

Trans-European Energy Infrastructure - North South Electricity and Gas Interconnections in Western Europe

Open letter to promoters of projects within the UK in the context of North South Electricity and Gas Interconnections in Western Europe

This open letter from DECC is intended to draw industry's attention to the proposed [Regulation on Guidelines for Trans-European Energy Infrastructure](#) published in October last year, currently under negotiation in Brussels. The Commission is proposing preparatory work in regional groups to identify potential electricity and gas 'Projects of Common Interest' (PCIs) envisaged in the Regulation. Two of the groups are North South Electricity Interconnections in Western Europe and North South Gas Interconnections in Western Europe.

The Regulation aims to create the regulatory framework necessary to facilitate the significant investment needed in EU energy infrastructure, particularly electricity and gas networks, to meet 2020 energy and climate change targets and longer-term low carbon and energy security objectives. PCI projects should potentially benefit, inter alia, from streamlined permitting and consenting procedures and will be monitored closely during their development phase. Once negotiations are concluded and the Regulation is in force it will replace the existing [Guidelines for Trans European Energy Infrastructure Networks](#).

Projects selected as PCIs may be eligible for limited European financial support but stringent criteria will also have to be satisfied. The linked 'Connecting Europe Facility' (CEF) is being negotiated separately as part of the next EU 2014/20 seven year financial framework; it will be cross linked to criteria finally agreed in the Infrastructure Regulation. The early preparatory work (the subject of this letter) is not addressing eligibility for any kind of EU financial aid. It is expected that the vast majority of PCIs will be commercially viable and any cross border allocation of costs will be established under an agreed methodology already foreseen in the third package of energy market liberalisation.

The draft Regulation identifies twelve priority corridors and areas. The European Commission is keen to start work immediately in these regional groups to identify a first group of potential PCIs and in advance of the formal adoption of the Regulation. This process would be repeated every two years once the Regulation is in force. The regional groups will be Commission chaired with Member States, Regulators and Transmission System Operators also participating. Member State participants in the two North South Interconnections in Western Europe Groups are: Austria, Belgium, France, Germany, Ireland, Italy, Luxembourg, Netherlands, Malta, Portugal, Spain and the United Kingdom. **Industry participants are accordingly invited to propose projects to the Commission which have potential to be PCIs.**

The Regulation defines a procedure and criteria for projects to become PCIs:

- projects must be necessary for the implementation of the concerned energy infrastructure priority corridor or area;
- they must provide potential benefits outweighing their costs;

- they must involve at least two Member States, either by directly crossing their borders or by having a significant cross-border impact;
- they must contribute to the key energy policy objectives of the EU (market integration, sustainability, inter alia through large-scale integration of renewables, security of supply; each to be measured by quantifiable indicators).

Excerpts from the draft Regulation which provides more detail for potential PCIs for electricity and gas interconnections are at Annex A and Annex B. A detailed list for the 12 priority corridors and thematic areas is at Annex C

Project Promoters of potential PCIs should notify their projects direct to the Commission copied to DECC and the Regulator as set out below.

ELECTRICITY

For electricity, it is intended that the ENTSO-E Ten Year Network Development Plan (TYNDP) 2012 will be the starting point for PCI project identification. However, merchant projects which are not part of the TYNDP may also be considered by the groups if they fulfil the criteria in the draft Regulation.

Notifications of interest and any questions on the process should be sent direct to the Commission olgerts.viksne@ec.europa.eu and copied please to Gill.Campbell@decc.qsi.gov.uk and Pamela.Lathbridge@decc.qsi.gov.uk and to Clémence.marcelis@ofgem.gov.uk

Project promoters should provide:

- contact details of the project promoter
- the TYNDP reference where applicable (number of project of pan-European relevance, name of investment item)
- the Member States affected by the project (direct cross-border interconnection or cross-border impact) of which there must be a minimum of two
- for Projects not included in the 2012 TYNDP: the name of their proposed projects, including contact details, a short description of the project and a first assessment of how the project meets the criteria as set out in Annex A.

Early responses to the Commission would be appreciated ideally by 14 May 2012 in advance of the next regional electricity group meeting.

GAS

For gas, notifications of interest and any questions on the process should be sent direct to the Commission olgerts.viksne@ec.europa.eu and copied please to Gill.Campbell@decc.gsi.gov.uk and Pamela.Lathbridge@decc.gsi.gov.uk and to Clémence.marcelis@ofgem.gov.uk

Project promoters should provide :

- contact details of the project promoter
- The Member States affected by the project (direct cross-border interconnection or cross-border impact) of which there must be a minimum of two.
- the name of their proposed projects, including contact details, a short description of the project and a first assessment of how the project meets the criteria as set out in Annex B.

Early responses to the Commission would be appreciated ideally by 18 May 2012 in advance of the next regional gas group meeting.

