INV023-10

TYNDP 2011-2020, Annex A: Infrastructure Projects

The following Infrastructure projects questionnaires provide detailed information on the (potential) future gas infrastructures in each of the countries covered. Both FID and Non-FID projects are covered in this Annex. In accordance with the Infrastructure projects chapter of the Report, the questionnaires only provide **capacity information related to the new and/or incremental capacity**. Two capacity figures for an IP given under the Technical capacity section thus refer to two separate i**ncreases.**

The information was supplied by the respective TSOs and the third-party project sponsors through the public call for information (*see the Infrastructure Projects chapter for more information*).

Please also note the following when interpreting the data provided:

- The FID status row/column gives information about the exact/expected year in which the FID was/is to be taken or only indicates the status (FID / Non-FID) where the year is not available or not known.
- The commissioning date with regards to the non-FID projects is to be understood as the best estimate for the purpose of this TYNDP.
- No reference is made to the legal form of the transmission system operators.

AUSTRIA

BOG - Infrastructure Projects

General Information

Types of project

✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes [1]			
WAG Expansion 3	2010	2013	

Link to the TSO's website	http://www.BOG-GmbH.at

Technical Information

Total length of new pipes (based on the above list)	63 Km
Diameter range of new pipes	1200 mm

Technical capacity

[1] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Interconnections	(in 10^6 Nm^3/d)	Remarks
Baumgarten	Entry: 5.58 Exit: 5.40	WAG Expansion 3 GCV: 11.12 kWh/Nm^3
Oberkappel	Entry: 5.40 Exit: 5.58	WAG Expansion 3 GCV: 11.12 kWh/Nm^3

Expected Benefits

- SoS
- Market Integration (Increase of competition)

Changes as compared to TYNDP 2010-2019

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Nabucco Gas Pipeline Project

General Information

Name of the project	NABUCCO Gas Pipeline Project
Type of project	Pipeline (incl. CSs)
Name of the sponsors and their shares	o OMV Gas and Power GmbH o RWE Supply and Trading GmbH o MOL Hungarian Oil and Gas PLC o S.N.T.G.N.Transgaz S.A. o Bulgarian Energy Holding EAD o BOTAS Boru Hatlari Ile Petrol Tasima AS each of them holding the same shares
Link to the project website	www.nabucco-pipeline.com

Technical Information

Length of the pipe	Approximately 4,000 km
Diameter	1,420/1,220 mm

Technical capacity	31 (in 10^9 Nm^3/y)
Expected load factor	0.9
Power of the CS(s)	Approximately 730 MW (absorbed power)
Interconnections with other gas infrastructures	Nabucco pipeline will have off-take points along the whole route in all countries crossed by the pipeline and thus will be connected with all existing national gas pipeline infrastructures as well as with storage facilities. The exact location of all off-take points is currently assessed within the ongoing detailed engineering design study.
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2015 FID: Q_4 2011 End of permitting phase: MID 2011
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	Design & Permitting phase in advanced stage o Nabucco Consortium welcomes ratification of Intergovernmental Agreement by the Turkish Parliament - 5 March 2010 o Nabucco Gas Pipeline International confirms Nabucco Timeline - 25 March 2010 o Nabucco paves the way for construction - 23 April 2010 o Nabucco starts prequalification tender for long lead items including line pipes, valves and bends. o Nabucco is on track - 26 May 2010 o Press statement in response to the Azerbaijani-Turkish agreement on the transportation of gas - 8 June 2010 o Turkey: Nabucco opens dialogue with communities - 19 July 2010 o Nabucco: Modification of feeder line concept - 23 August 2010 o EBRD, EIB and IFC start appraisal of Nabucco pipeline - 6 September 2010 o All press releases can be found in detail on the Nabucco website.

TEN-E Project Information

Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Priority project
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: 1. 28.04.2003 2. 20.06.2005 3. 24.04.2009 Year in which funding was received: 1. 2004 2. 2007 advance payment 3. no payment so far

Expected Benefit

What is/are the expected benefit(s) of the project?	The projects' benefits are unique for many reasons: Interconnectivity: No other project will connect European and Turkish Markets and the South East European national grids. Turkey, Bulgaria, Romania, Hungary, Austria and via the Central European Gas hub all other countries of Europe will receive Nabucco gas. Third Party Access: No other project in the region offers 16 bcm/y transport capacity to third parties Stability by Treaty: No other project provides a predictable, long term concept over 50 years backed by an Intergovernmental Agreement (IGA) for gas transit via Turkey which is compatible with European Energy Law Supply Security: No other project will provide a gas transport volume of 31 bcm/y to gas producers from Central Asian and Middle East from alternative sources directly into the centre of the European markets Market Liquidity/Competition: No other project will reach such a high number of shippers, industrial users, wholesalers at competitive conditions in the European market Market recovery: No other project promoter will spend [such an amount] to construct an infrastructure project with a transparent procurement regime.

TPA regime

Have you applied for an exemption from Third Party Access?	Yes , granted by all National Regulators and the EC

(Expected) Gas Sourcing

(Expected) Gas Sourcing	The major expected gas sources are from: o Azerbaijan o Turkmenistan o Iraq

	o Egypt
Inter-governmental Agreements	
Inter-governmental agreements	The Intergovernmental Agreement (IGA) was signed in form of a Treaty among the Nabucco transit countries, Austria, Hungary, Romania, Bulgaria and Turkey in Ankara on July 13, 2009 and provides a stable legal framework for the entire project. Furthermore: o it guarantees full political support and is valid for 50 years o it ensures equal legal conditions for gas transit throughout the entire Nabucco pipeline system o it lays down transport tariff methodology and rules for network access o it defines a "one stop shop" concept for the whole length of the Nabucco pipeline system o Up to three "feeder" lines are covered o it defines a volume of 16 bcm/y for Third Party Access o it establishes political committee comprising representatives of all signatory countries to support development of the project
Financing Structure	
Expected or obtained share of public financing	The Nabucco project is eligible for 200 million Euro grant funds under the European Economic Programme for Recovery (EEPR). Sovereign guarantees shall be provided by means of export credit agency (ECA) covers based on the procurement of material supplies from specific countries.
Expected or obtained share of private financing	Private financing shall be provided by commercial banks.
Expected or obtained share of multilateral financing	A substantial share of the overall financing shall be provided by International Finance Institutions (IFIs), in particular the EBRD, EIB and IFC. The contributions of the individual financing sources listed in this table shall depend on the further structuring of the project.

South Stream Gas Pipeline Project

General Information

Name of the project	South Stream Project* **South Stream Project is considered as being comprised of the offshore section and the onshore section*
Type of project	Pipeline (incl. CSs)
Name of the sponsors and their shares	<u>South Stream Project, Offshore Section**:</u> 1. OAO Gazprom - 50 % 2. ENI S.p.A. - 50 % ***Électricité de France S.A. is expected to become the third Sponsor by the end of 2010 through decrease in the share of Eni S.p.A.* <u>South Stream Project, Onshore Section:</u> 1. Bulgaria: OAO Gazprom - 50 % Bulgarian Energy Holding EAD - 50 %

	2. Serbia: OAO Gazprom - 51 % JP Srbijagas - 49 % 3. Hungary: OAO Gazprom - 50 % Hungarian Development Bank PLC (MFB Ltd.) - 50 % 4. Slovenia: OAO Gazprom - 50 % Geoplin plinovodi d.o.o. - 50 % 5. Austria: OAO Gazprom - 50 % OMV Gas & Power GmbH - 50 % 6. Croatia: OAO Gazprom - 50 % Plinacro d.o.o. - 50 % 7. Greece: OAO Gazprom - 50 % Hellenic Gas Transmission System Operator S.A. (DESFA S.A.) - 50 %
Link to the project website	http://south-stream.info/?L=1 http://gazprom.com/production/projects/pipelines/south-stream/
Technical Information	
Length of the pipe	Offshore: Approx. 940 ** (in km) ***4 lines are assumed to be laid on the Black Sea bed* Onshore: Varies from 1,975 km to 2,775 km in total at present depending on a route alternative: 1. Bulgaria: from 500 to 920 *The upper range limit (920 km) embraces the length of the Bulgarian/Greek gas pipeline section, which is currently being negotiated with the Bulgarian partner*

	2. Serbia: from 390 to 450 3. Hungary: from 230 to 380 4. Slovenia**: from 250 to 300 5. Austria**: from 35 to 55 6. Croatia**: *The parameters are currently being specified* 7. Italy**: from 10 to 20 8. Greece**: from 390 to 440 9. the Ionian Sea**: from 170 to 210 ***For the route options involving the territories in question*
Diameter	Offshore: 812,8*** (in mm) ****Nominal outside diameter* Onshore: 1. Bulgaria: 1420 and/or 720 *The lower value (720 mm) implies the diameter of the Bulgarian/Greek gas pipeline section, which is currently being negotiated with the Bulgarian partner* 2. Serbia: 1420 and/or 1220 3. Hungary: 1420 and/or 1220 4. Slovenia**: 1220 and/or 1020 5. Austria**:

	1220 *6.* Croatia**: *the parameters are currently being specified* 7. Italy**: 1220 and/or 1020 8. Greece**: 720 and/or 630 9. the Ionian Sea**: 356 ***For the route options involving the territories in question* ****Nominal outside diameter*
Technical capacity	Offshore: 58,7 in 10^9 Nm^3/y Onshore: The technical entry capacity of the gas pipeline (on the Bulgarian Black Sea coast): 58,7 in 10^9 Nm^3/y The technical exit capacity of the gas pipeline (in Tarvisio or Baumgarten and / or Otranto) varies depending on the route alternatives: from 18,8 to 20 in 10^9 Nm^3/y
Expected load factor	Offshore: 0,9 Onshore: 0,9
Power of the CS(s)	Offshore: Approx. 450 (in MW) Onshore: 1. Bulgaria: from 390 to 540 *The upper range limit (540 MW) embraces the Bulgarian/Greek gas pipeline section, which is currently being negotiated with the Bulgarian partner* 2. Serbia: from 140 to 200 3. Hungary: from 55 to 75 4. Slovenia**: from 55 to 110 5. Austria**:

	n/a 6. <u>Croatia**:</u> *n/a* *the parameters are currently being specified* 7. <u>Italy**:</u> n/a 8. <u>Greece**:</u> from 8 to 20 9. <u>the Ionian Sea**:</u> n/a ***For the route options involving the territories in question*
Interconnections with other gas infrastructures	Offshore: The Offshore section of the South Stream Project is assumed to be interconnected with the Unified Gas Supply System (UGSS) of the Russian Federation, which operator is OAO Gazprom. The interconnections with the UGSS will be located in Krasnodarsky krai (Russia) on the Russian Black Sea coast. Onshore: The onshore section of the South Stream Project is assumed to have internal interconnections with the existing national gas transportation systems of each European country involved in the project through the offtake points. The precise location of the interconnections with the existing national gas transportation systems will be determined upon completion of the consolidated (for the whole project) feasibility study. Feasibility of utilizing existing gas transport capacities for the purpose of the onshore section of the South Stream Project is also being examined at present within the consolidated feasibility study. The results of this study will enable a decision on such interconnections with the onshore section of the South Stream Project with their precise location and operator.
Time Schedule	
Probable date of commissioning and the main milestones	Offshore: Date of commissioning: end of 2015**** ****1^{st} *line of the gas pipeline to be commissioned at the end of 2015 with the rest 3 lines to be commissioned subsequently each per year* FID: 2012

	Onshore: Date of commissioning: end of 2015****
	****The gas pipeline to be commissioned at the end of 2015 with uniform increase to the full capacity of the gas pipeline in each subsequent year till the end of 2018.*
	FID: 2012
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	Offshore: Planned / Under consideration "The Gazprom headquarters hosted today a meeting dedicated to the South Stream project execution. The meeting was held by Alexey Miller, Chairman of the Company's Management Committee. The meeting participants discussed the progress with the South Stream project execution and noted that the following tangible results had been achieved on schedule as a result of Gazprom's efforts: engineering and reconnaissance surveys had been carried out in the Black Sea and a feasibility study for the pipeline's offshore section had been completed". On meeting dedicated to South Stream project execution dated June 09, 2010 Onshore: OAO Gazprom, as the South Stream initiator, is compiling a comprehensive feasibility study to summarize data on separate sections of the gas trunkline". Press release dated June 09, 2010 "On meeting dedicated to South Stream project execution"

TEN-E Project Information

Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS South Stream Project is aimed at mitigating transit risks by providing extra transport capacities for the gas volumes under the gas sales and purchase agreements in force combined with the new volumes of Russian natural gas so as to prevent potential ruptures of the free flow of Russian gas to Europe. o Other: satisfying rising natural gas demand in Europe South Stream Project is set to secure additional volumes of gas deliveries to each European country involved in the project.
TPA regime	
Have you applied for an exemption from Third Party Access?	No***** *****_As of August 31, 2010_
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	Gas portfolio of OAO Gazprom: the Unified Gas Supply System (UGSS) of the Russian Federation sourced predominantly from the Russian natural gas fields.
Inter-governmental Agreements	
Inter-governmental agreements	Offshore: Protocol between the Government of the Russian Federation and the Government of the Republic of Turkey on cooperation in the gas sphere. Onshore: 1. Agreement between the Government of the Republic of Bulgaria and the Government of the Russian Federation on cooperation in construction of the gas pipeline for transit of gas via the territory of the Republic of Bulgaria dated January 18, 2008; 2. Agreement between the Government of the Republic of Serbia and the Government of the Russian Federation on cooperation in oil and gas sector dated January 25, 2008; 3. Agreement between the Government of the Republic of Hungary and the Government of the Russian Federation on cooperation in

	construction of the gas pipeline for transit of gas via the territory of the Republic of Hungary dated February 28, 2008; 4. Agreement between the Government of the Hellenic Republic and the Government of the Russian Federation on cooperation in construction and operation of the gas pipeline on the territory of the Hellenic Republic dated April 29, 2008; 5. Agreement between the Government of the Republic of Slovenia and the Government of the Russian Federation on cooperation in construction and operation of the gas pipeline on the territory of the Republic of Slovenia dated November 14, 2009; 6. Agreement between the Government of the Republic of Austria and the Government of the Russian Federation on cooperation in the construction and operation of a natural gas pipeline on the territory of the Republic of Austria dated April 24, 2010. 7. Agreement between the Government of the Republic of Croatia and the Government of the Russian Federation on cooperation in construction and operation of the gas pipeline on the territory of the Republic of Croatia dated March 02, 2010;
Financing Structure	
Expected or obtained share of public financing	
Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	

Tauerngasleitung Gas Pipeline Project

General Information

Name of the project	Tauerngasleitung (TLG)
Type of project	Pipeline project (incl. CSs)
Name of the sponsors and their shares	o 46,17% - E.ON Ruhrgas AG, o 10,66% - Rohöl-Aufsuchungs Aktiengesellschaft, o 15,99% - Energie AG Oberösterreich, o 15,99% - Salzburg AG für Energie, Verkehr und Telekommunikation, o 6,11% - KELAG-Kärntner Elektrizitäts-Aktiengesellschaft, o 5,09% - TIGAS-Erdgas Tirol GmbH. share percentages are rounded
Link to the project website	http://www.tauerngasleitung.eu

Technical Information

Length of the pipe	Approximately 290 km
Diameter	900 mm
Technical capacity	Max. 11,388 (in 10^9 Nm^3/y)
Expected load factor	N/A
Power of the CS(s)	Approximately 66 MW
Interconnections with other gas infrastructures	o Connection with the Austrian-Bavarian-Gasline (ABG) near the German-Austrian border in Haiming/Burghausen (Operators: bayernets and E.ON Gastransport GmbH) o Entry and Exit Point at Reitsham (Upper Austria): Connection to Upper Austrian gas grid (Operator: Oberösterreichische Ferngas AG) o Exit Point at Golling: Connection to Salzburg gas grid (Operator: Salzburg AG) o Exit Point at Radenthein (Carinthia): Connection to Carinthian gas grid (Operator: Kelag) o Connection to Trans Austria Gasleitung (TAG) at Arnoldstein (Operator: OMV Gas GmbH) and possible extension to the Slovenian gas grid (Operator: Geoplin plinovodi) o Connection to the Italian gas grid in Tarvisio (Operator: Snam Rete Gas)

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: 2017 FID: 2012 End of permitting: 2012
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	Design & Permitting See TGL press release of 16 March 2010

TEN-E Project Information

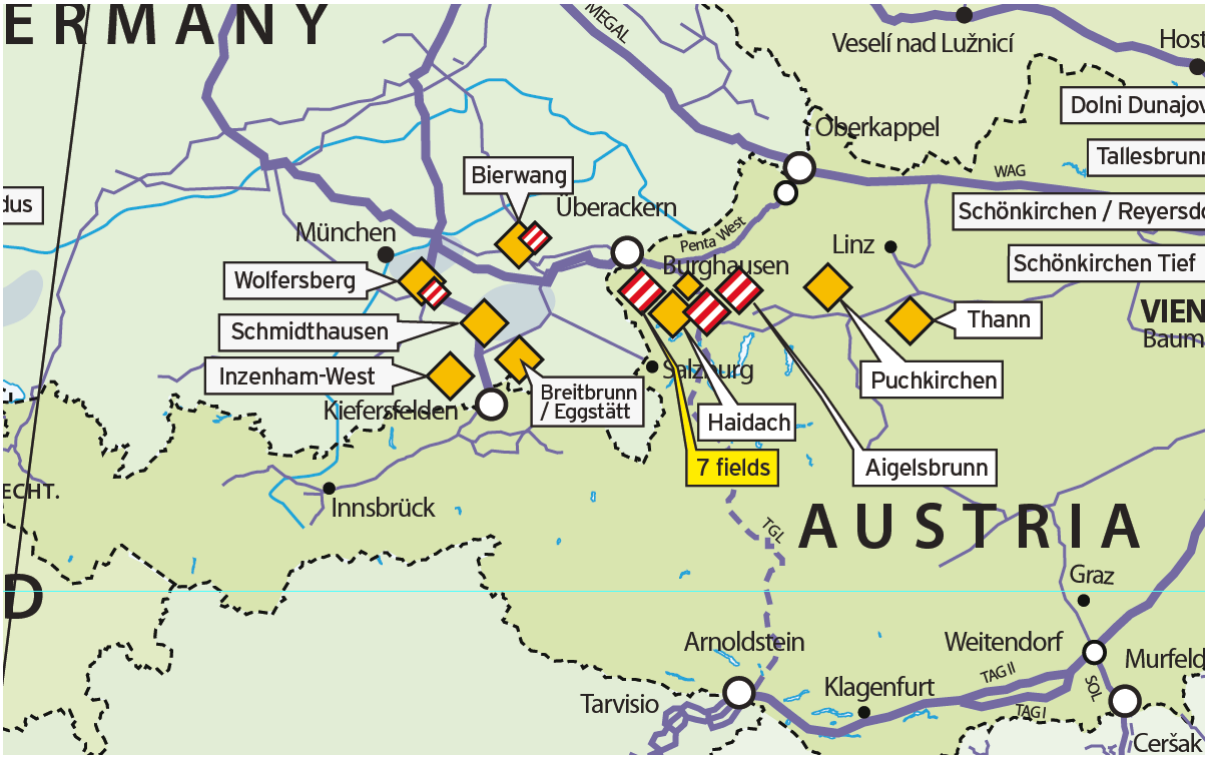
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Project of common interest
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: 2006; a further request for a new project phase was given in 2010 Year in which funding was received: 2007

Expected Benefit

What is/are the expected benefit(s) of the project?	SoS: Investments will be necessary, especially in cross-border gas transmission capacity, with a view to diversifying sources of supply, and gas transmission systems in general, especially where capacities may be needed in an emergency to supply areas with capacity shortfalls. The TGL is in line with these objectives, which focus mainly on security of supplies. Market Integration (Increase of competition): By linking the Central European (Southern Germany) with the South-East European (mainly Italy) natural gas market, the TGL increases interoperability between gas markets in Europe which are still separate, develop new natural gas sources for these markets and therefore significantly improve competition within a European single market for natural gas. Diversification of European natural gas supplies: By creating the infrastructure required for a functioning North-South/South-North system to develop the North African and Arab supply region, including liquefied natural gas (LNG) for the Mediterranean region, the TGL will reduce dependence on individual suppliers in the North and East.

TPA regime	
Have you applied for an exemption from Third Party Access?	Not yet. The exemption application under Section 20a of the Austrian Gas Act (Gaswirtschaftsgesetz) (Section 22 Directive 2003/55/EC) submitted to the Austrian regulatory authority, the Energie-Control Kommission, in June last year has been temporarily withdrawn. As basis of an exemption decision, it is necessary to wait until the 3rd EU Energy Package which has now come into force has been implemented in Austrian law as a statutory basis. Clarifications are required, especially concerning the provisions relating to ownership unbundling and the introduction of an entry/exit tariff system for natural gas transmission pipelines
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A
Inter-governmental Agreements	
Inter-governmental agreements	N/A
Financing Structure	
Expected or obtained share of public financing	0%
Expected or obtained share of private financing	Own financing 30% Loans 70% of which 70-80% from commercial banks and the rest from multilateral financing
Expected or obtained share of multilateral financing	20-30% of 70% of the overall external financing needs

7 Fields Storage Project



General Information	
Name of the project	7 Fields
Type of project	Storage facility (Porous rock storage facility)
Name of the sponsors and their shares	
Link to the project website	www.eon-gas-storage.com

Technical Information	
Working Gas Volume	1608 Mcm (in 10^6 Nm^3)
Deliverability	20 Mcm/d by 01 April 2014 (in 10^6 Nm^3/d)

Interconnections with other gas infrastructures	

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: 2011-2014 Capacity expansions starting on the following dates: 01 April 2011 – 01 April 2014: 1155 Mcm By 01 April 2014: 1608 Mcm
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	FID taken (under construction)

TEN-E Project Information

Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit

What is/are the expected benefit(s) of the project?	Market Integration (Increase of competition)

TPA regime

Have you applied for an exemption from Third Party Access?	No

(Expected) Gas Sourcing	
(Expected) Gas Sourcing	
Inter-governmental Agreements	
Inter-governmental agreements	
Financing Structure	
Expected or obtained share of public financing	
Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	

B E L G I U M

Fluxys - Infrastructure Projects

General Information

Types of project

✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Compressors			
Winksele	FID	2013	TEN-E: Priority project
Berneau	FID	2012	TEN-E: Project of common interest

Link to the TSO's website	http://www.fluxys.com

Technical Information

Total length of new pipes (based on the above list)	N/A
Diameter range of new pipes	N/A

Technical capacity

Compressors	(in MW)	
Winksele	70	
Berneau	24	

Expected Benefits

The projects stated above would have Security of Supply benefits, as the investment will reinforce the bi-directional character of the Fluxys network. The markets in Germany, France, UK and Netherlands will be better interconnected.

Inter-governmental Agreements if applicable

Fluxys organized an Open-Season process together with Gas Transport Services and GRTgaz. As a result of this process Fluxys has decided to construct 2 additional CSs.

Changes as compared to TYNDP 2010-2019

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BULGARIA

Bulgartransgaz - Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ Storage facility (indicate the type of storage)

List of projects

Project	FID	Commissioning	Remarks
Pipes [2]			
BG-RS interconnection (Dimitrovgrad-Sofia)	2012	2015	Partial financing from the European Regional Development Fund
BG-RO interconnection	2010	2012	EEPR project
Dobrich -Silistra	2010	2012	75% financing from the Kozloduy International Decommissioning Support Fund
Kozloduy-Oryahovo	2012	2013	70% financing from the Kozloduy International Decommissioning Support Fund
Storage facilities			
UGS Chiren	Non-FID	2020*	

[2] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Link to the TSO's website	http://www.bulgartransgaz.bg

Technical Information

Total length of new pipes (based on the above list)	215 km
Diameter range of new pipes	300-700 mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
BG-RS interconnection	Entry / Exit: 4.9	Bi-directional Capacity may go up to 13.6 Mcm/d
BG-RO interconnection	Entry / Exit: 4.1	Bi-directional
Storage facilities	**Deliverability (in 10^6 Nm^3/d)**	**Working Gas Volume (in 10^6 Nm^3)**
UGS Chiren	4.7 - 6.7	350 - 650

Expected Benefits

The projects listed above should enhance the system flexibility and contribute to the security of supply within the region (increased interconnection between Bulgaria and Serbia)

Inter-governmental Agreements if applicable

Memorandum of Understanding signed between Bulgaria and Serbia in 2005

Joint statement signed by Bulgaria and Serbia in 2010

Changes as compared to TYNDP 2010-2019

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CROATIA

Plinacro - Infrastructure Projects

General Information

Types of project

- ✓ Pipelile (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes			
Interconnection HR-HU Interconnection (Dravaszerdehaly – Donji Miholjac – Slobodnica)	FID / under construction	2011	
Bosiljevo-Split	FID / under construction	2012	

Link to the TSO's website	http://www.plinacro.hr

Technical Information

Total length of new pipes (based on the above list)	380 km
Diameter range of new pipes	500-800 mm

Technical capacity

Interconnections	(in 10^6 Nm^3/d)	Remarks
Dravaszerdehaly	Entry: 17.8	

Expected Benefits

Both projects have significant Security of Supply and Market Integration benefits for Croatia and the region.

Inter-governmental Agreements if applicable

Interconnection gas pipeline Dravaszerdehaly – Donji Miholjac – Slobodnica: Inter-governmental agreement (Croatia–Hungary signed 07/2010.)

Financing Structure

Expected or obtained share of public financing	Public Financed
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A

Changes as compared to TYNDP 2010-2019

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CZECH REPUBLIC

NET4GAS - Infrastructure Projects

General Information

Types of project

✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes [3]			
GAZELLE pipeline	Non-FID	2012	
Connection to power plant Počerady (Bečov)	2009	2012	
Reverse-flow projects	2009	2011	EEPR project
CZ-PL interconnection (STORK)	2009	2011	EEPR project
UGS Tvrdonice connection	2009	012	EEPR project Expansion (storage capacity increase)

Link to the TSO's website	http://www.net4gas.cz/

Technical Information

Total length of new pipes (based on the above list)	174.2 km

[3] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Diameter range of new pipes	500-1400 mm

Technical capacity

Interconnections	(in 10^6 Nm^3/d)	Remarks
Hora Sv. Kateřiny/Brandov	Entry: 86.5	GAZELLE pipeline
Lanžhot	Exit: 25	Reverse-flow projects
Cieszyn	Exit Winter: 2.4 Exit Summer : 0.38	Project STORK
UGS Tvrdonice	Exit: 2.4 Entry: 1.5	
Domestic zone	Exit: 3.6	Power plant Bečov

Expected Benefits

The NET4GAS infrastructure projects will benefit the Czech transmission system, along with proving added security of supply protection to the European gas market. The projects enhance further market integration, diversification of Czech electricity sources, along with increasing transmission capacity in a West-East direction and to Slovakia.

