Public consultation

20 October 2011

Public consultation of the French Energy Regulatory Commission (CRE) on the ten-year development plans of the GRTgaz and TIGF transmission networks

The French transmission system operators (TSO's) have published a ten-year development plan on their websites for information purposes since 2006 in the case of GRTgaz and since 2008 for TIGF. The French Energy Code, implementing the 3rd European Directive, makes publication of these plans mandatory for the TSO's.

GRTgaz and TIGF submitted their ten year development plans to the CRE at the end of September 2011.The CRE would like to undertake, as set out in the French Energy Code, a public consultation to gather the market's comments on these documents.

A summary of the responses to this consultation shall be published on the CRE website. The deliberation regarding the ten year development plans of TIGF and GRTgaz is expected in December 2011.

The plans of GRTgaz and TIGF are attached to this public consultation.

COMMISSION
DE RÉGULATION
DE L'ÉNERGIE

TABLE OF CONTENTS

COMMISSION DE RÉGULATION DE L'ÉNERGIE

I. Regulatory framework

1 *European framework*

Directive 2009/73/EC regarding common rules for the internal natural gas market sets out new obligations for TSO's and new powers for national regulation authorities with regard to oversight and control of investments.

At the European level, ENTSOG[1] must therefore adopt every two years a non-binding ten year plan regarding development of European networks after an open and transparent consultation process involving all market actors. The Agency for the Cooperation of European Regulators (ACER) must issue a notice regarding this plan and supervise its implementation after national regulators consistency's consistency with national plans.

2 *National Framework*

The French Energy Code, in force since 1 June 2011, implements Directive 2009/73/EC into French law. Article L. 431-6 states that each year the TSO shall submit a ten year plan (hereinafter the 10-year plan) to the CRE regarding the development of their networks based on current and projected gas supply and demand, after consultation with all interested parties. This plan must show the market actors the main transmission infrastructures that must be built or upgraded during the next ten years, list already decided investments, identify new three-year investments to be made and provide a provisional calendar for all investment projects.

The French Energy Code states that the CRE must consult on the TSO's 10-year plans, confirm they cover all the requirements with regard to investment and ensure they are consistent with the European ten year plan published by ENTSOG every two years. Where there are questions regarding the last point, the CRE may consult with ACER and can ask the TSO to modify its 10-year plan.

II. Development of natural gas consumption in France during the life of the TSO's 10-year plans

1 *State of consumption in 2011*

Natural gas consumption corrected for climate in France is estimated for 2011 at 537 TWh by the TSO's (503 TWh in the GRTgaz area and 34 TWh in the TIGF area), a rise of 12 TWh (+2.3%) on consumption from 2010. This increase is mainly due to the gas needs for electricity generation (+8 TWh) as well as the economic recovery.

Furthermore, national daily consumption with a tolerance of 2% [2] is estimated for 2011/2012 at 4.5 TWh (4.1 TWh/d in the GRTgaz zone and 361 GWh/d in the TIGF zone), an increase of 1.3% compared to winter 2010/2011.

2 *Development of consumption around 2015*

a) <u>GRTgaz projections</u>

GRTgaz projects an overall rise in consumption for its zone of 0.8% per year between 2011 and 2015, with an estimated total of 519 TWh in 2015, a rise of 16 TWh.

However, consumptions by activity sector would not all follow the same trend. The main reason for the rise in consumption during the next few years in regards to the development of centralised power stations, particularly the Combined Cycle Gas Turbine plants (CCGT), which should lead to a rise of 2% in gas consumption due to electricity generation. The industrial sector (except combined heat and power) should experience less of an increase.

[1] European Network of Transmission System Operators for Gas

[2] Public service obligation for transmission system operators to ensure their system meets demand for natural gas with a tolerance of 2% in the case of a cold winter such as occurs every 50 years.

These increases should be in part compensated by a reduction in the domestic and services sectors consumption due to a decrease in unit consumption following the progressive implementation of environmental regulations from the Energy-Climate package and the Grenelle Energy Forum.

