Response to Public Consultation on ENTSOG TYNDP 2013-2022

1. Infrastructure

1.1. Collection process

In order to ensure a consistent, transparent and non-discriminatory collection process of infrastructure projects, ENTSOG launched a public Call for project information during Summer 2012. Information collected through this process has been used to provide an overview of potential infrastructure development for the next 10-year and, in particular, as input for the network modelling. Detailed infrastructure project profiles are included in the TYNDP 2013-2022 Annex A.

- **Q 1:** Could you suggest any further ways to enhance the Call for project information process?

  Reganosa considers that the process allowed the participation of all involved parties.

- **Q 2:** If you are a project promoter that participated in the data collection process, how did you find the on-line application used for that purpose? Do you have concrete proposals on how to improve this process further?

  Not applicable (N/A).

1.2. Collected data

Collection of data has been quite challenging for ENTSOG in terms of the amount of data to be collected and the willingness of project promoters to submit data.

- **Q 3:** As project promoters found it difficult to fill in the "project phase" part of the questionnaire, what changes should be made (which steps and associated definition) to cover all relevant parts of a project development? Please list maximum 4 project phases.

  N/A.

- **Q 4:** Do you think that ENTSOG should or should not include projects in the TYNDP where not all mandatory information (i.e. information necessary for network modelling) has been submitted?

  Although all mandatory information should be submitted before the deadline, Reganosa recommends ENTSOG to inform promoters of missing data and include a short additional period to submit it.

1.3. Criteria and clustering

In order to build different infrastructure clusters to better assess the possible evolution of the European gas network, ENTSOG has chosen to aggregate projects according to their FID status (Final Investment Decision taken/ not taken). It is seen by ENTSOG and by many

stakeholders as the only transparent, pragmatic and non-discriminatory parameter. It is noted that projects of a cluster are considered simultaneously for network modelling purposes and hence the choice of the parameter has a significant impact on the results of any given case.

> **Q 5:** Do you see any other relevant criteria? If yes, which ones?

Regarding Spanish gas system, final investments decisions can only be made inside national regulatory framework. Therefore, Reganosa considers that another relevant criteria would be the inclusion of the project within the national infrastructure plans.

2. Network model

ENTSOG's modelling approach has been based on market Zones linked by entry-exit capacity in line with the framework established for access to capacity by Regulation (EC) 715/2009. To consider the underlying physical infrastructure correctly, this approach has nevertheless been further refined to include a specific Zone for an independent infrastructure within a country and specific representation of long-haul pipelines.

> **Q 6:** Which further improvements regarding the network topology would you consider useful, if any?

Following the target of the European gas market integration, Reganosa believes that a single model with an European high pressure gas transmission network would contribute to optimize the system as a whole. Today, there are tools available to carry out these kinds of simulations at sufficient level of details.

For instance, Reganosa has developed a Software with the University of Santiago de Compostela to simulate and optimize transport gas pipeline networks. The network is modelled through an oriented grid in which nodes (connections points between pipelines, gas inlet or gas outlet) and oriented edges (lines) are distinguished.

The use of these tools would help to consider bottlenecks within some Zones that could have an impact on flow patterns.

Based on feedback received on the TYNDP 2011-2020 approach (equal load factor) to allocating supply from a given supply source to an import route, ENTSOG has considered a load-factor derived from the average load factor observed during the last 3 years.

> **Q 7:** Do you consider it as an appropriate methodology? If not what alternative approach would you advocate?

Reganosa considers it as an appropriate methodology.

Considering that not every theoretical Situation could be run (TYNDP 2013-2022 is based on more than 200 situations compared to the 67 of the previous edition), what should be the priority for an even more robust assessment:

> **Q 8:** Running some scenario-based assessments on demand? If yes, which types?

Please see answer to Q 12.

> **Q 9:** Considering additional Supply Stress Situations under Infrastructure Resilience? If yes, which ones?

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> **Q 10:** ENTSOG has run 4 different infrastructure assessments in the TYNDP. Do you consider these to cover all essential aspects of the European gas system or would you recommend applying any alternative analysis?

