entsog
european network
of transmission system operators
for gas

GAS REGIONAL INVESTMENT PLAN
2014–2023

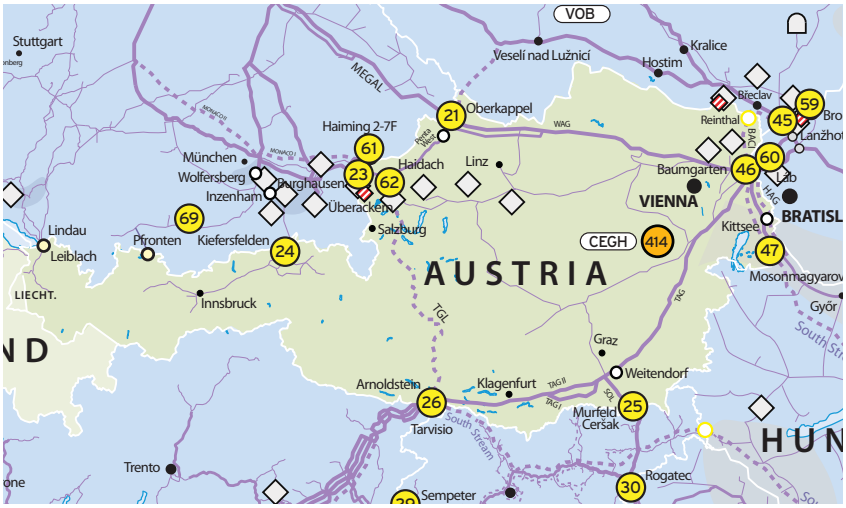
Southern Corridor

GRIP

ANNEX A: COUNTRY / TSO PROFILES

BOG
GAS CONNECT AUSTRIA
TAG Trans Austria Gasleitung GmbH
BULGARTRANSGAZ
plinacro
DESFA Hellenic Gas Transmission System Operator S.A.
FGSZ LTD.
SNAM RETE GAS
Infrastrutture Trasporto Gas
TRANSGAZ MAGISTRALA ENERGIEI
eustream SLOVAK GAS TSO
Plinovodi Connected through energy

Austria



Existing Gas Infrastructure	
NUMBER OF TSOs	3
TOTAL LENGTH OF TRANSMISSION NETWORK(S)	approx. 1,600 km
TOTAL COMPRESSOR POWER	621 MW
Inter-TSO connections where capacity is marketed (including upstream operators)	
GAS CONNECT AUSTRIA	– Baumgarten / Eustream (SK) – Mosonmagyaróvár / FGSZ (HU) – Petržalka / eustream, a.s. (SK) – Murfeld / Geoplin plinovodi (SI) – Überackern ABG / Bayernets (DE) – Überackern SUDAL / Bayernets (DE)
BOG	– Oberkappel / Open Grid Europe (DE) – Oberkappel / GRTgaz Deutschland (DE) – Baumgarten / Eustream (SK)
TRANS AUSTRIA GASLEITUNG	– Baumgarten / Eustream (SK) – Tarvisio-Arnoldstein / Snam Rete Gas (IT)
LNG terminals	
	N / A
Storage facilities	
INTERCONNECTED DSOs (All storage facilities are connected to the DSO network (except Haidach, which is connected to German networks and 7 Fields, which is connected to the Transmission System and to the Distribution System). Domestic market capacity is managed by Austrian Gas Grid Management AG (AGGM) in its function as Distribution Area Manager.)	– Schönkirchen Reyersdorf / GAS CONNECT AUSTRIA – Tallesbrunn / GAS CONNECT AUSTRIA – Thann / GAS CONNECT AUSTRIA – Puchkirchen / RAG – Haidach 5 / RAG – Haidach / RAG / Wingas / Gazprom Export – 7 Fields/Eon Gas Storage
Production facilities	
INTERCONNECTED DISTRIBUTION SYSTEMS (All production facilities are connected to the DSO network.)	– 1 virtual entry point from OMV Austria Exploration & Production – 1 virtual entry point from RAG
Directly connected customers	
	– Total: 1 – Gas-fired power plants: 0
TSO connections to Distribution Systems and total number of DSOs in the country	
GAS CONNECT AUSTRIA	– Number of physical TS-DS connections: 1 – Number of DSOs: 1

BOG GMBH	– Number of physical TS-DS connections: 6 – Number of DSOs: 1
TAG GMBH	– Number of physical TS-DS connections: 9 – Number of DSOs: 1
PHYSICAL HUBS AND VIRTUAL TRADING POINTS	– CEGH
NUMBER OF BALANCING ZONES	1

Demand

HISTORICAL ANNUAL GAS DEMAND OF THE NATIONAL MARKET (final customers)	2012: 91,204 GWh 2011: 95,634 GWh 2010: 102,016 GWh 2009: 91,542 GWh 2008: 93,228 GWh

Network Overview

Austria is a transit country for natural gas to Europe. The main recipients are Germany or Western Europe respectively (connected via the Interconnection Points Oberkappel, Überackern ABG and SUDAL), Italy, Slovenia and Croatia (supplied via the Interconnection Point Arnoldstein, as well as Murfeld) and Hungary (connected via the Interconnection Point Mosonmagyaróvár). As of 01 January 2013 a new Market Model was introduced in Austria which caused the transfer of a Point-to-Point System to an Entry/Exit System. Additionally, capacities that were previously allocated on a First-Come-First-Served Basis have been auctioned on the European Auction Platform PRISMA Primary according to the CAM Network Code since 01 April 2013.

