## REPowerEU

Strengthening EU Security of Supply with gas infrastructure





#### Welcoming the REPowerEU proposal

GIE, the association of the gas infrastructure operators of Europe, welcomes the REPowerEU Communication that was released on 8 March by European Commission. Among the set of promising measures presented lies the proposal to scale up biomethane production to 35 bcm and doubling of hydrogen by 2030 which represent an excellent opportunity for Europe to decarbonise its economy in a fast and sustainable way while avoiding stranded assets.

# Oetermined to establish a sustainable, secure, and integrated energy system, we stand ready to offer our knowledge, experience, and extensive infrastructure.

To properly address the colossal work ahead of us, collaboration will be essential: That's only by acting together that we can make an impact. By combining and using our long-standing competencies, we will overcome the challenges ahead. By joining forces and identifying opportunities of partnership and synergies, we can make it happen in the most efficient and sustainable way, while ensuring the protection of EU citizens and industries.

In these times of unprecedented challenges, we are closely monitoring the evolution of the current crisis and its effects on the energy market. The current context is upsetting the geopolitical balance and alters the global energy dynamics. The EU's energy strategy must be adapted accordingly, and we therefore believe that the revision of the gas Security of Supply regulation, and the introduction of Member States storage regulatory interventions, will be two levers enabling us to overcome possible natural gas flows disruptions.

By covering 27 countries, our broad membership enables us to have a good overview of the different opportunities and challenges of the EU Member States. In fact, we represent a broad and international network: our LNG facilities, underground storage facilities and transmission systems can store and transport massive volumes of renewables and low-carbon molecules over long distances. Currently, we handle 25% of the EU's primary energy consumption through our infrastructure. This includes hydrogen, biomethane, natural and synthetic gases. We can do that within Europe. But we can as well connect Europe to the rest of the world with LNG terminals, which are crucial to overcome a potential decrease in natural gas flows. As such, we can support the European economy and protect its citizens and industry by providing solutions for diversification of supply sources and routes. Our services consist of different options: technical, operational, markets, certificates, data, etc.

Our vast infrastructure guarantees safe and reliable transport, storage and import of low-carbon and renewable molecules. To enable it to unveil its full potential, it is now crucial to adapt the regulatory framework to take account of the new asset operations of our members.



#### **Context analysis**

#### **Priorities reverse**

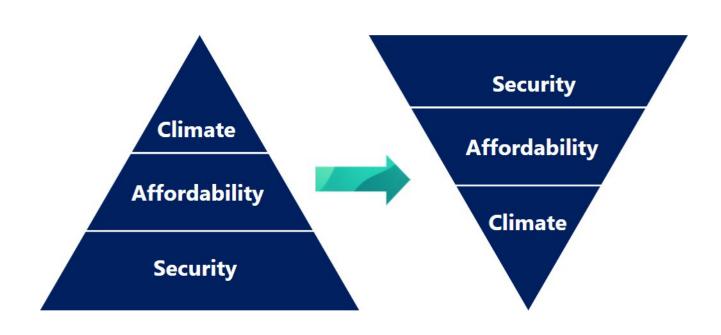
#### Over the past years

Security of energy supply is about making sure that European citizens can keep heating their home, cooking dinner or simply charging their phone in an affordable way. It is also about ensuring European industries keep producing value and providing jobs. Over the past years, security of supply was taken for granted and that was the occasion to optimize the markets while shifting the focus on decarbonisation, with the European Green Deal paving the way towards climate neutrality by 2050. Until February 2022.

#### **Geopolitical shift**

Everything started with the energy price crisis last year. Markets and affordability have come in focus. Later, the evolution of the global geopolitical balance placed the Security of Supply at the top of EU priorities.

The balance of the EU Energy Trilemma has to be refunded.





#### **Context analysis**

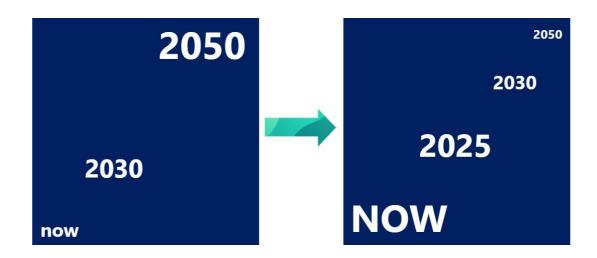
#### **Timing reverses**

#### A long-term vision

To build a climate-neutral and decarbonised energy landscape portrayed within the Paris agreement, multiple structural changes are needed: this means long-term policies and vision. 2050 was set as target year for the EU energy transition in the context of the EU Green Deal, while sub-targets were established such as 2030. This long-term vision and guidance will be crucial to put in place the integrated energy system and its innovative infrastructure.

