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**OPINION OF THE AGENCY FOR THE COOPERATION OF ENERGY
REGULATORS No 09/2013**

of 25 March 2013

ON GAS REGIONAL INVESTMENT PLANS 2011(12)-2020(21)

THE AGENCY FOR THE COOPERATION OF ENERGY REGULATORS,

HAVING REGARD to Regulation (EC) No 713/2009 of the European Parliament and of the Council of 13 July 2009 establishing an Agency for the Cooperation of Energy Regulators¹ (hereinafter referred to as “the Agency”), and, in particular, Article 5 thereof;

HAVING REGARD to the favourable opinion of the Board of Regulators of 20 March 2013, delivered pursuant to Article 15(1) of Regulation (EC) No 713/2009,

WHEREAS:

- (1) Pursuant to Article 12(1) of Regulation (EC) No 715/2009 the European gas transmission system operators (hereinafter referred to as “TSOs”) shall establish regional cooperation within the ENTSO for Gas (hereinafter referred to as “ENTSOG”) to contribute to the tasks referred to in Article 8(1), (2) and (3). In particular, they shall publish a regional investment plan every two years, and may take investment decisions based on that regional investment plan.
- (2) European TSOs published from 21 November 2011 until 4 June 2012 six Gas Regional Investment Plans (hereinafter referred to as “GRIPs”) on ENTSOG’s website, two of them for the period 2011-2020 and four for the period 2012-2020.
- (3) Pursuant to Article 6(9) of Regulation (EC) No 713/2009 the Agency shall monitor the regional cooperation of transmission system operators referred to in Article 12 of Regulation (EC) No 714/2009 and Article 12 of Regulation (EC) No 715/2009, and take due account of the outcome of that cooperation when formulating its opinions, recommendations and decisions.
- (4) GRIPs shall provide deeper understanding of infrastructure issues within a specific region and also cross-regional to ensure more transparency and visibility on investment plans. As such, GRIPs are an important tool for TSOs and network users to take decisions. Pursuant to Article 5 of Regulation (EC) No 713/2009 the Agency has decided to adopt an opinion on the first set of Gas Regional Investment Plans in order to provide recommendations and guidance for future editions to fit for purpose.

¹ OJ L 211, 14.8.2009, p. 1.

This opinion is without prejudice to the approach taken by the Agency for the future assessment of Gas Regional Investment Plans.

HAS ADOPTED an Opinion on European gas transmission system operators' Gas Regional Investment Plans 2011(12) - 2020(21), with the following main findings, recommendations, comments and guidance:

1. General findings

- 1.1. The process of delivering GRIPs is an on-going one, triggered by the Third Energy Package². The Agency appreciates the learning-by-doing approach applied both for the Community-wide Ten Year Network Development Plan (TYNDP) and the GRIPs. However, improvements are possible and necessary for the upcoming GRIPs. Therefore, the following recommendations should rather be considered as guidance on how to improve the next editions of GRIPs starting in 2013 than a criticism of the existing ones.
- 1.2. According to Article 12(1) of Regulation (EC) No 715/2009, "the GRIPs shall contribute to the tasks of ENTSOG referred to in Article 8(1), (2) and (3) of Regulation (EC) No 715/2009" and "TSOs may take investment decisions based on the GRIPs". Pursuant to Article 8(10), the TYNDP shall "build on national investment plans, taking into account regional investment plans". The Agency emphasizes the need to define in the context of future GRIPs-related work the interrelationship between the TYNDP, the GRIPs and the investment decision process addressed by the provisions of Articles 8 and 12 of Regulation (EC) No 715/2009.
- 1.3. The Agency notes the existence of certain heterogeneity of the GRIPs' methodologies, publication timing, network models, market perspectives, and level of detail provided across the various Regions.

2. Recommendations, comments and guidance

2.1. General issues:

- 2.1.1. Taking into account the provision of Article 8(10) of Regulation (EC) No 715/2009, which stipulates that the Community-wide TYNDP must take into account regional investment plans, the GRIPs should provide a more detailed and focused approach towards regional network development in comparison to the TYNDP. The Agency recommends an additional and more precise assessment of infrastructure projects, their integration at a national and regional level, and interconnections with other regions, as it would be beneficial and is likely to deliver added value to stakeholders. The Agency believes that it is not sufficient to simply update project data in the GRIPs in the interim period before the publication of the next TYNDP. The Agency notes that positive experience has already been

² Third Energy Package is a legislative package for an internal gas and electricity market in the European Union. The package was proposed by the European Commission in September 2007, and adopted by the European Parliament and the European Council in July 2009. It entered into force on 3 September 2009.

gained in South and Central Eastern Europe GRIPs by applying a more detailed regional network modelling method which builds on and enhances ENTSOG's existing modelling tool, and recommends further effort towards the attainment of greater detail, precision, and cross-border relevance of the GRIPs.

2.1.2. The Agency recognizes the necessity to establish a link and to clarify the role of the GRIPs in relation to the selection process of projects of common interest of the forthcoming Regulation on guidelines for trans-European energy infrastructure³ (TEN-E Regulation) involving four Regional Groups dedicated to four regional infrastructure corridors. In particular, in order to benefit from potential synergies in the assessment of the GRIPs, the geographical scope of the individual GRIPs should be re-assessed in a manner which involves stakeholders, and the area coverage of individual GRIPs should be aligned with the geographical scope of the EIP Regional Groups, applying some flexibility, where appropriate. This alignment should include adopting coherent sets of data, project evaluation methodologies, and definitions.

2.2. Structural and methodological issues:

2.2.1. The Agency recommends a harmonisation of the methodologies used to develop the GRIPs, including an appropriate common regional network modelling tool utilised in all regions. In view of the pending development of a CBA methodology under the TEN-E Regulation as applicable to PCIs, and the need to harmonize the methodologies used for the assessment of key cross-border gas infrastructure projects at regional and European level, the GRIPs should in the future consider using project assessments based on the TEN-E methodology for CBA. The Agency believes that such harmonization would facilitate assessment of GRIPs, increase cross-regional comparability and transparency of the GRIPs, and streamline their development.

2.2.2. The Agency suggests to establish working level coordination between the development of the Gas and the Electricity Regional Investment Plans. The aim of such coordination should be to improve coherence, properly reflect the interrelations and interdependencies of the gas and the electricity network development plans, and assess spill-over effects resulting from structural shifts in one of the systems that could affect the other.

2.2.3. The Agency notes that the Austrian transmission network has been split for the purpose of GRIPs, whereby the WAG pipeline is covered in the Central Eastern Europe GRIP, while TAG and GCA systems are covered in the Southern Corridor GRIP. Consequently, the Austrian market area

³ Proposal for a Regulation of the European Parliament and of the Council on guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC (19.10.2011 COM/2011/0658 final)

has also been split into two zones, even though, from a market perspective, it constitutes a single market area. In addition, the interconnection point at Oberkappel is not addressed by any of the published GRIP's. The Agency recommends that, as a minimum, the effects of such an unsubstantiated division of a market for the sake of producing GRIPs should be adequately addressed or, preferably, such a division should be avoided altogether.