Inter-governmental Agreements if applicable

Financing Structure

Expected or obtained share of public financing	**Reverse-flow projects:** 50% EEPR **Interconnector to Poland (STORK):** 50% EEPR **Connection of UGS Tvrdonice:** 45% EEPR

Expected or obtained share of private financing	**Reverse-flow projects:** 50% **Interconnector to Poland (STORK):** 50% **Connection of UGS Tvrdonice:** 55%
Expected or obtained share of multilateral financing	

Changes as compared to TYNDP 2010-2019

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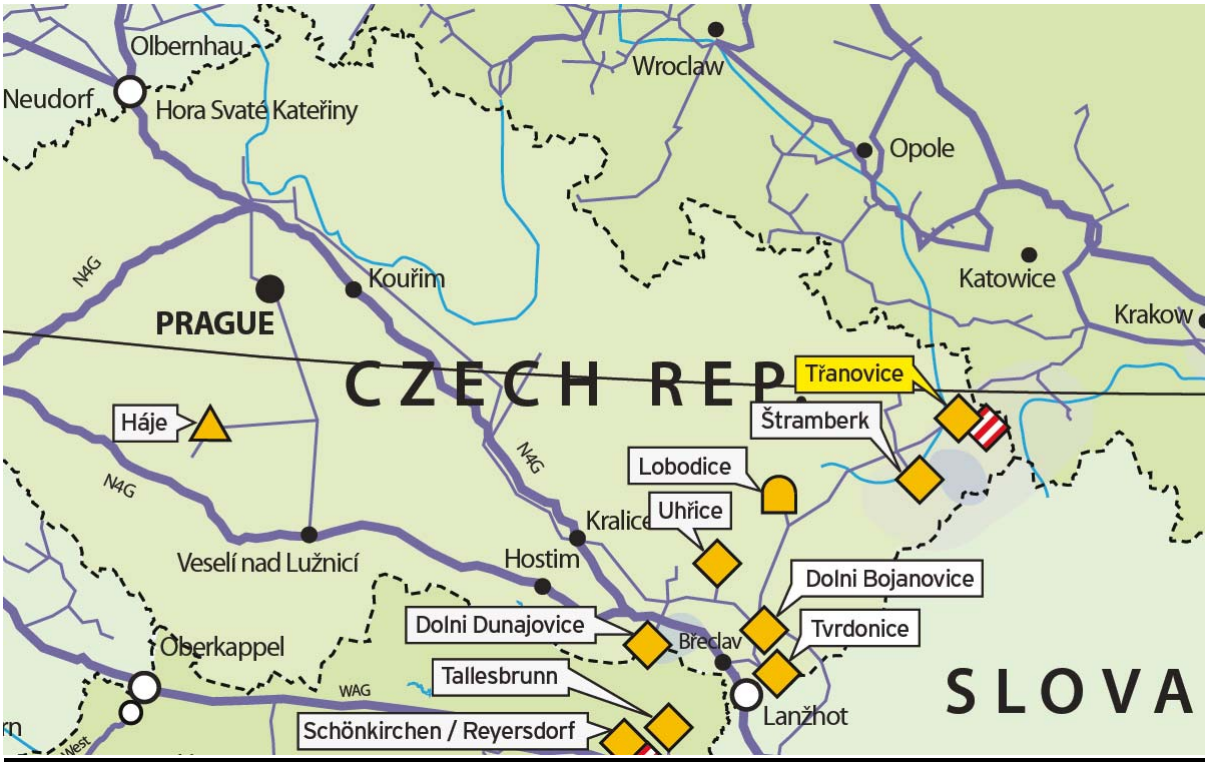
Expansion of Třanovice Storage Project



General Information	
Name of the project	Expansion of UGS Třanovice
Type of project	Storage facility (Depleted gas reservoir)
Name of the sponsors and their shares	RWE Gas Storage (approx. 4/5), EEPR financing (approx. 1/5)
Link to the project website	http://www.rwe-gasstorage.cz/en/capacity-development/
Technical Information	
Working gas volume	290 (in 10^6 Nm^3)
Deliverability	3.9 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Czech Republic's TSO (NET4GAS)

Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2012 FID: 2008 End of permitting phase: 2010
Project development phase reached	o FID taken (under construction) *http://www.rwe-gasstorage.cz/en/1802-1831/*

TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	-

Expected Benefit	
What is/are the expected benefit(s) of the project?	o Project will increase security of supply o Project will facilitate liberalisation of the Czech gas market The new gas storage capacity will both increase the ratio between storage capacity and gas consumption in the Czech Republic, thus increasing SoS, and contribute to the gas market liberalisation by providing an additional source of flexibility.

TPA regime	
Have you applied for an exemption from Third Party Access?	No

Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

Expansion of Tvrdonice Storage Project

General Information	
Name of the project	Expansion of UGS Tvrdonice
Type of project	o Storage facility (depleted gas reservoir)
Name of the sponsors and their shares	RWE Gas Storage (2/3), EEPR financing (1/3)
Link to the project website	http://www.rwe-gasstorage.cz/en/capacity-development/

Technical Information	
Working gas volume	195 (in 10^6 Nm^3)
Deliverability	1.7 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Czech Republic's TSO (NET4GAS)

Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2012 - 2016 FID: 2008 End of permitting phase: 2010 (expected)
Project development phase reached	o FID taken (under construction) http://www.rwe-gasstorage.cz/en/1802-1831/

TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	-

Expected Benefit	
What is/are the expected benefit(s) of the project?	o Project will Increase security of supply o Project will facilitate liberalization of the Czech gas market The new gas storage capacity will both increase the ratio between storage capacity and gas consumption in the Czech Republic, thus increasing SoS, and contribute to the gas market liberalisation by providing an additional source of flexibility.

TPA regime	
Have you applied for an exemption from Third Party Access?	No

Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-
Additional Remarks	
Co-financed from EEPR	

Expansion of Virtual Storage Project

General Information	
Name of the project	Expansion of the virtual storage operated by RWE Gas Storage
Type of project	o Storage facility (depleted gas reservoir)
Name of the sponsors and their shares	RWE Gas Storage
Link to the project website	http://www.rwe-gasstorage.cz/en/capacity-development/
Technical Information	
Working gas volume	140 (in 10^6 Nm^3)
Deliverability	2 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Czech Republic's TSO (NET4GAS)
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2015 FID: not yet taken End of permitting phase: 2012 (expected)

Project development phase reached	o planned http://www.rwe-gasstorage.cz/en/1802-1831/

TEN-E Project Information

Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	-

Expected Benefit

What is/are the expected benefit(s) of the project?	o Project will Increase security of supply o Project will facilitate liberalization of the Czech gas market The new gas storage capacity will both increase the ratio between storage capacity and gas consumption in the Czech Republic, thus increasing SoS, and contribute to the gas market liberalisation by providing an additional source of flexibility.

TPA regime

Have you applied for an exemption from Third Party Access?	No

Financing Structure

Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

DENMARK

Energinet.dk – Infrastructure Projects

General Information

Type of project

✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes [4]			
Ellund-Egtved	2010	2013	TEN-E project of common interest EEPR project
Compressors			
Egtved Phase I	2010	2013	TEN-E project of common interest EEPR project
Egtved Phase II	Non-FID	2013	

Link to the TSO's website	*http://www.energinet.dk/EN/ANLAEG-OG-PROJEKTER/Infrastructure-projects-gas/Ellund-Egtved/Sider/Ellund-Egtved.aspx*

Technical Information

Total length of new pipes (based on the above list)	94 km

[4] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Diameter range of new pipes	762 mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Ellund entry	Entry: 16.8 Exit: 4	GCV expected: 10,8 - 11,3 kWh/Nm^3 GCV: 11-12 kWh/Nm^3
Dragør exit	Exit: 1.2	Extra compressor of 5 MW (non-FID)
Compressors	**(in MW)**	
Egtved	15 5	FID Non-FID

Expected Benefits

- Security of Supply
- Market integration

The project will ensure supply of gas to the Danish and Swedish markets when the gas production from the Danish North Sea is declining. The project also ensures integration with the gas market in Germany. Furthermore, the project will enhance security of supply also in emergency situations by providing diversification of sources and routes.

Inter-governmental Agreements if applicable

N/A

Financing Structure

Expected or obtained share of	50% European Economic Recovery Programme – expected co-

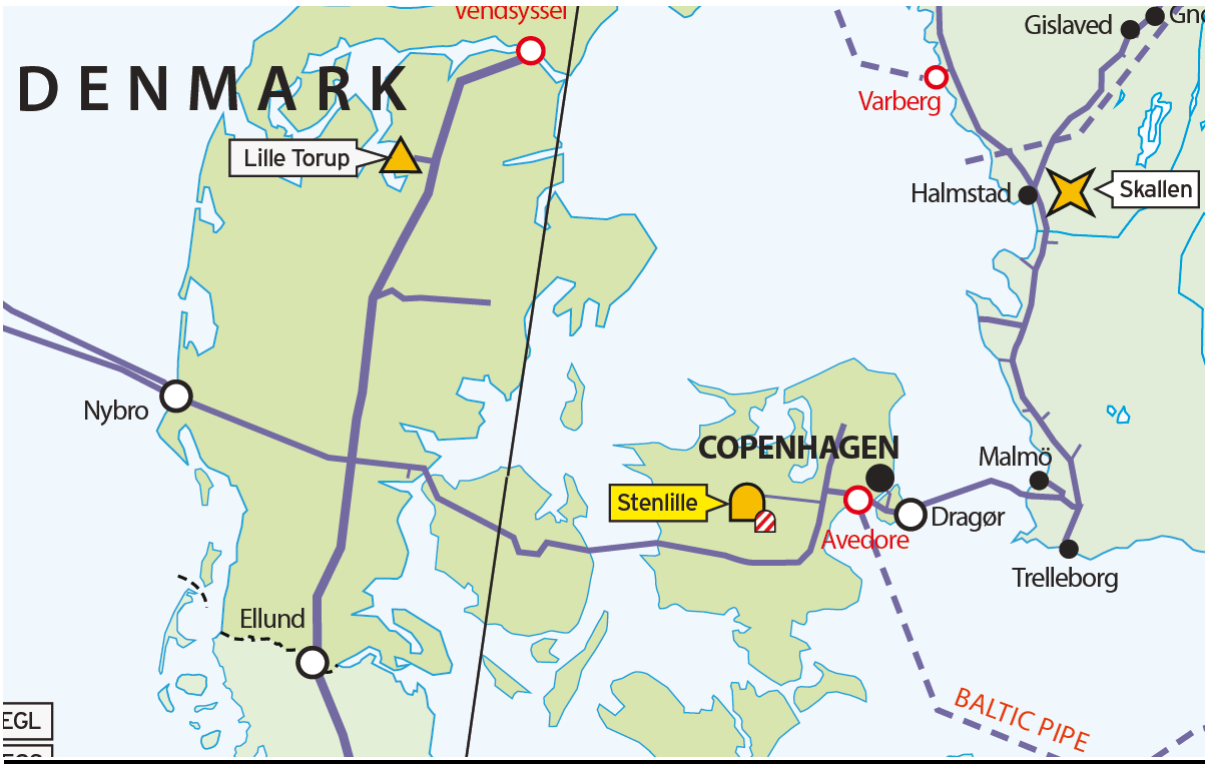
public financing	financing of 100 million EUR.
Expected or obtained share of private financing	50% Financed by Energinet.dk
Expected or obtained share of multilateral financing	

Changes as compared to TYNDP 2010-2019

The final investment decision on Ellund-Egtved as a result of the 2009 Open Season has closed the supply gap after 2013, shown in last TYNDP. National production data from Danish Energy Agency have shown a temporary sharp decline in production in the years 2010 – 2013. This has resulted in a short term supply gap in the years 2011-2013, which Energinet.dk is working on covering by agreements with Gasunie Deutschland about interruptible capacity from Germany to Denmark. This is expected to solve the problem.

Capacity in Denmark is normally defined in kWh/h and not on daily or yearly terms.

Expansion Stenlille phase 2 Storage Project



General Information	
Name of the project	Expansion Stenlille phase 2
Type of project	Storage facility (Aquifer)
Name of the sponsors and their shares	DONG Energy 100 %
Link to the project website	-

Technical Information	
Working gas volume	150 (in 10^6 Nm^3)
Deliverability	N/A (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Denmark, expansion of the existing Stenlille Storage

Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: unknown FID: unknown End of permitting phase: unknown
Project development phase reached	Planned / Under consideration

TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	-

Expected Benefit	
What is/are the expected benefit(s) of the project?	Market Integration (Increase of competition)

TPA regime	
Have you applied for an exemption from Third Party Access?	No

Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

ESTONIA

Paldiski LNG project

General Information

Name of the project	**Paldiski LNG Terminal**
Type of project	LNG Terminal
Expected costs	400 (in 10^6 €)
Name of the sponsors and their shares	AS Balti Gaas 100%
Link to the project website	N/A

Technical Information

Annual capacity	2.4 - 3 (in 10^9 Nm^3/y)
Daily send-out capacity	24 (in 10^6 Nm^3/d)

LNG storage capacity	320,000 (in m^3 LNG)
Interconnection with other gas infrastructures	Balticconnector (Paldiski EE-Inkoo FIN)
Time Schedule	
Probable date of commissioning and the main milestones	Design & Permitting (ending January 2011)
Project development phase reached	Planned / Under consideration
IGA, Mandate Letter, LLI Tender, FEED	
TEN-E Project Information	
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Priority Project BEMIP
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Not yet

Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) o Alternative supply
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A
Inter-governmental Agreements	
Inter-governmental agreements	N/A
Financing Structure	
Expected or obtained share of public financing	33%
Expected or obtained share of private financing	33%
Expected or obtained share of multilateral financing	33%

Eesti Gaas - Infrastructure Projects

General Information

Types of project

✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes [5]			
Balticconnector (including CS)	Non-FID		TEN-E project BEMIP

Link to the TSO's website	N/A

Technical Information

Total length of new pipes (based on the above list)	Offshore 79 km Onshore 49 km
Diameter range of new pipes	500 -700 mm

Technical capacity

[5] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Balticconnector	7.2	
Compressors	**(in MW)**	
'Paldiski'	35 MW	

Expected Benefits

- Market integration through connecting the Estionian and Finnish market
- SoS
- Flexibility for the future LNG flows

Financing Structure

Expected or obtained share of public financing	
Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	75%

Changes as compared to TYNDP 2010-2019

-

FINLAND

Gasum - Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ LNG terminal

List of projects

Project	FID	Commissioning	Remarks
Pipes [6]			
Balticconnector (FI-EE)	2014	2016	TEN-E: Priority project
LNG terminals			
Finngulf	2014	2016	

Link to the TSO's website	http://www.gasum.com

Technical Information

Total length of new pipes (based on the above list)	80 km
Diameter range of new pipes	500-700 mm

Technical capacity

[6] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Balticconnector	7.2 – 11.8	
Compressors	**(in MW)**	
'Balticconnector CS'	20 – 30	
LNG terminals	**Send-out (in 10^6 Nm^3/d)**	**Annual capacity (in 10^9 Nm^3/y)**
Finngulf	12	4

Expected Benefits

Balticconnector is a project targeted to interconnect markets around the northern Baltic Sea. It will enable two-way gas flows between Finland and Estonia and provide more gas supply capacity and flexibility for the whole region. Together with Finngulf LNG terminal, it improves the security of gas supply of Finland and Baltic Countries.

Together with Balticconnector, Finngulf LNG terminal makes it possible to diversify the gas sourcing from international LNG markets and thus improve the security of gas supply of Finland and Baltic Countries.

Financing Structure

Expected or obtained share of public financing	Balticconnector 50% Finngulf LNG 50%
Expected or obtained share of private financing	Balticconnector 50% Finngulf LNG 50%
Expected or obtained share of multilateral financing	

Changes as compared to TYNDP 2010-2019

-

FRANCE

GRTgaz -- Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs) linked to interconnections developments

List of projects

Project	FID	Commissioning	Remarks
Developments for the interconnection BE→FR	2010	2013	EEPR project
Developments for the interconnection ES←→FR (Chazelles CS)	2010	2013	EEPR project Contribution to the development of Larrau IP
Developments for the Dunkerque LNG new terminal	2011	2014/2015	
Developments for the Antifer LNG new terminal	2011/2012	2015/2016	
Developments for the Montoir LNG terminal expansion	Non-FID	Phase 1 : 2014 Phase 2: 2017	
Developments for the Fos faster LNG new terminal	2013	2016	
Development for the Fos Tonkin LNG terminal expansion	2012	2016	
Developments for the FR→BE interconnection : development at Taisnières IP or new IP at Veurne	2011	Taisnières IP: 2014 Veurne IP : 2016	
Developments for the new interconnection IT→FR (GALSI→Corsica)	Non-FID	2015/2016	
Developments for the interconnection	Non-FID	2016/2017	

Fr<>CH<>IT at Oltingue			
Developments for the interconnection between GRTgaz North and GRTgaz South	Non-FID	2016/2017	
Development for Fos Cavaou LNG expansion	Non-FID	2020*	

Link to the TSO's website	http://www.grtgaz.com/en/home/major-projects/projects-in-study/10-year-development/

Technical Information

Total length of new pipes (based on the above list)	2000 (in km)
Diameter range of new pipes	From 400 to 1200 (in mm)
Total power (MW) and Number of stations	290 MW on 8 CSs
Technical capacity	

Interconnections	(in 10^6 Nm^3/d)	Remarks
Developments for the interconnection BE→FR (Taisnières IP)	Entry: 4.4	
Developments for the interconnection ES←→FR (PIR MIDI)	Exit: 6 Entry: 15	Interconnection between GRTgaz and TIGF
Developments for the Dunkerque LNG new terminal	31 45	If 10 Gm^3/y If 13 Gm^3/y
Developments for the Antifer LNG new terminal	27	For 9 Gm^3/y
Developments for the Montoir LNG terminal expansion	6 12	For an expansion of 2.5 Gm^3/y For an additional expansion of 4 Gm^3/y
Developments for the Fos Faster LNG new	22	for 8 Gm^3/y (initial)

terminal	11	for an expansion of 4 Gm^3/y
Development for the Fos Tonkin LNG terminal expansion	21	For 7 Gm^3/y
Developments for the FR→BE interconnection : development at Taisnières IP or new IP at Veurne	Exit: 7 Exit: 35	For Taisnières IP For Veurne IP
Developments for the new interconnection IT→FR (GALSI→Corsica)	-	Not considered in the network modelling
Developments for the interconnection Fr<>CH<>IT at Oltingue	Entry: 8.8 Exit: 5	
Developments for the interconnection between GRTgaz North and GRTgaz South	17.5	Expansion of the GRTgaz North→GRTgaz South connection
Development for Fos Cavaou LNG expansion	28	For an expansion of 8.25 Gm^3/y

Expected Benefits

Market integration (increase of competition) and security of supply

Financing Structure

Expected or obtained share of public financing	1,5%
Expected or obtained share of private financing	98,5%
Expected or obtained share of multilateral financing	0

Changes as compared to TYNDP 2010-2019

-

TIGF - Infrastructure Projects

General Information

Types of project

✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes			
Artère du Béarn (FR-ES interconnection)	2010	2012	TEN-E: Project of European Interest
Biriatou/Irun (Euskadour) (FR-ES interconnection)	Non-FID	December 2015	Expected FID January 2011
Artère de Guyenne (Phase B: Girland Project)	2010	2013	
FR-ES interconnection (MIDCAT)	Non-FID	2020*	

Link to the TSO's website	http://www.tigf.fr

Technical Information

Total length of new pipes (based on the above list)	214 km
Diameter range of new pipes	600-900 mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Larrau	Entry:14.3 Exit: 5.7	Artère du Béarn project GCV: 11.5 kWh/Nm3
Biriatou/Irun	Entry: 4.8 Exit: 5.2	GCV: 11.5 kWh/Nm3
PIR Midi GRTgas<> TIFG	Entry: 4.3 Exit: 15.7	GCV: 11.5 kWh/Nm3
Le Perthus	Entry: 15.7 Exit: 20	New IP linked to the development of the MIDCAT project
Compressors	**(in MW)**	
Sauveterre	8	Part of the Artère de Guyenne (Phase B: Girland Project)

Expected Benefits

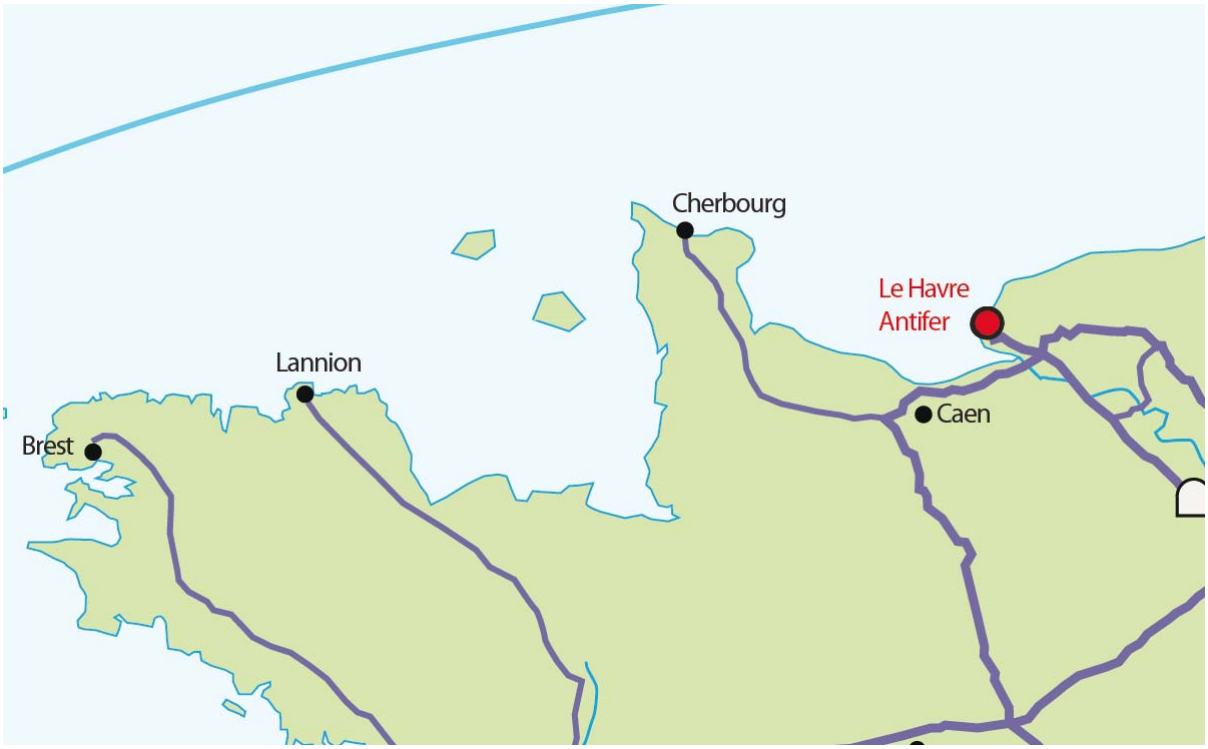
The increase of the gas flow between France and Spain will be provided by the **Project Artère du Béarn** and in parallel the **Project Artère de Guyenne (Phase B : Girland Project)** will contribute to reinforce the flexibility of the zone.

Both Projects aim to facilitate the gas flow at the cross border or within the TIGF's zone, therefore improving the Security of Supply situation of the South Region zone.

Changes as compared to TYNDP 2010-2019

-

Antifer LNG Project



General Information	
Name of the project	Antifer LNG Terminal
Type of project	LNG Terminal
Link to the project website	www.gazdenormandie.com

Technical Information	
Annual capacity	9 (in 10^9 Nm^3/y)
Daily send-out capacity	27.6 (in 10^6 Nm^3/d)
LNG storage capacity	510,000 – 3 tanks (in m^3 LNG)

Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: **2015** FID: 2011 End of permitting phase: 2011
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	Design & Permitting *http://gazdenormandie.com/tl_files/documents/CP%205%20nov%202020 09_EN.pdf*

TEN-E Project Information	
Is the project part of TEN-E?	No

Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS : a new LNG terminal is *per se* enhancing the Security of Supply by creating a new entry point into the system. In addition, a new LNG terminal is an opportunity to diversify the portfolio of gas suppliers. o Market Integration (Increase of competition): as an exemption from third-party access will be requested, Antifer LNG Terminal gives absolute priority to potential shippers who do not have a strong market position ("new entrants")

TPA regime	
Have you applied for an exemption from Third Party Access?	No (not yet)

(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A

Inter-governmental Agreements	
Inter-governmental agreements	N/A
Financing Structure	
Expected or obtained share of public financing	N/A
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A

Fos Cavaou LNG project

General Information

Name of the project	Fos Cavaou LNG Terminal
Type of project	LNG Terminal
Name of the sponsors and their shares	100% STMFC
Link to the project website	http://www.cavaou-gnl.com http://www.developpement-durable.gouv.fr/IMG/pdf/pipgaz_2009.pdf

Technical Information

Annual capacity	8.3 (in 10^9 Nm^3/y) (on a total of 16.5)
Daily send-out capacity	28.2 (in 10^6 Nm^3/d) (on a total of 56)
LNG storage capacity	520,000 (in m^3 LNG)
Interconnection with other gas infrastructures	Entry Point Fos: interconnection with GRTgaz network

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: to be determined FID: to be determined End of permitting phase: preliminary stage
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	http://www.developpement-durable.gouv.fr/IMG/pdf/pipgaz_2009.pdf

TEN-E Project Information

Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit

What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) o Others, please specify: Diversification of Supply Back up of intermittent energy supply from renewable sources, such as wind and solar See also: GIE response to DG Energy's public consultation on "Stock taking document Toward a new Energy Strategy for Europe 2011-2020"

TPA regime	
Have you applied for an exemption from Third Party Access?	No

(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A

Inter-governmental Agreements	
Inter-governmental agreements	N/A

Financing Structure	
Expected or obtained share of public financing	N/A
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A

Fos Faster LNG project

General Information

Name of the project	Fos Faster LNG Terminal
Type of project	LNG Terminal
Name of the sponsors and their shares	90% Vopak and 10% Shell
Link to the project website	http://www.fosfaster.com http://www.debatpublic-methanier-fos-faster.org/index.html http://www.debatpublic.fr/docs//communique_decisions/communiquedecisioncndp-5-mai-2010.pdf

Technical Information

Annual capacity	Initial capacity 8, expansion up to 12 (in 10^9 Nm^3/y)
Daily send-out capacity	Initial capacity 22, expansion up to 33 (in 10^6 Nm^3/d)
LNG storage capacity	Initial capacity 2x180,000 m^3, expansion up to 4 X 180,000 (in m^3 LNG)

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: 3Q 2016 FID: 1Q 2013 End of permitting phase: 4Q 2012
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	o FID taken (indicate if under construction) o Design & Permitting o Planned / Under consideration http://www.debatpublic-methanier-fos-faster.org/index.html GRTgaz publishes on its website its Ten Years Statement : http://www.grtgaz.com/fileadmin/user_upload/Institutionnel/Documents/EN/projets-etude10ans2009_en.pdf Fos Faster project is included in the current version of this document.

TEN-E Project Information

Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit

What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) http://www.debatpublic-methanier-fos-faster.org/index.html

TPA regime	
Have you applied for an exemption from Third Party Access?	Not yet. It is planned to submit a request for a full (100%) exemption. TPA Concept of Fos Faster is planned to be similar to Gate terminal in Rotterdam.