#### What about now?

The extreme energy prices of last year, and the current threats to security of supply require a focus on the shorter term. The present becomes most relevant: the spotlight must be turned on what we do today and what are the short-term initiatives we can put in place to protect our people and the economy. Can we support homes and industry with energy for the coming winter? At what costs?





Source: UN IPCC

10

0

-10

-20 1990 2000 2010

2020

2030

2040

2050

2060

2070

2080

2090

2100

#### **Context analysis**

#### Long-term goals return

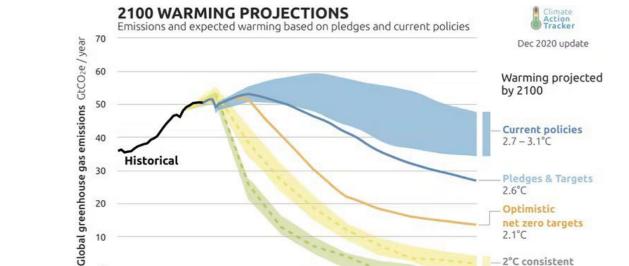
Thanks to collaboration between regions and industries, we, as Europeans, will overcome the current crises. And we will be able to witness the return to the "Long-Term Goal" of designing a net-zero and innovative world for all of us.

Immediate actions might on some points go against decarbonisation, but impacts should be assessed, and damaging air quality solutions should be avoided. Natural gas emits almost 50% less CO<sub>2</sub> than coal.

EU produced and imported renewable and low-carbon molecules represent a relevant option when it comes to providing secure and decarbonised energy to EU households and industries. They have a role to play to improve energy efficiency and boost the integration of an increasing share of renewable energy sources.

In the post-period crisis, society and policies will shift again towards a full focus on climate change, in an intensified manner.

By 2030, the share of renewable energies might be even higher than expected a few months ago. This includes a faster transition to biogases and (green and blue) hydrogen.



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2°C consistent

1.5°C consistent

1.6 - 1.7°C



#### **GIE Recommendations**

Our infrastructure can provide "better" solutions

#### **About molecules**

#### **Facts on Natural Gas**

- Gas is approximatively 25% (4,000 TWh) of EU27 annual energy consumption
- Russian gas is 1,800 TWh, of which LNG is 200 TWh,
- LNG import capacity is 1,900 TWh
- Storage options at 1,150 TWh
- European Commission wishes EU Russian gas to decrease by 2/3 in 2022 and fully by 2027/2030

Molecules should play a crucial role in the long term. They will enhance the energy transition by offering efficient ways to decarbonise the whole economy, including hard-to-abate sectors such as transport, heating, or intensive energy industries. Using molecules also offers other benefits in improving air quality by phasing out coal and laying the ground for hydrogen with the so-called switch from coal to gas to hydrogen. However, Europe should revise and diversify its supplying sources of natural gas.

We see a crucial role for LNG terminals: they offer multiple global supply sources including, amongst others, the US, Norway, Middle East, and Algeria, and they can accommodate multiple types of energy carriers including renewable ones. Concretely, EU27 has 1,900 TWh regasification capacity in place, with another 180 under construction and plans for an additional 900 TWh.

		built/not	under	
Country/Status	operational	operational	construction	planned
EU27	1,833	81	182	898

Furthermore, there is today no alternative to the flexibility provided by storage system operators on short-term and seasonal timescales: there are 1,150 TWh operational in EU27 and an additional storage capacity of 85 TWh planned in the EU-27<sup>1</sup>, including the development of an underground gas storage site at South Kavala in Greece, a country without underground gas storage sites at the moment.

Gas storage is a proven alternative to guarantee security of supply and flexibility needs to the energy system. In the future, gas storage sites will integrate renewable and low-

<sup>&</sup>lt;sup>1</sup> Gas Infrastructure Europe (2021) *European underground storages: Ready to deliver the Fit-for-55 package*, press release, 20 July 2021. Available at: https://www.gie.eu/press/european-underground-storages-ready-to-deliver-the-fit-for-55-package/



carbon molecules. Since 2018, GIE has prepared many studies on the different values generated by storages, and how society could better utilise these assets<sup>2</sup>.