Annex A - Criteria for Selection (Electricity)

Projects of Common Interest will be required to fulfil the following criteria:

- (a) the project is necessary for the implementation of the energy infrastructure priority corridors and areas; and
- (b) the project displays potential economic, social and environmental viability; and
- (c) the project involves at least two Member States, either by directly crossing the border of one or more Member States or by being located on the territory of one Member State and having a significant cross-border impact.

A project will have significant **cross border impact** if it is a project on the territory of a Member State, which fulfils the following conditions:

- (a) for electricity transmission, the project increases the grid transfer capacity at the border of that Member State with one or several other Member States or at any other relevant cross-section of the same transmission corridor by at least 500 Megawatt compared to the situation without commissioning of the project;
- (b) for electricity storage, the project provides storage capacity allowing a net annual electricity generation of at least 500 Gigawatt hours;

In addition, the following specific criteria shall apply to projects of common interest falling under specific energy infrastructure categories. Concerning electricity transmission and storage projects falling under the categories set out in points (a) to (d) below, the project shall be measured as follows:

Market integration, competition and system flexibility shall be measured in line with the analysis made in the latest available ten-year network development plan in electricity, notably by:

- calculating, for cross-border projects, the impact on the grid transfer capability in both power flow directions, measured in terms of amount of power (in megawatt), or, for projects with significant cross-border impact, the impact on grid transfer capability at borders between relevant Member States, between relevant Member States and third countries or within relevant Member States and on demand-supply balancing and network operations in relevant Member States.
- assessing the impact, of the project on whose Member State territory the project shall be built, all directly neighbouring Member States and all other Member States significantly impacted by the project

Sustainability - Transmission of renewable energy generation to major consumption centres and storage sites shall be measured in line with the analysis made in the latest available ten-year network development plan in electricity, notably by:

- for electricity transmission, by estimating the amount of generation capacity from renewable energy sources (by technology, in megawatts), which is connected and transmitted due to the project, compared to the amount of planned total generation capacity from these types of renewable energy sources in the concerned Member State in 2020 according to the national renewable energy action plans as defined in Article 4 of Directive 2009/28/EC.
- for electricity storage, by comparing new capacity provided by the project with total existing capacity for the same storage technology on whose territory the project shall be built, all directly neighbouring Member States and all other Member States significantly impacted by the project.

Interoperability and secure system operation shall be measured in line with the analysis made in the latest available ten-year network development plan in electricity. This should assess the impact of the project on the loss of load expectation on whose territory the project shall be built, all directly neighbouring Member States and all other Member States significantly impacted by the project in terms of generation and transmission adequacy for a set of characteristic load periods, taking into account expected changes in extreme weather events and their impact on infrastructure resilience.

The total expenditure for the project over its technical lifecycle shall be taken into account when calculating these indicators.

Energy Infrastructure Categories (Electricity)

The electricity energy infrastructure categories to be developed in order to implement the energy infrastructure priorities are the following:

- (a) high-voltage overhead transmission lines, if they have been designed for a voltage of 220 kV or more, and underground and submarine transmission cables, if they have been designed for a voltage of 150 kV or more;
- (b) concerning in particular electricity highways; any physical equipment designed to allow transport of electricity on the high and extra-high voltage level, in view of connecting large amounts of electricity generation or storage located in one or several Member States or third countries with large-scale electricity consumption in one or several other Member States;
- (c) electricity storage facilities used for storing electricity on a permanent or temporary basis in above-ground or underground infrastructure or geological sites, provided they are directly connected to high-voltage transmission lines designed for a voltage of 110 kV or more; and
- (d) any equipment or installation essential for the systems defined in (a) to (c) to operate safely, securely and efficiently, including protection, monitoring and control systems at all voltage levels.

Annex B - Criteria for Selection (Gas)

Projects of Common Interest will be required to fulfil the following criteria:

- (a) the project is necessary for the implementation of the energy infrastructure priority corridors and areas;
- (b) the project displays potential economic, social and environmental viability; and
- (c) the project involves at least two Member States, either by directly crossing the border of one or more Member States or by being located on the territory of one Member State and having a significant cross-border impact.

A project will have significant **cross border impact** if it is a project on the territory of a Member State, which fulfils the following conditions:

- (a) for gas transmission, the project concerns investment in reverse flow capacities or changes the capability to transmit gas across the border(s) of the concerned Member State by at least 10% compared to the situation prior to the commissioning of the project;
- (b) for gas storage or liquefied/compressed natural gas, the project aims at supplying directly or indirectly at least two Member States or at fulfilling the infrastructure standard (N-1 rule) at regional level in accordance with Article 6(3) of Regulation (EU) No 994/2010;

In addition, the following specific criteria shall apply to projects of common interest falling under specific energy infrastructure categories. Concerning gas transmission and storage projects falling under the categories set out in points (a) to (d) below, the project shall contribute significantly to at least one of the following specific criteria:

