

ACER 2nd Annual Conference

Roundtable: The infrastructure challenge

17 May, 14:00 – 15:10

Grand Union Hotel, Ljubljana

Roundtable: “The Infrastructure Challenge”

Moderator:

- **Piotr Wozniak** – Chair of Administrative Board, ACER

Panel discussion members:

- **Jean-Claude Depail**, President, GIE
- **Catharina Sikow-Magny**, Head of Unit for the Internal Market: Networks and Regional Initiatives, DG Energy, EC
- **Konstantin Staschus**, Secretary General, ENTSO-E
- **Walter Boltz**, Chair of the Gas Working Group, ACER
- **Christophe Gence-Creux**, Head of Electricity Department, ACER

Structure of the session:

ACER has given a set of five questions to the moderator which he will ask to the panellists. We don't know how the moderator will use these questions.

It could be even possible that the same questions are addressed to several/all panellists. For this reason GIE has prepared answers for all the questions.

The draft answers to the questions written here below are just preliminary.

After the questions, there is a compilation of messages that GIE President could also utilise during his intervention if there is any time.

Draft answer to the draft questions

Q1. Why does Europe need new pipelines and electricity grids, especially in times of decreasing demand?

Talking about gas, the gas consumption is not the only driver for investment on gas infrastructure. There are also other aspects which need to be taken into account when thinking about new investments:

- Gas-fired power generation
- Flexibility
- Peak demand
- Security of supply
- other Externalities.

Gas fired power generation

It is true that the domestic consumption is not expected to increase substantially during the next decade, but according to the recently published ENTSOG Ten Year Network Development Plan (TYNDP) the power generation will still be a strong driver from now up to 2022, with an expected growth higher than 30% during this period.

Flexibility

If we now think how the future energy market could look like, we will probably see more renewables as a consequence of the EU targets for 2020.

With more renewables, we will have more variability not only in the electricity network but also in the gas grids because the CCGTs are usually utilised to back up renewables. These CCGTs are the ones who will demand more flexibility for the gas grid.

So, to provide that flexibility, the gas infrastructure operators will have to invest on gas flexibility. Instruments such as storage, LNG, more transmission linepack or more interconnections will be necessary.

Peak demand

On top of the additional required flexibility, we must also take into account that a driver for infrastructure development which is even more important than the annual gas demand, is the peak demand.

Even if the gas demand is not growing too much, we might see an increase of the peak demand, due to the high fluctuations of the energy market. The gas system has to be designed to cope with the peak demand. This means that gas infrastructure will be needed to cover the peak demand, even if the annual average gas demand remains low.

Security of Supply

This is another good reason to justify the need for additional investments. According to the gas regulation on security of supply approved in 2009, the European gas system has to fulfil some design criteria. This sometimes means that new investments are needed to fulfil these obligations.

Externalities

According to the TEN-E Package which has just published at the end of April in the Official Journal of the European Union, when selecting the projects of common interest, they will take into account externalities, such as sustainability, energy efficiency, solidarity, renewable integrations, etc.. We must not forget that investments on gas infrastructure might be supported not only by market demand, but also by EU funds or national schemes to support other externalities.

So, to sum up,

If you ask me whether Europe needs more gas infrastructure, despite the decrease in gas consumption, my answer is YES; we need massive investments on gas of infrastructure. But the question more important for me is how to make these investments happen .

Q2. How much investment will be needed and where will it originate from now up to 2020?