In addition, many of our members are already looking into options for hydrogen and biogas storage underground which could benefit industries and citizens in the near future. Two studies highlighting the pathways and values of underground hydrogen storages are under development.

If we want this transition to be successful while protecting citizens and our economies, we need to make sure that natural gas, together with renewable and low-carbon molecules, unveil their full potential. For that, a policy framework must be put in place that fosters the deployment of renewable and low-carbon gases in Europe, but also facilitates cooperation with non-EU countries.

European institutions should secure financing of natural gas and decarbonised gas infrastructure projects. It is true that the actions taken in 2009-2010 after the "Russian-Ukrainian gas crises" enabled us to be more prepared for the current one. At that time, and prior to the establishment of ENTSOG, GIE prepared several proposals for "reverse flow options", making west-east flow increasingly possible.

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<sup>&</sup>lt;sup>2</sup> Please GIE website at: https://www.gie.eu/publications/studies/



#### **Biomethane and hydrogen**

- New REpowerEU target of 400 TWh in 2030
- There is a need for national support schemes
- Increase production in existing plants
- Include biomethane and hydrogen in network planning
- Assess the best DSO-connection options for local green gas production
- Prepare for DSO-TSO recompression, when supply is higher than demand
- Assess gas quality issues
- Ensure certification/tradeability of hydrogen and biomethane within Europe as well as with third countries





#### **GIE Recommendations**

Our infrastructure can provide "better" solutions

#### **About infrastructures:**

#### **LNG FACILITIES**

LNG and LNG terminals are playing and will continue to play a pivotal role in enhancing the European security of supply.

GLE is the only association of Europe's terminal operators and is ready to actively contribute to the LNG coordination Platform of the Members States set up by the European Commission.

Thanks to its unique membership, GLE has been developing in the past years' numerous transparency <u>platforms</u> and <u>tools</u> that gather the most updated and accurate data from the European LNG market. GLE is ready to support the European Commission, Member States and all stakeholders' discussions in the context of European security of supply in the best possible way.

#### LNG terminals enhance European security of supply





LNG terminals enhance security of supply through source and route diversification and secure access to global and competitive (fossil and renewable) energy sources. They are today and will be in the future an important entry door to Europe for imported energy, providing energy in a flexible manner and with high deliverability flowrates. The storage capacities of LNG terminals not used for operational purposes also contribute to security of supply. Moreover, European LNG terminals offer a relevant and growing number of Small-Scale LNG services (truck loading, bunkering, etc.) which help to provide gas to off-grid customers and maritime/road transport.

## In order to maximize LNG supplies to Europe and the use of existing and future LNG terminals, there is a need to:

- Invest in upstream and secure additional LNG volumes. The global LNG market is in supply/demand balance; to make significant LNG volumes available for Europe, upstream investments will be needed. In order to facilitate this, long term supply contracts with an appropriate price indexation are a precondition. Here, compromises will have to be found between the legitimate interests of suppliers and customers. This additional LNG production could be redirected to other areas where there are massive quantities of oil and coal to be substituted as renewable and low carbon gases volumes will enter Europe. Appropriate contractual arrangements are needed to give investors long-term security of demand. Either state support or at least mid-term commitment by the EU for gases needs to be clearly stated, so that amortization is guaranteed, otherwise not enough such investments may be made. European LNG terminals welcome the additional US LNG volumes for the EU market of at least 15 bcm in 2022 and additional U.S. LNG until at least 2030 of approximately 50 bcm/annum.
- Put in place a fast track-approval procedure for planned LNG terminals (including expansions and FSRUs). Europe currently has 21 operational large-scale LNG terminals, including onshore and offshore. They currently have 1,900 TWh importing capacity. Much more can be imported: another 1,100 TWh/year are expected by 2030:
  - Italy aims for two FSRUs to further increase diversification and security of supply.
  - A preliminary project for a floating terminal in the French port of Le Havre is being prepared between the Ministry for Ecological Transition, TotalEnergies, GRTGaz, and Haropa Port<sup>3</sup>.
  - The Federal Government has opted for three FSRUs via the companies RWE and Uniper in order to further increase security of supply in Germany<sup>4</sup>.

