



Gas Regional Investment Plan

Southern Corridor

2012 - 2021

Annex B : Infrastructure Projects



Introduction

The following Infrastructure projects overview provides detailed information on the (potential) future gas infrastructures in the Southern Corridor region. It is based on the questionnaire prepared by ENTSOG for TYNDP 2011-2020. All TSOs and other project sponsors were asked to update their information included in ENTSOG TYNDP 2011-2020. If no answer received, the data from the ENTSOG TYNDP 2011-2020 were used for respective project. Both FID and Non-FID projects are covered in this Annex. There are provided only **capacity information related to the new and/or incremental capacity**.

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 of the non-FID projects is to be understood as the best estimate for the purpose of this Southern Corridor GRIP.
- Two different formats have been used: one for individual 3rd party sponsored projects and one for the TSOs' projects.
- Only projects with regional relevance have been included in the GRIP and not the entire investment programme of each TSO.
- The selection of the TSO projects to be included in the GRIP has been made by each TSO.

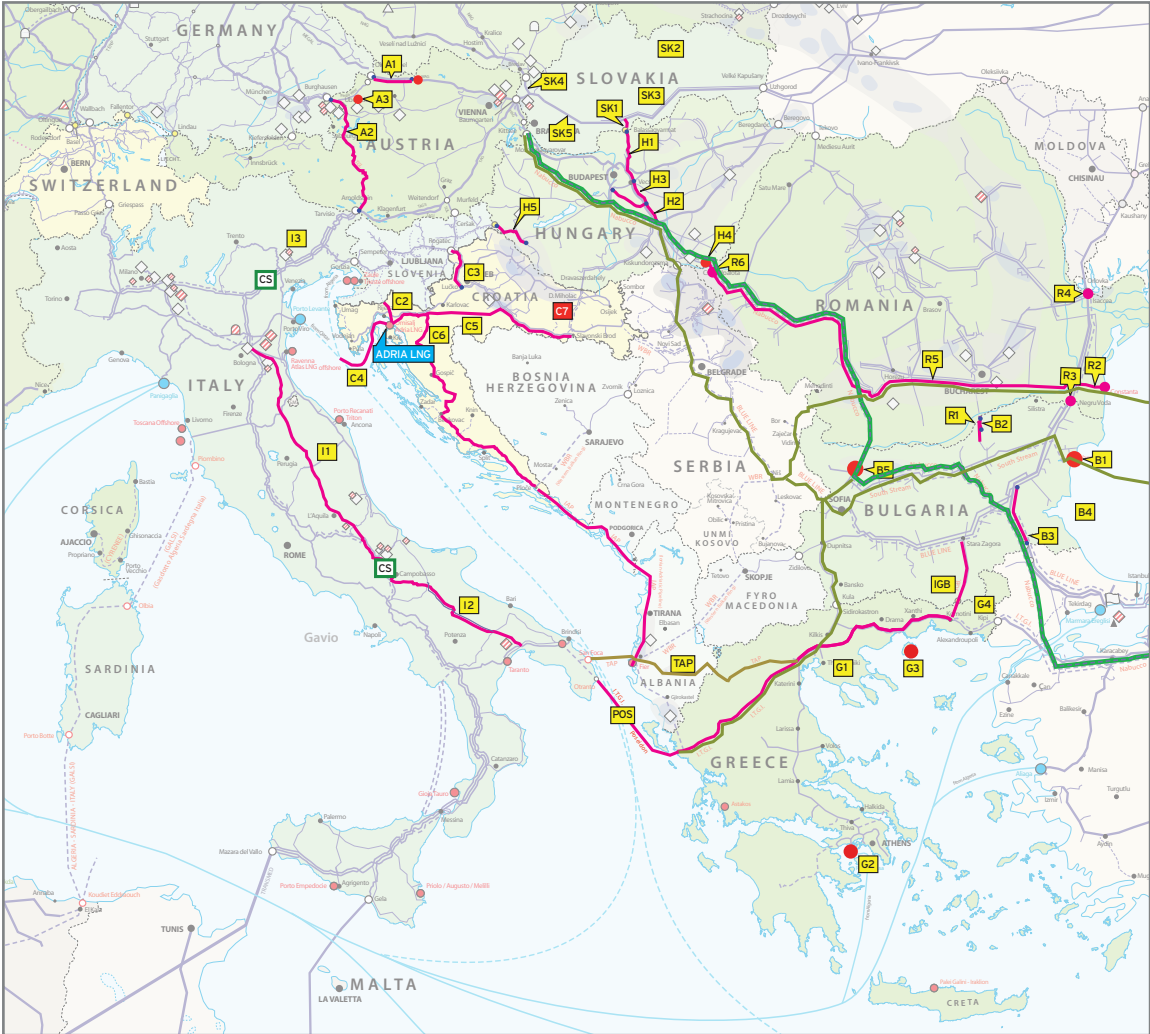


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SOUTHERN CORRIDOR GRIP



TSO's Projects

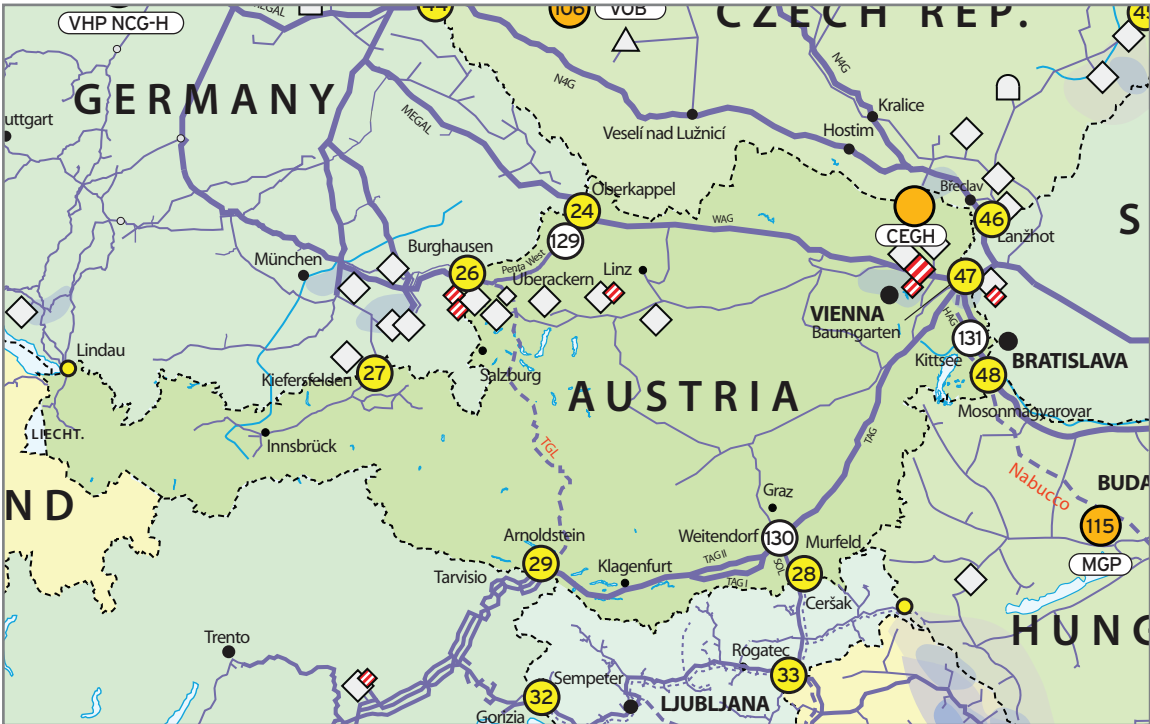




Steep slope pipeline construction in Corinth branch

© Image courtesy of DESFA S.A.



AUSTRIA

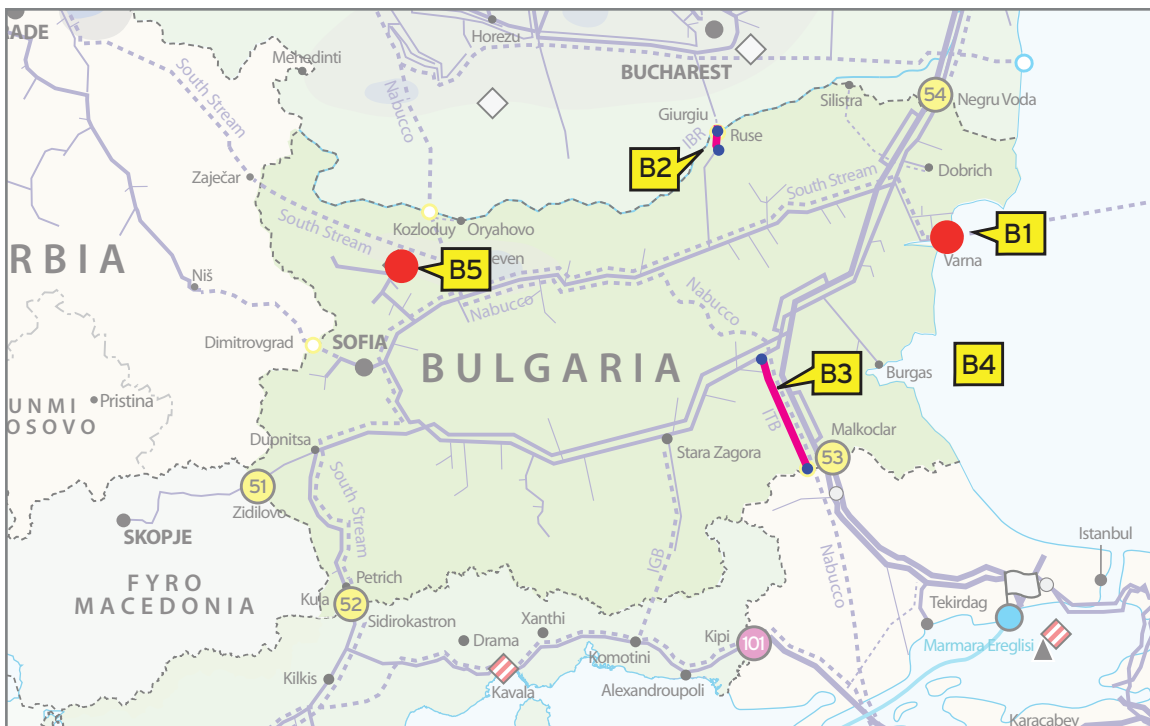


BOG - Infrastructure Projects					
General Information					
Types of project	✓ Pipeline (incl. compressor stations)				
List of Projects	Project	FID status	Commissioning	Remarks	
	Pipes^[1]				
	A1- WAG Expansion 3	FID 2010	2013		
Link to the TSO's website	www.BOG-GmbH.at				
Technical Information					
Total length of new pipes (based on the above list)	63 km				
Diameter range of new pipes	1,200 mm				
Technical capacity			(in 10⁶ Nm³/d)	Remarks	
	Interconnections				
	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					
<ul style="list-style-type: none"> • Increased SoS • Increased link between Net Connect Germany and CEGH and further on to Italy • Increase of Transit Capacity in E-W as well as W-E Direction • Market Integration (increase of competition) 					
TAG - Infrastructure Projects		 Trans Austria Gasleitung GmbH			
General Information					
Types of project	✓ Pipeline (incl. Compressor stations) - Reverse Flow				
List of Projects	Project	FID status	Commissioning	Remarks	
	A2- TAG Reverse Flow				
	A2- TAG Reverse Flow	FID	2011		
Link to the TSO's website	www.taggmbh.at				
Technical Information					
Technical capacity			(in 10⁶ Nm³/d)	Remarks	
	Interconnections				
	AT/IT border Baumgarten	37.27		Capacity at the AT/IT border	
Expected Benefits					
The project gives Austria, Slovenia, Croatia, Slovakia and Hungary access to southern gas sources allowing those states to access to alternative supplies of natural gas in case of emergency.					

