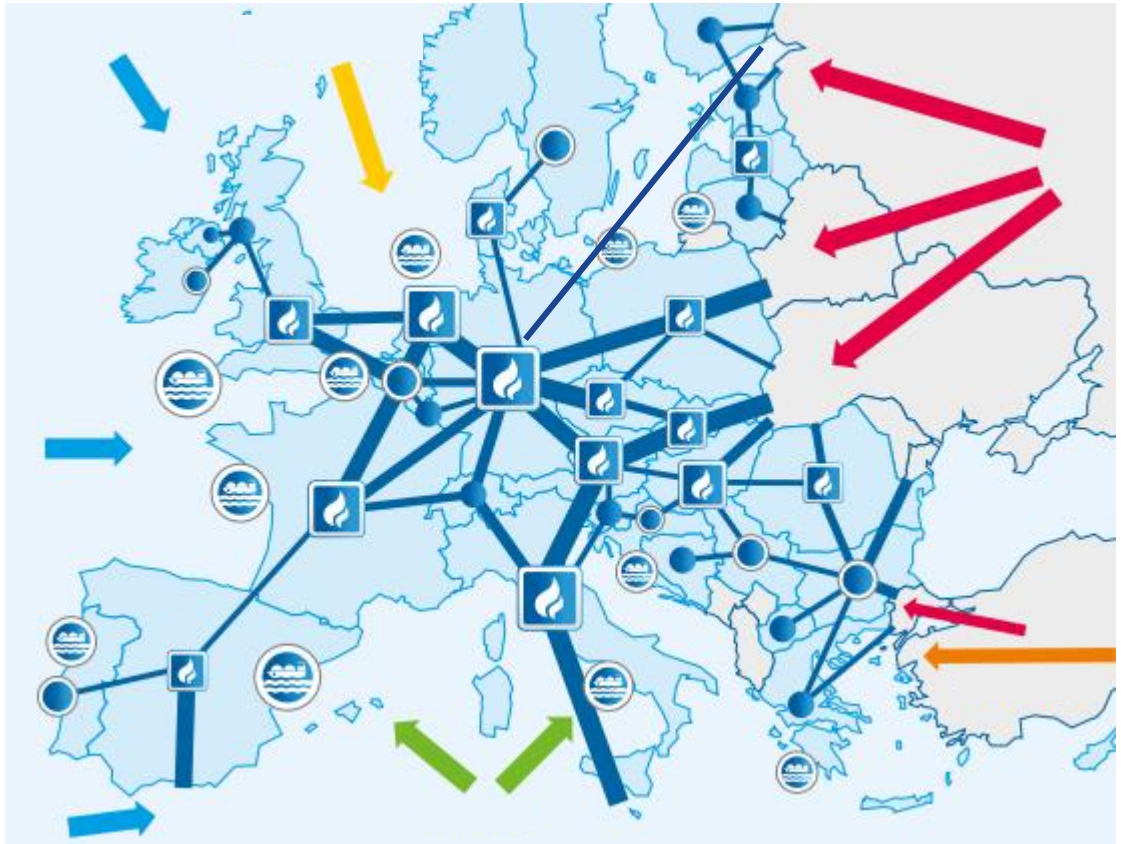
Planned maintenance

26th Sept 2022

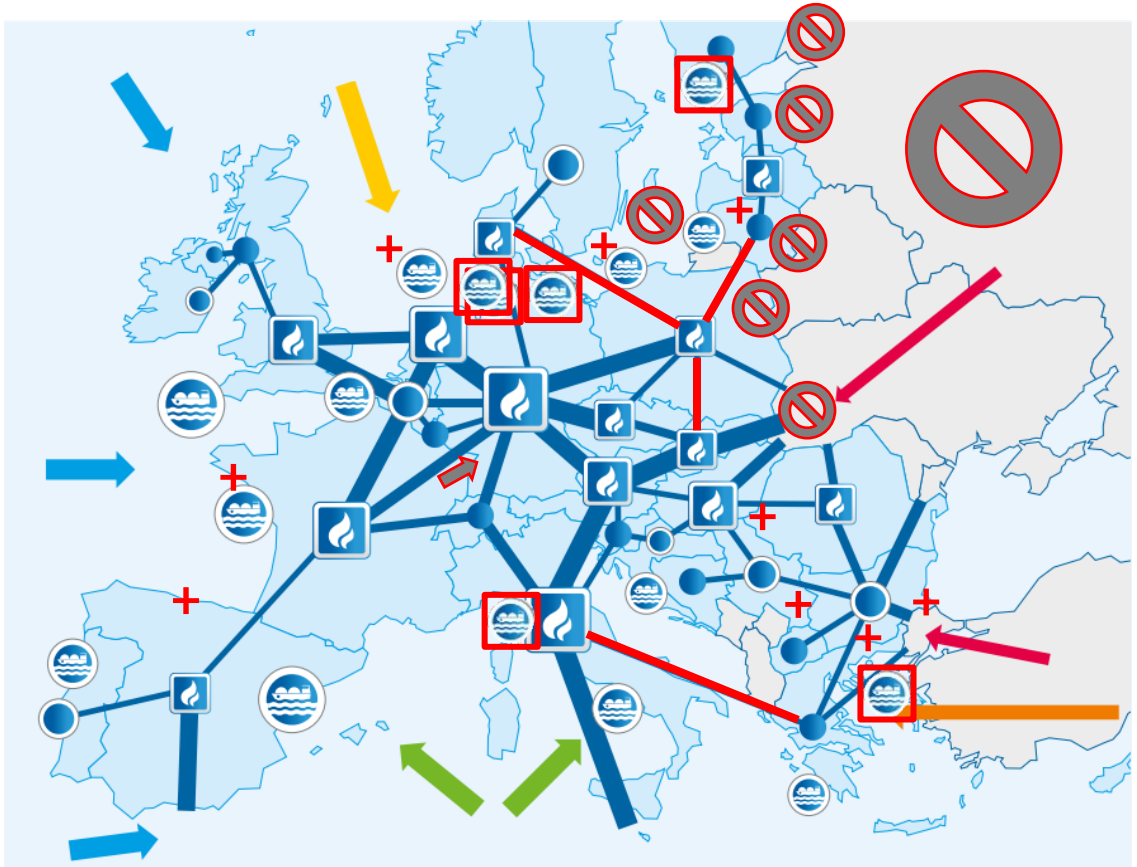
Explosions NS1 & NS2

Instrastructure development

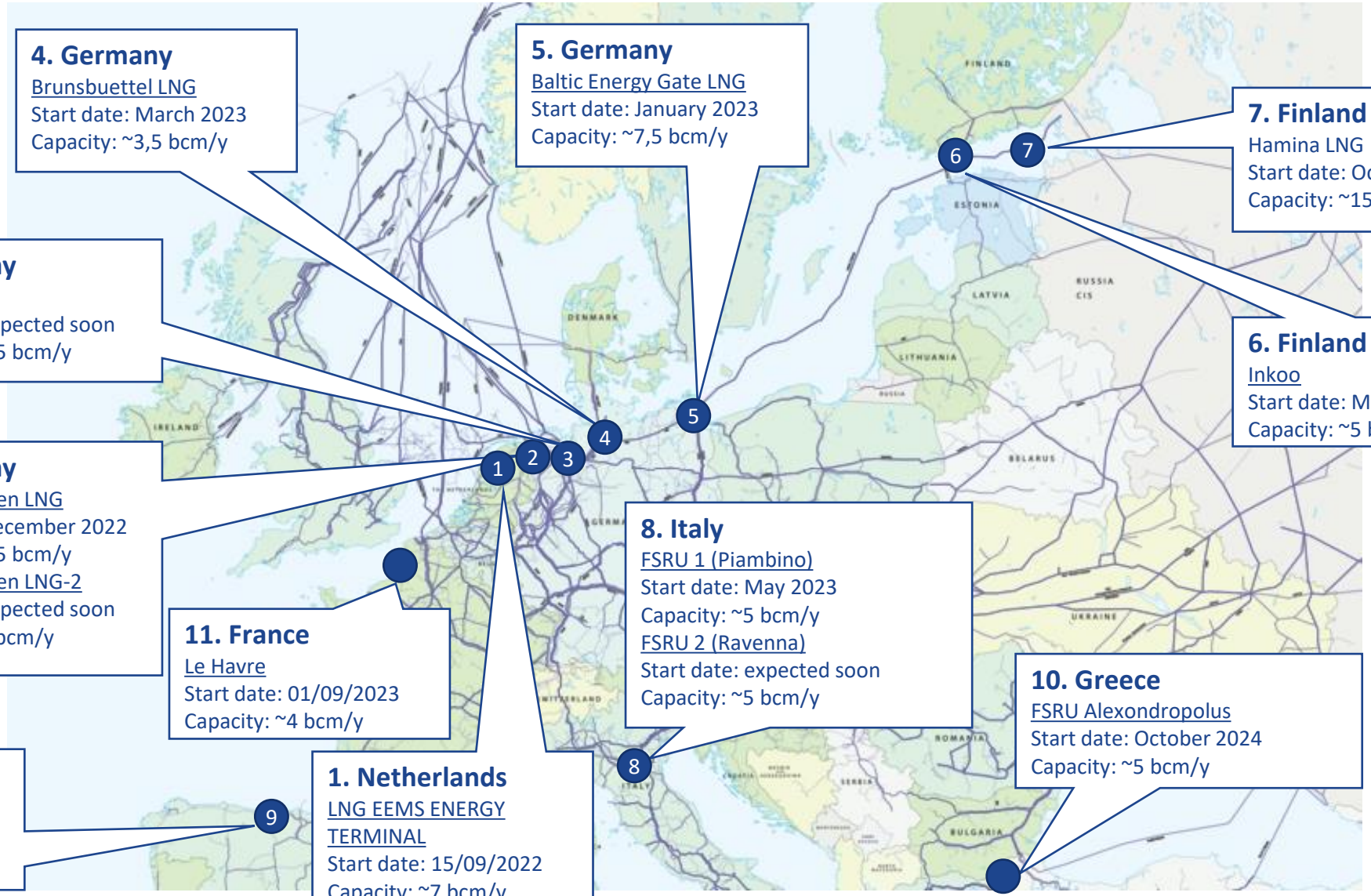
EU Infrastructure - beginning of 2022



EU Infrastructure - Jan 2025



New LNG & FSRU Projects 2022-2024



4. Germany
Brunsbuettel LNG
Start date: March 2023
Capacity: ~3,5 bcm/y

5. Germany
Baltic Energy Gate LNG
Start date: January 2023
Capacity: ~7,5 bcm/y

7. Finland
Hamina LNG
Start date: October 2022
Capacity: ~150 Mcm/y

3. Germany
Stade LNG
Start date: expected soon
Capacity: ~7,5 bcm/y

6. Finland / Estonia
Inkoo
Start date: March 2023
Capacity: ~5 bcm/y

2. Germany
Wilhelmshaven LNG
Start date: December 2022
Capacity: ~7,5 bcm/y
Wilhelmshaven LNG-2
Start date: expected soon
Capacity: ~5 bcm/y

8. Italy
FSRU 1 (Piambino)
Start date: May 2023
Capacity: ~5 bcm/y
FSRU 2 (Ravenna)
Start date: expected soon
Capacity: ~5 bcm/y