Daily peak demand should also experience an overall increase of 3% by 2015. This moderate increase reflects a contrasting reality. In fact, it is the industrial customers who are pushing up peak consumption, with an increase of 16.5%, or 164 GWh/d due to the expansion of electricity generation using gas. Beside, daily peak demand is down by 1.3% for the residential and service sectors.

According to GRTgaz, only consumption related to electricity generation will need network enhancement.

b) TIGF projections

Not taking into account CCGT projects, TIGF projects annual gas consumption in its zone to remain the same at around 34 to 35 TWh for the period 2011-2105.

A CCGT project (two stages of 400 MWe) is planned for 2015 in the area of Lacq. This will increase the consumption in the TIGF zone by 4 TWh and progression in peak demand of 40 GWh/d. This plant would be connected to the network, through the Bearn pipeline, which has sufficient capacities to power it.

To deal with this, TIGF believes that boosting the network is not necessary.

3 *Development of consumption around 2020*

a) GRTgaz projections

GRTgaz projects the demand for gas to escalate in the period 2016-2020 compared to the period 2011-2015, rising from 519 TWh in 2015 to 560 TWh in 2020 (+1.5% per year).

During this period, electricity generators' consumption should increase by 48 TWh whilst the increase in consumption in the industrial sector should be minimal (+ 2 TWh). Consumption in the residential and service sectors should, according to them, fall by 9 TWh.

GRTgaz projects peak production to rise by 1.1% per year between 2016 and 2020. Peak consumption would rise from 4.2 TWh/d for winter 2015/2016 to 4.4 TWh for winter 2019/2020.

b) TIGF projections

TIGF projects annual gas consumption to remain around 39 TWh for the period 2016-2020 with negligible progression in consumption for industrial customers and customers connected to the distribution systems.

The provision for the development of peak consumption in TIGF's balancing zone between winter 2015/2016 and winter 2019/2020 should falter slightly and drop from 410 GWh/d to 408 GWh/d.

4 *CRE preliminary analysis*

Over the whole period 2011-2020, GRTgaz is expecting an increase in gas consumption in its balancing zones of 1.2% per year up to 2020, which would lead to an increase in consumption in its zone from 503 TWh in 2011 to 560 TWh in 2020.

This growth is due to centralised power station projects (+58 TWh between 2011 and 2020 in the GRTgaz zone) since five of these stations come into commercial service in 2011 and ten other projects could come into service by 2020. Consumption by industrial customers connected directly to the GRTgaz system should increase by 12 TWh (+0.7% per year) during this period but this should be compensated by a decrease of 13 TWh in residential and service sector consumption (-0.6% per year) which is in line with the consumption forecasts of GrDF.

Furthermore, the arrival of centralised power stations on the GRTgaz system has a significant impact on the day-to-day flexibility requirements of the TSO, requirements that should grow in the years to come. The development of works crucial to the system, such as the doubling in size of the Rhone and the Dierrey Arc pipeline, should allow these demands to be met. In fact, once in service, these infrastructures will supply a flexibility of around 80 GWh/d within the day, which is a sufficient level to respond to the demands of about eighteen sets of CCGT of 400 MWe.

In the TIGF area, excluding CCGT's, the TSO forecast that annual gas consumption will remain around 34 to 35 TWh during the period 2011-2020. The arrival of a CCGT in two stages in 2015 will itself increase consumption in the TIGF zone by 11.4%. Nonetheless, according to TIGF, this power station project should not cause problems regarding the availability of flexibility within the day in its area. In fact, the development of the network by 2015 (improving the capacity of the Guyenne, Bearn and Euskador pipelines) would allow around 20 GWh of flexibility within the day to be developed, which would be enough to respond to the demands of around four sets of 400 MWe.