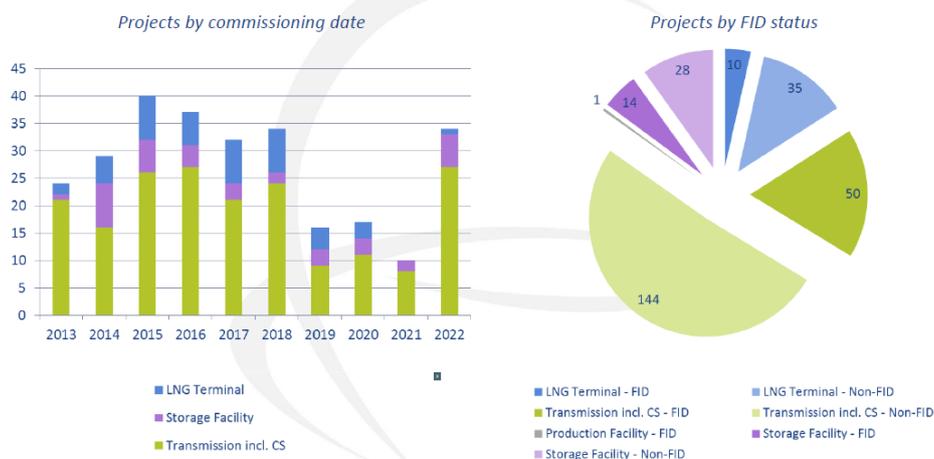
The recently published ENTSOG TYNDP lists more than 280 gas projects (FID and non-FID) for the next 10 years with a total estimated cost of more than 70 billion costs. This estimations only covers 35% of the projects mentioned. ENTSOG has not extrapolated the value, but you can have an idea of how much project costs would have to develop all the gas projects listed in the TYNDP.

Table 2.6.
Aggregate project cost estimates broken down per infrastructure type and project status (FID / Non-FID)*

INFRASTRUCTURE TYPE	FID	TOTAL COST* (BILLION €)	NUMBER OF PROJECTS
Transmission, incl. CS	FID	7.08	49
Transmission, incl. CS	Non-FID	53.43	144
Sub-total Pipelines		60.51	193
LNG Terminal	FID	1.76	10
LNG Terminal	Non-FID	6.90	35
Sub-total LNG Terminals		8.66	45
Storage Facility	FID	0.80	14
Storage Facility	Non-FID	2.80	28
Sub-total (Storage)		3.60	42
Production	Non-FID	Confidential	1
TOTAL*		72.77	281

* the figures do not cover all the projects listed above as some projects have not made any cost estimate available to ENTSOG; the total cost estimate hence covers only 35% of all projects; it is explicitly noted that this ratio cannot be extrapolated to calculate the total cost estimate for all projects

From the total list of gas projects, around 70% are making reference to investments in the pipelines, while the rest is distributed equally between storage and LNG projects.



Q3. Why is there a need for the EU to actively support the development of new energy infrastructure? Can the market not address this issue?

The market can't deliver the needed investments by itself because the regulatory framework is not designed properly and because there is a lack of EU's perspective when addressing investments affecting more than two countries. Moreover, a positive plan for gas on the long term is missing. Being dependant on CCS to ensure the long-term viability of the gas market is not a good signal, and mostly now that the news about pilot projects for CCS are not positive.

So, the first thing to promote investments is to remove the investment barriers.

Everybody knows that infrastructure projects need a stable and attractive investment climate. The main barriers to investment are therefore the following ones (I will start with the most important ones and I will move towards the less important):

1. Mixed political messages about the role of gas in the future

Whilst political decisions do not form a physical barrier, they have a considerable impact on market confidence, especially on the consideration of how to reach long-term environmental targets.

It is therefore paramount that political messages are clear , consistent, and that EU policy makers send positive signals on the role of gas, not only on the short term and medium term, but also on the long term. Why?

investment in gas infrastructure is a long term financial commitment, with pay back periods which can last over 50 years. Inconsistent or partially contradictory political messages can have a direct effect on whether the market feels confident to invest or not.

It is clear that the European Union wants to move towards a low-carbon economy. The environmental and climate policies are quite strong at the moment and very recently the Commission has opened the debate to set new targets for 2030. Within these climate policies, there is a clear winner: the renewable energy. EU is constantly sending positive messages to promote investments on renewable energy. But, there is not a clear future role for gas on the long term.

At the same time, EU is telling to our industry that new investments on gas infrastructure are needed and that we should develop new projects in order to achieve the internal gas market in 2014.

On top of that, competitiveness is gaining more importance in Europe and gas is identified as a source of competitiveness.

