

## **GIE's answer to the public consultation on the European Investment Bank's Energy Lending Policy**

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### **1. Introduction**

On 10 October, the European Investment Bank (EIB) launched a public consultation as part of the review of its energy sector lending policy. The review process is expected to be finalised in summer 2013. The EIB's energy sector lending policy is based on relevant EU sector policies. These policies are translated into lending objectives and project screening criteria for Bank financing.

The current review is taking place in the light of the market and EU policy and regulatory developments that have occurred in recent years.

The consultation process seeks to request views and input from a wide array of stakeholders that are involved in the energy sector and can bring valuable expertise to the review of the EIB's energy sector lending policy.

### **2. Who is GIE?**

GIE Gas Infrastructure Europe (GIE) is an association representing the sole interests of the infrastructure industry in the natural gas business such as Transmission System Operators, Storage System Operators and LNG Terminal Operators. GIE has currently 70 members in 25 European countries.

GIE voices the views of its members vis-à-vis the European institutions, regulators and other stakeholders. Its mission is to actively contribute to the construction of a single, sustainable and competitive gas market in Europe underpinned by a stable and predictable regulatory framework as well as by a sound investment climate ([www.gie.eu](http://www.gie.eu)).

### **3. General Comments**

GIE appreciates the opportunity to participate at this EIB's public consultation and to provide its views on the various questions raised by the EIB in its consultation document.

The EIB's lending energy policy is of very high interest for many GIE members. GIE hopes that the future lending policy, resulting from this revision process, will contribute to the improvement of the investment climate for all gas project promoters in Europe.

Given the nature of GIE members' activities, GIE will answer only the questions which are linked to the gas infrastructure business.

GIE remains at the disposal of EIB for any further question, or comment.

4. GIE answers to the specific questions listed in the consultation document ([link](#))

4.1 General energy and economic context

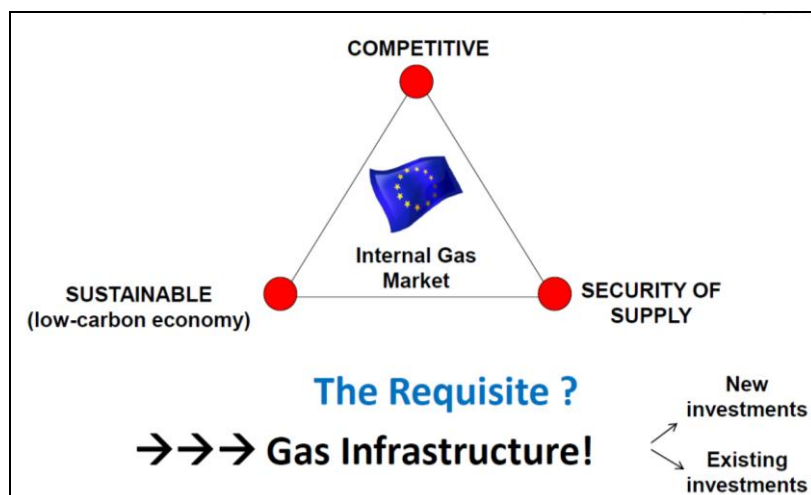
***Particularly in the current economic climate, is there a trade-off between promoting a competitive and secure energy supply and one which is environmentally sustainable? Where should the balance lie and what implications does this have for energy sector investments?***

The three pillars of the EU Climate and Energy policy (sustainability, competition and security of supply) are effectively in competition. Trade-offs are perceived when policy measures try to make progress only in one pillar. For this reason, GIE wants to invite EIB to focus its lending policy not only on sustainability, but also on energy investments which deliver higher security of supply, higher market integration and higher competition. A variety of complementary policies which deliver as a result a low-carbon, competitive and secure internal energy market should be constantly sought.

Regarding the implications for investments for the energy sector, GIE considers that the EU energy policy makers should promote especially those investments which make good contributions to each of the three pillars simultaneously, whilst paying attention to the fact that final prices must remain competitive compared to other energies.