Therefore, on a national level, the TSO's forecast gas consumption to rise from 537 TWh in 2011 to 599 TWh in 2020, in other words an average annual increase of 1.2% per year. This rise is overall in line with the provisions of ENTSOG's 2011-2020 plan which expects an average increase of 1.2% per year in consumption in Europe by 2020. In the same way, it is in line with the forecasts of the multi-annual investment plan for information purposes in the gas sector 2009-2020, which projects an increase in the demand for natural gas of between 0.3% and 1.5% per year according to the scenarios studied.

Furthermore, transmission system developments already decided or in the course of being decided on should allow the demands of flexibility within the day of all centralised power station projects to be met as identified in the TSO 10-year plans which, in total, could exceed the10 GWe of installed power.

1- Do you have any comments regarding the forecasts of annual consumption and daily peak demand of GRTgaz and TIGF during the 10-year plans?

III. Transmission network development projects anticipated in the TSO's 10-year plans

1 *State of transmission capacities in 2011*

The firm entry capacities in France amount to 5,282 GWh/d and are split between entry capacities from neighbouring networks via land-based transmission interconnectors (2,039 GWh/d), entry capacities from storage sites (2,463 GWh/d) and entry capacities from methane terminals (780 GWh/d).

The size of the networks therefore allows the daily peak consumption demand to be met, estimated at 4.5 TW/h with a tolerance of 2%, of which 260 GWh/d is linked to consumption by combined cycle gas turbine plants.

Moreover, 88.8% of entry capacity in France is subscribed for in 2011 (i.e. 4.7 TWh/d). The capacity still available in the country therefore allows existing shippers to diversify their sources of supply or new players to enter the French natural gas market.

The firm annual capacities exiting France are 323 GWh/d (excluding storage and consumption). Export capacities to Switzerland in Oltingue reach to 223 GWh/d and those to Spain 100 GWh/d.

2 *TSO market consultation methods*

To facilitate collecting information from market players, the TSO's use several methods:

- Concertation Gaz (joint consultation system) introduced by the French market in 2008;
- North-West and Southern regional initiatives piloted by the European regulators;
- work under the auspices of ENTSOG within the framework of progressing the ten year development plans of the European systems and regional investment plans;
- bilateral meetings, notably with neighbouring infrastructure operators;
- Open Seasons designed to attract undertakings to subscribe for a minimum of at least ten years by shippers interested in the new capacities at transmission interconnector level.

Along with studies of networks and the demands of project developers (industrial customers, neighbouring infrastructure operators) these allow us to identify new requirements as they emerge.

2- Are you satisfied with the current TSO market consultation?

3 *Demand retained by the TSO's*

a) Development of interconnections

i France-Belgium

In 2007 an Open Season procedure was initiated between France (GRTgaz North zone) and Belgium at the Taisnieres H transmission interconnection point. The binding phase finished at the end of 2008 and led to an increase in the total capacity of the Taisnieres H transmission interconnection point from 590 [3] GWh/d to 640 GWh/d. This is expected to come into service in December 2013.

In addition, an Open Season is under way to create firm capacities allowing non-odorised gas to be piped from France to Belgium. Initially, two technical solutions were studied by GRTgaz: the construction of a deodorisation plant at Taisnieres H and the development of a new interconnector at Veurne. Taking in to account the results of the non-binding phase of this open season, the reluctance of the neighbouring TSO's to accept deodorised gas and the decision to launch the Dunkirk terminal in June 2011, GRTgaz has retained in its 10-year plan the development project for 100 GWh/d at Veurne in 2015 which will allow non-odorised gas to be piped from the LNG terminal in Dunkirk to Belgium.

ii France-Spain

Two open seasons were launched in 2009 and 2010 within the framework of the Southern regional initiative in order to increase the bidirectional interconnection capacities between France and Spain.

The first open season led to the boosting of the Larrau interconnection point, taking its capacity to 165 GWh/d in both directions for April 2013 against the current 100 GWh/d in the direction France to Spain and 30 GWh/d in the direction Spain to France. This open season has furthermore allowed development of the interface capacities between the GRTgaz South zone and TIGF from 2013 to up to 395 GWh/d in the direction GRTgaz South to TIGF and 255 GWh/d in the direction TIGF to GRTgaz South as opposed to the current figures of 325 GWh/d and 80 GWh/d respectively.

