

for the project

Technical support to the Energy Community and its Secretariat to assess the candidate Projects of Energy Community Interest (PECI) and candidate Projects for Mutual Interest (PMI) in electricity, gas and oil infrastructure, and in smart grids development,

in line with the EU Regulation 347/2013







#### **CONTACT:**

Borhála Takácsné Tóth

RFKK

Phone: +36 1 482 7074

E-mail: borbala.toth@rekk.hu

## **AUTHORS:**

Borbála Takácsné Tóth (REKK)

Péter Kotek (REKK)
peter.kotek@rekk.hu

Daniel Grote (DNV GL)
daniel.grote@dnvgl.com

Martin Paletar (DNV GL)
martin.paletar@dnvgl.com



# TABLE OF CONTENTS

| 1 | Int         | troduction   | 1  |
|---|-------------|--|----|
|   | 1.1         | Study background   | 1  |
|   | 1.2         | Objectives   | 1  |
|   | 1.3         | Outputs and deliverables   | 2  |
| 2 | Mo          | ethodology   | 2  |
|   | 2.1         | Overview of tasks  | 2  |
|   | 2.2         | Task 1: Preparing the questionnaires                                       | 3  |
|   | 2.3         | Task 2: Verification of project data                                       | 4  |
|   | 2.4         | Task 3: Market modelling in electricity and gas and cost benefit analysis  | 5  |
|   | 2.5         | Task 4: Network modelling  | 13 |
|   | 2.6         | Task 5: Multi-criteria assessment  | 15 |
|   | 2.7<br>smar | Task 6: Methodology for the evaluation of projects in the oil infrastructu |    |
| 3 | Or          | ganisation of the work   | 18 |
|   | 3.1         | Communication  | 18 |
|   | 3.2         | Work plan  | 19 |
| 4 | Ar          | nnex 1: Questionnaires   | 20 |
|   |             | Electricity interconnector projects  | 20 |
|   |             | Electricity storage projects   | 30 |
|   |             | Gas interconnector projects  | 40 |
|   |             | LNG terminal projects  | 52 |
|   |             | Underground gas storage projects   | 62 |
|   |             | Crude oil interconnector projects  | 73 |
|   |             | Smart Grid projects  | 83 |
| 5 | Ar          | nnex 2: Minutes of the phone Conference 12.01.2016                         | 94 |



#### 1 INTRODUCTION

This Inception Report is the first deliverable prepared by REKK, in collaboration with DNV GL (hereafter Consortium), as part of the technical support to the Energy Community and its Secretariat to assess the candidate Projects of Energy Community Interest (PECI) and candidate Projects for Mutual Interest (PMI) in electricity, gas and oil infrastructure, and in smart grids development, in line with the EU Regulation 347/2013 adopted by the Energy Community.

The report builds upon the original tender document submission by the Consortium and takes into account feedback received from the Secretariat and DG Energy. More specifically, this report provides an updated work plan for the key tasks that will be performed as part of the study. In particular, it further builds on our original proposal by providing:

- a detailed methodology (in Section 2)
- an updated work plan, which incorporates the feedback of the Energy Community Secretariat (in Section 3.2)
- final version of the questionnaires (in Section 4, Annex 1)

#### 1.1 STUDY BACKGROUND

The objective of the project is to assist the Energy Community Secretariat and the two Groups as defined by the Ministerial Council Decision (D/2015/09/MC-EnC: On the implementation of regulation (EU) No 347/2013 of the European Parliament and of the Council on guidelines for trans-European energy infrastructure) to implement the procedure and achieve the scope of assignment, namely to propose a list of Projects of Energy Community Interest (PECI) and Projects of Mutual Interes (PMI) to the Ministerial Council for adoption in 2016. The proposed methodology should be in line with the EU 347/2013 Regulation as much as possible.

In addition, also the methodology applied for the latest selection of EU Projects of Common Interest (PCIs) under the same Regulation as well as the methodologies for the assessment of network infrastructure projects developed by ENTSOE and ENTSOG shall be taken into account.

The geographical scope of the assistance extends to Albania, Bosnia and Herzegovina, former Yugoslav Republic of Macedonia, Kosovo\*<sup>1</sup>, Moldova, Montenegro, Serbia and Ukraine. Nevertheless, projects may be also proposed to include EU Member States (MS) in case of interconnections between a Contracting Party and an EU MS.

#### 1.2 OBJECTIVES

The objective of the technical support is as follows:

1. To develop the electricity and gas market models for the Energy Community Contracting Parties and use these in the assessment of PECI AND PMI candidates;

<sup>\*</sup>This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.



- 2. To develop a multi criteria assessment methodology, using also the ENTSOE and ENTSOE methodology for cost benefit analysis where applicable;
- 3. To assess the candidate projects for electricity and gas infrastructure, as well as for smart grids, in order to be able to identify those which bring the larges benefits for the Energy Community.

#### 1.3 OUTPUTS AND DELIVERABLES

The main output is the final study and list of projects eligible for PECI and Project of Mutual Interest (PMI) status, as well as detailed evaluation of all project submitted for the call. The final list of PECIs and Projects of Mutual Interest will not provide a ranking of projects, rather list those projects which are eligible for the designation.

The first output is this Inception Report that incorporates the final questionnaires.

According to the planned work schedule we will check the eligibility of the projects and verify the input data (Task 2) and present

the list of projects eligible for evaluation to the Groups (tentative datefor submission: 20.03.2016.)

- an interim report (by 20.04.2016.) containing:
  - o the list of submitted projects,
  - o the result of the eligibility checks and data verification process,
  - o the description of the CBA methodology
  - o indicators and weights used for the multi-criteria assessment
- a draft final report (by 15.07.2016.) containing:
  - o description of the CBA methodology
  - o indicators and weights used for the multi-criteria assessment
  - o results of the CBA and multi-criteria assessment
- A final report (by 18.09.2016.), which incorporates the contents of the draft final report and reflects to the comments and feedback received by Energy Community Secretariat and project promoters.

#### 2 METHODOLOGY

#### 2.1 OVERVIEW OF TASKS

As described in the tender document, the tasks encompasses:

- Task 1: Prepare the questionnaires for the submission of candidate PECI AND PMIs and screen submissions for eligibility;
- Task 2: Verify the accuracy and completeness of information supplied by project promoters in their submissions and request the additional information of clarification where needed, in order to perform the assessment;
- Task 3: Develop or adapt an existing market model for electricity and respectively for gas for the Energy Community Contracting Parties, using as a basis, the scenarios proposed in the ENTSOE and ENTSO-G cost benefit scenarios



- Task 4: Develop or adapt an existing electricity network model for the assessment of PECI AND PMI candidates in electricity infrastructure;
- Task 5: Develop a multi criteria methodology, based on the provisions of the EU Regulation 347/2013 as adopted by the Ministerial Decision D/2015/09/MC-EnC, and in line with the one used for PECI AND PMI selection.
- Task 6: Propose a methodology for the evaluation of projects in the oil infrastructure and in smart grids and assess the candidate projects in this category.
- The Consultant will assess the eligible PECI AND PMI candidates by applying the multi criteria methodology, and will propose the preliminary list in electricity, and respectively in gas to the Secretariat and the two Groups. The assessment of oil and smart grid projects will be based on a separate methodology developed under Task 6.

#### 2.2 TASK 1: PREPARING THE QUESTIONNAIRES

Separate questionnaires were drafted for electricity transmission, natural gas transmission, natural gas storage, LNG, oil and smart grid projects.

Questionnaires have been drafted and submitted to Energy Community Secretariat in late 2015 and early 2016. The Consortium received ample and useful feedback on the content of the questionnaires via email and a phone conference on 12.01.2016. The finalised questionnaires are included in Annex 1 of this report. It is envisaged that the call will be open in the second half of January, project promoters are expected to submit their information by 15.02.2016. Projects submitted after the deadline will not be evaluated.

A preliminary screening of PECI AND PMIs for eligibility is conducted based on the Regulation 347/2013 (EU) and its implementation by Energy Community in Ministerial Council Decision D/2015/09/MC-EnC. Screening covers the following eligibility checks, as indicated in the implementation of Regulation 347/2013 (Article 4 and Annex IV).

For proposed investment projects to be considered as PECI AND PMIs the following two eligibility criteria must be met:

- 1. The potential overall benefits of the project assessed according to the respective criteria set out in Article 4 of Regulation 347/2013 outweigh its costs
- 2. The project meets any of the following criteria:
  - a. Involves at least two Contracting Parties or a Contracting Party and a Member State by directly crossing the border of two or more Contracting Parties, or of one Contracting Party and one or more Member States
  - b. Is located in the territory of one contracting party and has significant cross-border impact as set out below:

**For electricity transmission**, the project should increase the grid transfer capacity, or the capacity available for commercial flows with one or several Contracting Parties and/or Member States or at any other relevant cross-section of the same transmission corridor having the effect of increasing this cross-border grid transfer capacity, by at least 500 MW compared to the situation without commissioning of the project.



**For gas transmission,** the project concerns investment in reverse flow capacities or changes the capability to transmit gas across the borders of Contracting Parties and/or Member States concerned by at least 10% compared to the situation prior to the commissioning of the project

For gas storage and LNG, the project aims at supplying directly or indirectly at least two Contracting Parties and/or one or more Member States or at fulfilling infrastructure standard (N-1 rule) at regional level

Having discussed the provisions of the Decision of the Ministerial Council adopting EC Regulation 349/2013 the EnC Secretariat and the Commission agreed in the phone conference 12.01.2106 that: Being a PCI on a 2015 list is not an eligibility criteria for the submission of projects. All submitted projects that qualify for the above mentioned criteria will be evaluated. At a later stage the PCI status will be decisive wether the project can be a candidate on the PECI or on the Mutual Interest project list.

#### 2.3 TASK 2: VERIFICATION OF PROJECT DATA

For all projects that have been assessed as eligible in task 1 a verification process on the provided data and information will be conducted, which includes the following three steps:

- 1. collection of the information on projects
- 2. verification of the collected information
  - a. based on ACER data
  - b. if needed: consultation with project promoter
- 3. preparation of the unified list of projects data to be used for the later tasks.

Data collection on projects will be conducted on behalf of the Energy Community Secretariat. Questionnaires will be collected in a common Dropbox folder or other network folder solution suggested by Energy Community Secretariat, shared with project members who will sign an agreement of confidentiality. Contents of the folder will be deleted upon the completion of the project. To ensure confidentiality and data handling procedures, an Energy Community Secretariat member will be added to the folder and may monitor the access of project members. In case of few missing data additional information will be requested directly by the consultant from the project promoters. In case of generally missing input data a second questionnaire sent by the Groups might be necessary.

Information content of questionnaires will be collected in an Excel table, which will be the basis of analysis and data verification. Due to the huge heterogeneity among the type of projects, different data tables will be used for electricity transmission, gas transmission, gas storage, LNG, smart grid and oil projects.

Verification of the provided data and information is performed in two consecutive steps:

- evaluation of technical reasons for given infrastructure projects
- benchmarking of costs to international standards to verify the financial data.



In the verification step, the CAPEX cost of the project will be consulted and cross-checked with the ACER data<sup>2,3</sup> (namely if the project indexed unit investment cost falls in the interquartile range between the first and third quartile). Furthermore, the expert knowledge and experience of the consortium from previous projects conducted within the region to benchmark, including the previous PECI ranking, will be utilized for data validation. If the discrepancy of ACER database and the project CAPEX is deemed excessive, project promoter will be consulted. CAPEX data will only be updated if projects promoters re-evaluate their estimation, i.e. no unilateral correction of CAPEX is done.

Concerning the technical aspects of the projects the ENTSOE and ENTSOG TYNDPs provide information on project expected impacts (e.g. RES integration, network impacts). The proposed project figures on these aspects will also be cross-checked with these data.

Throughout the verification process the project promoters will have the possibility to give reasons for their projects being out of the benchmark range in terms of financing if necessary.

Finally, the verified dataset will be used as a basis for analysis and serve as modelling inputs. Projects will be evaluated compared to a common reference scenario.

# **2.4** TASK 3: MARKET MODELLING IN ELECTRICITY AND GAS AND COST BENEFIT ANALYSIS This chapter describes the core activity of the project assessment: the market modelling for gas and for electricity. By using the two sectoral market models of REKK the social benefits that the candidate PECI AND PMI project can generate in the Energy Community can be measured and monetized. The monetized benefits and the cost of investment will allow for a methodologically sound cost benefit analysis.

#### COST BENEFIT ANALYSIS FOR THE ELECTRICITY PROJECTS

The project team will follow the ENTSOE CBA guideline (February 2015) for its electricity market infrastructure assessment as close as data availability will allow for it. The main tool for the assessment will be the REKK electricity market model (European Electricity Market Model-EEMM), which was already used in the previous PECI assessment as well as other projects assessing the economic viability of infrastructure projects. For EEMM model references see Annex 1 of this proposal, while a concise model description can be found in Annex 2 of the proposal. This model will be applied to assess the economic impacts of the individual electricity infrastructure elements that will be proposed in the PECI AND PMI evaluation process. The most important information source for this assessment will be the data gathered through the questionnaires received from the project promoters which will be verified and cross-checked in Tasks 1 and 2.

The first step in the model based assessment is determining the reference scenario up to 2030. This will not only cover the whole EnC region, but the whole European electricity system as well, as proposed infrastructure elements will have significant spill over effect outside the regional boundaries.

#### Reference Scenario Set-up

\_

The reference scenario will include the latest EU visions for future European electricity sector development (e.g. the EU Impacts assessments, as well as the Energy Community obligations:

<sup>&</sup>lt;sup>2</sup> Report on Unit Investment Cost Indicators and Corresponding Reference Values for Gas Infrastructure

<sup>&</sup>lt;sup>3</sup> Report on Unit Investment Cost Indicators and Corresponding Reference Values for Electricity Infrastructure



e.g. RE and EE targets, the 2050 Roadmaps, and ENTSOE TYNDP). Relevant economic assumptions (fuel cost developments, carbon pricing) and technical parameters (efficiency and availability rates) will follow the latest available EU and global forecasts. The demand pattern and generation portfolio data will also be updated with the latest available databases and forecasts. Special attention will be granted to the EnC region, where current energy policy documents (Energy Strategies, NREAPs available for Members) and other planning documents will contribute to the reference scenario of the region. The recently finalised SLED (Support for Low Emission Development in South Eastern Europe) project on the region has equipped REKK with the most recent available data concerning the region's electricity generation and network developments. The trade flow patterns, electricity production by unit and the resulting baseload and peak load prices will be endogenously determined by the model for both the reference scenario and for the assessment cases.

A specific question concerns the regional electricity infrastructure developments to be assumed in the Reference scenario. As numerous infrastructure development projects are expected to be proposed in the assessment, the reference scenario will be set up without them in order to allow the modelling exercise to compare scenarios in the region with and without the projects. This assumption can be altered if the EnC Secretariat and the electricity Group wish to set up the reference case differently.

Once the reference scenario is set up, the project team will evaluate the impact of various infrastructure elements individually by introducing them into the EEMM model, consistent with the verified information from the questionnaires (referred to from this point on as individual assessment cases or IACs). The PINT methodology (Put In oNe at Time) will be used to assess the individual impact of the projects or project clusters if they are complementary. This complementarity is to be judged in the verification phase.

#### **Assessed benefit categories**

Based on the IACs the following benefit categories will be assessed (B1-B7). RES integration (B3), Technical resilience and system safety values (B6) and Robustness/Flexibility (B7) are evaluated within the multi criteria assessment. Other benefits are monetized by modelling.

#### **B1. Security of Supply**

In case quantified Expected Energy Not Supplied (EENS) values are provided by the project promoters, than we can monetise the impact by using Value of Loss Load (VOLL) estimations for the region. This step requires a monetary value on the unit of lost load. Ideally, the value of a unit of lost load should be based on a willingness to pay estimation for customers to avoid the loss of a unit of load. Such data is missing for the Contracting Parties, and the Consultant will carry out a survey of literature and establish the VOLL for the region.

If project promoters have no estimation on the EENS but have an estimation of a unit of lost load, VOLL can be estimated by applying benchmarks on the probability of failure rates on the lines (together with average repair times). If these estimations are not available, the TYNDP qualitative information could be used to measure qualitatively the SoS effects of the individual lines.

#### **B2.** Socio-economic welfare

The Total surplus approach will be used to measure the socio-economic welfare of the transmission lines rather than the Generation cost approach (see ENTSOE CBA methodology). This method captures the overall welfare effect, making it a more holistic way



to calculate the total benefits of the transmission lines to the consumers, producers and the TSO. The EEMM model measures all of these effects on the various economic actors (consumer benefits, producer benefits and TSO rents), meaning that they will form a monetised impact category in all assessed cases.

Surpluses will be calculated across all EU member states, however the geographical scope of the total benefit calculation will only include countries which the EnC Secretariat and the project steering committee require.

#### **B3. RES Integration**

RES integration effects are an important part of new infrastructure elements, as greater connection and trade opportunities can allow for higher amount of RES to be injected in the electricity system. The higher RES penetration facilitated by the infrastructure development has an important impact on the sector since most RES technologies will reduce wholesale prices, thus increasing social welfare. There is however a methodological problem in that only the additional RES generation directly attributable to the new line should be accounted for. In addition, new RES would require a certain subsidy level, usually paid by consumers. In order to avoid this potential methodological shortfall, we will assess the RES integration impacts in the Multiple Criteria Assessment.

#### **B4.** Variation in Losses

New transmission line elements could either increase or reduce losses in an electricity system depending on certain factors. The new line could be better performing or improve overall load flow patterns. The potential for losses could also increase if the new line elicits additional trade flow (although even in this case unit losses would also reduce). In order to deliver the required electricity for the consumers, losses must be covered by the power plant generation. Therefore the reduction of losses would benefit the system and producer by avoiding the extra generation required to cover the losses. This variation will be monetised by the EEMM model (with increasing or decreasing electricity consumption compared to the reference scenario) and added to the quantified impacts of the evaluation. The quantity changes in the loss values will be requested from the project promoters through the questionnaires.

#### **B5.** Variation of CO2 emissions

In the scenarios, the CO2 prices from the latest EU impact assessment estimates will be used (Impact Assessment on energy and climate policy up to 2030, SWD (2014) 15) in order to calculate the monetised impacts of carbon emissions. As generators in the EnC member states presently do not pay an imbedded carbon price for their emissions, it will be applied only from a future standpoint in the modelling. This approach will be agreed between the EnC Secretariat and the PSC during the project meetings, but generally a target year is added (e.g. 2020 or 2025) from when the point at which the carbon price is applied to EnC Contracting Parties' producers.

The economic impacts are already included in the socio-economic welfare category (B2), so the monetised impacts should not be calculated separately in order to avoid double counting. But according to the ENTSOE methodology, the quantified impacts (in kt of CO2 variation) will be reported. In addition, in order to reflect the possibly of a higher carbon value for society than the actual ETS price, a sensitivity analysis for a higher carbon value will be carried out.

#### B6. Technical resilience and system safety values and B7. Robustness/Flexibility



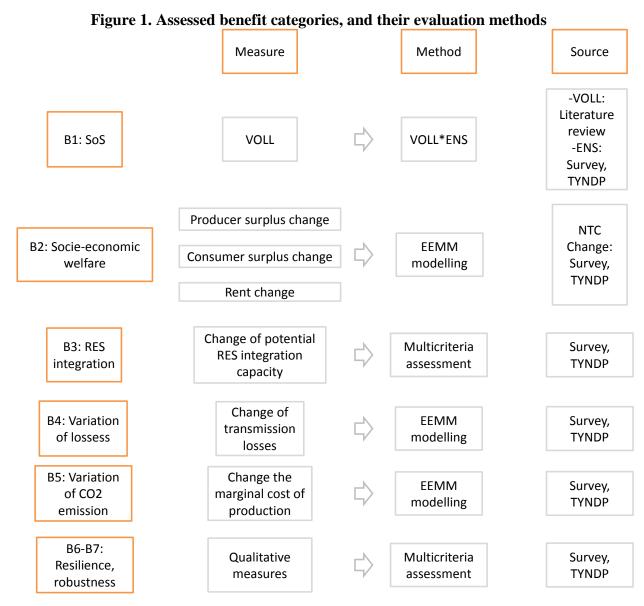
Project promoters will be asked in the questionnaire if they have assessed the Technical resilience and Robustness features of their proposed projects. Generally these features are assessed qualitatively or in various sensitivity cases (e.g. in extreme scenarios or in changing trade flow pattern scenarios) so their evaluations are rarely quantified. The ability of the proposed lines to contribute to the adequate operation of the transmission system in the extreme or significantly changed situation will only be assessed in the multi-criteria assessment, based on the provisions of data by project promoters.

#### **NPV** calculations

Once the previously listed benefit categories are quantified and the cost elements are verified, they will serve as a basis for the Net Present Value (NPV) calculation of the costs and benefits of the proposed projects. Benefit categories B1-B5 will be monetised and included in the economic calculation, while B6-B7 categories will only be assessed qualitatively in the multiple-criteria assessment. The cost-benefit analysis seeks to select the projects with the highest NPV, where the NPV is the sum of the discounted incremental costs and benefits over the project's life time:

- 1. A project appraisal will aim to demonstrate that the chosen option maximises the net economic benefits, i.e. the option maximises the difference of the present values of the benefits and costs, compared with alternative options in a majority of pre-defined scenarios. Benefits and costs in this context should be interpreted as the incremental benefits and costs in providing that option.
- 2. Where a project option consists of more than one individual sub-project, the costs of the project include the costs of all of those sub-projects. Further, any project option that is formed by a combination of sub-projects should to be compared against comparable alternative project options, which may themselves be formed by a combination of sub-projects.





We will apply dynamic investment appraisal techniques and estimate Costs and Benefits over the expected lifetime of the project, discounting future benefits and costs to the present value by applying a pre-determined social discount rate. According to the ENTSOE recommendation we propose to use a 4% social discount rate. We will calculate a Benefit/Cost ratio and propose projects with a B/C ratio below 1 to exclude from further analysis. The remaining projects with a higher than 1 B/C ratio will be assigned a net social benefit figure (present value, Euro terms).