(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A

Inter-governmental Agreements	
Inter-governmental agreements	N/A

Financing Structure	
Expected or obtained share of public financing	N/A
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A

Fos Tonkin LNG project

General Information	
Name of the project	Fos Tonkin LNG Terminal
Type of project	LNG Terminal
Name of the sponsors and their shares	100% ELENGY
Link to the project website	http://www.debatpublic-prolongementexploitation-methanier-fos-tonkin.org/

Technical Information	
Annual capacity	7 (in 10^9 Nm^3/y)
Daily send-out capacity	21 (in 10^6 Nm^3/d)
LNG storage capacity	240,000 (in m^3 LNG)
Interconnection with other gas infrastructures	Entry Point Fos: interconnection with GRTgaz network

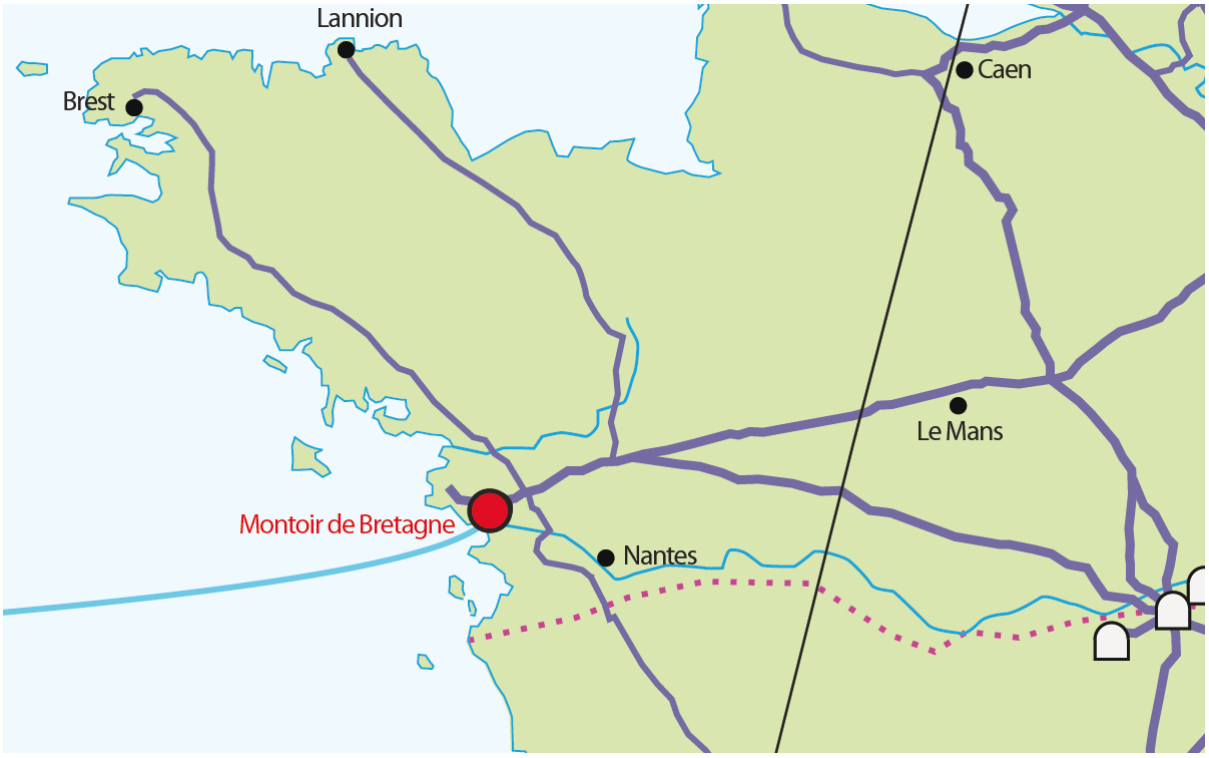
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2016 FID: 2012 End of permitting phase: 2012
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	o Public Debate : to be carried out from September till December 2010 o Planned : consultation under preparation ***http://www.debatpublic-prolongementexploitation-methanier-fos-tonkin.org/*** ***http://www.elengy.com/en/projects/open-season-fos-tonkin.html***

TEN-E Project Information	
Is the project part of TEN-E? If the project is part of TEN-E, specify the project category. If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No

Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) o Others, please specify: Diversification of Supply Back up of intermittent energy supply from renewable sources, such

	as wind and solar *See GIE response to DG Energy's public consultation on "Stock taking document Toward a new Energy Strategy for Europe 2011-2020"*
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A
Inter-governmental Agreements	
Inter-governmental agreements	N/A
Financing Structure	
Expected or obtained share of public financing	N/A
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A

Montoir II LNG project



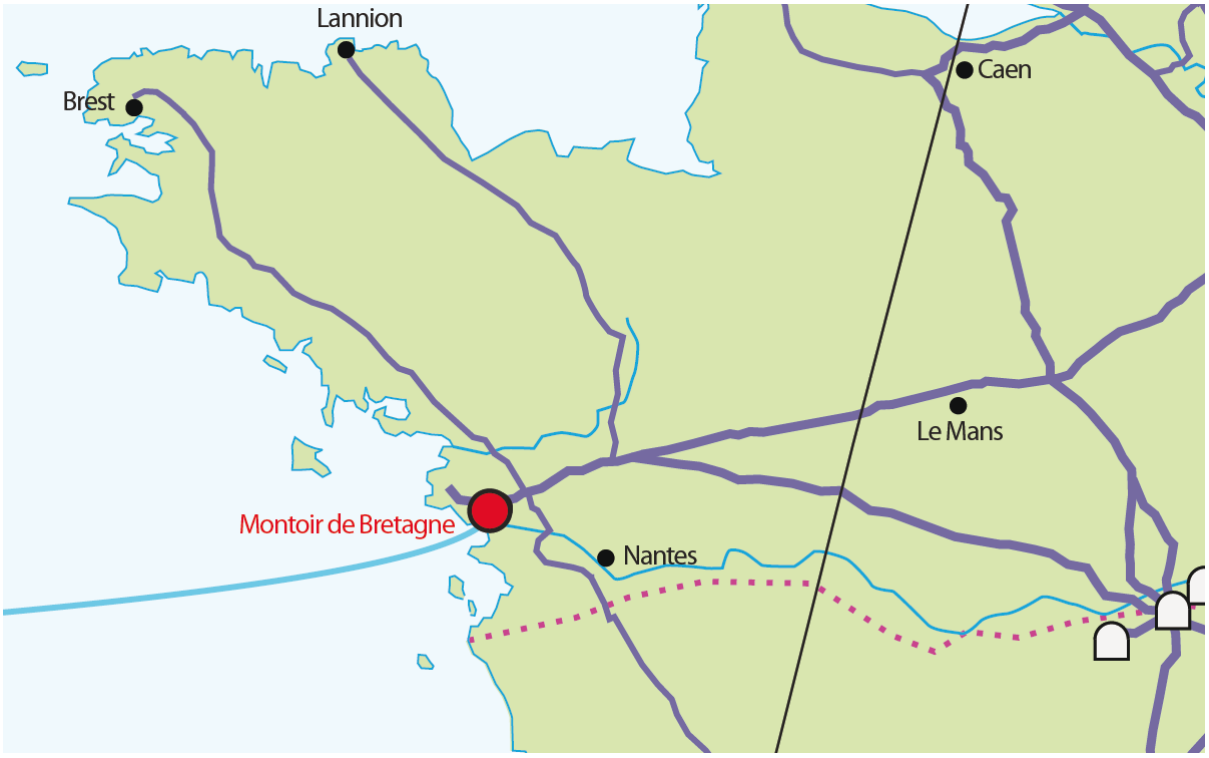
General Information	
Name of the project	Montoir extension LNG Terminal
Type of project	LNG Terminal
Name of the sponsors and their shares	100% ELENGY
Link to the project website	http://www.elengy.com/en/projects/montoir-extension.html

Technical Information	
Annual capacity	2.5 (in 10^9 Nm^3/y) (on a final total of 12.5) (in 10^9 Nm^3/y)
Daily send-out capacity	0 (in 10^6 Nm^3/d) (on a final total of 38) (in 10^6 Nm^3/d)

LNG storage capacity	360,000 (in m^3 LNG)
Interconnection with other gas infrastructures	Entry Point Montoir: interconnection with GRTgaz network
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2014 FID: to be determined End of permitting phase: permitted (subject to start of construction before mid0January 2011)
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	o Design & Permitting o Planned : consultation currently underway ***http://www.elengy.com/en/projects/montoir-extension.html***
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) o Others, please specify:

	▪ Diversification of Supply ▪ Back up of intermittent energy supply from renewable sources, such as wind and solar See GIE response to DG Energy's public consultation on "Stock taking document Toward a new Energy Strategy for Europe 2011-2020"
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A
Inter-governmental Agreements	
Inter-governmental agreements	N/A
Financing Structure	
Expected or obtained share of public financing	N/A
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A

Montoir III LNG project



General Information	
Name of the project	Montoir extension LNG Terminal
Type of project	LNG Terminal
Name of the sponsors and their shares	100% ELENGY
Link to the project website	http://www.elengy.com/en/projects/montoir-extension.html

Technical Information	
Annual capacity	4 (in 10^9 Nm^3/y) (on a final total of 16.5) (in 10^9 Nm^3/y)
Daily send-out capacity	12 (in 10^6 Nm^3/d) (on a final total of 50) (in 10^6 Nm^3/d)

LNG storage capacity	550,000 (in m^3 LNG)
Interconnection with other gas infrastructures	Entry Point Montoir: interconnection with GRTgaz network

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: 2017 FID: to be determined End of permitting phase: N/A
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	***http://www.elengy.com/en/projects/montoir-extension.html***

TEN-E Project Information

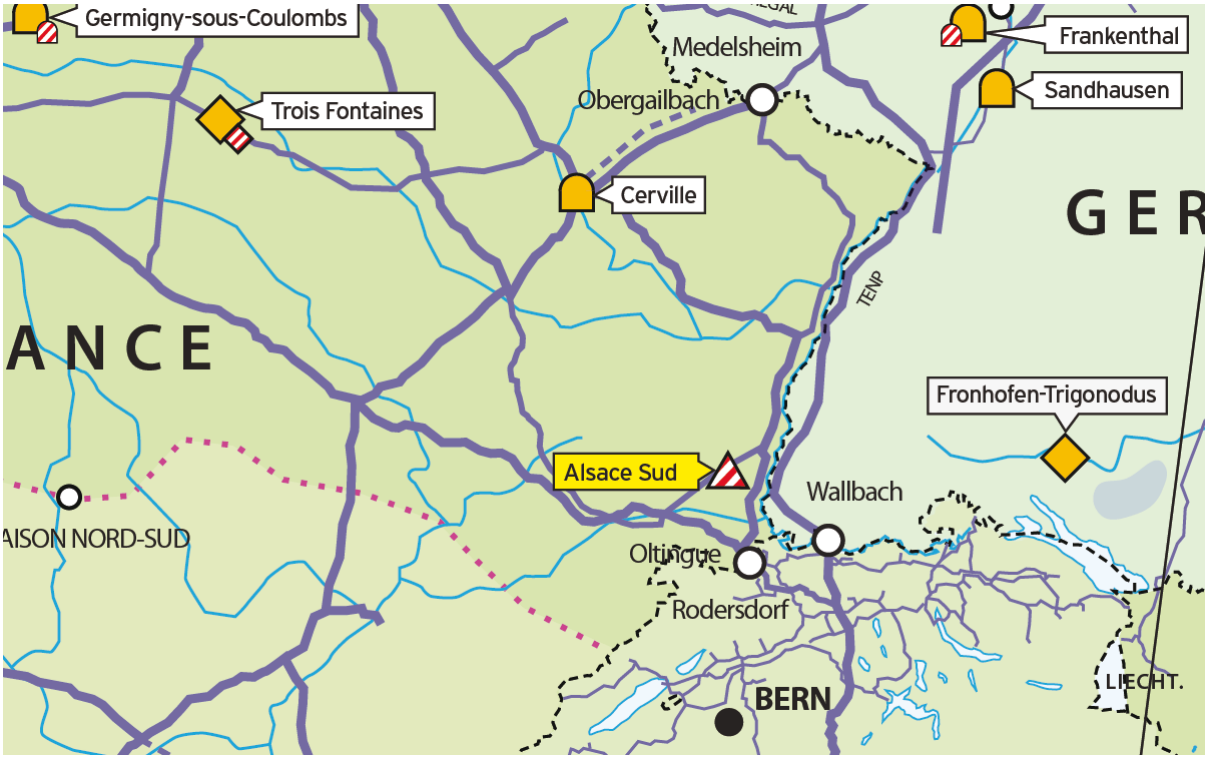
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit

What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) o Others, please specify: ▪ Diversification of Supply ▪ Back up of intermittent energy supply from renewable sources,

	such as wind and solar See GIE response to DG Energy's public consultation on "Stock taking document Toward a new Energy Strategy for Europe 2011-2020"
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A
Inter-governmental Agreements	
Inter-governmental agreements	N/A
Financing Structure	
Expected or obtained share of public financing	N/A
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A

Alsace Sud Gas Storage Project



General Information	
Name of the project	Aldace Sud
Type of project	Storage facility (aquifer)
Name of the sponsors and their shares	Storengy
Link to the project website	N/A

Technical Information	
Working gas volume	200 (in 10^6 Nm^3)
Deliverability	9.6 (in 10^6 Nm^3)

Interconnections with other gas infrastructures	Connection with transmission infrastructure; TSO: GRTgaz
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: beyond 2015 FID: N/A
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	Planned GSE Investment Database, March 2010; available at: http://www.gie.eu/maps_data/GSE/database/index.html
TEN-E Project Information	
Is the project part of TEN-E?	This project falls within the scope of the TEN-E (of relevance for this project: Annex I "Axes for priority projects" and Annex III "Projects of common interest").
If the project is part of TEN-E, specify the project category.	o Project of common interest o Priority project (see above)
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Yes
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) The project will contribute to the increase of storage capacity in France, which will enhance security of supply and provide more flexibility to the market thus facilitating competition.

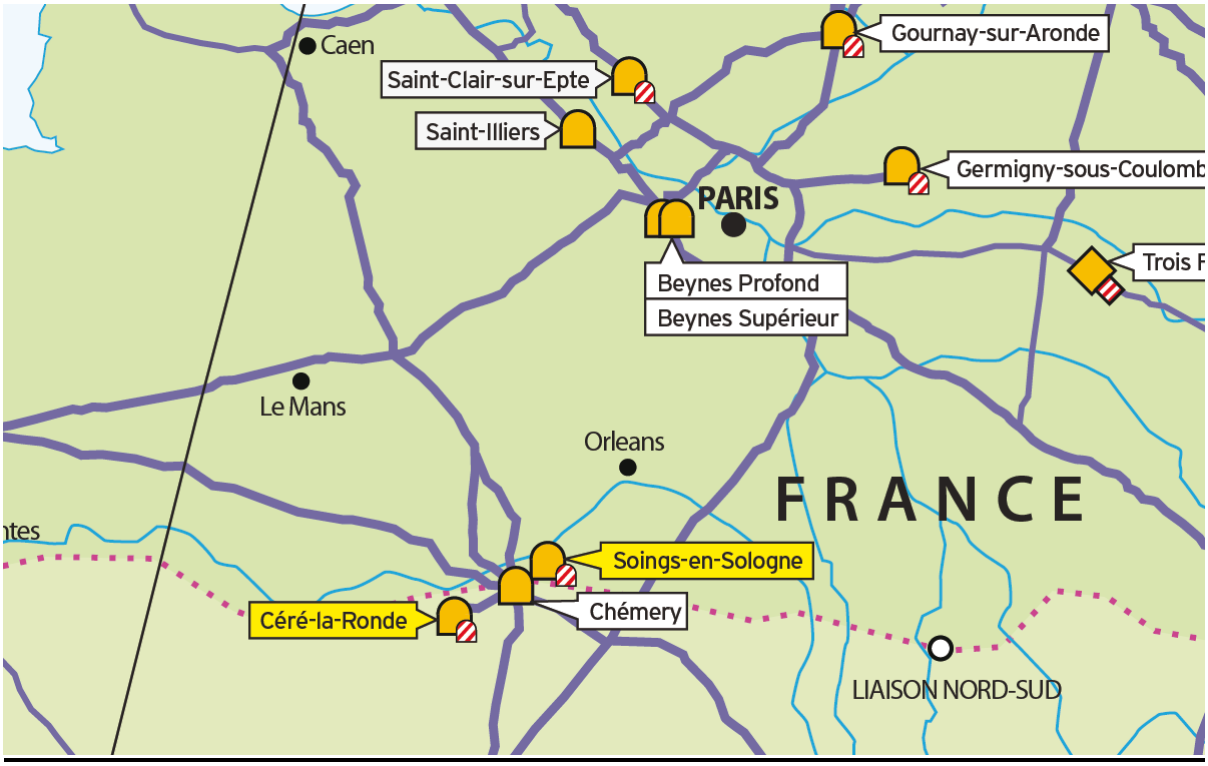
TPA regime	
Have you applied for an exemption from Third Party Access?	No

(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A

Inter-governmental Agreements	
Inter-governmental agreements	N/A

Financing Structure	
Expected or obtained share of public financing	N/A
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A

Céré-la-Ronde/Soings Storage Project



General Information	
Name of the project	**Céré-la-Ronde/Soings**
Type of project	Storage facility (aquifer)
Name of the sponsors and their shares	Storengy
Link to the project website	-
Technical Information	
Working gas volume	260 (in 10^6 Nm^3)
Deliverability	9 (in 10^6 Nm^3/d)
Interconnections with	Connection with transmission infrastructure; TSO: GRTgaz

other gas infrastructures	
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: by 2015 for the part of the project marked "under construction" / beyond 2015 for the part of the project marked "planned" FID: - End of permitting phase: -
Project development phase reached	Under construction - 60 Mcm / Planned - 200 Mcm GSE Investment Database, March 2010; available at: http://www.gie.eu/maps_data/GSE/database/index.html
TEN-E Project Information	
Is the project part of TEN-E?	This project falls within the scope of the TEN-E (of relevance for this project: Annex I "Axes for priority projects" and Annex III "Projects of common interest").
If the project is part of TEN-E, specify the project category.	o Project of common interest o Priority project (see above)
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	yes
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) The project will contribute to the increase of storage capacity in France, which will enhance security of supply and provide more flexibility to the market thus facilitating competition.

TPA regime	
Have you applied for an exemption from Third Party Access?	No
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

Etrez / Manosque Storage Project

General Information

Name of the project	**Etrez / Manosque**
Type of project	Storage facility (salt cavity)
Name of the sponsors and their shares	Storengy / Géométhane
Link to the project website	-

Technical Information	
Working Gas Volume	400 Mcm (in 10^6 Nm^3)
Deliverability	30 Mcm/d (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Connection with transmission infrastructure; TSO: GRTgaz
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: by 2015 for the part of the project marked "under construction" / beyond 2015 for the part of the project marked "planned"
Project development phase reached	Under construction: 140 Mcm / Planned: 260 Mcm
IGA, Mandate Letter, LLI Tender, FEED	GSE Investment Database, March 2010; available at: http://www.gie.eu/maps_data/GSE/database/index.html
TEN-E Project Information	
Is the project part of TEN-E?	This project falls within the scope of the TEN-E (of relevance for this project: Annex I "Axes for priority projects").
If the project is part of TEN-E, specify the project category.	Priority project (see above)
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) The project will contribute to the increase of storage capacity in France, which will enhance security of supply and provide more flexibility to the market thus facilitating competition.

TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	
Inter-governmental Agreements	
Inter-governmental agreements	
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	

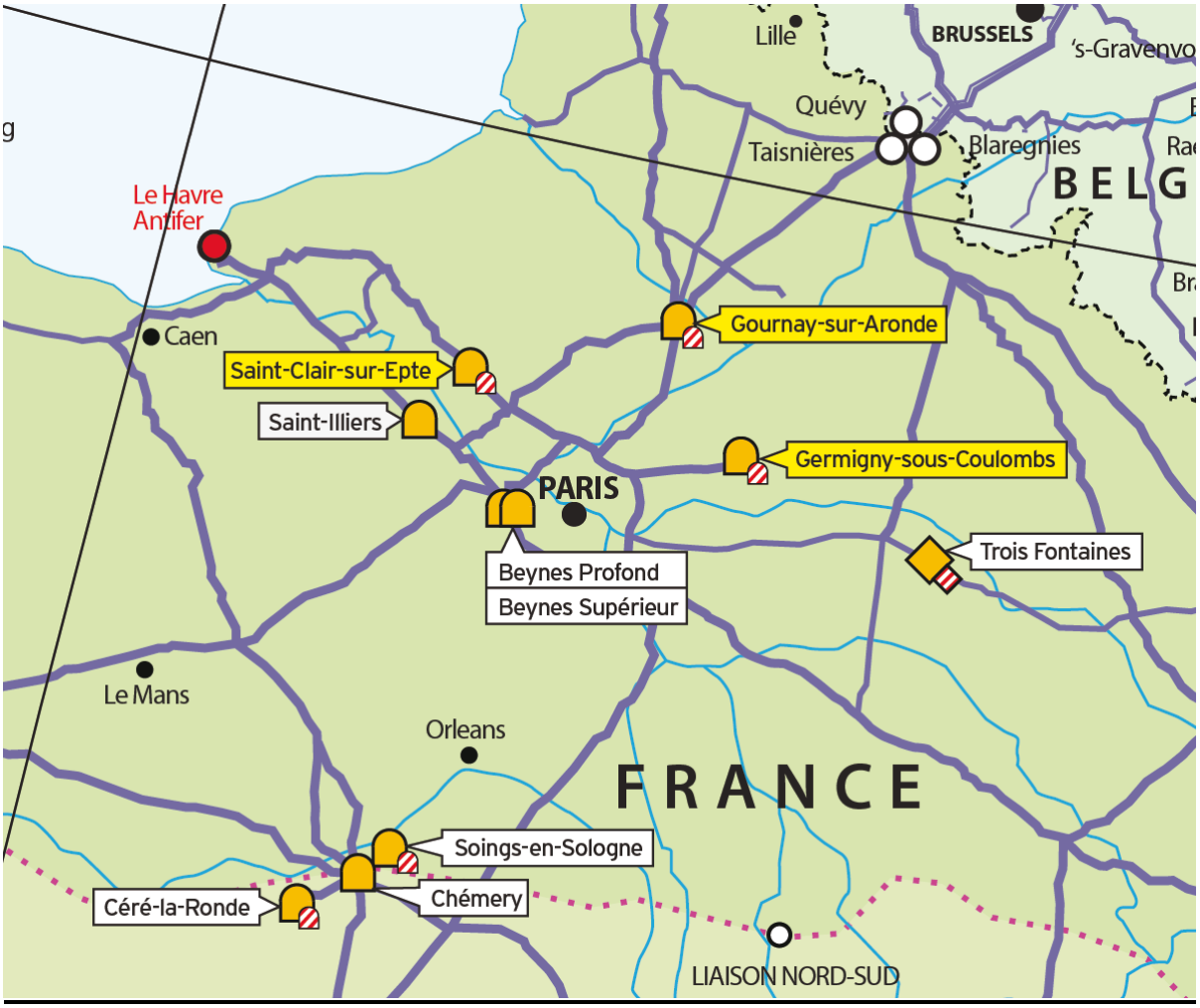
Hauterives Storage Project

General Information	
Name of the project	Hauterives
Type of project	Storage facility (salt cavity)
Name of the sponsors and their shares	Storengy
Link to the project website	-

Technical Information	
Working Gas Volume	100 Mcm (in 10^6 Nm^3)
Deliverability	8 Mcm/d (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Connection with transmission infrastructure; TSO: GRTgaz
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: by 2015
Project development phase reached	Under construction
IGA, Mandate Letter, LLI Tender, FEED	GSE Investment Database, March 2010; available at: http://www.gie.eu/maps_data/GSE/database/index.html
TEN-E Project Information	
Is the project part of TEN-E?	This project falls within the scope of the TEN-E (of relevance for this project: Annex I "Axes for priority projects"; Annex III "Projects of common interest").
If the project is part of TEN-E, specify the project category.	o Priority project o Project of common interest (see above)
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Yes
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition)

TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	
Inter-governmental Agreements	
Inter-governmental agreements	
Financing Structure	
Expected or obtained share of public financing	
Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	

Serene Nord Storage Project



General Information

Name of the project	**Serene Nord (Saint Clair sur Epte; Germigny sous Coulombs)/ Gournay**
Type of project	Storage facility (aquifer)
Name of the sponsors and their shares	Storengy
Link to the project website	-

Technical Information	
Working gas volume	55 (in 10^6 Nm^3)
Deliverability	1.8 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Connection with transmission infrastructure; TSO: GRTgaz
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: by 2012 FID: - End of permitting phase: -
Project development phase reached	Under construction GSE Map, June 2010; available at: http://www.gie.eu/maps_data/storage.html
TEN-E Project Information	
Is the project part of TEN-E?	This project falls within the scope of the TEN-E (of relevance for this project: Annex I "Axes for priority projects").
If the project is part of TEN-E, specify the project category.	Priority project (see above)
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) The project will contribute to the increase of storage capacity in France, which will enhance security of supply and provide more flexibility to the market thus facilitating competition.

TPA regime	
Have you applied for an exemption from Third Party Access?	No
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

Trois Fontaines Storage Project

General Information

Name of the project	**Trois Fontaines**
Type of project	Storage facility (aquifer)
Name of the sponsors and their shares	Storengy
Link to the project website	-

Technical Information	
Working gas volume	30 (in 10^6 Nm^3)
Deliverability	0,6 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Connection with transmission infrastructure; TSO: GRTgaz
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: by 2012 FID: - End of permitting phase: -
Project development phase reached	Under construction GSE Investment Database, March 2010; available at: http://www.gie.eu/maps_data/GSE/database/index.html
TEN-E Project Information	
Is the project part of TEN-E?	This project falls within the scope of the TEN-E (of relevance for this project: Annex I "Axes for priority projects" and Annex III "Projects of common interest").
If the project is part of TEN-E, specify the project category.	o Priority project o Project of common interest (see above)
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No

Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) The project will contribute to the increase of storage capacity in France, which will enhance security of supply and provide more flexibility to the market thus facilitating competition.
TPA regime	
Have you applied for an exemption from Third Party Access?	No
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

GERMANY

bayernets – Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ Interconnection with a storage facility

List of projects

Project	FID	Commissioning	Remarks
Pipes [7]			
Burghausen-Finsing (feasibility study)	undetermined	undetermined	probable end of permitting phase: 2012/13

Link to the TSO's website	http://www.bayernets.de/

Technical Information

Total length of new pipes (based on the above list)	85 km
Diameter range of new pipes	up to 1200 mm

Technical capacity

[7] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Interconnections	(in 10^6 Nm^3/d)	Remarks
Penta-West /Überackern / Austria / OMV-Gas GmbH		capacities depending on design
SÜDAL / Burghausen / Germany / Wingas Transport GmbH		
Storage 7Fields / Austria / E.ON Gas Storage GmbH		
Storage Haiming / Austria / Wingas		
Tauerngasleitung / Austria		

Expected Benefits

- Elimination of capacity bottlenecks
- Market Integration (Increase of competition)
- Increase of transport capacity

Changes as compared to TYNDP 2010-2019

-

Gasunie Deutschland - Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ Connection with storage facilities

List of projects

Project	FID	Commissioning	Remarks
Pipes and Compressors [8]			
Extension of existing gas transmission capacity to and from The Netherlands	06/ 2011, cf. remarks	2015	*Binding Shipper bids received in the binding phase of the Integrated Open Season launched by GUD and GTS; final investment decision (go / no-go) planned to be taken in the first half of 2011.*
Extension of existing gas transmission capacity in the direction to Denmark		2014	
Connection of gas storages to the transmission systems of GUD		2014	

Link to the TSO's website	*http://www.integratedopenseason.com/* *http://www.gasunie.de*

Technical Information

[8] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Total length of new pipes (based on the above list)	160 km
Diameter range of new pipes	610-1118 mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Entry Oude Statenzijl H	4.56	
Exit Oude Statenzijl H	3.84	
Entry Oude Statenzijl L	6	
Exit Ellund H	12.96	
Compressors	**(in MW)**	
Aggregated	91	

Expected Benefits

- Security of Supply
- Market Integration (Increase of competition)
- Better connection of the gas hubs (TTF in the Netherlands and market areas Aequamus and GASPOOL in Germany);
- Compensation of the depletion of Danish gas fields and better connection of gas hubs;
- Connection of new storages to the GUD-grid.

Changes as compared to TYNDP 2010-2019

TYNDP 2010-2019 published end of 2009 covered only FID-projects; the projects mentioned here have no FID-taken so far.

Open Grid Europe - Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ Interconnection with gas-fired power plant
- ✓ Interconnection with storage facility

List of projects

Project	FID	Commissioning	Remarks
Open Season 2008 Projects (two pipeline projects (Sannerz-Rimpar and Schwandorf-Deggendorf) as well as numerous enhancements)	under construction	2012-2013	
Stepwise change-over to physical H-gas operation of L-gas networks (due to decreasing L-gas supply)	up to 2020 and beyond	up to 2020 and beyond	
Further connection of market areas, capacity enhancement to Denmark	up to 2020	up to 2020	
Connection of gas-fired power stations and storages including capacity enhancement	up to 2020	up to 2020	

Link to the TSO's website	http://www.open-grid –europe.com

Technical Information

Total length of new pipes (based on the above list)	137 km (FID)
Diameter range of new pipes	1000 mm (FID)

Technical capacity (Open Season 2008 projects)

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Bocholtz Entry	6.8	Capacity offer based on current legal, regulatory and contractual framework.
Dornum Entry	0.6	
Emden EPT Entry	1.9	
Eynatten Entry	8	
Oberkappel Entry	1.1	
Elten Entry	1.7	
Vreden Entry	2.3	
Eynatten Exit	7	
Oberkappel Exit	10	
Oude Statenzijl Exit	2.2	

Expected Benefits

- Security of Supply
- Market Integration (Increase of competition)
- A decline in availability of L-gas necessitates action.