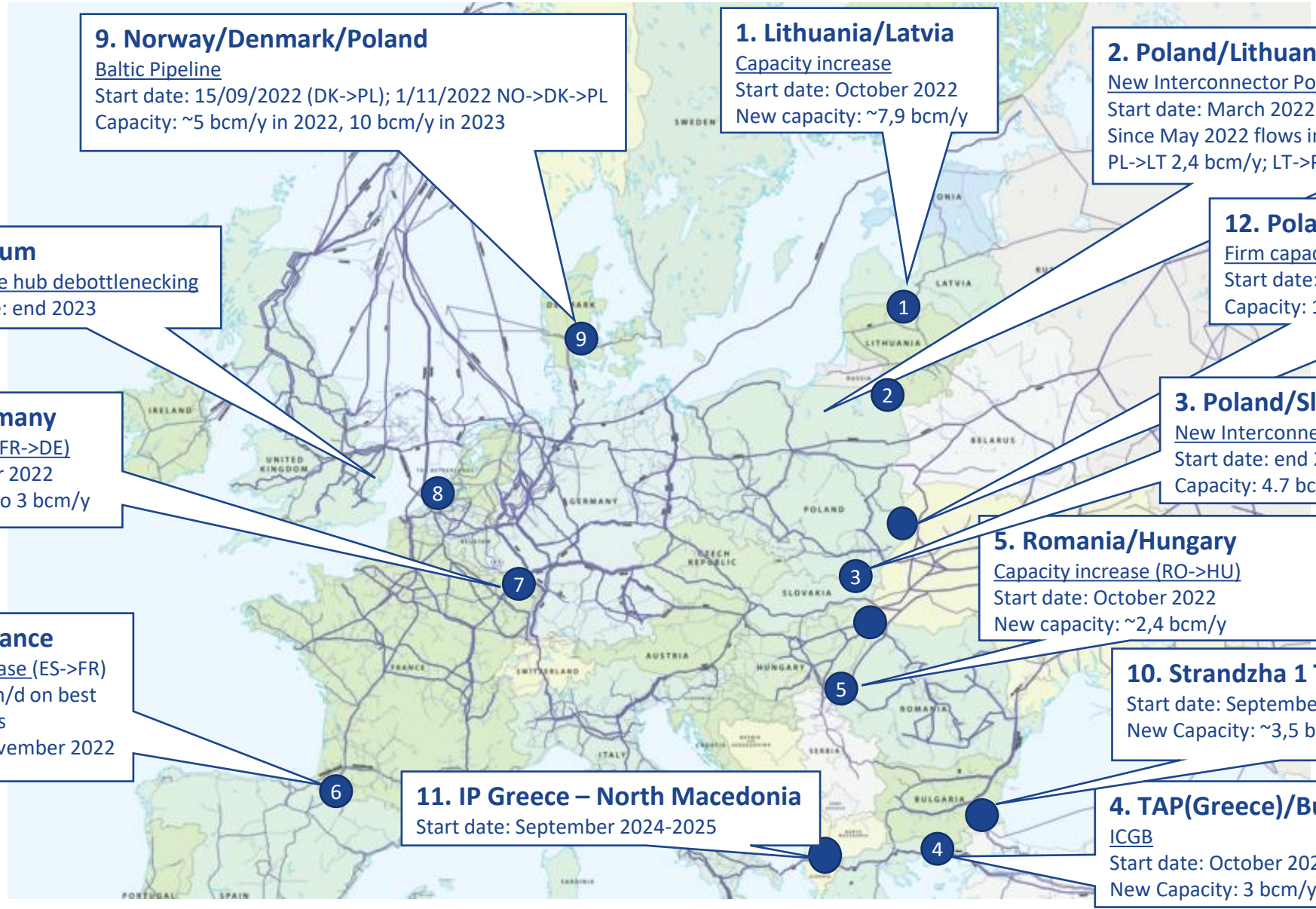
11. France
Le Havre
Start date: 01/09/2023
Capacity: ~4 bcm/y

10. Greece
FSRU Alexondropolus
Start date: October 2024
Capacity: ~5 bcm/y

9. Spain
LNG Musel
Start date: 1/07/2023
Capacity: ~8 bcm/y

1. Netherlands
LNG EEMS ENERGY TERMINAL
Start date: 15/09/2022
Capacity: ~7 bcm/y

New Pipeline Infrastructure Projects 2022 - 2024



9. Norway/Denmark/Poland
Baltic Pipeline
Start date: 15/09/2022 (DK->PL); 1/11/2022 NO->DK->PL
Capacity: ~5 bcm/y in 2022, 10 bcm/y in 2023

1. Lithuania/Latvia
Capacity increase
Start date: October 2022
New capacity: ~7,9 bcm/y

2. Poland/Lithuania
New Interconnector Poland Lithuania
Start date: March 2022
Since May 2022 flows in both directions
PL->LT 2,4 bcm/y; LT->PL 1,9bcm/y

12. Poland/Ukraine
Firm capacity from Poland to Ukraine
Start date: end 2024
Capacity: 1,8 bcm/y (PL->UA)

8. Belgium
Zeebrugge hub debottlenecking
Start date: end 2023

3. Poland/Slovakia
New Interconnector Poland-Slovakia
Start date: end 2022
Capacity: 4.7 bcm/y (PL->SK); 5.7 bcm/y (SK->PL)