The time horizon of the NPV calculation will be the estimated lifetime of the infrastructure elements, which is 40 years. As the modelling covers the next 15 years (up till 2030), we will than calculate the residual values of the projects and include this in this residual value in the project evaluation.

#### **TOOT** assessment for robustness check

In order to check the robustness of the proposed list of infrastructure projects and also to check for the interaction between the various infrastructure elements, we will also apply the TOOT (Take Out One at Time) method for the selected list of projects, where the number of selected projects depends on the decision of the EnC and on the number of proposed projects.



By using this approach, we will check the robustness of the project rankings and whether the realisation of additional simultaneous projects could distort and change the ranking of the proposed project list.

**REF** scenario Modelling with PINT methods Other, not monitized NPV calculation elements Multicriteria assessment Ranking PECI projects **Modelling with TOOT methods** Other, not monitized NPV calculation elements Multicriteria assessment Final ranking of **PECI** projects

Figure 2. Main modelling steps of the electricity sector assessment

#### Sensitivity assessments

We will also carry out a sensitivity assessment on the most important scenario drivers (e.g. assumed carbon value, demand, gas price) in order to check if the ranking of the projects are robust in relation to these factors. This assessment will demonstrate how reliable the selection of the PECI AND PMI projects are according to the overall economic and technical factors.

#### COST BENEFIT ANALYSIS FOR THE GAS PROJECTS

Both European Commission<sup>4</sup> and ACER<sup>5</sup> have identified serious limitations of ENTSOG modelling methodology. One of the main critics is that ENTSOG methodology focuses on quantifying merely project benefits and not costs, therefore it is not able to monetize TSO revenues nor to take into account the effect of tariffs. Another drawback is that prices are not modelled but are taken from past data and are corrected according to different supply scenarios. It is also worth to mention that separate computation of project-related benefits to the different stakeholder groups (consumers, producers, shippers, TSOs) is not possible with the use of ENTSO-G model.

Considering the abovementioned limitations of ENTSOG modelling, an alternative model, the European Gas Market Model (EGMM) developed by REKK will be applied for the CBA

Study to support the definition of a CBA methodology for gas - Frontier Economics, 2014 June
 ACER Opinion No 11/2015 on the Draft Ten-Year Network Development Plan 2015 submitted by ENTSOG.



assessment of gas infrastructure PECI AND PMI candidate projects, however the guidelines of ENTSO-G CBA methodology will be followed as far as it is possible. The former version of this model (Danube Region Gas Market Model, DRGMM) was applied in the previous PECI assessment. In the extended EGMM model the fundamentals are the same, but the coverage was extended to 35 European countries, covering the EU (except for Malta and Cyprus) and the Energy Community endogenously, and LNG markets are more accurately represented. The current version of the model was already applied in numerous projects selecting the most important infrastructure in Europe. For the references on the EGMM model see Annex 3 of this proposal, while a detailed model description can be found in Annex 2.

Contrary to ENTSOG model EGMM is able to handle the abovementioned limitations. As the wholesale gas prices are modelled and not exogenously given, a more accurate CBA could be performed. As actual flows are reflecting infrastructure capacities, costs and market prices, capacity utilization of new infrastructure and resulting welfare changes could be better forecasted. With REKK modelling welfare change can be separately calculated for all market participants which leads to a methodologically much stronger CBA.

#### Reference Scenario Set-up

The first step in the model based assessment is the setting up of reference scenarios for the threshold years. These reference scenarios will be set up together with Energy Community Secretariat. In line with the guidelines of Regulation 347/2013 as adopted by the Energy Community the modelled years would be 2015/16, 2020, 2025, 2030 and 2035. After 2035 the welfare change quantified for 2035 will be extrapolated for the projects' lifetime (30 years).

In case of demand, production and infrastructure input data we will lean on TYNDP forecasts, and correct them where it is necessary. One of the most important questions is the infrastructure developments to be assumed in the reference scenario. We would suggest the low infrastructure scenario of ENTSOG which includes existing infrastructures plus infrastructure projects having a Final Investment Decision status.

Having the reference scenario set, the impact of submitted infrastructure elements will be evaluated individually or by project clusters if some projects complement to each other.

After completion of selecting process beyond the individual evaluation of projects, the overall welfare effect of selected projects will also be quantified.

#### **Assessed benefit categories**

According to the guidelines on CBA methodology the following factors have to be taken into account:

- 1. Contribution to market integration and price convergence
- 2. Security of gas supply
- 3. Contribution to enhanced competition
- 4. Sustainability which includes contribution to reduce emission (CO<sub>2</sub> savings)

Based on modelling results economic benefits related to 1.,2. and 4. criteria can be quantified.

#### Socio-economic welfare

The changes of socio-economic welfare are estimated with the net benefits (benefits minus cost) that the individual projects (or project clusters) can bring to the analysed Region (to be defined together with EnC Secretariat). The cost data will be provided in the questionnaires.



The socio-economic benefits will be estimated and monetized through the project's impact on market convergence and price changes, improvement of security of supply and the reduction of CO<sub>2</sub> emissions.

Total socio-economic welfare for a modelled period (year) is calculated as the sum of welfare change of all market participants:

- 1. Consumer surplus [to consumers]
- 2. Producer surplus (or short-run profit, excluding fixed costs) [to producers]
- 3. Profit on long-term take-or-pay contracts [to importers]
- 4. Congestion revenue on cross-border spot trading [to TSOs]
- 5. Cross-border transportation profit (excluding fixed costs) [to TSOs]
- 6. Storage operation profit (excluding fixed costs) [to SSOs]
- 7. Profit on inter-temporal arbitrage via gas storage [to traders]
- 8. Profit of LNG operators [to LNG operators]

These welfare measures for each stakeholder are equally weighted.

#### Security of supply

Security of supply related benefits of a project will be measured by the change in economic welfare due to the implementation of the project in the case of a gas supply disturbance. A gas supply disturbance is assessed as a 100% gas supply disruption via the largest interconnector entry point to the region in January for a given year. The economic welfare change due to the realization of the proposed infrastructure is calculated as the difference between the welfare under disturbance conditions with and without the project.

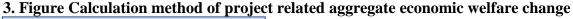
To calculate the project related aggregate change in socio-economic welfare for a given year, we first calculate the weighted sum of project related welfare changes under normal and disturbance conditions. Weights are the assumed probabilities for normal and disturbance scenarios to occur (95% versus 5%).

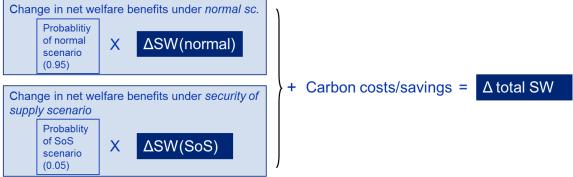
#### Reduction in CO<sub>2</sub> Emissions

Within the CBA the sustainability benefits are estimated by the impact of projects in changing greenhouse gas emissions. In the case of gas infrastructure projects, the project related environmental benefit is estimated as multiplying the corresponding change in the countries' CO2 emissions (assuming that change in gas demand substitute an average CO2 intensity in energy use) with an exogenous carbon value.









For each project (or project cluster) we carry out 10 model runs: for the five modelled years (2015/16, 2020, 2025, 2030, 2035) with the new infrastructure in place under normal conditions and under security of supply assumptions. The welfare change of the given year under normal and SOS conditions will be weighted and added to the CO2 quote cost saving change that will be also calculated based on model output.

As a next step the NPV will be calculated for the lifetime of the project. In the context of an economic CBA the economic NPV discounts the incremental costs and benefits of an infrastructure project arising to all groups of stakeholders back to their present values applying a 4% social discount rate.

#### **Sensitivity assessments**

As a robustness check of the ranking of the projects, a sensitivity analysis will be carried out on the most important scenario drivers. In line with ENTSOG scenarios we analyse some reasonable combinations of the most important modelling input data (e.g. demand scenarios or assumed price for outside markets, mainly the global LNG market).

#### 2.5 TASK 4: NETWORK MODELLING

Since there is expected to be a high number of proposed electricity transmission projects to be assessed within this project (e.g. in the range of over 30 projects based on the first PECI assessment), a full-scale ENTSOE compatible network modelling for all individual project proposals will not be possible within the limited budget of this project. Due to this resource constraint, a more aggregated level network assessment will carried out. For this assessment part, the consortia will adapt an existing network model for the EnC region and will update the database of the model by the ENTSOE or the SECI<sup>6</sup> project database if one of these databases will be available for us. For this reason, we would require the help of the EnC Secretariat to receive the ENTSOE project database for the use of the PECI AND PMI assessment, in order to reflect the most up-to-date information on the electricity network of the region.

The network modelling will follow an iterative approach:

-

<sup>&</sup>lt;sup>6</sup> Southeast Europe Cooperation Initiative Transmission System Planning Project (SECI TSP): regularly updates regional transmission system model and builds regional data base on South East Europe



- The first step (in Task 1 and 2) will be the cross-checking and screening of the information received from project promoters through a questionnaire survey. The information received on the network (NTC changes, loss variation, EENS estimates) will be cross-checked with the available ENTSOE benchmarks (e.g. ENTSOE TYNDP) and differences will be settled with project promoters.
- Once the data set is finalised, it will serve as input for the network modelling, and the output of the network modelling will be used in the European Electricity Market Model (EEMM) as well. Then, based on the cost-benefit assessment of the individual projects, the proposed projects will be ranked.
- A limited number of proposed PECI projects will be selected from this ranking (depending on EnC requirements and the number of promoted projects), and this grouping will provide the basis for the modelling of the aggregated network impact. The network model will provide two main pieces of information at this stage. First, it will allow for the establishment of a reference scenario and provide base NTC values to the economic model (EEMM) in the previous step. Second, the network model will run a new scenario where the proposed number of PECI projects will be included. This will reveal new NTC and loss variation values.
- The new NTC figures and loss variation results will be used in the subsequent economic market model runs to see whether the resulting list of projects are robust under these parameters. A joint assessment of all proposed projects will also be carried out with the economic model (TOOT approach). This is the manner in which the PECI list will be finalised; incorporating the joint network impacts of the proposed projects alongside checks for the robustness on the project results.

This iterative method on the aggregated project 'package' is proposed for two reasons. First, a full network modelling of an infrastructure project is very costly, so carrying out the assessment on various projects would not fit into the proposed budget of the call. This is the reason to work with a 'higher' level network model in the project. Second, this is reflective of the reality that individual project assessments generally do not consider the impacts of other projects to be realised in the same region. The REKK assessment will take this into consideration by calculating network and economic impacts of the proposed projects on the group level.



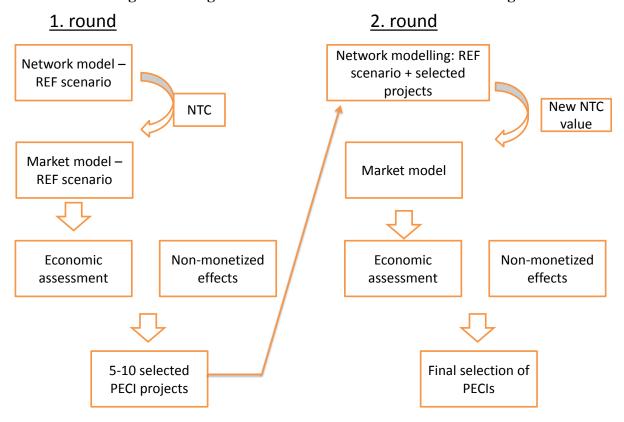


Figure 4. Integration of the network and market modelling

#### 2.6 TASK 5: MULTI-CRITERIA ASSESSMENT

Since not all possible costs and benefits can be quantified and monetised – which is a requirement for an inclusion in the CBA – additional criteria will be proposed and agreed with the Groups of the Energy Community (responsible for the identification and assessment of Projects of Energy Community Interest) that will be assessed outside the CBA. The selection of these additional criteria as well as the parameters looked at within the electricity and gas market models will be based on Regulation 347/2013 as adopted by the Energy Community and the approach applied for the identification of EU Projects of Common Interest (PCIs), the CBA methodologies developed by ENTSOE for electricity and ENTSOG for gas as well as the feedback provided by ACER, national regulatory authorities, the European Commission and other energy sector stakeholders on these methodologies. In addition, also our own experience from previous economic assessments of energy infrastructure projects (including the experience of the consortium gained within the previous project (in 2012/2013) for the identification of Projects of Energy Community Interest) and the specifics of the energy sectors in the Contracting Parties of the Energy Community will be taken into account.

As additional criteria evaluated outside the electricity and gas market models, but within the multi-criteria assessment we propose to include the impact of each project or project cluster on the enhancement of competition, system adequacy (resilience) and robustness/operational flexibility, as well as the progress in implementation of each investment project (maturity). For electricity projects we propose to also evaluate the benefits of a project from improvements in energy efficiency (measured through the reduction of thermal losses). For natural gas projects we propose to assess also the impact of a project on import route diversification as additional criterion within the multi-criteria assessment. As described



earlier, impacts on market integration/price convergence, security of supply and CO2 emissions are already included within the electricity and gas modelling. ENTSOG list a number of further criteria in their CBA methodology, such as the various indicators for supply source dependence and diversification; these can however be subsumed either under the criteria of market convergence and security of supply assessed within the gas market model or under the criteria of enhancement of competition, system adequacy (resilience), robustness/operational flexibility and import route diversification assessed within the multicriteria assessment. Furthermore the gas model will also take into account the impacts on gas storage, inter-seasonal arbitrage and long-term contracts. The final set of criteria to be looked at within the modelling as well as of additional criteria evaluated within the multi-criteria assessment will be discussed and jointly agreed on with the Groups.

In order to measure the fulfilment of each criterion by each investment project within the multi-criteria assessment, specific indicators will be defined for each criterion. We propose to allocate to the indicators scores reflecting the ability of each project to fulfil the respective criterion. Accordingly we would attribute minimal points (e.g. one) to a project when the degree of fulfilment is low and maximal points when the degree of fulfilment is high (e.g. five). Scores between the minimum and the maximum values would then be allocated by using linear interpolation.

For the overall integration of the CBA results and the additional criteria weights will be set for each criterion. The initial weights of each criterion will be based on a pairwise comparison of the relative importance of a criterion against any other criterion by the experts of the consortium taking into account experience from previous similar assessments of energy infrastructure projects as well as other studies and methodologies proposed and published on European level. The proposed weights for each criterion will be presented to the Groups, which will have to agree on their final values.

Each investment project will then be assessed (scored) according to the fulfilment of each criterion by each project or project cluster. By multiplying the score for each criterion with the weight of each criterion a total score will then calculated for each project or project cluster.

In the final step a ranking of all eligible projects will be proposed according to the calculated scores of each project or project cluster. The ranking will be conducted separately for the electricity infrastructure, gas infrastructure, oil infrastructure and smart grid projects.

# 2.7 TASK 6: METHODOLOGY FOR THE EVALUATION OF PROJECTS IN THE OIL INFRASTRUCTURE AND IN SMART GRIDS

#### Oil infrastructure projects

The criteria for evaluation of oil project is set out is the Regulation 347/2013 as adopted by the Energy Community as:

(a) Security of oil supply shall be measured by assessing the additional value of the new capacity offered by a project for the short and long-term resilience of the system and the remaining flexibility of the system to cope with supply disruptions under various scenarios.



- (b) Interoperability shall be measured by assessing to what extent the project improves the operation of the oil network, in particular by providing the possibility of reverse flows.
- (c) Efficient and sustainable use of resources shall be measured by assessing the extent to which the project makes use of already existing infrastructure and contributes to minimising environmental and climate change burden and risks.

However, a thorough quantitative assessment would mean setting up a reference scenario and an oil market model for the affected countries. We expect few oil projects to apply, which could be judged on a case-by-case manner. Our expertise from the previous study DNV KEMA-EIHP-REKK study *Development and Application of a Methodology to Identify Projects of Energy Community Interest* gives a sound theoretical basis.

#### Smart grid projects

EU Regulation 347/2013 as adopted by the Energy Community provides a detailed set of eligibility criteria for smart grid projects, limiting eligible smart grid projects among others to large projects (at least 50,000 users) at high-voltage and medium-voltage level. It furthermore provides a set of criteria, based on which the net benefit of smart grid projects shall be assessed. These criteria include among others the contribution of the project to improvements in

- energy efficiency (measured via reduced network losses, reductions in electricity consumption and reductions of emissions)
- the cost-efficiency of network planning, network investments and network operation
- security and quality of supply
- the integration of distributed (renewable) generators, prosumers and other network users with new technical requirements
- involvement of demand response and the provision of new customer services

Assessing the economic impact of smart grid projects would require to compare a business as usual situation within the specific network segment of specific network operators in specific countries where the smart grid project is implemented with the situation to be expected after the implementation. This would require very detailed information on the specific network characteristics within a specific network within a specific country (including details on the present and future patterns of feed-in and load, the present and expected future levels of reliability, power quality and network losses, the existing network infrastructure and assets and the expected future shares of (distributed) generation from renewables, prosumers and auto-producers, demand response, electric vehicles, etc.) as well as detailed consideration of the specific regulatory framework applying in that county. Given these challenges, the expected small number of projects (if any) that would be able to fulfil the eligibility criteria and the limitations of the available budget, we therefore propose – similar to the assessment of oil infrastructure projects – to assess smart grid projects only qualitatively. This qualitative evaluation would involve a comparison of the proposed smart grid projects with each other as regards their cost levels and expected benefits in the above dimensions as well as with available information on other smart grid projects already implemented within other European countries and expert knowledge and internal data of the consortium gained through other more detailed assessments of smart grid projects.



#### 3 ORGANISATION OF THE WORK

#### 3.1 COMMUNICATION

Primary communication channel of the Consortium and Energy Community Secretariat is via phone/Skype and email. A phone/skype call is scheduled at least once every three weeks, or more frequently if required.

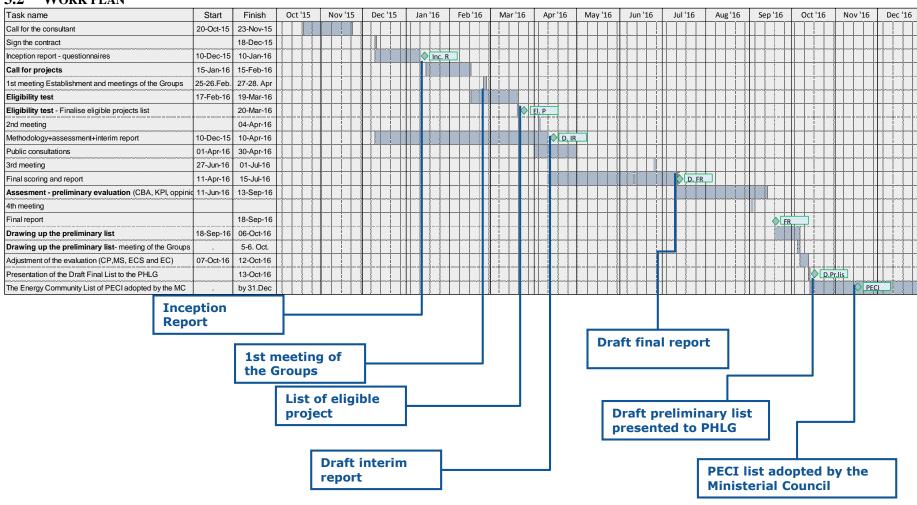
Contractors ensure that ENTSOE/G will be kept informed / consulted about key developments of the projects. ENTSOE/G is asked to delegate members to the two Groups.