Investments in gas infrastructure certainly contribute to achieve a more competitive, secure and low-carbon energy market:

- *Competitive market*, because more gas infrastructure, including storage and LNG regasification, brings higher market integration, allows the import of gas supplies from different sources, ensures a free flow gas within Europe, and allows the entry of new competitors. This results in more competitive prices for gas consumers and protects the EU competitiveness with respect to other major global players.
- *Secure market*, because more investments in gas infrastructure, including storage and LNG regasification, helps to supply the gas market during winter periods, extremely cold periods and potential supply disruptions.
- *Low-carbon market*, because gas infrastructure facilitates the use of natural gas and green gas (replacing coal and other more carbon-intensive fuels by gas, which is the cleanest and most efficient fossil fuel) and decreases CO<sub>2</sub> emissions in a very competitive way. Moreover, gas infrastructure allows the integration of renewable energy sources by supplying natural gas to gas-fired power plants in a flexible and secure way.



The reasons above clearly demonstrate that there are reasons to trigger significant market based investments in gas infrastructures (transmission, storage and LNG terminals) within Europe, provided that the right signals from policy makers are in place.

***How does investment in the energy sector contribute to growth and employment? Are investments in all energy sub-sectors equally valuable? And how does investment in the energy sector rank relative to other investments in the economy which support growth and employment?***

The energy industry contributes to economic growth in two ways. First, energy is an important sector of the European economy that creates jobs and value by extracting, transforming and distributing energy goods and services throughout the economy. The energy industry extends its reach into economies as an investor, employer and purchaser of goods and services.

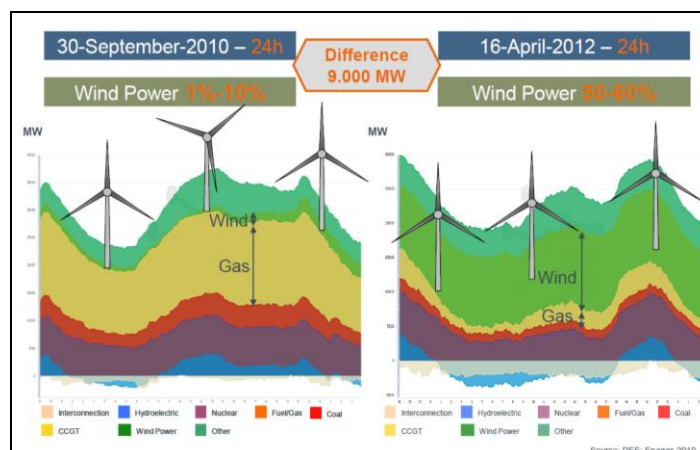
Second, energy underpins the rest of the economy. Energy is an input for all goods and services. In many countries, the flow of energy is usually taken for granted. But price shocks and supply disruption can shake whole economies. For countries that face chronic shortages (e.g. electricity in India), continuing disruptions take a heavy, ongoing toll.

Nonetheless, recent research demonstrates that the energy industry supports many more jobs than it generates directly, owing to its long supply chains and spending by employees and suppliers.

***What impact do you consider the current economic crisis will have on the energy sector (demand, policies, supply)?***

Although the current crisis has some impacts on energy demand in a number of Member States, the capacity needed in gas infrastructures should not decrease but, may on the contrary, increase due to several reasons:

- development of flexible gas-fired power generation to back-up renewable energy sources
- the need for building additional gas infrastructure in order to ensure market integration, to cover the increasing peak demand, the end of isolated markets within the EU, the necessity to increase the security of supply levels in many EU regions, and the overall goal of achieving a genuine internal gas market within the European Union.



***Comparison of the source of power between two different days in Spain (source: Spanish gas and electricity TSOs)***

In any cases, investment decisions shall be market based in order to minimize the risks of stranded assets.


#### 4.4 Security of supply

***Is the traditional model for electricity transmission and distribution changing? What implications does this have for future investments in electricity networks?***


Security of supply may be an important issue for electricity, but it is of utmost importance for gas too. This is even truer now, when all the relationships, interdependences, and interactions between gas and electricity markets are becoming more and more evident. GIE also wants to point out that transporting energy in the form of gas is more efficient, more economical and more environmentally friendly than doing it in by electricity wires.