[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)



Bulgaria



Bulgartransgaz - Infrastructure Projects

General Information	
Types of project	<ul style="list-style-type: none"> ✓ Pipeline (incl. compressor stations) ✓ Storage facility (indicate the type of storage) ✓ CNG
List of Projects	

Project	FID	Commissioning	Remarks
Pipes^[2]			
B2 BG-RO interconnection	FID 23.11.2010	2012	EEPR project
B3 Interconnection Turkey-Bulgaria (ITB)	Non-FID	2013 I. phase 2017 II. phase	
Increase the Transmission Capacity of the Existing Pipelines to Greece	Non-FID	2016	Provision of additional 5 10 ⁹ Nm ³ /y gas flows to Greece through the territory of Bulgaria
Storage facilities			
B4 Construction of new gas storage facility	Non-FID	2018	Type: Depleted gas offshore field or aquifer
B5 UGS Chiren	Non-FID	2017	
CNG			
B1 Varna CNG import terminal	Non-FID	2014-2017	CNG project will be developed in 3 phase

Link to the TSO's website	www.bulgartransgaz.bg
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Technical Information	
Total length of new pipes (based on the above list)	Approx. 517 km – on Bulgarian territory (The new gas pipeline branches of the presently existing national gas transmission network are not included)
Diameter range of new pipes	300-700 mm
Technical capacity	

Interconnections	(10 ⁹ Nm ³ /y)	Remarks
BG-RO interconnection	Entry / Exit: 0.5-1.5	
Bulgaria-Turkey interconnection	I. phase 3 II. phase 5.5 - 9	
Increase the Transmission Capacity of the Existing Pipelines to Greece	up to 5	Provision of additional 5 10 ⁹ Nm ³ /y gas flows to Greece through the territory of Bulgaria.
Storage facilities	Deliverability (in 10⁶ Nm³/d)	Working Gas Volume (in 10⁶ Nm³)
Construction of new gas storage facility	9	600
UGS Chiren	Current 4.3 Projected up to 10	Current 450 mcm Projected up to 1 bcm
CNG	Annual capacity (10⁹ Nm³/y)	Daily Send-out (in 10⁶ Nm³/d)
Varna CNG import terminal	I. phase (up to 2015) 0.85 II. phase (up to 2016) 1.67 III. phase (up to 2017) 2.5	

[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)



Expected Benefits	
What is/are the expected benefit(s) of the project?	<ul style="list-style-type: none"> • SoS • Market Integration (Increase of competition)
<p>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, Turkey, Romania, Greece).</p> <p>Increase the Transmission Capacity of the Existing Pipelines to Greece: The project will enable the provision of additional 5 10⁹ Nm³/y gas flows to Greece through the territory of Bulgaria. It will improve the supply reliability and ensure security of gas supplies.</p> <p>ITB: The project is extremely important for the fulfilment of the requirements of Regulation 994/2010 for security of gas supply, especially the implementation of the "Standard for Infrastructure N-1". The ITB project provides access to Turkish national grid which has six existing and two future entry points from different sources. The link will establish competition between suppliers in the country and the SEE Region (gas-to-gas competition) and real liberalisation of the national and regional gas market. ITB will be a new route for gas supply to Bulgaria and SEE and CE Region. ITB will provide Caspian, Middle East and LNG gas flows through the Bulgarian national gas transmission system, which will be rehabilitated, modernized and extended, to SEE countries and EU.</p> <p>Varna CNG import terminal: Black Sea CNG will be a new route for gas supply to Bulgaria and SEE and CE Region. CNG project will ensure security and diversification of gas supply from Azerbaijan for Romania, Serbia, FYR of Macedonia and other countries in SEE and CE Region. The development of the project depends on the possibilities and the conditions for onshore transit of Azeri natural gas through Turkey for Bulgaria, SEE and CEE Region.</p> <p>Construction of new gas storage facility: Construction of new gas storage facility is very important in order to enhance the level of the security of gas supply and to fulfil the requirements of Regulation 994/2010 especially N-1 Standard of Infrastructure. Increasing gas storage capacity related to the construction of the new gas interconnections with neighbouring countries (IBR, IGB, IBS, ITB) as well as Nabucco and South Stream and development of the SEE regional gas markets.</p>	
Inter-governmental Agreements	
Inter-governmental agreements	Memorandum of Understanding signed between Bulgaria and Turkey 29 January 2010 for ITB project



Croatia



Plinacro - Infrastructure Projects



General Information

Types of project

- ✓ Pipeline (incl. compressor stations)
- ✓ Storage facility (indicate the type of storage)
- ✓ LNG terminal (REGASIFICATION VESSEL)

List of Projects

Project	FID status	Commissioning	Remarks
Pipes			
C6 - Regional Project Ionian Adriatic Pipeline (IAP)	non-FID		Planned and preparatory works in progress.
<p><u>Bosiljevo to Split</u> – under construction by Plinacro via EIB loan. (The size of this pipeline may be a constraint on IAP, and will be assessed during the FS)</p> <p><u>Split to Ploce</u> – Extension of the Plinacro (Croatian) transmission network – hydraulic studies are completed. The EIA and Basic Design have been finalized. The Location Permit has been issued.</p> <p><u>Ploce to Dobrec</u> (Border with Montenegro) – the Routing study, Mapping, Spatial Planning Documentation and Geological survey have been completed. The Hydrology survey is underway. The decision on the EIA has been issued.</p> <p>During the execution of the FS, the possible route through the territory of Bosnia and Herzegovina, or the optimal connection of the IAP to the BiH gas system will be determined.</p> <p>The sections in Montenegro and Albania have had preliminary routing identified during the PFS stage.</p>			
C5 - Main Transit Gas Pipeline Zlobin-Bosiljevo-Sisak-Kozarac-Slobodnica	non-FID		Planned
C2 - LNG Connection Gas Pipelines Omišalj-Zlobin-Rupa (Slovenia)	non-FID		Design and Permitting
C4 -International Gas Pipeline OMIŠALJ – CASAL BORSETTI (Italy)	non-FID		Techno-economic study finished
C3 - Regional Interconnection Croatia/ Slovenia (Bosiljevo – Karlovac - Lučko - Zabok – Rogatec)	non-FID		Planned
Storage facilities			
C7 - UGS Beničanci	non-FID	2017 (1 phase)	Planned, pre-feasibility study
LNG terminals			
C1 - LNGRV	non-FID		Planned project, preparatory works in progress

Total expected costs	C1 - LNGRV	400 M€
	C2 – Omišalj – Zlobin – Rupa	96 M€
	C3 – Bosiljevo – Karlovac – Lučko – Zabok – Rogatec	107 M€
	C4 – Omišalj – Casal Borsetti	300 M€
	C5 – Zlobin – Bosiljevo – Sisak – Kozarac – Slobodnica	426 M€
	C6 - IAP 580 M€ (total) Croatian part	265 M€
Link to the TSO's website	www.plinacro.hr	



Technical Information	
Total length of new pipes (based on the above list)	880 km
Diameter range of new pipes	DN 700/75, DN 1000/100, DN 1000/150
Technical capacity	

Interconnections	(10 ⁹ Nm ³ /y)	Remarks
Regional Project Ionian Adriatic Pipeline (IAP)	5	Albania 1 10 ⁹ Nm ³ /y, Montenegro 0.5 10 ⁹ Nm ³ /y, Bosnia and Herzegovina 1 10 ⁹ Nm ³ /y Croatia 2.5 10 ⁹ Nm ³ /y
Main Transit Gas Pipeline Zlobin-Bosiljevo-Sisak-Kozarac-Slobodnica	Zlobin- Bosiljevo 10 Bosiljevo – Sisak 10 Sisak – Kozarac 10 Kozarac – Slobodnica: I phase 3.5 (using existing pipeline) II phase 10 (new pipeline)	
LNG Evacuation Gas Pipelines Omišalj-Zlobin-Rupa (Slovenia)	15	For both pipelines
International Gas Pipeline OMIŠALJ – CASAL BORSETTI (Italy)	15	
Regional Interconnection Croatia/ Slovenia (Bosiljevo – Karlovac - Lučko - Zabok – Rogatec)	5	
Storage facilities	Deliverability (in 10 ⁶ Nm ³ /d)	Working Gas Volume (in 10 ⁶ Nm ³)
UGS Beničanci	8.256	510
LNG terminals	Daily send-out capacity (in 10 ⁶ Nm ³ /d)	Annual capacity (10 ⁹ Nm ³ /y)
LNGRV	19.53 (for EXMAR ships)	I phase – 1-2 II phase – 2-4 III phase – 4-6

Interconnections with other gas infrastructures	<p>IAP: Covering the countries of Albania, Montenegro, Bosnia and Herzegovina and Croatia. The pipeline will cross the territory along the Adriatic coast from Fieri in Albania to Split in Croatia and will be linked to the existing Croatian gas transmission system (main direction Bosiljevo – Split). The Ionian-Adriatic Pipeline Project is to interconnect the existing and planned gas transmission system of the Republic of Croatia with the Trans Adriatic Pipeline (TAP) or a similar project (Interconnector Turkey – Greece – Italy (ITGI) or the Albania - Greece gas transmission interconnector). The project aims to establish a new supply route for natural gas from the Middle East and Caspian region, northwards along the Adriatic coast. The IAP project however is planned as bi-directional pipeline, so the possible supply direction could also be north – south, from the strategically planned LNG terminal in Croatia, or other sources.</p> <p>Main Transit Gas Pipeline Zlobin-Bosiljevo-Sisak-Kozarac-Slobodnica: This proposed main transit gas pipeline Zlobin-Bosiljevo-Sisak-Kozarac-Slobodnica will connect several, in the future exceptionally important, points of the Croatian gas transmission system. This main transit gas pipeline is the future strategic gas transmission connector of great significance and is an integral part of the North – South European Corridor designated the North-South (Baltic – Adriatic) Gas Connection. Its purpose is the linking the Polish and Croatian LNG solutions.</p>
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<p>Interconnections with other gas infrastructures (continued)</p>	<p>LNG Evacuation Gas Pipelines Omišalj-Zlobin-Rupa (Slovenia): The pipeline will cross the territory from the LNG solution in Omišalj on the island of Krk to Rupa in Slovenia and will be linked to the Slovenian gas transmission system.</p> <p>International Gas Pipeline Omišalj – Casal Borsetti (Italy): This pipeline is covering the territory from the gas node Omišalj on the island of Krk (Croatian Gas Transmission System) via Adriatic Sea to Casal Borsetti (Italian Gas Transmission System).</p> <p>Regional Interconnection Bosiljevo – Karlovac – Lučko – Zabok – Rogatec (Slovenia): Covering Croatia and Slovenia, from the gas node Bosiljevo via Karlovac, Lučko in Croatia to Slovenian border.</p> <p>UGS Beničanci: Connection point to the gas network on existing gas pipeline Donji Miholjac – Slobodnica.</p> <p>LNGRV: It is Plinacro's project and Plinacro will be an operator. LNGRV project will be at island Krk, and Plinacro plan to build evacuation pipelines Omišalj-Zlobin; Zlobin-Rupa, Zlobin-Bosiljevo-Sisak-Kozarac-Slobodnica connection to SI and HU pipeline systems.</p>
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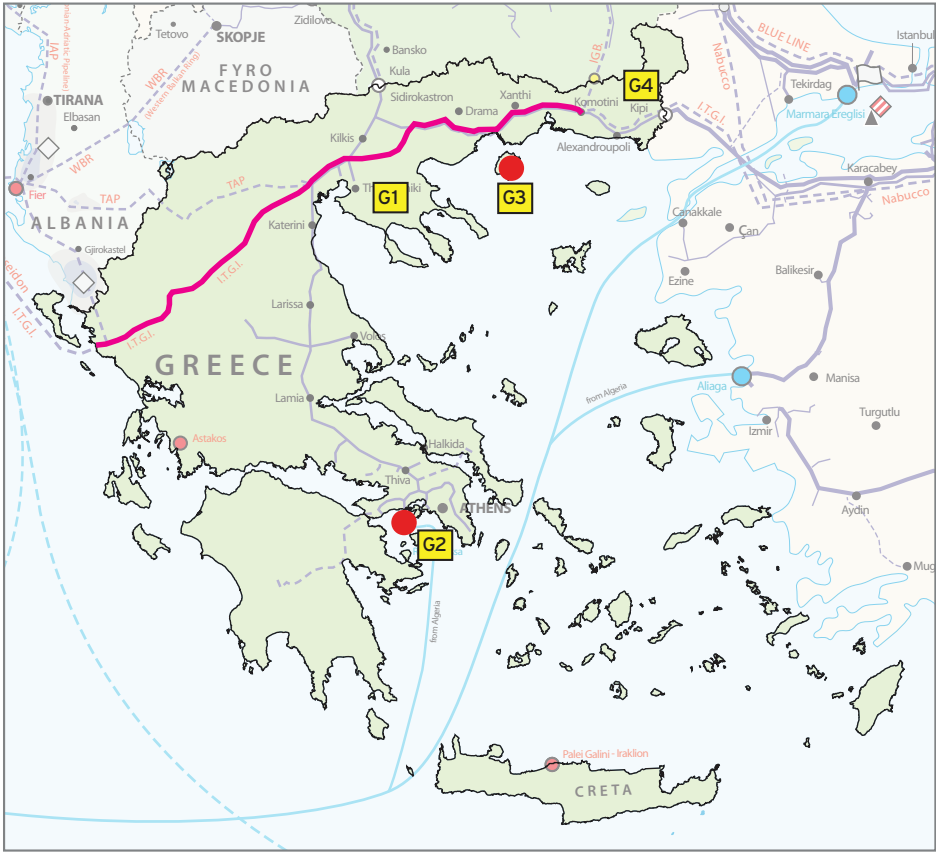
Expected Benefits	
<p>What is/are the expected benefit(s) of the project?</p>	<ul style="list-style-type: none"> • SoS • Market Integration (Increase of competition) • Significant economic development incentive to the transited countries • Supporting the regional South European Gas Ring • Diversified supply
<p>IAP: The construction of this transmission pipeline would enable the gasification of Albania and Montenegro, southern Croatia and Bosnia and Herzegovina, providing a diversified and reliable natural gas supply.</p> <p>Main Transit Gas Pipeline Zlobin-Bosiljevo-Sisak-Kozarac-Slobodnica: The main transit gas pipeline Zlobin-Bosiljevo-Sisak-Kozarac-Slobodnica:</p> <ul style="list-style-type: none"> • is a continuation of the existing Hungarian - Croatian interconnection gas pipeline Varosföld- Dravaszerdehely-Donji Miholjac-Slobodnica • will be connected to the future Ionian Adriatic Pipeline • will be connected to the future LNG solution in Omišalj. <p>LNG Evacuation Gas Pipelines Omišalj-Zlobin-Rupa (Slovenia): The implementation of the entire project of LNG evacuation gas pipeline Omišalj-Zlobin-Rupa provides natural gas transmission from the future LNG in Omišalj on the island of Krk towards the European market and towards domestic consumers and fits in the idea of a potential ADRIATIC GAS RING.</p> <p>International Gas Pipeline Omišalj – Casal Borsetti (Italy): The implementation of this project provides connection of the Croatian and the Italian gas transmission systems; provides gas transmission from the future LNG terminal in Omišalj; provides gas transmission from other potential supply directions (South Stream, IAP..); fits in the idea of the Adriatic Gas Ring and increases the transit of gas.</p> <p>Regional Interconnection Bosiljevo – Karlovac – Lučko – Zabok – Rogatec (Slovenia): A new pipeline system will significantly increase the capacity of the existing interconnection of Croatian and Slovenian gas transmission systems in this direction.</p> <p>UGS Beničanci: UGS Beničanci can provide Hungarian side access (close to existing pipeline interconnection) and third party access. Also it can serve gas markets of neighbouring countries :Hungary, Slovenia, Bosnia and Herzegovina and Serbia</p> <p>LNGRV: LNGRV will be connected with evacuation pipelines to Slovenian and Hungarian pipeline systems.</p>	