GAS CONNECT AUSTRIA GmbH

WEBSITE	www.gasconnect.at
CURRENT PUBLICATIONS	The Network Development Plan of GCA is published in the course of the Coordinated Network Development Plan (10 Years Planning Horizon) on the Website of the Austrian Market Area Manager
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	170 km, Operated: approx. 1,600 km
TOTAL COMPRESSOR POWER	40 MW
TOTAL TRANSPORTED ENERGY (IN GAS)	93,882 GWh
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	1.03
UNBUNDLING MODEL	ITO

BOG GmbH

WEBSITE	www.bog-gmbh.at
CURRENT PUBLICATIONS	The Network Development Plan of BOG is published in the course of the Coordinated Network Development Plan (10 Years Planning Horizon) on the Website of the Austrian Market Area Manager
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	383.5 km
TOTAL COMPRESSOR POWER	106 MW
TOTAL TRANSPORTED ENERGY (IN GAS)	2012: 134,843 GWh
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	1.48
UNBUNDLING MODEL	Application pending

Trans Austria Gasleitung GmbH

WEBSITE	www.taggmbh.at
CURRENT PUBLICATIONS	The Network Development Plan of TAG is published in the course of the Coordinated Network Development Plan (10 Years Planning Horizon) on the Website of the Austrian Market Area Manager
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	1,140 km
TOTAL COMPRESSOR POWER	475 MW
TOTAL TRANSPORTED ENERGY (IN GAS)	2012: 280,799 GWh
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	3.07
UNBUNDLING MODEL	The certification's process (according to ITO model) is still ongoing

Bulgaria

Existing Gas Infrastructure	
NUMBER OF TSOS	1
TOTAL LENGTH OF TRANSMISSION NETWORK(S)	2,645 km
TOTAL COMPRESSOR POWER	Transmission: 263 MW Storage: 10 MW
Inter-TSO connections where capacity is marketed (including upstream operators)	
BULGARTRANSGAZ	– Negru Voda 1 (Transgaz RO / Kardam (BG) – Negru Voda 2,3 (Transgaz RO) / Kardam (BG) – Kulata (BG) / Sidirokastron (DESFA GR) – Srtandzha (BG) / Malkoclar (BOTAŞ TR) – Kyustendil (BG) / Zidilovo (GA-MA MK)
LNG terminals	
	N/A
Storage facilities	
The underground gas storage facility, which is owned and operated by Bulgartransgaz is connected to Bulgartransgaz network	UGS Chiren
Production facilities	
Production facilities in Bulgaria are connected to Bulgartransgaz network in the following entry points:	– GMS Provadia – GRS Pleven
Directly connected customers	
BULGARTRANSGAZ	– Total: 262 – Gas-fired power plants: 0
TSO connections to Distribution Systems and total number of DSOs in the country	
BULGARTRANSGAZ	– Number of physical TS-DS connections: 65 – Number of DSOs: 17
PHYSICAL HUBS AND VIRTUAL TRADING POINTS	N/A
NUMBER OF BALANCING ZONES	1

Demand

HISTORICAL ANNUAL GAS DEMAND OF THE NATIONAL MARKET (final customers)	2012: 35,296 GWh 2011: 35,379 GWh 2010: 31,678 GWh 2009: 28,182 GWh 2008: 36,782 GWh 2007: 37,818 GWh

Network Overview

Gas infrastructure of Bulgartransgaz EAD on the territory of the Republic of Bulgaria consists of the national gas transmission network that ensures natural gas to the main part of the Bulgarian users, the gas transmission network for transit transmission ensuring chiefly natural gas transport to Turkey, Greece and Macedonia and the underground gas storage in Chiren (Chiren UGS), directly connected to the national gas transmission network.

NATIONAL GAS TRANSMISSION NETWORK

The national gas transmission network is built in a ring-shaped form of high pressure gas pipelines with a total length of 1,700 km, three compressor stations – CS Kardam-1, CS Valchi Dol and CS Polski Senovets with total installed capacity of 49 MW, cleaning facilities, electrochemical protection system, communications system - copper and optic fibre cables, 240 metering lines to connected users at 115 exit points (AGRS, GMS). Its technical transport capacity amounts to 7,4 bcm/year, and the maximum working pressure is 54 bar.

GAS TRANSMISSION NETWORK FOR TRANSIT TRANSMISSION

The transit gas transmission network comprises high pressure gas pipelines of total lentgh of 945 km with prevailing diameter of DN 1000, six compressor stations – CS Kardam-2, CS Provadia, CS Lozenets, CS Strandja, CS Ihtiman and CS Petrich, with total installed capacity of 214 MW, electrochemical protection system, cleaning facilities, communications system, information system and other ancillary facilities. Its total technical capacity for natural gas transit transmission amounts to 18,7 bcm/year and the maximum working pressure is 54 bar.