<sup>&</sup>lt;sup>3</sup> https://gettotext.com/france-plans-a-floating-liquefied-gas-terminal-in-le-havre-les-echos/

<sup>&</sup>lt;sup>4</sup> https://www.bmwi.de/Redaktion/DE/Pressemitteilungen/2022/03/20220325-habeck-deutschland-reduziert-energie-abhangigkeit-von-russland-mit-hohem-tempo-mussen-aber-weiter-besonnen-agieren.html



- Gasunie, KfW (on behalf of the German Federal Government) and RWE have signed a MoU for the construction of the LNG import terminal in Brunsbüttel<sup>5</sup>
- Uniper has resumed work on the LNG import terminal in Wilhelmshaven<sup>6</sup>
- Hanseatic Energy Hub (HEH) in Stade has launched an Expression of Interest Process for LNG capacity bookings<sup>7</sup>
- Poland will speed up the construction of the Floating Storage Regasification Unit (FSRU) at the LNG terminal in Gdańsk and expansion the existing LNG terminal<sup>8</sup>
- Gastrade took a final investment decision for the Greek Alexandroupolis LNG terminal to be ready in 2023<sup>9</sup>
- The Dutch LNG terminal operator, Gate terminal, has decided on the phase 1 of the expansion of the existing Gate Terminal, capacities to be operational in 2024. The second phase of expansion of Gate Terminal is planned for 2026.<sup>10</sup>
- Gasunie is currently investigating the use of a FSRU in Eemshaven in the Netherlands.<sup>11</sup>
- To speed up development, the EU and Member States should secure efficient approval and permitting procedures. Normal LNG terminal projects take 3-5 years to develop, but given the new context, they could be performed in 2-3 years. Converting an existing vessel to an FSRU can take as little as 18 to 24 months (about 2 years), however, they could be now performed in 12-18 months.
- Ensure proper interconnectivity in the gas grid within the EU. To get the maximum import through LNG terminals, it is important that the gas can be efficiently distributed throughout the EU to the main consumption areas, or places with regional/local storages.

#### LNG terminals are needed in the energy transition and ready to decarbonise

Imports of low-carbon and renewable molecules like biogas, synthetic gas and/or hydrogen under the form of liquid hydrogen, ammonia, methanol, LOHC or methane through the LNG terminals will be necessary to complement domestic renewable and low-carbon gas production in an equivalent way to natural gas imports today. Two GLE

<sup>&</sup>lt;sup>5</sup> https://www.gasunie.nl/en/news/gasunie-signs-memorandum-of-understanding-with-german-partners-on-the-construction-of-lng-terminal-in-brunsbuettel

<sup>&</sup>lt;sup>6</sup> https://www.uniper.energy/news/update-on-unipers-russian-activities-and-way-forward

<sup>&</sup>lt;sup>7</sup> https://www.hanseatic-energy-hub.de/en/news/detail/altered-market-situation-hanseatic-energy-hub-heh-in-stade-launches-expression-of-interest-process-for-lng-capacity-bookings/

<sup>8</sup> https://www.gie.eu/transparency/databases/lng-database/

<sup>9</sup> https://www.gie.eu/transparency/databases/lng-database/



- https://www.gie.eu/transparency/databases/lng-database/
- https://www.gasunie.nl/nieuws/gasunie-onderzoekt-lng-terminal-in-de-eemshaven



<u>studies</u> have demonstrated that. The upgrade of existing LNG terminals will enhance security of supply through source and route diversification and secure access to global and competitive low-carbon and renewable molecules.

In order to maximise LNG terminals' potential in the energy transition:

- The Gas Package is a key legislative milestone to unlock the potential of these new pathways. Technology neutrality is crucial.
- Ramp up and accelerate investments in renewable and low-carbon gases
  production abroad that could be imported in Europe; though, these
  investments will take time to bring the needed volumes;
- **Investments in corresponding infrastructure may be needed**, both in terms of import terminals and downstream networks, depending on the energy vector used (methane, liquid hydrogen...).
- **Long-term partnerships** between infrastructure companies and current energy producing/transit countries must be actively promoted to reach the common decarbonization goals efficiently and effectively.
- An international system of certificates/guarantees of origin needs to be established as soon as possible.