Meetings will be organized in the premises of the Energy Community Secretariat in Vienna. The Consortium in concert with the Energy Community Secretariat envisaged four meetings:

- first meeting on 26.02.2016. in Vienna, where the Consortium will present:
  - o the methodology applied for the CBA (lead by REKK) and multi-criteria (lead by DNV GL) assessment
  - modelling assumptions
- second meeting on 04.04.2016. in Vienna, where the Consortium will:
  - o present the list of projects submitted and the results of the eligibility checks
- third meeting in late June or early July 2016 in Vienna, tentative date the week starting 27 June
  - o modelling results and outcome of the evaluation will be presented
  - o an optional second meeting can be scheduled, if it is required by participants
- fourth meeting to further discuss modelling results in the first week of September 2016 if needed



#### 3.2 WORK PLAN





# 4 ANNEX 1: QUESTIONNAIRES

Questionnaire for the welfare evaluation of Projects of Energy Community Interest (PECIs) and Projects of Mutual Interest (PMIs) based on the Regulation 347/2013 as adopted by the Energy Community

# **Electricity interconnector projects**

| 1 | <b>PROJE</b> | TT IDI | ENTIFI | CATI | N |
|---|--------------|--------|--------|------|---|
|   |              |        |        |      |   |

NAME OF THE PROJECT

| 1.2 | WAS THE PROJECT INCLUDED IN ANY OF THE FOLLOWING LIST OF PCIS OR PECIS? 2013 PCI (please refer to questions 1.3 and 1.4) 2015 PCI (please refer to questions 1.5 and 1.6) 2013 PECI (please refer to questions 1.7 and 1.8) None of the above (jump to question 1.9) |
|-----|--|
| 1.3 | Unique project code name in the 2013 Union list of PCIs (if applicable) <sup>7</sup>   |

**1.5** UNIQUE PROJECT CODE NAME IN THE **2015** UNION LIST OF PCIs (IF APPLICABLE) If your project also appears in the list of PCIs, please refer to its unique codename listed in the C(2015) 8052 final Annex of the regulation 347/2013

#### 1.6 PROJECT NAME IN THE 2015 UNION LIST OF PCIS (IF APPLICABLE)

PROJECT NAME IN THE 2013 UNION LIST OF PCIS (IF APPLICABLE)<sup>8</sup>

If your project also appears in the list of PCIs, please refer to its unique name listed in the  $C(2015)\ 8052$  final Annex of the regulation 347/2013

8 http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN

<sup>&</sup>lt;sup>7</sup> http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN





## 1.7 UNIQUE PROJECT CODE NAME IN THE 2013 LIST OF PECIS (IF APPLICABLE)<sup>9</sup>

#### 1.8 PROJECT NAME IN THE 2013 LIST OF PECIS (IF APPLICABLE)

Please refer to the document at Energy Community website 10

#### 1.9 NAME OF THE PROJECT PROMOTER

Please submit the full legal name of the project promoter

# 1.10 NAME OF THE SHAREHOLDERS OF THE UNDERTAKING IMPLEMENTING THE INVESTMENT PROJECT

Please submit the full legal name of each undertaking, the percentage of its shareholding in the project and information on their main activities. In case one of the shareholders is an investment holding, please also provide information on the ultimate owner(s) of the investment holding.

| Full legal name of shareholder | Shareholding (in %) | Main activities of shareholder | Ultimate owner of investment holding (if |
|--------------------------------|---------------------|--------------------------------|--|
|                                |                     |                                | applicable)                              |
|                                |                     |                                |  |
|                                |                     |                                |  |
|                                |                     |                                |  |

#### 1.11 PROJECT WEBSITE ACCORDING TO ARTICLE 9(7) OF THE ADOPTED REGULATION

#### 1.12 CODE OF THE PROJECT IN THE EU TYNDP (IF APPLICABLE)

| 1.13 | HOSTING ENERGY COMMUNITY | CONTRACTING | <b>PARTIES</b> | (WHERE | THE | PROJECT | IS |
|------|--------------------------|-------------|----------------|--------|-----|---------|----|
|      | LOCATED)                 |             |                |        |     |         |    |
|      | Albania                  |             |                |        |     |         |    |
|      | Bosnia and Herzegovina   |             |                |        |     |         |    |
|      | Serbia                   |             |                |        |     |         |    |
|      | Kosovo*                  |             |                |        |     |         |    |
|      |                          |             |                |        |     |         |    |

<sup>9</sup> https://www.energy-

 $community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Investments/PECIs/List\_PECIs/$ 

<sup>10</sup> https://www.energy-

 $community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Investments/PECIs/List\_PECIs/$ 



| N | <u>۷</u> . | GΙ |
|---|------------|----|

| Montenegro FYR Macedonia Moldova Ukraine * This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.   |                   |   |  |               |  |  |
|--|-------------------|---|--|---------------|--|--|
| 1.14 Hosti   | NG NEIGHBOURII    | NG EU MEMBER  | R STATES (WHE                                | RE THE PROJEC | CT IS LOCATED)   |  |
| 1.15 Отне  | R HOSTING COUN    | TRIES (WHERE T  | THE PROJECT IS                               | LOCATED)      |  |  |
| 1.16 IMPACTED ENERGY COMMUNITY CONTRACTING PARTIES  A country is considered impacted where the project is not located but where project's effects are significant  Albania Bosnia and Herzegovina Serbia Kosovo* Montenegro FYR Macedonia Moldova Ukraine  * This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence. |                   |   |  |               |  |  |
| A country is are significant Austria Cyprus Finland Hunga Lithua Poland Sloven   | nt  a             | cted where the pelgium zech Republic rance eland uxembourg ortugal oain | Bulgaria Denmark Germany Italy Malta Romania | C             | e project's effects roatia stonia reece atvia etherlands lovakia nited Kingdom |  |
| <ul> <li>1.18 OTHER IMPACTED COUNTRIES</li> <li>A country is considered impacted where the project is not located but where project's effects are significant</li> <li>1.19 THE PECI IN THE NATIONAL NETWORK DEVELOPMENT PLAN</li> </ul>   |                   |   |  |               |  |  |
|  | Contracting Party | Project code<br>in NNDP   | Project name                                 | Year o        | of HTML link<br>n to NNDP  |  |
| 1  |                   |   |  |               |  |  |



| _      |   |    | _      |  |
|--------|---|----|--------|--|
| $\Box$ | N | V٠ | $\Box$ |  |

| 3 |  |  |  |
|---|--|--|--|
| 4 |  |  |  |
| 5 |  |  |  |

## 1.20 RELEVANT COMPETENT AUTHORITIES

2.4 ORIGIN POINT (LOCATION, COUNTRY):

|   | Name      | of | Postal     | Website of |
|---|-----------|----|------------|------------|
|   | competent |    | address of | competent  |
|   | authority |    | competent  | authority  |
|   |           |    | authority  |            |
| 1 |           |    |            |            |
| 2 |           |    |            |            |
| 3 |           |    |            |            |
| 4 |           |    |            |            |
| 5 |           |    | _          |            |

| 3        |                |   |         |               |                           |
|----------|----------------|---|---------|---------------|---------------------------|
| 1.21     |                | <b>HERE OTHER PRO</b> lease list the proje                |         |               | ALISATION OF THE PROJECT? |
| 1.22<br> |                | YOUR PROJECT DI<br>lease list the proje                   |         | REALISATION ( | OF ANY OTHER PROJECT?     |
| 2 ′      | TECH           | NICAL INFO  | RMATION |               |                           |
| 2.1<br>  | New o          | OF PECI INFRAST nshore interconne ffshore interconne tion | ctor    |               |                           |
| 2.2<br>  | New in Current |   |         |               |                           |
| 2.3      | BRIEF          | PROJECT DESCRI  | PTION   |               |                           |



- 2.5 END POINT (LOCATION, COUNTRY):
- 2.6 EXPECTED DATE OF COMMISSIONING (YEAR)
- 2.7 EXPECTED LIFETIME OF INFRASTRUCTURE (YEARS FROM COMMISSIONING)
- 2.8 EXPECTED INCREASE IN NET TRANSFER CAPACITY (NTC) IN 2020, 2025, 2030

| Country 1 | Country 2 | Capacity (MW in both directions) |
|-----------|-----------|----------------------------------|
|           |           | directions)                      |
|           |           |                                  |
|           |           |                                  |
|           |           |                                  |
|           |           |                                  |





#### 2.9 DETAILED TECHNICAL INFORMATION OF THE PROJECT BY MAIN SECTIONS

| -         | Description | Country 1 | Country 2 | Length of<br>onshore<br>line (km) | Length of<br>offshore<br>line (km) | Type: new<br>line, upgrade,<br>replacement | Line parameters $R(\Omega)$ | Line parameters $X(\Omega)$ | Line parameters $B(\mu S)$ | Number of<br>additional<br>transformer<br>stations | Location of transformer station | Capacity of<br>transformer<br>stations<br>(MVA) | Voltage |
|-----------|-------------|-----------|-----------|-----------------------------------|------------------------------------|--|-----------------------------|-----------------------------|----------------------------|--|---------------------------------|---|---------|
| Section 1 |             |           |           |                                   |                                    |  |                             |                             |                            |  |                                 |   |         |
| Section 2 |             |           |           |                                   |                                    |  |                             |                             |                            |  |                                 |   |         |
| Section 3 |             |           |           |                                   |                                    |  |                             |                             |                            |  |                                 |   |         |
| Section 4 |             |           |           |                                   |                                    |  |                             |                             |                            |  |                                 |   |         |
| Section 5 |             |           |           |                                   |                                    |  |                             |                             |                            |  |                                 |   |         |





# 3 EXPECTED COSTS OF THE PROJECT

| 3.1   |                           |                            |         |          | CAPEX               |                |         |          |        |        |        |
|-------|---------------------------|----------------------------|---------|----------|---------------------|----------------|---------|----------|--------|--------|--------|
|       |                           | STMENT                     |         |          | CLUDING<br>2016 REA |                |         |          | ONSTRU | CTION  | COSTS, |
| Cale  |                           | OKAKI                      | SOLUTI  |          | ZUIU KEA            |                | ONEOR   |          |        |        |        |
| year  | iuai                      |                            |         |          |                     |                |         |          |        |        |        |
| Cost  |                           |                            |         |          |                     |                |         |          |        |        |        |
| (Real |                           |                            |         |          |                     |                |         |          |        |        |        |
| 2016  |                           |                            |         |          |                     |                |         |          |        |        |        |
| milli |                           |                            |         |          |                     |                |         |          |        |        |        |
| EUR   | )                         |                            |         |          |                     |                |         |          |        |        |        |
| 3.2   | Esti                      | MATED                      | VARIATI | ION IN C | APEX (              | +/ <b>-%</b> ) |         |          |        |        |        |
| 3.3   |                           |                            |         |          | OF THE<br>REPLACI   |                | T IN 20 | 16 REAL  | EUR (  | OR CHA | NGE IN |
| Cale  |                           | AL OI                      |         | GRADE    | KEI LACI            |                |         |          |        |        |        |
| year  | iaui                      |                            |         |          |                     |                |         |          |        |        |        |
| Cost  |                           |                            |         |          |                     |                |         |          |        |        |        |
| (Real | [                         |                            |         |          |                     |                |         |          |        |        |        |
| 2016  |                           |                            |         |          |                     |                |         |          |        |        |        |
| EUR   | )                         |                            |         |          |                     |                |         |          |        |        |        |
| 3.4   | CHAI<br>Yes<br>No         | HE PROJ<br>NGED?<br>t know | ECT WA  | S INCLUI | DED IN T            | не 2013        | PECI LI | IST, HAS | тне СА | PEX ES | ГІМАТЕ |
| 3.5   | INST<br>FACI<br>Yes<br>No | RUMEN'<br>LITY)?           | r for I | PRE-ACC  | OO YOU I            | ASSISTAN       | NCE OR  |          |        |        | `      |



# 4 STATUS AND PROGRESS

| 4.1  | PLEASE INDICATE THE CURRENT STATUS OF THE PECI   |
|--|--|
| Pleas  | e tick all boxes that apply  |
| Ц  | Consideration phase  |
| Ц  | Planning approval  |
|  | Preliminary design studies   |
|  | Market test  |
|  | Preliminary investment decision  |
| Ш  | Public consultation of Art.9(4) of Regulation 347/2013   |
| Ш  | Permitting   |
|  | Financing secured  |
|  | Cross-border cost allocation request / decision  |
|  | Exemption request / decision   |
|  | Final investment decision  |
|  | Detailed design  |
|  | Tendering  |
|  | Construction   |
|  | Commissioning  |
|  |  |
|  |  |
|  | PLEASE GIVE AN INDICATIVE IMPLEMENTATION SCHEDULE AS OF 2016 JANUARY Start date (month, year) End date (month, year) deration phase  |
| Consi<br>Plann   | Start date (month, year) End date (month, year) deration phase ng approval   |
| Consi<br>Plann<br>Prelin   | Start date (month, year) End date (month, year) deration phase ng approval inary design studies  |
| Consi<br>Plann<br>Prelin<br>Marke  | Start date (month, year) End date (month, year) deration phase ng approval inary design studies  |
| Consi<br>Plann<br>Prelin<br>Marke<br>Prelin<br>Public  | Start date (month, year)  leration phase ng approval inary design studies t test inary investment decision consultation of Art.9(4) of   |
| Consi<br>Plann<br>Prelin<br>Marke<br>Prelin<br>Public<br>Regul   | Start date (month, year)  leration phase ng approval inary design studies t test inary investment decision   consultation of Art.9(4) of ation 347/2013  |
| Consi<br>Plann<br>Prelin<br>Marke<br>Prelin<br>Public<br>Regul<br>Permi  | Start date (month, year)  deration phase ng approval inary design studies t test inary investment decision   consultation of Art.9(4) of ation 347/2013 ting   |
| Consi<br>Plann<br>Prelin<br>Marko<br>Prelin<br>Public<br>Regul<br>Permi<br>Finan   | Start date (month, year)  deration phase ng approval inary design studies t test inary investment decision     consultation of Art.9(4) of ation 347/2013 ting eing secured  |
| Consi<br>Plann<br>Prelin<br>Marko<br>Prelin<br>Public<br>Regul<br>Permi<br>Finan<br>Cross  | Start date (month, year)  deration phase ng approval inary design studies t test inary investment decision     consultation of Art.9(4) of ation 347/2013 ting ting ting secured border cost allocation request /  |
| Consi<br>Plann<br>Prelin<br>Marke<br>Prelin<br>Public<br>Regul<br>Permi<br>Finan<br>Cross<br>decisi<br>Exem<br>applic                                      | Start date (month, year)  leration phase ng approval inary design studies t test inary investment decision     consultation of Art.9(4) of ation 347/2013 ting cing secured border cost allocation request / on (if applicable) otion request / decision (if able)  End date (month, year)  End date (month, year) |
| Consi<br>Plann<br>Prelin<br>Marke<br>Prelin<br>Public<br>Regul<br>Permi<br>Finan<br>Cross<br>decisi<br>Exem<br>applic<br>Final                             | Start date (month, year)  leration phase ng approval inary design studies t test inary investment decision     consultation of Art.9(4) of ation 347/2013 ting cing secured border cost allocation request / on (if applicable) otion request / decision (if   |
| Consi<br>Plann<br>Prelin<br>Marke<br>Prelin<br>Public<br>Regul<br>Permi<br>Finan<br>Cross<br>decisi<br>Exem<br>applic<br>Final<br>Detail                   | Start date (month, year)  leration phase ng approval inary design studies t test inary investment decision     consultation of Art.9(4) of ation 347/2013 ting ting secured border cost allocation request / on (if applicable) otion request / decision (if able) nvestment decision ed design ring               |
| Consi<br>Plann<br>Prelin<br>Marke<br>Prelin<br>Public<br>Regul<br>Permi<br>Finan<br>Cross<br>decisi<br>Exem<br>applic<br>Final<br>Detail<br>Tende<br>Const | Start date (month, year)  leration phase ng approval inary design studies t test inary investment decision     consultation of Art.9(4) of ation 347/2013 ting ting secured border cost allocation request / on (if applicable) otion request / decision (if able) nvestment decision ed design                    |

- 4.3 IF YOUR PROJECT WAS INCLUDED IN THE 2013 PECI CANDIDATE LIST, PROVIDE A BRIEF DESCRIPTION OF WORKS CONDUCTED SINCE 2013 (IF APPLICABLE)
- 4.4 IF YOU ENCOUNTERED DELAY IN THE PROJECT PROCESS, WHAT WAS THE EXTENT AND REASON OF DELAY?



| 4.5 WHAT MEASUR | RES DID YOU TAKE TO | TACKLE THE | DELAY? |
|-----------------|---------------------|------------|--------|
|-----------------|---------------------|------------|--------|

#### 4.6 PLEASE LIST THE MAJOR RISKS AFFECTING THE PROJECT

| _  | A . |         | $\mathbf{m}$ |             |        |
|----|-----|---------|--------------|-------------|--------|
| •  | Δι  | 1 4 6 6 |              | INHR        | UCTURE |
| ~) |     |         |              | 1 1 1 1 1 1 |        |

| <b>5.1</b> | ACCESS REGIME APPLICABLE TO THE I<br>Regulated third party access<br>Negotiated third party access<br>Exemption from third party access | NFRASTRUCTURE                          |
|------------|---|--|
| 5.2        | IF THE INFRASTRUCTURE IS EXEMPTED CAPACITY AND TIMEFRAME  | FROM TPA, PLEASE INDICATE THE EXEMPTED |
| Exer       | mpted from – to (years)   | _                                      |
|            | npted from to (years)   |  |
|            | ispect cupucity (2 // 12 year)  |  |
| 5.3        | DO YOU EXPECT A GENERAL TARIF   | F INCREASE IN THE HOSTING COUNTRIES TO |
|            | FINANCE INFRASTRUCTURE?   |  |
|            | Yes   |  |
| Ħ          | No  |  |
| Ш          | 2.0   |  |
| 5.4        | IF YES, PLEASE INDICATE THE LEVEL O   | F GENERAL TARIFF INCREASE              |
| Host       | ing country   | Tariff increase (%)                    |
|            |   | ` '                                    |
|            |   |  |

#### **6 CONFIDENTIALITY**

We require all data indicated in the questionnaire to conduct the welfare analysis and evaluation of the projects. All cost data submitted in the questionnaire is considered confidential and will only be used for the evaluation and not made public within the project reports as well as at any meetings of the working group; only aggregated cost data that does not allow to link the figures to individual investment projects may be presented in publications. All other submitted data and information is considered non-confidential unless if stated otherwise by project promoter.

Please list the number of the answers which you consider confidential and do not wish to disclose. Answers to questions which are not listed may be published on Energy Community website as part of the evaluation study.





## 7 CONTACT DETAILS

Please designate two contact persons who can be requested for clarifications and additional information if necessary.

Primary contact

Secondary contact

Name of contact person Organisation Position Email address Phone number

<sup>\*</sup> including country dialling code



# Questionnaire for the welfare evaluation of Projects of Energy Community Interest (PECIs) and Projects of Mutual Interest (PMIs) based on the Regulation 347/2013 as adopted by the Energy Community

# **Electricity storage projects**

#### 1 PROJECT IDENTIFICATION

NAME OF THE PROJECT

1.1

| 1.2 | WAS THE PROJECT INCLUDED IN ANY OF THE FOLLOWING LIST OF PCIS OR PECIS? 2013 PCI (please refer to questions 1.3 and 1.4) 2015 PCI (please refer to questions 1.5 and 1.6) 2013 PECI (please refer to questions 1.7 and 1.8) None of the above (jump to question 1.9) |
|-----|--|
| 1.3 | UNIQUE PROJECT CODE NAME IN THE 2013 UNION LIST OF PCIs (IF APPLICABLE) <sup>11</sup>  |

**1.5 UNIQUE PROJECT CODE NAME IN THE 2015 UNION LIST OF PCIs (IF APPLICABLE)** If your project also appears in the list of PCIs, please refer to its unique codename listed in the C(2015) 8052 final Annex of the regulation 347/2013

#### 1.6 PROJECT NAME IN THE 2015 UNION LIST OF PCIS (IF APPLICABLE)

PROJECT NAME IN THE 2013 UNION LIST OF PCIS (IF APPLICABLE)<sup>12</sup>

If your project also appears in the list of PCIs, please refer to its unique name listed in the C(2015) 8052 final Annex of the regulation 347/2013

12 http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN

<sup>11</sup> http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN





## 1.7 UNIQUE PROJECT CODE NAME IN THE 2013 LIST OF PECIS (IF APPLICABLE)<sup>13</sup>

#### 1.8 PROJECT NAME IN THE 2013 LIST OF PECIS (IF APPLICABLE)

Please refer to the document at Energy Community website<sup>14</sup>

#### 1.9 NAME OF THE PROJECT PROMOTER

Please submit the full legal name of the project promoter

# 1.10 NAME OF THE SHAREHOLDERS OF THE UNDERTAKING IMPLEMENTING THE INVESTMENT PROJECT

Please submit the full legal name of each undertaking, the percentage of its shareholding in the project and information on their main activities. In case one of the shareholders is an investment holding, please also provide information on the ultimate owner(s) of the investment holding.

| Full legal name of shareholder | Shareholding (in %) | Main activities of shareholder | Ultimate owner of investment holding (if |
|--------------------------------|---------------------|--------------------------------|--|
|                                |                     |                                | applicable)                              |
|                                |                     |                                |  |
|                                |                     |                                |  |
|                                |                     |                                |  |

#### 1.11 PROJECT WEBSITE ACCORDING TO ARTICLE 9(7) OF THE ADOPTED REGULATION

| 1.12 | HOSTING ENERGY COMMUNITY | CONTRACTING | <b>PARTIES</b> | (WHERE | THE | PROJECT | IS |
|------|--------------------------|-------------|----------------|--------|-----|---------|----|
|      | LOCATED)                 |             |                |        |     |         |    |
|      | Albania                  |             |                |        |     |         |    |
|      | Bosnia and Herzegovina   |             |                |        |     |         |    |
|      | Serbia                   |             |                |        |     |         |    |
|      | Kosovo*                  |             |                |        |     |         |    |
|      | Montenegro               |             |                |        |     |         |    |
|      | FYR Macedonia            |             |                |        |     |         |    |
|      | Moldova                  |             |                |        |     |         |    |
|      |                          |             |                |        |     |         |    |
|      |                          |             |                |        |     |         |    |

 $community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Investments/PECIs/List\_PECIs/$ 

 $community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Investments/PECIs/List\_PECIs/$ 

<sup>13</sup> https://www.energy-

<sup>14</sup> https://www.energy-





|        | 1             | Ukraine       |                      |          |                    |           |                       |
|--------|---------------|---------------|----------------------|----------|--------------------|-----------|-----------------------|
|        |               |               |                      | on statu | is, and is in line | e with UN | ISCR 1244 and the ICJ |
| Opini  | on on the Kos | sovo declarat | ion of independence. |          |                    |           |                       |
|        |               |               |                      |          |                    |           |                       |
|        |               |               |                      |          |                    |           |                       |
|        |               |               | COMMUNITY CON        |          |                    |           |                       |
|        | •             | nsidered in   | npacted where the    | projec   | t is not locate    | ed but wh | ere project's effects |
| are si | ignificant    |               |                      |          |                    |           |                       |
|        |               | Albania       |                      |          |                    |           |                       |
|        | ]             | Bosnia and    | l Herzegovina        |          |                    |           |                       |
|        | ,             | Serbia        |                      |          |                    |           |                       |
|        |               | Kosovo*       |                      |          |                    |           |                       |
|        | ]             | Montenegr     | О.                   |          |                    |           |                       |
|        | ]             | FYR Mace      | edonia               |          |                    |           |                       |
|        | ]             | Moldova       |                      |          |                    |           |                       |
|        | 1             | Ukraine       |                      |          |                    |           |                       |
|        | -             |               |                      | on statu | is, and is in line | e with UN | ISCR 1244 and the ICJ |
| Opini  | on on the Kos | sovo declarat | ion of independence. |          |                    |           |                       |
|        |               |               |                      |          |                    |           |                       |
| 1.14   | IMPACTE       | DEU MEM       | IBER STATES          |          |                    |           |                       |
| A co   | untry is con  | nsidered in   | npacted where the    | projec   | t is not locate    | d but wh  | ere project's effects |
| are si | ignificant*   |               | _                    |          |                    |           |                       |
|        | Austria       |               | Belgium              |          | Bulgaria           |           | Croatia               |
|        | Cyprus        |               | Czech Republic       |          | Denmark            |           | Estonia               |
|        | Finland       |               | France               |          | Germany            |           | Greece                |
| П      | Hungary       |               | Ireland              |          | Italy              |           | Latvia                |
| $\Box$ | Lithuania     |               | Luxembourg           |          | Malta              |           | Netherlands           |
|        | Poland        |               | Portugal             |          | Romania            |           | Slovakia              |
|        | Slovenia      |               | Spain                |          | Sweden             |           | United Kingdom        |
| _      |               |               | -                    |          |                    |           | C                     |
|        |               |               |                      |          |                    |           |                       |