(Expected) Gas Sourcing	
Gas Sourcing (Expected)	LNG or IAP Project (for Main Transit Gas Pipeline Zlobin-Bosiljevo-Sisak-Kozarac-Slobodnica), LNG (for LNG Evacuation Gas Pipelines Omišalj-Zlobin-Rupa (Slovenia))
Inter-governmental Agreements	
Inter-governmental agreements	<p>IAP: On 25 September 2007, in Zagreb, a Ministerial declaration was signed by the Ministries of Energy of Albania, Montenegro and Croatia (subsequently, in December 2008, Bosnia and Herzegovina has joined). The Memorandum of Understanding between the Swiss EGL, the then lead of the TAP project, and the Croatian gas transmission system operator PLINACRO Ltd was also signed. In November 2010 an Interstate Committee for support and implementation of the project was established within the frame of the Energy Community, with the support and under the coordination of the Energy Community Secretariat.</p> <p>TAP and Plinacro have signed the Memorandum of Understanding and Cooperation (MOUC) on 25 February 2011 in Brussels. The three-year agreement will enable both organisations to coordinate their activities and exchange technical information.</p>
Financing Structure	
Expected or obtained share of private financing	<p>LNG Evacuation Gas Pipelines Omišalj-Zlobin-Rupa (Slovenia): EIB loan, Plinacro's own funds, WBIF</p> <p>LNGVR: Company own resources, WBIF (for developing phase), Structural funds (SF), Bank loans</p>



Greece



DESFA - Infrastructure Projects		 DESFA Hellenic Gas Transmission System Operator S.A.	
General Information			
Types of project	<ul style="list-style-type: none"> ✓ Pipeline (incl. compressor stations) ✓ Upgrade LNG receiving terminal ✓ Increase of storage facility 		
List of Projects			
Project	FID status	Commissioning	Remarks
Pipes⁴			
G1 Komotini – Thesprotia HP Pipeline [Onshore part of the Interconnection Greece-Italy (IGI) Pipeline]	Non FID (2013)	2016	FID depends on the Shah Deniz Consortium decision for the phase II gas quantities
LNG terminals			
G2 2 nd Upgrade of Revythoussa LNG Receiving Terminal	FID	2016	
Storage facilities			
G3 South Kavala storage facility	non-FID		The Government should first decide on the procedure to select the UGS licensee.
Compressors			
G4 CS Kipi	non-FID	2018	Environmental Impact Assessment finalized
Link to the TSO's website	www.desfa.gr		
Technical Information			
Total length of new pipes (based on the above list)	570 km		
Diameter range of new pipes	1067 mm		
Technical capacity			
Interconnections	(10⁹ Nm³/y)	Remarks	
Komotini – Thesprotia HP Pipeline	16	With installation of 2 new Compressor stations	
Upgrade LNG Receiving Terminal			
Annual capacity	Increase from 5.1 to 7.1	If load factor = 1	
Daily send-out capacity	Increase from 13.9 to 19.5 10 ⁶ Nm ³ /d		
LNG storage capacity	Increase from 130.000 to 225.000 m ³ LNG		
Storage facilities			
(in 10⁶ Nm³/d)			
Annual volume throughput	720 (in two cycles/y)		
Deliverability	4 106 Nm ³ /d		
Injection Capacity	5 106 Nm ³ /d		
Compressors			
(MW)			
CS Kipi	29.1	Including stand-by capacity	

[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)



Interconnections with other gas infrastructures	<p>Komotini – Thesprotia HP Pipeline: The project aims in the implementation of Southern Corridor, which will supply Central Asian gas to European markets.</p> <p>Komotini-Thesprotia pipeline will connect at Komotini (part of National Natural Gas System) with TAP project and IGB project.</p> <p>At Thesprotia area it will connect with entry point of offshore pipeline POSEIDON.</p> <p>CS Kipi: The project will support any Interconnection pipeline crossing the greek territory, (IGI, TAP, IGB)</p>
Expected Benefits	
What is/are the expected benefit(s) of the project?	<p>Komotini – Thesprotia HP Pipeline</p> <ul style="list-style-type: none"> • Security of Supply increase due to the implementation of the Southern Corridor that will allow gas from new sources (Central Asia) to reach the European consumers. • Market Integration enhancement due to the: <ul style="list-style-type: none"> - Increase of competition due to the presence of new suppliers in the European gas market - Possibility of further connections to the gas systems of the western and the eastern Balkans • Extension of the gas availability to the NW part of Greece <p>2nd Upgrade of Revythoussa LNG Receiving Terminal</p> <ul style="list-style-type: none"> • Increase of the Security of Supply due to the increase of the storage volume • Market Integration enhancement due to: • Increase of competition as more storage volume and more flexibility will be offered to shippers. <p>South Kavala storage facility</p> <ul style="list-style-type: none"> • Market Integration The Storage Facility in South Kavala will increase the market competition and enhance the security of supply. <p>CS Kipi</p> <ul style="list-style-type: none"> • As a project linked to any interconnector crossing Greece this project will enhance Security of Supply and Market Integration.
Inter-governmental Agreements	
Inter-governmental agreements	<p>On November 4th 2005, in Lecce, Italy an Intergovernmental Agreement was signed between Greece and Italy in which is expressed the will of the two countries to promote the implementation of the Interconnection Greece Italy. The Agreement was ratified by the Greek Parliament in 2006 (Law 3441/ Official Government Gazette A' 39/27.02.2006).</p>



Financing Structure	
Expected or obtained share of public financing	<p>Komotini – Thesprotia HP Pipeline: A total amount of 188.5 M€ will be pursued through grants. This will decrease accordingly the lending from ECAs and Commercial Banks.</p> <p>2nd Upgrade of Revythoussa LNG Receiving Terminal: 35% (NSRF 2007-2013)</p>
Expected or obtained share of private financing	<p>Komotini – Thesprotia HP Pipeline: Own Equity: 28%</p> <p>2nd Upgrade of Revythoussa LNG Receiving Terminal: Own Equity +Loans : 65%</p>
Expected or obtained share of multilateral financing	<p>Komotini – Thesprotia HP Pipeline: Loans: 72% (EIB: 45%, ECAs: 30%, Commercial Banks: 25%)* <i>*Expected Amounts</i></p>
Remarks	<p>South Kavala storage facility: The Greek Government has expressed its intention to launch a tender procedure for the attribution of the license for implementation and operation of the underground gas storage facility.</p>



Hungary



FGSZ Zrt. - Infrastructure Projects



NATURAL GAS TRANSMISSION
MEMBER OF THE MOL GROUP

General Information

Types of project ✓ Pipeline (incl. compressor stations)

List of Projects

Project	FID	Commissioning	Remarks
Pipes			
H1-Vecsés-Balassagyarmat pipeline	Non FID (4 Q 2011)	1 Q 2015	EERP European Energy Plan for Recovery Part of the Hungarian TYNDP. The implementation of the project is conditional on the decision of OVIT.
H2-Városföld-Pusztavacs-Százhalombatta pipeline	Non FID (2 Q 2012)	2Q 2014 and 2Q 2017	Part of the Hungarian TYNDP. The implementation of the project is conditional on the decision of Hungarian Energy Office on TYNDP.
H3-Vecsés-Pusztavacs pipeline	Non FID	1-2Q 2017	The implementation of the project is conditional on the decision of Hungarian Energy Office on TYNDP and the EU Commission on North-South Corridor.
H4-Reverse flow on the Hungarian-Romanian interconnection pipeline	Non FID (4 Q 2012)	2015	Compressor station at Algyó node
H5-Slovenian-Hungarian interconnector	Non FID (2 Q 2014)	4 Q 2017	Part of the Hungarian TYNDP. The implementation of the project is conditional on the decision of Hungarian Energy Office on TYNDP.

Total expected costs 280 – 320 (in 10⁶ €)

Name of the sponsors and their shares
Vecsés-Balassagyarmat pipeline:
 OVIT Ltd. 100%
Városföld-Pusztavacs-Százhalombatta pipeline, Vecsés-Pusztavacs pipeline, Reverse flow HU-RO compressor station and Slovenian- Hungarian Interconnector:
 FGSZ Ltd. 100%

Link to the TSO's website www.fgsz.hu

Technical Information

Total length of new pipes (based on the above list) 271 km

Diameter range of new pipes 800 - 1000 mm

Technical capacity

Interconnections	Technical capacity (10 ⁹ Nm ³ /y)	Power of the compressor station(s) (MW)
Vecsés-Balassagyarmat pipeline	1.75-5.0	7.0 -28
Városföld-Pusztavacs-Százhalombatta pipeline	7-11	26.7-45.7
Vecsés-Pusztavacs pipeline	5	
Compressor station at Algyó node	1.7	3.2
Slovenian-Hungarian interconnector	1.25	1.5

Interconnections with other gas infrastructures
 The projects interacts with three more planned projects in the region:

- Adria LNG project
- Nabucco project
- South Stream project




Expected Benefits	
What is/are the expected benefit(s) of the project?	<ul style="list-style-type: none"> • Security of Supply • Market Integration (Increase of competition)
<p>Vecsés-Balassagyarmat pipeline and Vecsés-Pusztavacs pipeline: The pipelines are parts of the EU Commission supported North-South Corridor</p> <p>Városföld-Pusztavacs-Százhalombatta pipeline: Supply of new power plants and security of supply of western Hungary</p> <p>Reverse flow on the Hungarian-Romanian interconnection pipeline: The main objectives of the project are: availability of a reverse flow capacity on the existing interconnector between HU and RO, diversification of natural gas supply sources for HU, increase of competition, increasing the security of natural gas supply and fulfilling the provisions of Regulation (EU) No. 994/2010</p> <p>Slovenian-Hungarian interconnector: The pipelines are parts of the EU Commission supported North-South Corridor</p>	



Italy





Snam Rete Gas Infrastructure Projects		 SNAM RETE GAS	
General Information			
Types of project	<ul style="list-style-type: none"> ✓ Pipeline (incl. compressor stations) ✓ Interconnector – Reverse Flow 		
List of Projects			
Project	FID status	Commissioning	Remarks
Pipes			
I-1-2 Rete Adriatica	Partially FID	N/A	Non FID parts are related to the results of Open Season to be launched in order to validate all projects related to new Entry capacity
I-3 Tarvisio Reverse Flow	FID	01.11.2011.	
Link to the TSO's website	http://www.snamretegas.it/en http://www.snamretegas.it/opencms/handle404?exporturi=/export/sites/snamretegas/repository/file/ENG/Thermal_Year_20112012/Information_for_User/Capacity_plans/Capacity_and_development_Plan_2011_2012.pdf		
Technical Information			
I-1-2 Total length of new pipes (based on the above list)	~ 700 km		
I-1-2 Diameter range of new pipes	DN 1200		
Technical capacity			
Interconnections	(10⁶ Nm³/d)	Remarks	
I-1-2	To allow new entry capacity up to 23.7 in the Southern part of Italy.	<p>Along the South-North line, about 700 km of the new Adriatic Line (DN1200) will be laid from Massafra (TA) to Minerbio (BO) and the capacity of the new plant in Sulmona will be of 33 MW.</p> <p>With reference to this project, construction works have already begun on the Massafra-Biccari section in Puglia to improve the reliability and safety of transportation</p>	
I-3	Upgrade till 17.1 in two distinct phases with the following related exit capacity increases: <ol style="list-style-type: none"> 1) 8.5 (till 1st November 2011); 2) up to 17.1 (from 1st November 2011 onwards) 	In order to allow the increase of reverse flow capacities to 17.1 10 ⁶ Nm ³ /d (+8.5 10 ⁶ Nm ³ /d with respect to 2010-2011 values, as of 1 November 2011), the piping of the compressor station of Istrana has been modified	
Interconnections with other gas infrastructures	<p>I-1-2 Possible interactions among several projects planned in the Southern part of Italy. All evaluations are subject to Open Season results, according to the procedure established by NRA.</p> <p>I-3 Interactions with Passo Gries reverse flow project and the development of the Po Valley transportation infrastructures in order to reinforce North-East and North-West infrastructures and the interconnections with South Italy.</p>		