UNDERGROUND GAS STORAGE (UGS) CHIREN

The underground gas storage Chiren located near the city of Vratsa has 22 exploitation wells, a compressor station with a total installed capacity of 10 MW and other technological equipment required to secure the injection, withdrawal and quality of stored gas. The present storage capacity can provide storage for the needs of the home consumers up to 550 mcm^3 natural gas. The withdrawal and injection capacity according to the formation pressures and other factors, is between 1 mcm^3/day (minimum) to 4,2 cm^3/day (maximum) for withdrawal, and 1,5 mcm^3/day (minimum) to 3,5 mcm^3/day (maximum) for injection.

Bulgartransgaz

WEBSITE	www.bulgartransgaz.bg/en
CURRENT PUBLICATIONS	N/A
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	2,645 km
TOTAL COMPRESSOR POWER	Transmission: 263 MW Storage: 10 MW
TOTAL TRANSPORTED ENERGY (IN GAS)	212,040 GWh
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	6.0
UNBUNDLING MODEL	ITO

BULGARTRANSGAZ

Croatia

Existing Gas Infrastructure	
NUMBER OF TSOs	1
TOTAL LENGTH OF TRANSMISSION NETWORK(S)	2,576 km
TOTAL COMPRESSOR POWER	-
Inter-TSO connections where capacity is marketed (including upstream operators)	
PLINACRO	– Rogatec / Plinovodi (SI) – Donji Miholjac (Dravaszerdehaly) / FGSZ (HU)
LNG terminals	
	N/A
Storage facilities	
PLINACRO	– PSP OKOLI / Podzemno skladište plina
Production facilities	
PLINACRO	– CPS Molve (Durdevac) / INA – CPS Etan (Ivanic Grad) / INA – offshore platforms / Pula terminal / INA – Ferdinandovac / INA – Gola / INA – Hampovica / INA
Directly connected customers	
PLINACRO	– Total: 24 – Gas-fired power plants: 5
TSO connections to Distribution Systems and total number of DSOs in the country	
PLINACRO	– Number of physical TS-DS connections: 157 – Number of DSOs: 37
PHYSICAL HUBS AND VIRTUAL TRADING POINTS	N/A
NUMBER OF BALANCING ZONES	1

Demand

HISTORICAL ANNUAL GAS DEMAND OF THE NATIONAL MARKET (final customers)	2012: 29,700 GWh 2011: 31,460 GWh 2010: 31,130 GWh 2009: 29,140 GWh 2008: 33,000 GWh

Network Overview

At the beginning of the new millennium, in compliance with EU Directive, the reform of the energy sector (and consequently, of the gas sector) in the Republic of Croatia started. On February 1, 2001 Plinacro Ltd was founded as a company for natural gas transmission and trade, at the beginning as a member of INA Group and 100 percent owned by INA.

In July 2001, the Government of the Republic of Croatia brought the package of energy acts, necessary for further reform of the energy sector. In compliance with new acts, primarily with the Energy Act, the gas transmission becomes an energy activity performed as a public service. On March 11, 2002 Plinacro became a 100 percent state-owned company. By establishing Plinacro Ltd, an organisation for introducing natural gas market liberalisation in compliance with EU Directive requirements was founded, providing its consumers with the possibility to choose from different suppliers and free access to the gas transmission system. The Committee for regulation of energy activities by their decision dated December 10, 2003 (class: UP/034-02/03-08/01, reg. no. 371-02/03-04), issued to Plinacro the licence for performance of energy activity – gas transmission, and thereby the company acquired all necessary preconditions for the performance of its main activity.

Since necessary preconditions for the implementation of the open energy market are development and infrastructure building, in April 2002, Plinacro prepared the Plan of Development, Construction and Modernisation of the Gas Transmission System of the Republic of Croatia from 2002 to 2011. The Plan was made on the basis of the Strategy of Energy Development of the Republic of Croatia approved by the Croatian Parliament in 2002.

Plinacro acquired 100 % share in the company Podzemno skladište plina, the main activity of which is underground storage of gas – UGS Okoli on 30 April 2009.

The Plan of Development, Construction and Modernisation of the Gas Transmission System of the Republic of Croatia until 2011, implemented by Plinacro, was the largest investment project in the energy infrastructure.

Due to the long-term security of supply of consumers, Plinacro has been designing and developing its transmission system in such a way so it can be connected to and included in the international gas pipeline grid. Therefore significant means have been invested in the construction of the interconnections which are to connect the Croatian gas transmission system with the gas transmission systems of the neighbouring countries and in that way provide the diversification of supply and possibility for the transit of gas for these countries.

At the beginning of 2013 Plinacro operates 2,576 km of gas pipelines, 10 entry (2 of them are international import points and 1 is UGS) and 157 exit measuring-reduction stations. In 2012. maximum technical capacity of the system was 28.8 x 10^6 m^3/d (276 GWh/d), and the daily peak load of the transmission system was 16,621,000 m^3/day (app. 6 bcm/y).

