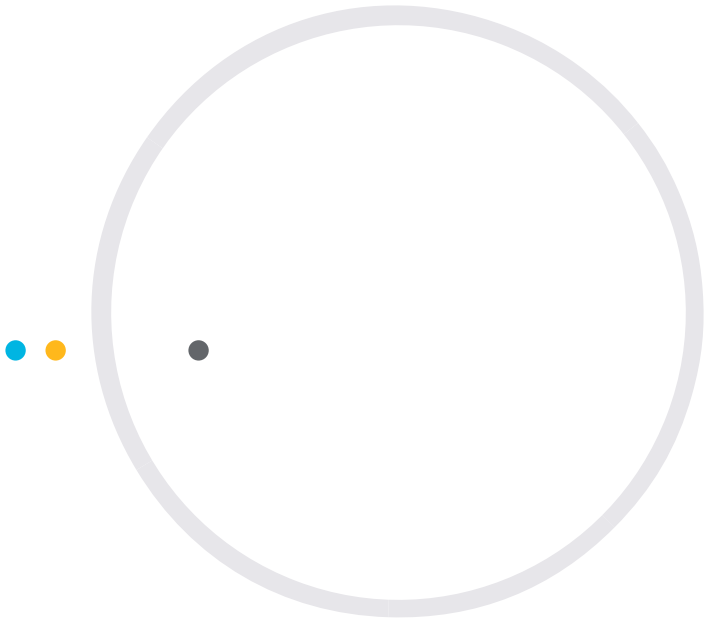
Leader in natural gas infrastructures

LNG, transmission and underground storage services

enagas

Leader in natural gas infrastructures

LNG, transmission and underground storage services



Enagás

01

02

03

04

05

50 years' experience in midstream

Enagás, a midstream company with almost 50 years of experience and independent European TSO (Transmission System Operator) is an international standard bearer in the development and maintenance of gas infrastructures and in the operation and management of gas networks.

It is an independent company that has featured in the Ibex 35 since entering the stock market in 2002. It has one of the highest free float levels in the index (95%) and more than 70% of its shareholder base is international.

Present in 8 countries

8

LNG terminals

3

Underground storages
(1offshore and 2 onshore)

12,000 km

Of gas pipelines

1. Spain
11,000 km of gas pipelines
6 LNG terminals (+2 in development)
3 underground storage facilities
6 international connections

2. Mexico
TLA Altamira LNG Terminal
Morelos Pipeline
Soto La Marina Compressor Station

3. Chile
GNL Quintero LNG Terminal

4. Peru
Transportadora de Gas del Perú (TgP)
Compañía Operadora de Gas del Amazonas (Coga). *Operation and maintenance*
South Peru Gas Pipeline*

5. Greece, Albania and Italy
Trans Adriatic Pipeline (TAP)*

6. Sweden
Swedegas
Gothenburg LNG Terminal*

**Under construction/planned*

2015 Key figures

€412.7 M

Net profit

€530.2 M

Investments (61% international projects)

€7,751.9 M

Total assets

1,337

Employees
(42% increase since 2007)

Leader in sustainability

The company is committed to a business model based on decarbonising the economy to guarantee a competitive and sustainable energy supply. Its determination has already been acknowledged by the main sustainability indices.

The world's most sustainable company in its sector

GLOBAL100

8 consecutive years on the DJSI

ROBECOSAM Sustainability Award Bronze Class 2016

1969
The Barcelona LNG Terminal comes on stream

1975
Enagás awarded the concession to build Spain's gas pipeline network

1989
Start-up of the Cartagena LNG Terminal, one year after the Huelva LNG Terminal

1993
First international connection (with France): Larrau

1996
Maghreb-Europe gas pipeline and connection with Portugal

2000
Spain surpasses 5,000 km of gas pipelines

2009
Iberian Peninsula-Balearic Islands offshore pipeline

2011
Commencement of international activity: TLA Altamira (Mexico) and GNL Quintero (Chile) in 2012

2014
Start operation in Peru and join TAP project

2015
Acquisition of Swedegas (Sweden)

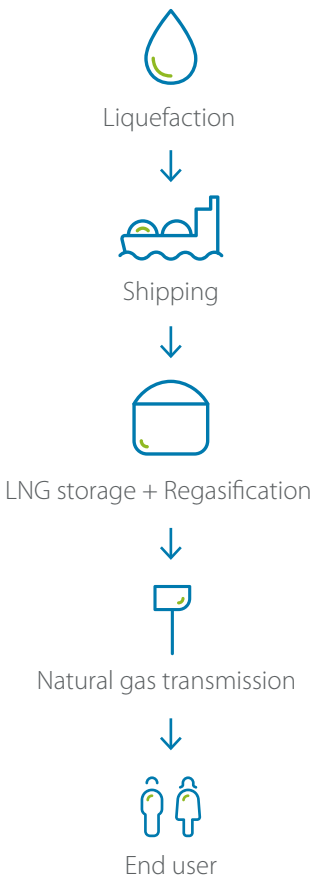
Moving towards a commercial logistic hub

01

Given its geographical location, capacity and operating flexibility, Spain stands out as the European gateway for LNG arriving from all over the world. It is the country with the most regasification plants in Europe. Currently, all Enagás' terminals in the country are equipped to offer logistics services that bring added value to the LNG value chain.

These operations contribute to the creation of a commercial logistic hub which will be reinforced through MidCat, the future Trans-Pyrenean interconnection with France. This natural gas and LNG hub will boost competitiveness, improve security of supply in Europe and will be a major step forward in integrating European markets.

This commercial trading point meets the logistical requirements deriving from the expansion of the international LNG market (big scale) and will help drive up demand for natural gas for transport (small-scale and LNG bunkering).



Commercial logistic hub
Multimodal terminal

Big scale

- Transhipment
- Bulk breaking
- Gassing up/cooling down
- Reloading

Small scale

- Small scalling
- Bunkering
- LNG distribution by sea
- LNG truck loading
- LNG by rail (under consideration)

60%

Of the world's reloading operations were carried out in Spain in 2014 and in 2015 we continued being the world's main re-exporter

~30,000

Trucks/year
±13 vessel loadings

As an integrated midstream operator, Enagás plays a key role in boosting efficiency and flexibility. Moreover, it contributes to risk management, improves the competiveness of natural gas as a commodity and guarantees security of supply

Enagás won the **European Good Practice Award** conferred by the **European Foundation for Quality Management (EFQM),** which in 2014 focused on **"Creative Customer Solutions"**, for the technical modification of our regasification plants to provide new services. All Enagás' regasification plants are subject to continuous improvement processes targeted at providing flexibility and efficiency in the LNG chain.

The Spanish Gas System: a benchmark for diversification and security of supply

02

Enagás is the Technical Manager of the Spanish Gas System, and the main natural gas transmission operator.

The company has more than 90% of the high-pressure gas pipelines, and is present at six of the seven regasification plants on the Iberian Peninsula (four terminals that it owns 100%, and two in which it holds a stake), and with the three underground storages.

As the main transporter, Enagás has developed the key infrastructures of the Spanish Gas System, turning it into a benchmark for issues of safety and diversification of supply and consolidating its presence on the international stage. Furthermore, since 2012 Enagás has been certified as an independent TSO by the European Union, thus guaranteeing the independence of the Spanish gas transmission network with regard to gas producers and shippers.

A regulated system

Access to the transmission network is regulated and is on a transparent and non-discriminatory basis, allowing commercialization companies free effective competition.

Spanish Gas System infrastructures

- Gas pipeline
- LNG terminal
- Compressor station
- International connection (IC)
- Underground storage (UGS)
- Virtual interconnection point (VIP)
- Pending after Royal Decree-Law 13/2012

In 2015...

315 TWh

National gas demand (254 TWh domestic and industrial demand and 61 TWh deliveries for power generation)

41 TWh

Exported via international connections

96,924

Transactions in the secondary market

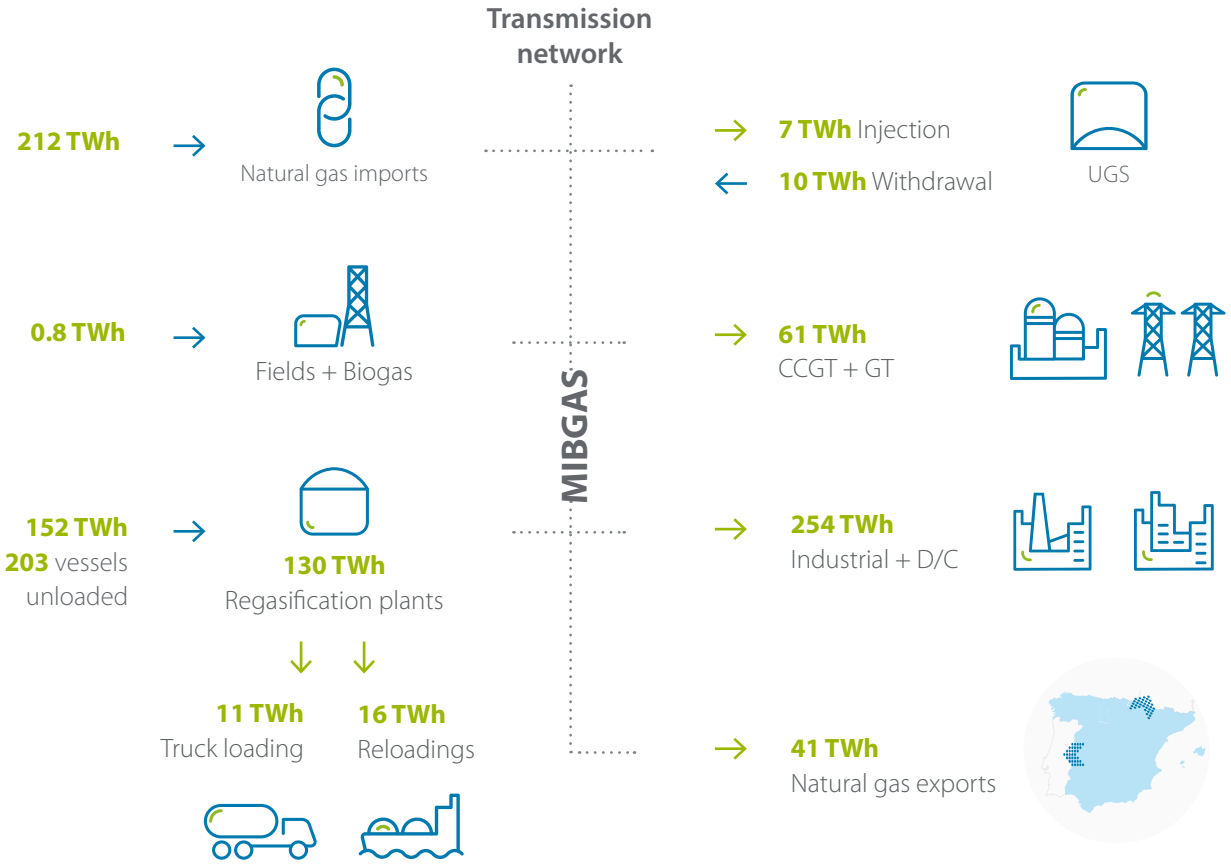
8

Countries supplied natural gas to the Spanish Gas System. High level of diversification

203

Methane tankers unloaded in system plants

How the gas system works in Spain



2015 figures

Energy exchanged in 2015

	TWh	%
PVB	**144**	**33**
LNG Total	**288**	**66**
Barcelona LNG Terminal	99	23
Huelva LNG Terminal	47	11
Cartagena LNG Terminal	9	2
BBG LNG Terminal	60	14
Sagunto LNG Terminal	63	14
Mugardos LNG Terminal	11	3
Underground storages	**6**	**2**
Total	**438**	**100**

Organised gas market in Spain (MIBGAS)

In October 2015, the Royal Decree 984/2015 was approved to launch the organised gas market in Spain (MIBGAS). This market fulfils an essential role in providing greater transparency on setting prices, and also in increasing competition in the gas sector and the entry of new vendor companies.