2.2.4. The Agency recommends that the GRIPs should also identify concrete bottlenecks at the regional cross-border level. To better justify the specific regional network needs and remedies to resolve bottlenecks or congestions, GRIPs should assess and highlight the specific regional market features, such as impact on prices and congestions. This should be done alongside with identifying the impact of possibly different, but competing projects addressing the congestion, and providing a general cost-benefit assessment (based on the TEN-E methodology for CBA) in support of the identified priority investment options.

2.3. Procedural issues:

2.3.1. The Agency recommends a more streamlined and harmonized approach to infrastructure development activities in the framework of the GRIPs, the Gas Regional Initiative, the TEN-E Regulation, the TYNDP processes, as well as greater involvement of stakeholders. Duplication of work and other inefficiencies, as well as potentially contradictory results arising from non-coherent parallel work, should be avoided.

2.3.2. The Agency believes that ENTSOG's further guidance and support of harmonised enhanced regional system modelling taking into account different supply and demand scenarios is essential for attaining a comparable level of quality among the GRIPs.

2.3.3. The Agency encourages TSOs to enable the involvement of interested stakeholders at the GRIP work design phase, as such an early involvement is essential for elaborating market-supportive GRIPs and utilising the available stakeholders' resources in the most efficient way. In particular, stakeholders could play an important role in the verification of demand and supply data and scenarios. National regulatory authorities should have the opportunity to provide comments and feedback at an equally early stage. To this end, it is essential to establish an open dialogue among the relevant TSOs and NRAs throughout the process of the GRIP development. A harmonised procedure which allows involvement of all interested stakeholders is anticipated.

2.3.4. The Agency believes that preparing and releasing the TYNDP and GRIPs in alternate years allows for a more frequent update of supply and demand scenarios and a more continuous progress in developing the gas infrastructure and on-going stakeholders' participation. For this reason, the Agency recommends the adoption of an alternating approach, which

is more likely to contribute to the fulfilment of the provisions of the Regulation (EC) No 715/2009 (Article 8(10) and 12(1)) concerning the GRIPs' contribution to the tasks of ENTSOG, as well as to enable ENTSOG to take the GRIPs into account when developing the TYNDP.

3. This opinion is addressed to ENTSOG within which the TSOs have established a regional cooperation to provide the GRIPs. The Agency recommends that ENTSOG adopts a more active role in the GRIPs process, especially supporting their coordination and homogeneity, in line with the findings and the recommendations provided above.

The individual assessments of the GRIPs are annexed to this opinion.

Done at Ljubljana on 25 March 2013.

For the Agency:


Alberto Pototschnig
Director

Annex to the Opinion of the Agency
on Gas Regional Investment Plans 2011(12) - 2020(21)

**ASSESSMENT OF THE GAS REGIONAL INVESTMENT PLANS
2011(12) - 2020(21)**

1. SUMMARY

Since November 2011 and until June 2012 six gas regional investment plans (GRIPs) were adopted and published by the corresponding transmission system operators (TSOs) organised in six regional groups. The GRIPs are provided as an extension of ENTSOG's European Ten Year Network Development Plan 2011-2020, with some additional modelling, in-depth analysis of specific system resilience, project data updates and other novel elements as indicated below:

- The North-West GRIP provides an updated database on the status of the investment projects, with a focus on cross-border interconnection points as well as some additional analyses on regional demand and supply. However, the overall content of the plan may have a rather limited additional value to the stakeholders, to the extent that the regional assessments are mainly based on excerpts from the EU TYNDP 2011-2020;
- The South GRIP is more than merely an extract of the EU TYNDP 2011-2020, and contains some added value. It provides additional data on gas supply and demand (in particular a characterisation focusing on the significance of LNG and on consumption in gas-fired electricity generation plants in the region), and includes assessments of the qualitative potential benefits of new investments and of their contribution to security of gas supply. The methodology of the South GRIP features an extended TYNDP 2011-2020 modelling exercise with a specific analysis of resilience of the gas system using three disruption scenarios;
- The CEE GRIP properly extends to cover Austria and Germany as countries having an impact on the CEE region. The added value of the GRIP derives from an assessment of the N-1 criterion for gas supply security at the regional level and the provision of additional network modelling and analysis of different scenarios, including transit supply disruption of Russian gas via the Ukraine and/or Belarus and market integration scenarios. The CEE GRIP does not take into consideration one of the most important congested interconnection points in Europe (Oberkappel). The cross-border point at Oberkappel is also not adequately covered in any other GRIP;
- The BEMIP GRIP is based on the existing TYNDP 2011-2020, providing a comprehensive analysis of the regional gas markets and evaluating the potential contribution of infrastructure investment projects towards market development and integration, security and diversification of gas supply, feasibility and barriers to implementation;
- The Southern Corridor GRIP provides some additional third-party project data, updated information on TSO infrastructure projects, and updated country profiles. There is no further added value compared to the TYNDP 2011-2020;
- The main added value of the South-North GRIP is the assessment of the regional gas market development, addressing the role of the Region for the implementation of three European gas corridors, and the positive effect of the synergies between the interconnections and the

regional gas hubs which are expected to contribute to the integration of the European gas market.

2. ASSESSMENT OF THE GRIPS

Six gas regional investment plans were adopted by corresponding transmission system operators and published between November 2011 and June 2012.

2.1. GRIP North-West (IE-UK-FR-BE-NL-LU-DE-DK-SE; Co-ordinator: Fluxys)

2.1.1. Facts (extent, focus, modelling approach, level of detail, investment gaps identified, findings, conclusions and proposals)

On 21 November 2011 Gas Transmission System Operators (TSOs) from North-West (NW) Europe adopted their first Gas Regional Investment Plan (GRIP) 2011-2020. The plan was publicly presented on 25.11.2011 to the Stakeholder's Group (SG) and afterwards consulted upon from 28.11.2011 until 30.01.2012. In May 2012, national regulatory authorities (NRAs) of the NW region jointly provided recommendations on how to enhance the next GRIP to the concerned TSOs. The key recommendations for the next GRIP - that have also been openly discussed with the TSOs - concern the need to include a deeper analysis of cross-border congestions, to concretely point out potential investment gaps and to improve the interaction with stakeholders.

For the purposes of the GRIP, the region of North-West Europe comprises 9 countries and 15 TSOs:

- Countries: Belgium, Denmark, France, Germany, Republic of Ireland, Luxemburg, the Netherlands, Sweden, United Kingdom;
- TSOs: CREOS, Energinet.dk, Fluxys (Coordinator), Gaslink, Gasunie Deutschland, Gas Transport Services, GRTgaz, National Grid, Interconnector, Ontras, Open Grid Europe, Mutual Energy, Swedegas, Thyssengas, Wingas Transport.¹

The GRIP North-West covers a market size of about 50-60% of the EU27 peak gas demand. The GRIP focusses on transmission projects with impact on cross-border capacities in the NW region, showing which specific Interconnection Points (IP) are influenced by the projects.

The GRIP consists of a narrative of 16 pages², subdivided into the following parts: introduction, specific of the NW region, supply & demand analysis, transmission projects, conclusions & way forward, and is complemented by an annex of 51 pages containing individual TSO project information.