#### 1.15 OTHER IMPACTED COUNTRIES

A country is considered impacted where the project is not located but where project's effects are significant

# 1.16 THE PECI IN THE NATIONAL NETWORK DEVELOPMENT PLAN

|   | Contracting | Project code | Project name |                         | HTML link |
|---|-------------|--------------|--------------|-------------------------|-----------|
|   | Party       | in NNDP      |              | publication in the NNDP | to NNDP   |
| 1 |             |              |              |                         |           |
| 2 |             |              |              |                         |           |
| 3 |             |              |              |                         |           |
| 4 |             |              |              |                         |           |
| 5 |             |              |              |                         |           |



## 1.17 RELEVANT COMPETENT AUTHORITIES

|   | Name of             | Postal               | Website of          |
|---|---------------------|----------------------|---------------------|
|   | competent authority | address of competent | competent authority |
|   |                     | authority            | addioney            |
| 1 |                     |                      |                     |
| 2 |                     |                      |                     |
| 3 |                     |                      |                     |
| 4 |                     |                      |                     |
| 5 |                     |                      |                     |

| 1.18<br> | ARE THERE OTHER PROJECTS DEPENDING ON THE REALISATION OF THE PROJECT? Yes, please list the projects: No    |
|----------|--|
| 1.19     | <b>DOES YOUR PROJECT DEPEND ON THE REALISATION OF ANY OTHER PROJECT?</b> Yes, please list the projects: No |
| 2        | TECHNICAL INFORMATION  |
| 2.1<br>  | Type of PECI Infrastructure Hydro-pumped storage Compressed air storage Electrochemical storage            |
| 2.2<br>  | TYPE OF INVESTMENT New investment Extension Replacement  |
| 2.3      | BRIEF PROJECT DESCRIPTION  |
| 2.4      | LOCATION OF THE PROJECT (COUNTRY)  |
| 2.5      | EXPECTED DATE OF COMMISSIONING (YEAR)  |
| 2.6      | EXPECTED LIFETIME OF INFRASTRUCTURE (YEARS FROM COMMISSIONING)   |



#### 2.7 CAPACITY AND PERFORMANCE INDICATORS

- pumping capacity (if applicable) (MW):discharge capacity (MW):
- storage capacity (MWh):net efficiency (%):
- purpose: reserve or arbitrage:planned utilisation hour:





# 2.8 If additional investment in the network is needed for the operation of the storage, list the additional investment need

|           | Description | Nominal power (MW) | Type of terrain |
|-----------|-------------|--------------------|-----------------|
| Section 1 |             |                    |                 |
| Section 2 |             |                    |                 |
| Section 3 |             |                    |                 |
| Section 4 |             |                    |                 |
| Section 5 |             |                    |                 |





#### 3 EXPECTED COSTS OF THE PROJECT

| 3.1 | PLEASE INDIC | CATE TOT | TAL CAPEX      | OF THE   | PROJECT  | FOR EACH  | YEAR   | OF THE |
|-----|--------------|----------|----------------|----------|----------|-----------|--------|--------|
|     | INVESTMENT   | PERIOD   | (INCLUDING     | MATER    | IALS ANI | O CONSTRU | JCTION | COSTS, |
|     | TEMPORARY S  | OLUTIONS | s) in 2016 rea | L MILLIO | N EUR    |           |        |        |

| Calendar  |  | , |  |  |  |  |
|-----------|--|---|--|--|--|--|
| year      |  |   |  |  |  |  |
| Cost      |  |   |  |  |  |  |
| (Real     |  |   |  |  |  |  |
| 2016      |  |   |  |  |  |  |
| million   |  |   |  |  |  |  |
| EUR)      |  |   |  |  |  |  |
| Cost of   |  |   |  |  |  |  |
| additiona |  |   |  |  |  |  |
| 1         |  |   |  |  |  |  |
| investme  |  |   |  |  |  |  |
| nt (real  |  |   |  |  |  |  |
| 2016      |  |   |  |  |  |  |
| million   |  |   |  |  |  |  |
| EUR)      |  |   |  |  |  |  |

Note: if you have listed additional investment need, please indicate the additional investmentas well

#### 3.2 ESTIMATED VARIATION IN CAPEX (+/-%)

#### 3.3 EXPECTED ANNUAL OPEX OF THE PROJECT IN 2016 REAL EUR

| Calendar  |  |  |  |  |  |
|-----------|--|--|--|--|--|
| year      |  |  |  |  |  |
| Cost      |  |  |  |  |  |
| (Real     |  |  |  |  |  |
| 2016      |  |  |  |  |  |
| EUR)      |  |  |  |  |  |
| Cost of   |  |  |  |  |  |
| additiona |  |  |  |  |  |
| 1         |  |  |  |  |  |
| investme  |  |  |  |  |  |
| nt (real  |  |  |  |  |  |
| 2016      |  |  |  |  |  |
| EUR)      |  |  |  |  |  |

| 3.4 | IF THE PROJECT WAS INCLUDED IN THE 2013 PECI LIST, HAS THE CAPEX ESTIMATE |
|-----|---|
|     | CHANGED?  |
|     | Yes   |
|     | No  |
|     | Don't know  |
|     |   |





Commissioning

| 3.5 HAVE YOU APPLIED FOR / DO YOU INTEND TO APPLY FOR OTHER FINANCING (EG. INSTRUMENT FOR PRE-ACCESSION ASSISTANCE OR NEIGHBOURHOOD INVESTMENT   |
|--|
| FACILITY)?  Yes  |
|  |
| No   |
| Already applied for, level of support in million EUR:  |
|  |
|  |
| 4 STATUS AND PROGRESS  |
| 4 STATUS AND I ROGRESS   |
| 4.1 Department of the property |
| 4.1 PLEASE INDICATE THE CURRENT STATUS OF THE PECI   |
| Consideration phase  |
| Planning approval  |
| Preliminary design studies   |
| Market test  |
| Preliminary investment decision  |
| Public consultation of Art.9(4) of Regulation 347/2013   |
| Permitting   |
| Financing secured  |
| Cross-border cost allocation request / decision  |
| Exemption request / decision   |
| Final investment decision  |
|  |
| Detailed design  |
| Tendering  |
| Construction   |
| Commissioning  |
|  |
| 4.2 PLEASE GIVE AN INDICATIVE IMPLEMENTATION SCHEDULE AS OF 2016 JANUARY   |
| Start date (month, year) End date (month, year)  |
| Consideration phase  |
| Planning approval  |
| Preliminary design studies   |
| Market test  |
| Preliminary investment decision  |
| Public consultation of Art.9(4) of   |
| Regulation 347/2013  |
| Permitting Financing secured   |
| Cross-border cost allocation request /   |
| decision (if applicable)   |
| Exemption request / decision (if   |
| applicable)  |
| Final investment decision  |
| Detailed design  |
| Tendering  |
| Construction   |





| 4.3     | IF YOUR PROJECT WAS INCLUDED IN TO BRIEF DESCRIPTION OF WORKS CONDUCTION   | THE 2013 PECI CANDIDATE LIST, PROVIDE A CTED SINCE 2013 (IF APPLICABLE) |
|---------|--|---|
| 4.4     | IF YOU ENCOUNTERED DELAY IN THE PREASON OF DELAY?  | ROJECT PROCESS, WHAT WAS THE EXTENT AND                                 |
| 4.5     | WHAT MEASURES DID YOU TAKE TO TAK  | CKLE THE DELAY?   |
| 4.6     | PLEASE LIST THE MAJOR RISKS AFFECT   | ING THE PROJECT   |
| 5       | ACCESS TO INFRASTRUCTUR  | RE  |
| 5.1<br> | ACCESS REGIME APPLICABLE TO THE IN<br>Regulated third party access<br>Negotiated third party access<br>Exemption from third party access | NFRASTRUCTURE   |
|         | IF THE INFRASTRUCTURE IS EXEMPTED CAPACITY AND TIMEFRAME mpted from – to (years) mpted capacity (TWh/year)                               | FROM TPA, PLEASE INDICATE THE EXEMPTED -                                |
| 5.3     | DO YOU EXPECT A GENERAL TARIFF<br>FINANCE INFRASTRUCTURE?<br>Yes<br>No   | INCREASE IN THE HOSTING COUNTRIES TO                                    |
| 5.4     | IF YES, PLEASE INDICATE THE LEVEL OF   |   |
| Host    | ting country   | Tariff increase (%)   |
|         |  |   |
|         |  |   |

#### **6 CONFIDENTIALITY**

We require all data indicated in the questionnaire to conduct the welfare analysis and evaluation of the projects. All cost data submitted in the questionnaire is considered confidential and will only be used for the evaluation and not made public within the project reports as well as at any meetings of the working group; only aggregated cost data that does



not allow to link the figures to individual investment projects may be presented in publications. All other submitted data and information is considered non-confidential unless if stated otherwise by project promoter.

Please list the number of the answers which you consider confidential and do not wish to disclose. Answers to questions which are not listed may be published on Energy Community website as part of the evaluation study.

#### 7 CONTACT DETAILS

Please designate two contact persons who can be requested for clarifications and additional information if necessary.

Primary contact

Secondary contact

Name of contact person Organisation Position Email address Phone number

<sup>\*</sup> including country dialling code



Questionnaire for the welfare evaluation of Projects of Energy Community Interest (PECIs) and Projects of Mutual Interest (PMIs) based on the Regulation 347/2013 as adopted by the Energy Community

## Gas interconnector projects

#### 1 PROJECT IDENTIFICATION

NAME OF THE PROJECT

1.1

| 1.2 | WAS THE PROJECT INCLUDED IN ANY OF THE FOLLOWING LIST OF PCIs OR PECIS? 2013 PCI (please refer to questions 1.3 and 1.4) 2015 PCI (please refer to questions 1.5 and 1.6) 2013 PECI (please refer to questions 1.7 and 1.8) None of the above (jump to question 1.9) |
|-----|--|
| 1.3 | UNIQUE PROJECT CODE NAME IN THE 2013 UNION LIST OF PCIS (IF APPLICABLE) <sup>15</sup>  |
| 1.4 | PROJECT NAME IN THE 2013 UNION LIST OF PCIs (IF APPLICABLE) <sup>16</sup>  |

**1.5** UNIQUE PROJECT CODE NAME IN THE **2015** UNION LIST OF PCIs (IF APPLICABLE) If your project also appears in the list of PCIs, please refer to its unique codename listed in the C(2015) 8052 final Annex of the regulation 347/2013

#### 1.6 PROJECT NAME IN THE 2015 UNION LIST OF PCIS (IF APPLICABLE)

If your project also appears in the list of PCIs, please refer to its unique name listed in the  $C(2015)\ 8052$  final Annex of the regulation 347/2013

16 http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN

40

<sup>15</sup> http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN





#### 1.7 UNIQUE PROJECT CODE NAME IN THE 2013 LIST OF PECIS (IF APPLICABLE)<sup>17</sup>

| 1.8 Project name in the 2013 list of PECIs (if applicab |
|---|
|---|

Please refer to the document at Energy Community website<sup>18</sup>

#### 1.9 NAME OF THE PROJECT PROMOTER(S)

Please submit the full legal name of the project promoter(s)

# 1.10 NAME OF THE SHAREHOLDERS OF THE UNDERTAKING IMPLEMENTING THE INVESTMENT PROJECT

Please submit the full legal name of each undertaking, the percentage of its shareholding in the project and information on their main activities. In case one of the shareholders is an investment holding, please also provide information on the ultimate owner(s) of the investment holding.

| Full legal name of | Shareholding | Main activities of | Ultimate owner of      |
|--------------------|--------------|--------------------|------------------------|
| shareholder        | (in %)       | shareholder        | investment holding (if |
|                    |              |                    | applicable)            |
|                    |              |                    |                        |
|                    |              |                    |                        |
|                    |              |                    |                        |
|                    |              |                    |                        |
|                    |              |                    |                        |

#### 1.11 WEBSITE ACCORDING TO ARTICLE 9(7) OF THE ADOPTED REGULATION

#### 1.12 CODE OF THE PROJECT IN THE EU TYNDP (IF APPLICABLE)

| 1.13   | HOSTING ENERGY COMMUNITY | CONTRACTING | PARTIES | (WHERE | тне | PROJECT | IS |
|--------|--------------------------|-------------|---------|--------|-----|---------|----|
|        | LOCATED)                 |             |         |        |     |         |    |
|        | Albania                  |             |         |        |     |         |    |
|        | Bosnia and Herzegovina   |             |         |        |     |         |    |
|        | Serbia                   |             |         |        |     |         |    |
| $\Box$ | Kosovo*                  |             |         |        |     |         |    |
|        | Montenegro               |             |         |        |     |         |    |
| П      | FYR Macedonia            |             |         |        |     |         |    |
|        |                          |             |         |        |     |         |    |

<sup>&</sup>lt;sup>17</sup> https://www.energy-community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Invest ments/PECIs/List\_PECI

 $<sup>^{18}\</sup> https://www.energy-community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Investments/PECIs/List\_PECI$ 





| Moldova Ukraine  * This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.  Note: When the project directly crosses the border of one or more Contracting Parties and one or more Member States, in order to be considered to be a project of Energy Community Interest, it shall be first granded a status of project of common interest within the European Union. (Adaptation of Regulation 347/2013, Article 4 section 5)  Project that directly crosses the border of one or more Contracting Parties and one or more Member States which is not granted a status of project of common interest within the european Union may be developed on a voluntary basis as a project of Mutual Interest. (Adaptation of Regulation 347/2013, Article 4 section 6) |                         |                 |                            |          |                            |           |                           |
|--|-------------------------|-----------------|----------------------------|----------|----------------------------|-----------|---------------------------|
| <b>1.14</b>  | HOSTING EU N<br>Austria | <b>ИЕМВ</b>     | ER STATES (WHER<br>Belgium | E THE    | PROJECT IS LOG<br>Bulgaria | CATED     | )<br>Croatia              |
| Ħ  | Cyprus                  | Ħ               | Czech Republic             | Ħ        | Denmark                    | Ħ         | Estonia                   |
| Ħ  | Finland                 | П               | France                     | П        | Germany                    | П         | Greece                    |
| Ħ  | Hungary                 | П               | Ireland                    | П        | Italy                      | П         | Latvia                    |
| П  | Lithuania               | П               | Luxembourg                 | П        | Malta                      | П         | Netherlands               |
| П  | Poland                  | П               | Portugal                   | Ī        | Romania                    | П         | Slovakia                  |
| П  | Slovenia                | Ī               | Spain                      | Ī        | Sweden                     | Ī         | United Kingdom            |
|  |                         |                 | UNTRIES (WHERE             |          |                            | TED)      |                           |
|  |                         |                 | COMMUNITY CONT             |          |                            | 4 1       | . 42 CC 4                 |
|  | -                       | rea im          | ipacted where the          | projeci  | is not located t           | out wn    | ere project's effects     |
| are si   | gnificant*              |                 |                            |          |                            |           |                           |
| H  | Alba                    |                 | Hamaaaavina                |          |                            |           |                           |
| H  | Serbi                   |                 | Herzegovina                |          |                            |           |                           |
| H  | Koso                    |                 |                            |          |                            |           |                           |
| H  |                         |                 | 2                          |          |                            |           |                           |
| H  |                         | enegro<br>Maceo |                            |          |                            |           |                           |
| H  | Mold                    |                 | uoma                       |          |                            |           |                           |
| H  | Ukrai                   |                 |                            |          |                            |           |                           |
| *Signi   |                         |                 | ı reverse flow capaciti    | es or cl | nanges to the capal        | bility to | transmit gas across the   |
| border   | rs of Contracting P     | arties a        | nd/or Member States o      |          |                            | -         | ed to the situation prior |
|  | commissioning of t      |                 |                            |          | 1 1.                       | '.1 TIN   | CCD 1044 1.4 ICI          |
|  |                         |                 | on of independence.        | on statt | is, and is in line v       | vith UN   | SCR 1244 and the ICJ      |
| Opinic   | on the Rosovo d         | cciarati        | on or independence.        |          |                            |           |                           |
| 1 17   | IMPACTED EU             | Мем             | DED STATES                 |          |                            |           |                           |
|  |                         |                 |                            | nroiect  | is not located b           | nit wh    | ere project's effects     |
|  | gnificant*              | ica iii         | ipacted where the          | project  | is not rocated t           | out WII   | ere project s'errects     |
|  | Austria                 |                 | Belgium                    |          | Bulgaria                   |           | Croatia                   |
| Ħ  | Cyprus                  | Ħ               | Czech Republic             | П        | Denmark                    | П         | Estonia                   |
| Ħ  | Finland                 | Ħ               | France                     | Ħ        | Germany                    | Ħ         | Greece                    |
|  | Hungary                 |                 | Ireland                    |          | Italy                      |           | Latvia                    |
|  | Lithuania               |                 | Luxembourg                 |          | Malta                      |           | Netherlands               |
|  | Poland                  |                 | Portugal                   |          | Romania                    |           | Slovakia                  |
|  | Slovenia                |                 | Spain                      |          | Sweden                     |           | United Kingdom            |





\*Significant means investment in reverse flow capacities or changes to the capability to transmit gas across the borders of Contracting Parties and/or Member States concerned by at least 10% compared to the situation prior to the commissioning of the project

#### 1.18 OTHER IMPACTED COUNTRIES

A country is considered impacted where the project is not located but where project's effects are significant

#### 1.19 THE PECI IN THE NATIONAL NETWORK DEVELOPMENT PLAN

|   | Contracting | Project code | Project name |                | HTML link |
|---|-------------|--------------|--------------|----------------|-----------|
|   | Party       | in NNDP      |              | publication in | to NNDP   |
|   |             |              |              | the NNDP       |           |
| 1 |             |              |              |                |           |
| 2 |             |              |              |                |           |
| 3 |             |              |              |                |           |
| 4 |             |              |              |                |           |
| 5 |             |              |              |                |           |

#### 1.20 RELEVANT COMPETENT AUTHORITIES

|   | Name                | of | Postal            |    | Website of          |
|---|---------------------|----|-------------------|----|---------------------|
|   | competent authority |    | address competent | of | competent authority |
|   |                     |    | authority         |    |                     |
| 1 |                     |    |                   |    |                     |
| 2 |                     |    |                   |    |                     |
| 3 |                     |    |                   |    |                     |
| 4 |                     |    |                   |    |                     |
| 5 |                     |    |                   |    |                     |

| 1.21     | ARE THERE OTHER PROJECTS DEPENDING ON THE REALISATION OF THE PROJECT? Yes, please list the projects: No    |
|----------|--|
| 1.22<br> | <b>DOES YOUR PROJECT DEPEND ON THE REALISATION OF ANY OTHER PROJECT?</b> Yes, please list the projects: No |
| 2 7      |  |
| 2        | TECHNICAL INFORMATION  |
| 2.1      | TECHNICAL INFORMATION  Type of PECI infrastructure   |
|          | TYPE OF PECI INFRASTRUCTURE New pipeline   |
|          | Type of PECI infrastructure New pipeline Pipeline extension  |
|          | TYPE OF PECI INFRASTRUCTURE  New pipeline  Pipeline extension  New compressor station                      |
|          | Type of PECI infrastructure New pipeline Pipeline extension  |





#### 2.2 Brief Project description

2.3 ORIGIN POINT (LOCATION, COUNTRY):





- 2.4 END POINT (LOCATION, COUNTRY):
- 2.5 EXPECTED DATE OF COMMISSIONING (YEAR)
- 2.6 EXPECTED LIFETIME OF INFRASTRUCTURE (YEARS FROM COMMISSIONING)



#### 2.7 DETAILED TECHNICAL INFORMATION OF THE PROJECT BY SECTIONS

You are free to divide the project to different sections, if pipeline enables bidirectional gas flows, please provide technical capacities for both directions. If more than two countries are affected, please indicate capacity on all borders in both directions.

|           | Description | Length (km) | Diameter<br>(mm) | Total<br>number of<br>compressor<br>stations | Compressor<br>power (MW) | Technical Entry Capacity from country A to B (GWh/day)* | Technical Exit Capacity from country A to B (GWh/day)* | Direction<br>of flow** | Maximum<br>operation<br>pressure<br>(bar(g)) |
|-----------|-------------|-------------|------------------|--|--------------------------|---|--|------------------------|--|
| Section 1 |             |             |                  |  |                          |   |  |                        |  |
| Section 2 |             |             |                  |  |                          |   |  |                        |  |
| Section 3 |             |             |                  |  |                          |   |  |                        |  |
| Section 4 |             |             |                  |  |                          |   |  |                        |  |
| Section 5 |             |             |                  |  |                          |   |  |                        |  |

<sup>\*</sup> in case of existing pipeline, list capacity added to existing infrastructure

<sup>\*\*</sup> point of origin and point of destination of flow (please also indicate if project enables flows in both directions)





## 3 EXPECTED COSTS OF THE PROJECT

|        | INVEST                                  | <b>IMEN</b> 1  | r PERIO | OD (IN   | CAPEX<br>CLUDING<br>2016 REA | MATE           | RIALS    | AND C   | EACH<br>ONSTRU |         | OF THE COSTS, |
|--------|---|----------------|---------|----------|------------------------------|----------------|----------|---------|----------------|---------|---------------|
| Calen  |   |                |         |          |                              |                |          |         |                |         |               |
| year   |   |                |         |          |                              |                |          |         |                |         |               |
| Cost   |   |                |         |          |                              |                |          |         |                |         |               |
| (Real  |   |                |         |          |                              |                |          |         |                |         |               |
| 2016   |   |                |         |          |                              |                |          |         |                |         |               |
| millio | n                                       |                |         |          |                              |                |          |         |                |         |               |
| EUR)   |   |                |         |          |                              |                |          |         |                |         |               |
| 3.2    | ESTIM                                   | ATED           | VARIATI | ON IN C  | APEX (+                      | -/ <b>-</b> %) |          |         |                |         |               |
| 3.3    | Expec                                   | CTED A         | NNUAL ( | OPEX o   | F THE PR                     | OJECT II       | N 2016 R | EAL EUI | R              |         |               |
| Calen  |   |                |         |          |                              |                |          |         |                |         |               |
| year   |   |                |         |          |                              |                |          |         |                |         |               |
| Cost   |   |                |         |          |                              |                |          |         |                |         |               |
| (Real  |   |                |         |          |                              |                |          |         |                |         |               |
| 2016   |   |                |         |          |                              |                |          |         |                |         |               |
| EUR)   |   |                |         |          |                              |                |          |         |                |         |               |
|        | IF THE<br>CHANG<br>Yes<br>No<br>Don't l | GED?           | ECT WAS | S INCLUI | DED IN TI                    | не 2013        | PECI LI  | ST, HAS | тне СА         | PEX es: | ГІМАТЕ        |
|        | Instri<br>Facili<br>Yes<br>No           | UMENT<br>ITY)? | r for P | PRE-ACC  | O YOU I                      | ASSISTAN       | NCE OR   |         |                |         |               |



## 4 STATUS AND PROGRESS

| <b>4.1</b> | PLEASE INDICATE THE CURRENT STATUS OF THE PECI  |
|------------|---|
| Please     | tick all boxes that apply   |
|            | Consideration phase   |
|            | Planning approval   |
|            | Preliminary design studies  |
|            | Market test   |
|            | Preliminary investment decision   |
| $\Box$     | Public consultation of Art.9(4) of Regulation 347/2013  |
| $\Box$     | Permitting  |
| $\Box$     | Financing secured   |
| Π          | Cross-border cost allocation request / decision   |
| Ħ          | Exemption request / decision  |
| Ħ          | Final investment decision taken   |
| Ħ          | Detailed design   |
| Ħ          | Tendering   |
| Ħ          | Construction  |
| Ħ          | Commissioning   |
| ш          | Commissioning   |
| 4.2        | PLEASE GIVE AN INDICATIVE IMPLEMENTATION SCHEDULE AS OF 2016 JANUARY  Start date (month, year) End date (month, year) |
|            | eration phase   |
|            | g approval  |
| Market     | nary design studies   |
|            | nary investment decision  |
|            | consultation of Art.9(4) of   |
|            | ion 347/2013  |
| Permitti   |   |
|            | ng secured  |
|            | order cost allocation request / a (if applicable)   |
| Exempt     |   |
| applical   | 1   |
|            | vestment decision   |
|            | l design  |
| Tenderi    |   |
| Constru    |   |
| Commi      | ssioning  |

- 4.3 IF YOUR PROJECT WAS INCLUDED IN THE 2013 PECI CANDIDATE LIST, PROVIDE A BRIEF DESCRIPTION OF WORKS CONDUCTED SINCE 2013 (IF APPLICABLE)
- 4.4 IF YOU ENCOUNTERED DELAY IN THE PROJECT PROCESS, WHAT WAS THE EXTENT AND REASON OF DELAY?