**Gas pipelines offer**

- Lower losses and lower costs of large volume and/or long distance energy transmission
- More energy transportation capacity with the same investment cost
- Less land consumption
- Higher acceptance in public
- Better and more economic storage options
- Lower visual and overall environmental impact



**8 power transmission masts of 3 GW each are equal to 1 underground gas pipeline (1.2 m diameter)**



	Britned (NL-UK) Power Cable	BBL (NL – UK) Gas Pipeline
Length	235 km	260 km
Budget	600 M€	550 M€
Capacity (NL→UK)	<b>1000 MW</b>	<b>≈ 20600 MW</b>

• Similar Length, similar capital , but

→ **Gas capacity = 20 times electricity capacity!**

Moreover, LNG terminals can also play a very important role, as LNG offers the unique advantage of being able to be delivered closest to the point of consumption, by optimising pipeline and sea transportation. Indeed LNG shipping behaves as a virtual offshore pipeline.

<sup>1</sup> [www.bblcompany.com](http://www.bblcompany.com); [www.tennet.org](http://www.tennet.org)

GIE wishes to remind the essential role that gas infrastructures (transmission, storage and LNG facilities) play in ensuring security of energy supply to the EU energy market.

The European gas infrastructure system still requires significant investments in order to be fully sufficient. Physical network flexibility will be essential to ensure market flexibility and market integration, and that gas can act as an enabler for the increasing amount of renewable electricity generation. With the large combustion plant directive closing down ageing power plants, the nuclear shutdown in Germany and beyond, and the long lead in time it takes to connect remote renewable energy sources, substitution from more pollutant fossil fuel generation to natural gas and green gas across Europe will be essential to safeguard electricity generation in the short to medium term.

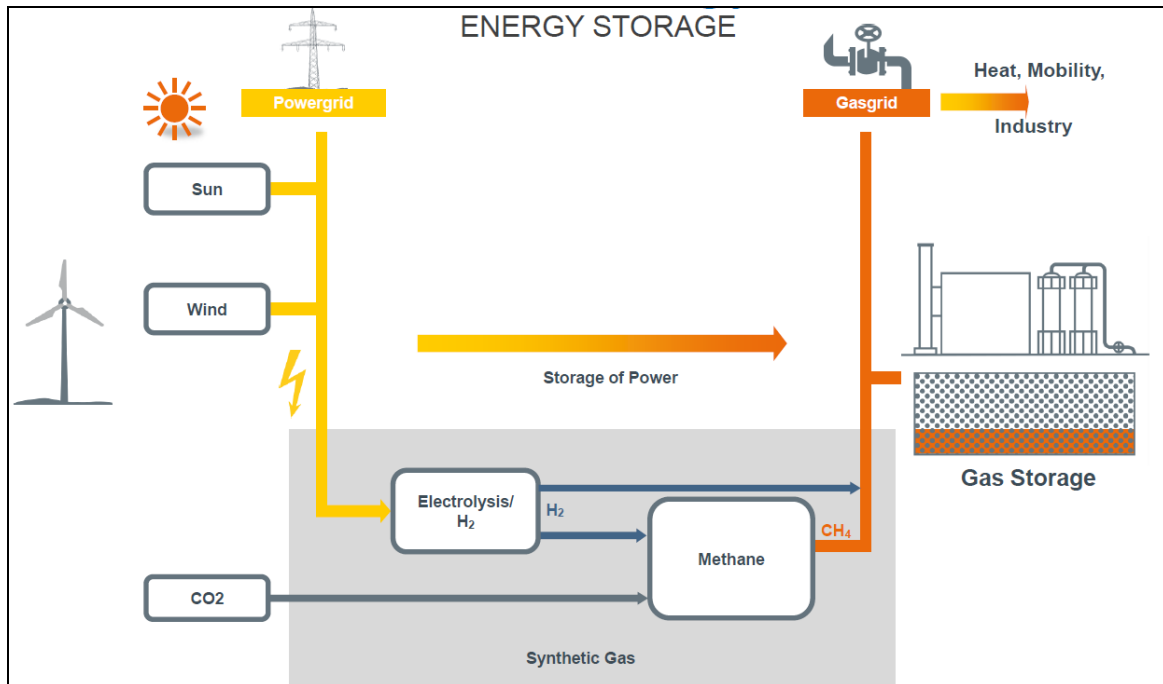
Moreover, significant investments in gas networks are (and will be) necessary to meet the EU energy policy objectives. The ENTSOG Ten-Year Network Development Plan shows that more than 89bn€ of gas infrastructure investments could be necessary for the period 2011-2020. This gives a good idea of the level of investment on gas infrastructure which is still required in the EU, assuming that gas price is competitive with other energies.