In 2012 the input of gas from the gas fields on the territory of the Republic of Croatia equalled 1,613 million m^3 of gas which is 21.75 % less compared to the same period in the previous year. As for the import, 1.059 million m^3 of gas was imported through UMS Rogatec (Slovenia), that is, 30.6 % more than in the same period previous year, and 296 million m3 of gas was imported through UMS Dravaszerdahely (Hungary), which is in comparison to the previous year increase of 364 %.

In 2012 Croatia imported 49.4 % of natural gas quantities needed for the Croatian market, 41.62 % was provided from a domestic production and 8.97 % from the UGS.

Plinacro drew up the first Ten Years Network Development Plan 2014–2023 by mid-2013.

Croatia became an EU member on 1 July 2013.

In compliance with the Third energy package Plinacro commenced a certification procedure in May 2013. Plinacro has chosen the ownership unbundling model.

PLINACRO

WEBSITE	www.plinacro.hr
CURRENT PUBLICATIONS	TYNDP 2014-2023
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	2,576 km
TOTAL COMPRESSOR POWER	-
TOTAL TRANSPORTED ENERGY (IN GAS)	34,510 GWh
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	1.15
UNBUNDLING MODEL	Ownership unbundling (OU)

Greece

Existing Gas Infrastructure	
NUMBER OF TSOS	1
TOTAL LENGTH OF TRANSMISSION NETWORK(S)	1,291 km
TOTAL COMPRESSOR POWER	13 MW
Inter-TSO connections where capacity is marketed (including upstream operators)	
DESFA	– Kulata/Sidirokastron – Bulgartransgaz (BG) – Kipi – BOTAŞ (TK)
LNG terminals	
	– Revythoussa
Storage facilities	
	N/A
Production facilities	
	N/A

Directly connected customers	
	– Total: 17 – Gas-fired power plants: 11
TSO connections to Distribution Systems and total number of DSOs in the country	
	– Number of physical TS-DS connections: 24 – Number of DSOs: 4 (DEPA and 3 Local DSOs)
PHYSICAL HUBS AND VIRTUAL TRADING POINTS	N/A
NUMBER OF BALANCING ZONES	1
Demand	
HISTORICAL ANNUAL GAS DEMAND OF THE NATIONAL MARKET (final customers)	2012: 47,175 GWh 2011: 51,365 GWh 2010: 41,655 GWh

Network Overview

The Greek gas transmission system is composed of a north-south backbone linking the two main import points: the IP Kula/Sidirokastro at the GR/BG border and the LNG terminal on the island of Revythoussa, near Athens. An eastwards branch links this backbone to the third import point, the IP Kipi at the GR/TK border. Several more branches supply gas to industrial or urban areas and to individual customers, mainly power producers.

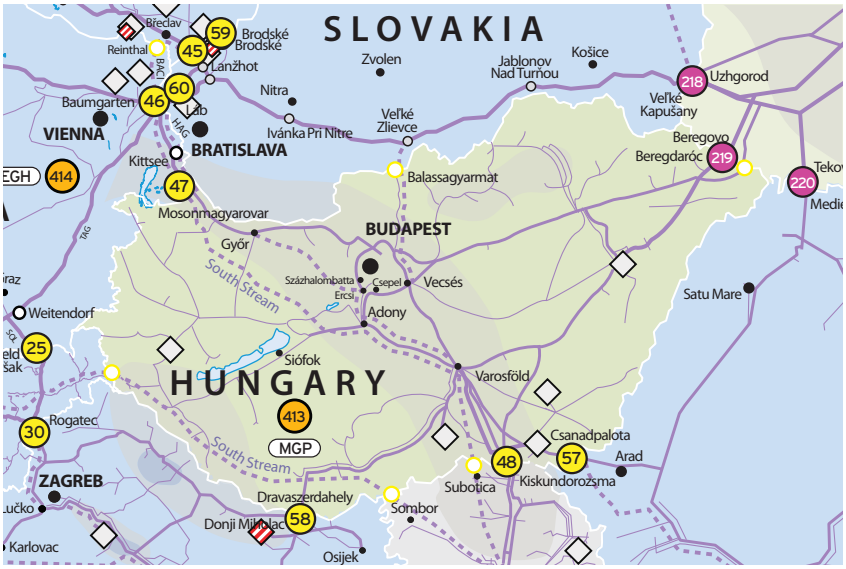
An extension to the centre of the Peloponese, in the south, is under construction, as well as an upgrade of the LNG terminal. Greece intends to upgrade its role in the Regional gas market with the implementation of several interconnection projects that will link the country to its neighbours, most of them sponsored by third parties, like TAP, IGB or projects that will increase the flexibility of its transmission network like new import points (FSRUs) or the South Kavala UGS in Northern Greece.

In 2013 gas was imported mainly from the Sidirokastro IP (66 %). LNG marked a steep decrease (16 % in 2013 compared to 30 % in 2012) because of the increase in the price of LNG and the reduction in the use of gas fired power plants (in fact a part of the LNG imports was made by power producers when its price was more favourable). The remaining 18 % of gas was imported from Turkey.