¹ The operator of the BBL is currently not participating in the GRIP process.

The “resilience assessment” of the gas network in the region is in this first GRIP limited to the analysis already provided in the Community-wide Ten Year Network Development Plan 2011-2020 (TYNDP 2011-2020), which concluded that the network is resilient to certain specific disruptions.

Further conclusions of the GRIP include the finding that the Portfolio diversification will improve if non-FID³ projects are implemented. As depicted in the figure below, all potential supply scenarios are significantly higher than the regional peak daily demand, so that the gas export capacity of the region could even rise over the next decade. This would allow for genuine competition and confirms the efficient evolution of the network in view of overall supply and demand patterns. On a peak day, though, flexibility constraints for the market could occur⁴.

The only potential investment gaps listed in the GRIP are those already identified by the TYNDP 2011-2020, and pertain to the connection of Luxembourg and the Danish/Swedish region to the rest of Europe. The congestions identified in the TYNDP 2011-2020 reference scenario (DK/SE, LUX) and the capacity lack in France hampering LNG import maximisation from Spain (which results from the market integration scenario) have neither been further addressed in more detail by the GRIP, nor have any remedies been presented in the Plan. Instead, the main problem identified by the TSOs of the region relates to the need for a stable investment climate in the region, which requires a favourable regulatory framework. Additionally, the Plan states that the production of the GRIP, in conjunction with all other European and national publication requirements, is very challenging, in particular for TSOs involved in more than one GRIP.

The GRIP further provides a list of FID and non-FID projects and indicates their impact on IPs inside the NW region, including new projects since the release of the TYNDP 2011-2020 in February 2011. In the GRIP’s annex, further project details (expected benefits, technical information and updates) are given, but with little additional information compared to the TYNDP 2011-2020.

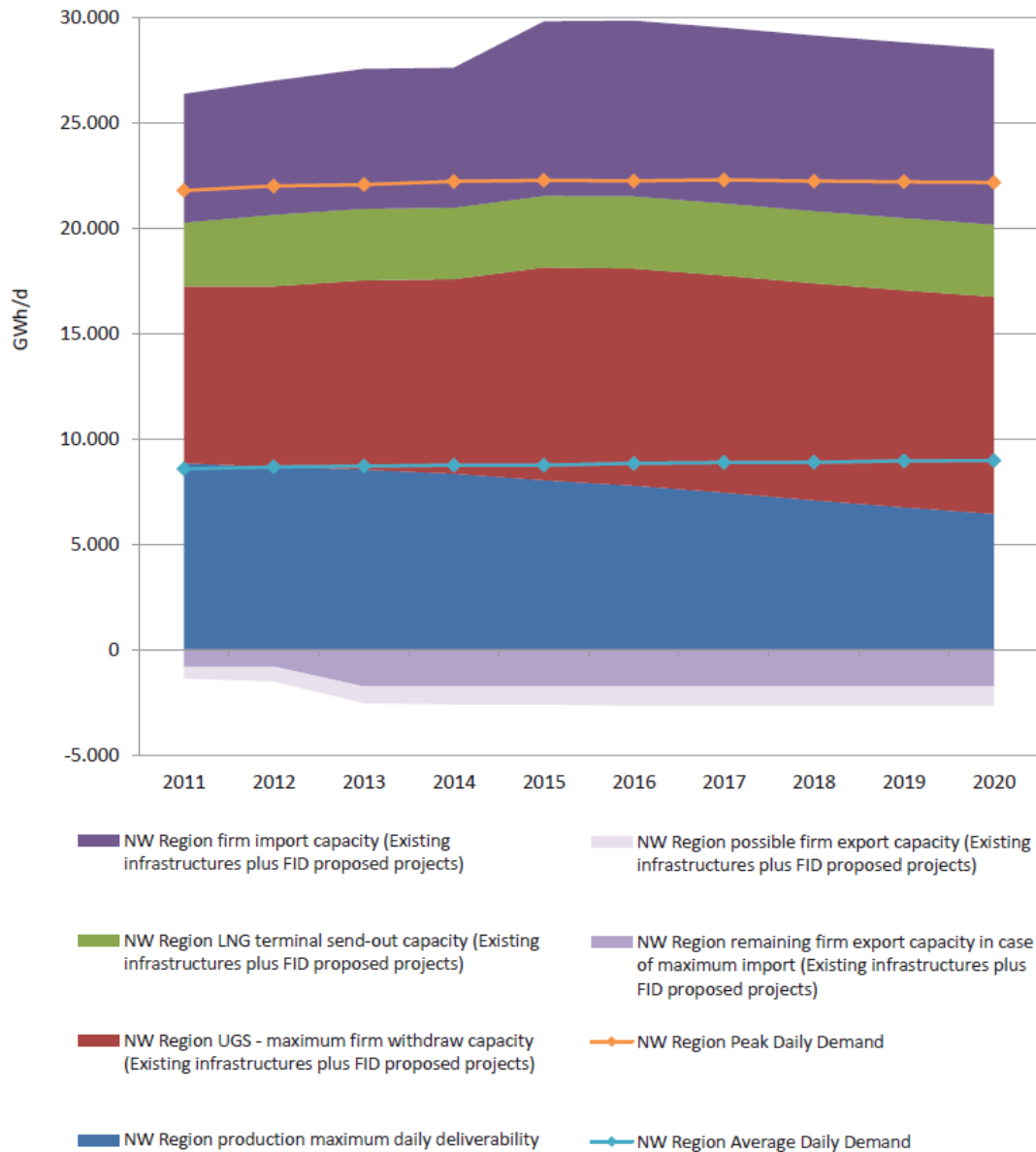
2.1.2. Evaluation (of approach, relation to TYNDP, findings, conclusions and proposals, strengths and weaknesses)

The overall level of detail of the analysis in this GRIP, and consequently its additional value to stakeholders, is quite limited. This is mainly due to the fact that the GRIP is largely based on excerpts from the TYNDP 2011-2020, with very little additional elaborations (e.g. on demand and supply analysis / projections). The project updates since the publication of the TYNDP 2011-2020 and the collection of details for both FID and non-FID individual projects are nevertheless considered to be a solid basis and a positive first step towards further coordination and cooperation by TSOs in the region for the purpose of commonly assessing and addressing investment needs. Also, the stakeholder consultation on the GRIP, as well as the dialogue with the concerned NRAs in order to enhance the next GRIP, are appreciated.

³ FID: Final Investment Decision.

⁴ This has not been further analysed.

**Comparison demand and supply potential NW-EU
(hypothesis of ideal entry-exit system)**



Source: GRIP North-West 2011-2020, Nov. 2012

It is in particular disappointing though, that no further modelling or significantly insightful analysis was carried out, in contrast to what was achieved, for example, in the South Region. Essentially, the GRIP relies only on the result of the previous TYNDP 2011-2020 modelling. Furthermore, each TSO published in the GRIP only its individual infrastructure statement, leading to the first NW GRIP being mostly a collection of information about individual TSO projects. A common analysis and a cooperative approach towards a shared view regarding infrastructure requirements has not yet been established, constraining the added value of this GRIP to stakeholders as compared to the TYNDP 2011-2020.