***What is the future role of smart grids, offshore grids and energy storage solutions?***

When talking about smart grids, one usually thinks about electricity. However, GIE would like to point out that smart grids are currently being developed in gas distribution, too. They are likely to be implemented in some countries during the coming years.

As regards energy storage, this is certainly a service which will have an increasing role in the internal energy market. The development of renewable energy sources which produce electricity on a variable way (e.g. wind, solar) is calling for extensive energy storage capacities. The surplus of electricity produced by renewables when offer is higher than demand, needs to be stored.

Several alternatives are possible to store energy in large quantities. GIE believes that the current gas infrastructure is the most efficient and quickest way to store energy. New low-carbon technologies as for instance, Power-to-Gas, Compressed Air Energy Storage (CAES), Green gas, etc., in combination with existing gas infrastructures, will progressively ensure the most efficient medium- and long-term use of energy by storing large amounts of energy for periods of high energy demand. These energy storage projects should certainly be promoted as the need for storage increases in Europe. There are already several pilot projects in different Member States.



#### 4.5 Fossil Fuel

***Gas is an important bridging fuel source in the transition to a low carbon economy: to what extent and under what conditions should gas-fired generation be supported?***

GIE does not support the EIB statement in this question "Gas is an important bridging fuel source in the transition to a low carbon economy".

According to the EU Council conclusions of June 2012, "Gas will be critical for the transformation of the future energy system". Furthermore, the EU Energy Commissioner has recently stated that "with technologies like CCS, [...] gas could be part of a low-carbon electricity sector for many decades in the long-term". GIE is confident that natural gas will be more than a bridging fuel to a low carbon economy and that there is a future for natural gas beyond 2050. Policy signals supporting this approach are necessary to promote the industry's efforts to attract new investments.

The projections from the European Commission, the IEA and others show that gas demand for power generation is likely to increase at least until 2030. Afterwards, natural gas growth will still be possible if CO<sub>2</sub> emissions are further reduced (e.g. with gas-fired power plants associated to CCS). Natural gas can have a promising future.

***What is the scope for the development of shale gas resources in the EU?***

According to the study published on the European Commission's website, "Unconventional Gas: Potential Energy Markets impacts in the European Union" (European Commission, JRC, 2012)<sup>2</sup> the best estimate for Western Europe is 12 Tcm and for Eastern Europe it is 4 Tcm".

<sup>2</sup> [http://ec.europa.eu/dgs/jrc/downloads/jrc\\_report\\_2012\\_09\\_unconventional\\_gas.pdf](http://ec.europa.eu/dgs/jrc/downloads/jrc_report_2012_09_unconventional_gas.pdf)

### ***Do you expect the share of natural gas in EU primary energy consumption to grow further?***

The different energy mix scenarios proposed by the European Commission in the Energy Roadmap 2050 foresee a quite conservative trend for gas on the long term. However, GIE believes that natural gas will play a key role, not only in the short term, but also in the long term after 2050 thanks to its qualities and advantages (abundant, affordable, acceptable, flexible, etc.).