Time Schedule	
Probable date of commissioning and the main milestones	I-1-2 Construction works have already begun on the Massafra-Biccari section in Puglia to improve the reliability and safety of transportation Non-FID parts are related to the results of Open Season to be launched in order to validate all projects related to new Entry capacity.
	I-3 Commissioned on 01.11.2011
TPA regime (I-1-2 ; I-3)	
Have you applied for an exemption from Third Party Access?	<ul style="list-style-type: none"> • Both projects will operate under TPA with Entry-Exit tariff system • Possible application from project sponsors for new entry/exit capacity
Expected Benefits	
What is/are the expected benefit(s) of the project?	<p>Reinforcement of existing national network aimed at:</p> <ul style="list-style-type: none"> • increasing system flexibility and internal security of supply • creating new entry capacity up to 23.7 10⁶ Nm³/d in the Southern part of Italy • enhancing physical reverse flow capacity at Northern Italy IPs (in particular, from 1st November 2011 up to 17.1 10⁶ Nm³/d of exit capacity at Tarvisio IP will available to manage flows toward North-Eastern Europe)



Stogit Infrastructure Projects



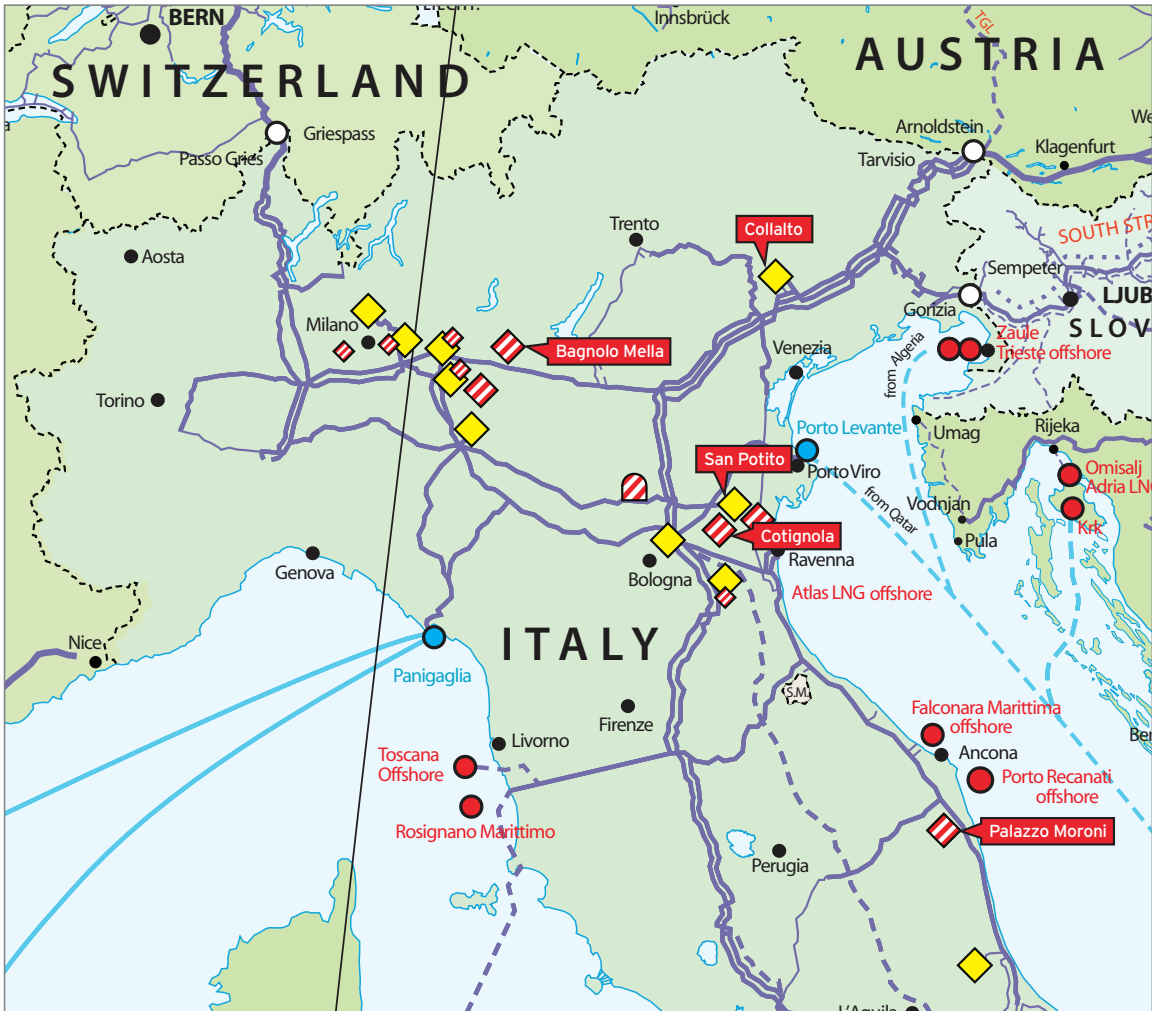

General Information			
Types of project	✓ Underground Storage facilities		
List of Projects			
Project	FID status	Estimated Commissioning	Remarks
Storage Facilities			
I-4 Stogit Enhancement and new developments	FID	Progressive build-up of overall capacities from 2011	Depleted gas fields on-shore
Link to the TSO's website	http://www.stogit.it/en/index.html		



Technical Information		
Technical capacity		
Storage facilities	Deliverability (10 ⁶ Nm ³ /d)	Working Gas Volume (10 ⁶ Nm ³)
I-4	37	2,800
TPA regime		
<ul style="list-style-type: none"> Regulated 		
Expected Benefits		
What is/are the expected benefit(s) of the project?	<ul style="list-style-type: none"> Security of Supply Market Integration (increase of competition and market liquidity) Increased flexibility of the system Optimisation of the balancing of the system 	
Additional Information		
<p>"Stogit Enhancement and new developments" project includes the development of:</p> <ul style="list-style-type: none"> Bordolano (new field) Fiume Treste (new layers and enhancement of existing) Enhancement of several operating fields 		



Edison Stoccaggio Infrastructure Projects

General Information

Types of project	✓ Underground Storage facilities
List of Projects	

Project	FID status	Estimated Commissioning	Remarks
Storage Facilities			
I-5 San Potito & Cotignola ⁴	FID	May 2013	Under construction
I-6 Collalto	FID	May 2011	Commissioning completed
I-7 Palazzo Moroni	Non - FID	May 2014	EIA process ongoing
I-8 Bagnolo Mella	Non - FID	May 2016	EIA process ongoing

Link to the TSO's website www.edisonstoccaggio.it

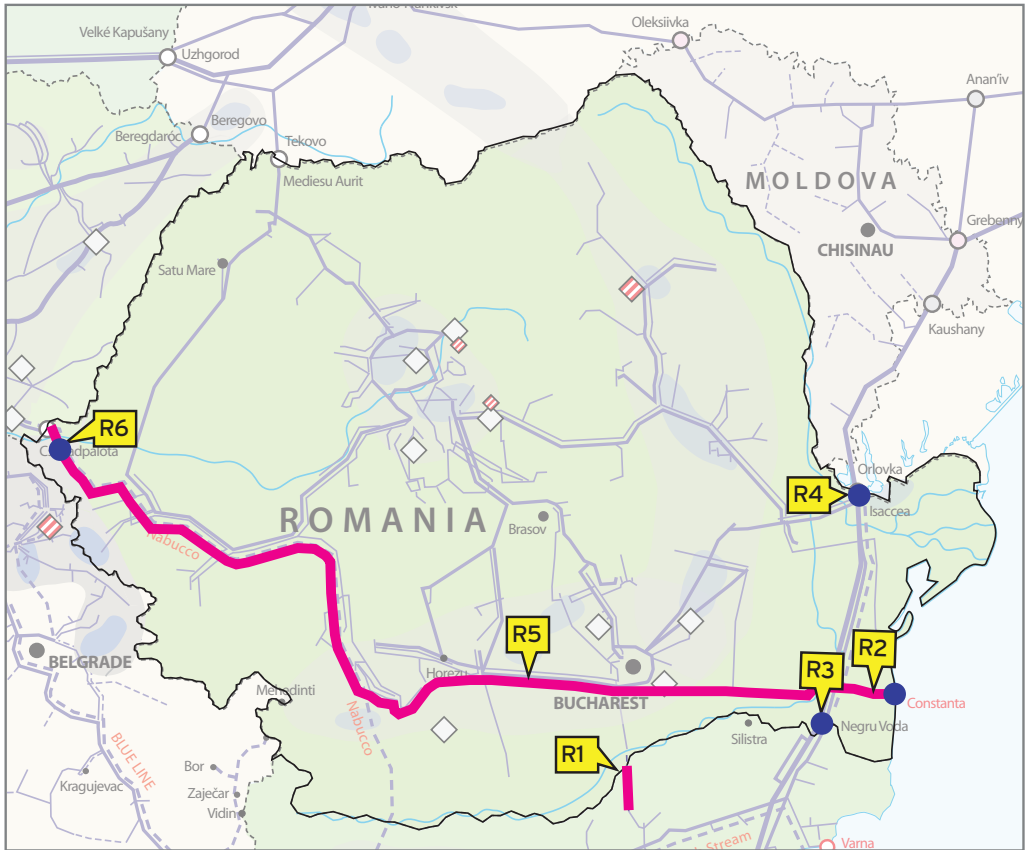
[4] San Potito & Cotignola has to be considered as a single storage facility, unlike showed in the map.



Technical Information		
Technical capacity		
Storage facilities	(in 10 ⁶ Nm ³ /d - 10 ⁶ Nm ³)	Remarks
I-5 San Potito & Cotignola	Deliverability : 6.6 Working Gas: 838	Regime performances
I-6 Collalto	Deliverability : 7.3 Working Gas: 550	Regime performances
I-7 Palazzo Moroni	Deliverability : 0.8 Working Gas: 63	Regime performances
I-8 Bagnolo Mella	Deliverability : 0.5 Working Gas: 81	Regime performances
TPA regime		
<ul style="list-style-type: none"> Regulated 		
Expected Benefits		
What is/are the expected benefit(s) of the project?	<ul style="list-style-type: none"> Market competition enhancement Increase Security of Supply; Increase of flexibility for the market 	
Financing Structure		
<p>EIB (European Investment Bank) is financing the activity of Edison Stoccaggio for the conversion of four depleted onshore gas fields into underground storage facilities in Marche, Emilia Romagna and Abruzzo, through a loan aimed at funding ~ 50% of the total investment.</p>		



Romania



Transgaz - Infrastructure Projects



General Information	
Types of project	✓ Pipeline (incl. compressor stations)
List of Projects⁵	

Project	FID	Commissioning	Remarks
Pipes			
R-1 RO-BG Interconnection	FID	01.07.2012	The execution contract for GMS Giurgiu and for the Romanian terrestrial sector is in progress. The formalities of purchasing within a turn-key contract for Danube undercrossing are in progress. NOTE: The information refers to the Romanian section of the Interconnector and to the Danube undercrossing section of the Interconnector.
R-2 Connecting the Constanța LNG terminal to the Gas Transmission System of Romania	non-FID	2015 (depending on the implementation of the upstream project, respectively Constanța LNG terminal)	The project is currently in the phase of studying the solution.
R-3 GMS Negru Vodă – Reverse Flow	FID	2012	Under construction
R-4 Integration of the transmission and transit systems – reverse flow Isaccea	non-FID	not established	The project is currently in the phase of studying the solution.
R-5 East – West Pipeline	non-FID	2015 (depending on the implementation of upstream projects, respectively the commissioning stages for Constanța LNG terminal)	The project is currently in the phase of studying the solution.
R-6 Reverse flow on the Romanian-Hungarian interconnection pipeline	non-FID	2013	The project is currently in the phase of studying the solution.

Link to the TSO's website	www.transgaz.ro
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Technical Information	
Total length of new pipes (based on the above list)	910 km (except: <ul style="list-style-type: none"> • GMS Negru Vodă – Reverse Flow; • Integration of the transmission and transit systems – reverse flow Isaccea; • Reverse flow on the Romanian-Hungarian interconnection pipeline).
Diameter range of new pipes	500-1000 mm (except: <ul style="list-style-type: none"> • GMS Negru Vodă – Reverse Flow; • Integration of the transmission and transit systems – reverse flow Isaccea); • East – West Pipeline; • Reverse flow on the Romanian-Hungarian interconnection pipeline).