- (a) **Market integration and interoperability** shall be measured by calculating the additional value of the project to the integration of market areas and price convergence, to the overall flexibility of the system, including the capacity level offered for reverse flows under various scenarios.
- (b) **Competition** shall be measured on the basis of diversification, including the facilitation of access to indigenous sources of supply, taking successively into account diversification of sources, counterparts and routes and the impact of new capacity on the HHI index calculated at capacity level for the area of analysis on whose territory the project shall be built, all directly neighbouring Member States and all other Member States significantly impacted by the project.
- (c) **Security of gas supply** shall be measured by calculating the additional value of the project to the short and long-term resilience of the system and to enhancing the remaining flexibility of the system to cope with supply disruptions under various scenarios, as well as the additional capacity provided by the project measured in

relation to the infrastructure standard (N-1 rule) at regional level in accordance with Article 6(3) of Regulation (EU) No 994/2010.

- (d) **Sustainability** shall be measured as the contribution of a project to reduce emissions, to support the back-up of renewable electricity generation or power-to-gas and biogas transportation, taking into account expected changes in climatic conditions.

Energy Infrastructure Categories (Gas)

The gas energy infrastructure categories to be developed in order to implement the energy infrastructure priorities are the following concerning:

- (a) transmission pipelines for the transport of natural gas and bio gas that form part of a network which mainly contains high-pressure pipelines, excluding high-pressure pipelines used for upstream or local distribution of natural gas,
- (b) underground storage facilities connected to the above-mentioned high-pressure gas pipelines,
- (c) reception, storage and regasification or decompression facilities for liquefied natural gas (LNG) or compressed natural gas (CNG);
- (d) any equipment or installation essential for the system to operate safely, securely and efficiently or to enable bi-directional capacity;

Annex C – Energy Infrastructure Priority Corridors and Areas

PRIORITY ELECTRICITY CORRIDORS

- (1) Northern Seas offshore grid (“NSOG”): integrated offshore electricity grid in the North Sea, the Irish Sea, the English Channel, the Baltic Sea and neighbouring waters to transport electricity from renewable offshore energy sources to centres of consumption and storage and to increase cross-border electricity exchange.
- (2) North-South electricity interconnections in Western Europe (“NSI West Electricity”): interconnections between Member States of the region and with the Mediterranean area , notably to integrate electricity from renewable energy sources.
- (3) North-South electricity interconnections in Central Eastern and South Eastern Europe (“NSI East Electricity”): interconnections and internal lines in North-South and East-West directions to complete the internal market and integrate generation from renewable energy sources.
- (4) Baltic Energy Market Interconnection Plan in electricity (“BEMIP Electricity”): interconnections between Member States in the Baltic region and reinforcing internal grid infrastructures accordingly, to end isolation of the Baltic States and to foster market integration in the region.

PRIORITY GAS CORRIDORS

- (5) North-South gas interconnections in Western Europe (“NSI West Gas”): gas infrastructure for North-South gas flows in Western Europe to further diversify routes of supply and for increasing short-term gas deliverability.
- (6) North-South gas interconnections in Central Eastern and South Eastern Europe (“NSI East Gas”): gas infrastructure for connecting the Baltic Sea region, the Adriatic and Aegean Seas and the Black Sea, and for enhancing diversification and security of gas supply;
- (7) Southern Gas Corridor (“SGC”): infrastructure for the transmission of gas from the Caspian Basin, Central Asia, the Middle East and the Eastern Mediterranean Basin to the Union to enhance diversification of gas supply.
- (8) Baltic Energy Market Interconnection Plan in gas (“BEMIP Gas”): gas infrastructure to end the isolation of the three Baltic States and Finland and their single supplier

dependency and to increase diversification and security of supplies in the Baltic Sea region;

PRIORITY OIL CORRIDOR

- (9) Oil supply connections in Central Eastern Europe ("OSC"): interoperability of the oil pipeline network in Central Eastern Europe to increase security of supply and reduce environmental risks associated with shipping.

PRIORITY THEMATIC AREAS

- (10) Smart grids deployment: adoption of smart grid technologies across the Union to efficiently integrate the behaviour and actions of all users connected to the electricity network, in particular the generation of large amounts of electricity from renewable or distributed energy sources and demand response by consumers;
- (11) Electricity highways: first electricity highways by 2020, in view of building an electricity highways system across the Union that is capable of:
 - i) accommodating ever-increasing wind surplus generation in and around the Northern and Baltic Seas and increasing renewable generation in the East and South of Europe and also North Africa;
 - ii) connecting these new generation hubs with major storage capacities in Nordic countries and the Alps and with major consumption centres, and
 - iii) coping with an increasingly variable and decentralised electricity supply and flexible electricity demand.
- (12) Cross-border carbon dioxide network: development of carbon dioxide transport infrastructure between Member States and with neighbouring third countries in view of the deployment of carbon dioxide capture and storage.