Trading began on the MIBGAS platform on 16 December 2015, and since then the number of participants as well as traded volumes have increased steadily.

The development of this market, and the important supply capacity (by both gas pipeline and LNG), coupled with the robust gas infrastructure network already developed and available and the interconnections with Portugal and France, will help to create a stable reference for prices in the Iberian Peninsula.

Definitions

MIBGAS (Iberian Gas Market): Transparent and anonymous gas exchange market that commenced its activity on 16 December 2015. For further information, click here.

SL-ATR (Third-party access Logistics System): Official communication system between the different agents of the Spanish Gas System and which provides support for gas cycle management: trading, programming, nominations, allocation of underground storage rights, measurement, gas quality, distribution, balances and billing. For further information, contact gts@enagas.es.

MS-ATR (Secondary Market for Third Party Access): The Spanish Gas System also has a gas exchange platform which allows the purchase-sale and bilateral trading of exchanges at the Virtual Balancing Point (VBP), underground storage facilities and regasification plants.

MINETUR

CNMC

Shipping companies authorised by the National Commission of Markets and Competition

Enagás GTS

Spanish Gas System Report 2015

Gas System Follow-up Committee

Leader in natural gas infrastructures

03

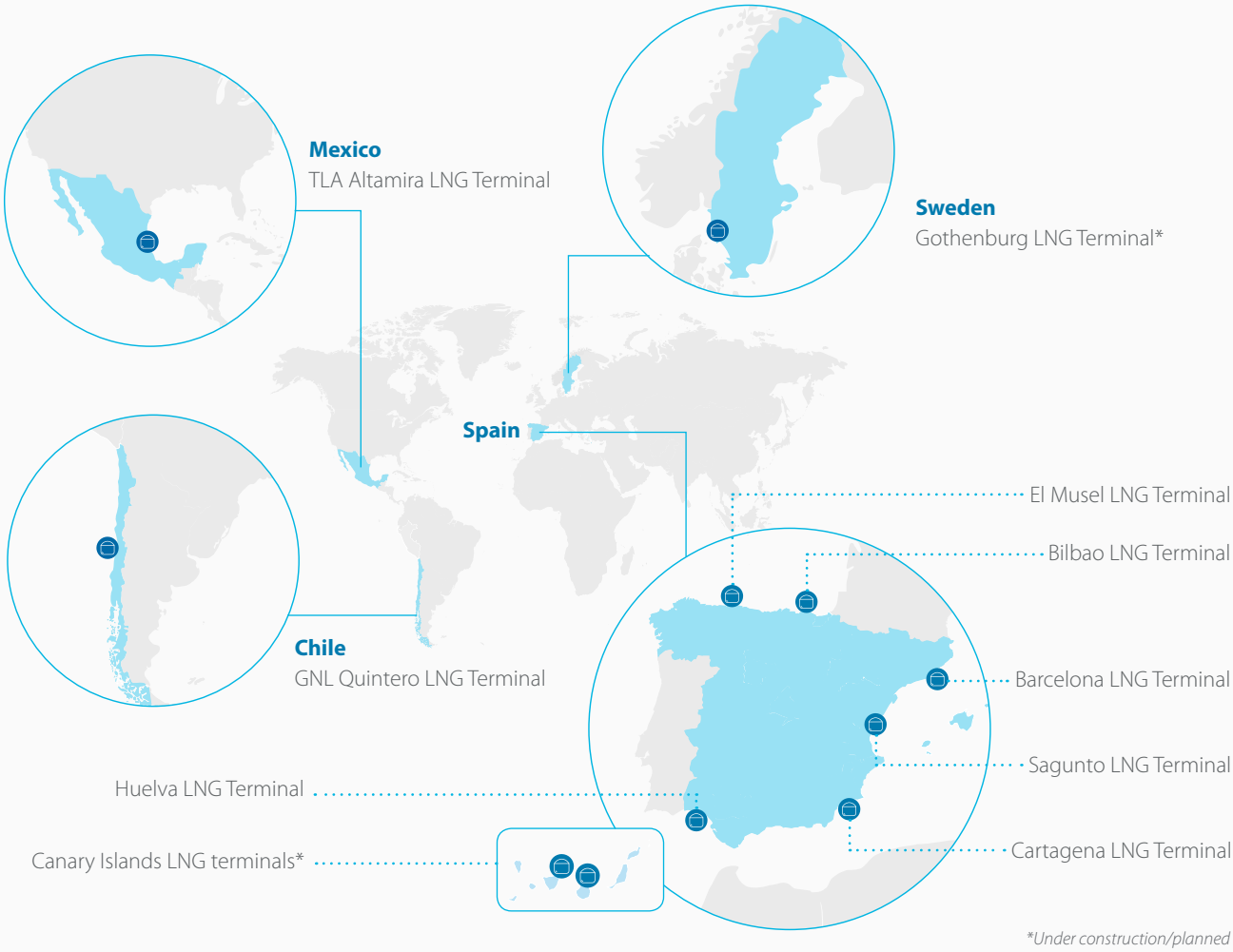
LNG

Enagás is one of the companies with more LNG terminals in the world. We are pioneers in the development, maintenance and operation of these infrastructures and our experience has positioned us as international leader in our market.

Our regasification plants also contribute extra value due to their geostrategic positioning in the global LNG market. They are located in the Atlantic, the Cantabrian, Mediterranean and Pacific basins, thus favouring maritime transport and the diversification of LNG origins and destinations.

Furthermore, Spain is located at the gateway to a potential ECA *(Emission Control Area),* an area that could be declared especially sensitive to contamination. This would promote the growth of the small-scale market in the Mediterranean and in the Canary Islands in the short and medium-term.

Enagás' LNG terminals



*Under construction/planned

8
LNG terminals (+3 currently being developed)

30
Tanks

3,950,500 m³
Total LNG storage capacity

10
Docks

18
Truck loading bays

8,675,000 m³ (n)/h
Total emission capacity

Information on our LNG terminals is posted on our **website**

Spain

At the cutting edge of technology and efficiency

- **100% availability**
  of regasification plants
- **Over 3,000 m^3/h**
  average loading rate at all our plants in Spain
- **Zero boil-off losses**
  during methane tanker loading in normal operating conditions
- **Minimum loss coefficient**
  in operations
- **Maximum flexibility**
  with no penalties in the slot assignment and adjustment process in unloading and loading vessels
- **Terminals prepared to berth the largest LNG tankers in the world**
  Q-Max of up to 266,000 m^3 LNG

Enagás is one of the companies with more LNG terminals in the world

Barcelona LNG Terminal

This is the oldest regasification plant currently operating in Europe. It has the largest storage and regasification capacity in the Spanish System and great liquidity due to the large number of suppliers that operate in it.

6 tanks

Docks	1 LS 1 SS: 2,000 / 266,000 m^3 LNG
Storage	760,000 m^3 LNG
Regasification	1,950,000 m^3 (n)/h
LNG truck loading	3 bays, 50 trucks/day
LNG methane tanker loading	Max. 4,000 m^3/h
Transhipment	Available

1969
Start-up with two tanks, each with a capacity of 40,000 m^3

1970
Commencement of truck loading operations

2010
Vessel docking capacity of up to 266,000 m^3

2014
Commencement of vessel reloading operations

Cartagena LNG Terminal

From February 2017 it will have a load ratio of 7,400 m^3/h, the highest of all the Spanish regasification plants. In addition it has a large storage and regasification capacity available, and one of the highest levels of operational flexibility in the system.

1989
Start-up with one 55,000 m^3 tank

1997
Increase in emission capacity to 150,000 m^3 (n)/h

2009
Increase in emission capacity to 1,350,000 m^3 (n)/h

2010
Vessel docking capacity of up to 266,000 m^3

5 tanks	
Docks	1 LS 1 SS: 4,000 / 266,000 m^3 LNG
Storage	587,000 m^3 LNG
Regasification	1,350,000 m^3 (n)/h
LNG truck loading	3 bays, 50 trucks/day
LNG methane tanker loading	Max. 3,700 m^3/h
Transhipment	Available

Huelva LNG Terminal

The second largest in the system in terms of LNG storage capacity. It is strategically located for executing logistic operations in the Mediterranean and Atlantic basins, and the Canary Islands.

5 tanks

Docks	1 LS: 7,500 / 175,000 m3 LNG
Storage	619,500 m^3 LNG
Regasification	1,350.000 m^3 (n)/h
LNG truck loading	3 bays, 50 trucks /day
LNG methane tanker loading	Max. 3,700 m^3/h
Transhipment	Available

1988
Start-up with one 60,000 m^3 tank

1997
Site of the first vessel reloading operation in Spain

2007
Increase in emission capacity to 1,350,000 m^3 (n)/h

2010
Fifth tank of 150,000 m^3

El Musel LNG Terminal

El Musel plant was completed in 2012 and is located in the Cantabrian basin, in Gijón. It offers the option of establishing commercial agreements for its exclusive use pursuant to the terms of Article 60.6 of Act 18/2014.

2006
The Spanish Ministry of Industry awarded the project to Enagás

2009
Start of the construction work

2012
End of the construction work

2 tanks	
Docks	1 LS: 65,000 / 266,000 m^3 LNG
Storage	300,000 m^3 LNG
Regasification	800,000 m^3 (n)/h
LNG truck loading	2 bays, 30 trucks/day
LNG methane tanker loading	Max. 6,000 m^3/h
Transhipment	Available

Bilbao LNG Terminal

Located on the Cantabrian coast, the Bilbao plant is in the most appropriate location to allow it to make the most of the opportunities offered by the market of north-western Europe. Enagás has a 50% stake in the plant.