#### 4.6 PLEASE LIST THE MAJOR RISKS AFFECTING THE PROJECT

| 5   | ACCESS TO INFRASTRUCTURE   |
|---|--|
| 5.1   | ACCESS REGIME APPLICABLE TO THE INFRASTRUCTURE Regulated third party access Negotiated third party access Exemption from third party access  |
|   | IF THE INFRASTRUCTURE IS EXEMPTED FROM TPA, PLEASE INDICATE THE EXEMPTED CAPACITY AND TIMEFRAME mpted from – to (years) - mpted capacity (TWh/year)  |
| 5.3<br>                                       | IS A LONG TERM SUPPLY CONTRACT DEDICATED TO THE INFRASTRUCTURE? Yes  |
| Flex<br>off-to<br>Pric<br>Con<br>Con<br>*plea | IF A LONG-TERM CONTRACT IS DEDICATED TO THE INFRASTRUCTURE, PLEASE INDICATE THE DETAILS OF THE CONTRACT mual contracted quantity (TWh/year) take, TWh/year) ing linked to TTF or oil indexed? tract duration (years) tract route*  ase indicate the possible route of the long term contract originating from the exporting country heading to importing country |

#### 5.5 ACCESS ENTRY AND EXIT TARIFF

Please give an estimation on the access tariff for the newly commissioned infrastructure element (EUR/MWh)

| Country (origin) | Country       | Entry     | tariff | Exit      | tariff |
|------------------|---------------|-----------|--------|-----------|--------|
|                  | (destination) | (EUR/MWh) |        | (EUR/MWh) |        |
|                  |               |           |        |           |        |
|                  |               |           |        |           |        |
|                  |               |           |        |           |        |
|                  |               |           |        |           |        |





| <b>5.6</b> | DO YOU EXPECT A GENERAL TARIFF<br>FINANCE INFRASTRUCTURE?<br>Yes<br>No | F INCREASE IN THE HOSTING COUNTRIES TO |
|------------|--|--|
| 5.7        | IF YES, PLEASE INDICATE THE LEVEL OF                                   | F GENERAL TARIFF INCREASE              |
| Hosti      | ing country  | Tariff increase (%)                    |
|            |  |  |
|            |  |  |
| <b>5.8</b> | ARE THERE BINDING OPEN SEASON CON<br>Yes<br>No                         | NTRACTS IN FORCE?                      |
| 5.9        | IF THERE ARE, HOW MUCH OF THE CAPAREVENUES RECEIVED?                   | ACITY WAS CONTRACTED AND WHAT WERE THE |
| Capa       | city contracted (TWh/year)   |  |
| Open       | season revenues (million EUR)  |  |
| Dura       | tion of contract (from year-to year)                                   | -                                      |
|            |  |  |

#### 6 CONFIDENTIALITY

We require all data indicated in the questionnaire to conduct the welfare analysis and evaluation of the projects. All cost data submitted in the questionnaire is considered confidential and will only be used for the evaluation and not made public within the project reports as well as at any meetings of the working group; only aggregated cost data that does not allow to link the figures to individual investment projects may be presented in publications. All other submitted data and information is considered non-confidential unless if stated otherwise by project promoter.

Please list the number of the answers which you consider confidential and do not wish to disclose. Answers to questions which are not listed may be published on Energy Community website as part of the evaluation study.

#### 7 CONTACT DETAILS

Please designate two contact persons who can be requested for clarifications and additional information if necessary.

Primary contact

Secondary contact

Name of contact person Organisation Position Email address Phone number





\* including country dialling code



# Questionnaire for the welfare evaluation of Projects of Energy Community Interest (PECIs) and Projects of Mutual Interest (PMIs) based on the Regulation 347/2013 as adopted by the Energy Community

# LNG terminal projects

#### 1 PROJECT IDENTIFICATION

NAME OF THE PROJECT

1.1

| 1.2 | WAS THE PROJECT INCLUDED IN ANY OF THE FOLLOWING LIST OF PCIS OR PECIS? 2013 PCI (please refer to questions 1.3 and 1.4) 2015 PCI (please refer to questions 1.5 and 1.6) 2013 PECI (please refer to questions 1.7 and 1.8) None of the above (jump to question 1.9) |
|-----|--|
| 1.3 | UNIQUE PROJECT CODE NAME IN THE 2013 UNION LIST OF PCIS (IF APPLICABLE) <sup>19</sup>  |

**1.5** UNIQUE PROJECT CODE NAME IN THE **2015** UNION LIST OF PCIs (IF APPLICABLE) If your project also appears in the list of PCIs, please refer to its unique codename listed in the C(2015) 8052 final Annex of the regulation 347/2013

#### 1.6 PROJECT NAME IN THE 2015 UNION LIST OF PCIS (IF APPLICABLE)

PROJECT NAME IN THE 2013 UNION LIST OF PCIS (IF APPLICABLE)<sup>20</sup>

If your project also appears in the list of PCIs, please refer to its unique name listed in the  $C(2015)\ 8052$  final Annex of the regulation 347/2013

<sup>20</sup> http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN

<sup>19</sup> http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN





#### 1.7 UNIQUE PROJECT CODE NAME IN THE 2013 LIST OF PECIS (IF APPLICABLE)<sup>21</sup>

| 1.8 | PROJECT NAME IN | <b>THE 2013 LIST</b> | OF PECIS (I | F APPLICABLE |
|-----|-----------------|----------------------|-------------|--------------|
|-----|-----------------|----------------------|-------------|--------------|

Please refer to the document at Energy Community website<sup>22</sup>

#### 1.9 NAME OF THE PROJECT PROMOTER(S)

Please submit the full legal name of the project promoter(s)

# 1.10 NAME OF THE SHAREHOLDERS OF THE UNDERTAKING IMPLEMENTING THE INVESTMENT PROJECT

Please submit the full legal name of each undertaking, the percentage of its shareholding in the project and information on their main activities. In case one of the shareholders is an investment holding, please also provide information on the ultimate owner(s) of the investment holding.

| Full legal name of | Shareholding | Main activities of | Ultimate owner of      |
|--------------------|--------------|--------------------|------------------------|
| shareholder        | (in %)       | shareholder        | investment holding (if |
|                    |              |                    | applicable)            |
|                    |              |                    |                        |
|                    |              |                    |                        |
|                    |              |                    |                        |
|                    |              |                    |                        |
|                    |              |                    |                        |

#### 1.11 PROJECT WEBSITE ACCORDING TO ARTICLE 9(7) OF THE ADOPTED REGULATION

#### 1.12 CODE OF THE PROJECT IN THE EU TYNDP (IF APPLICABLE)

| 1.13 | HOSTING ENERGY COMMUNITY | CONTRACTING | PARTIES | (WHERE | THE | PROJECT | IS |
|------|--------------------------|-------------|---------|--------|-----|---------|----|
|      | LOCATED)                 |             |         |        |     |         |    |
|      | Albania                  |             |         |        |     |         |    |
|      | Bosnia and Herzegovina   |             |         |        |     |         |    |
|      | Serbia                   |             |         |        |     |         |    |
|      | Kosovo*                  |             |         |        |     |         |    |
|      |                          |             |         |        |     |         |    |
|      |                          |             |         |        |     |         |    |

 $community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Investments/PECIs/List\_PECIs/$ 

 $community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Investments/PECIs/List\_PECIs/$ 

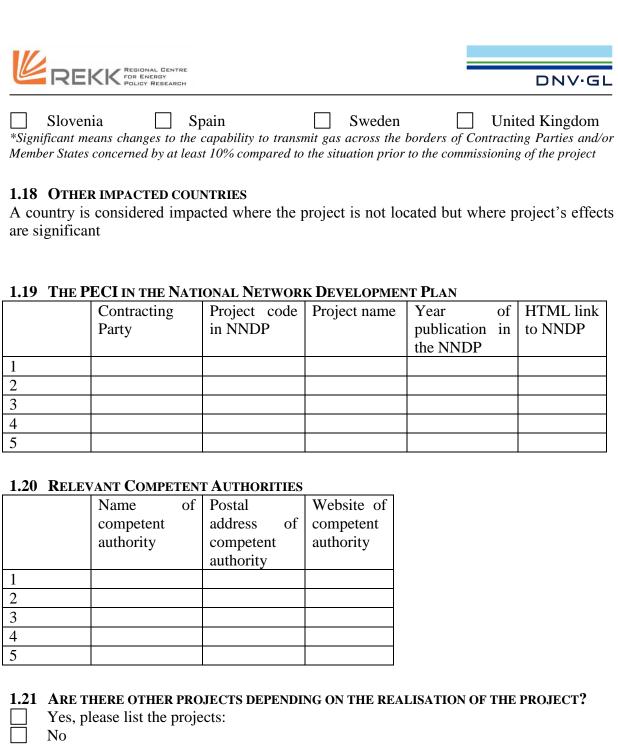
<sup>&</sup>lt;sup>21</sup> https://www.energy-

<sup>&</sup>lt;sup>22</sup> https://www.energy-





| Montenegro FYR Macedonia Moldova Ukraine * This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence. Note: When the project directly crosses the border of one or more Contracting Parties and one or more Member States, in order to be considered to be a project of Energy Community Interest, it shall be first granded a status of project of common interest within the European Union. (Adaptation of Regulation 347/2013, Article 4 section 5) Project that directly crosses the border of one or more Contracting Parties and one or more Member States which is not granted a status of project of common interest within the european Union may be developed on a voluntary basis as a project of Mutual Interest. (Adaptation of Regulation 347/2013, Article 4 section 6) |                                 |           |                                 |        |                  |           |                        |
|--|---------------------------------|-----------|---------------------------------|--------|------------------|-----------|------------------------|
| 1 14   | HOSTING EI                      | Меме      | BER STATES (WHER                | т тнг  | PROJECT IS I     | OCATED    | ))                     |
| T.14   | Austria                         |           | Belgium                         |        | Bulgaria         |           | Croatia                |
| H  | Cyprus                          | H         | Czech Republic                  | H      | Denmark          | H         | Estonia                |
| H  | Finland                         | H         | France                          | H      | Germany          | H         | Greece                 |
| H  | Hungary                         | H         | Ireland                         | H      | Italy            | H         | Latvia                 |
| H  | Lithuania                       | H         | Luxembourg                      | H      | Malta            | H         | Netherlands            |
| H  | Poland                          | H         | Portugal                        | H      | Romania          | H         | Slovakia               |
| H  | Slovenia                        | H         | Spain                           | H      | Sweden           | H         | United Kingdom         |
| 1.15   |                                 | ING CO    | UNTRIES (WHERE                  | ГНЕ РІ |                  | ATED)     | omed ranguom           |
| 1.16   | IMPACTED E                      | NERGY     | COMMUNITY CONT                  | RACT   | ING PARTIES      |           |                        |
|  |                                 |           |                                 |        |                  | l but wh  | ere project's effects  |
|  | gnificant*                      |           | r r                             |        |                  |           | respective services    |
|  | _                               | ania      |                                 |        |                  |           |                        |
| Ħ  |                                 |           | Herzegovina                     |        |                  |           |                        |
| Ħ  | Ser                             |           | Tierzegovina                    |        |                  |           |                        |
| Ħ  |                                 | SOVO**    |                                 |        |                  |           |                        |
| Ħ  |                                 | ntenegr   | ·0                              |        |                  |           |                        |
| Ħ  |                                 | R Mace    |                                 |        |                  |           |                        |
| Ħ  |                                 | ldova     | domu                            |        |                  |           |                        |
| Ħ  |                                 | aine      |                                 |        |                  |           |                        |
| *Significant means changes to the capability to transmit gas across the borders of Contracting Parties and/or Member States concerned by at least 10% compared to the situation prior to the commissioning of the project ** This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.   |                                 |           |                                 |        |                  |           |                        |
| 1 17   | IMPACTED E                      | II Men    | IDED CTATES                     |        |                  |           |                        |
|  |                                 |           |                                 | rojec  | t is not located | l but syb | ere project's effects  |
|  | ignificant*                     | icica iii | ilpacted where the p            | лојсс  | t is not located | i out wh  | icic project s criects |
|  | Austria                         |           | Belgium                         |        | Bulgaria         |           | Croatia                |
| H  | Cyprus                          | H         | Czech Republic                  | H      | Denmark          | H         | Estonia                |
| H  | • •                             | 님         | -                               | 님      |                  | 片         |                        |
|  | Hinland                         |           | France                          | 1 1    | ( termany        |           | Careece                |
| $\Box$   | Finland<br>Hungary              | $\vdash$  | France<br>Ireland               | H      | Germany<br>Italy | H         | Greece<br>Latvia       |
|  | Finland<br>Hungary<br>Lithuania |           | France<br>Ireland<br>Luxembourg |        | Italy<br>Malta   |           | Latvia Netherlands     |



|          | Yes, please list the projects:<br>No   |
|----------|--|
| 1.22<br> | <b>DOES YOUR PROJECT DEPEND ON THE REALISATION OF ANY OTHER PROJECT?</b> Yes, please list the projects: No |
| 2        | TECHNICAL INFORMATION  |
| 2.1      | TYPE OF PECI INFRASTRUCTURE FSRU   |





| 2.2 | BRIEF PROJECT DESCRIPTION                                      |
|-----|--|
| 2.3 | LOCATION OF THE TERMINAL (COUNTRY):                            |
| 2.4 | EXPECTED DATE OF COMMISSIONING (YEAR)                          |
| 2.5 | EXPECTED LIFETIME OF INFRASTRUCTURE (YEARS FROM COMMISSIONING) |
|     |  |
| 2.6 | DOES THE FACILITY ALLOW FOR MARINE BUNKERING OR FUELLING LAND  |
|     | TRANSPORT? Marine bunkering                                    |
|     | Land transport fuelling  |
|     | None of the above  |
|     |  |
| 2.7 | DOES THE FACILITY OFFER CARGO RELOADING?                       |
|     | Yes  |
|     | No   |



#### 2.8 DETAILED TECHNICAL INFORMATION OF THE PROJECT BY SECTIONS

| Maximum<br>annual<br>capacity<br>(TWh/year) | Maximum<br>sendout<br>capacity<br>(GWh/day) | Storage capacity (GWh) |
|---|---|------------------------|
|   |   |                        |

| 2.9 | IS THERE A NEED FOR ADDITIONAL NETWORK INVESTMENTS – CONNECTING THE LNG |
|-----|---|
|     | TERMINAL WITH THE GAS NETWORKS OF ANOTHER COUNTRY / MARKET?             |
|     | Yes   |
|     | No  |
|     |   |

# 2.10 IF ADDITIONAL INVESTMENTS ARE NEEDED, PLEASE LIST THE INVESTMENT ACCORDING TO THE TABLE BELOW

You are free to divide the project to different sections, if pipeline enables bidirectional gas flows, please provide technical capacities for both directions. If more than two countries are affected, please indicate capacity on all borders in both directions.

|               | Descripti<br>on | Lengt<br>h<br>(km) | Diamet<br>er<br>(mm) | Total<br>number<br>of<br>compress<br>or<br>stations | Compress<br>or power<br>(MW) | Technical Entry Capacity from country A to B (GWh/day )* | Technical Exit Capacity from country A to B (GWh/day )* | Directio<br>n of<br>flow** | Maximu<br>m<br>operatio<br>n<br>pressure<br>(bar(g)) |
|---------------|-----------------|--------------------|----------------------|---|------------------------------|--|---|----------------------------|--|
| Sectio<br>n 1 |                 |                    |                      |   |                              |  |   |                            |  |
| Sectio<br>n 2 |                 |                    |                      |   |                              |  |   |                            |  |
| Sectio<br>n 3 |                 |                    |                      |   |                              |  |   |                            |  |
| Sectio<br>n 4 |                 |                    |                      |   |                              |  |   |                            |  |
| Sectio<br>n 5 |                 |                    |                      |   |                              |  |   |                            |  |

<sup>\*</sup> in case of existing pipeline, list capacity added to existing infrastructure

<sup>\*\*</sup> point of origin and point of destination of flow (please also indicate if project enables flows in both directions)





## 3 EXPECTED COSTS OF THE PROJECT

| 3.1   | INVE  | STMEN       | Γ PERIO | OD (IN     | CLUDING      |           | ERIALS        | AND C      | R EACH<br>CONSTRU |           | OF THE COSTS, |
|-------|---|-------------|---------|------------|--------------|-----------|---------------|------------|-------------------|-----------|---------------|
|       |   | PORARY      | SOLUTI  | ONS) IN 2  | 2016 REA     | AL MILLI  | <u>on EUR</u> |            |                   | 1         | 1             |
| Cale  | ndar  |             |         |            |              |           |               |            |                   |           |               |
| year  |   |             |         |            |              |           |               |            |                   |           |               |
| Cost  |   |             |         |            |              |           |               |            |                   |           |               |
| (Rea  | 1   |             |         |            |              |           |               |            |                   |           |               |
| 2016  |   |             |         |            |              |           |               |            |                   |           |               |
| milli |   |             |         |            |              |           |               |            |                   |           |               |
| EUR   |   |             |         |            |              |           |               |            |                   |           |               |
|       | ,   | nit CAP     | EX valu | es net of  | i<br>hunkeri | ng relate | ed invest     | ment ind   | rlude on          | lv regasi | fication      |
|       |   | u ci inject |         | es nei oj  | ounceri      | ng retuit | a mresn       | meni, in   | since on          | y regusi  | jicuitori     |
| ана р | πρειιι  | ie injeci   | ion     |            |              |           |               |            |                   |           |               |
|       |   |             |         |            |              |           |               |            |                   |           |               |
| 3.2   | Esti  | MATED       | VARIATI | ON IN C    | APEX (-      | +/-%)     |               |            |                   |           |               |
|       |   |             |         |            |              |           |               |            |                   |           |               |
|       |   |             |         |            |              |           |               |            |                   |           |               |
| 3.3   | Expi  | ECTED A     | NNIIAI. | OPEXO      | F THE PE     | ROJECT I  | n 2016 r      | EAL EU     | R                 |           |               |
| Cale  |   | CILD        |         |            |              | logeri    |               |            |                   |           |               |
|       | iidai   |             |         |            |              |           |               |            |                   |           |               |
| year  |   |             |         |            |              |           |               |            |                   |           |               |
|       |   |             |         |            |              |           |               |            |                   |           |               |
| (Rea  |   |             |         |            |              |           |               |            |                   |           |               |
| 2016  |   |             |         |            |              |           |               |            |                   |           |               |
| EUR   | .)  |             |         |            |              |           |               |            |                   |           |               |
| 3.4   | Ir TI   | HE PROI     | ECT WA  | S INCLUI   | OFD IN T     | не 2013   | PECI 1.1      | IST HAS    | THE CA            | PEX FS    | ГІМАТЕ        |
| J.1   |   | NGED?       | ECI WI  | J II (CLC) | DED IIV I    | IIE 2015  | LCIL          | 101, 11110 | THE CIT           | 1 121 15  |               |
|       | Yes   | IGED.       |         |            |              |           |               |            |                   |           |               |
| H     | No  |             |         |            |              |           |               |            |                   |           |               |
| H     |   | 4 1         |         |            |              |           |               |            |                   |           |               |
| Ш     | Don   | t know      |         |            |              |           |               |            |                   |           |               |
|       |   |             |         |            |              |           |               |            |                   |           |               |
| 3.5   | HAV   | E YOU A     | APPLIED | FOR / D    | OO YOU       | INTEND    | TO APPL       | Y FOR      | OTHER F           | INANCIN   | IG (EG.       |
|       | INST  | RUMEN       | T FOR I | PRE-ACC    | ESSION       | ASSISTA   | NCE OR        | NEIGHB     | OURHOO            | D INVES   | STMENT        |
|       | FACI  | LITY)?      |         |            |              |           |               |            |                   |           |               |
|       | Yes   |             |         |            |              |           |               |            |                   |           |               |
|       | No  |             |         |            |              |           |               |            |                   |           |               |
|       | Already applied for, level of support in million EUR: |             |         |            |              |           |               |            |                   |           |               |