Please see answer to Q 5.

> **Q 11:** All flow patterns used by ENTSOG in its TYNDP are considered technically feasible by TSOs, do you consider there is a need to define non-technical criteria in order to select only the most probable flow patterns? If yes, which criteria?

Non-technical criteria (long term Supply agreements by pipelines or LNG, for example) should be used as they play a relevant role in natural gas flow patterns.

3. Demand and Supply

3.1. Demand

> **Q 12:** What is your opinion on ENTSOG's approach to demand? Does a single demand scenario analysed through different daily situations cover a sufficiently wide range?

Reganosa considers that this scenario is enough to the purpose of the TYNDP.

> **Q 13:** If not, what is the added value of multiple demand scenarios, and what parameters should be used?

N/A.

> **Q 14:** Is the introduction of Uniform Risk Situation a valuable improvement? If yes, which added value does it bring for you?

Reganosa considers that it is a valuable improvement as it considers factors (climate conditions) that can cause important changes in European consumption patterns.

> **Q 15:** Is the introduction of 14-day Situation a valuable improvement? If yes, which added value does it bring for you?

Reganosa sees this demand situation as a valuable improvement too. Besides the benefits described in answer to Q 14, it considers a wider period of time which improves the approach to demand simulations.

3.2. Daily Demand Situations

In addition to the 1-day Design-Case Situation which ensures consistency with national plans and represents the benchmark for the transportable energy, the assessment also includes a 14-day Uniform Risk Situation to capture the temporal dimension using the same occurrence at country level.

> **Q 16:** As storage is analysed only through simulations of extreme situations (high daily demand), do you consider that other situations should be covered in order to assess the role of storage under less stressful conditions? If yes, please specify.

Seasonal operation of underground gas storages (UGS) implies:

- an additional cost for the system (compressing the gas for transmission through the grid, compressing the gas within the UGS) and
- a low level during some parts of the year that limits UGS help in case of major disruption.

Based on these considerations, Reganosa agrees with the vision of the role of UGS as the last resort of supply.

> **Q 17:** Considering the interaction between gas and electricity, should the consistency between gas and electricity scenarios be based on installed capacities (indirectly linked to the peak utilisation of the infrastructure in case of their concurrent use) or forecasted utilisation factors?

Electricity generation mix plays a key role in gas consumption. Because of that, Reganosa considers that the discrepancy between ENTSO-E and ENTSO-G regarding gas demand is a weak point of the TYNDP.

To analyze the electricity mix, several macro variables must be taking into account (ETS, coal Price, renewable policies…). From Reganosa point of view, ENTSO-E demand scenarios should be used as an input in ENTSO-G model as ENTSO-E should have a better approach to this issue.

3.3. Supply

Under Average Day, supply shares for the Reference Case Situations are based on the historical data of 2009, 2010 and 2011, and then increased according to the Net Demand (National Demand minus National Production) growth. In order to assess both capacity and supply availability, a defined supply potential was used for each source as a supply cap.

ENTSOG has introduced three Potential Supply scenarios for each supply source in order to capture supply uncertainty. The Intermediate Potential Scenarios have been used as a supply cap for the Reference Case Situations.

> **Q 18:** Do you agree on the way to define supply shares under the Reference Case?

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> **Q 19:** Do you consider the introduction of the three Potential Supply scenarios as beneficial?

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> **Q 20:** What is your opinion on the level of each of the 3 Potential Supply scenarios (Minimum, Intermediate and Maximum) for each source (Azerbaijan, Algeria, Libya, LNG, Norway and Russia)? In case you consider them inadequate, please specify why

and which sources of information should be used for an enhanced definition.

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> **Q 21:** Regarding the definition of LNG supply scenarios, the Minimum and Intermediate scenarios have been defined on the basis of the historical load factors of European LNG terminals, while the Maximum was defined according to the evolution of liquefaction capacities by basin and the historical shares of the production of each basin exported to the EU. Is this approach adequate? If not, what other parameters are missing?

Besides historical data, other parameters should be taken into account. For instance, new players as Australia and US should bring deep changes to these production historical shares.