3 tanks	
Docks	1 LS: 7,500 / 270,000 m^3 LNG
Storage	450,000 m^3 LNG
Regasification	800,000 m^3 (n)/h
LNG truck loading	1 bay, 15 trucks/day
LNG methane tanker loading	Max. 3,000 m^3/h
Transhipment	Available

2003
Start-up with two tanks, each with a capacity of 150,000 m^3

2010
Enagás acquires a 40% stake in the plant

2015
Enagás acquires a further 10% in the plant and a third tank of 150,000 m^3 is put into operation

2006
The plant is put into commercial operation

2013
Commencement of vessel reloading operations

2015
Enagás acquires a 30% stake in the plant

2016
Enagás increases its stake up to 72.5%

Sagunto LNG Terminal

This plant is in an extraordinary location on the Mediterranean coast. In 2016 Enagás, via its subsidiary Enagás Transporte, acquired the total shareholding (42.5% via its 85% shareholding in Infraestructura de Gas, S.A.) of Unión Fenosa Gas in the Sagunto regasification plant (Saggas) for €106Mn. After this operation Enagás holds a 72.5% stake in the plant.

4 tanks	
Docks	1 LS: 30,000 / 266,000 m^3 LNG
Storage	600,000 m^3 LNG
Regasification	1,000,000 m^3 (n)/h
LNG truck loading	2 bays, 40 trucks/day
LNG methane tanker loading	Max. 3,000 m^3/h
Transhipment	Available

Mexico

TLA Altamira LNG Terminal

The plant is situated in the Atlantic basin in Mexico, a strategic location in which it receives vessels from many parts of the world. Enagás is the plant operator and has a 40% stake.

2 tanks

Docks	1 LS: 70,000 / 217,000 m^3 LNG
Storage	300,000 m^3 LNG
Regasification	800,000 m^3 (n)/h
LNG truck loading	Not available
LNG methane tanker loading	Not available
Transhipment	Not available

2003
Planning approval and operating permit obtained from the Mexican Energy Regulatory Commission (CRE)

2006
Start-up of the plant

2013
Enagás acquires a 40% stake

2011
The plant is put into commercial operation

2012
Enagás acquires a 20% stake

2013
Enagás becomes the major shareholder

2016
Enagás reaches deals to increase its stake up to 60.4%

GNL Quintero LNG Terminal

The regasification terminal, located in the Bay of Quintero, has been in operation since 2009. Enagás has been a stakeholder since 2012 through Terminal de Valparaiso that is controlled by Enagás (51%) and Oman Oil Company (49%), with a 40% stake in the plant. Moreover, the company reached deals to increase its stake in a 40%. After completion of these deals of Enagás in GNL Quintero, which are subject to the possible exercise of pre-emptive rights by other shareholders, Enagás Chile would have a total shareholding in the plant of 60.4%.

3 tanks	
Docks	1 LS: 120,000 / 265,000 m^3 LNG
Storage	334,000 m^3 LN
Regasification	625,000 m^3 (n)/h
LNG truck loading	4 bays, 50 trucks/day
LNG methane tanker loading	Not available
Transhipment	Not available

Transmission

Enagás has built and operates more than 12,000 km of gas pipelines. Our extensive know-how acquired in Spain has allowed us to export our knowledge to the international markets in which we are implementing different projects.

12,000 km
Of gas pipelines

6
International connections

20
Compressor stations

283 km
Of offshore gas pipelines

416
Regulation and/or metering stations

Spain

The Spanish Gas System is connected by gas pipelines to France, Portugal and North Africa through six international connections.

Enagás, which is a member of the South Gas Regional Initiative alongside other European transmission companies, is working to expand the capacity to export natural gas to Europe through France.

In line with the Energy Union objectives promoted by the European Commission, Enagás is now working on the MidCat interconnection; this will make it possible to double the export capacity from Spain via France. The project is classified by the European Union as a Project of Common Interest (PCI).

In 2016, the European Commission allocated 1.5 million euros to the project for engineering studies on the Spanish side and 4.15 million euros on the French side.

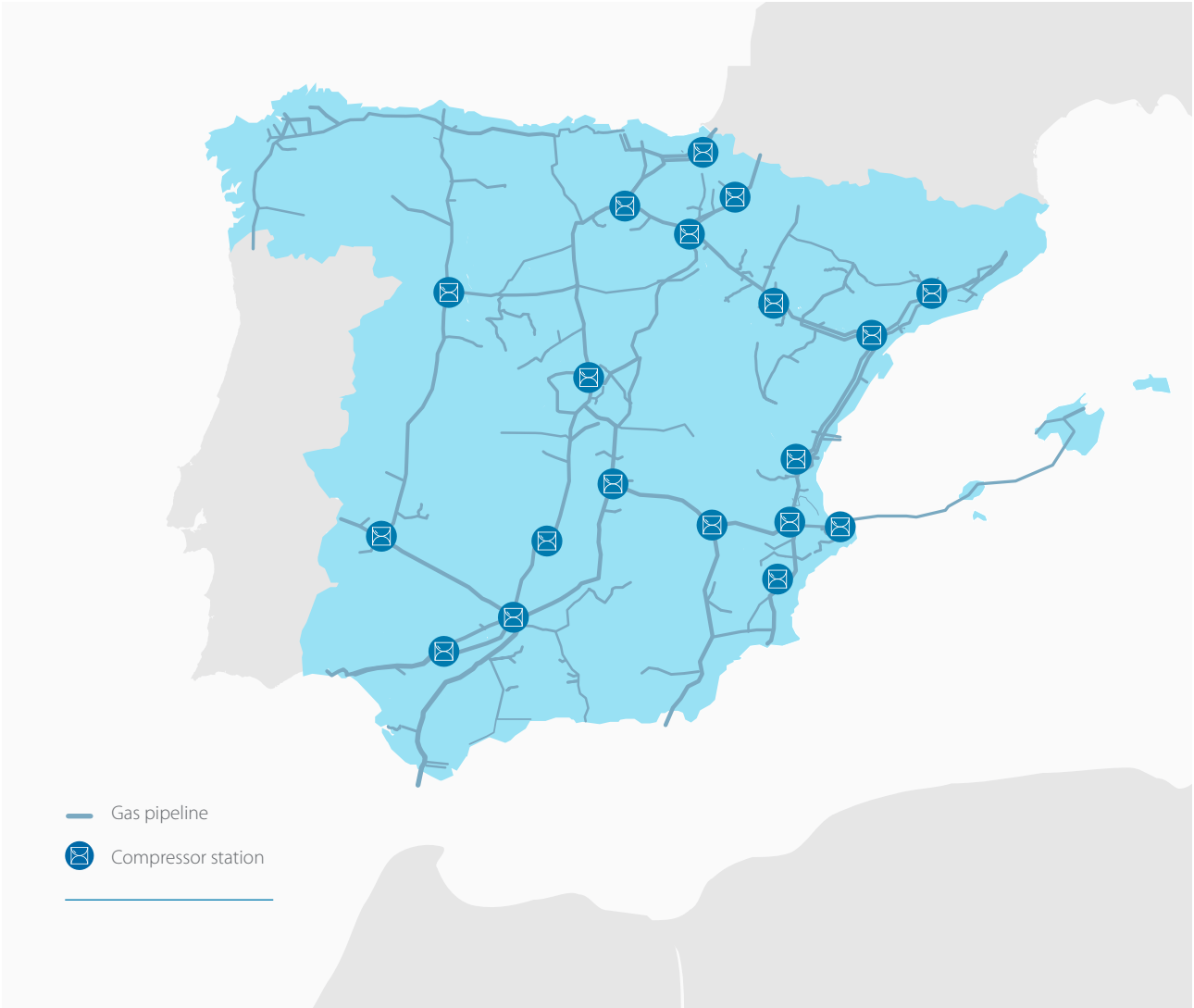
The development of international connections with France would enable Spain to position itself as a gas transit country and contribute to the security of supply to the rest of Europe

Information on transmission is posted on our **website**

	VIP Ibérico	VIP Pirineos	Almería	Tarifa
Imports	Portugal – Spain 2.6 Bcm/y	France – Spain 5.3 Bcm/y	8.5 Bcm/y	11.4 Bcm/y
Exports	Spain – Portugal 4.6 Bcm/y	Spain – France 7.3 Bcm/y	0	0

Enagás has a meshed transmission network in Spain, enabling it to transport gas anywhere in the country. The average diameter of the pipes is 28" and 98.4% is piggable (e.g. can be controlled by electronic devices known as pigs).

At the compressor stations, the gas pressure is increased to a maximum of 72/80 bar so as to increase pipeline transmission capacity. The compressor stations are either operated remotely from the Main Control Centre (Dispatching) or through an in-house station control system (SCS).



Gas pipelines	Length (Km)
Barcelona - Bilbao - Valencia	2,117.25
Huelva - Alcázar - Madrid	1,014.62
Noroeste - Cantábrico	905.9
Haro - Burgos - Madrid	892.58
Al Ándalus	884.08
Ruta de la Plata	765.43
Huelva - Sevilla - Madrid	741.2
Valle del Ebro	687.91
Eje Levante	540.74
Offshore gas pipelines: Puerto de Barcelona - Barcelona; Alicante - Ibiza; Ibiza - Mallorca	

Compressor stations	Compressors
Almendralejo; Bañeras; Córdoba	4+1
Paterna	3+1
Alcázar de San Juan; Chinchilla; Denia; Montesa; Puertollano; Sevilla; Tivissa; Villar de Arnedo; Zamora; Zaragoza	2+1
Algete; Crevillente; Haro; Navarra; Euskadour	1+1

Regulation and/or metering stations measure the natural gas entering and leaving the gas system, or exchanged by national and international operators. In these stations, gas pressure is normally reduced to 16 bar, as a means of starting the process of adaptation to final pressure which is used by industries and private individuals.