#### 4 STATUS AND PROGRESS

| 4.1 PLEASE INDICATE THE CURRI                                   | ENT STATUS OF THE PE     | CI                       |
|---|--------------------------|--------------------------|
| Consideration phase   |                          |                          |
| Planning approval   |                          |                          |
| Preliminary design studies                                      |                          |                          |
| Market test   |                          |                          |
| Preliminary investment decision                                 |                          |                          |
| Public consultation of Art.9(4) of Reg                          | gulation 347/2013        |                          |
| Permitting  | •                        |                          |
| Financing secured   |                          |                          |
| Cross-border cost allocation request /                          | decision                 |                          |
| Exemption request / decision                                    |                          |                          |
| Final investment decision                                       |                          |                          |
| Detailed design   |                          |                          |
| Tendering   |                          |                          |
| Construction  |                          |                          |
| Commissioning   |                          |                          |
| 4.2 PLEASE GIVE AN INDICATIVE                                   | IMPLEMENTATION SCH       | EDULE AS OF 2016 JANUARY |
|   | Start date (month, year) | End date (month, year)   |
| Consideration phase   |                          |                          |
| Planning approval   |                          |                          |
| Preliminary design studies<br>Market test                       |                          |                          |
| Preliminary investment decision                                 |                          |                          |
| Public consultation of Art.9(4) of                              |                          |                          |
| Regulation 347/2013   |                          |                          |
| Permitting  |                          |                          |
| Financing secured   |                          |                          |
| Cross-border cost allocation request / decision (if applicable) |                          |                          |
| Exemption request / decision (if                                |                          |                          |
| applicable)   |                          |                          |
| Final investment decision                                       |                          |                          |
| Detailed design   |                          |                          |
| Tendering   |                          |                          |
| Construction  |                          |                          |
| Commissioning   |                          |                          |

- 4.3 IF YOUR PROJECT WAS INCLUDED IN THE 2013 PECI CANDIDATE LIST, PROVIDE A BRIEF DESCRIPTION OF WORKS CONDUCTED SINCE 2013 (IF APPLICABLE)
- 4.4 IF YOU ENCOUNTERED DELAY IN THE PROJECT PROCESS, WHAT WAS THE EXTENT AND REASON OF DELAY?



| 4.6   | PLEASE LIST TH   | E MAJOR RISKS AFFECT          | TING THE PROJECT        |                           |
|---|--|-------------------------------|-------------------------|---------------------------|
| 5   | ACCESS TO  | INFRASTRUCTUI                 | RE                      |                           |
| 5.1<br>                                     | Regulated third Negotiated third   |                               | ABLE TO THE INFRASTR    | ucture?                   |
|   | IF THE INFRAST<br>CAPACITY AND mpted from – to (ympted capacity (T   | <b>FIMEFRAME</b><br>years)    | FROM TPA, PLEASE II     | NDICATE THE EXEMPTED      |
| 5.3<br>                                     | Is a long term<br>Yes<br>No  | 1 SUPPLY CONTRACT DE          | EDICATED TO THE INFRA   | ASTRUCTURE?               |
| Flex<br>off-<br>Pric<br>Con<br>Con<br>*plea | INDICATE THE Data contracted quantibility (minimum take, TWh/year) sing linked to TTF attract duration (year tract route*  | or oil indexed?               | ACT                     | FRASTRUCTURE, PLEASE      |
|   | TARIFFS APPLICATE  TARIFFS APPLI | ion on the tariff for pipe    | eline entry from LNG to | erminal and other charges |
| Reg   | asification tariff (R/MWh)   | Entry to gas system (EUR/MWh) | Other charges (EUR/MWh) |                           |
| 5.6   | DO YOU EXPECTION OF THE PROPERTY OF THE PROPER |                               | F INCREASE IN THE F     | HOSTING COUNTRIES TO      |



#### 5.7 IF YES, PLEASE INDICATE THE LEVEL OF GENERAL TARIFF INCREASE

| Hosting country                                     | Tariii ilicrease (%)                        |
|---|---|
|   |   |
| 5.8 ARE THERE BINDING OPEN SEASO Yes No             | ON CONTRACTS IN FORCE?                      |
| 5.9 IF THERE ARE, HOW MUCH OF TH REVENUES RECEIVED? | E CAPACITY WAS CONTRACTED AND WHAT WERE THE |
| Canacity contracted (TWh/year)                      |   |

Capacity contracted (TWh/year)
Open season revenues (million EUR)
Duration of contract (from year-to year)

#### **6 CONFIDENTIALITY**

We require all data indicated in the questionnaire to conduct the welfare analysis and evaluation of the projects. All cost data submitted in the questionnaire is considered confidential and will only be used for the evaluation and not made public within the project reports as well as at any meetings of the working group; only aggregated cost data that does not allow to link the figures to individual investment projects may be presented in publications. All other submitted data and information is considered non-confidential unless if stated otherwise by project promoter.

Please list the number of the answers which you consider confidential and do not wish to disclose. Answers to questions which are not listed may be published on Energy Community website as part of the evaluation study.

#### 7 CONTACT DETAILS

Please designate two contact persons who can be requested for clarifications and additional information if necessary.

Primary contact

Secondary contact

Name of contact person Organisation Position Email address Phone number

<sup>\*</sup> including country dialling code



# Questionnaire for the welfare evaluation of Projects of Energy Community Interest (PECIs) and Projects of Mutual Interest (PMIs) based on the Regulation 347/2013 as adopted by the Energy Community

# Underground gas storage projects

#### PROJECT IDENTIFICATION

1.1

| 1.1 | NAME OF THE PROJECT  |
|-----|--|
| 1.2 | WAS THE PROJECT INCLUDED IN ANY OF THE FOLLOWING LIST OF PCIS OR PECIS? 2013 PCI (please refer to questions 1.3 and 1.4) 2015 PCI (please refer to questions 1.5 and 1.6) 2013 PECI (please refer to questions 1.7 and 1.8) None of the above (jump to question 1.9) |
| 1.3 | Unique project code name in the 2013 Union list of PCIs (if applicable) <sup>23</sup>  |
| 1.4 | PROJECT NAME IN THE 2013 UNION LIST OF PCIS (IF APPLICABLE) <sup>24</sup>  |

UNIQUE PROJECT CODE NAME IN THE 2015 UNION LIST OF PCIS (IF APPLICABLE) If your project also appears in the list of PCIs, please refer to its unique codename listed in the C(2015) 8052 final Annex of the regulation 347/2013

#### 1.6 PROJECT NAME IN THE 2015 UNION LIST OF PCIS (IF APPLICABLE)

If your project also appears in the list of PCIs, please refer to its unique name listed in the C(2015) 8052 final Annex of the regulation 347/2013

<sup>24</sup> http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN

<sup>&</sup>lt;sup>23</sup> http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN



#### 1.7 UNIQUE PROJECT CODE NAME IN THE 2013 LIST OF PECIS (IF APPLICABLE)<sup>25</sup>

#### 1.8 PROJECT NAME IN THE 2013 LIST OF PECIS (IF APPLICABLE)

Please refer to the document at Energy Community website<sup>26</sup>

#### 1.9 NAME OF THE PROJECT PROMOTER

Please submit the full legal name of the project promoter

# 1.10 NAME OF THE SHAREHOLDERS OF THE UNDERTAKING IMPLEMENTING THE INVESTMENT PROJECT

Please submit the full legal name of each undertaking, the percentage of its shareholding in the project and information on their main activities. In case one of the shareholders is an investment holding, please also provide information on the ultimate owner(s) of the investment holding.

| Full legal name of shareholder | Shareholding (in %) | Main activities of shareholder | Ultimate owner of investment holding (if applicable) |
|--------------------------------|---------------------|--------------------------------|--|
|                                |                     |                                |  |
|                                |                     |                                |  |
|                                |                     |                                |  |
|                                |                     |                                |  |
|                                |                     |                                |  |

#### 1.11 PROJECT WEBSITE ACCORDING TO ARTICLE 9(7) OF THE ADOPTED REGULATION

#### 1.12 CODE OF THE PROJECT IN THE EU TYNDP (IF APPLICABLE)

| 1.13 | HOSTING ENERGY COMMUNITY | CONTRACTING | PARTIES | (WHERE | THE | PROJECT | IS |
|------|--------------------------|-------------|---------|--------|-----|---------|----|
|      | LOCATED)                 |             |         |        |     |         |    |
|      | Albania                  |             |         |        |     |         |    |
|      | Bosnia and Herzegovina   |             |         |        |     |         |    |
|      | Serbia                   |             |         |        |     |         |    |
|      | Kosovo*                  |             |         |        |     |         |    |
|      |                          |             |         |        |     |         |    |
|      |                          |             |         |        |     |         |    |

<sup>&</sup>lt;sup>25</sup> https://www.energy-

 $community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Investments/PECIs/List\_PECIs/$ 

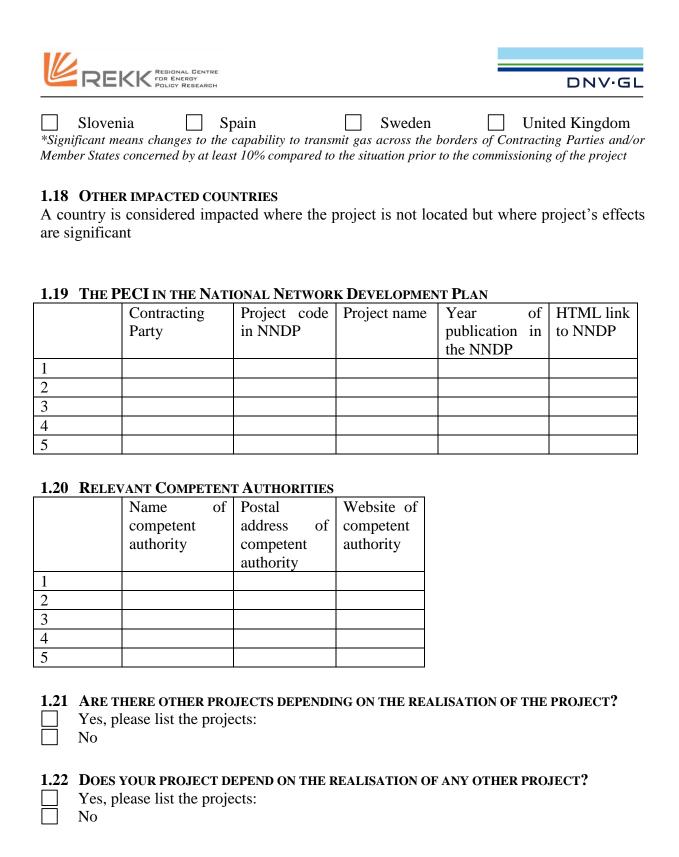
<sup>&</sup>lt;sup>26</sup> https://www.energy-

 $community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Investments/PECIs/List\_PECIs/$ 





| Montenegro FYR Macedonia Moldova Ukraine * This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.  Note: When the project directly crosses the border of one or more Contracting Parties and one or more Member States, in order to be considered to be a project of Energy Community Interest, it shall be first granded a status of project of common interest within the European Union. (Adaptation of Regulation 347/2013, Article 4 section 5)  Project that directly crosses the border of one or more Contracting Parties and one or more Member States which is not granted a status of project of common interest within the european Union may be developed on a voluntary basis as a project of Mutual Interest. (Adaptation of Regulation 347/2013, Article 4 section 6) |   |   |   |  |  |  |  |  |
|--|---|---|---|--|--|--|--|--|
| 1.14 HOSTING EU M  Austria Cyprus Finland Hungary Lithuania Poland Slovenia  | EMBER STATES (WHER) Belgium Czech Republic France Ireland Luxembourg Portugal Spain | Bulgaria Denmark Germany Italy Malta Romania Sweden | Croatia Croatia Estonia Greece Latvia Netherlands Slovakia United Kingdom       |  |  |  |  |  |
| 1.16 IMPACTED ENERGY COMMUNITY CONTRACTING PARTIES  A country is considered impacted where the project is not located but where project's effects are significant*  Albania  Bosnia and Herzegovina  Serbia  Kosovo**  Montenegro  FYR Macedonia  Moldova  Ukraine  *Significant means changes to the capability to transmit gas across the borders of Contracting Parties and/or Member States concerned by at least 10% compared to the situation prior to the commissioning of the project  **This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.   |   |   |   |  |  |  |  |  |
| 1.17 IMPACTED EU N A country is considered are significant*  Austria Cyprus Finland Hungary Lithuania Poland   |   | Bulgaria Denmark Germany Italy Malta Romania        | but where project's effects  Croatia Estonia Greece Latvia Netherlands Slovakia |  |  |  |  |  |



### 2 TECHNICAL INFORMATION

| 2.1 | TYPE OF PECI INFRASTRUCTURE |
|-----|-----------------------------|
|     | Depleted field              |
|     | Aquifer                     |
|     | Salt cavern                 |
|     | Other (please specify):     |





- 2.2 Brief Project description
- 2.3 LOCATION, COUNTRY:
- 2.4 EXPECTED DATE OF COMMISSIONING (YEAR)
- 2.5 EXPECTED LIFETIME OF INFRASTRUCTURE (YEARS FROM COMMISSIONING)
- 2.6 WORKING GAS CAPACITY (TWH)
- 2.7 Amount of Cushion Gas (TWH)
- 2.8 DAILY MAXIMUM WITHDRAWAL CAPACITY (GWH/DAY)



#### 2.9 DAILY MAXIMUM INJECTION CAPACITY (GWH/DAY)

| 2.10 | NUMBER OF STORAGE CYCLES PER YEAR |
|------|-----------------------------------|
|      | One per year                      |
|      | Two per year                      |
|      | Multiple per year (more than two) |
|      | Other (please specify):           |

#### 2.11 ADDITIONAL INVESTMENT RELATED TO THE UGS FACILITY

You are free to divide the project to different sections, if pipeline enables bidirectional gas flows, please provide technical capacities for both directions. If more than two countries are affected, please indicate capacity on all borders in both directions.

|           | Description | Length (km) | Diameter<br>(mm) | Total<br>number of<br>compressor<br>stations | Compressor<br>power (MW) | Technical Entry Capacity from country A to B (GWh/day)* | Technical Exit Capacity from country A to B (GWh/day)* | Direction<br>of flow** | Maximum<br>operation<br>pressure<br>(bar(g)) |
|-----------|-------------|-------------|------------------|--|--------------------------|---|--|------------------------|--|
| Section 1 |             |             |                  |  |                          |   |  |                        |  |
| Section 2 |             |             |                  |  |                          |   |  |                        |  |
| Section 3 |             |             |                  |  |                          |   |  |                        |  |
| Section 4 |             |             |                  |  |                          |   |  |                        |  |
| Section 5 |             |             |                  |  |                          |   |  |                        |  |

<sup>\*</sup> in case of existing pipeline, list capacity added to existing infrastructure

<sup>\*\*</sup> point of origin and point of destination of flow (please also indicate if project enables flows in both directions)





## 3 EXPECTED COSTS OF THE PROJECT

| INVE             | STMEN                                   | Γ PERIO | OD (IN     | CLUDING  | OF THE<br>MATE   | RIALS    | AND C    | R EACH<br>CONSTRU |         | OF THE COSTS, |
|------------------|---|---------|------------|----------|------------------|----------|----------|-------------------|---------|---------------|
| Calendar         |   | BOLCII  | 0110) 1112 | loro RE  | L WILLY          | ON LOR   |          |                   |         |               |
| year             |   |         |            |          |                  |          |          |                   |         |               |
| Cost             |   |         |            |          |                  |          |          |                   |         |               |
| (Real            |   |         |            |          |                  |          |          |                   |         |               |
| 2016             |   |         |            |          |                  |          |          |                   |         |               |
| million          |   |         |            |          |                  |          |          |                   |         |               |
| EUR)             |   |         |            |          |                  |          |          |                   |         |               |
| 3.2 Esti         | 3.2 ESTIMATED VARIATION IN CAPEX (+/-%) |         |            |          |                  |          |          |                   |         |               |
| 3.3 EXP          | ECTED A                                 | NNUAL ( | OPEX o     | F THE PR | OJECT II         | N 2016 R | EAL EU   | R                 |         |               |
| Calendar         |   |         |            |          |                  |          |          |                   |         |               |
| year             |   |         |            |          |                  |          |          |                   |         |               |
| Cost             |   |         |            |          |                  |          |          |                   |         |               |
| (Real            |   |         |            |          |                  |          |          |                   |         |               |
| 2016             |   |         |            |          |                  |          |          |                   |         |               |
| EUR)             |   |         |            |          |                  |          |          |                   |         |               |
| CHAI Yes No      | HE PROJ<br>NGED?<br>It know             | ECT WAS | S INCLUI   | DED IN T | не 2013          | PECI LI  | IST, HAS | тне СА            | PEX EST | ГІМАТЕ        |
| INST FACI Yes No | RUMEN'<br>LITY)?                        | г for F | PRE-ACC    | ESSION . | INTEND 'ASSISTAN | NCE OR   |          |                   |         | •             |



#### 4 STATUS AND PROGRESS

| 4.1 PLEASE INDICATE THE CURRI                | ENT STATUS OF THE <b>PE</b> ( | CI                     |
|--|-------------------------------|------------------------|
| Consideration phase                          |                               |                        |
| Planning approval                            |                               |                        |
| Preliminary design studies                   |                               |                        |
| Market test                                  |                               |                        |
| Preliminary investment decision              |                               |                        |
| Public consultation of Art.9(4) of Reg       | gulation 347/2013             |                        |
| Permitting                                   |                               |                        |
| Financing secured                            |                               |                        |
| Cross-border cost allocation request /       | decision                      |                        |
| Exemption request / decision                 |                               |                        |
| Final investment decision                    |                               |                        |
| Detailed design                              |                               |                        |
| Tendering                                    |                               |                        |
| Construction                                 |                               |                        |
| Commissioning                                |                               |                        |
| 4.2 PLEASE GIVE AN INDICATIVE                |                               |                        |
| Consideration phase                          | Start date (month, year)      | End date (month, year) |
| Planning approval                            |                               |                        |
| Preliminary design studies                   |                               |                        |
| Market test                                  |                               |                        |
| Preliminary investment decision              |                               |                        |
| Public consultation of Art.9(4) of           |                               |                        |
| Regulation 347/2013<br>Permitting            |                               |                        |
| Financing secured                            |                               |                        |
| Cross-border cost allocation request /       |                               |                        |
| decision (if applicable)                     |                               |                        |
| Exemption request / decision (if             |                               |                        |
| applicable)                                  |                               |                        |
| Final investment decision<br>Detailed design |                               |                        |
| Tendering                                    |                               |                        |
| Construction                                 |                               |                        |
| Commissioning                                |                               |                        |

- 4.3 IF YOUR PROJECT WAS INCLUDED IN THE 2013 PECI CANDIDATE LIST, PROVIDE A BRIEF DESCRIPTION OF WORKS CONDUCTED SINCE 2013 (IF APPLICABLE)
- 4.4 IF YOU ENCOUNTERED DELAY IN THE PROJECT PROCESS, WHAT WAS THE EXTENT AND REASON OF DELAY?



| 4.5 WHAT MEASUR | RES DID YOU TAKE TO | TACKLE THE | DELAY? |
|-----------------|---------------------|------------|--------|
|-----------------|---------------------|------------|--------|

## 4.6 PLEASE LIST THE MAJOR RISKS AFFECTING THE PROJECT

ACCESS TO INFRASTRUCTURE

| 5.1                                    | ACCESS REGIME APPLICABLE TO THE INFRASTRUCTURE Regulated third party access Negotiated third party access Exemption from third party access   |
|--|---|
|  | IF THE INFRASTRUCTURE IS EXEMPTED FROM TPA, PLEASE INDICATE THE EXEMPTED CAPACITY AND TIMEFRAME apted from – to (years) - apted capacity (TWh/year)   |
| 5.3                                    | Is a long term supply contract dedicated to the infrastructure? Yes No  |
| Flexi off-ta Pricio Conta Conta *pleas | IF A LONG-TERM CONTRACT IS DEDICATED TO THE INFRASTRUCTURE, PLEASE INDICATE THE DETAILS OF THE CONTRACT all contracted quantity (TWh/year) bility (minimum and maximum yearly ake, TWh/year) and linked to TTF or oil indexed? The contract duration (years) are route*  The possible route of the long term contract originating from the exporting country heading to porting country |
| 5.5                                    | Is there a storage obligation in force or is it expected to be in force upon the completion of the project? Yes   |

Amount of gas to be injected (TWh/year)

**EXPLANATION OF THE OBLIGATION** 

Brief description of storage obligation

5.6 IF THERE IS A STORAGE OBLIGATION, PLEASE INDICATE THE AMOUNT OF NATURAL GAS TO BE INJECTED IN STORAGES EACH YEAR IN TWH AND GIVE A BRIEF



#### 5.7 ACCESS ENTRY AND EXIT TARIFF

Please give an estimation on the access tariff for the newly commissioned infrastructure element (EUR/MWh)

| Working      | Injection | fee | Withdrawal | fee | Entry  | tariff | to | Other applicable |
|--------------|-----------|-----|------------|-----|--------|--------|----|------------------|
| gas          | (EUR/MWh) |     | (EUR/MWh)  |     | transm | ission |    | tariffs*         |
| capacity fee |           |     |            |     | system |        |    | (EUR/MWh)        |
| (EUR/MW)     |           |     |            |     | (EUR/  | MWh)   |    |                  |
|              |           |     |            |     |        |        |    |                  |

<sup>\*</sup>please specify the meaning of other tariffs

| 5.8   | DO YOU EXPECT A GENERAL TARIFFE FINANCE INFRASTRUCTURE? Yes No | F INCREASE IN THE HOSTING COUNTRIES TO                    |
|-------|--|---|
| 5.9   | IF YES, PLEASE INDICATE THE LEVEL O                            | F GENERAL TARIFF INCREASE                                 |
| Hosti | ing country  | Tariff increase (%)                                       |
|       |  |   |
|       |  |   |
|       | ARE THERE BINDING OPEN SEASON CON<br>Yes<br>No                 | STRACTS IN FORCE?  ACITY WAS CONTRACTED AND WHAT WERE THE |
| 3.11  | REVENUES RECEIVED?   | ACITI WAS CONTRACTED AND WHAT WERE THE                    |
| Capa  | city contracted (TWh/year)                                     |   |
| -     | season revenues (million EUR)                                  |   |
| -     | tion of contract (from year-to year)                           | -   |
|       |  |   |

#### 6 CONFIDENTIALITY

We require all data indicated in the questionnaire to conduct the welfare analysis and evaluation of projects. Data submitted in the questionnaire is considered non-confidential, unless if stated otherwise by project promoter.