So, all in all, we don't have clear indications. Sometimes we are invited to move forward; at other times, we are told to be careful because uncertainty is high. Is this a coherent approach? Probably there is room for improvement.

And why is it so important to have a long term vision for gas? the explanation is very easy. The depreciation rates of the infrastructure project and the long-term capacity contracts associated with that project are now differing significantly. Whilst a project

promoter could reasonably expect their infrastructure assets to last over 50 years, the capacity contracts, and possibly also the associated supply contracts, cover much shorter time frame, the usual range 10-25 years. This raises the question of whether a project promoter will be able to secure new long-term contract and secure its cost recovery, or whether they should try to make profits within such limited scope and recover as much money as possible in the limited contractual timeframe, due to the lack of certainty in the long term.

I hope that the discussions that are going to take place around the 2030 framework will lead to a better understanding of these problems, and to a better coherence in the signals sent to the gas industry.

2. National and European Regulatory barriers:

a. Low rate of return and unstable regulation

The vast majority of investments on gas infrastructure across Europe are subject to the national regulatory tariff regimes. The regulatory frameworks in place should encourage long term investment with reasonable returns for efficient gas infrastructure. If the rate of return is too low or subject to high uncertainty, it deters new investment in gas infrastructure and may hinder the achievement of improvements in the European energy market.

b. Low/Zero Prices for short term capacity

The short-term capacity pricing brings a real risk of under-recovery. This may lead to an unstable tariff regime and the potential occurrence of cross-subsidies and “double” capacity payments by those users that planned ahead.

This puts too much risk on infrastructure operators, which might enter into an under recovery situation whatever the design of the revenue recovery mechanism may be. This ultimately endangers the realisation of new investments as well as security of supply and integration of the EU gas market.

c. Capacity quotas (too important % reserved for the short term)

The network code introduces the concept of reserving 20% of newly capacity for medium and short-term use. This could result in an overinvestment as there is no proof of upfront demand. This could distort the process for creating new capacity.

d. Retrospective Cost Treatment (negative retroactive measures)

Retrospective cost treatment in a regulated tariff regime disincentives the construction of gas infrastructure even when the investment signals have been adequately met. The fear that efficiently built infrastructure may retrospectively have its agreed remuneration diminished, has a negative impact on the the investment climate.

e. Lack of proper transposition of European legislation.

3. Permit Granting (very lengthy, uncertain periods, too easy for local opposition to block them for an undefined period of time)

'4. Financing : GIE is of the opinion that most investments should be market based. However, some projects with positive externalities (for instance, projects contributing to SOS) may not be financed by the demand; therefore, these specific projects should receive some financial support from the EU, on the condition that subsidies or other financial assistance do not create economic distortion or have detrimental impacts on economic viable projects and existing investments.

Q4. What is the advantage for projects of European interest?

[This answer will be probably addressed to Ms. Sikow-Magny; so GIE President should adapt a little bit the content of his intervention based on the answer provided by Ms. Sikow-Magny.]

The TEN-E guidelines for energy infrastructure are listing a number of possible benefits that the projects of common interest (PCIs) will have.

For PCIs, the regulation offers

- an accelerated permit granting
- regulatory measures (like incentives, and cross-border cost allocation) and
- EU financial assistance under the CEF (Connecting Europe Facility).

From GIE, we certainly can see how project promoters are interested in getting the PCI label for their projects. When you have a PCI project, in theory, the project has more probabilities of being developed because of the advantages I have previously listed. We invite the Commission, Member States and NRAs to make sure that these advantages are becoming true and bring the maximum benefits to the project promoters.

Regarding the preparation of the European PCI list, I can't deny that the preparation of the PCI list is being a complex and difficult process for the project promoters. We have more than 130 projects (136) projects in gas which are competing to achieve the PCI status. From those 136 projects, only about 50 projects will be finally selected. **This selection process is complex and lengthy; it is the first time that it is being done and we are "learning by doing"; it is certainly not a pleasant way.** (some examples of dissatisfaction : the selection process of PCI started while the regulation was still under development, the formulas are complex - some operators cannot appropriate them -, we would like to have a greater involvement of storage and LNG terminals operators, ...)