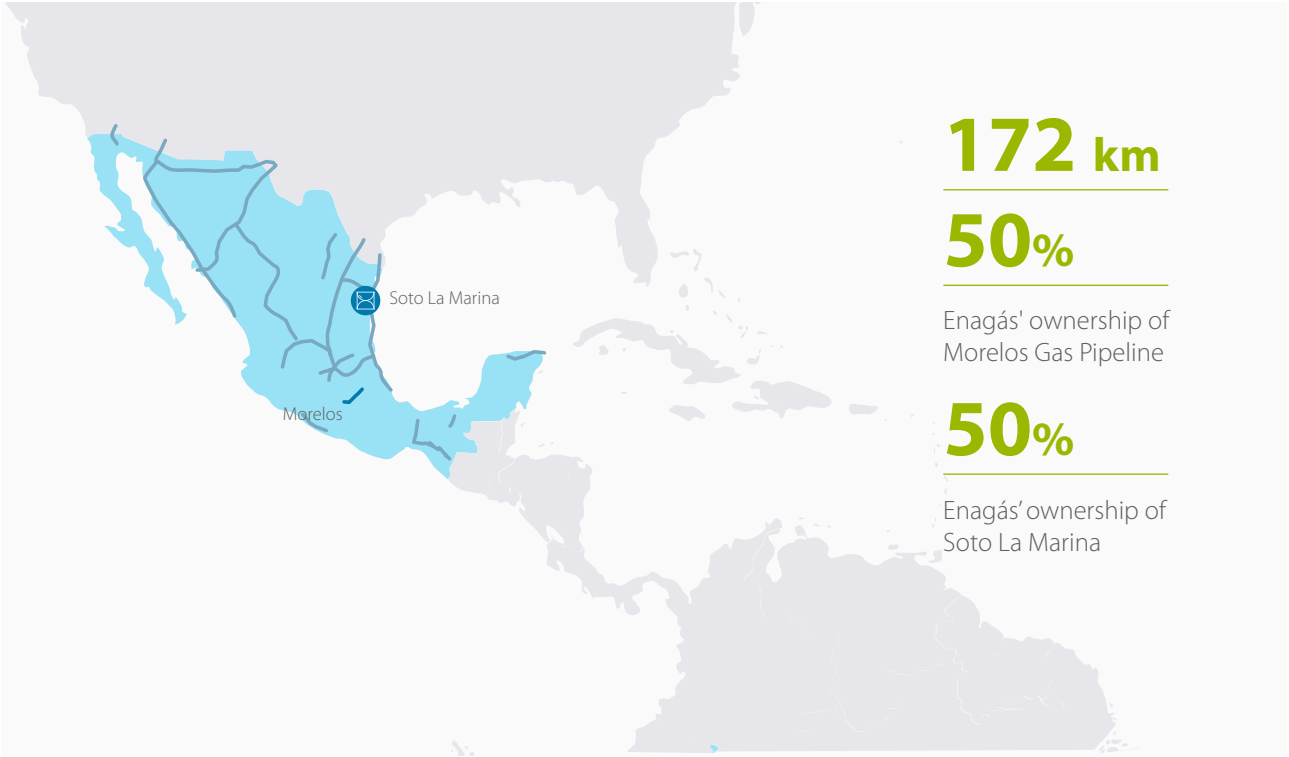
Mexico

Morelos Gas Pipeline

172 kilometres long and with a diameter of 30", this gas pipeline crosses the States of Tlaxcala, Puebla and Morelos. In the future, new connections are planned to supply natural gas to the local domestic-commercial market. Enagás has a 50% stake in the project.

Soto La Marina Compressor Station

Enagás is a member of the consortium that works on this infrastructure, located in the State of Tamaulipas. Completed in 2015, it provides a natural gas compression capacity of up to 19 bcm and is interconnected to the San Fernando-Cempoala gas pipeline to increase the Mexican transport capacity.



172 km

50%

Enagás' ownership of Morelos Gas Pipeline

50%

Enagás' ownership of Soto La Marina

Peru

South Peru Gas Pipeline (GSP)

This is the largest energy infrastructure built in Latin American during recent years. Enagás is a member of the consortium awarded this project and has a 25% stake.

The South Peru Gas Pipeline will connect the Camisea gas field with the coastal city of Ilo, where a petrochemical complex is to be installed. The award covers the construction and subsequent operation and maintenance of the 1,134 kilometres long gas pipeline.

Transportadora de Gas del Perú (TgP)

In 2014, Enagás acquired a 20% stake in TgP, the company responsible for the design, construction and operation of the Camisea Gas Pipeline Transport System. Enagás currently holds a 25.98% stake in the project.

TgP, which commenced commercial operations in 2004, transports most of Peru's natural gas and condensates. It has a 729 kilometres long gas pipeline and a polyduct of 557 kilometres that connects the Camisea fields with the industrial centres of Lima and Pisco and with the Melchorita liquefaction plant.

Enagás holds a 30% stake in Compañía Operadora de Gas del Amazonas (Coga), responsible for the operation and maintenance of the TgP gas pipelines.

For more information visit the TgP **website.**

1,134 km

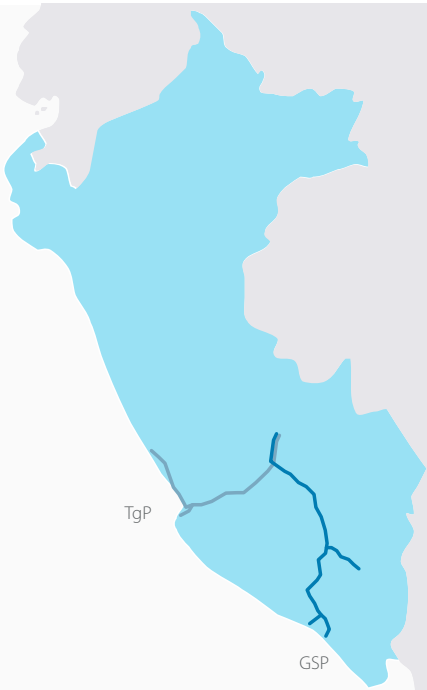
25%

Enagás' stake in South Peru Gas Pipeline

729 km

25.98%

Enagás' stake in TgP

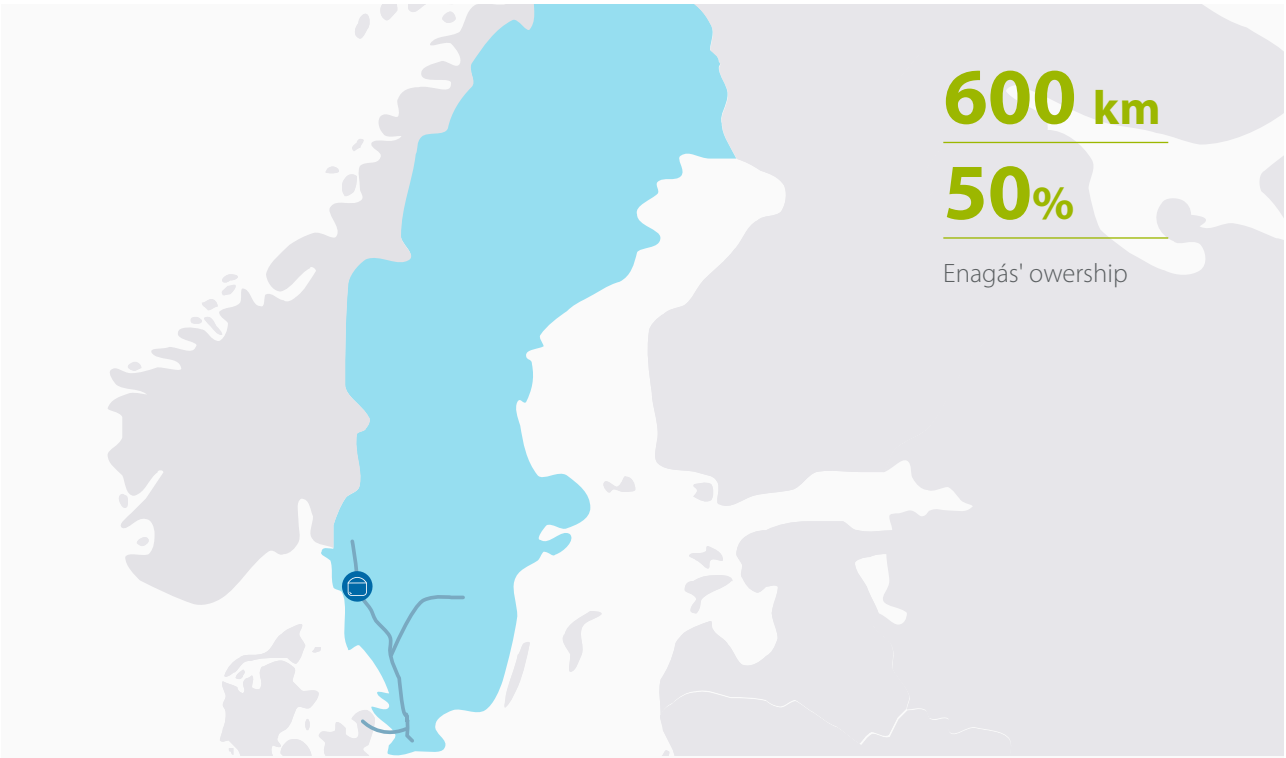


Sweden

In 2015, Enagás acquired a 50% stake in Swedegas, the company that owns the whole of Sweden's high pressure gas pipeline network and operates the Swedish Gas System.

Swedegas, certified as a TSO, has highly experienced staff and owns around 600 km of high-pressure gas pipelines and an underground storage facility, Skallen, located near Halmstad. It is also developing various projects such as a bunkering/small-scale LNG terminal classified as a Project of Common Interest (PCI) by the EU.

For more information visit the Swedegas **website.**



Greece, Albania and Italy

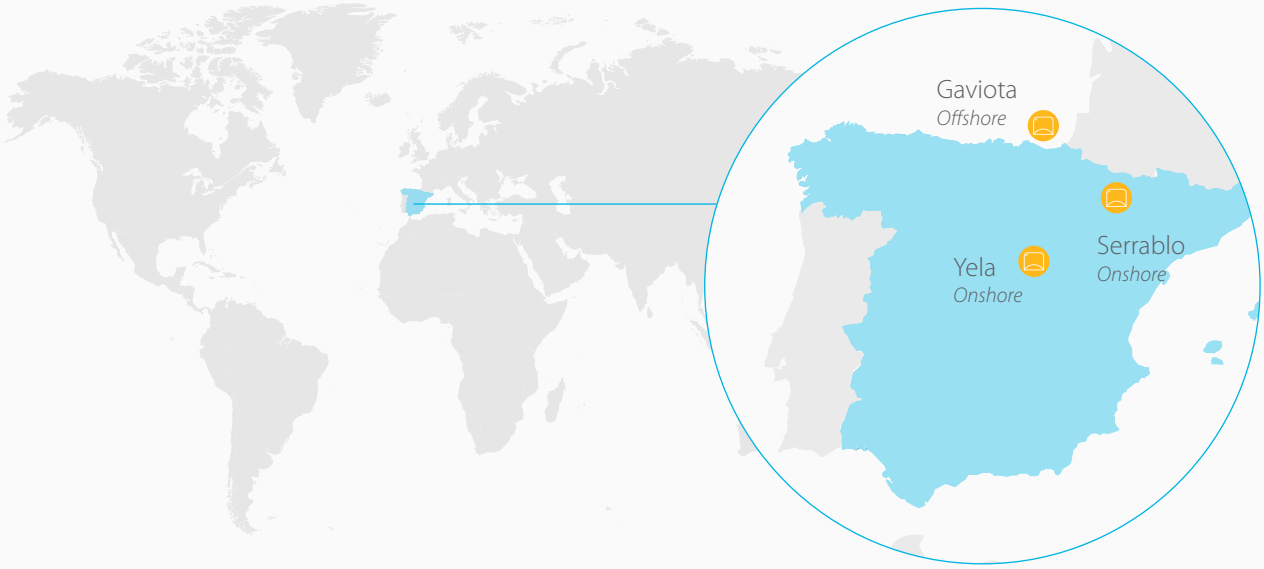
Trans Adriatic Pipeline (TAP)

Enagás is one of the stakeholders (16%) which will develop the TAP project, a 871 kilometres long gas pipeline that will transport natural gas from the Greek-Turkish border to southern Italy. The TAP is part of the so-called Southern Gas Corridor, a project designed to supply Europe with natural gas from the Caspian Sea, which will help guarantee the EU's energy security. It has also been classified as Project of Common Interest (PCI) by the EU.