Open Season 2008: The project prioritisation process has been carried out in a non-discriminatory manner based on criteria suggested by BNetzA. It takes into account the factors competition, security

of supply, as well as network efficiency. Capacities were allotted to new market entrants. North-south and west-east de-bottlenecking strengthens security of supply.

Future projects: The overall economic benefit of a physical change-over from L (low calorific) to H-gas (high calorific) is higher than permanent conversion. Furthermore, enabling access of storage and gas fired power stations to the network necessitates investments. These measures also serve both market integration and security of supply.

Changes as compared to TYNDP 2010-2019

-

Thyssengas - Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ Interconnection with a gas-fired power plant
- ✓ Interconnection with a big industrial site (>25*$10^6$$Nm^3$/y)
- ✓ Interconnection with storage facility (caverns and aquifers)

List of projects

Project	FID	Commissioning	Remarks
Pipes [9]			
Emden-Werne-Eynatten/Bocholtz (Thyssengas)	2013	2016	Market survey finished, start of permitting phase expected in 2010

Link to the TSO's website	http://www.thyssengas.com/web/cms/en/416304/thyssengas/project/route/

Technical Information

Total length of new pipes (based on the above list)	520 km

[9] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Diameter range of new pipes	1000 mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Emden, Eynatten, Bocholtz		depending on shipper demand and pipeline design

Expected Benefits

- SoS
- Market Integration (Increase of competition)
- Others, please specify: integration of new gas power plants and storage facilities, removal of bottlenecks by infrastructure instead of flow commitments

The result of the market survey shows a high demand for capacity in North-western Germany by storage and power plant operators. Thyssengas plans to combine this with the needs coming from merging the market areas in Germany.

Changes as compared to TYNDP 2010-2019

-

WINGAS TRANSPORT – Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes [10]			
Extension of the WINGAS group grid in the context of the Nord Stream (on-shore) project. (Mainly loops to enhance capacity of existing pipelines).	undetermined, design and permitting phase reached	undetermined	Part of TEN-E as part of the Nord Stream project, "axis NG 1", projects of European interest.

Link to the TSO's website	http://www.wingas-transport.de

Technical Information

Total length of new pipes (based on the above list)	approx. 175 km (*mainly loops to enhance capacity of existing pipelines*)
Diameter range of new pipes	600-1000 mm

[10] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Bunde Exit	25	Other grid points of WINGAS TRANSPORT are affected by this project, which are not directly TYNDP relevant. We expect effects also on IP´s of other German TSOs.
Eynatten Exit	9	
Compressors	**(in MW)**	
	about 65	

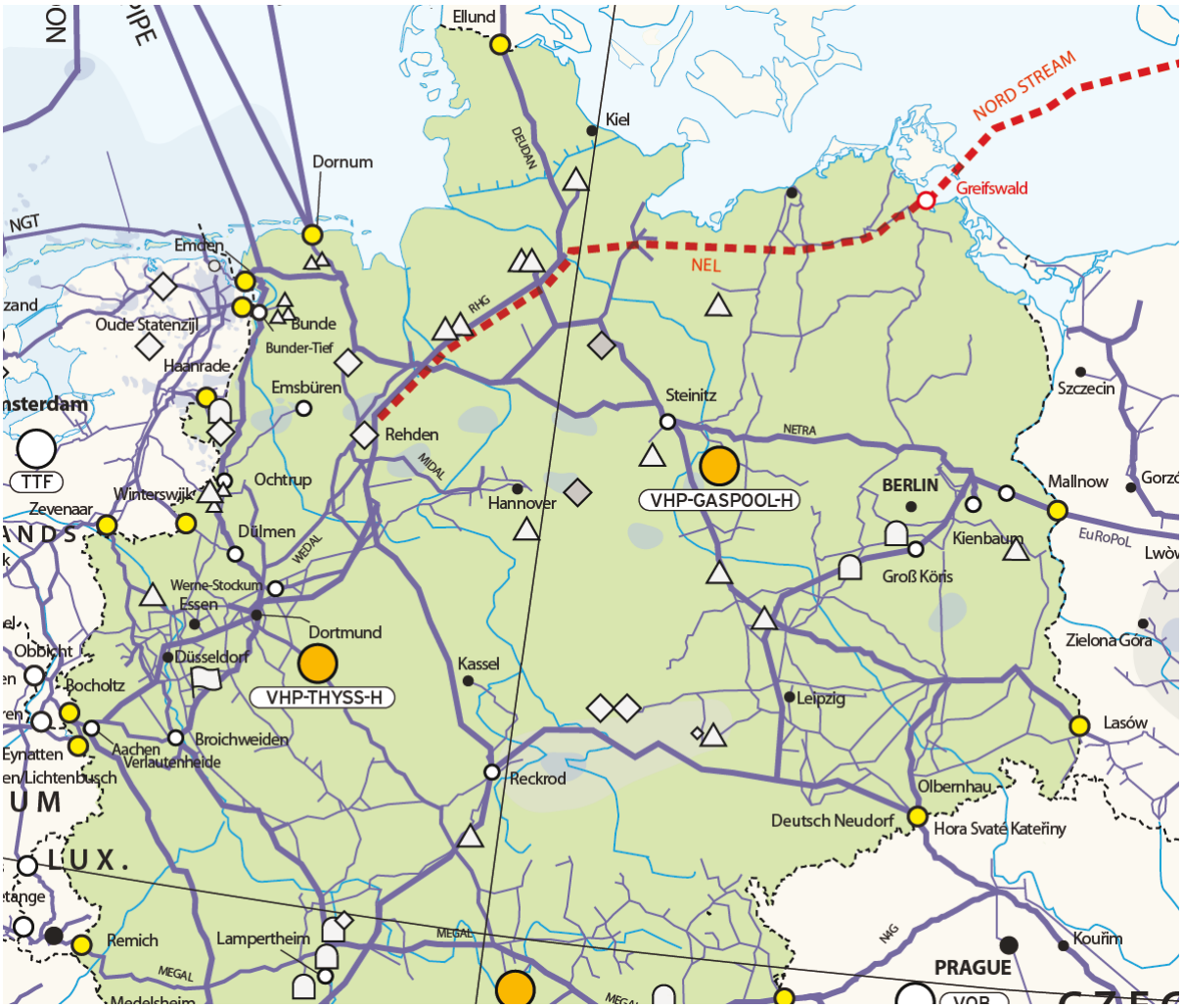
Expected Benefits

- Security of Supply
- Extension of transport capacity of Russian gas to the West
- Integration of Nord Stream off- and on-Shore in the European gas infrastructure

Changes as compared to TYNDP 2010-2019

-

NEL Gas Pipeline Project



General Information

Name of the project	Nordeuopaische Erdgasleitung (NEL)
Type of project	Pipeline (inc. CSs)
Name of the sponsors and their shares	WINGAS GmbH & CO KG / Gasunie Ostseeanbindungsleitung GmbH, E.ON Ruhrgas AG
Link to the project website	www.nel-pipeline.de

Technical Information

Length of the pipe	440 km
Diameter	1,400 in mm
Technical capacity	Approximately 20 bcm/a (10^9 Nm^3/y)
Expected load factor	
Power of the CS(s)	
Interconnections with other gas infrastructures	

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: scheduled for November 2012 End of permitting stage: End of 2010 / early 2011
Project development phase reached	FID Taken
IGA, Mandate Letter, LLI Tender, FEED	

TEN-E Project Information

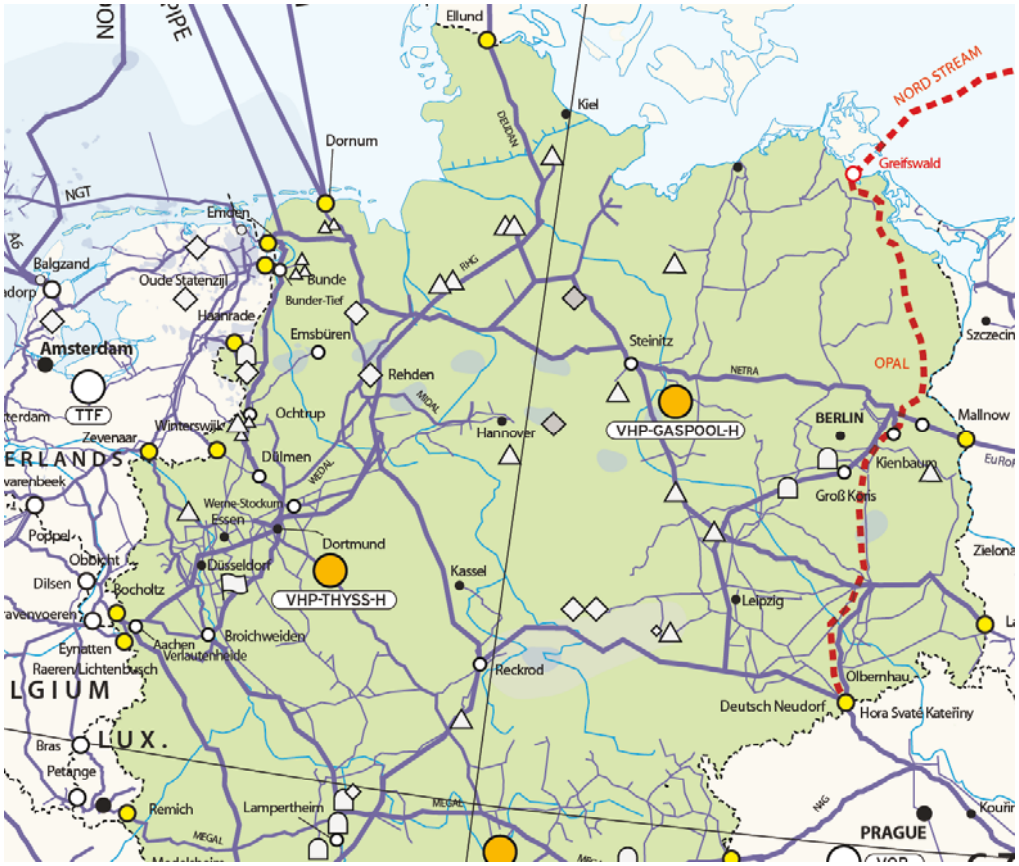
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Project of common interest Priority Project Project of European Interest
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit

What is/are the expected benefit(s) of the project?	SoS Market Integration (Increase of competition)

TPA regime	
Have you applied for an exemption from Third Party Access?	Yes (Only WINGAS and E.ON Ruhrgas) Exemption not granted (for details see published decisions by Bundesnetzagentur)
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	North Stream - Russian Gas
Inter-governmental Agreements	
Inter-governmental agreements	
Financing Structure	
Expected or obtained share of public financing	
Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	

OPAL Gas Pipeline Project



General Information

Name of the project	Ostsee Pipeline Anbindungsleitung (OPAL)
Type of project	Pipeline (incl. CSs)
Name of the sponsors and their shares	80% Wingas 20% E.ON Ruhrgas
Link to the project website	http://www.opal-pipeline.com

Technical Information

Length of the pipe	470 km
Diameter	1400 mm

Technical capacity	Approximately 35 bcm
Expected load factor	N/A
Power of the CS(s)	130 MW (according to permission)
Interconnections with other gas infrastructures	Czech transmission system

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: scheduled for October 2011
Project development phase reached	Under construction www.opal-pipeline.com

TEN-E Project Information

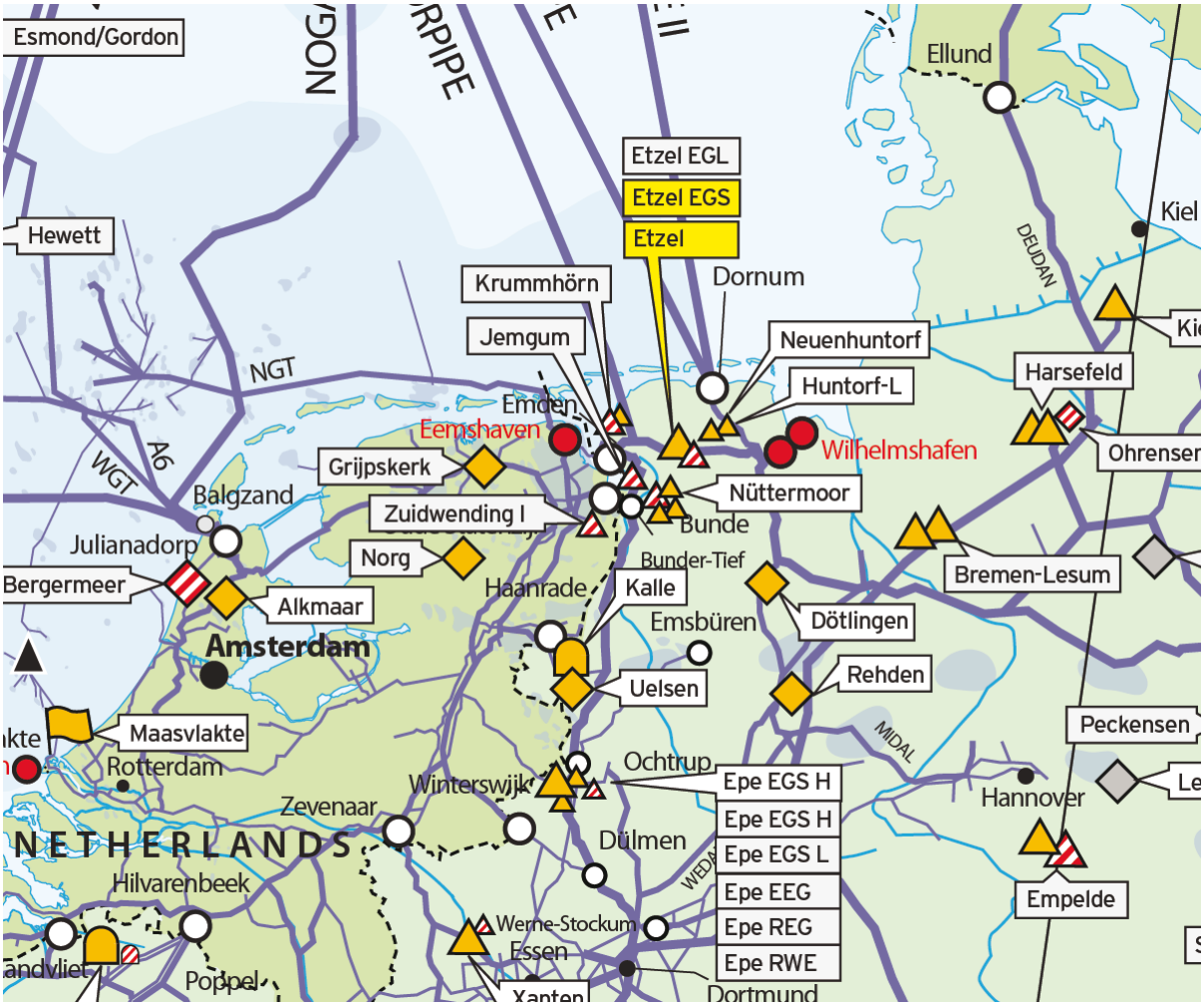
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Project of common interest, priority project, project of European interest
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No request

Expected Benefit

What is/are the expected benefit(s) of the project?	o Security of supply o Market integration o Others; extension of transport capacities for Russian gas to the European internal market.

TPA regime	
Have you applied for an exemption from Third Party Access?	Yes Exemption granted for transits on OPAL with entry in DE and exit in CZ (for details see http://www.bundesnetzagentur.de/cln_1931/DE/DieBundesnetzagentur/Beschlusskammern/BK7/Beschluesse/entscheidungen_node.html)
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	Russian gas sources

Etzel Storage Project



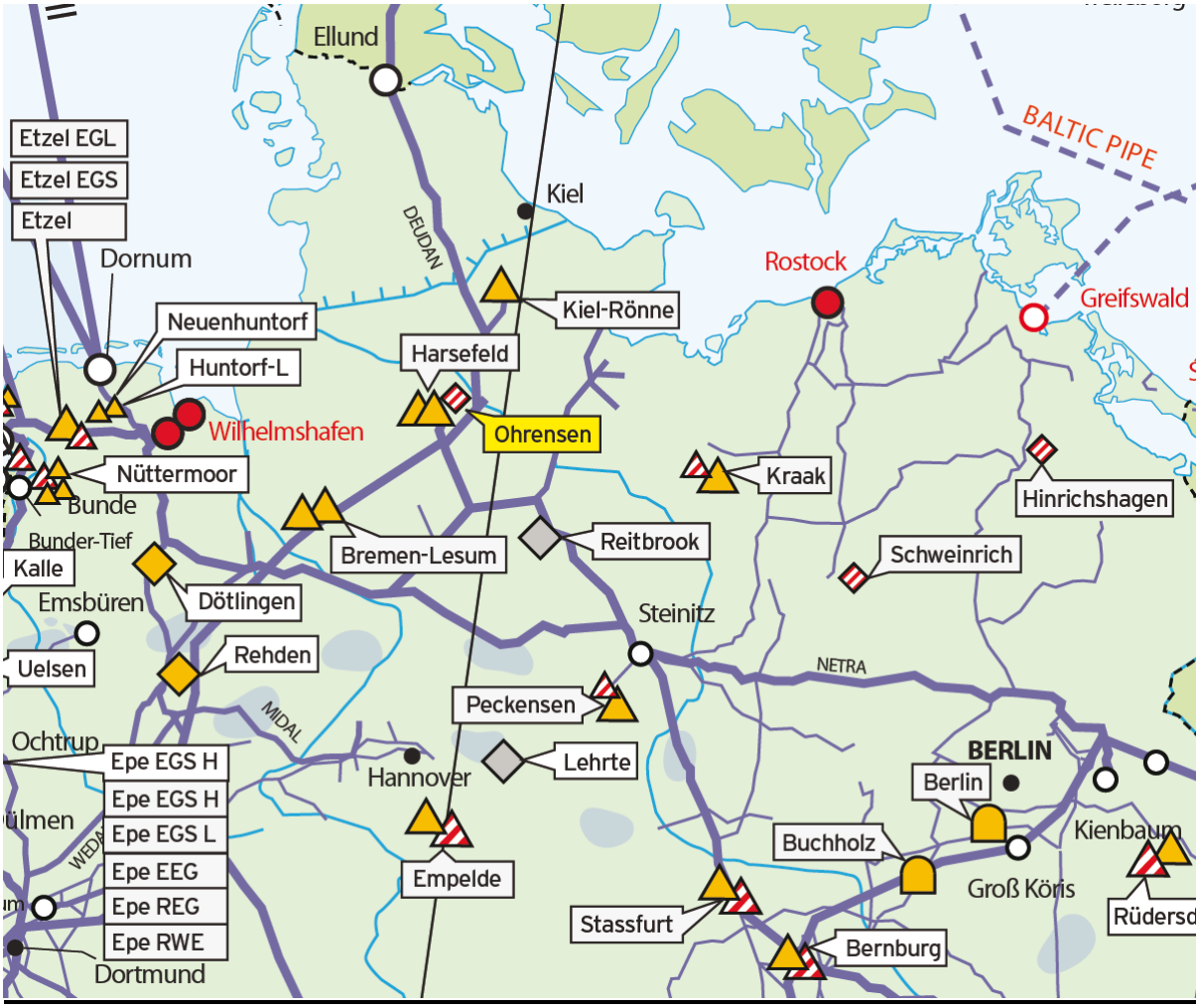
General Information

Name of the project	Etzel EGS
Type of project	Storage facility (Cavity storage facility)
Name of the sponsors and their shares	
Link to the project website	www.eon-gas-storage.com

Technical Information	
Working Gas Volume	1,358 (in 10^6 Nm^3)
Deliverability	38.4 (in 2014) (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2012-2014 Capacity expansions starting on the following dates: 01 April 2012 WGV: 453 Mcm 01 April 2013 WGV: 905 Mcm 01 April 2014 WGV: 1358 Mcm
Project development phase reached	FID taken (under construction)
IGA, Mandate Letter, LLI Tender, FEED	
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit	
What is/are the expected benefit(s) of the project?	Market Integration (Increase of competition)
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	
Inter-governmental Agreements	
Inter-governmental agreements	
Financing Structure	
Expected or obtained share of public financing	
Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	

Ohrensen Storage Project



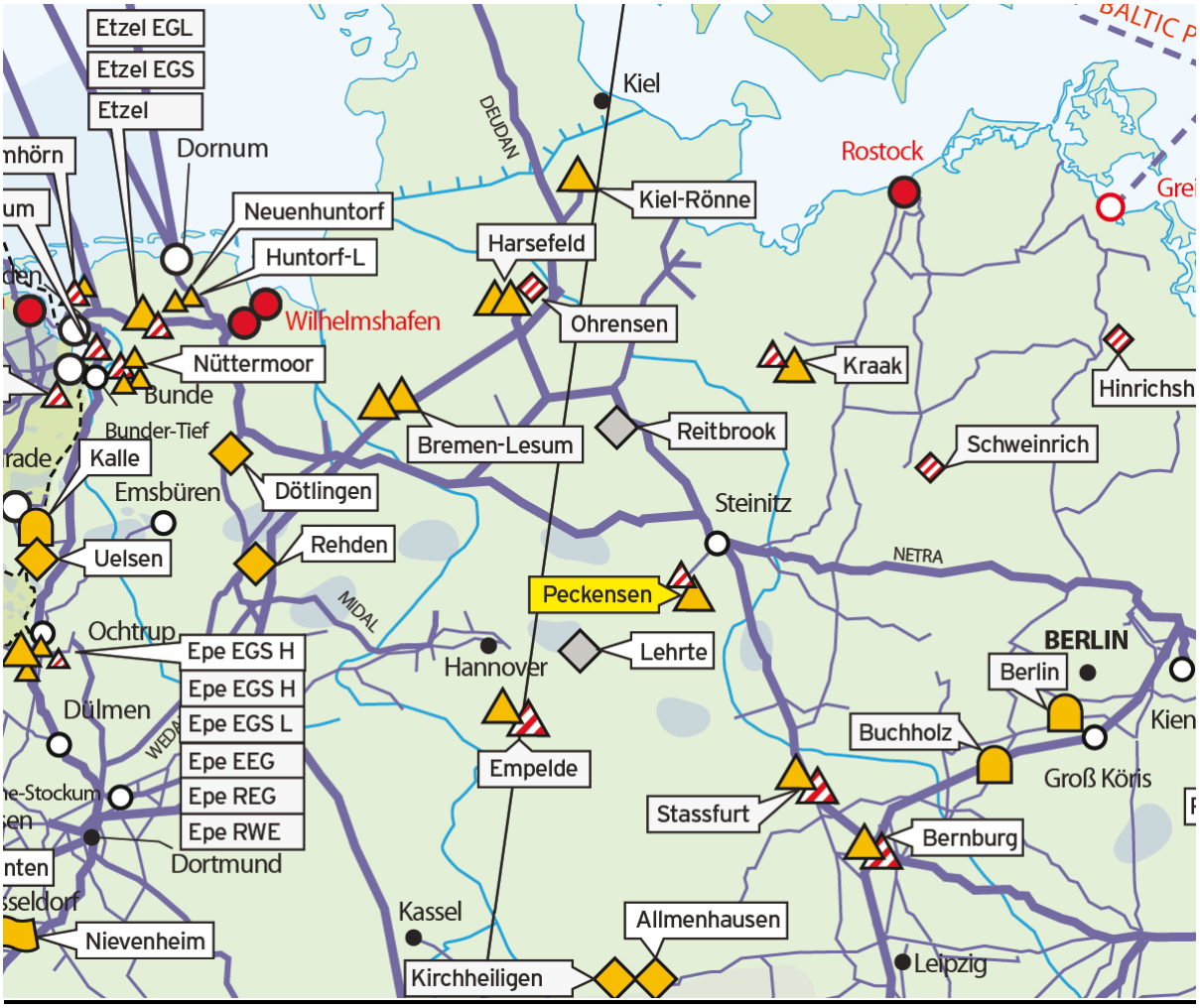
General Information

Name of the project	**Ohrensen**
Type of project	Storage facility (salt cavity)
Name of the sponsors and their shares	Storengy Deutschland
Link to the project website	

Technical Information	
Working gas volume	320 (in 10^6 Nm^3) (Phase I) / 240 (in 10^6 Nm^3) (Phase II)
Deliverability	22 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Connection with transmission infrastructure; TSO: Gasunie Deutschland
Time Schedule	
Probable date of commissioning and the main milestones	beyond 2015 FID: No End of permitting phase: -
Project development phase reached	Planned GSE Investment Database, March 2010; available at: http://www.gie.eu/maps_data/GSE/database/index.html
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) The project will contribute to the increase of security of supply in the region and will provide more flexibility to the market thus facilitating competition.

TPA regime	
Have you applied for an exemption from Third Party Access?	No
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

Peckensen Storage Project



General Information

Name of the project	**Peckensen**
Type of project	Storage facility (salt cavity)
Name of the sponsors and their shares	Storengy Deutschland
Link to the project website	

Technical Information	
Working gas volume	340 (in 10^6 Nm^3)
Deliverability	18 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Connection with transmission infrastructure; TSO: Ontras
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: by 2010 (Phase I) / by 2014 (Phase II) - see below FID: - End of permitting phase: 2010 (Phase I)
Project development phase reached	Under construction: Phase I: WGV: 160 (in 10^6 Nm^3), Deliverability: 9 (in 10^6 Nm^3/d) Phase II: WGV: 180 (in 10^6 Nm^3), Deliverability: 9 (in 10^6 Nm^3/d)
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No

Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) The project will contribute to the increase of security of supply in the region and will provide more flexibility to the market thus facilitating competition.
TPA regime	
Have you applied for an exemption from Third Party Access?	No
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

GREECE

DESFA - Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ Interconnection with a gas-fired power plant
- ✓ LNG terminal

List of projects

Project	FID	Commissioning	Remarks
Pipes [11]			
Komotini-Thesprotia	Non-FID	2015	TEN-E: Project of common interest
Aliveri pipeline	FID	2011	Connection to a gas-fired power plant
Megalopoli pipeline	FID	2012	Connection to a gas-fired power plant
Compressors			
N. Messimvria CS	FID	2011	Under construction TEN-E: Project of common interest
Storage facilities			
South Kavala	Non-FID	2015	
LNG terminals			
Revythoussa (2nd upgrade)	FID	2015	TEN-E: Project of common interest
Crete (Phase I + Phase II)	Non-FID	2016	TEN-E: Project of

[11] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

			common interest

Link to the TSO's website	http://www.desfa.gr

Technical Information

Total length of new pipes (based on the above list)	801 km
Diameter range of new pipes	508-1067 mm

Technical capacity

Interconnections	**(in 10^6 Nm³/d)**	**Remarks**
Sidirokastron	Entry: 2.23	N. Messimvria CS
Kipi	Entry: 2.44 Entry: 30.756	N. Messimvria CS Komotini-Thesprotia
Compressors	**(in MW)**	
N. Messimvria CS	15.4	
Storage facilities	**Deliverability (in 10^6 Nm³/d)**	**Working Gas Volume (in 10^6 Nm³)**
South Kavala	4	360
LNG terminals	**Send-out (in 10^6 Nm³/d)**	**Annual capacity (in 10^9 Nm³/y)**
Revythoussa	5.76	2.1
Crete I Crete II	3.02 2.88	1.1 1.1

Expected Benefits

The proposed projects offer numerous benefits to the Greek National Natural Gas System:

- The Greek National Natural Gas System (NNGS) will be enforced due to the installation of the CS (CS) at N. Messimvria. As the major loading of NNGS occurs – and is expected to follow a similar behaviour in the upcoming years of increasing consumption - in its southern part (app. 70% of the consumption, including the vast majority of the gas fired power production plants), the operation of the CS will contribute to the stability of the NNGS and to the increment of the technical capacities of Sidirokastron and Kipi entry points.
- The IGI project will establish an energy corridor between eastern gas sources and European consumers. The project will enhance the diversification of supply sources at a European level, and will contribute explicitly to the improvement of the Security of Supply level in the region of South Eastern Europe.
- The LNG Terminal at Revythoussa plays significant role regarding the Security of Supply of gas in Greece and contributes to the stable operation of NNGS. The project will enhance the above attitudes along with its flexibility for serving more shippers. It will also increase the storage capacity of the terminal.
- The project will deliver gas to the island of Crete. It will substitute the current fuel (Heavy Fuel Oil) for the existing power plants and will be the main fuel for the future power plants. It will also deliver gas to the domestic and industry sectors, resulting to environmental and financial benefits.