7. France/Germany
Capacity increase (FR->DE)
Start date: October 2022
New Capacity: up to 3 bcm/y

5. Romania/Hungary
Capacity increase (RO->HU)
Start date: October 2022
New capacity: ~2,4 bcm/y

6. Spain/France
Capacity increase (ES->FR)
Around 4 Mcm/d on best endavour basis
Start date: November 2022

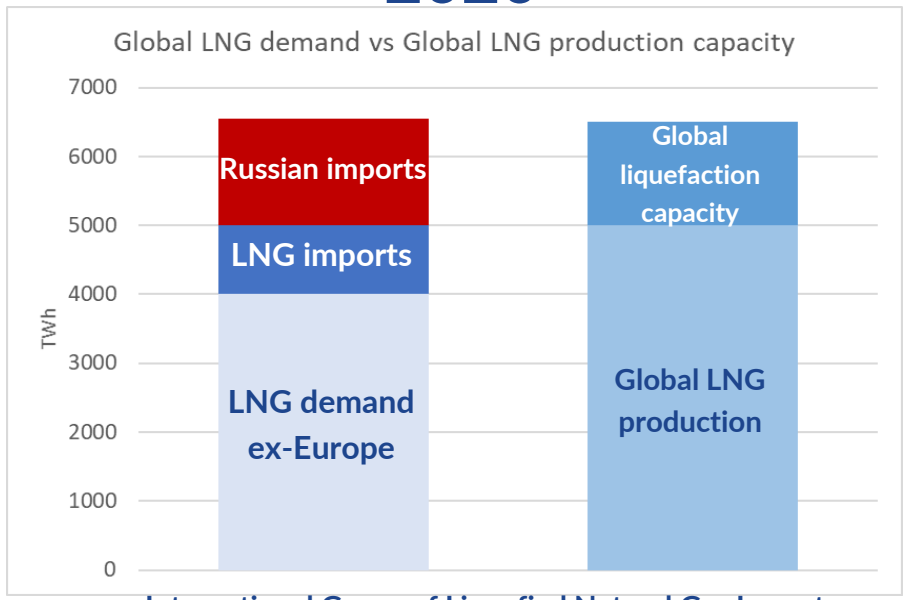
10. Strandzha 1 Turkey/Bulgaria
Start date: September 2023
New Capacity: ~3,5 bcm/y

11. IP Greece – North Macedonia
Start date: September 2024-2025

4. TAP(Greece)/Bulgaria
ICGB
Start date: October 2022
New Capacity: 3 bcm/y in 2022 (TAP->BG)

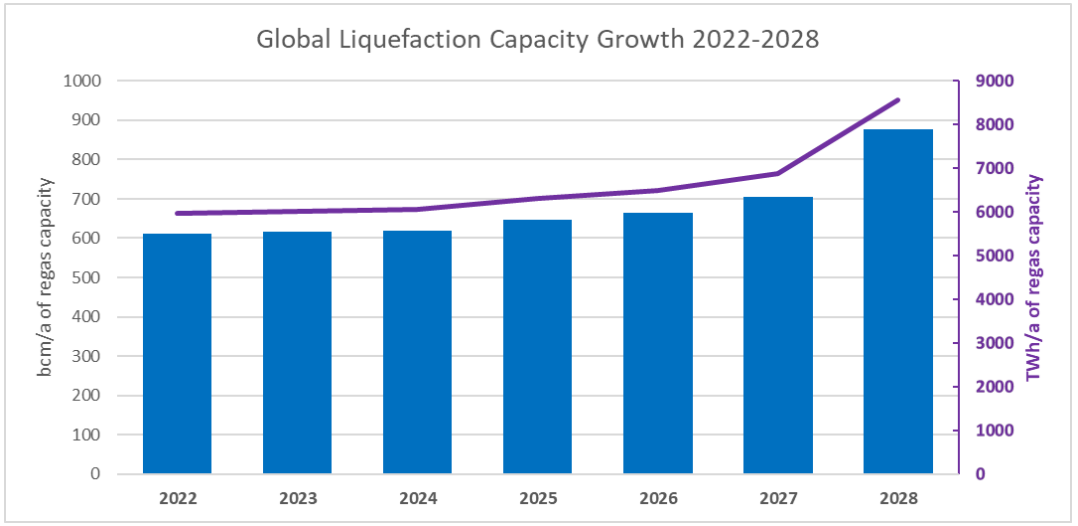
Challenge? no challenge?

2020

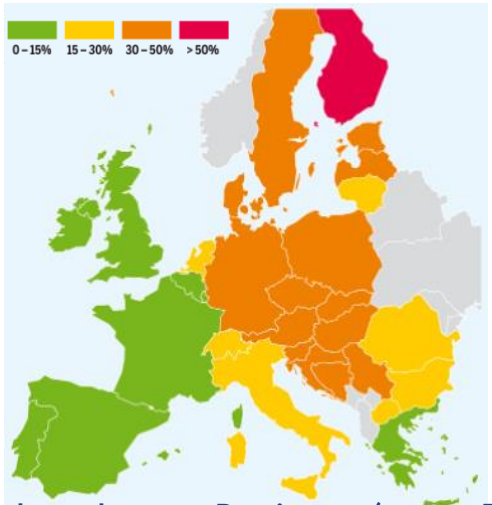


source: International Group of Liquefied Natural Gas Importers

?