Underground natural gas storage facilities

Enagás manages the three main underground storage facilities in Spain. These facilities make it possible to adapt supply to demand, deal with consumption peaks and ensure the commercial balance of the transmission network operators.

Underground natural gas storages



Information on our underground storage facilities is posted on our **website**

Spain

Serrablo Underground Storage

The Serrablo underground storage facility is located in the province of Huesca, between the towns of Jaca and Sabiñánigo. It was the first gas field in Spain to be converted into a storage facility following the depletion phase in February 1989.

Cushion gas Mm^3 (n)		Working gas Mm^3(n)	Useful capacity Mm^3(n)	Injection capacity Mm^3(n)/day	Withdrawal capacity Mm^3(n)/day
Extractable	Non- Extractable				
140	**280**	**680**	**820**	**3.9**	**6.7**
Total 1,100 Mm^3 (n)					

1978 / 83

Discovery of the natural gas fields in Aurín and Jaca (Huesca)

1984

Start of operations at Serrablo field

1989

Start-up of the activity

1991

Enagás acquires the storage facility

Gaviota Underground Storage

The Gaviota underground storage facility is located in the Cantabrian Sea, 8 km of Cape Matxitxako, to the north-east of Bermeo (Bizkaia). The original field where it is located occupies a surface area of 64 km^2, at a depth of 2,150 metres. It is operated from a platform anchored to the seabed by 20 piles and connected by a gas pipeline to an onshore processing plant.

Cushion gas Mm^3 (n)		Working gas Mm^3(n)	Useful capacity Mm^3(n)	Injection capacity Mm^3(n)/day	Withdrawal capacity Mm^3(n)/day
Extractable	Non- Extractable				
567	**1,134**	**979**	**1,546**	**4.5**	**5.7**
Total 2,681 Mm^3 (n)					

1984

Construction started at platform and onshore plant

1986

First commercial output of gas

1994

Gaviota commences its activity as an underground storage facility

2010

Enagás acquires Gaviota

Yela Underground Storage

Located in the municipality of Brihuega, in Guadalajara, it is formed by a saline fossil aquifer 2,300 metres below the surface. Its strategic location in the centre of the Iberian Peninsula makes it a key infrastructure for guaranteeing supply. The storage facility is currently under development and its capacity will be increased gradually as the necessary cushion gas is injected to ensure the correct increase in capacity.

Current capacity

Cushion gas Mm^3 (n)		Working gas Mm^3(n)	Injection capacity Mm^3(n)/day	Withdrawal capacity Mm^3(n)/day
Extractable	Non- Extractable			
-	445.5	130	2	2.2
Total 575.5 Mm^3 (n)				

Final capacity

-	950	1,050	10	15
Total 2,000 Mm^3 (n)				

2007
Enagás obtains the operating concession and recognition for public use

2008
Environmental Impact Statement obtained

2009
Government Authorisation obtained and work starts

2012
Start-up of the underground storage facility

Our commercial services in Spain

04

LNG logistics services

All LNG logistics services currently offered by Enagás are marketed unbundled, except for the LNG tank storage right and the ship unloading slot, which are provided in a subsidiary way together with the regasification service.

However, the new Spanish regulation governing third-party access to the gas system, Royal Decree 984/2015, set out the possibility of offering additional services. Enagás is therefore working intensely together with other LNG operators and shippers to design an additional services proposal that meets our customers' needs.

01. Regasification, LNG storage and vessel unloading services

- **Regasification**
  This service involves vaporising LNG to return it to its gaseous state and then sending out into the transmission network.

- **LNG storage**
  The LNG storage service includes the right to use the necessary facilities for storage of LNG at the regasification plants.

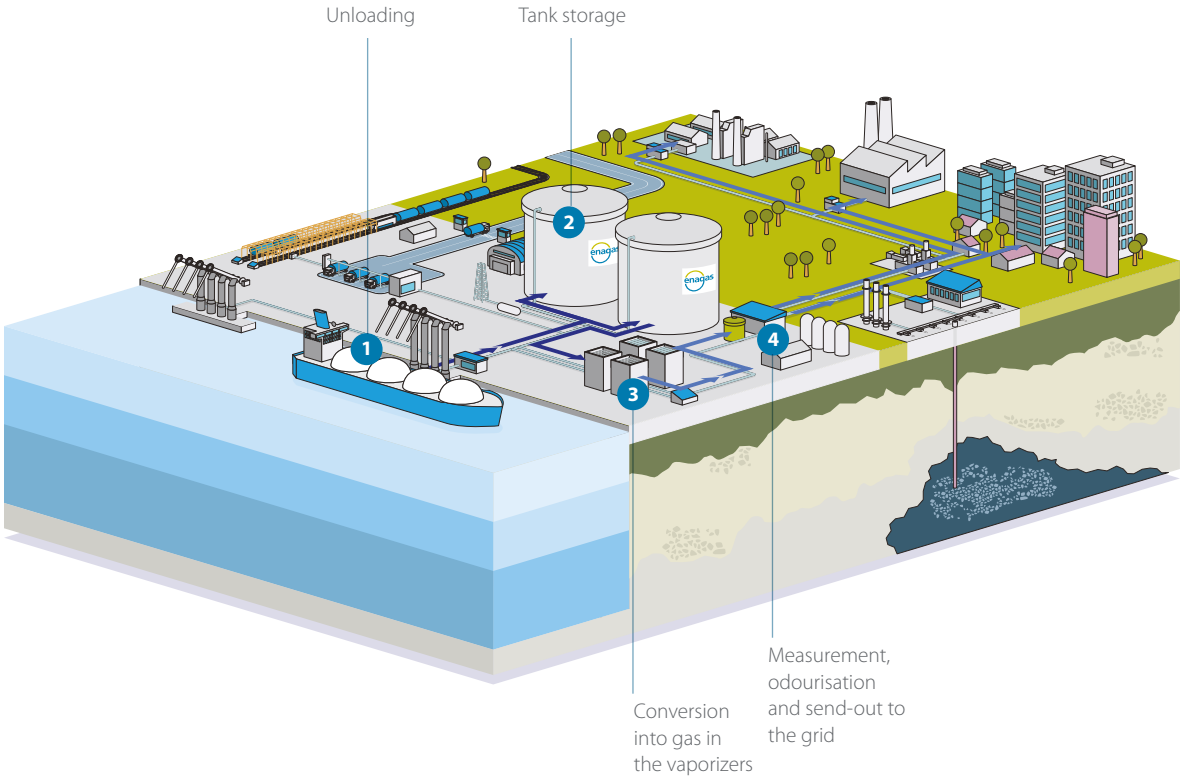
- **Vessel unloading**
  This service involves the unloading of LNG from the methane tankers to the terminal. Before unloading the first shipment from a methane tanker, Enagás requests a report assessing the ship's compatibility with the plant. The vessel also requires vetting (a safety inspection certificate) by an officially approved international company.

As previously mentioned, the prevailing regulation determines the need to have a regasification contract in order to have LNG tank storage rights and to be able to unload from methane tankers.

With almost 50 years' experience, Enagás has carried out more than 10,000 vessel unloadings