Changes as compared to TYNDP 2010-2019

-

HUNGARY

FGSZ - Infrastructure Projects

General Information

Types of project

✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes [12]			
AT/HU border-Győr	Non-FID	2016	
Hajdúszoboszló-Városföld	Non-FID	2017	
Pusztavacs-Vecsés	Non-FID	2014	
Győr-Százhalombatta	Non-FID	2015	
Százhalombatta-Pusztavacs-Városföld	Non-FID	2013	
Vecsés-Gödöllő-Balassagyarmat	Non-FID	2014	
Tököl-Csepel	Non-FID	2013	
Compressors			
Mosonmagyaróvár CS	Non-FID	2016	AU/HU border-Győr project
Hajdúszoboszló CS	Non-FID	2017	
Városföld CS	Non-FID	2014	
Gödöllő CS	Non-FID	2014	
Others			
Local Odorization	Non-FID	2012	

[12] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Reverse Flow Capacity project	Non-FID	2013	EEPR project

Link to the TSO's website	http://www.fgsz.hu

Technical Information

Total length of new pipes (based on the above list)	588 km
Diameter range of new pipes	600 - 1,000 mm

Technical capacity

Interconnections	(in 10^6 Nm^3/d)	Remarks
Mosonmagyaróvár	Entry: 4.1	AT/HU border-Győr project
Beregdaróc / Beregovo IP (HU-UA)	Entry: 14.1	Hajdúszoboszló-Városföld project
HU-SK interconnection	Entry/Exit: 13.65	Vecsés-Gödöllő-Balassagyarmat
Compressors	(in MW)	
Mosonmagyaróvár CS	3x5.5	
Gödöllő CS	2x11 + 2x7.7	

Expected Benefits

- The Hungarian projects taken as a whole main aim, is to enhance the flexibility of the Hungarian transmission system by connecting to neighbouring systems, ensuring reserves flow availability, and guaranteeing flow deliverability which will enhance the transmission systems security of supply position along with helping with further market integration.

Inter-governmental or inter-TSO Agreements if applicable	
Vecsés-Gödöllő-Balassagyarmat (HU-SK interconnector)	Memorandum of Understanding between Hungarian and Slovakian TSOs

Changes as compared to TYNDP 2010-2019
-

ITALY

Snam Rete Gas -- Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ LNG terminal

List of projects

Project	FID	Commissioning	Remarks
Pipes [13]			
Interconnection with OLT LNG (new IP)	FID / under construction	2011	
Montalbano-Messina (pipeline completion)	FID / under construction	2011	Affected IP: Gela
Development of the infrastructure in Po Valley	FID / under construction	2014	
Development in North East Italy	Non-FID	2020*	Project planned / under consideration
Second Southern sealine	Non-FID	2020*	Project planned / under consideration
Adriatica and Tirrenica pipelines	Non-FID	2020*	Project planned / under consideration
Compressors			
Montesano CS	FID / under construction	2011	Expansion Part of the Montalbano-Messina project

[13] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

New CS and expansion of an existing one related to developments in North East Italy	Non-FID	2020*	Project planned / under consideration
New CS related to Second Southern sealine	Non-FID	2020*	Project planned / under consideration
New CS and expansion of existing one related to Adriatica and Tirrenica pipeline	Non-FID	2020*	Project planned / under consideration
LNG terminals			
Panigaglia	Non-FID	2020*	Expansion Project under consideration (it includes 150 Km of transport pipeline)

** Follow up of FID projects in Phase 1.

Link to the TSO's website	http://www.snamretegas.it

Technical Information

Total length of new pipes (based on the above list)	2,830 km
Diameter range of new pipes	800-1400 in mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Interconnection with OLT LNG	14	GCV: 11.9 kWh/Nm^3
Gela	2,3	Montalbano-Messina project GCV: 11.6 kWh/Nm^3
Compressors	**(in MW)**	
Montesano CS	25	

New CS and expansion of existing one related to developments in the North East of Italy	100	
New CS related to Second Southern sea line	60	
New CS and expansion of existing one related to Adriatica and Tirrenica pipeline	140	
LNG terminals	**Send-out (in 10^6 Nm^3/d)**	**Annual capacity (in 10^9 Nm^3)**
Panigaglia LNG	12.9	4.4

Expected Benefits

Security of Supply

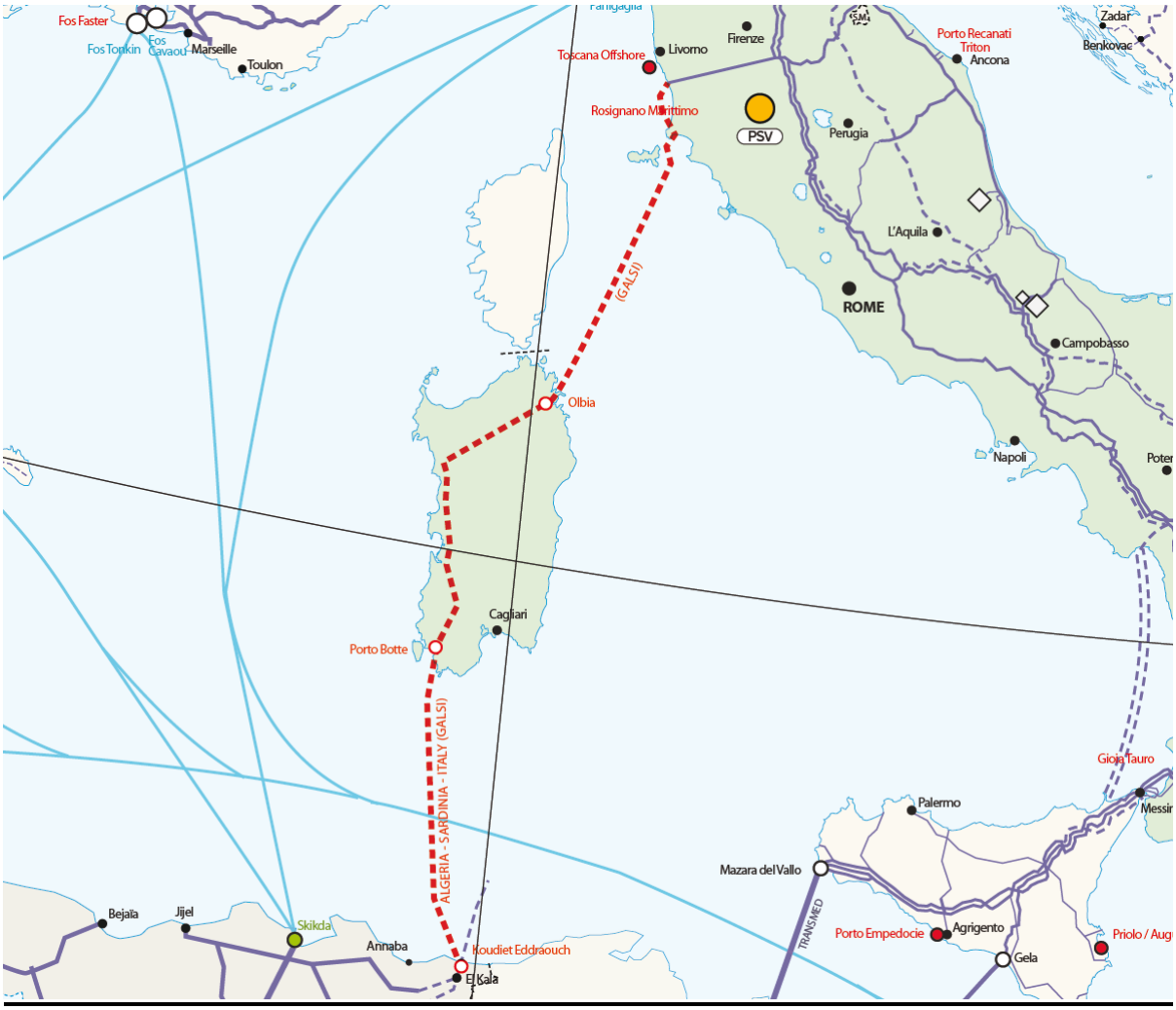
Market Integration (increase of competition)

Flexibility of the system

Changes as compared to TYNDP 2010-2019

In TYNDP 2010-19 the “interconnection with OLT LNG” capacity was indicated as available from 2013 while in TYNDP 2011-20 is available from 2012.

GALSI – Gas Pipeline Project



General Information

Name of the project	GALSI (gas pipeline linking Algeria to Italy via Sardinia)	
Type of project	Pipeline (incl. CSs)	
Name of the sponsors and their shares	Sonatrach	41,6%
	Edison SpA	20,8%
	Enel Produzione Spa	15,6%
	Sfirs Spa	11,6%

	Hera Trading Srl 10,4%
Link to the project website	www.galsi.it

Technical Information

Length of the pipe	835 km, from Algerian coast to Tuscany coast
Diameter	660 – 1219 - 812 mm
Technical capacity	8 (in 10^9 Nm^3/y)
Power of the CS(s)	150 MW (installed)
Interconnections with other gas infrastructures	The GALSI project will link the Algerian Gas System, operated by Sonatrach, with the Italian Gas System, operated by Snam Rete Gas.

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: 2H2014 FID: expected 4Q10 – 1Q11 End of permitting phase: 4Q10
Project development phase reached*	Design & Permitting The project is in an advanced stage of development. In particular the FEED (Front End Engineering Design) has been completed, allowing the definition of technical specifications of the project and the launch (30th July 2010) of pre-qualification process for: pipe supply (notice in TED website: http://ted.europa.eu/udl?uri=TED:NOTICE:226260-2010:TEXT:EN:HTML) pipe laying (notice in TED website: http://ted.europa.eu/udl?uri=TED:NOTICE:226257-2010:TEXT:EN:HTML) EIA is under finalization. Updated version of the project documents has been published on the Ministry of the Environment web site: (http://www.dsa.minambiente.it/VIA/SchedaProgetto.aspx?ID_Progetto=289).

	Final discussions with Ministry and all concerned entities (regions, Provinces, townships,…) are under finalization. Whole environmental procedure is expected to be completed by 4Q10.
TEN-E Project Information	
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Project of European interest
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No
Expected Benefit	
What is/are the expected benefit(s) of the project?	o Security of Supply: GALSI contributes to SoS in Italy and Europe, by creating a new direct link between Algerian gas reserves and Italian / European markets; o Market Integration: through GALSI, new entrants will develop and consolidate their market positions in the Italian gas market through an independent infrastructure; o Others: GALSI will bring natural gas to Sardinia island, and possibly to Corsica.
TPA regime	
Have you applied for an exemption from Third Party Access?	N/A
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	Algeria

Inter-governmental Agreements	
Inter-governmental agreements	Italy – Algeria inter-governmental agreement for Galsi project, signed on 14th November 2007 in Alghero (Italy)
Additional Remarks	
Additional Remarks	The project has been granted a 120 M€ financing in the framework of the European Energy Program for Recovery - EEPR (Commission Decision of 13.8.2010)

Poseidon Transmission Project

General Information

Name of the project	Poseidon Pipeline
Type of project	Pipeline including CSs
Name of the sponsors and their shares	Depa SA (50%); Edison International Holding NV -a 100% Edison S.p.A. subsidiary- (50%)
Link to the project website	www.igi-poseidon.com

Technical Information

Length of the pipe	210 km
Diameter	812 mm
Technical Capacity	Initial: 9 (in 10^9 Nm^3/y)
Expected load factor	0.9
Power of CSs	25x3 (in MW) – layout: 2+1
Interconnections with other gas infrastructures	Interconnection with National Natural Gas System of Greece operated by DESFA SA in the region of Thesprotia. The new pipeline that will link the existing grid in Komotini to the Thesprotia Coast is included in the National Development Plan of Desfa SA and is currently in the FEED phase. IGI Poseidon S.A. and Desfa SA have entered into a Cooperation Agreement for the development of the pipeline system (http://www.igi-poseidon.com/pannelli/popup.asp?id=658) Interconnection with the Italian Gas System operated by Snam Rete Gas Spa in Otranto, where the metering station of IGI Poseidon SA will be located. The construction of the new pipeline in Italy will be performed by Snam Rete Gas Spa in accordance with relevant Italian legislation and regulation.

Time Schedule

Probable date of commissioning and the main milestones	FID: 4Q 2010 – 1Q 2011 End of permitting phase: 4Q 2010 Date of commissioning: 2015/2016
Project development phase reached	Design and permitting *The FEED contract was awarded in May 2010 as publicly announced in the IGI Poseidon website* http://www.igi-poseidon.com/pannelli/popup.asp?id=653 *The Line pipe procurement tender was launched in April 2010* http://www.igi-poseidon.com/pannelli/popup.asp?id=650 *and the expression of interest phase was closed in June 2010* http://www.igi-poseidon.com/pannelli/popup.asp?id=657 *The Environmental Impact Assessment Decree for the Italian section was issued on 2nd August 2010.* http://www.igi-poseidon.com/pannelli/popup.asp?id=660

TEN-E Project Information	
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Projects of European interest
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: 2002 (Feasibility) 2004 (Surveys) Year in which funding was received: 2003 (Feasibility) 2005 (Surveys)
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS As part of the ITGI project, connecting natural gas reserves not yet linked to Europe, Poseidon provides diversification of both gas supply sources and routes. o Market Integration (Increase of competition) The Project will support the creation of a more liquid market in Italy and create an excess of gas availability. Shippers of exempted capacity are not incumbent in the Italian market. The possible use in Reverse Flow of Poseidon pipeline significantly contributes to diversification of supply of SEE.
TPA regime	
Have you applied for an exemption from Third Party Access?	Yes A TPA Exemption for approx. 8 bcm/y and for 25 years was granted by Italian and Greek relevant authorities and with the approval of the European Commission on May 2007
Expected Gas Sourcing	
(Expected) Gas Sourcing	Azerbaijan (second phase of development of the Shah Deniz Field)
Expected Gas Sourcing	

Inter-governmental agreements	November 2005: Signing of the Italy-Greece Intergovernmental Agreement July 2007: Signing of the Italy-Greece-Turkey Intergovernmental Agreement August 2007: Signing of the Memorandum of Cooperation between Greece and Azerbaijan December 2007: Signing of the Protocol of Cooperation between Italy and Azerbaijan November 2009: Joint statement of the Italian Minister of Economic Development and the Turkish Minister of Energy and Natural Resources May 2010: Memorandum of Understanding between Greece and Turkey

Additional Remarks

The ITGI-Poseidon project was included in the European Energy Plan for Recovery (Reg. 663/09) and a 100 M€ contribution was granted to the project with Decision of the EU Commission of 28/7/2010

TAP Gas Pipeline Project

General Information

Name of the project	Trans Adriatic Pipeline
Type of project	Pipeline project (incl. CSs)
Name of the sponsors and their shares	EGL (42,5%), Statoil (42,5%), E.On (15%)
Link to the project website	www.trans-adriatic-pipeline.com

Technical Information

Length of the pipe	Approximately 515 km
Diameter	The onshore part of the pipeline will have a diameter of 1219 mm (48”), while the diameter of its offshore segment will be 1066 mm (42”)

Technical capacity	10 (in 10^9 Nm^3/y)
Expected load factor	90%
Power of the CS(s)	Approximately 60 MW
Interconnections with other gas infrastructures	The Trans Adriatic Pipeline will start near Thessaloniki, in Greece and continues onshore all the way to the Adriatic Sea coast, after crossing the entire territory of Albania from east to west. The offshore part of the pipeline starts near the Albanian city of Fier and crosses the Adriatic Sea approaching the shore line near Brindisi to tie into Italy's gas transportation grid operated by SNAM Rete Gas. In its upstream part, TAP will interconnect with the existing DESFA pipeline system in Greece, which is linked further to the east with systems in Turkey, to secure access to contracted gas supplies in the Caspian Sea gas-rich regions.
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: aligned with Shah Deniz II development schedule (SD II first gas expected late 2016/early 2017 as communicated by SD Consortium).
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	Design & Permitting o Project status of TAP includes: o Memorandum of understanding and cooperation with the Albanian Government o Intergovernmental agreement on energy cooperation between Italy and Albania o Submission of an application for an Independent Natural Gas System licence in Greece o Request of access to TAP relevant upstream capacity in Greece by shareholders o Conclusion of a tie-in agreement with Snam Rete Gas in Italy o Realisation of engineering studies – see EU grants section o Offshore survey completed

	o FEED in progress

TEN-E Project Information

Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Project of common interest
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	o Date of request: 21 April 2004 (Feasibility study) o Year in which funding was received: 1 December 2005 (Feasibility study) o Final Payment of the Grant: 13 February 2008 (Feasibility study) o Date of request: 16 June 2005 (Basic Engineering) o Year in which funding was received: 6 December 2006 (Basic Engineering) o Final Payment of the Grant: 16 November 2009 (Basic Engineering)

Expected Benefit

What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) o Regional Cohesion TAP is the shortest and most economic way to secure SD II gas within EU borders and crosses regions with high storage potential. TAP requires no public funding, makes capacity available to new market entrants and contributes to efficient use of existing infrastructure. TAP provides Albania with an opportunity to develop its gas market and, as a result, strengthen its role in the Energy community.

TPA regime

Have you applied for an exemption from Third Party Access?	Not yet. TAP has finalised the drafting of the application. An inter-ministerial agreement between all host-countries is required by Italian law in order to file the application.

(Expected) Gas Sourcing	
(Expected) Gas Sourcing	TAP is designed to accommodate gas from SD II. Its shareholders are in dialogue with producers to secure the necessary volumes.
Inter-governmental Agreements	
Inter-governmental agreements	An inter-ministerial agreement between Italy, Albania and Greece is required under Italian law to commence the TPA exemption application process in Italy.
Financing Structure	
Expected or obtained share of public financing	0%
Expected or obtained share of private financing	Own financing 30% Loans 70% of which 70-80% from commercial banks and the rest from multilateral financing
Expected or obtained share of multilateral financing	20-30% of 70% of the overall external financing needs

Brindisi LNG Project

General Information

Name of the project	Brindisi LNG
Type of project	LNG Import Terminal
Name of the sponsors and their shares	BG Group
Link to the project website	www.brindisilng.it

Technical Information

Annual capacity	8 (in 10^9 Nm^3/y)
Daily send-out capacity	> 25 (in 10^6 Nm^3/d)
LNG storage capacity	320,000 - (2x 160,000) (in m^3 LNG)

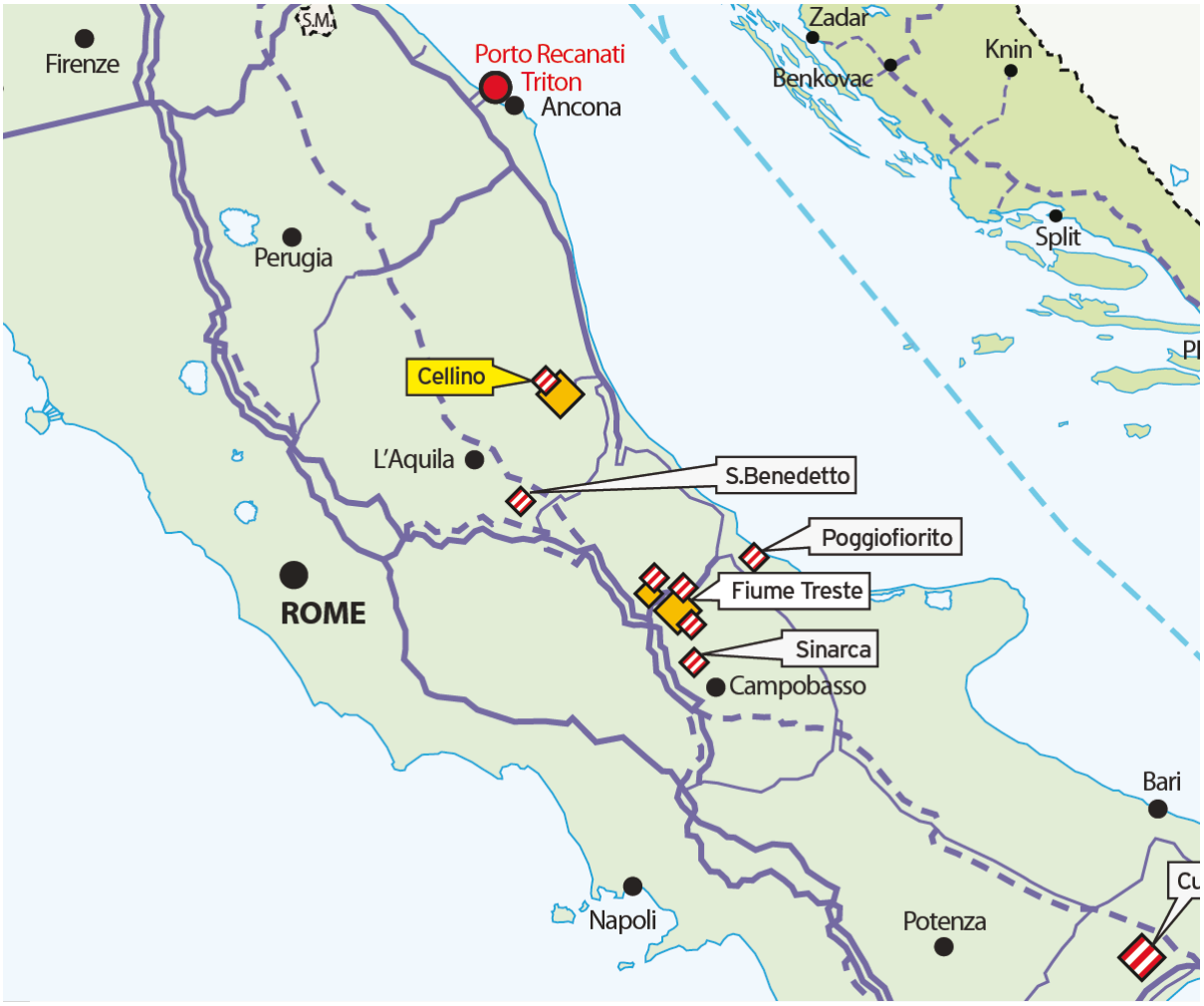
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 24-30 months after works start o FID: Depending on when access to site regained o End of permitting phase: expected in 2011
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	o Design & Permitting: EIA granted in July 2010 (see the following web site http://www.minambiente.it/opencms/export/sites/default/archivio/allegati/Decreti_VIA/2010/decreto_01_07_10_366.pdf) o Planned: EPC awarded December 2004 (see statement on bg-group web site http://www.bg-group.com/MediaCentre/PressArchive/2004/Pages/122104-pr.aspx) o Construction: Commenced October 2005 - Suspended February 2007

TEN-E Project Information	
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	Priority project
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No

Expected Benefit	
What is/are the expected benefit(s) of the project?	SoS: o Gas for the Project is intended to be sourced from BG's LNG supply portfolio. The Project should therefore increase the number of supply sources to the Italian market and reduce the EU's dependence on a few large suppliers (Russia and Algeria). This will enhance the security of supply not only to Italy but also to the Southern European region. o The development of the Brindisi LNG project will provide an alternative mechanism to pipelines at a national and European level for the transportation of gas into the EU. o The investment in the Terminal will also support wider infrastructure enhancement in the SNAM Rete Gas national transportation network. Market Integration (Increase of competition): o The project will allow the entry of BG Group into the Italian wholesale gas market and will provide the power generators, industrial users and the retail gas market with important alternative sources to the incumbent gas wholesaler. The project will therefore promote competition in both the wholesale and retail markets, whilst constituting an important investment in Italian gas infrastructure.
TPA regime	
Have you applied for an exemption from Third Party Access?	Yes, Brindisi LNG has an exemption from TPA for 80% of Terminal capacity for 20 years. The exemption has been granted on 6 April 2005 by Italian Ministry for Economic Development, and confirmed on 28 June 2005. Clearance of EUCommission is dated 13 September 2005.
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	From BG's LNG supply portfolio
Inter-governmental Agreements	
Inter-governmental agreements	N/A

Financing Structure	
Expected or obtained share of public financing	N/A
Expected or obtained share of private financing	N/A
Expected or obtained share of multilateral financing	N/A

Cellino Stoccaggio Storage Project



General Information

Name of the project	Cellino Stoccaggio
Type of project	Depleted Gas field on shore
Name of the sponsors and their shares	
Link to the project website	

Technical Information

Working Gas Volume	118 (in 10^6 Nm^3)
Deliverability	1,1 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: 31 March 2010 FID: July 2008 End of permitting phase: December 2014
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	Completed 31 March 2010: MSE has authorized the gas storage plant start-up.

TEN-E Project Information

Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit

What is/are the expected benefit(s) of the project?	o SoS and Market Integration (Increase of competition): The Italian Storage facilities is a market characterized by absence of a different operators, low level of development new storage capacity by the major operator (with the 97% market share). Our projects will enhance the level of competition and security of supply at national level.

TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing (only applicable for import pipeline projects)	
(Expected) Gas Sourcing	N/A
Inter-governmental Agreements (only applicable for import pipeline projects)	
Inter-governmental agreements	N/A
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

Collalto Stoccaggio Storage Project

General Information

Name of the project	Collalto Stoccaggio
Type of project	Depleted Gas field on shore
Name of the sponsors and their shares	None
Link to the project website	

Technical Information	
Working Gas Volume	825 (in 10^6 Nm^3)
Deliverability	9 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	

Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: May 2011 FID: May 2006 End of permitting phase: June 2024
Project development phase reached	o FID taken (under construction) 07 December 2009: MSE has authorized the construction site start-up.
IGA, Mandate Letter, LLI Tender, FEED	

TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit	
What is/are the expected benefit(s) of the project	o SoS and Market Integration (Increase of competition): The Italian Storage facilities is a market characterized by absence of a different operators, low level of development new storage capacity by the major operator (with the 97% market share). Our projects will enhance the level of competition and security of supply at national level.
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	
Inter-governmental Agreements	
Inter-governmental agreements	
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

San Potito e Cotignola Storage Project

General Information	
Name of the project	San Potito e Cotignola
Type of project	Depleted Gas field on shore
Name of the sponsors and their shares	Blugas Infrastrutture Srl 10%
Link to the project website	

Technical Information	
Working Gas Volume	915 (in 10^6 Nm^3)
Deliverability	7.2 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	

Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: May 2013 FID: September 2006 End of permitting phase *: May 2029
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	o FID taken (under construction) 26 May 2010: MSE has authorized the construction site start-up within 11 June 2010.

TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS and Market Integration (Increase of competition): The Italian Storage facilities is a market characterized by absence of a different operators, low level of development new storage capacity by the major operator (with the 97% market share). Our projects will enhance the level of competition and security of supply at national level.
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	
Inter-governmental Agreements	
Inter-governmental agreements	
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

Stogit Enhancements and New Developments

General Information

Name of the project	**Stogit Enhancement and new developments** Includes the development of: • Bordolano (new field) • Fiume Treste (new layers and enhancement of existing) • enhancement of several operating fields
Type of project	Depleted Gas fields on shore

Name of the sponsors and their shares	
Link to the project website	

Technical Information

Working Gas Volume	2,700 (by 2013) (in 10^6 Nm^3)
Deliverability	33 (by 2013) (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	--

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: progressive build-up of overall capacities from 2011 FID: taken for all projects End of permitting phase: 2011 to 2013 for the different projects
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	

TEN-E Project Information

Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-

If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	-
Expected Benefit	
What is/are the expected benefit(s) of the project?	Security of Supply Market Integration (increase of competition and market liquidity) Increased flexibility of the system Optimisation of the balancing of the system
TPA regime	
Have you applied for an exemption from Third Party Access?	No
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

LATVIA

Latvijas Gaze - Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ Storage facility (indicate the type of storage)

List of projects

Project	FID	Commissioning	Remarks
Pipes [14]			
LV-LT interconnection (Enhancement of bi-directionality)	2009	2013	EEPR project
Storage facilities			
Incukalns	Non-FID	2018	TEN-E: Priority Project

Link to the TSO's website	http://www.lg.lv/

Technical Information

Total length of new pipes (based on the above list)	1.7 km
Diameter range of new pipes	500-700 mm

Technical capacity

[14] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Kiemenai	Entry: 0.7 Exit: 3.9	
Compressors	**(in MW)**	
Panevezys	7.7	Modernization
Storage facilities	**Deliverability (in 10^6 Nm^3/d)**	**Working Gas Volume (in 10^9 Nm^3)**
Incukalns	6	0.875

Expected Benefits

The Implementation of the Projects will enhance cross-border interconnection capacity, along with strengthening economic cooperation in the region, building links between Poland and Lithuania, and strengthening the economic cohesion with the common EU grid.

Inter-governmental and inter-TSO Agreements if applicable

Enhancement of bi-directional interconnection capacity between Latvia and Lithuania:
Letter of intent relating to the project implementation signed by Latvijas Gaze and Lietuvos Dujos on 30 June 2009

Development of Incukalns Underground Gas Storage:

Letters of support for the project received from Gasum (22 April 2010), Eesti Gaas (23 April 2010) and Lietuvos Dujos (21 April 2010) due to the importance of the project for the Baltic region

Financing Structure

Expected or obtained share of public financing	**Development of Incukalns Underground Gas Storage facility:** Feasibility and technical study: 50% of the costs of the study could be covered from TEN-E funds

Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	**Enhancement of bi-directional interconnection capacity between Latvia and Lithuania:** 50% of the estimated costs covered by EERP

Changes as compared to TYNDP 2010-2019

-

LITHUANIA

Lietuvos Dujos- Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ Storage facility (indicate the type of storage)

List of projects

Project	FID	Commissioning	Remarks
Pipes [15]			
LT–PL Interconnection	Non-FID	2020*	TEN-E: Project of common interest
Klaipeda-Jubarkas	Non-FID	2012	
Storage facilities			
Syderiai	Non-FID	2016	TEN-E: Project of common interest

Link to the TSO's website	http://www.dujos.lt

Technical Information

Total length of new pipes (based on the above list)	approx. 120 km
Diameter range of new pipes	600-800 mm

[15] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Technical capacity

Interconnections	(in 10^6 Nm^3/d)	Remarks
LT-PL Interconnection	8.2	Annual volume: 3 bcm
Storage facilities	**Deliverability (in 10^6 Nm^3/d)**	**Working Gas Volume (in 10^9 Nm^3)**
Syderiai	1	0.5

Expected Benefits

LT-PL Interconnection

Polish – Lithuanian gas transmission systems interconnector would diversify the gas supplies sources and routes for the relevant countries as well as increase their energy independency of a single gas supplier, enable the integration of the isolated Baltic states (Lithuania, Latvia and Estonia) with Poland and further with EU by creating a regional gas market and enhancing security of gas supply.

Klaipeda-Jubarkas

The Klaipeda-Jubarkas gas pipeline will create a circular natural gas transmission system in Lithuania contributing thus to the security of supply

Storage facility Syderiai

The project should create conditions for natural gas reserve storage in Lithuania and increase the security of natural gas supply in the region.

Financing Structure

Expected or obtained share of public financing	Gas Interconnection Poland-Lithuania: Support from EU funds is expected. Klaipeda-Jubarkas pipeline: Support from EU structural funds is expected.
Expected or obtained share of private financing	

Expected or obtained share of multilateral financing	

Changes as compared to TYNDP 2010-2019

-

Lithuania-Klaipeda LNG project

General Information	
Name of the project	Klaipeda LNG terminal
Type of project	LNG Terminal
Name of the sponsors and their shares	Joint-stock company “Klaipėdos nafta” is considered to be one of the shareholders and others shareholders will be determined at a later stage of the project.
Link to the project website	N/A

Technical Information	
Annual capacity	2-3 (in 10^9 Nm^3/y)
Daily send-out capacity	Up to 4 (in 10^6 Nm^3/d)
LNG storage capacity	60,000 (in m^3 LNG)

Interconnection with other gas infrastructures	Lithuania's aim - possibility to diversify gas sources for county and Baltic states. LNG terminal would work efficient with these interconnections: o LT bi-directional interconnection with Latvia; o LT interconnection with underground gas storage in Latvia – Incukalns; o LT interconnection with underground gas storage in Belarus; o LT bi-directional interconnection with Poland; o LNG terminal operation in combination with Syderiai UGS would have summer/winter demand balancing, access to spot market and diversification of gas supply.

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: 2014 FID: 2011 End of permitting phase: 2012-2013
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	Planned / under consideration Project of LNG terminal is endorsed by the Lithuanian Government. 21 July 2010 – Government decision on the development of LNG terminal project 25 February 2009 – Project endorsed in the Government Programme Action Plan 2008–2012 27 December 2007 – Project endorsed in the National energy strategy implementation plan 2008-2012 and programs of action 17 June 2009 – Klaipeda LNG terminal is part of Baltic Energy Market Interconnection Plan (BEMIP) endorsed by the Baltic Sea states and European Commission; Government Approves Klaipeda LNG Plan (Lithuania) *http://www.lngworldnews.com/government-approves-klaipeda-lng-plant-lithuania/*

	LNG terminal approved http://balticreports.com/?p=22028
TEN-E Project Information	
Is the project part of TEN-E?	Yes
If the project is part of TEN-E, specify the project category.	o Project of common interest
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: June 2009 Year in which funding as received: 2010
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) Others, please specify: Reduce Lithuania's dependence on the single external natural gas supplier; Ensure diversification of natural gas supply sources; Create real gas market and ensuring natural gas supply in Lithuania.
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A
Inter-governmental Agreements	
Inter-governmental agreements	N/A

Financing Structure	
Expected or obtained share of public financing	+/- 39%
Expected or obtained share of private financing	+/- 61%
Expected or obtained share of multilateral financing	N/A

NETHERLANDS

GTS - Infrastructure Projects

General Information

Types of project

✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes [16]			
Various system capacity enhancements (a.o. Open Season projects, connection of LNG-terminal, storage facilities, nitrogen storage)	FID	2010-2013	
Various system capacity enhancements (further expansion of gas roundabout, Integrated Open Season, connection to Bergermeer Storage, connection to various other storage facilities, connection with additional imports from LNG and pipelines)	Non-FID	2013	TEN-E project: Integrated Open Season

Link to the TSO's website	http://www.gastransportservices.nl http://www.integratedopenseason.com

[16] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Technical Information

Total length of new pipes (based on the above list)	> 600 km
Diameter range of new pipes	Mostly 1200 mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Cross-border interconnections	Entry: 100 Exit: 100	FID projects Due to the nature of the GTS network, a decoupled entry-exit system, exact allocation of pipeline enhancement to increased border capacity is not possible.
NL-BE	Exit: 24	Non-FID projects
	Entry: 48	
NL-DE	Exit: 48	
	Entry: 24	
NO-NL		
	Exit: 2	
NL-UK		

Expected Benefits

- SoS
- Market Integration (Increase of competition)
- Import
- Quality Conversion
- Security of Supply

Further expansion of the gas roundabout increases SoS since it enables additional import of gas

and also connects storages to the gas networks. Furthermore, interconnection capacity between TSOs is increased which increases market integration.

Changes as compared to TYNDP 2010-2019

N/A

Gate terminal phase I and II LNG project

General Information

Name of the project	Gate terminal phase 1 and 2
Type of project	LNG Terminal
Name of the sponsors and their shares	Royal Vopak NV (42.5%) NV Nederlandse Gasunie (42.5%) OMV (5%) DONG Energy (5%) E.ON Ruhrgas (5%)
Link to the project website	www.gateterminal.com

Technical Information

Annual capacity	12 (in 10^9 Nm^3/y)
Daily send-out capacity	39,6 (in 10^6 Nm^3/d)
LNG storage capacity	540,000 (in m^3 LNG)
Interconnection with other gas infrastructures	Connecting flange is with Gas Transport Services, the TSO through whose network the gas will be transported.

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: 1 September 2011 FID: 2007
Project development phase reached	o Under construction
IGA, Mandate Letter, LLI Tender, FEED	http://www.gateterminal.com/algemeen/pdf/nieuws/20080820023457.pdf http://www.gateterminal.com/algemeen/pdf/nieuws/20090708090708.pdf

TEN-E Project Information

Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) Gate terminal obtained an exempted ex Art 22 Gas Directive 2003/55/EC. In order to obtain an exemption it needed to be demonstrated that Gate terminal enhanced both security of supply and the competition on the gas market.

TPA regime	
Have you applied for an exemption from Third Party Access?	Yes The exemption was applied for in March 2006; the exemption has been granted by the Dutch Minister on 14 July 2007; the EC gave its approval on 2 October 2007.

(Expected) Gas Sourcing	
(Expected) Gas Sourcing	N/A

Inter-governmental Agreements	
Inter-governmental agreements	N/A

Financing Structure	
Expected or obtained share of public financing	+/- 39%
Expected or obtained share of private financing	+/- 61%
Expected or obtained share of multilateral financing	N/A

Gate terminal phase III LNG project

General Information

Name of the project	Gate terminal phase 3
Type of project	LNG Terminal
Name of the sponsors and their shares	Royal Vopak NV (42.5%) NV Nederlandse Gasunie (42.5%) OMV (5%) DONG Energy (5%) E.ON Ruhrgas (5%)
Link to the project website	www.gateterminal.com

Technical Information	
Annual capacity	Additional 4 (in 10^9 Nm^3/y)
Daily send-out capacity	Additional 10 (in 10^6 Nm^3/d)
LNG storage capacity	Additional 180,000 (in m^3 LNG)
Interconnection with other gas infrastructures	Connecting flange is with Gas Transport Services, the TSO through whose network the gas will be transported.
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 1 September 2015 Permits and exemptions received
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	Under consideration http://www.gateterminal.com/nieuws.php?categorie_id=1&nieuws_id=18
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from	

TEN-E funds been requested / received?	

Expected Benefit

What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) Gate terminal obtained an exempted ex Art 22 Gas Directive 2003/55/EC. In order to obtain an exemption it needed to be demonstrated that Gate terminal enhanced both security of supply and the competition on the gas market.

TPA regime

Have you applied for an exemption from Third Party Access?	Yes The exemption was applied for in March 2006; the exemption has been granted by the Dutch Minister on 14 July 2007; the EC gave its approval on 2 October 2007.

(Expected) Gas Sourcing

(Expected) Gas Sourcing	N/A

Inter-governmental Agreements

Inter-governmental agreements	N/A

Financing Structure

Expected or obtained share of public financing	+/- 39%
Expected or obtained share of private financing	+/- 61%

Expected or obtained share of multilateral financing	N/A

Bergermeer Storage Project

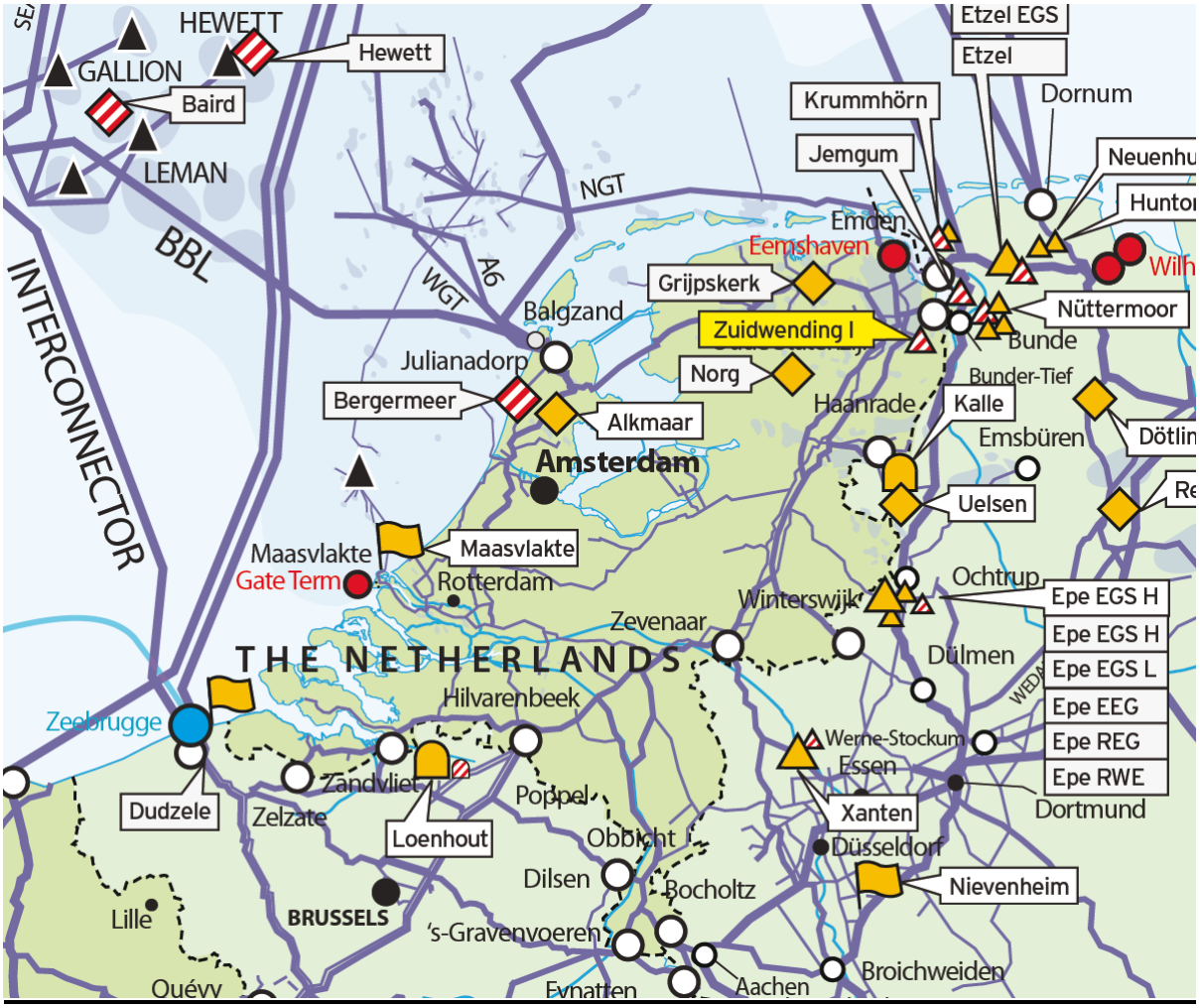
General Information

Name of the project	Bergermeer Gas Storage (BGS)
Type of project	Storage facility (depleted gas field)
Name of the sponsors and their shares	TAQA Energy B.V. 60% EBN B.V. 40%
Link to the project website	www.gasopslagbergermeer.nl

Technical Information	
Working gas volume	4000 (in 10^6 Nm^3)
Deliverability	57 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Bergermeer Gas Storage will be connected to the GTS grid at two points: with 24 '' to the west of BGS and with 36'' to the east of BGS.
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2013/2014 FID: on 21 Oct 2009 End of permitting phase: expected March 2011
Project development phase reached	Unconditional FID taken, see press release on http://www.taqa.ae/en/news341.html
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	-
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) *Bergermeer Gas Storage will significantly enhance the security of energy supply to Dutch and European consumers, providing a reserve of the equivalent to the annual gas consumption of approximately 1.6 million Dutch households. The planned working volume amounts to 4.1 bcm. It will also be a major contributor to liquidity in the North-*

	West European gas markets. *The project is a valuable contribution towards the ambition the Dutch State to realise the 'gas roundabout of North-West Europe' in The Netherlands.* *Once commercially operational, the majority of the capacity of the facility will be made available for third party access. This will contribute to increased competition on the market.*
TPA regime	
Have you applied for an exemption from Third Party Access?	No
Financing Structure	
Expected or obtained share of public financing	0%
Expected or obtained share of private financing	100%
Expected or obtained share of multilateral financing	0%

Gasunie Zuidwending Storage Project



General Information

Name of the project	Gasunie Zuidwending
Type of project	Storage facility, salt cavern
Name of the sponsors and their shares	Gasunie 100%
Link to the project website	www.agbzw.nl, www.gasuniezuidwending.nl, www.gasunie.nl

Technical Information	
Working gas volume	300 (in 10^6 Nm^3)
Deliverability	20 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	GTS grid, NL
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 07/2010 End of permitting phase: ready Start date: 01/2011
Project development phase reached	FID: taken http://www.agbzw.nl/nl/nieuws/groen-licht-voor-gasopslag-zuidwending
TEN-E Project Information	
Is the project part of TEN-E?	No
Expected Benefit	
What is/are the expected benefit(s) of the project?	Security of supply, market integration, other: Access for third parties to contract flexibility services
TPA regime	
Have you applied for an exemption from Third Party Access?	No

POLAND

Gaz-System -- Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ LNG terminal

List of projects

Project	FID	Commissioning	Remarks
Pipes [17]			
Dziwiszów - Taczalin (modernization)	2007	2011	EEPR project TEN-E: Project of common interest
Gustorzyn - Odolanów	2007	2014	Project is under the Operational Programme Infrastructure and Environment
Hermanowice MS	2009	2013	
Jarosław node (modernization)	2008	2010	
Jeleniów – Dziwiszów	2007	2011	TEN-E: Project of common interest Project under the Operational Programme Infrastructure and Environment
Odolanów node	2010	2014	

[17] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

PL - CZ interconnector (Cieszyn)	2009	2011	EEPR project TEN-E: Project of common interest
Polkowice – Żary	2009	2014	TEN-E: Project of common interest Project under the Operational Programme Infrastructure and Environment
Rembelszczyzna - Gustorzyn	2007	2014	Project is under the Operational Programme Infrastructure and Environment
Rembelszczyzna node (extension)	2010	2014	
Reszki - Kosakowo	2009	2012	
Świnoujście - Szczecin	2010	2013	EEPR project Linked to the Baltic Interconnector project
Szczecin - Gdańsk	2007	2013	Project is under the Operational Programme Infrastructure and Environment
Szczecin - Lwówek	2007	2014	Project is under the Operational Programme Infrastructure and Environment
Taczalin - Radakowice - Gałów	2007	2011	EEPR project TEN-E: Project of common interest
Włocławek - Gdynia	under construction	2011	Project is under the Operational Programme

			Infrastructure and Environment
Czeszów – Wierzchowice	2012	2015	
Gałów – Kiełczów	2012	2015	
Gustorzyn node	2011	2014	
Hermanowice – Jarosław	2016	2020	
Hermanowice – Strachocina	2012	2015	
Jarosław – Rozwadów	2016	2020	
Jeleniów – Taczalin	2015	2020	TEN-E: Project of common interest
Lasów – Jeleniów	2012	2015	TEN-E: Project of common interest
Lasów MS (extension)	2012	2015	TEN-E: Project of common interest
Lwówek – Odolanów	2016	2020	Project is under the Operational Programme Infrastructure and Environment
Niechorze – Płoty	2020*	2020*	TEN-E: Project of common interest
Odolanów – Tworzeń	2016	2020	
PL - DK interconnector (Baltic Pipe)	2020*	2020*	TEN-E: Project of common interest TEN-E 2008, TEN-E 2009
PL - LT interconnector	2020*	2020*	TEN-E: Project of common interest
Płoty node	2020*	2020*	TEN-E: Project of common interest
Pogórska Wola – Tworzeń	2012	2016	
Rozwadów - Końskowola –	2016	2020	

Wronów			
Skoczów - Komorowice – Oświęcim	2015	2017	
Strachocina - Pogórska Wola	2012	2015	
Tworzeń – Oświęcim	2015	2017	
Wronów - Rembelszczyzna	2016	2020	
Wronów node extension	2016	2020	
Zdzieszowice – Wrocław	2012	2015	Project is under the Operational Programme Infrastructure and Environment
Compressors			
Goleniów CS	2007	2011	EEPR project Linked to the Baltic Interconnector project
Jarosław CS (modernization)	2008	2011	
Jeleniów II CS (extension)	2008	2011	EEPR Project TEN-E (Project of common interest)
Odolanów CS	202	2015	
Rembelszczyzna CS	2012	2015/2018	
Other			
LNG terminal in Świnoujście	2010	2014	EEPR project TEN-E (Priority project)

Total expected costs	Approx. 4,000 (in 10^6 €)
Link to the TSO's website	http://www.gaz-system.pl/

Technical Information

Total length of new pipes (based on the above list)	Approx. 3,600 km
Diameter range of new pipes	300 – 800 mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
PL - CZ interconnector (Cieszyn)	Entry Winter: 2.4 Entry Summer: 0.38	Potential for further grow
PL - DK interconnector (Baltic Pipe)	Entry/Exit: 8.2	Preparatory phase
PL - LT interconnector	Entry/Exit: 8.2	Early study phase
PL - DE interconnection (Lasów)	Entry: 2	Phase 1: Jeleniów - Dziwiszów Dziwiszów - Taczalin Taczalin - Radakowice - Gałów
	Entry: 3	Phase 2 Lasów - Jeleniów Lasów MS Jeleniów II CS Jeleniów - Taczalin Lasów - Jeleniów Gałów – Kiełczów Wierzchowice - Czeszów
Compressors	**(in MW)**	**Remarks**
Goleniów CS	5.7	
Jarosław CS	10	Modernization
Jeleniów CS	1.5	Extnsion
Odolanó CS	Not yet decided	
Rembelszczyzna CS	18.3	

Expected Benefits

The SoS and the Market Integration (Increase of competition) are expected benefits for all projects listed in the TYNDP questionnaire.

The North - South Gas Corridor is to create robust interconnection of all Visegrad Group (V4) countries which will help increase the liquidity and level of competition of the regional market, enhance security of supply of the region and enable the application of the solidarity mechanism in case of crisis in practice. The main gas route should interconnect LNG Poland terminal in Świnoujście and Baltic Pipe, through southern Poland, the Czech Republic, Slovakia and Hungary, with the proposed Adria LNG terminal in Croatia. The North-South Gas Interconnection Axis does not constitute one single project. but many bilateral interconnection gas pipelines and national pipelines which already exist or are in various stages of planning and construction.

The Baltic Interconnection is to contribute to the security of natural gas supply to Polish, Danish and Swedish customers. The project is to create a technical possibility of gas transfer from North Sea fields to Poland and possibly further to the CEE countries and the Baltic states. The reverse flow shall also be possible enabling gas transport to Scandinavian markets.

The Lithuanian-Polish gas transmission systems interconnector should enable the integration of the isolated Baltic States (and Finland) with Poland and further with the European Union contributing to the creation of the regional gas market, enhancing competition and the security of gas supplies. The project falls within the larger concept of the Nordic Gas Grid which envisages the creation and development of connections between Norway, Denmark, Germany, Sweden, Finland, Russia, Estonia, Latvia, Lithuania and Poland.

The modernisation and expansion of the transmission system near the PL-DE Interconnection at Lasów will allow increased gas import to Poland (Phase 1). Further increase (Phase 2) of gas streams from the PL-DE will require additional modernization activities and construction of the new infrastructure both on Polish and German side. GAZ-SYSTEM is in the process of discussion with ONTRAS concerning the needed development and planned market screening procedure. The market screening and possible open season procedure are foreseen in late 2011/2012. The involvement of NRAs may be required at that time.

Financing Structure

Expected or obtained share of public financing	EEPR, TEN-E, Operational Programme Infrastructure and Environment
Expected or obtained share of	NA

private financing	
Expected or obtained share of multilateral financing	NA

Changes as compared to TYNDP 2010-2019

-

PORTUGAL

REN - Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ LNG terminal
- ✓ Storage facility (indicate the type of storage)

List of projects

Project	FID	Commissioning	Remarks
Pipes [18]			
PT-ES Interconnector	2011	2016	EEPR Project FID for the initial 47 km section has been taken
Storage facilities			
Carriço	2010	2011-2015	Expansion New caverns commissioned gradually
LNG terminals			
Sines	2008	2012	Expansion

Link to the TSO's website	www.ren.pt

Technical Information

[18] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Total length of new pipes (based on the above list)	205 km
Diameter range of new pipes	700 mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
3rd IP at PT-ES border	Exit: 6.7 Entry: 8.9	
Storage facilities	**Deliverability (in 10^6 Nm^3/d)**	**Working Gas Volume (in 10^6 Nm^3)**
Carriço	7.2	250
LNG terminals	**Send-out (in 10^6 Nm^3/d)**	**Annual capacity (in 10^9 Nm^3/y)**
Sines	10.8	2.6

Expected Benefits

Portugal – Spain Interconnection

The new PT-ES interconnection will contribute to compliance with N-1 criterion for SoS (infrastructure standard) and meet additional interconnection capacity requirements above existing IP's. It will also create access axis between the UGS facilities of Carriço (PT) and Yela (ES)

Expansion of Carriço UGS

The increase of storage capacity will contribute to SoS in an effective manner. It will also provide the resources for optimized management of market players' gas portfolios. Operationally, the increased storage capacity will contribute to a more efficient use of the transmission system.

Expansion of Sines LNG terminal

This project will allow better and more flexible access to more remote and alternative LNG sources, thus diversifying supply sources and contributing to SoS. It will also enable a larger number of shippers to access the Terminal, increasing liquidity and thus promoting competition and the gas market.

Financing Structure	
Expected or obtained share of public financing	**Portugal – Spain Interconnection**: EEPR: € 10.7 mil.
Expected or obtained share of private financing	**Portugal – Spain Interconnection**: REN financing of the remaining part of the investment **Expansion of Carriço UGS**: 100% financing by REN Armazenagem and Transgás Armazenagem of their respective investments (two independent concessionaires) **Expansion of Sines LNG Terminal**: 100% financing by REN
Expected or obtained share of multilateral financing	-

Changes as compared to TYNDP 2010-2019
-

ROMANIA

Transgaz - Infrastructure Projects

General Information

Types of project

✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes [19]			
RO-BG Interconnection	2010	2012	EEPR Project

Link to the TSO's website	http://www.transgaz.ro

Technical Information

Total length of new pipes (based on the above list)	25 km
Diameter range of new pipes	500 mm

Technical capacity

Interconnections	(in 10^6 Nm^3/d)	Remarks
RO-BG Interconnection	Exit: 2.0 Entry: 2.8	

[19] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Expected Benefits

Diversification of sources of energy, routes and supplies; increasing the degree of interconnectivity between the gas transmission systems of the two countries; safety, reliability and interoperability of interconnected energy networks, including enabling bidirectional gas flows; contribution to the establishment of the South-Eastern European regional gas market.

Financing Structure

Expected or obtained share of public financing	€ 4,553,706
Expected or obtained share of private financing	€ 6,424,370
Expected or obtained share of multilateral financing	

Changes as compared to TYNDP 2010-2019

-

SERBIA

Srbijagas - Infrastructure Projects

General Information

Types of project

✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes [20]			
RS-BG Interconnector	Non-FID	2015	Included in the Danube strategy plan

Link to the TSO's website	N/A

Technical Information

Total length of new pipes (based on the above list)	108 km
Diameter range of new pipes	600 mm

Technical capacity

Interconnections	(in 10^6 Nm^3/d)	Remarks
RS-BG Interconnector	Entry / Exit: 4.9	Bi-directional

[20] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Expected Benefits

Security of supply

Changes as compared to TYNDP 2010-2019

-

SLOVAKIA

Eustream - Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ Storage facility (indicate the type of storage)

List of projects

Project	FID	Commissioning	Remarks
Pipes [21]			
Modernization and Upgrade of the Network and Replacement of Technologies due to Environmental Norms	2010	2010-2016	
Slovakia - Hungary interconnector	Non-FID	2014	
Storage interconnection	2009	2011	
Reverse flows in the eustream transmission system	2009	2011	Reverse flows development at the border by NET4GAS and BOG transmission system operators

Link to the TSO's website	http://www.eustream.sk.