Please list the number of answers which you consider confidential and do not wish to disclose. Answers to questions which are not listed here will be published on Energy Community website as part of the evaluation study.

#### 7 CONTACT DETAILS

Please designate two contact persons who can be requested for clarifications and additional information if necessary.

Primary contact

Secondary contact



Name of contact person Organisation Position Email address Phone number

<sup>\*</sup> including country dialling code



# Questionnaire for the welfare evaluation of Projects of Energy Community Interest (PECIs) and Projects of Mutual Interest (PMIs) based on the Regulation 347/2013 as adopted by the Energy Community

# Crude oil interconnector projects

#### PROJECT IDENTIFICATION

NAME OF THE PROJECT

| 1.2<br> | Was the project included in any of the following list of PCIs or PECIs? 2013 PCI (please refer to questions 1.3 and 1.4) 2015 PCI (please refer to questions 1.5 and 1.6) 2013 PECI (please refer to questions 1.7 and 1.8) None of the above (jump to question 1.9) |
|---------|--|
| 1.3     | Unique project code name in the 2013 Union list of PCIs (if applicable) $^{27}$  |
| 1.4     | PROJECT NAME IN THE 2013 UNION LIST OF PCIs (IF APPLICABLE) <sup>28</sup>  |

UNIQUE PROJECT CODE NAME IN THE 2015 UNION LIST OF PCIS (IF APPLICABLE) If your project also appears in the list of PCIs, please refer to its unique codename listed in the C(2015) 8052 final Annex of the regulation 347/2013

#### 1.6 PROJECT NAME IN THE 2015 UNION LIST OF PCIS (IF APPLICABLE)

If your project also appears in the list of PCIs, please refer to its unique name listed in the C(2015) 8052 final Annex of the regulation 347/2013

http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN

1.1

<sup>&</sup>lt;sup>27</sup> http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN





## 1.7 UNIQUE PROJECT CODE NAME IN THE 2013 LIST OF PECIS (IF APPLICABLE)<sup>29</sup>

#### 1.8 PROJECT NAME IN THE 2013 LIST OF PECIS (IF APPLICABLE)

Please refer to the document at Energy Community website<sup>30</sup>

#### 1.9 NAME OF THE PROJECT PROMOTER

Please submit the full legal name of the project promoter

### 1.10 Name of the shareholders of the undertaking implementing the INVESTMENT PROJECT

Please submit the full legal name of each undertaking, the percentage of its shareholding in the project and information on their main activities. In case one of the shareholders is an investment holding, please also provide information on the ultimate owner(s) of the investment holding.

| Full legal name of | Shareholding | Main activities of | Ultimate owner of      |
|--------------------|--------------|--------------------|------------------------|
| shareholder        | (in %)       | shareholder        | investment holding (if |
|                    |              |                    | applicable)            |
|                    |              |                    |                        |
|                    |              |                    |                        |
|                    |              |                    |                        |
|                    |              |                    |                        |
|                    |              |                    |                        |

#### 1.11 PROJECT WEBSITE ACCORDING TO ARTICLE 9(7) OF THE ADOPTED REGULATION

| 1.12 | HOSTING ENERGY COMMUNITY | CONTRACTING | PARTIES | (WHERE | THE | PROJECT | 18 |
|------|--------------------------|-------------|---------|--------|-----|---------|----|
|      | LOCATED)                 |             |         |        |     |         |    |
|      | Albania                  |             |         |        |     |         |    |
|      | Bosnia and Herzegovina   |             |         |        |     |         |    |
|      | Serbia                   |             |         |        |     |         |    |
|      | Kosovo*                  |             |         |        |     |         |    |
|      | Montenegro               |             |         |        |     |         |    |
|      | FYR Macedonia            |             |         |        |     |         |    |
|      |                          |             |         |        |     |         |    |
|      |                          |             |         |        |     |         |    |
| 20 - | s://www.energy-          |             |         |        |     |         |    |

community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Investments/PECIs/List\_PEC

<sup>30</sup> https://www.energy-

community.org/portal/page/portal/ENC\_HOME/AREAS\_OF\_WORK/Instruments/Investments/PECIs/List\_PEC





| Moldova Ukraine  * This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence.  Note: When the project directly crosses the border of one or more Contracting Parties and one or more Member States, in order to be considered to be a project of Energy Community Interest, it shall be first granded a status of project of common interest within the European Union. (Adaptation of Regulation 347/2013, Article 4 section 5) Project that directly crosses the border of one or more Contracting Parties and one or more Member States which is not granted a status of project of common interest within the european Union may be developed on a voluntary basis as a project of Mutual Interest. (Adaptation of Regulation 347/2013, Article 4 section 6) |   |   |  |         |   |        |   |
|---|---|---|--|---------|---|--------|---|
| 1.13  | HOSTING EU M<br>Austria<br>Cyprus<br>Finland<br>Hungary<br>Lithuania<br>Poland<br>Slovenia  |   | ER STATES (WHER<br>Belgium<br>Czech Republic<br>France<br>Ireland<br>Luxembourg<br>Portugal<br>Spain         | E THE   | PROJECT IS LOG<br>Bulgaria<br>Denmark<br>Germany<br>Italy<br>Malta<br>Romania<br>Sweden | CATED  | Croatia Estonia Greece Latvia Netherlands Slovakia United Kingdom       |
| 1.15<br>A cou   | 1.14 OTHER HOSTING COUNTRIES (WHERE THE PROJECT IS LOCATED)  1.15 IMPACTED ENERGY COMMUNITY CONTRACTING PARTIES  A country is considered impacted where the project is not located but where project's effects are significant*  Albania  Bosnia and Herzegovina  Serbia  Kosovo**  Montenegro  |   |  |         |   |        |   |
| border to the ** Thi Opinio   | rs of Contracting Pocommissioning of the is designation is with on on the Kosovo designation in | ova ne ment in arties a ne proje ithout eclarati  MEM | n reverse flow capacities and/or Member States of ect prejudice to positions on of independence.  BER STATES | concern | ed by at least 10% us, and is in line w   | compar | transmit gas across the red to the situation prior SCR 1244 and the ICJ |
|   | untry is consider gnificant* Austria Cyprus Finland Hungary Lithuania Poland Slovenia   |   | Belgium Czech Republic France Ireland Luxembourg Portugal Spain  |         | Bulgaria Denmark Germany Italy Malta Romania Sweden                                     |        | Croatia Estonia Greece Latvia Netherlands Slovakia United Kingdom       |





\*Significant means investment in reverse flow capacities or changes to the capability to transmit gas across the borders of Contracting Parties and/or Member States concerned by at least 10% compared to the situation prior to the commissioning of the project

#### 1.17 OTHER IMPACTED COUNTRIES

A country is considered impacted where the project is not located but where project's effects are significant

#### 1.18 THE PECI IN THE NATIONAL NETWORK DEVELOPMENT PLAN

|   | Contracting | Project code | Project name | Year of        | HTML link |
|---|-------------|--------------|--------------|----------------|-----------|
|   | Party       | in NNDP      |              | publication in | to NNDP   |
|   |             |              |              | the NNDP       |           |
| 1 |             |              |              |                |           |
| 2 |             |              |              |                |           |
| 3 |             |              |              |                |           |
| 4 |             |              |              |                |           |
| 5 |             |              |              |                |           |

#### 1.19 RELEVANT COMPETENT AUTHORITIES

security of supply reducing single supply

dimensions?

|   | Name                | of | Postal            |    | Website of          |
|---|---------------------|----|-------------------|----|---------------------|
|   | competent authority |    | address competent | of | competent authority |
|   |                     |    | authority         |    |                     |
| 1 |                     |    |                   |    |                     |
| 2 |                     |    |                   |    |                     |
| 3 |                     |    |                   |    |                     |
| 4 |                     |    |                   |    |                     |
| 5 |                     |    |                   |    |                     |

| 1.20     | ARE THERE OTHER PROJECTS DEPENDING ON THE REALISATION OF THE PROJECT? Yes, please list the projects: No                               |
|----------|---|
| 1.21<br> | <b>DOES YOUR PROJECT DEPEND ON THE REALISATION OF ANY OTHER PROJECT?</b> Yes, please list the projects: No                            |
| 2        | TECHNICAL INFORMATION   |
| 2.1      | PLEASE DEMONSTRATE CLEARLY HOW THE PROJECT CONTRIBUTES TO THE CRITERIA SPECIFIED IN ARTICLE 4 OF THE IMPLEMENTED REGULATION 347/2013. |
| How      | does the project qualify in the following   |





|        | source or route dependency  |               |            |                |  |  |  |
|--------|---|---------------|------------|----------------|--|--|--|
|        | ient and sustainable use of resources   |               |            |                |  |  |  |
| throu  | igh mitigation of environmental risks   |               |            |                |  |  |  |
| interc | operability   |               |            |                |  |  |  |
|        | Type of PECI INFRASTRUCTURE New pipeline Pipeline extension New pump station Reverse flow possibility on existing pipelin Internal pipeline | e             |            |                |  |  |  |
| 2.3    | BRIEF PROJECT DESCRIPTION   |               |            |                |  |  |  |
| 2.4    | ORIGIN POINT (LOCATION, COUNTRY):   |               |            |                |  |  |  |
| 2.5    | END POINT (LOCATION, COUNTRY; PLEAS   | E INDICATE SU | PPLIED REF | INERY. STORAGE |  |  |  |
| 2.0    | OR OTHER FACILITY):   | E INDICATE SC | ITEIED KEF | meki, biokade  |  |  |  |
| 2.6    | EXPECTED DATE OF COMMISSIONING (YEA   |               |            | amva)          |  |  |  |
| 2.7    | EXPECTED LIFETIME OF INFRASTRUCTURE   | (YEARS FROM   | COMMISSIO  | NING)          |  |  |  |
| 2.8    | Type of related storage (m3)  |               |            |                |  |  |  |
| 2.9    | RELATED STORAGE CAPACITY (M3)   |               |            |                |  |  |  |
| 2.10   | DOES THE PROJECT CONTRIBUTE TO OBLIGATIONS? Yes, please specify: No   | FULFILLING    | SECURITY   | STOCKHOLDING   |  |  |  |



## 2.11 DETAILED TECHNICAL INFORMATION OF THE PROJECT BY SECTIONS

You are free to divide the project to different sections

|           | Description | Length (km) | Diameter (mm) | Total<br>number of<br>compressor<br>stations | Pump power (MW) | Capacity (bbl/d)* | Capacity (MTA/y) | Direction of flow** |
|-----------|-------------|-------------|---------------|--|-----------------|-------------------|------------------|---------------------|
| Section 1 |             |             |               |  |                 |                   |                  |                     |
| Section 2 |             |             |               |  |                 |                   |                  |                     |
| Section 3 |             |             |               |  |                 |                   |                  |                     |
| Section 4 |             |             |               |  |                 |                   |                  |                     |
| Section 5 |             |             |               |  |                 |                   |                  |                     |

<sup>\*</sup> in case of existing pipeline, list capacity added to existing infrastructure

<sup>\*\*</sup> point of origin and point of destination of flow

## 3 EXPECTED COSTS OF THE PROJECT

|   |  |  |   |  | THE PROJ  |  |  |  |   |  |
|---|--|--|---|--|---|--|--|--|---|--|
|   |  |  |   | LS AND   | ONSTRU  | crion co   | )515, IE   | VII OKAK   | I SOLUTI  | 10115) 111   |
|   |  |  |   |  |   |  |  |  |   |  |
|   |  |  |   |  |   |  |  |  |   |  |
| t                                       |  |  |   |  |   |  |  |  |   |  |
| ıl                                      |  |  |   |  |   |  |  |  |   |  |
|   |  |  |   |  |   |  |  |  |   |  |
|   |  |  |   |  |   |  |  |  |   |  |
| <b>(</b> )                              |  |  |   |  |   |  |  |  |   |  |
| 3.2 ESTIMATED VARIATION IN CAPEX (+/-%) |  |  |   |  |   |  |  |  |   |  |
| EXPE                                    | CTED A   | NNUAL O  | PEX of  | THE PRO  | JECT IN   | 2016 REA   | L EUR  |  |   |  |
|   |  |  |   |  |   |  |  |  |   |  |
|   |  |  |   |  |   |  |  |  |   |  |
| ţ                                       |  |  |   |  |   |  |  |  |   |  |
|   |  |  |   |  |   |  |  |  |   |  |
|   |  |  |   |  |   |  |  |  |   |  |
| ₹)                                      |  |  |   |  |   |  |  |  |   |  |
| CHAN<br>Yes<br>No                       | GED?   | ECT WAS  | S INCLUI  | DED IN T   | не 2013   | PECI LI  | IST, HAS   | тне СА   | PEX ES  | ТІМАТЕ   |
| INSTI<br>FACII<br>Yes<br>No             | RUMENT<br>LITY)?   | FOR I  | PRE-ACC   | ESSION   | ASSISTAN  | NCE OR   |  |  |   |  |
|   | EXPERIMENTAL PROPERTY OF THE P | EXPECTED AND CHANGED? Yes No Don't know  HAVE YOU A INSTRUMENT FACILITY)? Yes No | EXPECTED ANNUAL OF THE PROJECT WAS CHANGED? Yes No Don't know  HAVE YOU APPLIED INSTRUMENT FOR IT FACILITY)? Yes No | 2016 REAL MILLION EUR endar  t all 6 ion 8)  ESTIMATED VARIATION IN CA  EXPECTED ANNUAL OPEX OF endar t all 6 8)  IF THE PROJECT WAS INCLUI CHANGED? Yes No Don't know  HAVE YOU APPLIED FOR / II INSTRUMENT FOR PRE-ACC FACILITY)? Yes No | ESTIMATED VARIATION IN CAPEX (+/-  EXPECTED ANNUAL OPEX OF THE PROPORTION IN CAPEX (+/-  EXPECTED ANNUAL OPEX OF THE PROPORTION IN CAPEX (+/-  EXPECTED ANNUAL OPEX OF THE PROPORTION IN CAPEX (+/ | 2016 REAL MILLION EUR  Endar  t al 6 ion 8)  ESTIMATED VARIATION IN CAPEX (+/-%)  EXPECTED ANNUAL OPEX OF THE PROJECT IN 2 Endar  t al 6 8)  If the Project was included in the 2013 CHANGED? Yes No Don't know  HAVE YOU APPLIED FOR / DO YOU INTEND INSTRUMENT FOR PRE-ACCESSION ASSISTAN FACILITY)? Yes | 2016 REAL MILLION EUR Endar  t al 6 6 ion R)  ESTIMATED VARIATION IN CAPEX (+/-%)  EXPECTED ANNUAL OPEX OF THE PROJECT IN 2016 REA Endar  t al 6 R)  IF THE PROJECT WAS INCLUDED IN THE 2013 PECI LI CHANGED? Yes No Don't know  HAVE YOU APPLIED FOR / DO YOU INTEND TO APPI INSTRUMENT FOR PRE-ACCESSION ASSISTANCE OR FACILITY)? Yes No | 2016 REAL MILLION EUR Endar  t all 6 ion R)  ESTIMATED VARIATION IN CAPEX (+/-%)  EXPECTED ANNUAL OPEX OF THE PROJECT IN 2016 REAL EUR Endar  t all 6 R)  IF THE PROJECT WAS INCLUDED IN THE 2013 PECI LIST, HAS CHANGED? Yes No Don't know  HAVE YOU APPLIED FOR / DO YOU INTEND TO APPLY FOR INSTRUMENT FOR PRE-ACCESSION ASSISTANCE OR NEIGHB FACILITY)? Yes No | 2016 REAL MILLION EUR Endar  t al 6 6 ion 8)  ESTIMATED VARIATION IN CAPEX (+/-%)  EXPECTED ANNUAL OPEX OF THE PROJECT IN 2016 REAL EUR Endar  t al 6 8 END  IF THE PROJECT WAS INCLUDED IN THE 2013 PECI LIST, HAS THE CA CHANGED? Yes No Don't know  HAVE YOU APPLIED FOR / DO YOU INTEND TO APPLY FOR OTHER INSTRUMENT FOR PRE-ACCESSION ASSISTANCE OR NEIGHBOURHOOF FACILITY)? Yes No | ESTIMATED VARIATION IN CAPEX (+/-%)  EXPECTED ANNUAL OPEX OF THE PROJECT IN 2016 REAL EUR Endar  t all 66 80  IF THE PROJECT WAS INCLUDED IN THE 2013 PECI LIST, HAS THE CAPEX ES CHANGED? Yes No Don't know  HAVE YOU APPLIED FOR / DO YOU INTEND TO APPLY FOR OTHER FINANCIN INSTRUMENT FOR PRE-ACCESSION ASSISTANCE OR NEIGHBOURHOOD INVESTACILITY)? Yes No |



#### 4 STATUS AND PROGRESS

| Consideration phase                                    |
|--|
|  |
| Planning approval                                      |
| Preliminary design studies                             |
| Market test  |
| Preliminary investment decision                        |
| Public consultation of Art.9(4) of Regulation 347/2013 |
| Permitting   |
| Financing secured                                      |
| Cross-border cost allocation request / decision        |
| Exemption request / decision                           |
| Final investment decision                              |
| Detailed design  |
| Tendering  |
| Construction   |
| Commissioning  |
|  |

#### 4.2 PLEASE GIVE AN INDICATIVE IMPLEMENTATION SCHEDULE AS OF 2016 JANUARY

Start date (month, year)

End date (month, year)

Consideration phase Planning approval Preliminary design studies Market test Preliminary investment decision Public consultation of Art.9(4) of Regulation 347/2013 Permitting Financing secured Cross-border cost allocation request / decision (if applicable) Exemption request / decision (if applicable) Final investment decision Detailed design Tendering Construction

Commissioning

- 4.3 IF YOUR PROJECT WAS INCLUDED IN THE 2013 PECI CANDIDATE LIST, PROVIDE A BRIEF DESCRIPTION OF WORKS CONDUCTED SINCE 2013 (IF APPLICABLE)
- 4.4 IF YOU ENCOUNTERED DELAY IN THE PROJECT PROCESS, WHAT WAS THE EXTENT AND REASON OF DELAY?



| 4.5 WHAT MEASURES DID YOU TAKE TO TACKLE THE DELA | 4.5 | WHAT MEASURES | DID YOU TAKE TO | TACKLE THE DELA | Y? |
|---|-----|---------------|-----------------|-----------------|----|
|---|-----|---------------|-----------------|-----------------|----|

#### 4.6 PLEASE LIST THE MAJOR RISKS AFFECTING THE PROJECT

#### 5 ACCESS TO INFRASTRUCTURE

| 5.1 IS A LONG TO Yes No | ERM SUPPLY CONTRAC    | T DEDICATED TO THE INFRA         | ASTRUCTURE?                     |      |
|-------------------------|-----------------------|----------------------------------|---------------------------------|------|
|                         |                       | ariff for the newly commiss      | ioned infrastructure elen       | nent |
| Country (origin)        | Country (destination) | Entry tariff (EUR/ t or EUR/bbl) | Exit tariff (EUR/ t or EUR/bbl) |      |
|                         |                       |                                  |                                 |      |
|                         |                       |                                  |                                 |      |

#### 6 CONFIDENTIALITY

We require all data indicated in the questionnaire to conduct the welfare analysis and evaluation of the projects. All cost data submitted in the questionnaire is considered confidential and will only be used for the evaluation and not made public within the project reports as well as at any meetings of the working group; only aggregated cost data that does not allow to link the figures to individual investment projects may be presented in publications. All other submitted data and information is considered non-confidential unless if stated otherwise by project promoter.

Please list the number of the answers which you consider confidential and do not wish to disclose. Answers to questions which are not listed may be published on Energy Community website as part of the evaluation study.

#### 7 CONTACT DETAILS

Please designate two contact persons who can be requested for clarifications and additional information if necessary.