LNG

Natural gas



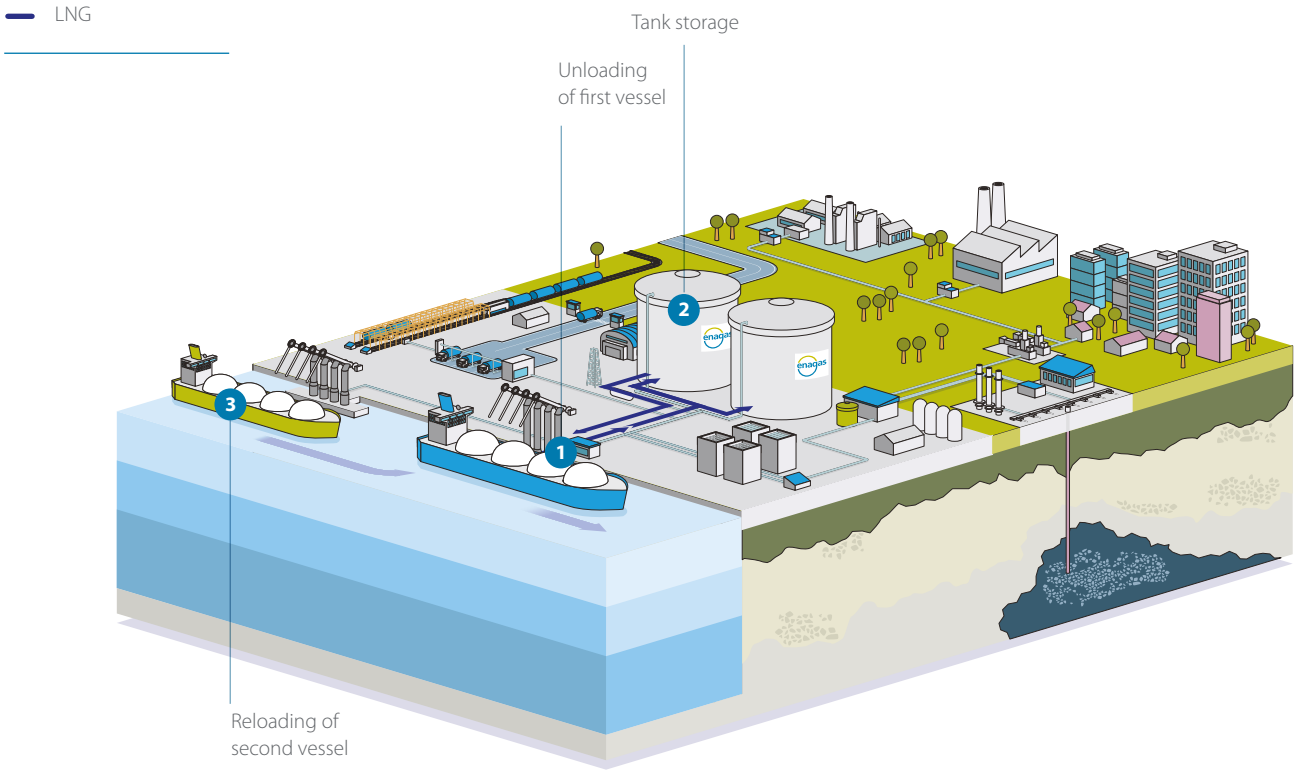
Tariffs

	Fixed term	Variable term
Unloading Barcelona LNG Terminal (50% discount)	€16,988 per ship $18,686.8 per ship	€35/GWh $0.011/MMBTU
Unloading Cartagena and Huelva LNG terminals	€33,978 per ship $37,375.8 per ship	€69/GWh $0.022/MMBTU
LNG storage	-	€32.4/GWh/d $0.01/MMBTU/d
Regasification	€19,612/GWh/d/m $6.323/MMBTU/d/m	€116/GWh $0.037/MMBTU

Dollar/euro exchange rate used: 1.1

02. Reloading methane tankers and bulk breaking service

This service must be contracted together with the regasification service to have the right to storage LNG in tanks.



Tariffs

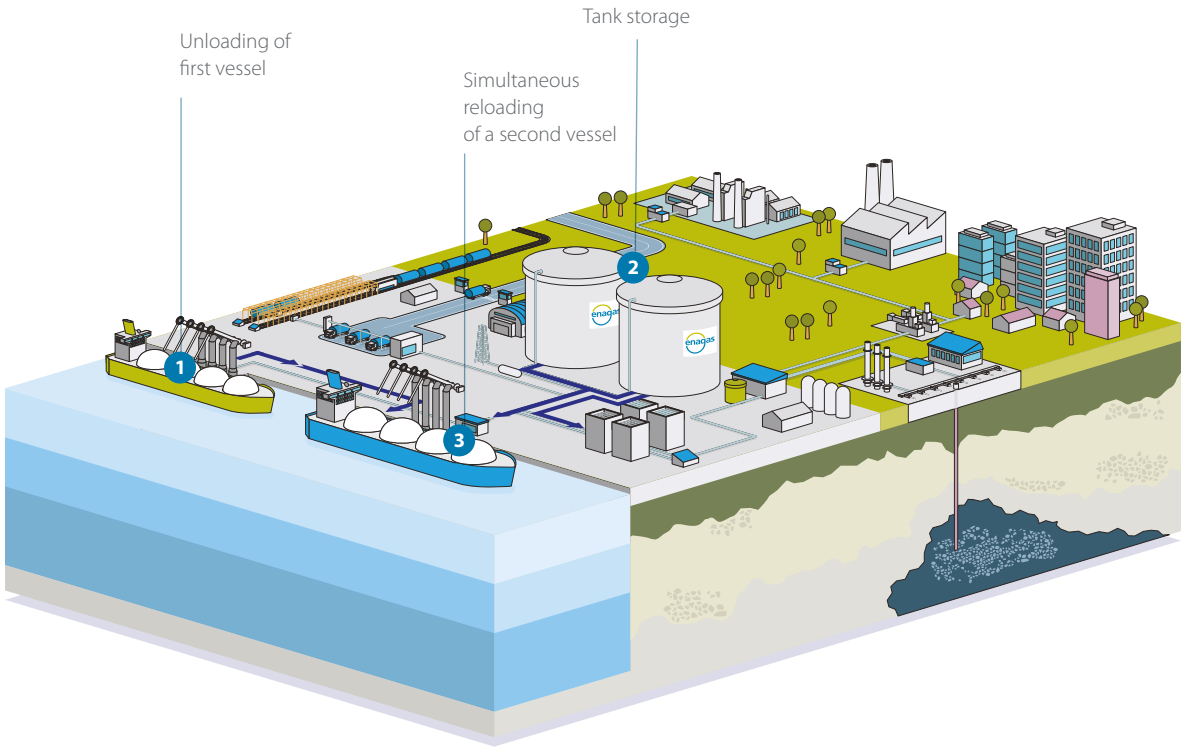
	Fixed term	Variable term
Reloading & bulk breaking	€176,841 per ship $194,525 per ship	€1,563/GWh $0.5/MMBTU

Dollar/euro exchange rate used: 1.1

03. STSTS Transhipment service

Available at all our terminals in Spain. This requires the shipper to contract an unloading slot under the regasification contract. It is also necessary to contract the methane tanker reloading service.

LNG



Tariffs

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LNG storage	-	€32.4/GWh/d $0.01/MMBTU/dd
Regasification	€19,612/GWh/d/m $6.323/MMBTU/d/m	€116/GWh $0.037/MMBTU
Vessel reloading	€176,841 per ship $194,525 per ship	€1,563/GWh $0.5/MMBTU

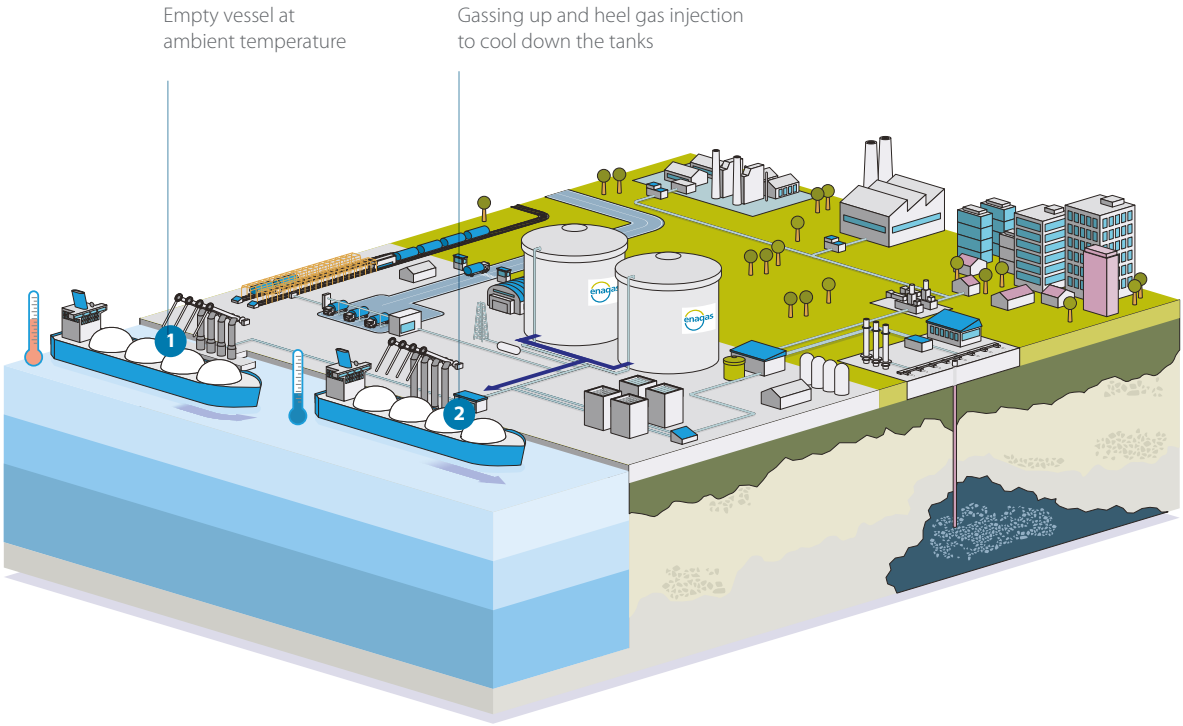
Dollar/euro exchange rate used: 1.1

04. Gassing up/cooling down service

In order to load an LNG vessel, both the ship as well as the gas need to be at a temperature of approximately -160º C. Otherwise, the ship must first be cooled down.

The gassing up operation may be requested following a cooling-down, but the ship must have an inert gas atmosphere.

LNG



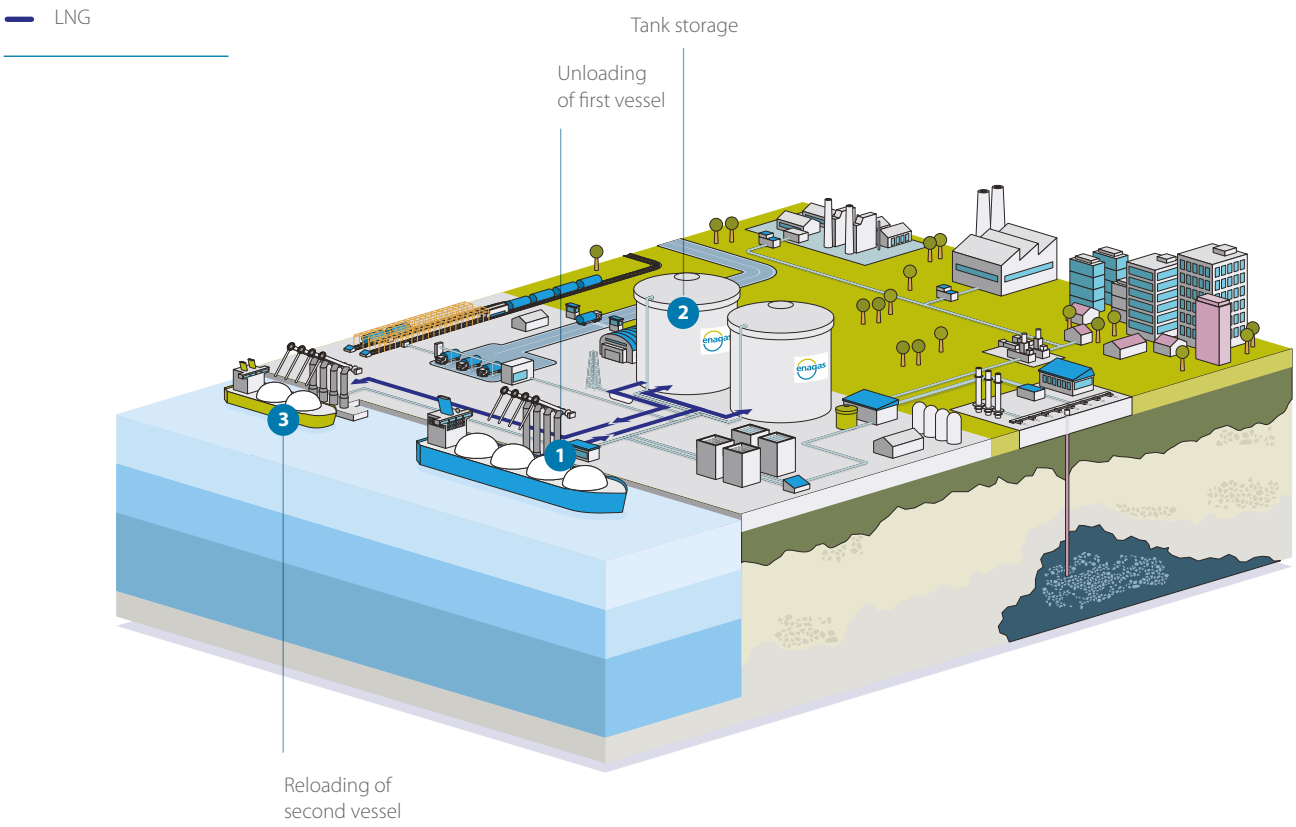
Tariffs

	Fixed term	Variable term
Gassing up / Cooling down	€71,610 per ship $78,771 per ship	€1,563/GWh $0.5/MMBTU