DESFA S.A.

WEBSITE	www.desfa.gr
CURRENT PUBLICATIONS	10-year Network Development Study (mandatory) 10-year Network Development Plan (mandatory)
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	1,291 km
TOTAL COMPRESSOR POWER	13 MW
TOTAL TRANSPORTED ENERGY (IN GAS)	47,175 GWh
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	1.0
UNBUNDLING MODEL	ITO

Hungary



Existing Gas Infrastructure	
NUMBER OF TSOs	1
TOTAL LENGTH OF TRANSMISSION NETWORK(S)	5,784 km
TOTAL COMPRESSOR POWER	233 MW
Inter-TSO connections where capacity is marketed (including upstream operators)	
FGSZ	– Beregdaróc / Ukrtansgas (UA > HU) – Beregdaróc / Ukrtansgas (HU > UA) – Mosonmagyaróvár / Gas Connect Austria (AT) – Kiskundorozsma / Srbijagas (RS) – Csanádpalota / Transgaz (RO) – Drávaszerdahely / Plinacro (HR)
LNG terminals	
	N / A
Storage facilities	
FGSZ	– Zsana / Hungarian Gas Storage – Hajdúszoboszló / Hungarian Gas Storage – Pusztaederics / Hungarian Gas Storage – Kardoskút / Hungarian Gas Storage – Szőreg-I / MMBF
Production facilities	
FGSZ	– Algyő III "0" point / MOL – Babócsa "0" point / MOL – Endrőd "0" point / MOL – Hajdúszoboszló "0" point / MOL – Karcag II (Bucsa) "0" point / MOL – Pusztaederics "0" point / MOL – Szank "0" point / MOL – Kardoskút regional / MOL – Kenderes II inert "0" point / MOL – Babócsa regional / MOL – Tiszavasvári II "0" point / HHE North
Directly connected customers	
FGSZ	– Total: 39 – Gas-fired power plants: 14

TSO connections to Distribution Systems and total number of DSOs in the country

FGSZ	– Number of physical TS-DS connections: 361 – Number of DSOs: 9
PHYSICAL HUBS AND VIRTUAL TRADING POINTS	– MGP I / FGSZ – MGP II / FGSZ
NUMBER OF BALANCING ZONES	1

Demand

HISTORICAL ANNUAL GAS DEMAND OF THE NATIONAL MARKET (final customers)	2012: 111,950 GWh 2011: 121,684 GWh 2010: 131,233 GWh

Network Overview

Gas Transmission Operator FGSZ Ltd. is responsible for the transportation of natural gas and the operation of the transmission network in Hungary. FGSZ Ltd. operates the pipeline system on the basis of a licence issued by Hungarian Energy and Public Utility Regulatory Authority. The company performs its activity as an independent transmission operator (ITO). The transmission system in Hungary consists of 5,784 km of pipelines, 6 compressor stations and almost 400 domestic exit and 20 entry points. The total firm entry capacity is approximately 1,750 GWh/d. The transmitted volume to domestic end consumers, in an average year, is around 10 bcm/y and for transit purposes in the range of 2-3 bcm/y. FGSZ's pipeline system connects Hungary to five neighbouring countries.

Hungary's import dependency on natural gas is of the order of 80 % (2013). The pipeline system has currently two major import entry points, one from Ukraine and one from Austria. The underground storages have a storage capacity of 6.3 Bcm and a deliverability of approximately 850 GWh/d, which is high enough to enable the system cover the, highly temperature dependent, domestic consumption.

The planned system development will increase the system capacity in the East-West and North-South directions. This will help the cross-border deliveries and consequently the security of supply in Hungary and in the region as well.

FGSZ Ltd. (Natural Gas Transmission Company Limited by Shares)

WEBSITE	www.fgsz.hu
CURRENT PUBLICATIONS	– 10-year Network Development Plan (voluntary) – Winter Outlook (voluntary) – Summer Outlook (voluntary)
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	5,784 km
TOTAL COMPRESSOR POWER	233 MW
TOTAL TRANSPORTED ENERGY (IN GAS)	173.145 TWh
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	1.47
UNBUNDLING MODEL	ITO

Italy

Existing Gas Infrastructure	
NUMBER OF TSOs	10
TOTAL LENGTH OF TRANSMISSION NETWORK(S)	34,415 km
TOTAL COMPRESSOR POWER	864.1 MW

Inter-TSO connections where capacity is marketed (including upstream operators)	
SNAM RETE GAS	– Passo Gries/ FluxSwiss (CH) – Passo Gries / Swissgas (CH) – Tarvisio / TAG (AT) – Gorizia / Plinovodi (SI) – Gela / Greenstream (LY) – Mazara del Vallo / TPMC (TN) – Bizzarone / DSO (CH) – San Marino / DSO (SM)