> **Q 22:** Considering that supply is out of TSOs' remit and that stakeholders have not provided any detailed information on the topic during SJWSs, in which direction, do you think, could the supply analysis be investigated further?

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3.4. Supply allocation

Under high daily demand Situations, each import source has been set at the maximum reached between the years 2009 and 2011. This value has been increased only in case of a new project increasing the capacity of the import routes coming from that source. UGS and LNG terminals (their storage component) are then used as sources of last resort supply. LNG storage component is based on the Average Day value increased by 10% to capture the seasonal swing.

> **Q 23:** Do you agree with the evolution of import based on historical values and its increase according to the import route capacity development?

By studying long term Supply agreements by pipelines or LNG, a more accurate view should be possible.

> **Q 24:** Do you agree with the dual approach established for LNG (import and storage component)?

Reganosa agrees with the approach to the storage capabilities of LNG as they could play a key role in the integration of the European gas market.

4. Assessment Results

As an answer to stakeholders' concerns that Security of Supply should not be seen as separated from market integration, and that TYNDP does not assess directly such integration, the links between the Energy policy pillars and market integration, and the assessment provided by the TYNDP have been reviewed and redefined.

> **Q 25:** Do you consider this new structure as more representative? If not, which modifications do you see as necessary?

Reganosa considers this structure as more representative.

4.1. Infrastructure Resilience

For this third edition, ENTSOG considered the following Supply Stress events: technical disruptions (from Norway to France and the UK, and from North Africa to Italy and Spain), transit disruptions (Russian gas through Ukraine and Belarus), supply disruption (Azeri gas) and the low deliverability of LNG terminals.

> **Q 26:** Do you consider these events appropriate?

Yes.

> **Q 27:** What other events should, in your opinion, be accounted for?

Besides technical disruptions, Reganosa considers that a "country risk" analysis would reinforce the infrastructure resilience study. For instance, regarding the technical disruption from Algeria to Italy or Spain, the TYNDP tests the flexibility in two cases: Transmed disruption and MEG disruption. However, if an unexpected event in Algeria disrupts the flow from that country, these two cross-border points (and Medgaz) would close at the same time and the impact on the European supply would be even higher.

4.2. Supply Source Dependency

This new approach aims at identifying Zones whose annual balance depends on at least 20% of a given source.

> **Q 28:** Do you value this addition?

We value this addition as an improvement, as it helps to identify dependencies on a given supply source.

> **Q 29:** Is the yearly analysis the right basis for this assessment?

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4.3. Adaptability to Supply Evolution

This new approach aims at identifying the ability of the European gas system to balance each Zone on annual basis when each source moves from the Reference Case share up to the Maximum Supply Potential or down to the Minimum Supply Potential.

> **Q 30:** Do you value this addition?

As part of the Supply Source Dependency, we consider that this kind of approach is important considering the possibility of new supply scenarios (please see answer to Q 21).

> **Q 31:** Is the yearly analysis the right basis for this assessment?

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4.4. Supply Source Diversification

ENTSOG has refined its approach to the assessment of the Supply Source Diversification by applying the Targeted Maximisation modelling approach. What is your view on the following parameters?

- **Q 32:** The use of non-simultaneous targeted flow patterns to test the maximum physical reach of each source?

  As a technical calculation it is a suitable scenario and its results are interesting but, from a realistic point of view, contractual issues have the key impact on source accessibility.

- **Q 33:** The use of 5% and 20% as supply share thresholds?

  Reganosa considers those figures as appropriate thresholds.

4.5. Pilot indexes

As a way to collect stakeholders' feedback on some indicators to be included in the Cost-Benefit Analysis methodology to be developed by ENTSOG, two capacity-based indexes have been introduced.

- **Q 34:** Do you consider the Import Route Diversification Index as introducing the right approach for such analysis? Which further development would you consider valuable?

  We consider this index as a right approach.

- **Q 35:** Do you consider the Import Dependency Index as introducing the right approach for such analysis? Which further development would you consider valuable?

  We consider this index as a right approach.