[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)



Technical capacity		
Interconnections	(in 10 ⁹ Nm ³ /y)	Remarks
R-1 RO-BG Interconnection	min. 0.5 max. 1.5	The designed capacity of the Interconnector is 1,5 x 10 ⁹ Nm ³ /y At the start of capacity allocation procedures, the available capacity will be minimum 0,5 x 10 ⁹ Nm ³ /y and maximum 1,5 x 10 ⁹ Nm ³ /y, subject to the technical and technological conditions existing in the Romanian and Bulgarian transmission systems.
R-2 Connecting the Constanța LNG terminal to the Gas Transmission System of Romania		
R-3 GMS Negru Vodă – Reverse Flow	5.27	reverse flow capacity – from BG to RO
R-4 Integration of the transmission and transit systems – reverse flow Isaccea	5.27	subject to technical solution to be adopted
R-5 East – West Pipeline	8.0	
R-6 Reverse flow on the Romanian-Hungarian interconnection pipeline	1.75	reverse flow capacity – from RO to HU

Interconnections with other gas infrastructures	<p>RO-BG Interconnection: GMS Giurgiu(Romania) – interconnection with Romanian NTS operated by Transgaz. GMS Russe (Bulgaria) – interconnection with Bulgarian NTS operated by Bulgartransgaz.</p> <p>Connecting the National Gas Transmission System to the Constanța LNG terminal can be achieved in the following conditions:</p> <ul style="list-style-type: none"> • Building of a new transmission pipeline from the Constanta LNG terminal to the transit pipeline T1 Bulgaria, with a length of about 35 km; • Using the existing transit pipeline T1 Bulgaria; • Using the existing import pipelines (DN 1000 and DN 700) Isaccea-Şendreni. <p>Integration of the transmission and transit systems – reverse flow Isaccea: Construction of a connection pipeline between the DN 1000 pipeline (Transit 1 Bulgaria) and the Romanian National Transmission System with the possibility to measure the natural gas volumes transported in both directions. <i>Both Transit 1 Bulgaria and Romanian NTS are operated by TRANSGAZ.</i></p> <p>East – West Pipeline: The starting point is the LNG terminal in Constanța, and the exit point is at the border between Romania and Hungary, in the western part of the country near Nădlac.</p>
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Expected Benefits	
What is/are the expected benefit(s) of the project?	<ul style="list-style-type: none"> • SoS • Market Integration (Increase of competition)
<p>R-1 RO-BG Interconnection: It will diversify the gas supply sources and routes of both countries, enable bidirectional gas flows, improve the infrastructure standard (N-1) by creating an additional infrastructure which will link the national transmission systems from Romania and Bulgaria, increase the degree of interconnection of the gas transmission systems of the two countries, generate a favourable impact on the Romanian market in terms of competition and prices, contribute to the establishment of the South-Eastern European regional gas market.</p> <p>R-2 Connecting the Constanța LNG terminal to the Gas Transmission System of Romania: The project will contribute to the diversification of import sources, increase the reliability of gas supply, improve the infrastructure standard (N-1) by creating an additional import point, generate a favourable impact on the Romanian market in terms of competition and prices.</p> <p>R-3 GMS Negru Vodă – Reverse Flow: The project will enable the possibility of reverse flow in GMS Negru Voda, increase the degree of interconnection of the national gas transmission system, increase the diversification of gas supply sources and integration of a regional market. It has potential favourable impact on the Romanian market in terms of competition and prices. It will contribute to the implementation of the provisions of Regulation No. 715/2009 in Romania and Bulgaria and improve the infrastructure standard (N-1).</p> <p>R-4 Integration of the transmission and transit systems – reverse flow Isaccea: The project will enable the possibility of direct and reverse flow in GMS Isaccea, increase the degree of interconnection of the NTS, increase the diversification of gas supply sources and integration of a regional market, enable the transit system integration with the NTS. It will have a favourable impact on the Romanian market in terms of competition and prices and it will contribute to the implementation of the provisions of Regulation No. 715/2009 in Romania and improve the infrastructure standard (N-1).</p> <p>R-5 East – West Pipeline: The main objectives of the project are: to connect the Central European countries to the regional LNG terminal (LNG Constanța) and thus to have access to the Caspian natural gas reserves, diversification of natural gas supply source, increase of competition, increasing the security of natural gas supply.</p> <p>R-6 Reverse flow on the Romanian-Hungarian interconnection pipeline: The main objectives of the project are: availability of a reverse flow capacity on the existing interconnector between RO and HU, diversification of natural gas supply sources for HU, increase of competition, increasing the security of natural gas supply and fulfilling the provisions of Regulation (EU) No. 994/2010</p>	
Gas Sourcing	
(Expected) Gas Sourcing	<p>Connecting the Constanța LNG terminal to the Gas Transmission System of Romania: Gas from the Caspian Sea area</p> <p>GMS Negru Vodă – Reverse Flow: The project offers the possibility to Romania to have access to other natural gas sources (via Greece/Turkey – Bulgaria, etc.).</p> <p>East – West Pipeline: Caspian gas reserves.</p> <p>Reverse flow on the Romanian-Hungarian interconnection pipeline: The project offers the possibility to Hungary to have access to other natural gas sources via Romania.</p>
Financing Structure	
Expected or obtained share of public financing	<p>RO-BG Interconnection: 8.92 10⁶ € of which – TRANSGAZ: 4.55 10⁶ €</p> <p>GMS Negru Vodă – Reverse Flow: 0.1715 10⁶ € financing from EU EEPR program</p>
Expected or obtained share of private financing	<p>RO-BG Interconnection: 14.88 10⁶ € of which – TRANSGAZ: 6.42 10⁶ €</p> <p>GMS Negru Vodă – Reverse Flow: 0.2285 10⁶ €</p>



Slovakia

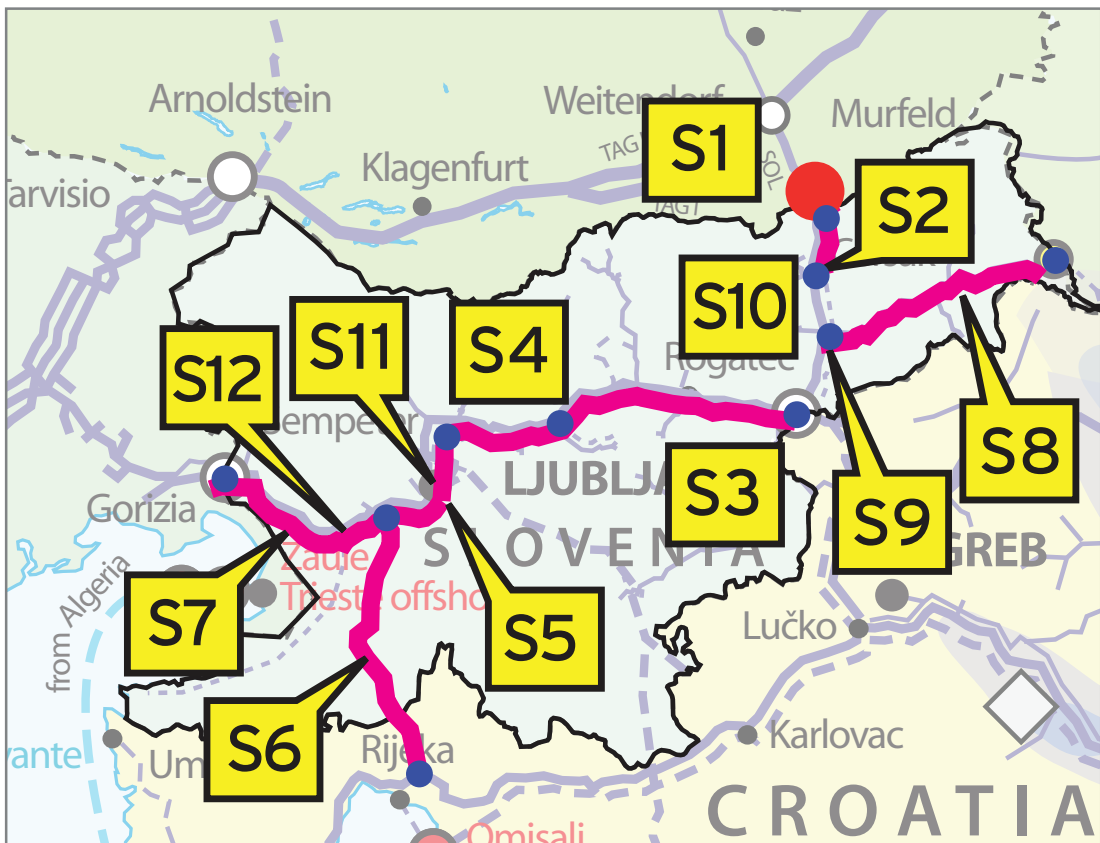


eustream - Infrastructure Projects			
General Information			
Types of project	<ul style="list-style-type: none"> ✓ Pipeline (incl. compressor stations) ✓ Storage facility (indicate the type of storage) 		
List of Projects			
Project	FID	Commissioning	Remarks
Pipes⁶			
SK-1 Slovakia - Hungary interconnector	FID 2010	2015	
SK-2 Poland-Slovakia Interconnector	Non FID (2014)	2017	Current status: Preparation of feasibility study
SK-3 Modernization and Upgrade of the Network and Replacement of Technologies due to Environmental Norms	FID 2010	2010-2016	
SK-4 Storage interconnection	FID 2009	2011	
SK-5 Reverse flows in the eustream transmission system	FID 2009	2011	Reverse flows development at the border by NET4GAS and BOG transmission system operator
Link to the TSO's website	www.eustream.sk		
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	(10⁶ Nm³/d)	Remarks	
SK-HU interconnection	13.8	Bi-directional	
Lanzhot	23.3		
Baumgarten	22.2	Baumgarten BOG	
PL-SK Interconnection	approx. 13.7		
Expected Benefits			
What is/are the expected benefit(s) of the project?	<ul style="list-style-type: none"> • SoS • Market Integration 		
<p>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.</p>			
Inter-governmental Agreements			
<p>Interconnector Slovakia – Hungary: Intergovernmental agreement between Slovak Republic and Hungary was signed by the respective Prime ministers on 28 01 2011.</p>			
Financing Structure			
Expected or obtained share of public financing	<p>Interconnector Slovakia – Hungary: EEPR: € 3.3 mil. Reverse flows in the eustream TS: EEPR: € 0.7 mil. Feasibility study and business case for PL-SK interconnection: TEN-E</p>		

[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)



Slovenia



Plinovodi d.o.o. - Infrastructure Projects



General Information

Types of project

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

List of Projects

Project	FID status	Commissioning	Remarks
Pipes⁷			
S1 – M1/3 SLO-A border crossing	Non-FID		Basic design, National spatial plan
S2 – M1/1 Ceršak -Kidričevo	FID	Q4 / 2011	Linked to projects S3, S4
S3 – M2/1 Rogaška Slatina–Trojane	FID	2014	2011 – land acquisition, pipes purchase, partial building permit acquired, Linked to projects S2, S4
S4 – M2/1 Trojane–Vodice	FID	Q4 / 2011 – Building permit Q1 / 2014 – Commissioning	2011 – land acquisition, pipes purchase 2012 – build permit Linked to projects S2, S3
S5 – M3/1 Vodice-Kalce	Non-FID		National spatial plan in process
S6 – M8 Kalce–Jelšane	Non-FID		National spatial plan in process
S7 – M3 section CS Ajdovščina–Šempeter/Gorizia reconstruction	Non-FID	Q4 / 2012 – Building permit Q4 / 2014 - Commissioning	2011 – under preparation Basic design, National spatial plan in process 2013 – building permit
S8 – R15/1 Lendava-Kidričevo + CS Kidričevo additional compressor unit	Non-FID		Pre-feasibility Study, related to HU-SI interconnector
S9 – CS Kidričevo 3 rd compressor unit	FID		Building permit acquired in 2010 Linked to projects S2, S3 and S4
S10 – CS Kidričevo–2 nd phase	Non-FID		2011 - National spatial plan passed, Basic design prepared
S11 – CS Ajdovščina 3 rd compressor unit	Non-FID		2011 - National spatial plan passed, Basic design prepared, Linked to project S7
S12 – M3/1 Kalce - Šempeter/Gorizia	Non-FID	N/A	2011 - National spatial plan in process

Link to the TSO's website www.plinovodi.si

[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)



Technical Information	
Total length of new pipes (based on the above list)	385.2 km
Diameter range of new pipes	500 – 1,200 mm
Technical capacity	

Interconnections	(10 ⁹ Nm ³ /y)	Remarks
M1/3 SLO-A border crossing	Cross-border capacity increase 5.9 (from 2.5 to 8.4)	gradual increase; full capacity when projects 2, 3, 4 and 10 will be completed
M1/1 Ceršak -Kidričevo	Cross-border capacity increase 5.9 (from 2.5 to 8.4)	gradual increase; full capacity when projects 1, 3, 4 and 10 will be completed
M2/1 Rogaška Slatina–Trojane	5.1	gradual increase; full capacity when projects 1, 2, 4 and 10 will be completed
M2/1 Trojane–Vodice	5.1	gradual increase; full capacity when projects 1, 2, 3 and 10 will be completed
M3/1 Vodice-Kalce	3.4	
M8 Kalce–Jelšane	12.8	
M3/1 Kalce - Šempeter/Gorizia	10.0	
M3 section CS Ajdovščina–Šempeter/Gorizia reconstruction	2.2	gradual increase; full capacity when projects 1, 2, 3, 4 and 9 will be completed
R15/1 Lendava-Kidričevo CS Kidričevo – additional compressor unit	3.1	
Compressors	(MW)	
CS Kidričevo 3 rd compressor unit	3.5	
CS Kidričevo–2 nd phase	Under consideration	
CS Ajdovščina 3 rd compressor unit	4.5	