Source: Incorrys: Global Liquefaction Capacity Growth 2022-2028



Minimum dependence on Russian gas (source: TYNDP 2020)

Summer Outlook 2024, ENTSOG

Winter Supply Outlook 2024/25

Seasonal outlooks

Medium-term analysis

Each outlook covers 6 months of either injection or withdrawal season (summer or winter)

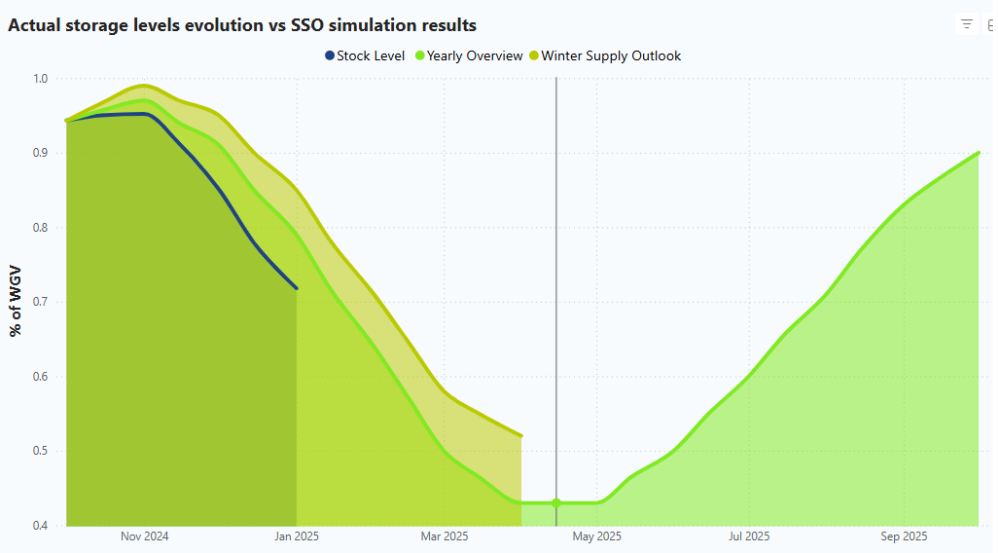
Additionally, another 6 months overview is included

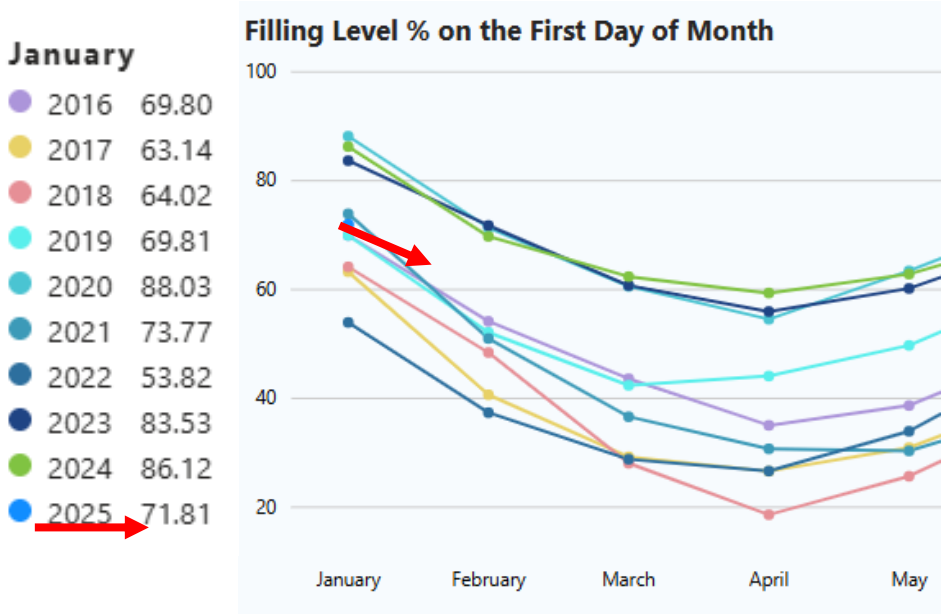
Question: Does the existing gas infrastructure in Europe allow for meeting demand under certain supply and demand assumptions…