## Primary contact

## Secondary contact

Name of contact person Organisation Position Email address Phone number

<sup>\*</sup> including country dialling code

Questionnaire for the welfare evaluation of Projects of Energy Community Interest (PECIs) and Projects of Mutual Interest (PMIs) based on the Regulation 347/2013 as adopted by the Energy Community

# **Smart Grid projects**

| 1 PROJECT IDENTIFICATION |
|--------------------------|
|--------------------------|

| 1.1     | NAME OF THE PROJECT  |
|---------|--|
| 1.2<br> | WAS THE PROJECT INCLUDED IN ANY OF THE FOLLOWING LIST OF PCIS OR PECIS? 2013 PCI (please refer to questions 1.3 and 1.4) 2015 PCI (please refer to questions 1.5 and 1.6) None of the above (jump to question 1.9)       |
| 1.3     | UNIQUE PROJECT CODE NAME IN THE 2013 UNION LIST OF PCIS (IF APPLICABLE) <sup>31</sup>  |
| 1.4     | PROJECT NAME IN THE 2013 UNION LIST OF PCIs (IF APPLICABLE) <sup>32</sup>  |
| •       | UNIQUE PROJECT CODE NAME IN THE 2015 UNION LIST OF PCIs (IF APPLICABLE) our project also appears in the list of PCIs, please refer to its unique codename listed in the 015) 8052 final Annex of the regulation 347/2013 |
| If yo   | PROJECT NAME IN THE 2015 UNION LIST OF PCIs (IF APPLICABLE) our project also appears in the list of PCIs, please refer to its unique name listed in the 115) 8052 final Annex of the regulation 347/2013                 |

http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN
 http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1391&from=EN



## 1.7 NAME OF THE PROJECT PROMOTER(S)

Please submit the full legal name of the project promoter(s)

#### 1.8 NAME OF THE SHAREHOLDERS IMPLEMENTING THE INVESTMENT PROJECT

Please submit the full legal name of each undertaking, the percentage of its shareholding in the project and information on their main activities. In case one of the shareholders is an investment holding, please also provide information on the ultimate owner(s) of the investment holding.

| Full legal name of shareholder | Shareholding (in %) | Main activities of shareholder | Ultimate owner of investment holding (if applicable) |
|--------------------------------|---------------------|--------------------------------|--|
|                                |                     |                                |  |
|                                |                     |                                |  |
|                                |                     |                                |  |
|                                |                     | _                              | _  |
|                                |                     |                                |  |

| 1.9 v | WEBSITE ACCORDING TO | ARTICLE 9(7 | 7) OF THE $A$ | ADOPTED REGU | LATION |
|-------|----------------------|-------------|---------------|--------------|--------|
|-------|----------------------|-------------|---------------|--------------|--------|

#### 1.10 CODE OF THE PROJECT IN THE EU TYNDP (IF APPLICABLE)

| 1.11   | HOSTING ENERGY COMMUNITY CONTRACTING PARTIES (WHERE THE PROJECT  | IS IS |
|--------|--|-------|
|        | LOCATED)   |       |
|        | Albania  |       |
|        | Bosnia and Herzegovina   |       |
|        | Serbia   |       |
|        | Kosovo*  |       |
|        | Montenegro   |       |
|        | FYR Macedonia  |       |
|        | Moldova  |       |
|        | Ukraine  |       |
| * This | designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Op   | inion |
|        | Kosovo declaration of independence.  |       |
|        | When the project directly crosses the border of one or more Contracting Parties and one or more Men  |       |
|        | in order to be considered to be a project of Energy Community Interest, it shall be first granded a state  |       |
|        | of common interest within the European Union. (Adaptation of Regulation 347/2013, Article 4 section 5) that directly crosses the border of one or more Contracting Parties and one or more Member States whi |       |
|        | that directly crosses the border of one of more Contracting Parties and one of more Member States will ted a status of project of common interest within the european Union may be developed on a voluntary  |       |
| _      | ject of Mutual Interest. (Adaptation of Regulation 347/2013, Article 4 section 6)  | Jus15 |
| г      | , , , , , , , , , , ,  |       |
| 1 12   | HOSTING EU MEMBER STATES (WHERE THE PROJECT IS LOCATED)  |       |
| 1.14   | Austria Belgium Bulgaria Croatia   |       |
| Ш      | Austria Dergrum Durgana Croatia  |       |



|   | Cyprus<br>Finland<br>Hungar<br>Lithuar<br>Poland<br>Sloven  | l<br>ry<br>nia<br>ia | F   Is   Is   Is   Is   Is   Is   Is | Czech Republic Grance reland Luxembourg Portugal Lpain                                     |         | Denmark<br>Germany<br>Italy<br>Malta<br>Romania<br>Sweden                           |                           | Slov   | ece                  |       |  |
|---|---|----------------------|--------------------------------------|--|---------|---|---------------------------|--|----------------------|-------|--|
| 1.13  | 1.13 OTHER HOSTING COUNTRIES (WHERE THE PROJECT IS LOCATED)   |                      |                                      |  |         |   |                           |  |                      |       |  |
| 1.14 IMPACTED ENERGY COMMUNITY CONTRACTING PARTIES  A country is considered impacted where the project is not located but where project's effects are significant  Albania Bosnia and Herzegovina Serbia Kosovo* Montenegro FYR Macedonia Moldova Ukraine  * This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence |   |                      |                                      |  |         |   |                           |  |                      |       |  |
|   | * This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo declaration of independence. |                      |                                      |  |         |   |                           |  |                      |       |  |
|   | untry is  | considere            | ed impa                              | ER STATES acted where the p Belgium Ezech Republic France reland Luxembourg Portugal Spain | project | is not loc<br>Bulgaria<br>Denmark<br>Germany<br>Italy<br>Malta<br>Romania<br>Sweden |                           | Crox<br>Esto<br>Gree<br>Latv<br>Netl<br>Slov | atia<br>onia<br>ece  | s are |  |
| <b>1.16 OTHER IMPACTED COUNTRIES</b> A country is considered impacted where the project is not located but where project's effects are significant  |   |                      |                                      |  |         |   |                           |  |                      |       |  |
| 1.17  | THE P   | ECI IN TH            | IE NAT                               | IONAL NETWOR   | k Dev   | ELOPMEN   | T PLAN                    |  |                      | ,     |  |
|   |   | Contract:<br>Party   | ing                                  | Project code in NNDP   | Proje   | ect name  | Year publication the NNDP | of<br>in                                     | HTML link<br>to NNDP |       |  |



| 1 |  |  |  |
|---|--|--|--|
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |

#### 1.18 RELEVANT COMPETENT AUTHORITIES

|   | Name o    | f | Postal     | Website of |
|---|-----------|---|------------|------------|
|   | competent |   | address of | competent  |
|   | authority |   | competent  | authority  |
|   |           |   | authority  |            |
| 1 |           |   |            |            |
| 2 |           |   |            |            |
| 3 |           |   |            |            |
| 4 |           |   |            |            |
| 5 |           |   |            |            |

| _    | ARE THERE OTHER PROJECTS DEPENDING ON THE REALISATION OF THE PROJECT? Yes, please list the projects: No    |
|------|--|
| 1.20 | <b>DOES YOUR PROJECT DEPEND ON THE REALISATION OF ANY OTHER PROJECT?</b> Yes, please list the projects: No |

## 2 EVALUATION CRITERIA AND PERFOMANCE INDICATORS

- A CAPACITY OF TRANSMISSION AND DISTRIBUTION GRIDS TO CONNECT AND BRING ELECTRICITY FROM AND TO USERS
- 2.1 INSTALLED CAPACITY OF DISTRIBUTED ENERGY RESOURCES (ANY GENERATION LOCATED AT THE POINT OF CONSUMPTION) IN DISTRIBUTION NETWORKS MW
- 2.2 WHAT IS THE ALLOWABLE MAXIMUM INJECTION OF POWER WITHOUT CONGESTION RISKS IN BOTH THE DISTRIBUTION AND THE TRANSMISSION NETWORK ASSUMING NO ADDITIONAL INVESTMENT TO THE NETWORK?

Transmission networks: MW
Distribution networks: MW



2.3 WHAT IS THE AMOUNT OF ENERGY NOT WITHDRAWN FROM RENEWABLE SOURCES DUE TO CONGESTION OR SECURITY RISKS? in GWh/year

- 2.4 WHAT MEASURES ARE FORESEEN TO PREVENT CONGESTION OF THE NETWORK?
- B NETWORK CONNECTIVITY AND ACCESS TO ALL CATEGORIES OF NETWORK USERS
- 2.5 WHAT ARE THE FEATURES OF THE INVESTMENT PROJECT IN REGARDS TO THE OPERATIONAL FLEXIBILITY FOR DYNAMIC BALANCING OF ELECTRICITY IN THE NETWORK? E.G DEMAND SIDE MANAGEMENT/DEMAND RESPONSE
- 2.6 What are the methods adopted to calculate Network charges and tariffs, as well as their structure, for both generators (if applicable) and consumers?
- 2.7 SMART GRIDS MAY HAVE A POSITIVE EFFECT ON "TIME TO GRID". HOW LONG, ON AVERAGE, DOES IT TAKE TO CONNECT A NEW CONSUMER AND HOW IS IT EXPECTED TO CHANGE AFTER THE REALIZATION OF THE INVESTMENT PROJECT (PLEASE PROVIDE INFORMATION FOR THE CONNECTION OF GENERATION AND OF LOAD)?
- C SECURITY AND QUALITY OF SUPPLY
- 2.8 What is the ratio of reliably available generation capacity and peak demand?

Reliably available capacity (MW):

Peak demand (MW):

2.9 WHAT IS THE SHARE OF ELECTRICITY GENERATED FROM RENEWABLE SOURCES WHEN COMPARED TO YEARLY DEMAND AND YEARLY TOTAL GENERATION CONNECTED? PLEASE INDICATE THE LAST AVAILABLE THREE YEARS' DATA.

Share of renewable generation compared to yearly demand (%): , Share of renewable generation compared to yearly total generation (%):



2.10 WHAT ARE THE MAIN FEATURES IN RELATION TO THE STABILITY OF THE ELECTRICITY SYSTEM EXPECTED FROM THE IMPLEMENTATION OF THE INVESTMENT PROJECT?

2.11 WHAT ARE THE EXPECTED DURATION AND FREQUENCY OF INTERRUPTIONS PER CUSTOMER, INCLUDING WEATHER RELATED DISRUPTIONS?

Duration of interruptions per customer without project: hour/customer/year

Duration of interruptions per customer with project: hour/customer/year

Frequency of interruptions per customer without project: interruptions/customer/year Frequency of interruptions per customer with project: interruptions/customer/year

D – EFFICIENCY AND SERVICE QUALITY IN ELECTRICITY SUPPLY AND GRID

2.12 WHAT ARE THE EXPECTED LEVELS OF NETWORK LOSSES IN TRANSMISSION AND IN DISTRIBUTION NETWORKS?

Transmission networks (GWh): Distribution networks (GWh):

2.13 THE DEMAND FOR ELECTRICITY VARIES THROUGHOUT THE DAY AND ACROSS SEASONS; SMART GRIDS CAN REDUCE THESE PEAKS AND OPTIMISE SYSTEM OPERATION. WHAT IS THE RATIO BETWEEN MINIMUM AND MAXIMUM ELECTRICITY DEMAND WITHIN A DEFINED TIME PERIOD?

| Average | day | Minimum | Maximum | Expected     | Expected     |
|---------|-----|---------|---------|--------------|--------------|
| in:     |     | demand  | demand  | minimum with | maximum with |
|         |     |         |         | investment   | investment   |
| Unit    |     | MW      | MW      | MW           | MW           |
| January |     |         |         |              |              |
| April   |     |         |         |              |              |
| July    |     |         |         |              |              |
| October |     |         |         |              |              |

- 2.14 WHAT ARE THE MAIN FEATURES OF THE INVESTMENT PROJECT IN RELATION TO DEMAND SIDE PARTICIPATION IN ELECTRICITY MARKETS AND IN ENERGY EFFICIENCY MEASURES?
- E CONTRIBUTION TO CROSS-BORDER ELECTRICITY MARKETS BY INCREASE INTERCONNECTION CAPACITIES
- 2.15 PLEASE DESCRIBE THE IMPACT OF THE INVESTMENT PROJECT ON CROSS-BORDER FLOWS AND THE INTERCONNECTION CAPACITIES AND PROVIDE AN ESTIMATE OF THE PORTION OF THE TRANSMISSION GRID IMPACTED BY THE INVESTMENT PROJECT



## 3 TECHNICAL INFORMATION

3.1 PLEASE DEMONSTRATE CLEARLY THE "SMART GRID DIMENSION" OF THE PROPOSED PROJECT (I.E. CLARIFYING WHY THE PROPOSED PROJECT CAN BE CONSIDERED A SMART GRID PROJECT) AND PROVIDE DETAILS OF THE SMART GRID FEATURES THAT WILL BE IMPLEMENTED BASED ON ARTICLE 4 OF THE IMPLEMENTED REGULATION 347/2013.

|  | How does the project qualify in the following |
|--|---|
|  | dimensions?                                   |
| integration and involvement of network users   |   |
| with new technical requirements with regard    |   |
| to their electricity supply and demand;        |   |
| efficiency and interoperability of electricity |   |
| transmission and distribution in day-to-day    |   |
| network operation;                             |   |
| network security, system control and quality   |   |
| of supply                                      |   |
| optimised planning of future cost-efficient    |   |
| network investments;                           |   |
| market functioning and customer services;      |   |
|  |   |
| involvement of users in the management of      |   |
| their energy usage;                            |   |

- 3.2 PLEASE PROVIDE A SUMMARY OF THE PROJECT COMPLIANCE WITH THE TECHNICAL REQUIREMENTS SPECIFIED IN THE REGULATION PROPOSAL
- 3.3 FOR EACH OF THE TECHNICAL REQUIREMENTS REPORTED BELOW, PLEASE PROVIDE THE CORRESPONDING PROJECT VALUE AND DISCUSS IN DETAIL PROJECT COMPLIANCE

| Criteria               | Required value | Analysis of project compliance | Project value in Euro<br>(synthetic outcome of<br>analysis of project<br>compliance) |
|------------------------|----------------|--------------------------------|--|
| Voltage level(s) (kV): | >10kV          |                                |  |



| Number of users<br>involved<br>(producers,<br>consumers and<br>prosumers):                  | >50,000                     |  |
|---|-----------------------------|--|
| Consumption level in the project area (GWh/year):   | 300 GWh/year                |  |
| % of energy<br>supplied by non-<br>Dispatchable<br>resources (in terms<br>of capacity)      | >20%                        |  |
| Projects involving<br>transmission and<br>distribution<br>operators from at<br>least two MS | at least 2<br>Member States |  |

- 3.4 Brief Project description
- 3.5 EXPECTED DATE OF COMMISSIONING (YEAR)
- 3.6 EXPECTED LIFETIME OF INFRASTRUCTURE (YEARS FROM COMMISSIONING)

## 4 EXPECTED COSTS OF THE PROJECT

4.1 PLEASE INDICATE TOTAL CAPEX OF THE PROJECT FOR EACH YEAR OF THE INVESTMENT PERIOD (INCLUDING MATERIALS AND CONSTRUCTION COSTS) IN 2016 REAL MILLION EUR

| Calendar |  |  |  |  |  |
|----------|--|--|--|--|--|
| year     |  |  |  |  |  |
| Cost     |  |  |  |  |  |





| (Real                    |  |  |  |  |  |
|--------------------------|--|--|--|--|--|
| 2016                     |  |  |  |  |  |
| (Real<br>2016<br>million |  |  |  |  |  |
| EUR)                     |  |  |  |  |  |

## 4.2 ESTIMATED VARIATION IN CAPEX (+/-%)

## 4.3 EXPECTED ANNUAL OPEX OF THE PROJECT IN 2016 REAL EUR

| Calendar                      |  |  |  |  |  |
|-------------------------------|--|--|--|--|--|
| year                          |  |  |  |  |  |
| Cost                          |  |  |  |  |  |
| (Real                         |  |  |  |  |  |
| 2016                          |  |  |  |  |  |
| Cost<br>(Real<br>2016<br>EUR) |  |  |  |  |  |

| 4.4 | HAVE YOU APPLIED FOR / DO YOU INTEND TO APPLY FOR OTHER FINANCING (EG. INSTRUMENT FOR PRE-ACCESSION ASSISTANCE OR NEIGHBOURHOOD INVESTMENT |
|-----|--|
|     | FACILITY)?   |
|     | Yes  |
|     | No   |
|     | Already applied for, level of support in million EUR:  |



## 5 STATUS AND PROGRESS

| 5.1    | PLEASE INDICATE THE CURRENT STATUS OF THE PECT         |
|--------|--|
| Please | tick all boxes that apply                              |
|        | Consideration phase                                    |
|        | Planning approval                                      |
|        | Preliminary design studies                             |
|        | Market test  |
|        | Preliminary investment decision                        |
|        | Public consultation of Art.9(4) of Regulation 347/2013 |
|        | Permitting   |
| Ц      | Financing secured                                      |
|        | Cross-border cost allocation request / decision        |
| Ш      | Final investment decision taken                        |
| Ш      | Detailed design  |
| Ш      | Tendering  |
| Ш      | Construction   |
|        | Commissioning  |
|        |  |

#### 5.2 PLEASE LIST THE MAJOR RISKS AFFECTING THE PROJECT

#### 5.3 PLEASE GIVE AN INDICATIVE IMPLEMENTATION SCHEDULE AS OF 2016 JANUARY

Start date (month, year)

End date (month, year)

Consideration phase
Planning approval
Preliminary design studies
Market test
Preliminary investment decision
Public consultation of Art.9(4) of
Regulation 347/2013
Permitting
Financing secured
Cross-border cost allocation request /
decision (if applicable)
Exemption request / decision (if applicable)
Final investment decision
Detailed design

Tendering Construction Commissioning



#### 6 CONFIDENTIALITY

We require all data indicated in the questionnaire to conduct the welfare analysis and evaluation of the projects. All cost data submitted in the questionnaire is considered confidential and will only be used for the evaluation and not made public within the project reports as well as at any meetings of the working group; only aggregated cost data that does not allow to link the figures to individual investment projects may be presented in publications. All other submitted data and information is considered non-confidential unless if stated otherwise by project promoter.

Please list the number of the answers which you consider confidential and do not wish to disclose. Answers to questions which are not listed may be published on Energy Community website as part of the evaluation study.

#### 7 CONTACT DETAILS

Please designate two contact persons who can be requested for clarifications and additional information if necessary.

Primary contact

Secondary contact

Name of contact person Organisation Position Email address Phone number

<sup>\*</sup> including country dialling code



#### 5 ANNEX 2: MINUTES OF THE PHONE CONFERENCE 12.01.2016.

#### **PARTICIPANTS:**

Violeta Kogalniceanu (Energy Community Secretariat)

Adam Cwetsch (DG Energy), Ádám Szolyák (DG Energy)

Daniel Grote (DNV GL)

Borbála Tóth (REKK), László Szabó (REKK), Péter Kotek (REKK)

#### **AGENDA**

- 1. Discussion of the questionnaires
- 2. Timeline and work plan for the project (few slides attached)
- 3. Updates on Network modelling
- 4. Next steps

#### 1. Discussion of questionnaires

Borbála: All questionnaires are sent for review to EnC and to the Commission. Thank you for the comments we received, they were all taken into account. Questionnaires are updated already, except for smart grid. Smart grid questionnaires are being reviewed by Commission until 18 January. Except for the smart grid, the final version of questionnaires will be sent to Violeta after the call.

Violeta: Questionnaires will have to be filled on-line. Tentative plan is to upload questionnaires by mid next week, with some small introductory text. Deadline for submission of questionnaires is 1 month. - All parties agree.

Adam: Technical issue of sharing questionnaires and other relevant documents, presentations, reports, etc. with group participants could go through the Commissions' CIRCABC system – ECAS account is needed for the sharing. He will organize that and distribute the details later.

Violeta: How do we incentivise them giving answer? How do we stress giving financial data? Borbala: cost data is needed for CBA, we sign a confidentiality agreement for cost data.

The adapted regulation tells that for PECI you need PCI label – not many of the projects have this label. We do not need to require this, otherwise the list will be too short. We would evaluate projects of mutual interest as well. We should explicitly note that to submit a proposal being a PCI is not a requirement, we will evaluate both. We will split to PECI and project of mutual interest after the evaluation.



#### 2. Timeline and work plan for the project

Violeta: Questionnaires are considered final. Text of the announcement is drafted and questionnaire is created online. ENC contacted project promoters, NRAs and ministries. One ministry official will be reimbursed and one NRA representative. ENTSOE and ENTSOG will be invited as well, a contact is needed. None of the countries affected are ENTSOG members, for ENTSOE some are not members. Adam: DG Energy wants both ENTSOs to be involved and attending to meetings. Adam will provide contact details for ENTSOs.

Violeta: REKK should prepare a draft terms of reference/mandate for the groups. Commission: We can come back to this later? It should be based on the previous experience. One should be drafted for electricity and gas.

2 groups will be created one for electricity and gas. Smart grid will be included in electricity group, oil projects will be included in gas group.

#### Communication:

First meeting Kick-off: 26<sup>th</sup> of February - discuss methodology, joined for gas and electricity

Second meeting – reschedule to 4 April – eligibility check is presented, if it is late April, then we have no time to evaluate. Commission: let us discuss this later. Violeta Please send feedback by Friday (2016.01.15) if the rescheduling is doable.

Third meeting beginning of July or end of June. After modelling before draft final report submission (15.07.2016). Violeta: we have a lot of discussion on modelling. We need time to schedule another meeting – later in July to have time to discuss. Tentative date: week starting 27 June

Regular phone/skype calls are to be held once every 3 week or as it is necessary.

#### 3. Network modelling issues

László: we negotiate with a Macedonian academy of science team, model is fine but lacks latest network data. By the end of the week or early next week we will have the email to request data from ENTSOE. Commission – let's try first with ENTSOE then we can think about alternatives SECI group is a possibility but second best

#### Other:

Violeta: regulations are not really binding in the affected countries, they have to be adopted – EnC should start training workshops for implementation. This will be discussed in a separate phonecall.

#### 4. Next steps

#### **REKK**

- will send the tender documents to the Commission (methodology will be discussed at a later stage)
- Sends final questionnaires to Violeta
- Sends inception report to Violeta by Friday
- Sends draft letter for ENTSOE data request (in two weeks)



## Commission:

- sends ENTSOE and ENTSOG contact data to Violeta and consultants
- Sends feedback for the smart grid questionnaire
- Checks DG Energy availability for the proposed meeting days
- checks for technical possibility to host the PECI and PMI files in a folder created in CIRCABC
- Thinks about ToR for the two Groups