3rd Party Sponsored Projects



© Image courtesy of SNAM Rete Gas

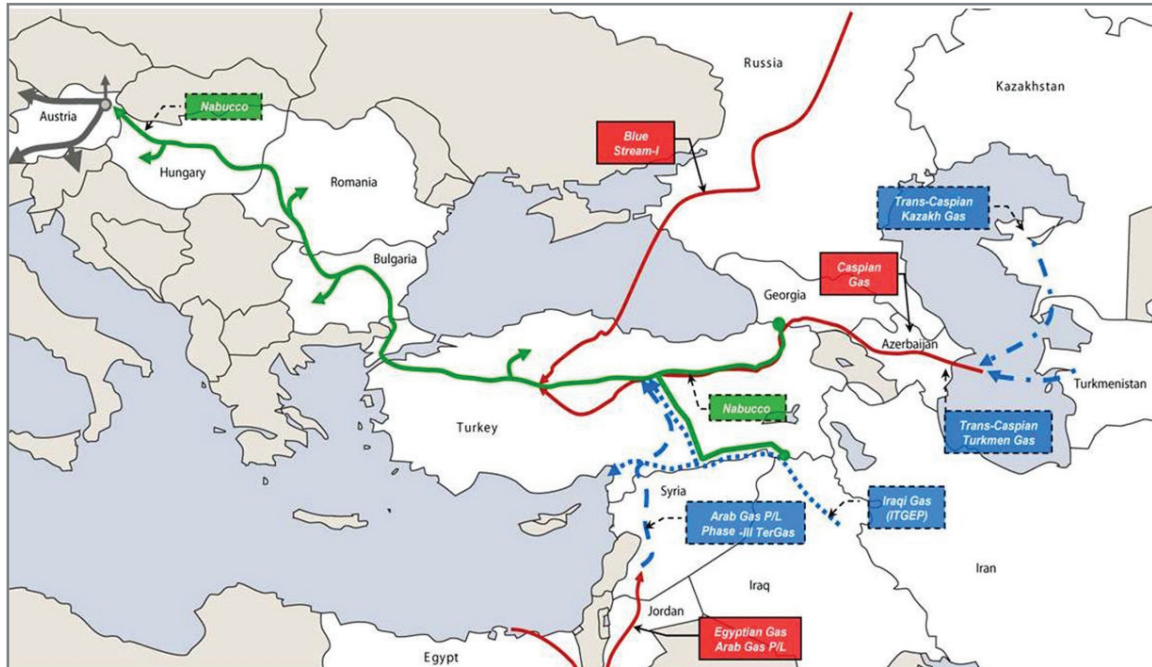
The first three of the projects presented below (Nabucco Gas Pipeline Project; Poseidon Pipeline; Trans Adriatic Pipeline Project) are presently in competition for the transportation of the Shah Deniz phase II natural gas to Europe. At the beginning of October 2011 the Shah Deniz Consortium received the expression of interest of these three projects' sponsors (together with one more made public by BP in September 2011) and has announced its intention to reach a decision within the first quarter of 2012.

Although this means that the present GRIP might need to be revised shortly after its publication, we decided that the publication should not be delayed for this reason.



Nabucco Gas Pipeline Project





General Information	
Name of project	Nabucco Gas Pipeline project
Types of project	Pipeline (incl. compressor stations)
Name of the sponsors and their shares	<ul style="list-style-type: none"> • OMV Gas and Power GmbH • RWE Supply and Trading GmbH • FGSZ Natural Gas Transmission Ltd. • S.N.T.G.N.Transgaz S.A. • Bulgarian Energy Holding EAD • BOTAŞ Boru Hatları İle Petrol Taşıma AŞ <p>each of them holding the same share (16,67%)</p>
Link to the TSO's website	www.nabucco-pipeline.com
Technical Information	
Length of the pipe	Approx. 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)	Approx. 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: MID 2011
Project development phase reached	Design & Permitting phase in advanced stage
IGA, Mandate Letter, LLI Tender, FEED	<ul style="list-style-type: none"> Intergovernmental Agreement was ratified by the Turkish Parliament on 5 March 2010 Prequalification tender for long lead items including line pipes, valves and bends has been issued Turkey: Nabucco has opened dialogue with communities since July 2010 Nabucco: Modification of feeder line concept - 23 August 2010 EBRD, EIB and IFC have started appraisal of Nabucco pipeline in September 2010 <p>All press releases can be found in detail on the Nabucco website.</p>
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?	<p>Date of request:</p> <ol style="list-style-type: none"> 28.04.2003 20.06.2005 24.04.2009 <p>Year in which funding was received:</p> <ol style="list-style-type: none"> 2004 2007 advance payment no payment so far
Expected Benefits	
What is/are the expected benefit(s) of the project?	<p>The projects' benefits are considered unique by the project sponsors for the following main reasons:</p> <ul style="list-style-type: none"> 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 16 10⁹ Nm³/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 for gas transit via Turkey which is compatible with European Energy Law Supply Security: No other project will provide a gas transport volume of 31 10⁹ Nm³/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 up to a capacity of 15 10 ⁹ Nm ³ /y
(Expected) Gas Sourcing	
Gas Sourcing (Expected)	The major expected gas sources are from: <ul style="list-style-type: none"> • Azerbaijan • Turkmenistan • Iraq • Egypt
Inter-governmental Agreements	
Inter-governmental agreements	The Intergovernmental Agreement 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: <ul style="list-style-type: none"> • it guarantees full political support and is valid for 50 years, • it ensures equal legal conditions for gas transit throughout the entire Nabucco pipeline system, • it lays down transport tariff methodology and rules for network access, • it defines a “one stop shop” concept for the whole length of the Nabucco pipeline system, • Up to three “feeder” lines are covered, • it defines a volume of 16 10⁹ Nm³/y for Third Party Access, • 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.



Poseidon Transmission Project



General Information	
Name of project	Poseidon Pipeline
Types of project	Pipeline, including compressor station in Greece and Metering station in Italy
Name of the sponsors and their shares	Depa SA 50% Edison International Holding NV 50% (a 100% Edison S.p.A. subsidiary)
Link to the TSO's website	www.igi-poseidon.com





Technical Information	
Length of the pipe	210 km
Diameter	812 mm
Technical capacity	Approx. 10 10 ⁹ Nm ³ /y
Power of the CS(s)	25x4 MW – layout: 3+1
Interconnections with other gas infrastructures	<p>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)</p> <p>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.</p>
Future Operator	IGI Poseidon is exempted from unbundling provisions according to relevant Italian and Greek legislation implementing Third package, and, consequently it is foreseen to be the operator of the pipeline.
Time Schedule	
Probable date of commissioning and the main milestones	FID: 2011/12 (under revision, see answer below) Date of commissioning: 2017 (Subject to Shah Deniz II development)
Project development phase reached	<p>Design and permitting</p> <ul style="list-style-type: none"> • FEED and Design certification: Activities ongoing. • DMS: Activities ongoing. • Linepipe Procurement Tender: Evaluation of binding bids ongoing. • Obtained Italian EIA Decree (8/2010) and Full authorization (5/2011). • Obtained Greek preliminary EIA (9/2010). Preparation of final EIAS ongoing.
Necessary conditions for the realization / construction start-up of the project	<ul style="list-style-type: none"> • Conclusion of Gas Transportation Agreements with Shippers with availability of gas supply and capacity upstream and downstream.
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?	<p>Date of request:</p> <ul style="list-style-type: none"> • 2002 (Feasibility) • 2004 (Surveys) <p>Year in which funding was received:</p> <ul style="list-style-type: none"> • 2003 (Feasibility) • 2005 (Surveys)



Expected Benefits	
What is/are the expected benefit(s) of the project?	<ul style="list-style-type: none"> • 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. • 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?	<p>A TPA Exemption for approx. 8 10⁹ Nm³/y and for 25 years was granted by Italian and Greek relevant authorities with the approval of the European Commission in May 2007</p> <p>1.015 10⁶ Nm³/h of the Poseidon Pipeline capacity is exempted from TPA and Regulated Tariffs.</p> <p>0.12688 10⁶ Nm³/h of the Poseidon Pipeline capacity is offered through an Open Season Procedure. The Procedure and the Cost-reflective tariff structure are subject to the approval of the Italian and Greek NRAs.</p>
(Expected) Gas Sourcing	
Gas Sourcing (Expected)	Azerbaijan (second phase of development of the Shah Deniz Field)
Inter-governmental Agreements	
Inter-governmental agreements	<p>November 2005: Signing of the Italy-Greece Intergovernmental Agreement</p> <p>July 2007: Signing of the Italy-Greece-Turkey Intergovernmental Agreement</p> <p>August 2007: Signing of the Memorandum of Cooperation between Greece and Azerbaijan</p> <p>December 2007: Signing of the Protocol of Cooperation between Italy and Azerbaijan</p> <p>November 2009: Joint statement of the Italian Minister of Economic Development and the Turkish Minister of Energy and Natural Resources</p> <p>May 2010: Memorandum of Understanding between Greece and Turkey</p>
Financing Structure	
Expected or obtained share of public financing	The ITGI-Poseidon project was included in the European Energy Plan for Recovery (Reg. 663/09) and a 100 10 ⁶ € contribution was granted to the project with Decision of the EU Commission of 28/7/2010
Expected or obtained share of private financing	Not yet defined
Expected or obtained share of multilateral financing	Not yet defined



<div style="display: flex; justify-content: space-between; align-items: center;"> <div style="flex: 1;"> <h2 style="margin: 0;">Trans Adriatic Pipeline (TAP) Project</h2> </div> <div style="text-align: right;">  </div> </div>	
	
General Information	
Name of project	Trans Adriatic Pipeline (TAP)
Types of project	Natural gas pipeline project (incl. compressor stations)
Name of the sponsors and their shares	EGL (42,5%), Statoil (42,5%), E.ON Ruhrgas (15%)
Link to the TSO's website	www.trans-adriatic-pipeline.com
Technical Information	
Length of the pipe	TAP is approximately 800 km long, (approx. In Greece 478 km, Albania 204 km, offshore 105 km, Italy 4 km).
Diameter	The onshore pipeline is designed with a diameter of 48" (from Komotini to the Adriatic coastline near Fier), and reduces to a diameter of 36" for the offshore section, which crosses the Adriatic Sea, lands in San Foca (province of Lecce) and ends to the PRT.
Technical capacity	Phase 1: 10 10 ⁹ Nm ³ /y Phase 2: up to additional 10 10 ⁹ Nm ³ /y
Expected load factor	0.9
Power of the CS(s)	Approximately 90 MW in total
Interconnections with other gas infrastructures	<p>In Phase I TAP will provide the necessary transportation capacity for the volumes produced in Azerbaijan by Shah Deniz II and destined for the European gas market. These volumes will be made available at the Turkish/Greek border near Kipoi (GR) and then supplied at the TAP entry point in Komotini at the Greek end-point of the existing Interconnector Turkey-Greece (ITG). Gas will be transported via the new transport infrastructure, which will pass through Greece, Albania and the Adriatic Sea and will finally reach Italy in San Foca, near Lecce.</p> <p>TAP can be seen as an integrated part of the Western Balkan Energy Ring.</p> <p>TAP is exploring possibilities for connecting with the Ionian Adriatic Pipeline (IAP), a major regional natural gas project at a tie-in point near Fier in Albania.</p> <p>In 2011 TAP signed agreements with other IAP participants, including Croatian gas system operator Plinacro Ltd, Bosnian gas system operator BH-Gas, the government of Montenegro, the government of Albania and Slovenian TSO Geoplin plinovodi. TAP supports the objectives of these countries in further developing the SEE regional gas market and integrating it to the EU energy market.</p> <p>The IAP connection to TAP will provide SEE, a region heavily dependent on a single gas supplier, with new and reliable natural gas supplies from the Caspian region. What is more, it will bring major energy security and economic benefits to the region.</p>



Time Schedule	
Probable date of commissioning and the main milestones	TAP's schedule is fully aligned with Shah Deniz II development. Shah Deniz II is expected to come on stream in 2017.
Project development phase reached	Design & Permitting Environmental and Social Impact Assessment submission process started in Albania, Greece and Italy (May-June 2011) Extensive routing studies and stakeholder consultations in all host countries ongoing from 2009.
IGA, Mandate Letter, LLI Tender, FEED	Project status of TAP includes: <ul style="list-style-type: none"> • Third Party Access (TPA) Exemption application submitted in Greece, Albania and Italy (September 2011) • Single Authorization Application in Italy (August 2011) • Independent Natural Gas System licence application submission in Greece (August 2011) • Memoranda of Understanding with Plinacro Ltd, Croatia; BH-Gas, Bosnia; the government of Montenegro; the government of Albania; Geoplin plinovodi, Slovenia (March- September 2011) • Inclusion in the Rete Nazionale Gas, Italy (August 2010) • Memorandum of Understanding and Cooperation signed with Albania (18 May 2010) • Recognised as "EU Interconnector" (2009) • Energy-related Inter-Governmental Agreement between Italy & Albania signed (March 2009) • Recognized by EU as Project of common interest (2003) <p>Final Investment Decision (FID) will be taken once a TPA exemption is granted and the financing agreements with lenders are sealed, contextually with the signature of the gas supplying agreements with the Shah Deniz Consortium.</p>
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: 21 April 2004 (Feasibility study) <ul style="list-style-type: none"> • Year in which funding was received: 1 December 2005 (Feasibility study) • Final Payment of the Grant: 13 February 2008 (Feasibility study) Date of request: 16 June 2005 (Basic Engineering) <ul style="list-style-type: none"> • Year in which funding was received: 6 December 2006 (Basic Engineering) Final Payment of the Grant: 16 November 2009 (Basic Engineering)
Expected Benefits	
What is/are the expected benefit(s) of the project?	<ul style="list-style-type: none"> • Security and diversity of European energy supply. • TAP is the shortest and the most economic way for bringing Shah Deniz II gas to Europe. • TAP is designed to allow physical reverse flow of up to 80 % of its capacity and it is evaluating the option to develop underground storage in Albania. These are two features which can significantly enhance security of supply in the region. • TAP requires no public funding, makes capacity available to new market entrants and contributes to efficient use of existing infrastructure. • TAP provides Albania and the wider South East Europe with an opportunity to develop further the regional gas markets. • TAP promotes market integration, competition, regional cohesion.