The demand stated at the second Open Season was sufficient to boost the Biriatou interconnection point taking its bidirectional capacity to 60Wh/d in December 2015. At the same time, it did not allow for the launch of the "Midi-Catalonia" (MidCat) project to build a new interconnection point between France and Spain at Perthus. GRTgaz and TIGF state that the MidCat project has not been cancelled but its provisional date for coming on stream has been put back to 2020 by GRTgaz and beyond 2020 by TIGF.

iii France-Luxembourg

An Open Season is currently under way between France and Luxembourg. The non-binding phase, jointly led by GRTgaz and the Luxembourg TSO CREOS, took place in 2011. The maximum stated demand was 37.6 GWh/d for a proposed capacity of 36 GWh/d (4 GWh/d of capacity being reserved for the short term). The binding phase should take place in 2012 and would allow the development of a capacity of up to 40 GWh/d leaving towards Luxembourg in 2016.

iv France-Switzerland

An Open Season procedure is envisaged between France and Switzerland (Oltingue interconnection point). It would allow an exit capacity towards Switzerland of 60 GWh/d in 2016 and the development of 100 GW/j entry capacities from Switzerland in 2017.

v France-Germany

Within the framework of integrating European markets, the European Commission has highlighted the importance of boosting the North-South corridor in Western Europe. Such a development would in particular allow gas from French or Spanish LNG terminals to reach the German market which in turn

[3] Accounting for the significant volume of capacity available at Taisnieres H, GRTgaz reduced the traded capacity at this interconnection point from 590 GWh/d to 570 GWh/d in 2011 in order to trade 15 GWh/d of additional firm capacity at the Dunkirk interconnection point that was commercially congested.

would benefit from a new supply source. Within this framework, the possibility of creating 100 GWh/d of fixed exit capacity towards Germany at Obergailbach is envisaged by GRTgaz by 2017.

However, practices regarding the odorising of gas between France and Germany prohibit any physical flow from France to Germany. The development of firm capacities in this direction depends on the harmonisation of European practices regarding this point. GRTgaz is currently studying different possible solutions to adapt its system to allow the export of non-odorised gas by 2017.

b) Development of neighbouring infrastructures

i Storage

The plan to develop the Manosque salt cavern storage facility transmitted by Geomethane to GRTgaz will lead to an 80% increase in withdrawal capacity by 2018. Under these conditions, GRTgaz would have to significantly boost its network, in particular by doubling the Bourgogne pipeline.

In the same way, GRTgaz mentions that Storengy would like to connect the new Hauterives storage facility at the Saint-Avis plant but does not see any need to boost its transmission system.

TIGF considers the storage developments forecasts shall not imply networks reinforcements.

ii LNG terminals

The connection of the Dunkirk LNG terminal decided in June 2011 (13 bcm) will require the Hauts-de-France pipeline to be boosted (123 km of DN 1,200) as well as laying that of Dierrey arc (300 km of pipeline between Cuvilly, Dierrey and Voisines) to create 250 GWh/d entry capacity in the Northern zone in 2015. Furthermore, implementation of the Dierrey arc project will facilitate other methane terminal projects in the GRTgaz Northern zone to be integrated into the transmission network: Montoir expansion project in 2015 (+2 bcm) and 2017 (+4 bcm) and new terminal at Antifer in 2020 (+9 bcm). Additional investment will also be required.

In the Southern Zone, an expansion of the Fos Tonkin terminal in 2016, where the Open Season is under way, will not require any particular boosting of the network as the doubling in size of the Rhone pipeline (ERIDAN project) has already been decided on. The same goes for the Dierrey arc, the doubling in size of the Rhone pipeline (220 km of DN 1,200) will facilitate the undertaking of the methane terminal projects in zone South: connection of Fos Faster (+8 Gm3) in 2017 and the expansion of Fos Cavaou (+8 Gm3) in 2020. Nonetheless, the undertaking of these projects would require other works crucial to the system, of which one is the bypass to the east of Lyon.