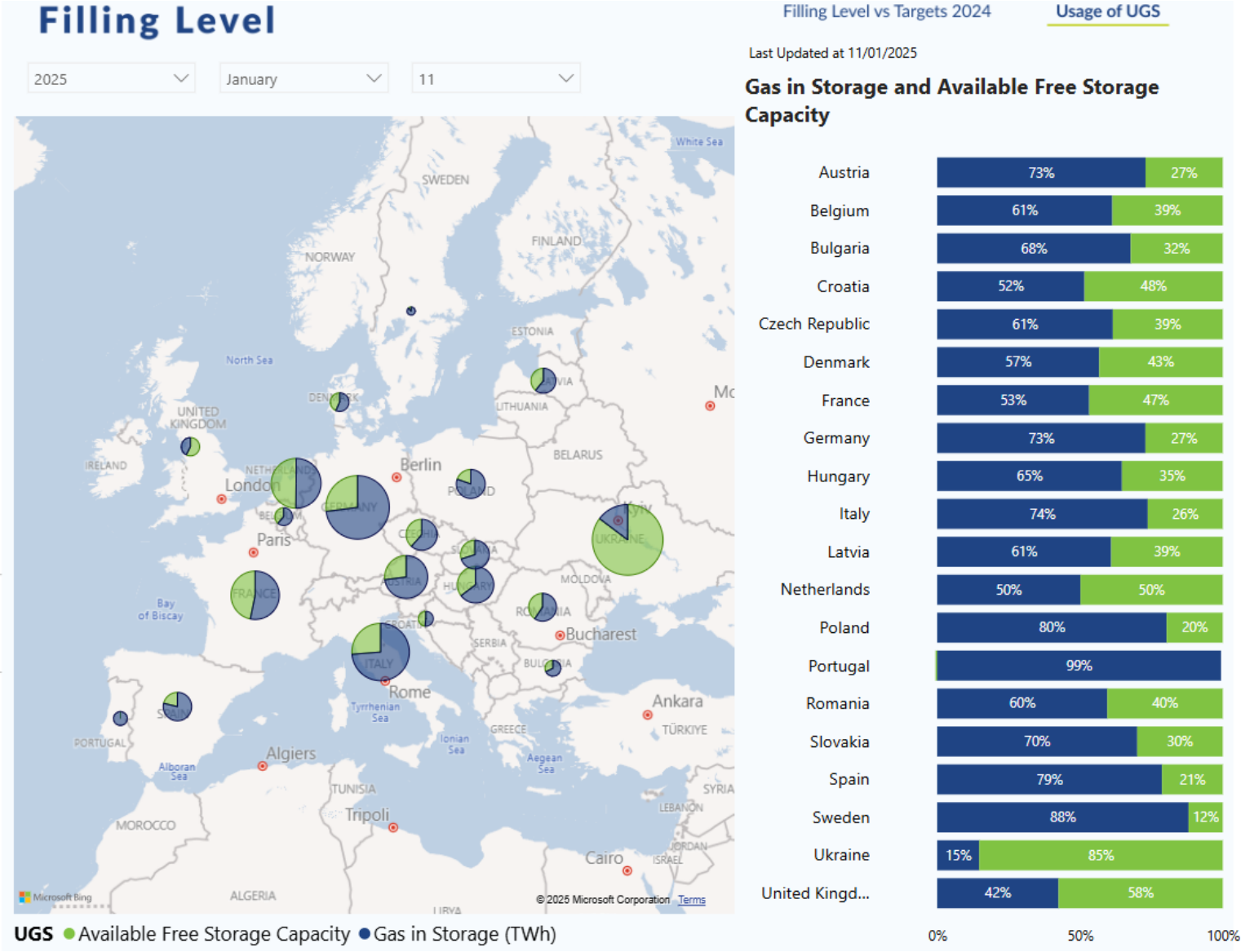
…and allows for saving adequate volumes of gas in storage at the end of winter?

…and allows for injection and adequate preparedness for the following winter?

Storage stocks evolution vs Winter Outlook simulation results







link: [Seasonal Supply Outlook Monitoring]

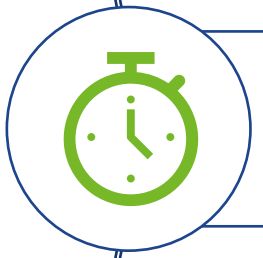
EU-wide Security of Supply Report 2024

Methodological context

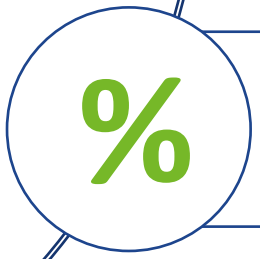
Union-wide simulation as defined with Gas Coordination Group meant to assess the gas system under situations challenging in terms of:

Level of demand

assessing energy efficiency needs or measures needed related to demand reduction



Disruption duration and timeframe



Initial gas storage level at the beginning of the winter season

investigating low starting levels to address risks related to storage, including those associated with capacity hoarding, market manipulation, underinvestment, etc.