TPA regime	
Have you applied for an exemption from Third Party Access?	TAP filed its TPA application in Greece, Albania and Italy in August, 2011.
(Expected) Gas Sourcing	
Gas Sourcing (Expected)	TAP is designed to accommodate gas from Shah Deniz II in Azerbaijan. Its shareholders are in dialogue with producers to secure the necessary volumes.
Inter-governmental Agreements	
Inter-governmental agreements	<ul style="list-style-type: none"> • MOUC between TAP and Plinacro (25th February 2011) • MOUC between TAP and BH-Gas (7th April 2011) • MOUC between TAP and the Ministry of Economy of Montenegro (13th May 2011) • MOUC between TAP and the Ministry of Economy, Trade and Energy of the Republic of Albania (21st July 2011) • MOUC between TAP and Geoplin plinovodi (20th September 2011) <p>An inter-ministerial agreement between Italy, Albania and Greece may be required under Italian law. Further governmental support is being sought. Negotiations with the Albanian government have been initiated.</p>
Financing Structure	
Expected or obtained share of public financing	0%
Expected or obtained share of private financing	Equity 30% Private lenders 70 %
Expected or obtained share of multilateral financing	Under discussion



South Stream Pipeline Project⁸



General Information	
Name of project	South Stream Gas Pipeline Project* *South Stream Project is considered as being comprised of the offshore section and the onshore section
Types of project	Pipeline (incl. compressor stations)
Name of the sponsors and their shares	<p>South Stream Project, Offshore Section^[9]:</p> <ul style="list-style-type: none"> • OAO Gazprom - 50 % • ENI S.p.A. - 20 % • EdF – 15 % • Wintershall Holding – 15% <p>South Stream Project, Onshore Section:</p> <ol style="list-style-type: none"> 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 TSO's website	http://south-stream.info/?L=1 http://gazprom.com/production/projects/pipelines/south-stream/

[8] South Stream did not provide updated information on the project. For this reason the data presented here are those included in the ENTSG TYNDP 2011-2020 except where indicated otherwise.

[9] South Stream press release 16.09.2011



Technical Information	
Length of the pipe	<p><u>Offshore:</u> Approx. 940¹⁰ km <u>Onshore:</u> Varies from 1,975 km to 2,775 km in total at present depending on a route alternative^{11 12} :</p> <ol style="list-style-type: none"> 1. Bulgaria: from 500 to 920 <i>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.</i> 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: <i>The parameters are currently being specified</i> 7. Italy: from 10 to 20 8. Greece: from 390 to 440 9. the Ionian Sea: from 170 to 210
Diameter	<p><u>Offshore:</u>¹³ 812.8 (in mm) <u>Onshore:</u>¹⁴ Varies from 1,975 km to 2,775 km in total at present depending on a route alternative :</p> <ol style="list-style-type: none"> 1. Bulgaria: 1420 and/or 720 <i>The lower value (720 mm) implies the diameter of the Bulgarian/Greek gas pipeline section, which is currently being negotiated with the Bulgarian partner</i> 2. Serbia: 1420 and/or 1220 3. Hungary: 1420 and/or 1220 4. Slovenia: 1220 and/or 1020 5. Austria: 1220 6. Croatia: <i>The parameters are currently being specified</i> 7. Italy: 1220 and/or 1020 8. Greece: 720 and/or 630 9. the Ionian Sea: 356
Technical capacity	<p><u>Offshore:</u> 58.7 in 10⁹ Nm³/y <u>Onshore:</u> The technical entry capacity of the gas pipeline (on the Bulgarian Black Sea coast): 58.7 in 10⁹ Nm³/y</p> <p>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 20 10⁹ Nm³/y</p>
Expected load factor	<p><u>Offshore:</u> 0.9 <u>Onshore:</u> 0.9</p>

x^{[10][11][12][13][14]}

[10] 4 lines are assumed to be laid on the Black Sea bed

[11] For the route options involving the territories in question

[12] Note by the TSOs represented in the Southern Corridor region: In the pre-investment phase of the Project, different options of pipeline routes were analysed, including (in addition to the ones mentioned above) some on the Romanian territory.

For the Romanian section of South Stream Project, the following elements were taken into account:

- length of the pipe: 518 km
- diameter:
- option 1: 1400 mm; 2 compressor station with total power 164 MW; technical capacity: 31.5 10⁹ Nm³/y;
- option 2: 1400 mm; 3 compressor station with total power 392 MW; technical capacity: 63 10⁹ Nm³/y.
- Date of commissioning: 2015.

The Project has not yet disclosed the results of any feasibility study

[13] Nominal outside diameter

[14] For the route options involving the territories in question



Power of the CS(s)	<p><u>Offshore</u> : Approx. 450 (in MW) <u>Onshore</u> :¹⁵</p> <ol style="list-style-type: none"> 1. Bulgaria: from 390 to 540 <i>The upper range limit (540 MW) embraces the Bulgarian/Greek gas pipeline section, which is currently being negotiated with the Bulgarian partner</i> 2. Serbia: from 140 to 200 3. Hungary: from 55 to 75 4. Slovenia: from 55 to 110 5. Austria: n/a 6. Croatia: n/a <i>The parameters are currently being specified</i> 7. Italy: n/a 8. Greece: from 8 to 20 9. the Ionian Sea: n/a
Interconnections with other gas infrastructures	<p><u>Offshore</u>: The Offshore section of the South Stream Project is assumed to be interconnected with the Unified Gas Supply System 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.</p> <p><u>Onshore</u>: 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 off-take 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.</p> <p>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.</p>
Time Schedule	
Probable date of commissioning and the main milestones	<p><u>Offshore</u>: Date of commissioning: end of 2015¹⁶ FID: 2012</p> <p><u>Onshore</u>: Date of commissioning: end of 2015¹⁷ FID: 2012</p>
Project development phase reached	<p><u>Offshore</u>: Planned / Under consideration</p> <p>According to the Press release dated June 09, 2010 "On meeting dedicated to South Stream project execution":</p> <p>"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.</p> <p>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".</p> <p><u>Onshore</u>:</p> <p>According to the Press release dated June 09, 2010 "On meeting dedicated to South Stream project execution":</p> <p>"OAO Gazprom, as the South Stream initiator, is compiling a comprehensive feasibility study to summarize data on separate sections of the gas trunkline".</p>

[15] For the route options involving the territories in question

[16] 1st 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

[17] 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.



TEN-E Project Information	
Is the project part of TEN-E?	No
Expected Benefits	
What is/are the expected benefit(s) of the project?	<ul style="list-style-type: none"> • 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. • 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?	The Project wishes to be exempted from TPA. No application has been made yet. ¹⁸
(Expected) Gas Sourcing	
Gas Sourcing (Expected)	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	<p><u>Offshore:</u> Protocol between the Government of the Russian Federation and the Government of the Republic of Turkey on cooperation in the gas sphere.</p> <p><u>Onshore:</u></p> <ol style="list-style-type: none"> 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;

[18] South Stream press release 30.11.2010



Interconnector Greece Bulgaria - IGB




General Information	
Name of project	Gas Interconnector Greece - Bulgaria IGB Project
Types of project	Interconnector pipeline transmitting natural gas from Greece to Bulgaria. The project is designed to have reverse flow capability (Bulgaria to Greece). Start point: Komotini (Greece) End Point: Stara Zagora (Bulgaria) The Front End Engineering Design (FEED) is currently at the early stages and the exact route has not been finalised yet.
Name of the sponsors and their shares	The IGB is being developed by the company "ICGB" AD. The company was established on the 5 th of January 2011 in Sofia for the purpose of developing IGB. "ICGB" AD shareholders are: a) IGI Poseidon S.A. - 50% The shareholders of IGI Poseidon S.A. are I. DEPA S.A. - 50% II. Edison International Holding NV - 50% Bulgarian Energy Holding EAD (BEH) - 50% b)
Expected costs	Updated cost of the project to be estimated at a later stage according to input from ongoing FEED activities.
Link to the TSO's website	Information on the project can be found from the websites of the shareholders of "ICGB" AD. Namely: http://www.igi-poseidon.com/english/index.asp (IGI Poseidon SA) http://www.bgenh.com/en/index.php (Bulgarian Energy Holding EAD) A dedicated "ICGB" AD web site is currently under consideration.



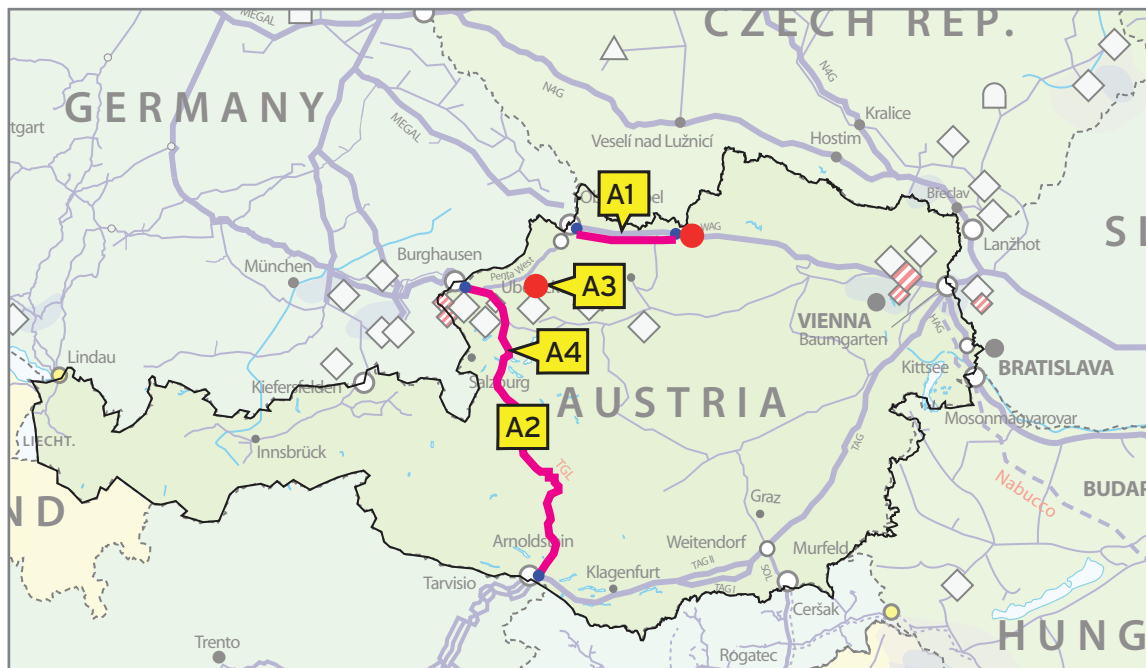
Technical Information	
Length of the pipe	Approximately 170 km (29 km in Greece, 141 km in Bulgaria)
Diameter	28"
Technical capacity	3 – 5 10 ⁹ Nm ³ /y
Maximum Operating Pressure	75 barg
Expected load factor	0,9 (assumed by project's engineer)
Power of the CS(s)	N/A
Interconnections with other gas infrastructures	<p>The IGB will be linked to:</p> <ul style="list-style-type: none"> the Interconnection Turkey Greece Italy (ITGI) project. Revithoussa LNG terminal through the Greek natural gas grid and to a planned LGN terminal in Northern Greece. the planned Interconnector Bulgaria-Romania through the Bulgarian national transmission system. the Bulgarian and Greek gas system.
Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2013/2014
Project development phase reached	<p>Final Investment Decision (FID): within 2012 (in conjunction with the advancement of the Front End Engineering Design (FEED) services and permit procedures)</p> <p>Technical Feasibility Studies</p> <ul style="list-style-type: none"> <i>Exergia S.A. - pre-feasibility study for Greek section;</i> <i>Jacobs Consultancy UK Ltd. – Feasibility Study for Bulgarian section</i> <p>Design and permitting</p> <ul style="list-style-type: none"> <i>Front End Engineering Design (FEED): Activities ongoing.</i> <i>Environmental Impact Assessment (EIA) and permitting: Activities ongoing</i> <i>Linepipe Procurement Tender: Prequalification phase has been concluded.</i> <p>Commercial activities</p> <ul style="list-style-type: none"> <i>TSO market study and Provisional Business plan in order to assess the need for a TPA exemption application: Activities ongoing</i>
Necessary conditions for the realization / construction start-up of the project and obstacles that might prevent its implementation.	<ul style="list-style-type: none"> Receipt and approval of FEED deliverables ; Issuance of EIA permits in Bulgaria and Greece; If necessary – receipt of TPA exemption; Completion of the Linepipe and Long Lead Items (LLIs) tenders; Conclusion of the EPC tender; Conclusion of Gas Transportation Agreements with Shippers with availability of gas supply and capacity upstream and downstream.
TEN-E Project Information	
Is the project part of TEN-E?	No