TIGF has not identified any need to connect an LNG terminal to its network during the life of its plan.

c) Other developments

i Debottlenecking of the link between GRTgaz's North and South zones

The existing bottlenecks on the GRTgaz network are the reason for two balancing zones, north and south. In its 10-year plan, GRTgaz highlights the required investment to remove the bottleneck and join the two balancing zones, of which the three major projects are ERIDAN, the Dierrey arc and the bypass to the east of Lyon,.

The ERIDAN project was already decided on in February 2011 by GRTgaz and approved in April 2011 by the CRE.

The Dierrey arc project, whose provisional size and cost are currently being audited by the CRE, should be decided on by GRTgaz before the end of 2011 to allow the Dunkirk terminal to be connected in 2015.

Otherwise, GRTgaz is studying, at the request of the CRE and with the help of an external consultant, the possibility of unifying its North and South zones by around 2015-2016 based on contractual mechanisms.

ii Connection to Corsica

The Cyrenee project consists in supplying Corsica with natural gas as of 2015 thanks to the Algeria-Sardinia-Italy pipeline (GALSI), particularly to provide gas to power plants in Bastia and Ajaccio. Nonetheless, an alternative to GALSI would be to supply Corsica using one or two LNG barges.

3- Do the projects of GRTgaz and TIGF seem to correctly reflect the needs of the market during the life of the plan?

4 *CRE preliminary analysis*

a) Integration of the French gas transmission networks into the single European market

The 10-year plans of the TSO's show a decorrelation between the growing consumption trends and the evolving capacities (entry/exit) of transmission networks. This illustrates the gradual transformation of the French transmission networks that no longer serve the sole purpose of domestic consumption and ensure the historical transits. Current and future developments identified by the TSO's are more responsive to a goal of creating a fluid and integrated French market in the heart of the European market to secure supplies to France and Europe and promote competition. The CRE considers that these developments are likely to favor the emergence of a French market price of reference consistent with that of other European marketplaces. However, it considers that, except for exceptional cases, long-term commitments from the market will be needed to validate the undecided developments presented in the 10-year plans of TSO's.

4- Do you think that the development projects identified in the TSO's 10-year plans help to make the French natural gas market attractive?

b) Consistency of the 10-year plans with the non-binding plan of ENTSOG

The CRE believes at this stage of its assessment, that the developments identified by the TSO's in their 10-year plans are in line with ENTSOG's ten year development plan published on 17 February 2011. The differences identified concern:

- minor adjustments to the commissioning date of some projects to account for their state of progress:
  - phase 1 of the Montoir expansion and the creation of exit capacities towards Belgium envisaged for 2015 by GRTgaz as opposed to 2014 in ENTSOG's plan;
  - connection to Corsica envisaged for 2015 by GRTgaz as opposed to 2016 in ENTSOG's plan;
  - the creation of entry capacities from Switzerland and the connection of the new terminal at Fos Faster envisaged for 2017 by GRTgaz as opposed to 2016 in the ENTSOG plan;
  - the growth in entry capacity from the Manosque storage facility envisaged for 2018 by GRTgaz as opposed to 2015 in ENTSOG's plan;
  - connection to the new Antifer terminal envisaged in 2020 by GRTgaz as opposed to 2015 in ENTSOG's plan;
  - the creation of entry and exit capacities to and from Spain at Perthus (MidCat project) envisaged for 2020 in ENTSOG's plan and GRTgaz's 10-year plan as opposed to a date later than 2020 in TIGF's 10-year plan.
- two projects in GRTgaz's 10-year plan that do not figure in the ENTSOG 2011-2020 plan in 2011: creation of exit capacities towards Luxembourg for 2016 and towards Germany for 2017. With regard to this last project, GRTgaz highlights the need to adopt common rules on a European level regarding gas quality for its implementation. In this respect, a presentation of the study envisaged by GRTgaz into gas odorisation plants on its system must be incorporated into its next 10-year plan.