#### LNG is the bridge fuel toward bioLNG and synthetic LNG

It can substitute more polluting fossil fuels, hence reducing CO<sub>2</sub>, NOx, SOx, noise and particulate matter emissions in maritime and road transport, power and heat generation (i.e. on remote locations not connected to the gas transmission system). Currently storing natural gas, LNG infrastructure can accommodate BioLNG and synthetic LNG with almost no additional adaptations or investments. These fuels need to be recognized in all EU legislation under the Fit for 55 Package.

#### **STORAGE**

For many years, GIE has carried out several studies and developed the necessary knowledge to allow Storage System Operators (SSOs) to offer market-based services, guarantee system optimization and security of supply<sup>12</sup>. As such, and based on this indepth industry knowledge, GIE wants to reflect on the regulatory framework set out by the newly released REPowerEU communication.

I. Key principle: Market-based pricing along with a set of regulatory measures

GIE has demonstrated the need first to establish market-based pricing to lay the foundation for an efficient allocation of storage capacities. Along with this general principle, regulatory measures should be implemented to further capture some missing values generated by SSOs, in particular insurance and system ones. Several

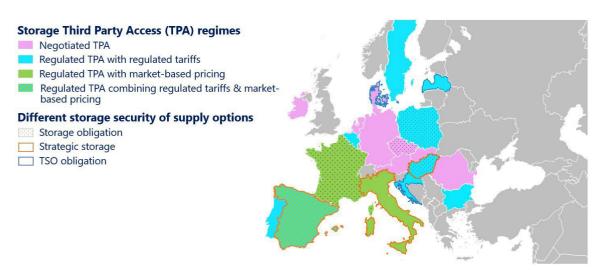
<sup>&</sup>lt;sup>12</sup> FTI (2018) Measures for a sustainable gas storage. Study for GIE.



regulatory options (storage obligation, strategic reserve, etc.) have been presented and differ from the chosen approach (more market-based or interventionist).

#### A. Different regulatory regimes in Europe

As SSOs have been under challenging conditions for several years, most Member States have progressively introduced some instruments at national level. This has helped to ensure long-term sustainability of their storage market while guaranteeing security of supply and led to various regimes across Europe.



Storage regulation and security of supply interventions in EU Member States before the measures put forward by the European Commission in 2022 (Source: GIE, 2021)

This variety of approaches can only be determined at national level due to country specificities (such as the stage of development of the gas market or the importance of gas storage to physically ensure security of supply and flexibility needs) and their exposure to risks.

#### B. An entity designated by each Member State to kick into force

As previously emphasised, a market-based approach should be encouraged to allow market participants to play the key role in filling the storages.

If the market participants fail to reach the filling target (considering the national regime and subsidy schemes) an entity designated by a Member State could entry into force.

In this case, besides the prefinancing/compensation by the Member State of the gas purchased, additional guidance should be given by the Member State regarding the timing and volume of the withdrawal from the storages to limit potential market distortion. Member State could decide not to have any withdrawal if market prices remain in an acceptable range and to secure a certain storage level.



### C. State aid financial support to incentivise storage filling ahead of next winter

In the current situation, the party that fills the storage, without any compensation, is expected to suffer great financial losses as the buying price of the gas during the next summer period, based on current market forwards, is significantly higher than the selling price in next winter. Therefore, this party should be incentivized or financially compensated.

GIE welcomes the proposal to grant aid to incentivise entities to fill gas (be it current suppliers or designated entities) to ensure sufficient levels of gas storage under Article 107(3)(c) TFEU, for instance in the form of a two-way contract for the difference (CfD) to beneficiaries active in the booking and filling of gas storage.

Among the solutions, we support market incentives as these measures enable us to focus on some price signals such as subsidizing market participants with the Day Ahead Win spread, in case such spread is negative. Moreover, the EU should consider a financial facility to fund the losses and the necessary guarantees.

## II. Minimum filling level requirements as tools to strengthen security of supply in time of energy crises

Minimum filling requirements, including filling targets and filling trajectory, are timely in periods of crises with lack of market signals.

For the 2022-2023 winter, the urgency of the situation requires ambitious measures while still considering that the storage year has already started in terms of booking capacity. Thus, the ongoing legal proposal should ensure that the measures do not constitute a regulatory change that would give storage users the opportunity to revise contract clauses which have been previously agreed on.