Expected Benefits	
What is/are the expected benefit(s) of the project?	<p>The Interconnection between Greece and Bulgaria (IGB), which includes a reverse flow option, will provide a diversification of routes and sources for gas imports to Bulgaria, Greece as well as in the wider region of South Eastern Europe (SEE).</p> <p>IGB will be linked to the Interconnector Turkey–Greece-Italy (ITGI), to the existing LNG terminal in Revithoussa and to a planned LNG terminal in Northern Greece. As a direct result, IGB will supply natural gas from the Caspian/Middle East regions as well as LNG to the SEE.</p> <p>Furthermore, IGB will stimulate the development of other gas interconnection project, e.g. between Bulgarian and Romania, increasing the opportunities for cross-border trade and market liquidity in the SEE region.</p> <p>Ultimately, IGB will considerably enhance the competitiveness of the region which will lead to an integrated SEE energy market.</p> <p>Finally, IGB will establish a very effective regional gas crisis reaction mechanism, considering the multitude of different sources it has access to (LNG, Caspian, Middle East and Northern Africa through reverse flow from Italy, etc.) and IGB's reverse flow capability. The reaction mechanism is further enhanced by gas storages in Romania and Bulgaria, ensuring the security of natural gas supply in the entire SEE region.</p>
TPA regime	
Have you applied for an exemption from Third Party Access?	A decision on whether to submit a request for TPA exemption will be undertaken within Q1 2012. Shortly afterwards, if it is deemed necessary to make the Project economically viable, a TPA exemption request will be submitted to the competent authorities.
(Expected) Gas Sourcing	
Gas Sourcing (Expected)	IGB will be linked to the Interconnector Turkey–Greece-Italy (ITGI), to the existing LNG terminal in Revithoussa and to a planned LNG terminal in Northern Greece. As a direct result, IGB will supply natural gas from the Caspian/Middle East regions as well as LNG to the SEE.
Inter-governmental Agreements	
Inter-governmental agreements	On 24.04.2009 a Memorandum of Understanding was signed between the Greek Minister of Development and the Bulgarian Minister of Economy and Energy.
Financing Structure	
Expected or obtained share of public financing	The IGB Project has been included in the EEPR programme with the European Commission's decision No. C(2010) 5813, dated 30.08.2010. The European Commission has agreed to finance up to 45 10 ⁶ € towards the implementation of the project.
Expected or obtained share of private financing	Not yet defined
Expected or obtained share of multilateral financing	Not yet defined



Tauerngasleitung Gas Pipeline Project



General Information	
Name of project	A4 Tauerngasleitung (TGL)
Types of project	Pipeline (incl. compressor stations)
Name of the sponsors and their shares	<ul style="list-style-type: none"> • 48.05% - E.ON Ruhrgas AG, • 9.81% - Rohöl-Aufsuchungs Aktiengesellschaft, • 16.90% - Energie AG Oberösterreich, • 16.90% - Salzburg AG für Energie, Verkehr und Telekommunikation, • 4.55% - KELAG-Kärntner Elektrizitäts-Aktiengesellschaft, • 3.79% - TIGAS-Erdgas Tirol GmbH. Share percentages are rounded
Link to the TSO's website	www.tauerngasleitung.eu
Technical Information	
Length of the pipe	Approx. 290 km
Diameter	900 mm
Technical capacity	max. 11.4 (in 10 ⁹ Nm ³ /y)
Expected load factor	N/A
Power of the CS(s)	Approx. 66 MW
Interconnections with other gas infrastructures	<ul style="list-style-type: none"> • Connection with the Austrian-Bavarian-Gasline near the German-Austrian border at the IP Haiming/Burghausen, • Possible Connection to the Czech Transmission System via the existing IP Oberkappel, • Connection to the distribution gas grids of Upper Austria, Salzburg and Carinthia, • Possible connection to the Slovenian Transmission System and to the Trans Austria Gasleitung at Arnoldstein, • Connection to the Italian gas grid at the IP Arnoldstein/Tarvisio.



Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: 2017 FID: 2012 End of permitting: 2013
Project development phase reached	Design & Permitting
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?	Funds requested in 2006 (approved 2007) and 2010 (approved 2011)
Expected Benefits	
What is/are the expected benefit(s) of the project?	<ul style="list-style-type: none"> • 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 with the South-East European 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 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?	No application has been submitted yet
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



Adria LNG terminal

ADRIA LNG
Nova energija Hrvatske



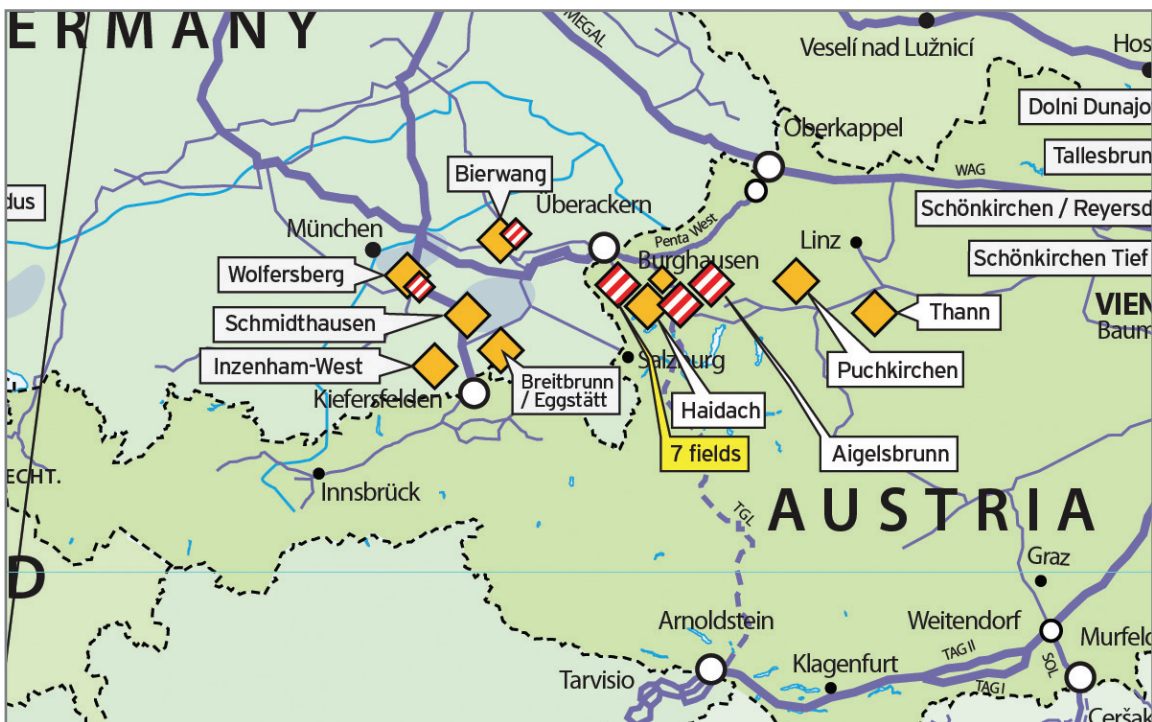
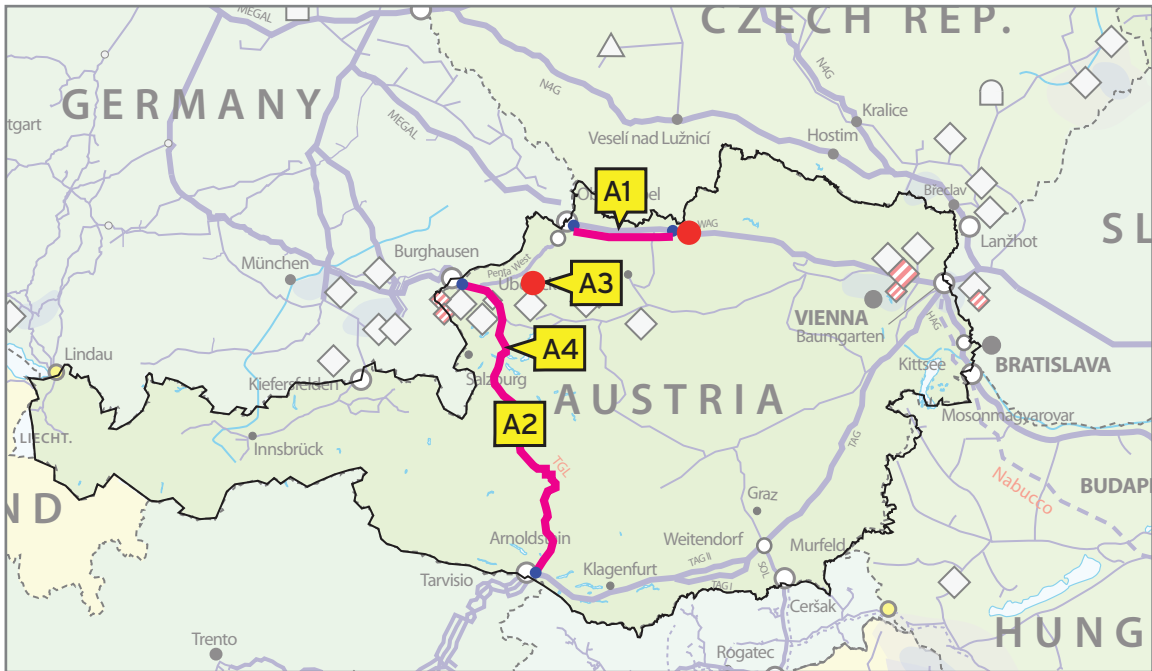
General Information	
Name of project	Adria LNG
Types of project	LNG terminal
Name of the sponsors and their shares	<ul style="list-style-type: none"> • E.ON Ruhrgas 39,17% • OMV 32,47% • Total 27,36% • Geoplina 1%
Link to the TSO's website	www.adria-lng.hr
Technical Information	
Annual capacity	10 10 ⁹ Nm ³ /y first phase 15 10 ⁹ Nm ³ /y second phase
Daily send-out capacity	1.55 10 ⁶ Nm ³ /y first phase 2.34 10 ⁶ Nm ³ /y second phase
LNG storage capacity	390,000 m ³ LNG first phase 585,000 m ³ LNG second phase
Interconnections with other gas infrastructures	Connection to Croatian, Slovenian and Hungarian gas network system
Future Operator	Adria LNG d.o.o. or other legal entity



Time Schedule	
Probable date of commissioning and the main milestones	Date of commissioning: not before 2017 FID: not before 2013 End of permitting phase: location permit procedure initiated on May, 2010. The end of this permitting phase expected.
Project development phase reached	<ul style="list-style-type: none"> • Design & Permitting phase in a fairly advanced stage • Permitting phase • Press releases can be found at the following links: http://www.adria-ng.hr/index_en.php?t=10&l=t&c=qa.asp&lng=hr
Necessary conditions for the realization / construction start-up of the project and obstacles that might prevent its implementation.	<ul style="list-style-type: none"> • issuance of location permit • gas network code changes in Croatia and Slovenia <ul style="list-style-type: none"> - Extended gas specifications on Croatia required to accommodate acceptance of heavy LNG - New gas specifications in Slovenia required to accommodate acceptance of lean, medium and heavy LNG • final position of the Adria LNG consortium members with regard to economic viability of the project
TEN-E Project Information	
Is the project part of TEN-E?	No
If the project is part of TEN-E, specify the project category.	N/A
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	Date of request: N/A Year in which funding was received: N/A
Expected Benefits	
What is/are the expected benefit(s) of the project?	<ul style="list-style-type: none"> • Increased Security of Supply in the CEE region <ul style="list-style-type: none"> - new source of gas supply - increased flexibility • Market Integration (Increase of competition)
TPA regime	
Have you applied for an exemption from Third Party Access?	The project wishes to be fully exempted from TPA. No application has been made yet.



7 Fields Storage Project



General Information	
Name of project	A3 7 Fields
Types of project	Storage facility (Porous rock storage facility)
Name of the sponsors and their shares	E.ON Gas Storage
Link to the project website	www.eon-gas-storage.com
Technical Information	
Working gas volume	1,608 10 ⁶ Nm ³
Deliverability	20 10 ⁶ Nm ³ /d by 01 April 2014
Interconnections with other gas infrastructures	TSOs: Open Grid Europe, Bayernets (DE); GAS CONNECT AUSTRIA, Oberösterreichische Ferngas (AT)
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: 1,155 10 ⁶ Nm ³ By 01 April 2014: 1,608 10 ⁶ Nm ³
Project development phase reached	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.	N/A
If the project is part of TEN-E, has financing from TEN-E funds been requested / received?	N/A
Expected Benefits	
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





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