Dollar/euro exchange rate used: 1.1

05. Small-scale reloading service

A service similar to the big-scale reloading service, with the exception that for vessels smaller than 9,000 m^3 LNG there is a reduced price.



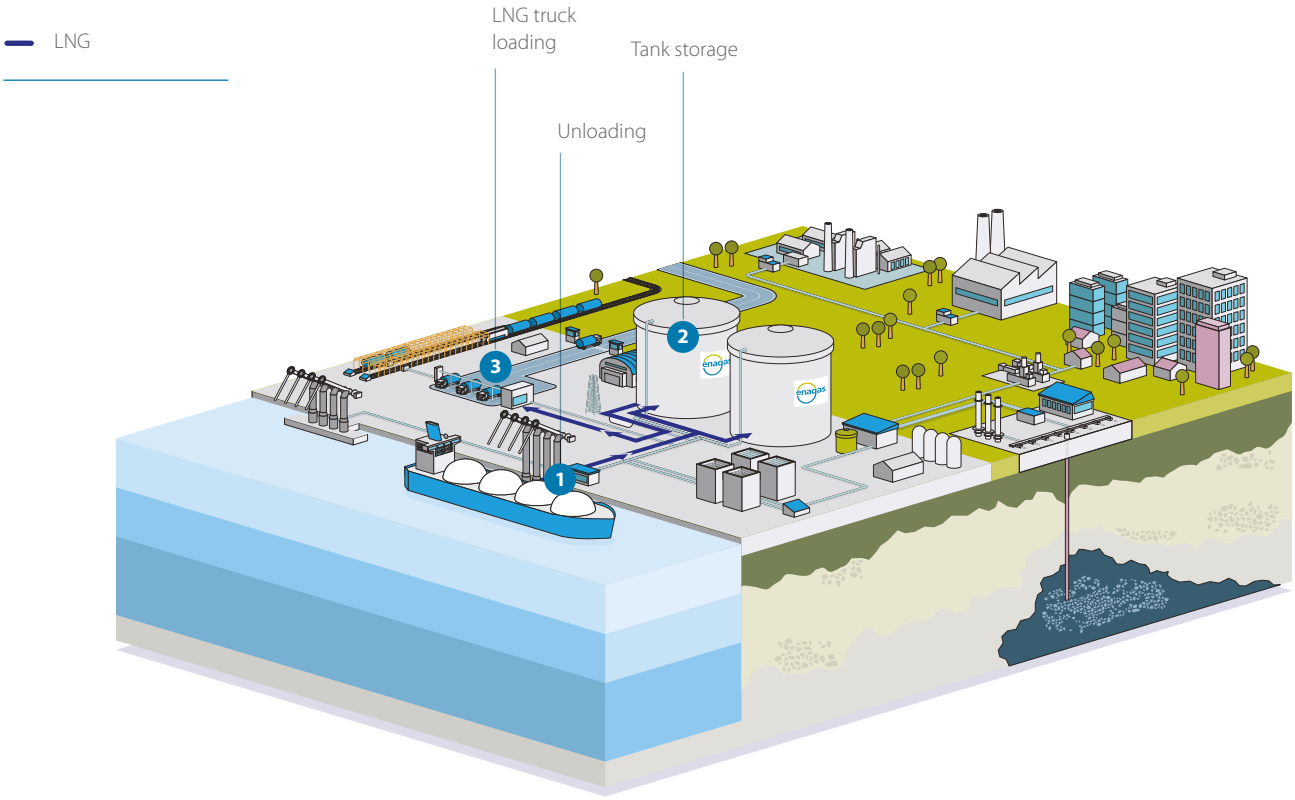
Tariffs

	Fixed term	Variable term
Small-scale ship reloading	€87,978 per ship $96,775.8 per ship	€521/GWh $0.168/MMB

Dollar/euro exchange rate used: 1.1

06. Truck loading service

This includes the right to use our facilities for loading LNG onto trucks, which is subsequently transported to satellite plants to supply zones or facilities where there is no access from the gas pipeline grid.



Tariffs

	Fixed term	Variable term
Truck loading	€87,978/GWh/d/m $28.36/MMBTU/d/m	€171/GWh $0.055/MMBTU

Dollar/euro exchange rate used: 1.1

International leader in the reloading of LNG tankers

2015 key figures

22,837

Trucks loaded (1,440 with an international destination)

81

New destinations

41

International destinations in 2015 vs. 27 in 2014

17

More than 17 destination countries in Europe, including France, Italy, Portugal, Switzerland and Macedonia

6,815 GWh/year

Demand coverage

Innovation in small-scale services: CORE LNGas hive project

The aim of the CORE LNGas hive project is to develop a safe and efficient, integrated logistics and supply chain for LNG in the transport industry (especially maritime transport), of the Iberian Peninsula.

The European Commission selected the initiative in the call for aid of the "Connect Europe Facility" (CEF) for development of the Trans-European Transport Network (2014 call).

The project is coordinated by Enagás and involves 42 partner entities in Spain and Portugal: 8 institutional partners, including Puertos del Estado; 13 port authorities and 21 industrial partners, LNG operators, shipbuilders, regasification companies and other companies.

The need to have sustainable and competitive transport in Europe requires the use of more environmentally-friendly fuels that reduce emissions and contribute to the decarbonisation of energy.

LNG is a realistic alternative in maritime transport. It is therefore necessary to develop a suitable supply infrastructure to satisfy the associated demand under the best conditions.

CORE LNGas **hive**

Sustainable energy powering Europe

Co-financed by the European Union
Connecting Europe Facility

www.corelngashive.eu

Enagás is currently working on other projects targeted at driving the logistics chain within the small-scale segment and fostering new uses and distribution of LNG.

- **Projects to provide service to the different ways of supplying LNG as fuel:**
  - STS (Ship to Ship)
  - PTS (Pipeline to Ship)
  - TTS (Truck to Ship)
- **Projects for the use of LNG as rail fuel**
- **Projects for the transport of LNG by rail**
- **Projects for the application of natural gas and LNG in both the port and airport spheres**

Gas network services

01. Transmission service

This service includes the right to use the facilities required for high-pressure transportation of natural gas from the entry points into the system to the delivery points at the connections with other transporters/distributors or directly to end consummers connected to high pressure pipelines.

From other countries, the importation is carried out through international connections. Enagás has six physical international connections: two with North Africa, one through Tarifa and another through Almería; two with Portugal via Badajoz and Tuy, and a further two with France through Irún and Larrau.

The capacity of the international connections with Europe is marketed on virtual points; VIP Pirineos in the case of France, and VIP Ibérico in the case of Portugal.

Tariffs

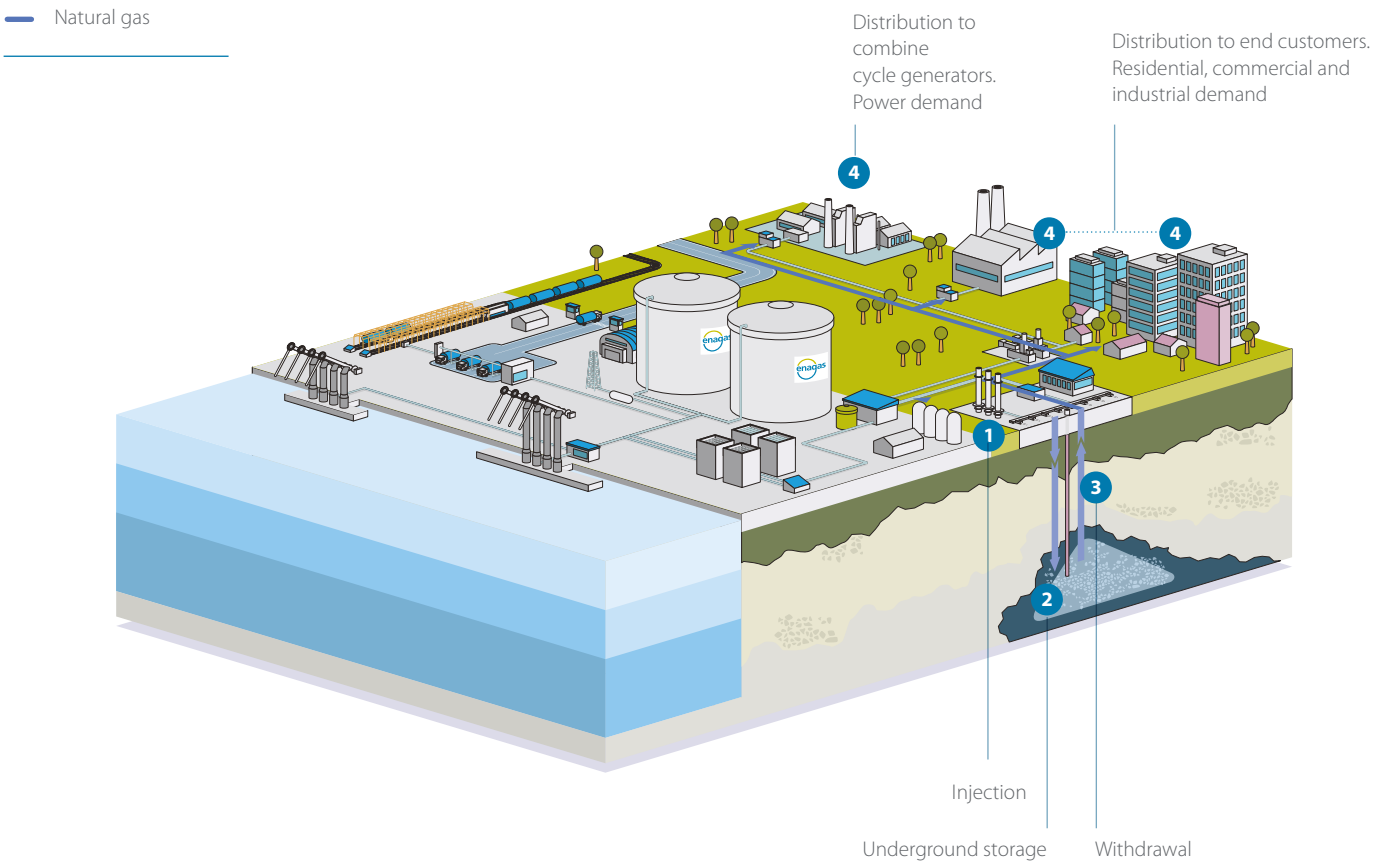
Entry to the transport system	€10,848/GWh/d/m	$3.497/MMBTU/d/m

Dollar/euro exchange rate used: 1.1

02. Underground storage service

This service includes storage of natural gas underground, as well as the neccesary services to inject and withdraw this natural gas.