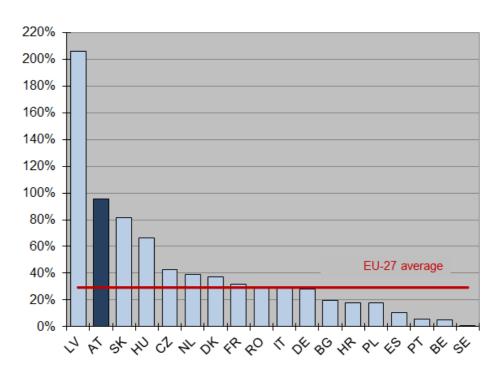
For the following years, the revised framework should ensure that the full value of underground gas storage is captured, especially its insurance one.

#### A. A much-needed flexible approach

In terms of filling target, the proposed minimum filling level shall be implemented and monitored at national level considering national specificities (performances and volumes of storages, consumption scenarios and winter demand, other sources of supply, etc.).

In some countries, implementing a mandatory level of 80% for 2022 and 90% for the following years may be challenging. For instance, Latvia, Austria and Slovakia have large storage facilities which can cover their entire national annual demand for natural gas with the existing technical working gas volumes, thus higher than their prospected winter demand. For them, the costs would be unnecessarily high and disproportionate to their countries' security of supply needs.





**Gas Storage Capacities within EU Member States** 

Storage capacity in % of domestic gas consumption
Source: FachverbandGasWärme Austria based on storage capacities: <a href="https://agsi.gie.eu">https://agsi.gie.eu</a>
(29.03.2022); domestic gas demand via EUROSTAT (2020)

In some other Member States, such as Slovenia or Finland, there is currently no underground gas storage site. They might need to rely on the storage market of their neighboring countries.

Hence, at a regional level, an efficient burden sharing mechanism could be implemented between Member States. For the proper function of the storage filling mechanism, it is also very important that no specific (national) measures will be imposed in the Member States with storage facilities, which would prevent the stored gas to be withdrawn and transported to the designated Member States (e.g. avoidance of retention rights).

For storage sites connected to more than one national market, the Member States shall take a joint decision in setting the filling requirements and ensuring adequate compensation for the storage filling entities and the respective SSOs. Legal clarity will be requested.

#### B. Arbitrage value & assessment of the filling trajectory

In terms of filling trajectory, minimum filling targets at control point level will provide some guarantee that the gas has been injected on time and not fully withdrawn before the end of the winter period. To ensure this filling trajectory does not heavily constrain market behavior and enable storage users to still benefit from the arbitrage value



During the injection or the withdrawal period, the number of control points needs to be revised and limited.

Differentiation should also be made between short cycle (salt caverns) and seasonal storages (depleted fields and aquifers). Short cycle storages can be quickly refilled during periods of low gas demand (for example late in December). Very strict rules on short cycle storage would prohibit the full usage of short cycle storage. Short-cycle storage plays an important role in absorbing fluctuations in the volatile market.

#### III. Responsibilities

Member States need to clearly define the roles and responsibilities in filling and monitoring the filling requirements. SSOs offer storage capacities to the market, suppliers and traders' books and inject in or withdraw from gas storage facilities. According to unbundling rules, SSOs are not allowed to speculate/trade on the gas market for injecting and withdrawing gas to meet the minimum filling requirements.

#### IV. Use it or lose it instrument

Any complementary rules to fulfil the minimum filling requirements like application of effective fill-it-or-lose-it mechanisms need to be designed to ensure property rights related to booking capacity are maintained. Without this prerequisite, it could eliminate much of the value from storage because limiting customers' freedom to utilize their capacities. Such "use it or lose it" principles will destroy the extrinsic value of the storage assets while reducing trading optimization activities of shippers. To avoid this problem, an interruptible UIOLI should be proposed.

#### V. Zero tariff for storage transports

GIE welcomes the zero capacity-based transmission tariffs at entry points from and exit point to storage facilities, as of April 2022.

#### **TRANSMISSION**

The robust cross-border gas transmission system is the ground pillar for the security of gas supply in EU. The EU gas transmission infrastructure has already proven in the past that it can react to large and abrupt changes in the gas flows. The past and ongoing investments in new interconnections, the establishing of bi-directional operation, and TSO cooperation have further strengthened the flexibility of the EU gas infrastructure.