LNG terminals	
SNAM RETE GAS	– Panigaglia / GNL Italia – Cavarzere / Adriatic LNG (the related entry point is linked to Infrastrutture Trasporto Gas Network and Snam Rete Gas markets the entry point capacity) – Livorno/OLT Offshore LNG Toscana

Storage facilities (Interconnected to the national network through two virtual entry-exit points: Stogit hub and Edison Stoccaggio hub)

SNAM RETE GAS	– Brugherio / Stogit – Cortemaggiore / Stogit – Fiume Treste / Stogit – Minerbio / Stogit – Ripalta / Stogit – Sabbioncello / Stogit – Sergnano / Stogit – Settala / Stogit
SOCIETÀ GASDOTTI ITALIA	– Cellino / Edison Stoccaggio – Collalto / Edison Stoccaggio

Production facilities

SNAM RETE GAS	– Casteggio – Caviaga – Fornovo – Ovanengo – Piadena Ovest – Pontetidone – Quarto – Rivolta d'Adda – Soresina – Trecate – Casalborsetti – Collalto – Medicina – Montenevoso – Muzza – Ravenna Mare – Ravenna Mare Lido Adriano – Santerno – Spilamberto B.P. – Vittorio V. (S. Antonio) – Rubicone – Falconara – Fano – Capparuccia – Carassai – Cellino – Grottammare	– Montecosaro – Pineto – S. Giorgio M. – San Benedetto T. – Settefinestre/Passatempo – Fonte Filippo – Larino – Ortona – Poggiofiorito – Reggente – S. Stefano M. – Candela – Roseto/T. Vulgano – Torrente Tona – Calderasi/Monteverdese – Metaponto – Monte Alpi – Pisticci A.P./ B.P. – Sinni (Policoro) – Crotone – Hera Lacinia – Bronte – Comiso – Gagliano – Mazara/Lippone – Noto

Directly connected customers

SNAM RETE GAS	– Total: around 3,500 – Gas-fired power plants Number: 114 (plus 3 connected to other TSOs)

TSO connections to Distribution Systems and total number of DSOs in the country

SNAM RETE GAS	– Number of physical TSO-DSO connections: around 3,500 – Number of DSOs: 236 (Source: AEEG Annual Report, 2013; this may include DSOs not directly connected to Snam Rete Gas' network)
PHYSICAL HUBS AND VIRTUAL TRADING POINTS	Punto di Scambio Virtuale (PSV) / Snam Rete Gas
NUMBER OF BALANCING ZONES	1

Demand

HISTORICAL ANNUAL GAS DEMAND OF THE NATIONAL MARKET (final customers)	2012: 792,005 GWh 2011: 823,829 GWh 2010: 879,444 GWh 2009: 825,758 GWh

Network Overview

The natural gas injected into the National Network originates from imports mainly from Russia, Northern Europe and North Africa and, to a lesser extent, national production and LNG regasification plants. The import gas is injected into the National Network via eight entry points where the network joins up with the import pipelines (Mazara del Vallo from Tunisia, Gela from Libya), the import/export pipelines (Tarvisio with Austria, Gorizia with Slovenia, Passo Gries with Switzerland) and the LNG regasification terminals (Panigaglia and Livorno in the Ligurian sea and Cavarzere in the north Adriatic sea).

Snam Rete Gas' infrastructures are managed by eight Districts, which supervise and oversee the activities of 55 Maintenance Centres across Italy, and by a Dispatching Centre that coordinates 11 Compressor Stations.

The National Gas Pipeline Network of Snam Rete Gas consists mainly of pipes, which usually have a large diameter, (up to 56"), used to transport gas from the entry points (imports and main domestic production) to the interconnection points with the Regional Transmission Network and storage facilities. Snam Rete Gas pipelines are therefore divided into a National Gas Pipeline Network (of approximately 9,200 km) and a Regional Transmission Network (of approximately 23,000 km), representing the physical backbone of a fully meshed and decoupled entry-exit system.

The Cavarzere Entry Point is connected to a dedicated transmission infrastructure owned and operated by Infrastrutture Trasporto Gas . Such infrastructure consists in a 36", 83 km long pipeline operated at 75 bar and has a transmission capacity equal to approximately 9.6 Bsm³.

Snam Rete Gas S.p.A. (Societa per Azioni – Joint Stock Company)

WEBSITE	www.snamretegas.it
CURRENT PUBLICATIONS	Development Plan of SRG Network – Ten year basis (mandatory)
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	32,245 km
TOTAL COMPRESSOR POWER	864.1 MW
TOTAL TRANSPORTED ENERGY (IN GAS)	801,203 GWh
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	1.01
UNBUNDLING MODEL	Ownership Unbundling

Infrastrutture Trasporto Gas S.p.A. (Societa per Azioni – Joint stock Company)

WEBSITE	www.infrastrutturetg.it
CURRENT PUBLICATIONS	Development Plan of National Network – Ten year basis (work in progress; publication expected by end of March 2014)
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	83 km
TOTAL COMPRESSOR POWER	0 MW
TOTAL TRANSPORTED ENERGY (IN GAS)	65,258 GWh (input at Cavarzere Entry Point)
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	0.08
UNBUNDLING MODEL	Independent Transmission Operator