Additionally, no cost data or estimate is provided at all. Individual capacity data for the projects is provided in the Plan's annex, but not in the table in section 5 of the narrative.

2.1.3. Comments for further improvement

As pointed out by the NRAs in their recommendations paper addressed to the concerned TSOs, the following key improvements in view of future editions of the NW GRIP are suggested:

In order for the GRIP to provide real added value to the discussions on infrastructure development, the GRIP should, compared to the Community-wide and national TYNDPs, deliver a finer understanding of cross-border congestions in this particular region. To facilitate this understanding, the congestion already identified in the TYNDP 2011-2012 should be investigated further, and – most importantly – remedies to potential investment gaps should be provided. In parallel to listing all the existing and new projects, the GRIP should provide more transparency and insights on the potential investment gaps (including cost estimates) and could, where needed, provide a basis for developing coordinated market-based investment procedures, which in turn would facilitate investment decisions. Such an approach could be complemented by updates on upcoming or on-going open seasons procedures (including indicative results, where available).

As observed in the first GRIPs developed in other regions, a dedicated modelling exercise could use a simulation of system resilience to disruptions in much higher detail than the TYNDP 2011-2020, or may also use an evaluation of market integration taking national specificities into account (e.g. gas quality differences).

To the benefit of TSOs and stakeholders, the early involvement of stakeholders should be ensured right from the beginning and throughout the entire GRIP development process, and not only after its publication. The involvement of stakeholders could be targeted more towards individual regional actors' views (rather than organisation's views as for the TYNDP 2011-2020) on concrete investment needs. Before publishing the final GRIP, an evaluation of the TSO's proposals via dedicated workshops, SG meetings, or consultation of the draft GRIP may be desirable.

The GRIP should also contribute to higher consistency between national and Community-wide TYNDPs by stimulating coordination of TSOs in order to ensure a coherent evaluation of the investment needs in adjacent systems and the region, needed even more as national TSO obligations with regards to national TYNDPs are different. Additionally, a meaningful, well-coordinated GRIP could also facilitate and contribute to the selection process of Projects of Common Interest (PCI) as foreseen in the Energy Infrastructure Package. The results of a common infrastructure based modelling and analysis in the GRIP could provide valuable input for the project's assessment using the PCI criteria (market integration, security of supply, competition, sustainability).

In conclusion, the current GRIP North West does not represent a real common "plan" with significant added value compared to the TYNDP 2011-2020. Therefore, in the future TSOs should endeavour to improve their cooperation in order to deliver with the next GRIP a more detailed analysis of potential congestions, its remedies and the planned projects' impact on security of supply and market integration. A dedicated modelling may in that regard facilitate the provision of a deeper understanding, identification and assessment of the potential congestions and related cross-border investment needs.

2.2. GRIP South (PT-ES-FR; co-ordinator: Enagas)

2.2.1. Facts (extent, focus, modelling approach, level of detail, investment gaps identified, findings, conclusions and proposals)

On 24 November 2011 Transmission System Operators in the South Region adopted their first Gas Regional Investment Plan 2011-2020.

The region of South Europe for this GRIP comprises 3 countries and 4 TSOs:

- Countries: Portugal, Spain and France;
- TSOs: Enagás, GRTgaz, REN Gasodutos and TIGF.

The GRIP contains two sections with an overview of supply and demand in the region, which characterise them quantitatively (supply and demand gas volumes) and in terms of diversification of import sources, LNG vs. pipeline gas, and end-use of gas consumption (conventional vs. gas-fired electricity production). The document proceeds by presenting the main flexibility tools in the region (LNG terminals and underground gas storages) and reviews the current and planned investment interconnection projects between France and Spain and between Spain and Portugal. Both FID and non-FID projects are included.

The TSOs analyse in particular the need for two major new cross-border infrastructures: the development of an Eastern Axis between France and Spain (MidCat project) and a third IP between Spain and Portugal. These two new investments are justified by TSOs under different criteria: contribution to the creation of the IEM, impact on market integration and gas demand coverage, benefits in terms of flexibility and RES integration, and diversification of gas sources and routes. In addition, there is a specific section on security of supply where an analysis of the resilience of the network is carried out under three risk scenarios: LNG disruption, disruptions of imports from North-Africa (LNG from Algeria) and Algerian disruption (LNG and pipeline gas). Finally, the document includes a chapter on market integration, where TSOs investigate the potential benefits to European market integration brought by the aforementioned two new investment projects. The main findings from these chapters are summarised in a final section containing conclusions and the suggested way forward.

Next to the GRIP document, the national regulatory authorities from the region (French, Spanish and Portuguese regulators) have drafted a joint document with views and recommendations on the South GRIP in November 2012. This document has been submitted for information to ACER and the present opinion reflects most of its main conclusions and recommendations in the following sections.

2.2.2. Evaluation (of approach, relation to TYNDP, findings, conclusions and proposals, strengths and weaknesses)

The South GRIP is more than merely a zoom of the TYNDP 2011-2020 to the South region, and it contains some added value with regard to it. In the GRIP TSOs provide their estimation of supply and demand data (especially their characterisation, with a focus on the significance of LNG for supply and consumption in gas-fired electricity generation in the region for demand). The GRIP includes assessments of the qualitative potential benefits of new investments and of their contribution to security of supply (network resilience under risk scenarios), with a focus on the France-Spain Eastern Axis (MidCat) and the third IP between Spain and Portugal. These analyses aim at justifying the need to undertake such investments.

However, as pointed out by the national regulatory authorities in the region, the GRIP could include additional data and further assessments which would make the document even more fit-for-purpose and would better justify the proposals set out in it:

- A relevant recommendation by the NRAs and supported by ACER is that the GRIP should include a more thorough justification for each one of the new investments proposed. The Plan describes the potential increase in cross-border demand, which is not adequately justified, and an analysis – mainly qualitative – of potential benefits from the two main projects proposed. In view of the Agency there is a clear lack of data and quantitative analysis that would justify these new investments. Two aspects are missing in particular:
 - Data on utilisation rates of cross-border interconnection capacities over the last years (one of the main indicators to trigger a potential new investment would be the evidence of physical congestion, i.e. a high rate of use of existing capacities);
 - Quantitative cost-benefit analyses including the estimated cost of the new projects proposed against their potential benefits in terms of macroeconomic welfare gains for the gas markets affected.
- Regulators welcome in particular the fact that TSOs have used the criteria set out in the draft EIP Regulation, presenting the GRIPs as an input to the process for selection of Projects of Common Interest (PCIs). However, NRAs would have appreciated the inclusion of a cost-benefit analysis which would take into account the cost-recovery aspect, and of technical and economic analyses of other possible alternative projects;
- The GRIP document points to the possible future development of projects and incremental capacities at interconnection points that were part of Open Season procedures in recent years⁵. TSOs should take into account the outcome of those processes, e.g. NRAs did not grant their approval to the creation of additional firm capacity from France to Spain at the Biriadou IP at the Open Season for 2015;
- In terms of geographical coverage, the GRIP only deals with projects which increase cross-border capacities between the countries within the region. As pointed out by NRAs, projects' integration in the national networks and other infrastructure developments connecting the region with neighbouring regions should also be considered;
- In relation to modelling, in the South GRIP the TSOs have built on the modelling exercise carried out by ENTSOG for the TYNDP 2011-2020, and have extended this exercise with a specific analysis of resilience of the gas system against three disruption scenarios. These additional simulations are welcome and show the kind of added value that the GRIP can provide in going beyond the TYNDP with more focused analyses. However, more detailed information – quantitative and individualised per investment project – could be provided to arrive at a more precise analysis;
- The NRAs have expressed their view that the GRIP, when assessing the impact from new projects in removing congestions, should reflect the contribution from each project in