[21] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Technical Information

Total length of new pipes (based on the above list)	**21** km
Diameter range of new pipes	700-800 mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
SK-HU interconnection	13.65	Bi-directional
Lanžhot	Entry: 18.64	
Baumgarten	Entry: 22.2	Baumgarten BOG

Expected Benefits

The proposed Eustream infrastructure projects will, increase capacity in Slovak transmission system, improve the integration of the EU gas infrastructure system, produce new transmission opportunities for market players, enhance cross-border liquidity and increase the security of gas supplies of the region. The reverse flow projects will also increase the level security of supply in the region as well as fulfilling a key obligation of the Security of Supply regulation.

Inter-governmental Agreements if applicable

Interconnector Slovakia – Hungary: Intergovernmental agreement between Slovak Republic and Hungary will be concluded after the evaluation of the Open Season and adoption of FID.

Financing Structure

Expected or obtained share of public financing	**Interconnector Slovakia – Hungary:** EEPR: € 3.3 mil. **Reverse flows in the eustream TS:** EEPR: € 0.7 mil.

Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	

Changes as compared to TYNDP 2010-2019

-

SLOVENIA

Geoplin plinovodi - Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ Interconnection with a gas-fired power plant

List of projects

Project	FID	Commissioning	Remarks
Pipes [22]			
M1/1 Ceršak – Kidričevo	FID	2011	Under construction EEPR
M1/3 SLO-A border crossing	2013	2014	
M2/1 Rogaška Slatina – Trojane backbone pipeline	FID	2014	Under construction EEPR
M2/1 Trojane – Vodice central backbone pipeline	FID	2014	Under construction EEPR
M3 reconstruction Ajdovščina CS – Šempeter/Gorizia	2009	2014	TEN-E
R21AZ Zreče Loop	2009	2014	
M5 + R51 Vodice – TE-TOL	2006	2014	Connection with a gas-fired power plant
Compressors			
Kidričevo CS (Unit 3)	2011	2014	
Kidričevo CS (Phase 2)	2011	2016	

[22] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Ajdovščina CS (Unit 3)	2011	2016	

Link to the TSO's website	http://www.geoplin-plinovodi.si

Technical Information

Total length of new pipes (based on the above list)	207 km
Diameter range of new pipes	150 - 800 mm

Technical capacity

Interconnections	(in 10^6 Nm^3/d)	Remarks
Murfeld /Ceršak	Entry: 1.4 Entry: 4.5 Entry: 7.4	Additional capacities per year of commissioning Related projects: M1/1 Ceršak – Kidričevo Kidričevo CS (Unit 3) Kidričevo CS (Phase 2) M1/3 SLO-A border crossing
Šempeter/Gorizia	Entry: 3.3 Exit: 2.4 Exit: 3.6	Additional capacities per year of commissioning Related projects: M3 reconstruction Ajdovščina CS - Šempeter/Gorizia Ajdovščina CS (Unit 3) Kidričevo CS (Phase 2)

Compressors	(in MW)	Remarks
Kidričevo CS (Unit 3)	3.5	
Kidričevo CS (Phase 2)	18.0	
Ajdovščina CS (Unit 3)	4.5	

Expected Benefits

- removing bottlenecks of transmission system and increase of its capacities up to the existing capacities of neighbouring transmission system operators (first phase)
- ensuring additional capacities for further market development and transits, including reverse flows (second phase)

Changes as compared to TYNDP 2010-2019

-

SPAIN

ENAGÁS and Others Companies* with transport assets and activity

-- Infrastructure Projects

(*) Enagás, as gas system operator and main transmission company of the high pressure gas network in Spain, is the sponsor of the majority of projects specified under the following list. Whenever there are projects that have been promoted by another sponsor it will be explicitly indicated under the "remarks" column.

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ LNG terminal
- ✓ Storage facility (indicate the type of storage)

List of projects

Project	FID	Commissioning	Remarks
Pipes			
Loop Tivissa-Paterna	2007	March 2012	Capacity increase at IP Larrau IP
Loop Villapresente-Burgos	2008	June 2014	
Loop Treto-Llanera	2009	June 2015	Capacity increase at IP Biriatou IP
Bilbao Terminal-Treto	2006	October 2012	*Sponsored by NATURGÁS* Capacity increase at Biriatou IP
Musel Terminal-Llanera	2007	December 2012	
Zarza de Tajo-Yela	2007	March 2012	Capacity increase at Larrau IP

Yela-Villar de Arnedo	2008	December 2012	Capacity increase at Larrau IP EEPR project
Algete-Yela	2007/under construction	June 2011	Connection of Yela UGS
Guitiriz-Lugo	2010	December 2013	
Loop Bermeo-Lemona	2008	December 2015	Reinforcement of UGS Gaviota connection
Loop Llanera-Otero	2008	June 2011	
Martorell-Figueras	2007	August 2012	
Figueras-French Border	Non-FID	2020*	Related to the future Le Perthus IP (MidCat) Commissioning date linked to the development on the French side
Nuevo Tivissa-Arbós	Non-FID	2018	
Besós Pipeline	2007	March 2012	
Interconnection ES-PT (3rd IP)	Non-FID	2016-2018	Project under study; it could be developed in two phases
Almonte-Marismas	2007	June 2011	Reinforcement of Marismas UGS connection
Castor UGS connection	2008	June 2012	
Las Barreras UGS connection	FID	June 2017	
El Ruedo UGS connection	FID	June 2018	
CSs			
Denia CS	2004	December 2011	
Chinchilla CS	2007	September 2011	

Villar de Arnedo CS	2008	September 2011	Capacity increase at Larrau IP EEPR project
CS Border (at Biriatou)	2010	December 2015	Capacity increase at Biriatou IP
Martorell CS	Non-FID	2020*	Related to the future Le Perthus IP (MidCat) Commissioning date linked to the development on the French side
LNG			
BARCELONA's 8th LNG Storage Tank	2007/under construction	2011	
BILBAO's 3rd LNG Storage Tank	2006	2014	*Sponsored by BBG*
SAGUNTO's 4th LNG Storage Tank	2007/under construction	2011	*Sponsored by SAGGAS*
MUSEL LNG terminal	2006/under construction	2012	
BILBAO Send-Out increase	FID	2012	*Sponsored by BBG*
HUELVA Send-Out increase	Non-FID	2018	
MUSEL Send-Out increase	Non-FID	2018	
REGANOSA Send-Out increase	Non-FID	2018	*Sponsored by REGANOSA*
SAGUNTO Send-Out increase	Non-FID	2016	*Sponsored by SAGGAS*
SAGUNTO Send-Out increase	Non-FID	2018	*Sponsored by SAGGAS*
BILBAO's 4th LNG Storage Tank	Non-FID	2020	*Sponsored by BBG*
HUELVA's 6th LNG Storage Tank	Non-FID	2018	
MUSEL's 3th/4th LNG Storage Tank	Non-FID	2018	
SAGUNTO's 5th LNG Storage Tank	Non-FID	2018	*Sponsored by SAGGAS*
TENERIFE LNG Terminal	2000	2014	*Sponsored by GASCAN*

GRAN CANARIA LNG Terminal	2000	2015	*Sponsored by GASCAN*
UGS			
Yela (aquifer)	2005/under construction	2011	
Castor (depleted oil/gas field)	2006/under construction	2012	*Sponsored by ESCAL*
Serrablo (depleted gas field)	FID	2012	Expansion
Marismas (depleted gas field)	2007	2012	*Sponsored by GAS NATURAL*
Gaviota (depleted gas field)	FID	2014	Expansion
El Ruedo (depleted gas field)	FID	2018	*Sponsored by NUELGAS*
Las Barreras (depleted gas field)	FID	2017	*Sponsored by NUELGAS*

Link to the TSO's website	http://www.enagas.es

Technical Information

Total length of new pipes (based on the above list)	1,685 km
Diameter range of new pipes	440 – 990 mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Larrau	Entry: 5.7 Exit: 14.3	GCV: 11.5 kWh/d
Biriatou	Entry: 5.2 Exit: 4.8	GCV: 11.5 kWh/d
Le Perthus	Entry: 20.0 Exit: 15.7	GCV: 11.5 kWh/d

Interconnection ES-PT (3rd IP)	Entry: 12.4 Exit: 12.4	Total capacity as estimated currently after two phases of development
CSs	**(in MW)**	
Denia	15	
Chinchilla	48	
Villar de Arnedo	35	
CS Border (at Biriatou)	21	
Martorell	36	Linked to the development of Le Perthus IP
Storage facilities	**Deliverability (in 10^6 Nm3/d)**	**Working Gas Volume (in 10^6 Nm3)**
Yela	15.0	1,050
Castor	25.0	1,300
Serrablo	7.4	680
Marismas	5.2	622
Gaviota	14.0	1,558
El Ruedo	0.5	90
Las Barreras	0.8	72
LNG terminals	**Send-out (in 10^6 Nm3/d)**	**Annual capacity (in 10^6 Nm3/y)**
MUSEL LNG terminal	19.2	7,008
BILBAO Send-Out increase	9.6	3,504
HUELVA Send-Out increase	7.2	2,628
MUSEL Send-Out increase	4.8	1,752
REGANOSA Send-Out increase	10.1	3,679
SAGUNTO Send-Out increase	4.8	1,752
SAGUNTO Send-Out increase	4.8	1,752
TENERIFE LNG Terminal	3.6	1,314
GRAN CANARIA LNG Terminal	3.6	1,314

*Note: Additional Non-FID entry capacity (of approximately 18*10^6 Nm3/d), is conditioned on the evolution of demand, especially the development of big industrial sites, as well as on delays or non-*

commitment of other entry points. (Ref. Mandatory Planning 2008-2016)

Note 2: Under the category 'Non-FID' projects, all B- and/or R-type of projects are included as defined in the Spanish Mandatory Planning 2008-20016 and draft Annual Plan (April 2010)

Expected Benefits

- Security of Supply
- Market Integration
- Enhancement of Internal Network; reduction of internal congestion
- N-1 compliance
- Integration of LNG plants
- Integration of UGS
- Integration of new Gas fired power plants

Financing Structure

Expected or obtained share of public financing	0%
Expected or obtained share of private financing	100%
Expected or obtained share of multilateral financing	0%

Changes as compared to TYNDP 2010-2019

The data provided are in accordance with the draft "Programa Anual de Instalaciones de las Redes de Transporte de Energía Eléctrica y Gas" developed by the Spanish Ministry of Industry and Trade in April 2010. Information of projects updated by 3Q-2010.

SWEDEN

Swedegas - Infrastructure Projects

General Information

Types of project

✓ Pipeline (incl. CSs)

List of projects

Project	FID	Commissioning	Remarks
Pipes [23]			
Skanled	2011	2014	TEN-E: Priority project

Link to the TSO's website	*http:/www.swedegas.se*

Technical Information

Total length of new pipes (based on the above list)	650 km
Diameter range of new pipes	500 mm

Technical capacity

Interconnections	**(in 10^6 Nm^3/d)**	**Remarks**
Lysekil IP	1	GCV: 11.17-12.78 kWh/Nm^3
Vallby Kile IP	6	GCV: 11.17-12.78 kWh/Nm^3

[23] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Expected Benefits

SoS

Market Integration (Increase of competition)

Market expansion

Changes as compared to TYNDP 2010-2019

-

UNITED-KINGDOM

National Grid - Infrastructure Projects

General Information

Types of project

- ✓ Pipeline (incl. CSs)
- ✓ LNG terminal

List of projects

Project	FID	Commissioning	Remarks
Pipes [24]			
System Capacity Enhancements	FID	2010-2012	
System Capacity Enhancements	Non-FID	2014	
LNG Terminals			
Grain 3 LNG	FID	2010-2011	Under construction

Link to the TSO's website	http://www.nationalgrid.com/

Technical Information

Total length of new pipes (based on the above list)	253 km
Diameter range of new pipes	600-1200 mm

Technical capacity

[24] for genuine Interconnections include the name of the IP or the CC-CC indication in brackets (to be used under the Technical Capacity listing)

Compressors	**(in MW)**	**Remarks**
St. Fergus Compressor	48	New unit to be installed as part of the FID System Capacity Enhancements
Kirriemuir Compressor	35	New unit to be installed as part of the FID System Capacity Enhancements
Hatton Compressor	35	New unit to be installed as part of the FID System Capacity Enhancements
LNG terminals	**Send-out (in 10^6 Nm^3/d)**	**Annual capacity (in 10^6 Nm^3/y)**
Grain 3 LNG	21	6,700

Expected Benefits

The system capacity enhancements proposed by National Grid will ensure that despite the uncertainty regarding the pattern of supplies – in terms of both volume and location – sufficient gas can be transmitted under a variety of supply scenarios in order to meet both the predicted peak demand and lower levels of demand.

Changes as compared to TYNDP 2010-2019

-

BGÉ UK - Cluden to Brighouse Bay Pipeline

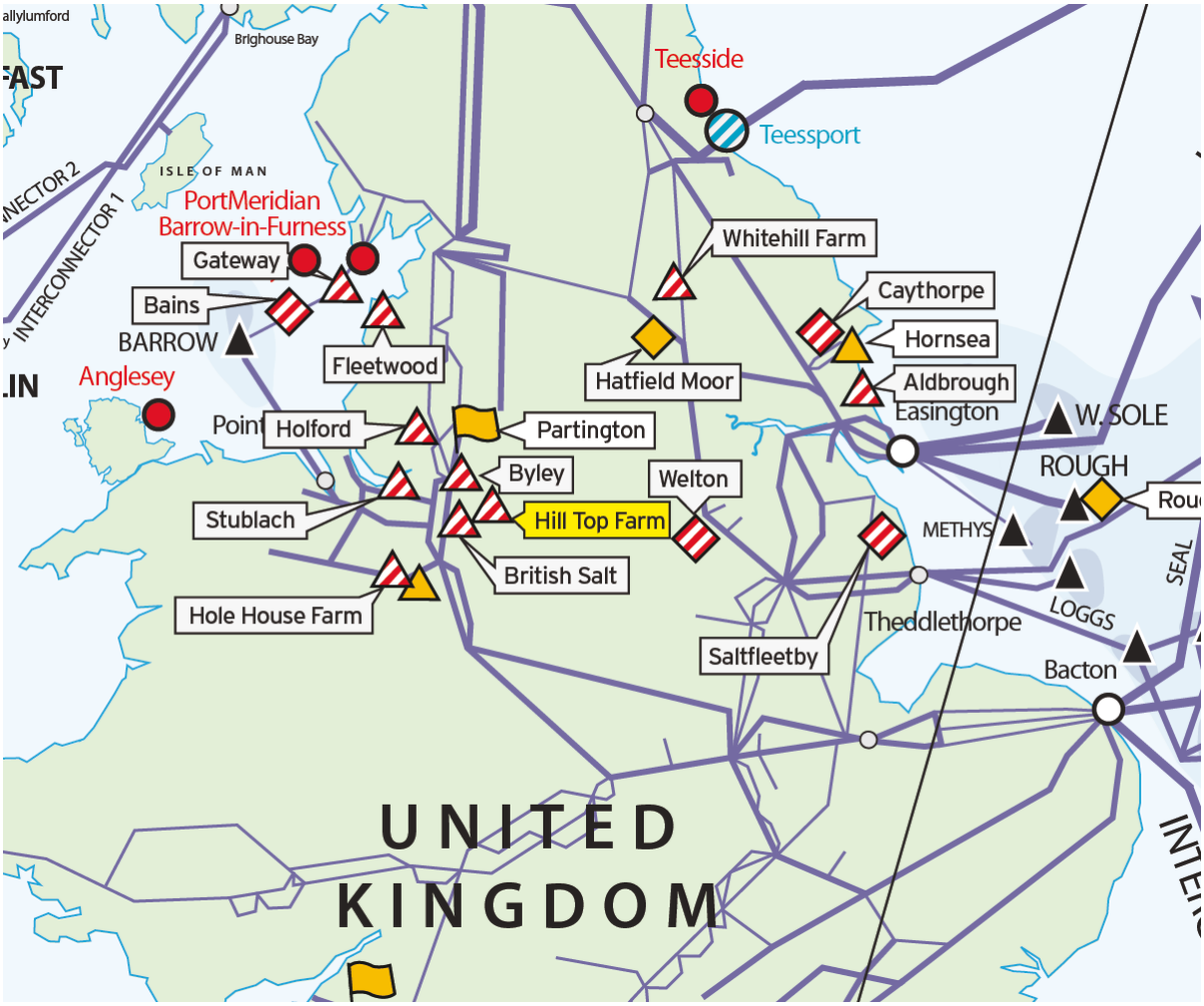
General Information	
Name of the project	Cluden to Brighouse Bay
Type of project	Pipeline
Expected costs	Preliminary estimate: 90 (in 10^6 €)
Name of the sponsors and their shares	BGÉ UK
Link to the project website	

Technical Information	
Length of the pipe	50 km
Diameter	900 mm

Technical capacity	17.62 (in 10^9 Nm^3/y)
Interconnections with other gas infrastructures	National Grid (UK) and PTL (NI) transmission systems
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2012-2015 FID: 2011-2012 End of permitting phase: 2011-2013
Project development phase reached	BGÉ UK are considering the presentation of proposals to the regulatory bodies, regarding the twinning of 50km of the onshore Scotland BGÉ transmission pipeline system, between Cluden and Brighouse Bay.
TEN-E Project Information	
Is the project part of TEN-E?	No
Expected Benefit	
What is/are the expected benefit(s) of the project?	o Security of Supply (particularly with new legislation) o Contributes to the viability of physical reverse flows to the UK o Operational Efficiencies o Supports Common Arrangements for Gas (CAG) between ROI and NI.
TPA regime	
Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	UK / IE or Northern Ireland (Reverse Flow)
Inter-governmental Agreements	

Inter-governmental agreements	IC2 Treaty – Agreement relating to the Transmission of Natural Gas through a 2nd pipeline between the UK, NI and ROI (and a connection to the IOM).

Hill Top Farm Storage Project



General Information

Name of the project	Hill Top Farm
Type of project	Mid-range fast cycle Storage facility
Name of the sponsors and their shares	EDF Energy 100% owned
Link to the project website	-

Technical Information

Working Gas Volume	101.90 (in 10_6 Nm_3)
Deliverability	15.24 (in 10_6 Nm_3/d)
Interconnections with other gas infrastructures	Connected to the National Transmission System owned by National Grid Plc.

Time Schedule

Probable date of commissioning and the main milestones	De-brining 2010/11 Date of commissioning: Aug. 2012 FID: 2009
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	o FID taken (indicate if under construction) Hill Top Storage facility in Cheshire, UK is currently de-brining the salt Wells and full commissioning of the plant is expected in Summer 2012.

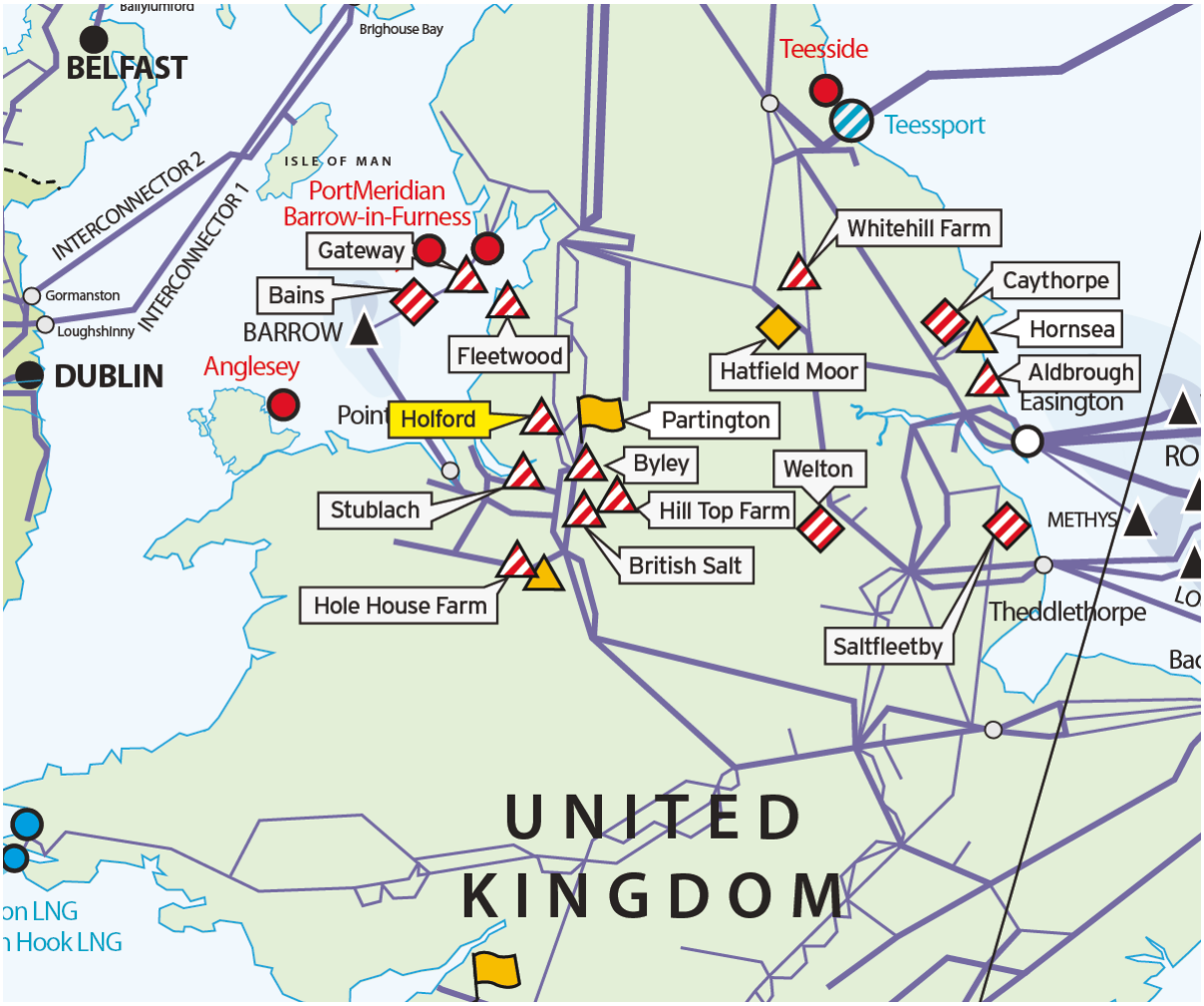
TEN-E Project Information

Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	.

Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) Hill Top Farm will be able to provide fast churn storage. This will help to meet Security of Supply by helping to meet peak demand with a UK based supply source
TPA regime	
Have you applied for an exemption from Third Party Access?	Yes - Granted by Ofgem 26 May 2010
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	
Inter-governmental Agreements	
Inter-governmental agreements	
Financing Structure	
Expected or obtained share of public financing	
Expected or obtained share of private financing	

Expected or obtained share of multilateral financing	

Holford Storage Project

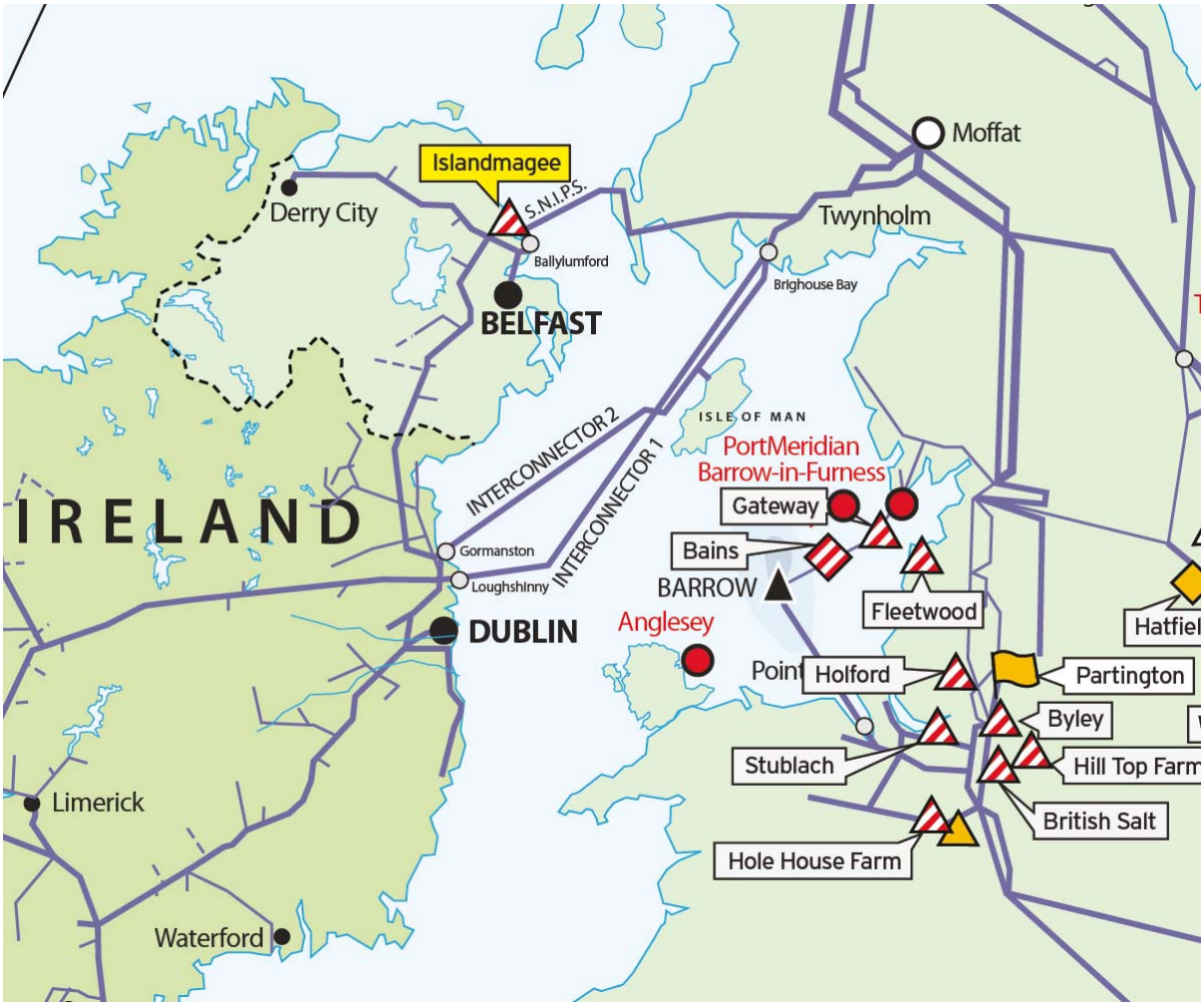


General Information	
Name of the project	Holford
Type of project	Storage facility – salt cavern
Expected costs	
Name of the sponsors and their shares	E.ON Gas Storage UK Ltd (100%)
Link to the project website	www.eon-uk.com/generation/holford.aspx

Technical Information	
Working Gas Volume	150 (in 10^6 Nm^3)
Deliverability	16 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Pipeline connection at the Holford Gas Storage connection point to the National Gas Grid Transmission System
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: Q1 2011 FID: 2005 End of permitting phase: Complete Gas injected into the first caverns: Q2 2011 Commercial operation: Q4 2011
Project development phase reached IGA, Mandate Letter, LLI Tender, FEED	FID taken (under construction)
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit	
What is/are the expected benefit(s) of the project?	o Market Integration (Increase of competition) through marketing of capacity o SoS - Provision of constant and secure gas supply into the UK gas market, which can be withdrawn to meet daily demand peaks
TPA regime	
Have you applied for an exemption from Third Party Access?	Yes – exemption granted
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	
Inter-governmental Agreements	
Inter-governmental agreements	
Financing Structure	
Expected or obtained share of public financing	
Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	