#### IEA

GIE would like to make reference to a recent speech delivered by the IEA's Director<sup>3</sup> which we thought provides useful information to answer this question:

*"[...] We are seeing coal making a comeback at the expense of higher-priced gas. Against a backdrop of economic uncertainty, European gas demand declined by 11% in 2011, and the indications are that there may be a further decline in gas consumption in 2012. [...]"*

*From an IEA perspective, we see some reasons to believe in a brighter future for European gas markets, even if this will take some time to materialise. In our projections, European gas demand takes until the end of this decade to return to 2010 levels, but it continues rising steadily thereafter. It is pushed higher by the same factors that are pushing gas use higher in many countries around the world, particularly in Asia:*

- *Gas is an attractive fuel; it is flexible and well suited to power generation, including power systems that are integrating electricity from renewable sources of energy,*
- *It offers environmental benefits compared with other fossil fuels,*
- *Gas reserves – both unconventional and conventional – are more than sufficient to meet global demand for many years to come.*

*Although coal use is buoyant for the moment, over time we believe that there will be a trend of declining coal fired power generation in Europe. Old coal-fired power plants will be decommissioned during this decade, alongside some nuclear capacities, while electricity demand will increase. There will be a strong development of renewables in Europe but it will leave much room for gas to grow.*

*What's more, over the coming years, demand for gas imports to the European Union is boosted by a continued anticipated decline in EU gas production, and uncertain prospects for widespread development of the continent's unconventional gas potential.*

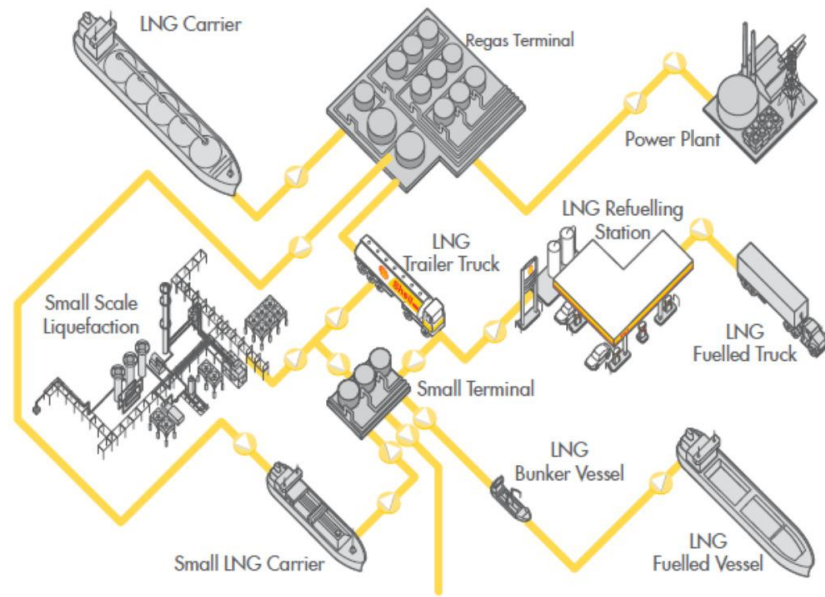
*So in our projections, the requirement for imported gas in the European Union is set to rise from around 340 bcm today to well over 500 bcm in 2035. This is more than enough for Europe to retain its place as the largest market for imported gas in the world."*

#### LNG for maritime transport (shipping) and road-transport

GIE would like to highlight the huge potential for the Small Scale LNG business to further develop. In a not so-far future, this business will certainly push up the gas demand and the need for additional infrastructure in Europe. The image below (courtesy of Shell) shows the different uses/applications which can be obtained from the LNG Small Scale activities.

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<sup>3</sup> Speech by Maria van der Hoeven, IEA Executive Director, 6 December 2012 ([link](#))



Liquefied Natural Gas (LNG) used for maritime transport (shipping fuel) or for heavy transport (trucks, trains, etc.) meets even the strictest emission requirements (e.g. SO<sub>x</sub>, NO<sub>x</sub>, CO<sub>2</sub>). An increasing number of European LNG terminals are currently offering and will offer small scale LNG services in the coming years. The conditions to allow a rapid development of this business are being implemented and we might be able to see a prosperous and growing business here, where heavy fuel oils are replaced by LNG as the fuel of choice. At this moment we notice how countries like Germany are exempting LNG used as shipping fuel from fuel taxes. Moreover, the first LNG-powered container vessel has been ordered and is currently under construction. In other countries like Spain, the LNG truck-loading, is a well-developed practice since some decades ago. Besides, the EU is giving support to this business. In this sense, for example, the TEN-T program ([link](#)) of the European Commission has recently awarded EU funds to different Small Scale LNG projects. The number of LNG fuel stations has increased by 300% during the last 4 years and there are at this moment a substantial amount of LNG stations being built.