⁵ (Open Seasons held in 2009/2010 for new capacity available in 2013 and 2015 in the Western and Eastern axes in France-Spain interconnection)

removing these congestions. A comparative analysis of possible alternative projects would be helpful as well;

- Finally, the NRAs welcome the additional simulations on the LNG terminals send-out in each country in the market integration analysis in section 8. However, they consider that the GRIP should provide more explanations on the specific location of congestions and the ways to solve them, by considering separately the contribution of each infrastructure development.

2.2.3. Comments for further improvement

The following comments and recommendations are provided in view of future editions of the South GRIP. Some of them have been conveyed by regulators from the region.

In the supply and demand chapters, TSOs could include in the next GRIP further analyses regarding changes affecting the LNG market and their consequences for flow patterns. The NRAs also suggest that the comparative analysis of the gas markets in the three countries in the region is complemented with a focus on the interdependence of the three markets, underlining the specific role of gas in transit in order to highlight the importance of cross-border interconnections.

The demand forecasts should be revised in the next GRIP in order to better reflect the effects of the economic crisis. The expected growth in demand considered in the document of +1.8% in yearly average over the next years seems overoptimistic. Information on the cost/benefit analysis of the proposed and other alternatives would also help to complete the new GRIP.

A recommendation from the NRAs is that it would be interesting if TSOs linked the benefits in terms of security of supply attributed to the non-FID projects of the Eastern Axis between France-Spain and the third IP between Spain and Portugal with the current needs of each gas system, taking into account the available flexibility tools and in particular storage. This would allow the establishment of a link between the analyses made in the GRIP to the specific assessments on security of supply carried out at national level in the frame of the application of Regulation 994/2010.

Finally, in relation to stakeholder involvement it has to be highlighted that the South GRIP was submitted to public consultation of stakeholders, giving them the opportunity to comment on it after its publication. For future editions of the GRIP, the NRAs suggest that an open dialogue is established between TSOs, NRAs and stakeholders, using the existing GRI structures. ACER welcomes this proposal as this would allow starting the exchange of views already at an early stage, and in this way feedback from stakeholders and NRAs could be taken into account before the release of the final version of the GRIP.

2.3. GRIP Central Eastern Europe (PL-CZ-DE-AT-SK-HU-BG-RO-HR; co-ordinator: NET4GAS)

2.3.1. Facts (extent, focus, modelling approach, level of detail, investment gaps identified, findings, conclusions and proposals)

On 30 January 2012 Gas Transmission System Operators from Central Eastern Europe adopted their Gas Regional Investment Plan 2012-2021.

The region Central Eastern Europe for this GRIP comprises 9 countries and 15 TSOs:

- Countries: Austria, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Poland, Romania and Slovakia;
- TSOs: BOG GmbH, GAS CONNECT AUSTRIA GmbH, Tauerngasleitung GmbH, Trans Austria Gasleitung GmbH, Bulgartransgaz EAD, Plinacro d.o.o., NET4GAS, s.r.o., GRTgaz Deutschland GmbH, Ontras - VNG Gastransport GmbH, Open Grid Europe GmbH, WINGAS TRANSPORT GmbH, FGSZ Naturel Gas Transmission, GAZ-SYSTEM S.A., eustream, a.s., Transgaz SA.

This first edition of the CEE GRIP concentrates on three areas:

- A regional gas infrastructure outlook assessing and identifying potential future infrastructure investments;
- A resilience assessment of the gas transmission systems in the CEE region against the background of the supply and demand development in the next 10 years;
- An assessment of the Security of Supply infrastructure standard on a regional level.

The CEE region transports gas from Russian sources to Europe and therefore the transmission systems in the region were built for the transit of gas from East to West. As a consequence, gas demand is mainly covered by supply from one source. The TSOs are aware of the need for the development of new interconnections which would help diversify the gas sources and increase the security of gas supply in the CEE region, and are working on solutions and taking final investment decision (FID). After an initial assessment of the interdependencies of gas flows, the CEE region was enlarged by Germany and Austria, which demonstrates the flexibility of a regional approach.

The information about projects presented according to their split into FID and non-FID projects reflects the status as of September 2011.

The modelling was provided for two types of supply scenarios, one according to the existing infrastructure plus projects for which FID has been taken, and the other for the same infrastructure plus non-FID projects. All projects submitted by TSOs and third party sponsors have been considered. For the purposes of the CEE GRIP, only three years were modelled, i.e. 2012, 2016 and 2021. Scenarios have been divided into three categories:

- Reference Scenarios (standard levels of supply, no disruptions, daily average demand and high peak demand),
- Disruption Scenarios with disruptions of Russian gas supply via the Ukraine and/or Belarus (security of supply),
- Market Integration Scenarios with different supply predominance patterns.

The demand for natural gas in the CEE region is expected to increase continuously over the next years. Accordingly, the total annual gas demand for the CEE region, which was approximately 1,521 TWh/y in 2011, is projected to be 1,867 TWh/y by 2021, representing an increase of 22.8% or an annual growth rate of 2.1%.

Gas supply from national production plays a rather important role in the CEE region, especially in Romania (75.4% of demand in 2011, 43.8% expected in 2021), Croatia (66% of demand in 2011, 35.5% expected in 2021) and Poland (22.8% of demand in 2011, 8.1% expected in 2021). In