In any case, I would like to take this opportunity to invite the Member States to provide, as much as possible, the benefits which are planned for the PCIs to the rest of gas projects. This would avoid having a two-speed investment process within the Member States. This would be also helpful for the timely development of the internal energy market.

OPTIONAL:

When looking to the PCI selection process, it is not easy to avoid making comparisons between gas and electricity.

As GIE President, my interest is today is advocate for an equal treatment between gas and electricity not only in the PCI selection list, but also in the allocation of EU funds under the connecting Europe facility instrument. However, it is important to remind that most investments should be market-based. Those investments which are not market-based, but present positive

externalities (such as investments contributing to security of supply) may receive some EU funds, as long as they do not distort the market nor are detrimental to existing investments or other market-based projects.

And for this reason I would like to present a comparison between gas and electricity.

Dimensions of EU gas and electricity

	Gas	Electricity	
Peak consumption	1477	560	GW
Storage (out)	1267	38	GW
Interconnection	2487	463	GW
Import (average)	430	3	GW

Source: TYNDP, ENTSO-E/ENTSO-G

Gas and power markets have different characteristics:

- Power: mainly national markets with some degree of coupling
- Gas: 90% of gas flows across international borders

Compared to electricity, the EU gas market is much bigger in energy terms. Gas and electricity are very different and even if some policy makers like to establish parallelisms between them, the differences are very large.

Just to give some numbers taken from the TYNDP reports prepared by ENTSO-E and ENTOSOG,

- the peak demand in Europe for gas is almost 4 times higher than for electricity
- The storage deliverability is more than 30 times bigger in gas than in electricity where the storage capacity is very low
- The amount of gas which crosses at least one border is much larger in terms of energy than for the electricity.
- And regarding imports, Europe imports more than 100 times more energy in the form of gas than in the form of electricity.
- In case of a total supply disruption, Europe can have a gas supply for several days. In the case of electricity only for a few seconds...

Moreover, just comparing a transmission pipeline versus electricity lines, we can see that the transport of energy via the well-developed natural gas infrastructure offers the most efficient and cost-effective solution with the lower visual impact.

If we simply take the example of the gas and electricity interconnections between UK and Netherlands, we can see that for the similar distance and the similar investment price, gas is able to transport up to 20 times more energy than the power cable. And on top of that, gas pipelines are more environmentally friendly and have a lower visual impact than the power lines.

	Britned (NL-UK) Power Cable	BBL (NL – UK) Gas Pipeline
Length	235 km	260 km
Budget	600 M€	550 M€
Capacity (NL→UK)	1 GW	20 GW



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

Many people are now advocating for a super grid in electricity, but in the case of gas, the super grid is almost there! We just need to continue further developing it!

Q5. How should the regulatory frameworks evolve in order to provide a more stable and predictable framework for investments?

Regarding measures to improve the investment climate, the main ones would be:

- **EU should have a coherent view about the future role of gas, not only for the short term but also for the long term.**
- **EU should have also a coherent view about the future of gas infrastructure for the long-term.** Gas infrastructure assets in Europe have a value more than 500 bEUR* and can be still operational beyond 2050. We can't afford not to use this asset to move towards a low carbon economy.
- **The improvement of the national regulatory frameworks**, so that they offer a fair rate of return taking into account the risks involved; these frameworks would not apply negative retrospective measures, they would not approve regulatory measures allocating higher risks on the infrastructure operators, such as quotas, low prices for short-term capacity, etc.
- **The improvement of the ETS tool and climate policies** so that they ensure a competitive transition from coal to gas.
- **The fast implementation by all the member states of the EU regulations including the Third Energy Package, the Security of Supply regulation and the Energy Infrastructure Package.**
- **The support from the EU and national authorities to develop low-carbon gas technologies as power-to-gas, green gas, energy storage or small scale LNG.**