Image courtesy of Snam Rete Gas

Romania

Existing Gas Infrastructure	
NUMBER OF TSOs	1
TOTAL LENGTH OF TRANSMISSION NETWORK(S)	13,138 km
TOTAL COMPRESSOR POWER	32 MW
Inter-TSO connections where capacity is marketed (including upstream operators)	
SNTGN TRANSGAZ SA	– Csanádpalota / FGSZ (HU) – Negru Voda I / Bulgartransgaz (BG) – Negru Voda II / Bulgartransgaz (BG) – Negru Voda III / Bulgartransgaz (BG) – Mediesu Aurit Import / Ukrtransgaz (UA) – Isaccea Import / Ukrtransgaz (UA) – Isaccea I / Ukrtransgaz (UA) – Isaccea II / Ukrtransgaz (UA) – Isaccea III / Ukrtransgaz (UA)
LNG terminals	
	N/A
Storage facilities	
SNTGN TRANSGAZ SA is interconnected to storage facilities which are owned and operated by SNGN Romgaz SA	– Underground Storage Sarmas / Sarmas (RO) / SNGN Romgaz SA – Underground Storage Balaceanca / Balaceanca (RO) / SNGN Romgaz SA – Underground Storage Butimanu / Butimanu (RO) / SNGN Romgaz SA – Underground Storage Cetatea de Balta / Cetatea de Balta (RO) / SNGN Romgaz SA – Underground Storage Ghercesti / Ghercesti (RO) / SNGN Romgaz SA – Underground Storage Urziceni / Urziceni (RO) / SNGN Romgaz SA – Underground Storage Tg. Mures / Tg. Mures (RO) / DEPOMURES SA

Production facilities

SNTGN TRANSGAZ SA	– 85 entry points / Romanian territory / SNGN Romgaz SA – 43 entry points / Romanian territory / OMV Petrom SA – 7 entry points / Romanian territory / Amromco Energy SRL – 1 entry point / Romanian territory / SC Raffles Energy SRL – 1 entry point / Romanian territory / Lotus Petrol SRL

Directly connected customers

SNTGN TRANSGAZ SA	– Total: 232 – Gas-fired power plants: 18

TSO connections to Distribution Systems and total number of DSOs in the country

SNTGN TRANSGAZ SA	– Number of physical TS-DS connections: 870 – Number of DSOs: 39
PHYSICAL HUBS AND VIRTUAL TRADING POINTS	N / A
NUMBER OF BALANCING ZONES	1

Demand

HISTORICAL ANNUAL GAS DEMAND OF THE NATIONAL MARKET (final customers)	2012: 130,466 GWh 2011: 136,133 GWh 2010: 131,006 GWh

Network Overview

Gas Transmission Operator "TRANSGAZ" S.A. is the technical operator of the Romanian gas transmission system.

TRANSGAZ S.A. operates the system based on the transmission licence no. 40/2001 which is valid until 2016.

The transmission system in Romania consists of pipelines with the length of 13,138 km (out of which 553 km are transit pipelines) with diameters between 50 mm and 1,200 mm. The operating pressure varies between 6 bar and 35 bar, whereas the transit is carried out at 54 bar. The required gas pressure in the pipelines is ensured through 5 compressor stations having a total installed power of 32 MW.

From the transmission system the gas is further supplied to the distribution systems, underground storage facilities and to the facilities of directly connected customers.

The existing transmission system is very complex, with multiple operational interconnections, but it requires upgrading in terms of replacing old pipelines and increasing transmission capacities. Besides the inter-TSO connections mentioned above, there are two more under construction i. e. interconnection with the Republic of Moldova (Iasi-Ungheni pipeline) and the new interconnection with Bulgaria (Giurgiu-Ruse pipeline). Moreover, Transgaz has in view to create new transmission corridors and to extend the transmission capacities in the interconnection points with neighbouring countries.

SNTGN Transgaz SA

WEBSITE	www.transgaz.ro
CURRENT PUBLICATIONS	10 Year Network Development Plan (to be issued)
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	13,138 km
TOTAL COMPRESSOR POWER	32 MW
TOTAL TRANSPORTED ENERGY (IN GAS)	156,297 GWh
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	1.20
UNBUNDLING MODEL	ISO

Slovakia

Existing Gas Infrastructure	
NUMBER OF TSOs	1
TOTAL LENGTH OF TRANSMISSION NETWORK(S)	2,255 km
TOTAL COMPRESSOR POWER	700 MW
Inter-TSO connections where capacity is marketed (including upstream operators)	
EUSTREAM	– Veľké Kapušany – Ukrtransgaz (AU) / Eustream (SK) – Baumgarten – Eustream (SK) / Gas Connect Austria, BOG, Trans Austria Gasleitung (AT) – Lanžhot – Eustream (SK) / Net4Gas (CZ)
LNG terminals	
	N/A
Storage facilities	
EUSTREAM	– NAFTA a.s. (NAFTA is also connected to the DSO – SPP-distribucia, a.s.) – POZAGAS a.s. (not connected to the Eustream transmission system)
Production facilities	
EUSTREAM	– NAFTA a.s. (NAFTA is also connected to the DSO – SPP-distribucia, a.s.)
Directly connected customers	
	N/A
TSO connections to Distribution Systems and total number of DSOs in the country	
EUSTREAM	– Number of physical TS-DS connections: 8 – Number of DSOs: 53
PHYSICAL HUBS AND VIRTUAL TRADING POINTS	1
NUMBER OF BALANCING ZONES	1
Demand	
HISTORICAL ANNUAL GAS DEMAND OF THE NATIONAL MARKET (final customers)	2012: 53,500 GWh 2011: 57,900 GWh 2010: 60,600 GWh