Underground storages in Spain are operated as a single aggregate storage.



Tariffs

Storage	€411/GWh/month	$0.142/MMBTU/month
Injection	€244/GWh	$0.0786/MMBTU
Withdrawal	€131/GWh	$0.0422/MMBTU

Dollar/euro exchange rate used: 1.1

Committed to our customers

The management model with our customers is targeted at a commitment to quality and to excellence in the service offered.

We aim to be the best solution for the needs of our customers. That's why we believe in the huge power of communication. Enagás places a range of communication channels at the disposal of our customers to enable them to have swift and expeditious access to the company, as well as to measure their level of satisfaction.

Regular meetings
Meetings with customers are aimed at analysing their market position. These meetings cover any issues that could be in customers' interests and are also used to present new options and new business opportunities for them to consider.

Enagás website
Includes up-to-date information required to manage the Spanish Gas System and dealings between the different agents involved (shippers, transporters, distributors, etc.). It also includes information about our infrastructures, the services we offer and how to contract these.

Newsletter
Enagás sends a regular newsletter to its customers with the latest information on the company, the Spanish Gas System, the status of infrastructures and other issues that could be of interest to them.

Account Managers
These managers are responsible for Enagás' customer relationship management. They supervise their needs, perform ongoing monitoring of their necessities and provide them with customised advice.

Satisfaction surveys
Through these surveys, Enagás is able to compile an action plan for the purpose of ongoing improvement of our processes, thus strengthening our commitment to quality and with the excellence of the service offered.

Capacity allocation mechanisms

Intraeuropean coordinated capacity

European regulations define a mechanism for primary and secondary allocation capacity in the gas transmission network through standardized products. These regulations are of vital importance for the formation of the single European natural gas market.

Since 2014, the allocation of capacity at the gas pipeline connections with Europe has been carried out using market mechanisms, auctions. The process takes place simultaneously at all European Union interconnections in accordance with the specific calendar defined by ENTSOG (European Network of Transmission System Operators for Gas).

To comply with the European regulations, Enagás uses the European electronic platform PRISMA for the allocation of capacity at VIP Ibérico and VIP Pirineos interconnection points. This step towards the European Energy Market has been done within the framework of the South Gas Regional Initiative.

Other Enagás infrastructures

From 1 October 2016, the allocation of capacity at the facilities included in the third-party access regime will be carried out preferably through auction procedures and through a single on-line platform that will be managed by the Technical Manager of the System.

Capacity will be marketed through standard capacity products, and requires the presentation of bank guarantees in order to be contracted.

To date, the allocation of capacity at the facilities included in the third-party access regime has been governed by Royal Decree 984/2015, being First Come First Served the allocation mechanism.

Secondary Capacity Market

In compliance with Regulation (EC) No. 715/2009, Enagás has a "bulletin board" tool to facilitate capacity trade by providing transparent, accurate, and readily available market information to Spanish system users.

Transactions are undertaken on the platform SL-ATR**,** except in the case of capacities contracted on the European interconnections, which are conducted in a coordinated way with the adjacent TSOs of Spain and Portugal through the platform PRISMA. For further information, click here.

Information about the products and services offered by Enagás is available on our website:

Infrastructure capacities

Tariffs simulator

A management model based on quality, safety and efficiency

05

Our asset management model has evolved in tandem with our know-how, which we have developed over almost 50 years' experience.

At the start of the infrastructures operation, the main target was **to guarantee the maximum availability of assets.**

Once this objective was reached, the challenge was to ensure that the excellent availability ratios achieved, in excess of 99.9%, were compatible with cost optimisation. Enagás therefore introduced a demanding **Efficiency Plan.**

Most relevant projects developed within the Efficiency Plan

We have reduced CO_2 emissions at our LNG plants...

Boil-off treatment at regasification plants

Thanks to the measures introduced, not only have our plants increased their energy efficiency but they have also increased their flexibility and can now offer better services to our clients. These improvements have been based on two key lines:

- **Management of the boil-off generated**

  Two compressors have been installed at the Cartagena and Huelva regasification plants that can suck in the boil-off, which is then sent to the National Pipeline Network at 72 bar.

  These two compressors virtually manage all of the boil-off generated, reducing the BOG completely. An equivalent project is currently being introduced at the Barcelona LNG Terminal.

- **Use of the boil-off generated**

  During 2015, many actions were undertaken to improve the operating processes that involve boil-off. Of particular note:

  - Installation of a saltwater exchanger at the Cartagena LNG Terminal to cool the boil-off generated before it enters the reliquefier plant. This increases the recuperation capacity of this equipment and considerably reduces the burning of non-recovered BOG.

  - Use of the boil-off gas generated at the Cartagena LNG Terminal as fuel in the submerged combustion vaporisers (SCV), thus avoiding the use of saltwater vaporisers that require electricity consumption.

... and we have achieved new formulas to reduce electricity consumption at our facilities

Usage of cooling at the Huelva LNG Terminal

Installation of a Rankine thermodynamic cycle that uses residual cooling from the LNG to generate electricity.

This initiative has enabled us to increase the energy autonomy of the plant, which in turn has reduced greenhouse gas emissions.

Usage of pressure changes at the Barcelona LNG Terminal

Installation of an electricity generation system using three Turboexpanders, which exploits the pressure difference produced in the natural gas at the regasification plant's sending out.

The energy generated in the process considerably reduces the terminal's electricity consumption.

Usage of thermal energy at the Almendralejo Compressor Station (Badajoz)

Use of the residual thermal energy contained in the exhaust gas turbines which drive the compressors that move the natural gas. Through the Rankine cycle, working with a closed-circuit organic fluid, we can generate electricity with maximum power of 3,500 kW.

Thanks to the Efficiency Plan, which remains in force today, Enagás has managed to reduce overall operating costs by 20%, and obtain excellent results.

Savings since its implementation

62%

Fuel gas in the network

44%

In electricity consumption

55%

In self-consumption during loading operations

Since 2012, Enagás has implemented an asset management model **which aims to achieve excellence.** This new model, based on the principle of ongoing improvement, integrates risk management as a cross-cutting element, individually analysing the potential impact that a failure of each of the infrastructures could have on the company's policies and objetives.

Thus, the three key pillars of our asset management are safety, service quality and energy efficiency.

The evolution of our management model

	Target	Management Model
From the beginning →	**Effectiveness** →	Maximum availability
Efficiency Plan (from 2005 onwards) →	Effectiveness + **Efficiency** →	Maximum availability + Cost optimisation
Asset Management (from 2012 onwards) →	Effectiveness + Efficiency + **Excellence** →	Maximum availability + Cost optimisation + Risk management

In issues of health and safety, the company's actions carried out at the facilities focus on excellence in integrated management.

Furthermore, Enagás encourages the safety certification of its supply chain and the company's official approval process requires certification in occupational risks from suppliers of certain families of products or services.

During 2015, we introduced the System of Access to Enagás Contractors (SACE) for safety management with suppliers.

Enagás is committed to …

•• • the best-in-class technology

- First European TSO to inject biomethane into the transport network.
- Ultrasonic measurement.
- On-line inspections.
- Predictive maintenance.

•• • the highest safety standards

- Improvement of the occupational health and safety procedures over and above legal requirements. Our plants in Spain have been **OHSAS 18001 certified** for occupational risk prevention since 2008.

- Development of end-to-end work permit management tools.

•• • respect for the environment

- Commitment to tackle climate change and efficient use of energy improving natural gas/LNG "well to wheel" (WTW) and therefore its competitiveness as energy and the most sustainable fossil fuel:

  - Zero emissions under zero sendout conditions.

  - A 40% reduction in the energy intensity and in the carbon footprint of our business activity since 2012.

- Environmental Management "best in class":

  - Since 2010, all our plants in Spain have operated an environmental management system that is **UNE-EN ISO 14001** certified by the accreditation agency AENOR.

  - Voluntary external inspection of our terminals in Spain under the European Eco-Management and Audit Scheme and **EMAS certification.**

•• • and know-how

- A reference in Europe in relation to types of technology and installed power in power generation by using residual energy in our process: 40% of the energy used in our LNG terminals in Spain is renewable (and 75% of it is self-generated).

- Leader in cryogenic equipment maintenance: 100% increase in hours between maintenance jobs for the main equipment.

- Quality Management "best in class": **UNE-EN ISO 9001** asset management certification:

  - Metering process since 2006. Development of laboratory services and tools to reduce uncertainty in LNG process metering.

  - O&M since 2014.

ROBECOSAM Sustainability Award Bronze Class 2016

MSCI 2015 Constituent MSCI Global Sustainability Indexes

GLOBAL100

FTSE4Good

2015 Key figures

113

Ships unloaded with a total of 85 TWh

22,274

Tankers loaded (1,440 with a destination outside Spain)

10

Ship loading operations (6,204 GWh)

74 TWh

Regasified (30% up on 2014)

99.9%

Asset availability of facilities

€ 438 M

Invoiced

€ 135 M

Invoiced in regasification plant services

534 GWh

Increase in the capacity of the Yela Underground Storage

348 TWh

Transported throughout the primary transport network

225 GWh

Increase in export capacity to France

5,548 TWh

Contracts executed (70% up on 2014)

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Paseo de los Olmos, 19 • 28005 Madrid
(+34) 91 709 92 00
www.enagas.es

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