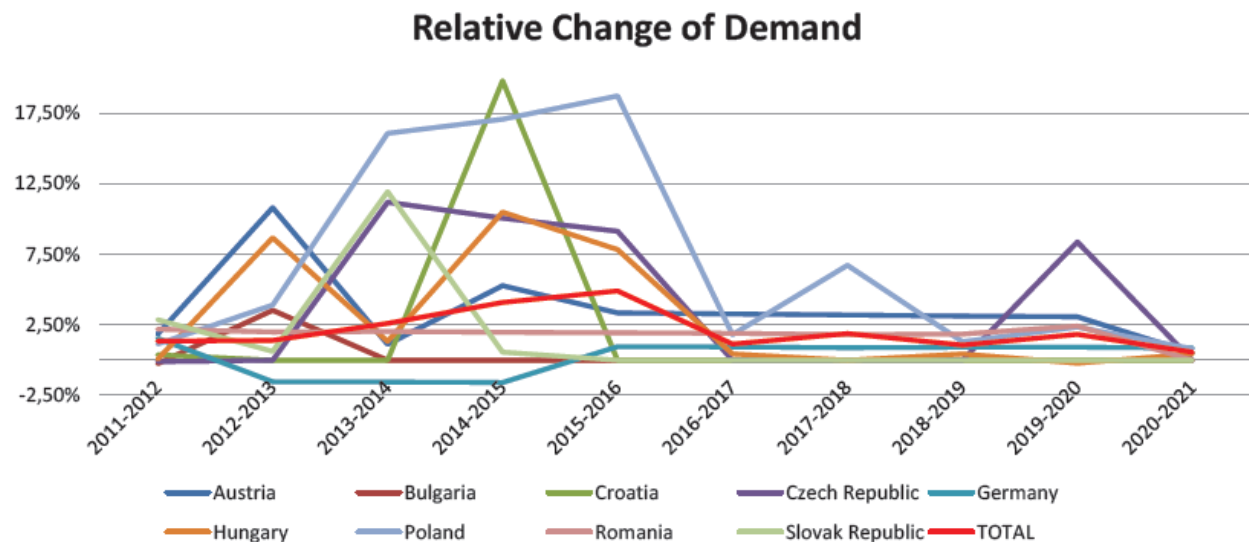
2011, the share of gas from national production covered 26% of the overall CEE demand. By 2021, this share is projected to decrease to approximately 14%.

The gas supply originates currently mainly in Russia, which will provide at least 49% of the gas for the CEE region according to every scenario. Gas from Norway and national production also constitute an important element of the supply portfolio, with each amounting to approximately 14-19% of overall supply. LNG is expected to become a new source of supply, while the importance of Caspian gas will be entirely dependent on the implementation of the proposed non-FID projects in South-East Europe.

Taking into consideration the capacities of existing and future FID and non-FID gas infrastructure in the region, the CEE TSOs conclude that the overall supply and demand balance would improve over the 10-year range owing to the FID projects to be implemented. However, there are still two regions that will not have sufficient capacity (including all FID projects) to achieve full supply and demand balance under Peak Daily Demand conditions, which are:

- Poland without disruption, and under Belarus and Ukraine disruption,
- Hungary, Croatia, Romania and Bulgaria under Ukraine disruption.

The development of gas infrastructure in the CEE region is of paramount interest not only for the participating countries, but also for other European regions. The development of cross-border interconnections within the North-South corridor in the CEE countries and investments in internal grid should together contribute to the creation of a regional market with secure and uninterrupted gas flow in normal circumstances as well as in case of disruptions.



Source: GRIP CEE 2012-2021, January 2012

2.3.2. Evaluation (of approach, relation to TYNDP, findings, conclusions and proposals, strengths and weaknesses)

The main added value of GRIP CEE is:

- The proper area concept of the region, which includes Austria and Germany as countries having impact on the CEE region;
- The development and assessment of the regional security of gas supply using the N-1 definition. This is based on a calculation of all gas capacities at interconnection points with setting the IPs of the main supply corridor to zero, and taking also into account withdrawal from storage capacities, indigenous production and exit capacities with regards to domestic seasonal peak demand in 20 years;
- Providing network modelling under different scenarios, including transit supply disruption of Russian gas via Ukraine and/or Belarus and market integration scenarios.

However, the CEE GRIP neglects one of the most important congestions in Europe at the Oberkappel IP. The cross-border point Oberkappel is not adequately covered in any GRIP. Furthermore, additional market integration aspects need to be covered. One such aspect could be a review of what needs to be done to enable and stimulate mergers of entry-exit zones.

2.3.3. Comments for further improvement

We propose to enrich the GRIP CEE approach by the following actions:

- Conduct the GRIP CEE elaboration with the Energy Infrastructure Package approach in mind, as reflected in the ad-hoc regional groups preparing the lists of projects of common interest;
- Involve the interested stakeholders already in the process of preparing the GRIP, by organising at least one or two public events in order to enable sharing and consulting on the approach proposed by the TSOs;
- Harmonise the enhanced GRIP approach across all GRIP regions.

2.4. GRIP BEMIP (SE-DK-PL-LT-LV-EE-FI; co-ordinator: Gaz-System)

2.4.1. Facts (extent, focus, modelling approach, level of detail, investment gaps identified, findings, conclusions and proposals)

On 29 March 2012, the Gas Transmission System Operators from the BEMIP region adopted their Gas Regional Investment Plan 2012-2021

The BEMIP region for this GRIP comprises 7 countries and TSOs:

- Countries: Estonia, Denmark, Finland, Latvia, Lithuania, Poland, Sweden;
- TSOs: Energinet.dk, Gasum, GAZ-SYSTEM, Swedegas (ENTSOG Members), Latvijas Gaze, Lietuvos Dujos (ENTSOG Associated Partners), Eesti Gaas.

The Plan provides a comprehensive analysis of the regional gas markets, and particularly evaluates the potential contribution of a number of infrastructure investment projects to the improvement of market interconnections and further development.

The GRIP initially presents an outlook on the countries' gas demand and describes relevant national energy policies and gas market trends. Next, the Plan summarizes the existing regional gas interconnection infrastructures and assesses the present infrastructures gaps. Finally, for each of the infrastructure investment projects under consideration in the region, the GRIP evaluates the potential impact in terms of interconnection levels improvement, increasing security and diversification of supply, facilitating competition, addressing projects' feasibility and barriers for their completion.

A common feature of all national gas markets in the BEMIP region is the high degree of dependency on a single supplier and the relatively low level of interconnection among them, which implies a lack of ability to supply each other. Conversely, national markets differ regarding their organization structures and competition levels, and regarding the current role of natural gas and gas demand growth expectations in the countries' primary energy mix.

Broadly speaking, the BEMIP national gas markets interconnection levels and supply dependency can be summarized in the following manner:

- Finland is isolated from the Baltic States and the EU networks, and its natural gas supply relies on imports from Russia;
- The three Baltic States are highly dependent on direct Russian imports. They are connected to each other to some degree via respective interconnections between Lithuania and Latvia and Latvia and Estonia. The only gas storage in the region is located in Latvia;
- Poland, which is not connected to any of the BEMIP region members, relies mainly on Russian imports as well. The country's gas grid is interconnected to a certain extent with the EU network, which allows some diversity of imports, for example from Germany, and there is also significant domestic production. The development of the new LNG terminal at Świnoujście will increase the diversity of supply;
- The gas grids of Denmark and Sweden are the only ones connected to each other within the region. Gas demand in the two countries is covered by production in the Danish sector of the North Sea where output is declining, and therefore imports from Germany are expected to grow.

Taking these facts into account, the proposed infrastructure investment projects listed in the GRIP are devoted to increasing supply diversification via better regional connections among the BEMIP members and with the EU gas markets. The conviction is that a higher degree of integration will foster market competition and improve security of supply.