However, the current challenge is not only about the ability of the gas infrastructure to react to sudden changes in gas flows. It is also about offering transmission solutions to allow for a diversification of sources and routes of supply. In this regard, access to LNG supplies is crucial. Considering the current events, it is crucial to look at possibilities to create not only new LNG terminals but also transmission routes and storages for the LNG supply to get to all EU member states.



#### **Increase access to LNG supplies**

Some EU member states have LNG capacity but are not fully interconnected with the EU internal market. New transmission capacity investments are needed to solve these bottlenecks in the infrastructure. For example, the European network has not been designed to flow large quantities of LNG from Spain toward Central and Eastern Europe.

Many EU member states, especially in the Central and Eastern European and South-Eastern European region, are **partly or fully depending on Russian gas**. In addition, the landlocked countries in this region have little or no access to alternative LNG supplies. New infrastructure investments are needed to give these EU member states direct access to LNG supplies. The Polish-Slovak Interconnector is a good example of such an infrastructure investment as it connects a country with access to LNG (Poland) with a country without such access (Slovakia) whereas, the other Neighbour the Czech Republic has only a limited one-directional interconnector for gas export from the Czech Republic to Poland. As a result, the Czech Republic is unable to import LNG supplies from Poland directly. An investment in a bi-directional Polish-Czech Interconnector would solve this problem. A very similar situation is true in the case of interconnector from Slovenia to Croatia. Physical flow from Croatia to Slovenia is extremely limited and is preventing Slovenia to effectively use the LNG Krk. Hence, a network upgrade on the Croatian side is needed.

#### **Increasing pipeline gas imports**

Transmission capacity investments that would allow for more pipeline imports from non-Russian gas producers should also be high on the priority list. The Baltic pipeline project is a good example of a project that is bringing gas to Poland which helps minimizing its dependency on Russian gas and give opportunities for Baltic States and Ukraine. This project will be operational at the end of 2022. The TAP pipeline is also providing the EU with access to gas from Azerbaijan. Similar transmission projects which could increase non-Russian gas import should be further explored, including the possibility to increase pipeline imports from northern Africa.

#### **Market barriers**

New gas supply routes also imply that the technical gas quality will differ. It is important that transmission investments are being prioritized and legislation changed to eliminate any unjustified market barriers. One example is the different odorization processes in France and Germany which hinders fully bi-directional gas flows. However, in general, this is a minor problem as gas quality issues should not be a hinder for the EU to secure markets the coming winter.

Many gas TSOs operate overly complex capacity models that optimize the capacity products on offer based on historic flow patterns. The aim of these capacity models is to define the right amount of firm and interruptible capacity. As the models are



based on historical figures that no longer hold true, they include bottlenecks reducing the overall IP capacities on offer.

Thus, GIE supports that TSOs are recalculating their capacities based on new flow scenarios. This can be done in many ways, by recalculating the technical capacities based on new flow scenarios, or by introducing congestion management procedures such as oversubscription and buy back Firm-Day-Ahead Use-It-Or-Lose-It (FDA UIOLI) or surrender mechanism. GIE also explores the possibility of a more frequent recalculation where possible of capacities on shorter term basis, with the aim to free up, and offer these optimized capacity products to the market.

#### **Repurposing of pipelines**

In the mid- to long-term it is also crucial that the transmission network allows for hydrogen blending and hydrogen transportation. A shift from natural gas to hydrogen will both benefit security of supply by reducing the need for EU imports as well as be instrumental in decarbonizing the energy sector. New investments in the current TSO systems by repurposing the current gas transmission grid to also transport hydrogen blends and hydrogen would prepare for future of low-carbon and renewable gases, and Hydrogen in a cost-efficient way.



**Gas Infrastructure Europe (GIE)** is the association representing the interests of European gas infrastructure operators. GIE members are active in transmission, storage, and regasification via LNG terminals of renewable and low-carbon gases, including natural gas and hydrogen. Gathering around 70 industry entities from 27 European countries, GIE perfectly embodies the multiple transitional decarbonisation pathways of the EU regions. The association's vision is that by 2050, the gas infrastructure will be the backbone of the new innovative energy system, allowing European citizens and industries to benefit from a secure, efficient, and sustainable energy supply.

#### ₿GIE

## Stay tuned to security of supply & decarbonisation developments