- a development of transmission capacities from GRTgaz South to TIGF of 115 GWh/d in 2016 envisaged in TIGF's 10-year plan but not mentioned in either GRTgaz's 10-year plan or ENTSOG's ten year plan. The requirement linked to this development has not been clarified by TIGF and it does not strictly appear to be borne out taking into account the actual subscription of existing capacity.

The CRE notes that the level of information provided by the TSO's for storage development projects and their implications for transmission networks is low. Inconsistencies appear on these points between the 10-year plans of the TSO and the ENTSOG's plan for 2011-2020 (Gournay, Trois-Fontaines, Alsace-South Soings Cere for GRTgaz) or the national multi-year investment plan for gas (PIP gas) from 2009 to 2020 (developments of Lussagnet and Izaute for TIGF). Under these conditions, the CRE considers that TSO's should enhance transparency on the storage projects on which they have knowledge.

5- Do you consider useful to have development projects storage capacity in the 10-year plans of TSO's?

6- Do the TSO's 10-year plans seem to you to be in line with ENTSOG's 10-year development plan?

c) Information level regarding the investments expenses

Article L.431-6 of the energy code states that "(...) *The 10-year plan identifies key transmission infrastructure to be built or changed significantly in ten years, lists the investments already decided and that new investments to be carried out within three years, providing a timetable for implementation of all investment projects. (...).* "

CRE considers at this stage of its analysis, the elements within the 10-year plans of TSO's are not sufficient to enable it to monitor and verify the effective implementation of planned investments for the first three years of these plans in accordance with article L.431-6 of the energy code.

Therefore, the CRE estimates that the plans to 10 years GRTgaz and TIGF should be completed in order to clearly show the annual investment expenditures planned for each project and for the first three years of the plans.

Moreover, the 10-year plans are intended to bring transparency to the market on the outlook for transmission networks in relation to the needs analysis. These developments should take into account the technological and financial aspects.

Reading the 10-year plans of GRTgaz and TIGF, the CRE finds that TSO's provide no amount of investment projects whether decided or not determined.

7- Do you think it useful to have estimations of investment amounts for projects identified in the TSO's 10-year plans, with especially?

a- an overall cost with uncertainties for each decided projects?

b- an indicative range of the amount of investment needed to complete each project not decided?

8- Do you have any other comments?

Questions

The CRE asks interested parties to submit their comments no later than 14 November 2011:

- by mail sent to the following address: webmestre@cre.fr ;
- by contributing directly to the CRE website (www.cre.fr), under "Documents / Consultations publiques (public consultations)" ;
- by writing to: 15, rue Pasquier - F-75379 Paris Cedex 08 ;

A summary of the contributions will be published by the CRE, respecting the rules of confidentiality as protected by law.

Interested parties are invited to answer the following questions, justifying their answers if possible.

1- Do you have any comments regarding the forecasts of annual consumption and daily peak demand of GRTgaz and TIGF during the 10-year plans?

2- Are you satisfied with the current TSO market consultation?

3- Do the projects of GRTgaz and TIGF seem to correctly reflect the needs of the market during the life of the plan?

4- Do you think that the development projects identified in the TSO's 10-year plans help to make the French natural gas market attractive?

5- Do you consider useful to have development projects storage capacity in the 10-year plans of TSO's?

6- Do the TSO's 10-year plans seem to you to be in line with ENTSOG's 10-year development plan?

7- Do you think it useful to have estimations of investment amounts for projects identified in the TSO's 10-year plans, with especially?

a- an overall cost with uncertainties for each decided projects?

b- an indicative range of the amount of investment needed to complete each project not decided?

8- Do you have any other comments?

Appendices

Appendix 1: GRTgaz ten year transmission network development plan - 2011-2020

➔ Plan submitted by GRTgaz on 18 October 2011

Appendix 2: TIGF ten year transmission network development plan - 2011-2020

➔ Plan submitted by TIGF on 20 October 2011