Risk groups

(a) **LNG** supply risk group

(b) **South-East** supply risk group

(c) **North African** supply risk group

(c) **North Sea** supply risk group

Disruption simulations

#	Disruption Scenario	Duration
1	Disruption of the largest offshore infrastructure to continental EU (Europipe 2)	6 months
2	Disruption of the largest onshore infrastructure from Norway (Emden station)	2 weeks
3	Disruption of the largest infrastructure to Denmark (Nybro area)	2 weeks
4	Disruption of the largest offshore infrastructure to the UK (Langeled)	6 months
5	Disruption of Forties pipeline system	6 month
6	Disruption of the largest offshore infrastructure to Italy (Transmed)	6 months
7	Disruption of the largest offshore infrastructure to Spain (Medgaz)	6 months
8	Disruption of all imports from Algeria, including LNG	6 months
9	Disruption of all imports from Libya	6 months
10	Disruption of all imports from Turkey to Greece (TANAP + Kipi import point)	6 months
11	Disruption of the largest onshore infrastructure to Greece (TANAP)	2 weeks
12	S-1: LNG	6 months

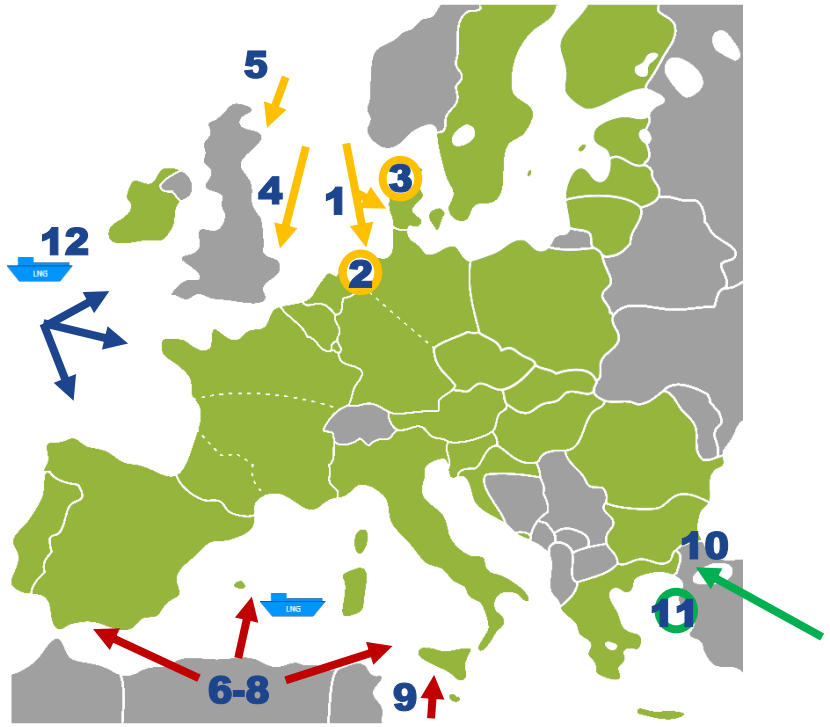
NORTH SEA

NORTH AFRICAN

SOUTH-EAST

LNG

The model assumes cooperative behavior among **all countries***



2 weeks duration represented by circles (onshore),

6 months duration represented by arrows (offshore)

**This concerns (i) an avoidance of eventual risk of demand curtailment or sharing it if impossible to avoid between the countries if technically possible, (ii) LNG supply distribution between terminals according to security of supply needs, and (iii) storage utilization according to security of supply needs. However, the model does not factorize commercial supply agreements.*

COOPERATION IS KEY

High storage levels, the gas infrastructure and **cooperation efficiently reduces the dependence on Russian supply,**

Cooperation between the countries allows for efficient injection during the summer and in preparation during the next winter.

DEMAND RESPONSE, ALTERNATIVE SUPPLY

Measures such **additional supplies and decrease in gas demand by 15%** would allow to avoid demand curtailment risks and to reach adequate storage level when needed.

PREPARDNESS

To reach 90% at the end of next summer **it is necessary to maintain gas at the beginning of the injection season**.

Storages play an essential role to ensure security of supply. It would be important to inject gas during the summer season and keep storage on adequate level until the end of the winter.

Additional storage flexibility could be secured by storing additional volumes in Ukrainian storage facilities. Transit of gas through Ukraine between EU Member States could improve interconnectivity between the CEE and SEE regions.

Thank you for your attention

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