Islandmagee Storage Project



General Information

Name of the project	Islandmagee Storage
Type of project	Salt cavern gas storage
Name of the sponsors and their shares	Infrastrata plc 65 % Mutual Energy Limited 35%
Link to the project website	http://www.islandmageestorage.com/

Technical Information	
Working Gas Volume	500 (in 10^6 Nm^3)
Deliverability	22 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Connection to Scotland to Northern Ireland Transmission Pipeline (SNIP) at Ballylumford, Northern Ireland

Time Schedule	
Probable date of commissioning and the main milestones	
Project development phase reached	Planning application submitted in March 2010
IGA, Mandate Letter, LLI Tender, FEED	

TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit	
What is/are the expected benefit(s) of the project?	The project would be the first gas storage facility in Northern Ireland – increase security of supply

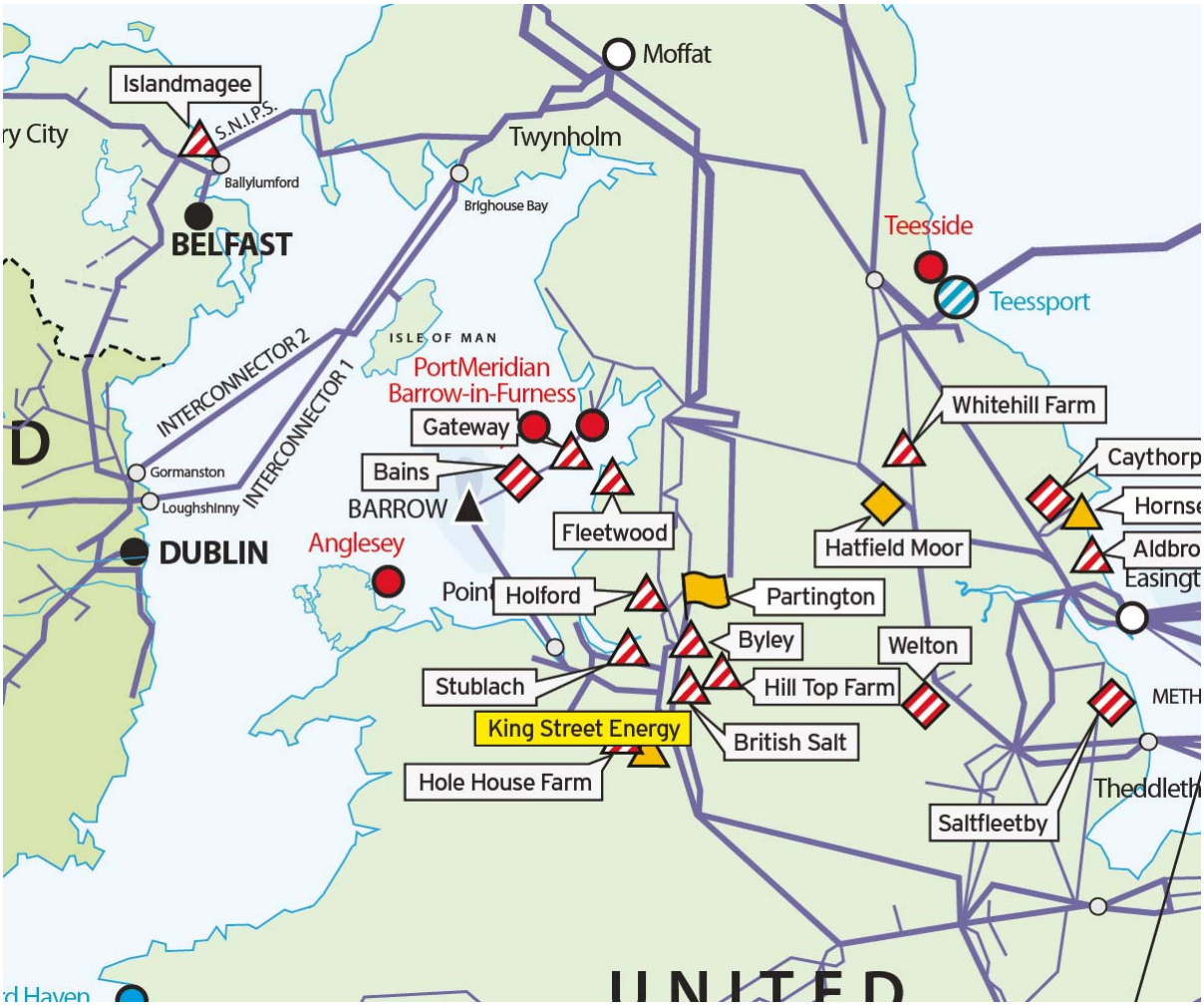
TPA regime	
Have you applied for an exemption from Third Party Access?	No

(Expected) Gas Sourcing	
(Expected) Gas Sourcing	Great Britain via SNIP

Inter-governmental Agreements	
Inter-governmental agreements	

Financing Structure	
Expected or obtained share of public financing	
Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	

King Street Energy Storage Project



General Information

Name of the project	King Street Energy
Type of project	o Storage facility; Salt Cavern Storage Facility
Name of the sponsors and their shares	King Street Energy, 100%
Link to the project website	http://www.kingstreetenergy.com

Technical Information

Working Gas Volume	348 Mcm (in 10^6 Nm^3)
Deliverability	32Mcm/day
Interconnections with other gas infrastructures	

Time Schedule

Probable date of commissioning and the main milestones	Date of commissioning: 2016, phase 1 FID: Q1 2011
Project development phase reached	Planning permission granted, commence construction quarter one, 2011
IGA, Mandate Letter, LLI Tender, FEED	

TEN-E Project Information

Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

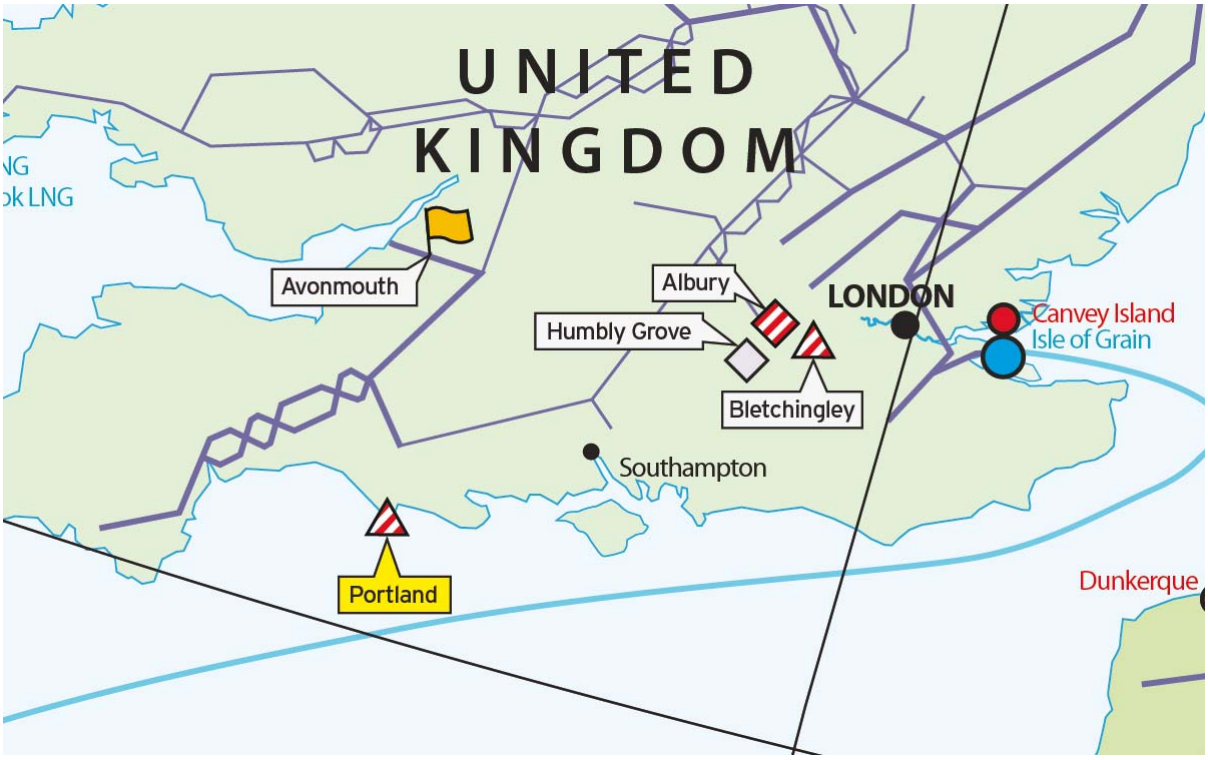
Expected Benefit

What is/are the expected benefit(s) of the project?	o Market Integration (Increase of competition) Project increases available gas storage in the UK

TPA regime

Have you applied for an exemption from Third Party Access?	No
(Expected) Gas Sourcing	
(Expected) Gas Sourcing	
Inter-governmental Agreements	
Inter-governmental agreements	
Financing Structure	
Expected or obtained share of public financing	
Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	

Portland Storage Project



General Information	
Name of the project	Portland
Type of project	Salt cavern gas storage and connecting pipeline
Name of the sponsors and their shares	Infrastrata plc 100 %
Link to the project website	http://www.portland-gas.com/
Technical Information	
Working Gas Volume	1000 (in 10^6 Nm^3)
Deliverability	20 (in 10^6 Nm^3/d)
Interconnections with	Connection to National Grid (AGI) at Mappowder

other gas infrastructures	

Time Schedule

Probable date of commissioning and the main milestones	End of permitting phase: Planning permission granted for the project in 2008
Project development phase reached	First cavern well to be drilled in 2010
IGA, Mandate Letter, LLI Tender, FEED	

TEN-E Project Information

Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	

Expected Benefit

What is/are the expected benefit(s) of the project?	The project will provide additional storage for critical high demand periods.

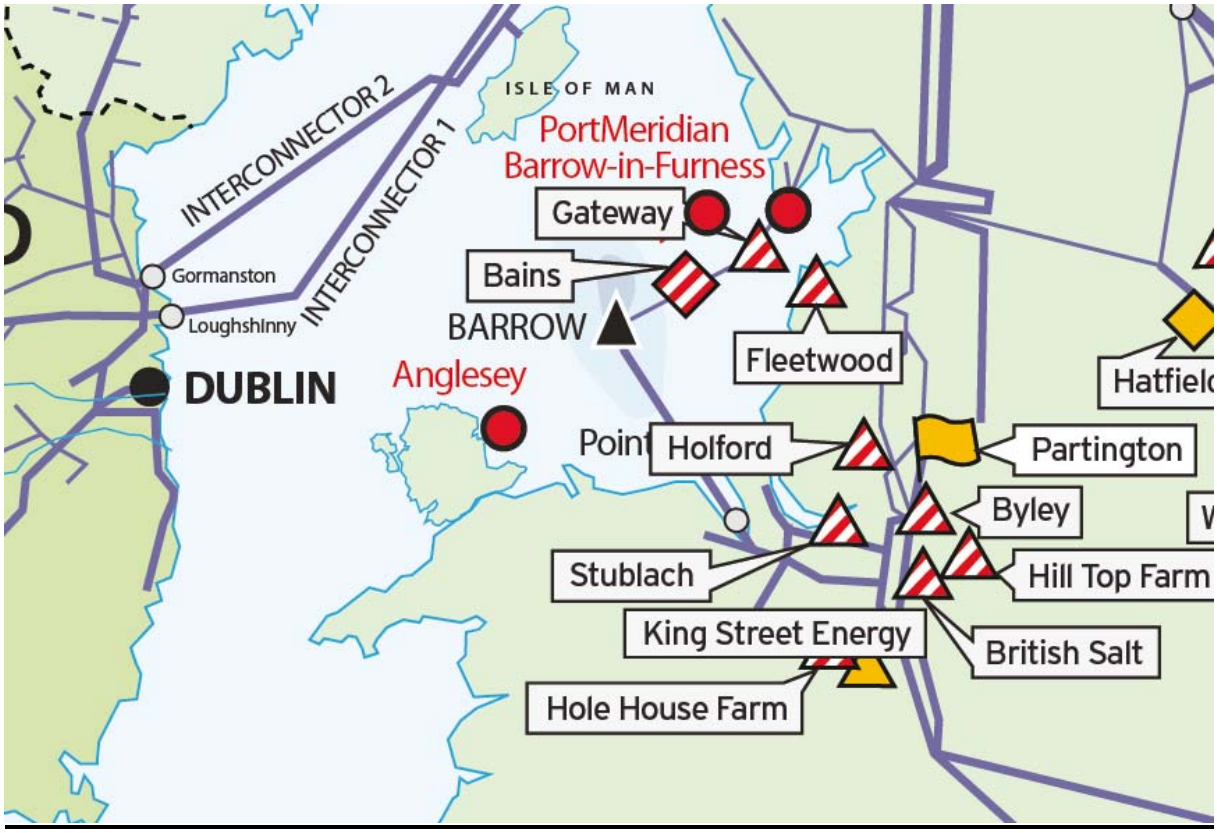
TPA regime

Have you applied for an exemption from Third Party Access?	No

(Expected) Gas Sourcing

(Expected) Gas Sourcing	National Grid at Mappowder
Inter-governmental Agreements	
Inter-governmental agreements	
Financing Structure	
Expected or obtained share of public financing	
Expected or obtained share of private financing	
Expected or obtained share of multilateral financing	

Preesall Gas Storage Project



General Information

Name of the project	Preesall Gas Storage
Type of project	o Pipeline (incl. CSs) o LNG terminal xStorage facility (indicate the type of storage) o Production facility within the EU o Salt Cavern
Name of the sponsors and their shares	Halite Energy Group
Link to the project website	www.halite-energy.co.uk

Technical Information	
Working gas volume	600 (in 10^6 Nm^3)
Deliverability	45 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	-

Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2016 FID: 2012 End of permitting phase:2011
Project development phase reached	o FID taken X Design & Permitting Planned / Under consideration

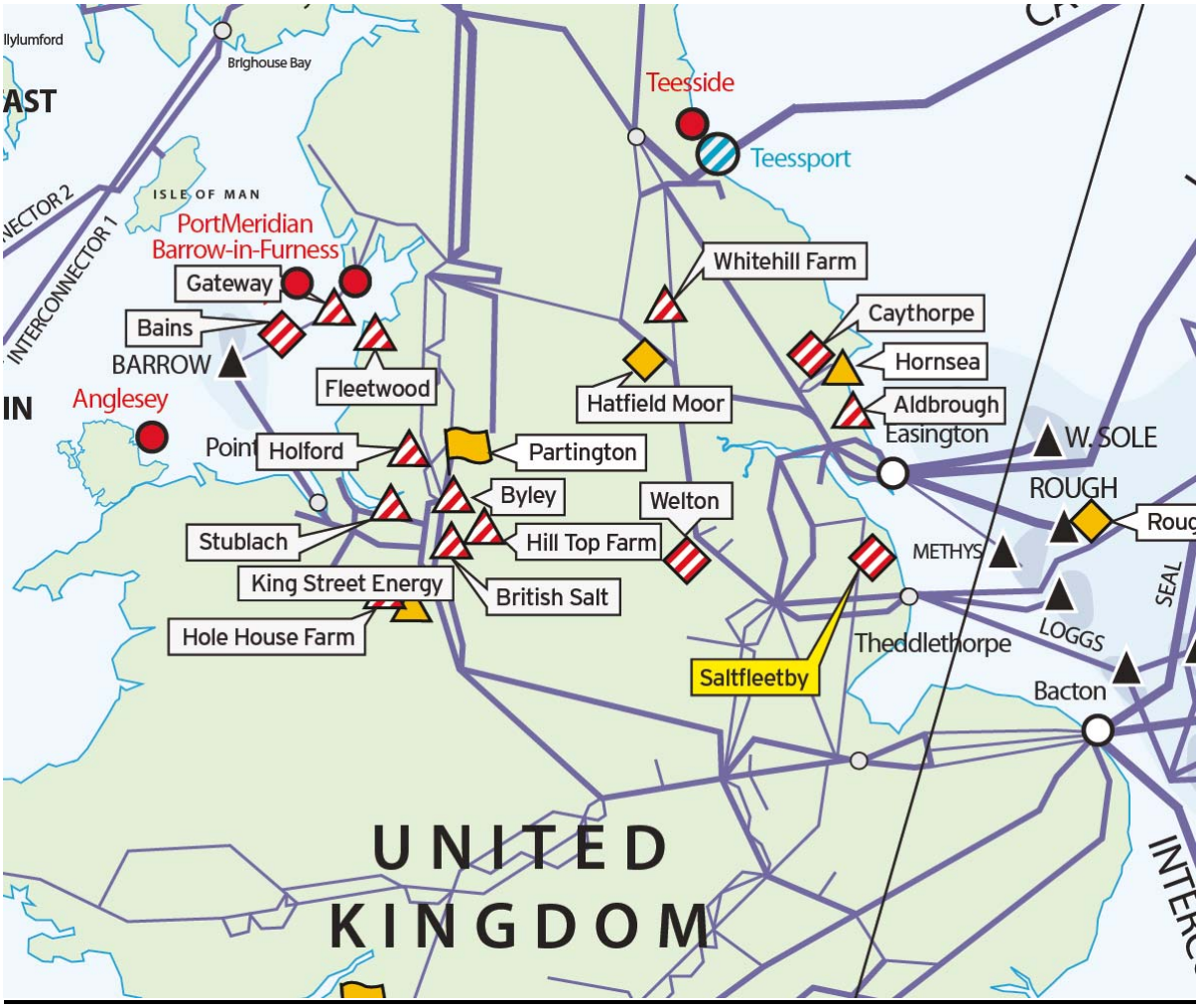
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	-

Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition)

TPA regime	
Have you applied for an exemption from Third Party Access?	No

Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

Saltfleetby Storage Project



General Information

Name of the project	Saltfleetby
Type of project	Storage facility (Depleted Gas field)
Name of the sponsors and their shares	Wingas Storage UK Ltd 100%
Link to the project website	http://www.wingas-storage.com/

Technical Information	
Working gas volume	775 (in 10^6 Nm^3)
Deliverability	8.6 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	-

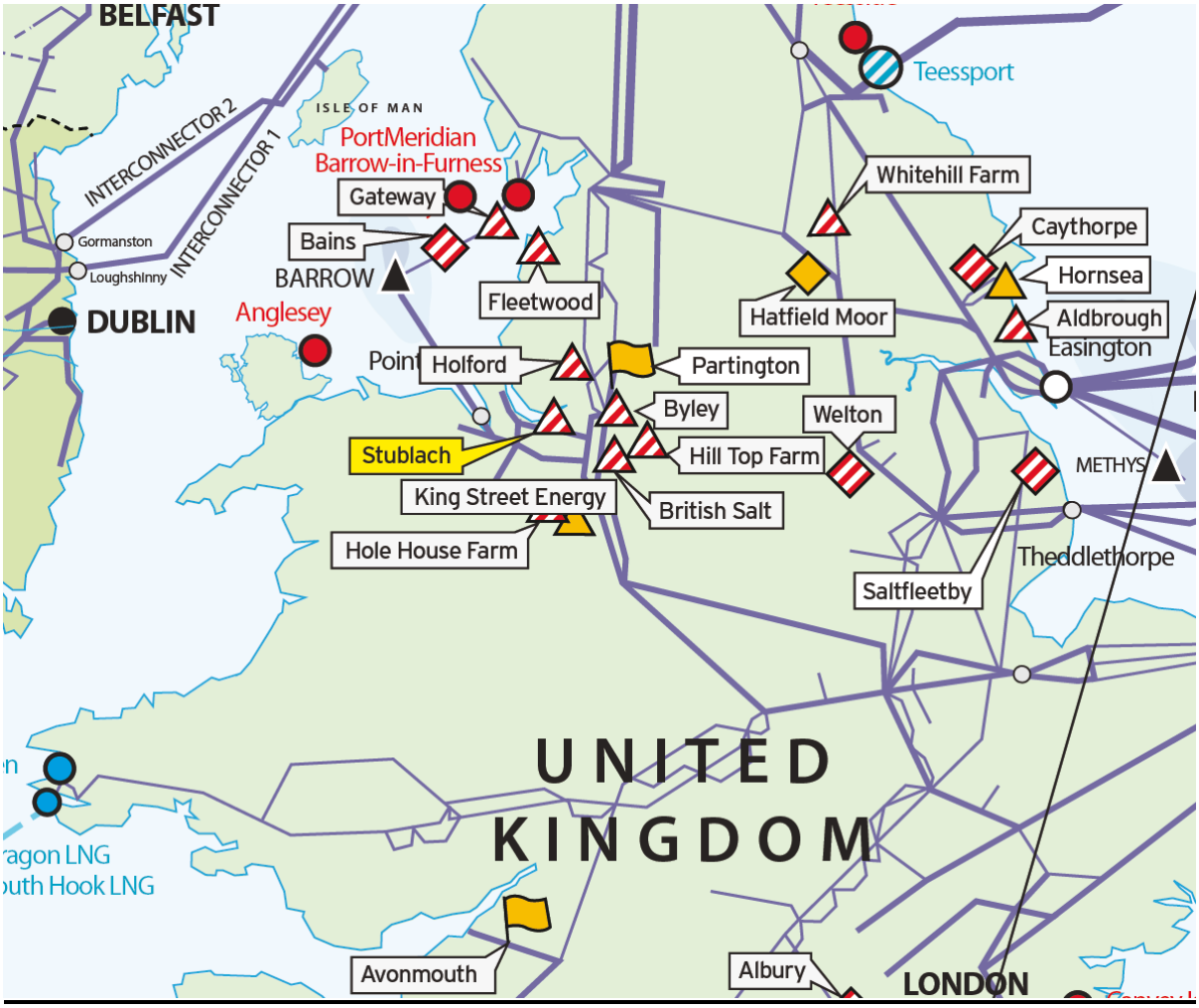
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: Commercial operation April 2013 FID: end 2010 End of permitting phase: complete
Project development phase reached	Design & Permitting http://www.decc.gov.uk/en/content/cms/news/PN10_99/PN10_99.aspx

TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	-

Expected Benefit	
What is/are the expected benefit(s) of the project?	The project will provide two clear benefits. First, it will increase the level of gas storage in the UK in a time of increasing concern about security of supply on a national level. Secondly it will provide storage capacity for the shareholders and third parties to enable them better to meet their commercial objectives

TPA regime	
Have you applied for an exemption from Third Party Access?	Yes TPA exemption for the facility has been granted by Ofgem. However, EU Merger Control consent was required to create Wingas Storage UK Ltd as a joint venture of Wingas GmbH and ZMB Gasspeicher Holding GmbH and that consent was based on a commitment to make available 20% of capacity to 3rd parties.
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

Stublach Storage Project



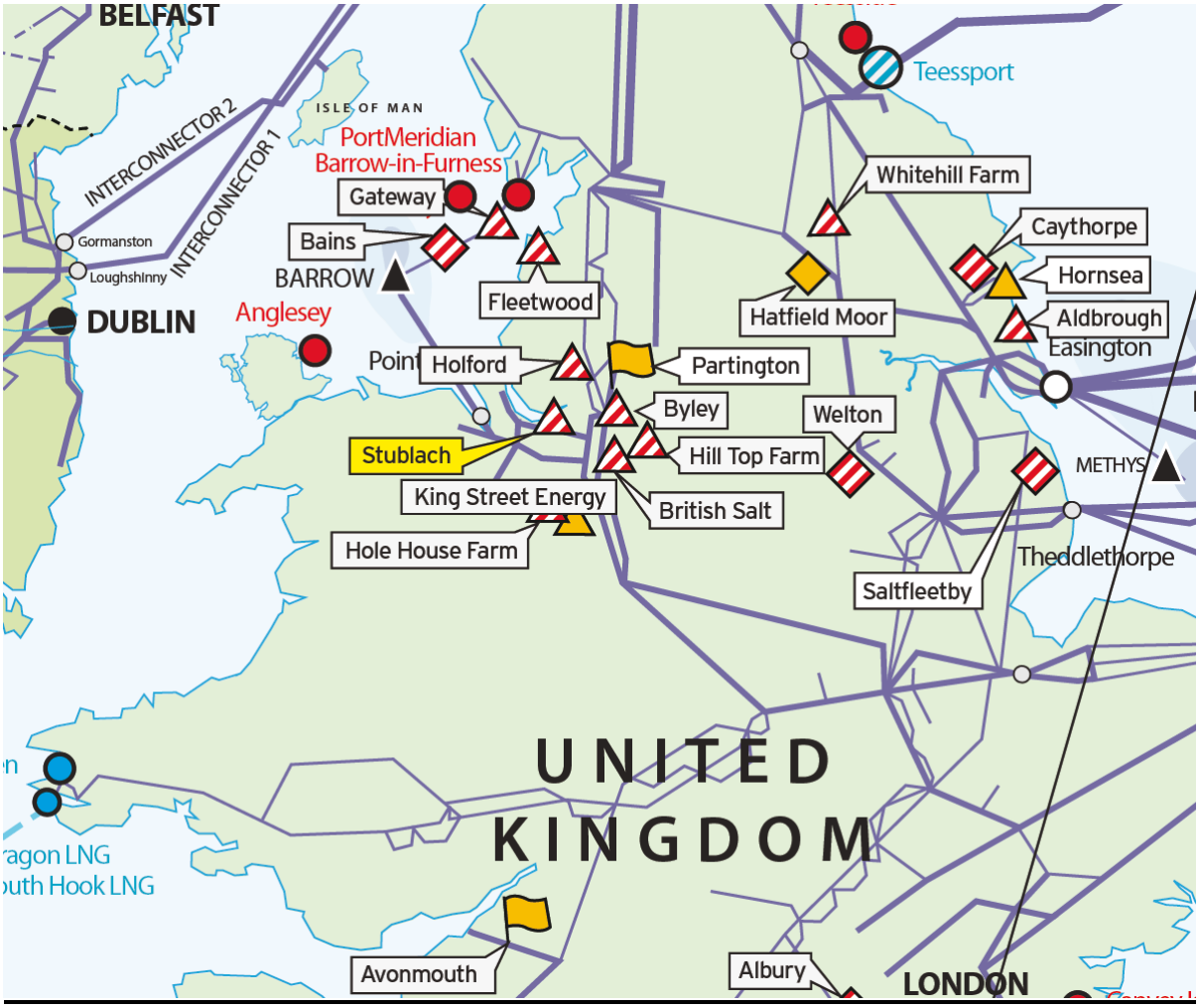
General Information

Name of the project	**Stublach**
Type of project	Storage facility (salt cavity)
Name of the sponsors and their shares	Storengy UK
Link to the project website	-

Technical Information	
Working gas volume	400 (in 10^6 Nm^3)
Deliverability	32.5 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Connection with transmission infrastructure; TSO: National Grid
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2013 to 2018 FID: - End of permitting phase: -
Project development phase reached	Under construction GSE Map, June 2010; available at: http://www.gie.eu/maps_data/storage.html
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) The project will contribute to the increase of security of supply in the region and will provide more flexibility to the market thus facilitating competition.

TPA regime	
Have you applied for an exemption from Third Party Access?	Yes
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-

Stublach Storage Project



General Information

Name of the project	**Stublach**
Type of project	Storage facility (salt cavity)
Name of the sponsors and their shares	Storengy UK
Link to the project website	-

Technical Information	
Working gas volume	400 (in 10^6 Nm^3)
Deliverability	32.5 (in 10^6 Nm^3/d)
Interconnections with other gas infrastructures	Connection with transmission infrastructure; TSO: National Grid
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2013 to 2018 FID: - End of permitting phase: -
Project development phase reached	Under construction GSE Map, June 2010; available at: http://www.gie.eu/maps_data/storage.html
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	-
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	No
Expected Benefit	
What is/are the expected benefit(s) of the project?	o SoS o Market Integration (Increase of competition) The project will contribute to the increase of security of supply in the region and will provide more flexibility to the market thus facilitating competition.

TPA regime	
Have you applied for an exemption from Third Party Access?	Yes
Financing Structure	
Expected or obtained share of public financing	-
Expected or obtained share of private financing	-
Expected or obtained share of multilateral financing	-