A series of projects currently under consideration in the region by involved stakeholders are listed in the GRIP. Some projects are more advanced as they have already obtained FID support, while others are in the preliminary study phase, i.e. non-FID. The major projects are as follows:

- The LNG terminal of Świnoujście in Poland is expected to become the first project of regional importance to be commissioned. By 2014, it would provide major supply diversification to the region;
- Balticconnector, the construction of an offshore gas pipeline between Finland and Estonia, an instrument to improve the security of gas supply, is at the study phase and has not been approved yet;

- Modernization and capacity increase works at the Latvian underground storage, Inculkans UGS, are under analysis of technical and financial feasibility. If managed and operated under a regional framework, the storage could enhance the security of gas supply in the three Baltic countries;
- Coordinated analysis for the construction of a single LNG terminal in the Baltic countries has been performed. The single terminal could be operated under a regional framework, facilitating the diversification of supply in all the involved countries. A decision about the location has not yet been reached. Additionally, the three Baltic countries plus Finland have also carried out their own feasibility analysis and independent studies regarding the development of LNG terminals in each of them;
- In the three Baltic countries, there are projects under analysis for enhancing the existing interconnections and providing bidirectional gas flows. These projects are expected to strengthen economic cooperation and the development of links between the systems, and in coordination with other regional projects would improve the security of gas supply in the entire region;
- The GIPL project aims to connect Lithuania and Poland, to provide a better integration to the EU network for the three Baltic countries, and to gain access to the LNG Świnoujście terminal and the Inculkans UGS respectively;
- Baltic Pipe, a connection between eastern Denmark and Poland, has been investigated over the recent years but remains a non-FID project at the moment. The possibility to increase the interconnection capacity of Norwegian off-shore pipelines with Denmark is under an on-going study. The enlargement of the Danish/German border interconnection is a project already nearing completion. It addresses the effects of the declining Danish domestic gas production.

2.4.2. Evaluation (of approach, relation to TYNDP, findings, conclusions and proposals, strengths and weaknesses)

The BEMIP countries face a high degree of dependency on single suppliers and a low level of interconnection between their national markets on one hand, and between the Region and the EU network on the other hand. New infrastructure investments are required to better interconnect BEMIP members and to increase the region's diversification of gas supply. Higher market integration is expected to foster competition and to improve security of supply throughout the region.

Having identified these needs, it is fundamental to acknowledge that the BEMIP gas markets are small and relatively fragmented, and that, with the possible exception of Poland, gas demand growth is not expected to be substantial in the coming years. It is also relevant to take into consideration that specific market features in BEMIP region encompass a number of common risks and investment barriers that need to be carefully analysed in order to avoid situations of overinvestment or lack of profitability of projects in the region.

Several of the listed BEMIP GRIP projects directly compete against each other. For some others, the added value is clearly dependent on complementary projects. These aspects make a high level of regional coordination indispensable when deciding on the projects to be developed. This is, for example, the case of the LNG terminal investment proposals in the three Baltic countries: possibly only a single appropriately sized new LNG terminal operating in a regional framework could be undertaken for the three Baltic countries. Coordinated technical and financial analyses have been performed to this aim, even though a decision has not yet been agreed upon and

nowadays the three countries are considering independent investments in this type of facilities as well. In any case, and as the case also stands for the enlargement of the underground storage regional facilities, the added value of the projects at regional level is dependent on the strengthening of the existing interconnections and on the ability to provide bidirectional gas flows.

For other projects, such as the offshore interconnectors currently being studied (Balticconnector or Balticpipe), the actual economic feasibility should be fairly evaluated in a context where the involved countries are already considering other competing interconnection and diversification investments.

When assessing competing projects, an aspect to be evaluated is whether the infrastructure investment clearly favours the diversification of gas supplies by promoting the flow from new gas import sources that differ from the existing single supplier ones. This could be the case for the LNG terminals in comparison with some of the new proposed pipelines interconnections that rely on the existing gas sources.

The impression is that new infrastructure investments are required in the region for improving the interconnection levels and diversification of gas supplies. At the same time, given the low demand growth expectations and the current financial context, it seems that there is only room for a limited number of the currently listed BEMIP GRIP projects, and that they could be competing with each other. For these reasons, an operational analysis in the framework of the entire region and clear regional support commitments should be obtained in order to identify the feasible projects. A regional modelling of various demand and supply scenarios will be helpful for this purpose.

2.4.3. Comments for further improvement

We propose to enrich the BEMIP GRIP approach by the following actions:

- Carry out regional modelling of various demand and supply scenarios and possible supply disruptions;
- Conduct the BEMIP GRIP elaboration with the Energy Infrastructure Package approach in mind, as reflected in the ad-hoc regional groups of the countries concerned which prepare the lists of projects of common interest;
- Involve interested stakeholders in the process of preparing the GRIP by organising at least one or two public events in order to enable sharing and consulting on the proposed approach by the TSOs;
- Harmonisation of enhanced GRIP approach across all GRIP regions.

2.5. GRIP Southern Corridor (IT-AT-SK-SI-HU-RO-BG-GR; co-ordinator: DESFA)

2.5.1. Facts (extent, focus, modelling approach, level of detail, investment gaps identified, findings, conclusions and proposals)

On 4 April 2012, the Gas Transmission System Operators from Southern Corridor adopted their Gas Regional Investment Plan 2012-2021.

The Southern Corridor Region for this GRIP comprises of 9 countries and 12 TSOs:

- Countries: Austria, Bulgaria, Croatia, Greece, Hungary, Italy, Romania, Slovakia, Slovenia;
- TSOs: BOG, Bulgartransgaz, DESFA, Edison Stocaggio, eustream, FGSZ, GAS CONNECT AUSTRIA, Plinovodi, Snam Rete Gas, TAG, Transgaz (ENTSOG Members), Plinacro (ENTSOG Observer).

The GRIP involves 9 countries and 12 TSOs. There were also participating project sponsors for the Nabucco, IGI Poseidon, TAP, South Stream, TGL and Adria LNG projects, since such participation is necessary and beneficial for applying a comprehensive approach.

The GRIP aims at the provision of a comprehensive overview of regional TSO plans in order to enable the coordination of their infrastructure development in compliance with their obligations stemming from the Third Energy Package. The TSOs have adopted an open approach by collecting also the data of third-party project sponsors. The TSOs accommodated changes, updates and new projects as compared to the TYNDP 2011-2020. The information provided reflects the situation on 1 December 2011.

Data about expected annual gas demand over the coming 10 years, average and peak daily gas demand, and national gas production is based on the TYNDP 2011-2020. Southern Corridor demand constitutes about 26% of total EU27 demand in 2012 and 28% in the 2021 scenario. The regional gas production share in total supply is going to decrease from 18% in 2012 to 11% in 2021. There is no additional modelling of different demand and supply scenarios apart from TYNDP 2011-2020 provided for this region.

The countries in the region share the opportunity to participate in the projects for transporting natural gas from Central Asia - and maybe later the Middle East - to Europe. For this reason, several large projects are proposed, some of them apparently competing with each other. The projects, especially in south-eastern Europe, could also support general economic development in the countries concerned.

The TSOs treat the first GRIP as a pilot Plan and welcome any feedback which would enable them to upgrade the next edition of the Plan.