5. Barriers to investment and potential solutions

This new chapter has been introduced in consideration of the framework established for the TYNDP by Regulation (EC) 715/2009. It identifies the different factors that can negatively impact the appetite for new infrastructure projects and the willingness of project promoters to take a Final Investment Decision. At the same time, it describes positive elements which could help the system in overcoming these opposing factors.

- **Q 36:** Do you share the same view regarding the identified barriers? If not, please explain. Which other factors would you like to be considered?

  We think that TYNDP identifies the main barriers to investment.

  One important point is the view that regulators and consumers have nowadays. The gas demand evolution and the need of infrastructure to guarantee security of supply and market integration have led to a view of infrastructure overcapacity in Europe.

- **Q 37:** Do you see other ways to reduce barriers besides those proposed in the Report?

  Following the answer to Q 36, both system operation and gas infrastructure development must find the most efficient solutions. Although security of supply and market integration must be guaranteed, several options should be studied and analyzed

to find the optimal one. This idea is in line with ACER's feedback to Regional Infrastructure Plans. For instance, there are projects planned to build new cross-border capacity between Spain and Portugal instead of maximize the existing capacity at the two IPs that are already built. This last solution would be less costly and would contribute to Portugal and Spain security of supply and market integration.

6. Future role of the TYNDP in the PCI process

TYNDP 2013-2022 is released before the entry into force of the Infrastructure Guidelines Regulation defining the PCI selection process. Nevertheless, the TYNDP already provides a definition of demand and supply Scenarios, a system-wide analysis of the European gas system and some indicators assessing the infrastructure-related market integration.

> **Q 38:** In that respect, do you consider TYNDP 2013-2022 methodology as a sound basis for the development of the future Energy System-Wide Cost Benefit Analysis (CBA)? If not, what should be further elaborated?

Reganosa will participate in the development of the CBA methodology as a "prime mover".

ENTSOG is planning to launch a public consultation on the CBA methodology Scoping document soon. This will provide stakeholders with further opportunity to comment on the future role of TYNDP in the PCI process.

7. General questions

7.1. Stakeholder engagement

Considering that stakeholders' involvement in the TYNDP process is crucial regarding the identification of their expectations and the collection of data beyond TSOs' remit, are you satisfied with the dialogue between ENTSOG and stakeholders during the TYNDP process?

> **Q 39:** How could this process be further improved?

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7.2. Use of graphics

Graphical layout of quantitative information is a key element helping the reader to grasp complex information.

> **Q 40:** What is your opinion of graphical representation of information in the TYNDP 2013-2022 (Methodology, Supply and Demand, and Assessment Results chapters)?

In our opinion, graphical representation is accurate.

> **Q 41:** Which further improvement would you suggest?

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7.3. Data accessibility

ENTSOG has taken special care to make all TYNDP-related data available in an easy way and in a format that allows for further analysis.

> **Q 42:** What is your opinion on the new format of Annex A and B? Do you have any proposals for further improvement?

Regarding Annex A, project sheets have little information compared to the room available.

> **Q 43:** Do you consider that hard copies of the TYNDP should be available upon request as a complementary option to the on-line download?

Reganosa considers that hard copies should be available.

7.4. Sustainability

ENTSOG has introduced some thoughts on the assessment of the role of gas and gas infrastructure for sustainability through the quantitative assessment of gas demand for power generation.

> **Q 44:** Which other way(s) would you consider adequate for capturing the role of gas infrastructure in a sustainable energy policy?

Reganosa considers that the role of the infrastructures in the use of LNG as alternative fuel would help the development of a sustainable energy policy.

7.5. Next focus

Considering the TYNDP as a continuous process facing a rapidly evolving market and expectations, which improvement do you value the most in comparison with the TYNDP 2011-2020?

Q 45: Which improvement should be given priority for the next edition (maximum 3 ranked answers)?

1. Improve the approach to gas demand for power generation
2. Improve the European gas network model to take into account bottlenecks within some Zones
3. Improve the approach to contractual issues that are critical for the analysis of supply flows and shares of sources

Reganosa would like to thank ENTSOG for the opportunity to participate in this public consultation.