***What would be the best approach to increase security of gas supply and reduce import dependency?***

In order to increase security of gas supply and to reduce import dependency, it is essential to provide the EU with the possibility of bringing gas from different origins by enabling more import gas supply routes (including LNG), more gas interconnections, more reverse-flow and more resilient gas infrastructures. However, it is equally important to be able to cover internally the ever more significant peak demand (e.g. in the event of a cold spell) without increasing Europe's dependency on the import flexibility. To this end, it will be important to have an appropriate peak demand price signal.

In order to ensure security of supply, investment should be made in the various kinds of gas infrastructures (transmission, storage and LNG regasification facilities). In any case, investments should be rationalised by letting the market take the right decisions with due consideration of the competitiveness of final prices.

As a principle, investments should be market based; however, some specific investments which are not fully based on market demand may be necessary due to specific external conditions, and in some



cases for safety-of-supply reasons. In any case, detrimental impact on existing infrastructures and/or market distortions will have to be avoided.

***Given the large uncertainty on future gas demand, what is the risk that investment in natural gas infrastructure may be stranded?***

It is understandable that when moving towards a low-carbon economy, the risk of stranded assets in gas infrastructures has to be assessed. The life of a gas infrastructure asset is around 30-50 years. Stranded infrastructure assets may occur should the gas volumes to be transported/stored/regasified be considerably reduced over the next decades.

However, as stated above, the EU Council recently agreed that: “Gas will be critical for the transformation of the energy system”. The projections from the European Commission, the IEA and others sources show that gas demand, especially for power generation, is likely to increase at least until 2030. Afterwards, natural gas growth will continue being possible if CO<sub>2</sub> emissions are further reduced (e.g. with gas-fired power plants linked to CCS).

GIE is of the opinion that gas infrastructure will be needed and used, even beyond 2050.

We think that the following arguments propose answers to the issues that gas infrastructure operators have to deal with:

- Future gas demand and rational behaviour of gas infrastructures operators :  
Gas infrastructure operators will have to rationalize their investment programs, based upon the demand previsions and the forecasted return on investments. When designing their investment plans, they may also use a real options approach for their investment decision making. They can also develop new capacity products for their clients.
- New low-carbon technologies  
The EU wants to move towards a low-carbon economy. However, a low-carbon economy does not mean an economy without gas. New low-carbon technologies associated to gas (e.g. power-to-gas, CCS, green gas, H<sub>2</sub> injection, etc.) together with high-efficiency gas appliances (e.g. gas heat pump), ensure that gas infrastructure will continue to be used even in the long term. Some of these technologies are already being developed and tested today through pilot projects, with positive results. The gas industry, together with the support from policy makers and regulators, are facing the challenge to demonstrate the competitiveness and financial viability of these technologies in their development phase.
- Global political context:  
The role natural gas will play in the long-term future remains an important issue. Given the significant pay-back period for gas infrastructures (30-50 years), the investment framework must be reliable so that investors can make reasonable returns over the whole life of an infrastructure asset. In this sense EIB lending policy can also play a very important role by improving the current EU investment climate.

One shall however be very careful on that matter, as recent experiences have demonstrated that the risk of investments becoming stranded assets should not be underestimated.

#### 4.7 Research, Development and Innovation (RDI)

***Which are the key innovative energy technologies under development? The development of which key innovative low-carbon energy technologies should receive most financial support?***

GIE supports the idea of developing low-carbon energy technologies which make use of competitive energy sources, like natural gas. In this sense, investments on low-carbon energy technologies, such as power-to-gas, CCS, CAES, green gas, etc. should be supported in their development phase. These technologies call for the use of natural gas in the long-term. In combination with low-carbon technologies, natural gas will add with its advantages - affordable, abundant, acceptable, competitive, flexible, efficient, cleanest fossil fuel, etc. - to the benefit of the European Market, of national economies and society as a whole.