2.5.2. Evaluation (of approach, relation to TYNDP, findings, conclusions and proposals, strengths and weaknesses)

In comparison to the TYNDP 2011-2020, the Southern Corridor GRIP offers little value added so far, apart from additional third-party project data, updated information about TSO infrastructure projects and updated country' demand and supply profiles. The Plan uses no regional modelling for the identification of supply and infrastructure gaps involving different supply and demand scenarios.

2.5.3. Comments for further improvement

We propose to enrich the Southern Corridor GRIP approach by the following actions:

- Include regional modelling of different demand and supply scenarios and possible supply disruptions;
- Conduct the Southern Corridor BEMIP GRIP elaboration with the Energy Infrastructure Package approach in mind, as reflected in the ad-hoc regional groups of the countries concerned which prepare the lists of projects of common interest;

- Involve interested stakeholders in the process of preparing the GRIP by organising at least one or two public events in order to enable sharing and consulting on the proposed approach by the TSOs;
- Harmonisation of enhanced GRIP approach across all GRIP regions;
- Greater involvement in the GRI SSE.

2.6. GRIP South-North (DE-FR-CH-IT; co-ordinator: SRG)

2.6.1. Facts (extent, focus, modelling approach, level of detail, investment gaps identified, findings, conclusions and proposals)

On 4 June 2012 FluxSwiss, Fluxys TENP, GRTgaz, GRTgaz Deutschland, Open Grid Europe, Snam Rete Gas and Swissgas published their first Gas Regional Investment Plan.

The Region of South North Corridor for this GRIP comprises of 4 countries and 7 TSOs:

- Countries: France, Germany, Italy, Switzerland;
- TSOs: GRTgaz, GRTgaz Deutschland, Open Grid Europe, Snam Rete Gas (ENTSOG Members), Swissgas (ENTSOG Observer), FluxSwiss, Fluxys TENP.

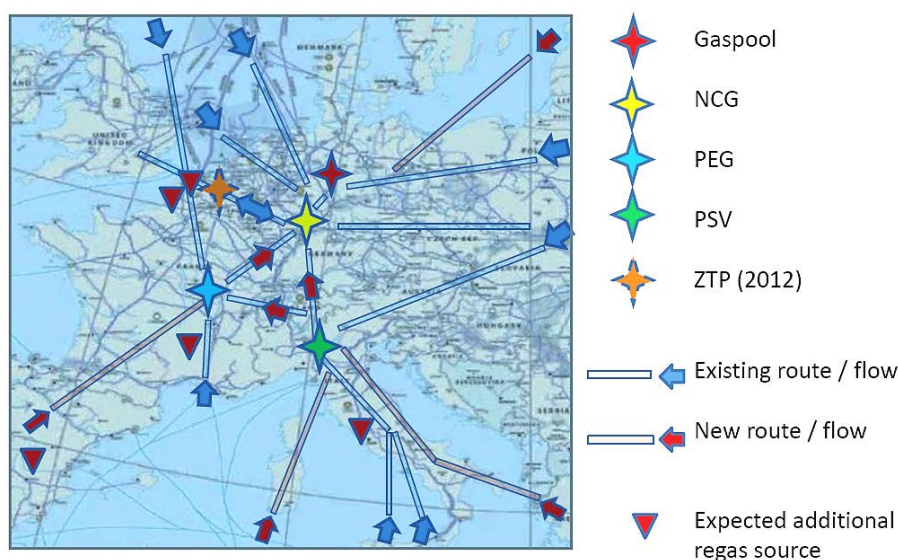
This GRIP outlines the key importance of the South-North Corridor infrastructure in France, Germany, Italy and Switzerland, as well as for the countries interconnected to their grid, in view of the future supply patterns into Europe and further gas market integration throughout Europe. The proposed and planned investments will provide a linkage between the North-West and Southern European gas markets aimed at connecting gas trading hubs such as the Italian PSV, NetConnect Germany (NCG), and French Points d'Échange de Gaz (PEG).

The regional gas consumption is about 42% (2,400 TWh equal to around 227 bcm) of the overall EU gas consumption in 2010. There is a growth perspective if changes in the power mix will materialise favouring CCGT technology. The regional aggregated working gas volumes in storage add up to around 513 TWh, representing 53% of aggregated European working gas storage volumes. The LNG plants operating in the Region have a total capacity of almost 370 TWh/y (35 bcm/year), i.e. more than a fifth (22%) of the total European LNG regasification capacities. This means a clear incentive to further develop LNG supply sources.

The cross-border interconnections covered in this GRIP connect three major trading points which are experiencing a steady growth both in terms of traded volumes and of number of transactions.

The Region will play a significant role in developing gas infrastructures in the North-South corridor in Western Europe with two “legs”, including a western “leg” linking the Iberian Peninsula and the French Mediterranean coast to the north-western region through France and an Alpine “leg” linking Italy to the north-western region (“South-North Corridor”). This second leg, with the associated projects, was the main driver for the present GRIP, since it involves all the TSOs of the region. The western leg aims at connecting the North West region with the demand and supply sources located in Iberia and the southern part of France. Significant LNG regasification capacity is located in this area, both existing and under development.

In addition to the new import route for Russian gas to Germany through the Baltic Sea (Nord Stream), the countries of the Region, France and Italy in particular and encompassing Belgium, are expected to play a key role as the European main entry points for new sources of gas, with a special role for LNG, given that France, Italy, Spain and Belgium amass more than 67% of the LNG regasification capacity in Europe. Northward gas infrastructure development is the main means to bring these new supply-source opportunities into the reality of the European market. Moreover, the geographic position of the Region provides an opportunity to play an extraordinary role also with reference to the other two priority corridors identified by the European Commission. Indeed, on one hand, at the south-eastern border of the Region the Southern Gas Corridor will be able to bring gas from the Caspian Basin, Central Asia, the Middle East and the eastern Mediterranean Basin to the European Union. On the other hand, at the north-eastern border of the Region, the north-south interconnections in central-eastern and south-eastern Europe will enhance diversification and security of supply via gas connections between the Baltic Sea region to the Adriatic and Aegean Seas in one direction and to the Black Sea in another.



Source: GRIP South-North Corridor 2012-2021, June 2012

2.6.2. Evaluation (of approach, relation to TYNDP, findings, conclusions and proposals, strengths and weaknesses)

The main added value of the South-North GRIP is the assessment of market developments, which is a very important element in the perspective of the EU objective of reaching a well-functioning gas market in 2014.

The next outstanding input is addressing the role of the Region for the implementation of three European gas corridors set by the Commission within the Proposal for a Regulation on guidelines for trans-European energy infrastructure.

The projects are described following an Interconnection Point approach to the benefit mainly of potential infrastructure users. The focus of the projects' assessment is on the positive effect of the synergies between the interconnections and the regional gas hubs, which are expected to contribute to the integration of the European market.

2.6.3. Comments for further improvement

We propose to enhance the South-North GRIP approach by the following actions:

- Include regional modelling of different gas demand and supply scenarios and possible gas supply disruptions;
- Involve interested stakeholders in the process of preparing the GRIP by organising at least one or two public events in order to enable sharing and consulting on the proposed approach by the TSOs;
- Harmonisation of the enhanced GRIP approach across all GRIP Regions.



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