Network Overview

Since 1972, Eustream has secured the transmission of more than 2 trillion (2,128,000,000,000) cubic meters of natural gas across the territory of the Slovak Republic. The company therefore successfully continues in the tradition of the Slovak gas industry, which dates back over 150 years.

The annual capacity of the transmission system operated and maintained by Eustream is 73 billion cubic meters, which equals roughly 15 times the overall domestic gas consumption of the Slovak Republic. This demonstrates how a large part of our work concerns international gas transit. In 2012, we actually transported 56.5 billion cubic meters of gas.

Thanks to the continual modernization and upgrade of infrastructure, Eustream contributes to ensuring safe and reliable gas supplies to Central and Western Europe whilst doing its utmost to reduce the environmental impact of its activities. In this respect, one of the main challenges we face is to cut carbon emissions produced at the four gas compressor stations we operate.

Eustream allows access to the gas transmission network and offers its customers a wide range of transmission services on a transparent and non-discriminatory basis. The access regime is in full compliance with existing legislation and gas industry standards. The business partners of Eustream include major energy companies from EU and non-EU member states.

Of course, with the Russian-Ukrainian gas crisis in January 2009, European gas history has had to be rewritten and also Eustream, in close co-operation with adjacent network operators, is currently reviewing gas flow directions and cross-border capacities in order to enhance further the security of gas supplies to Europe.

Eustream

WEBSITE	www.eustream.sk
CURRENT PUBLICATIONS	Annual reports
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	2,255 km
TOTAL COMPRESSOR POWER	700 MW
TOTAL TRANSPORTED ENERGY (IN GAS)	590,000 GWh / a
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	11.03
UNBUNDLING MODEL	ITO

Slovenia

Existing Gas Infrastructure	
NUMBER OF TSOs	1
TOTAL LENGTH OF TRANSMISSION NETWORK(S)	1,094 km
TOTAL COMPRESSOR POWER	16 MW
Inter-TSO connections where capacity is marketed (including upstream operators)	
PLINOVODI D.O.O.	– Murfeld / Ceršak - GAS CONNECT AUSTRIA – Rogatec - Plinacro (HR) – Gorizia / Šempeter - Snam Rete Gas (I)
LNG terminals	
	N/A
Storage facilities	
INTERCONNECTED DSOs	N/A
Production facilities	
INTERCONNECTED DISTRIBUTION SYSTEMS	N/A
Directly connected customers	
PLINOVODI D.O.O.	– Total: 151 – Gas-fired power plants: 2
TSO connections to Distribution Systems and total number of DSOs in the country	
PLINOVODI D.O.O.	– Number of physical TS-DS connections: 107 – Number of DSOs: 16
PHYSICAL HUBS AND VIRTUAL TRADING POINTS	N/A
NUMBER OF BALANCING ZONES	1
Demand	
HISTORICAL ANNUAL GAS DEMAND OF THE NATIONAL MARKET (final customers)	2012: 9,140 GWh 2011: 9,556 GWh 2010: 11,057 GWh

Network Overview

Slovenian gas transmission system is connected through 3 interconnection points to the Austrian, Italian and Croatian gas transmission system. There is no interconnection between Slovenia and Hungary yet.

Regarding the importance of the gas infrastructure projects, from the viewpoint of the development of the national gas market, harmonization with international projects and safety updates, the system operator divides planned gas infrastructure into 4 groups:

– The first group are priority projects that represent the backbone of the Slovenian transmission system and without which it would not be possible to connect larger industrial consumers or thermo-energetic objects.

– The second group are projects for cross-border gas transmission, which are included in international projects for diversified supply of the European gas market from different production sources in Russia, the Middle East and from LNG terminals.

– The third and fourth group include new construction connecting the gas transmission system with new municipalities and other gas consumers, also including projects that are intended to locally increase the capacity of the transmission system and the security of supply.

Plinovodi d.o.o.

WEBSITE	www.plinovodi.si
CURRENT PUBLICATIONS	N/A
TOTAL LENGTH OF THE TRANSMISSION NETWORK (this excludes distribution)	1,094 km
TOTAL COMPRESSOR POWER	16
TOTAL TRANSPORTED ENERGY (IN GAS)	19,390 GWh / year 2012
RATIO OF TRANSPORTED ENERGY OVER DEMAND OF THE NATIONAL MARKET (2012)	2.12
UNBUNDLING MODEL	ITO

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