



# Challenges and Opportunities for Infrastructure Providers

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## Lessons Learnt from the Transition Process

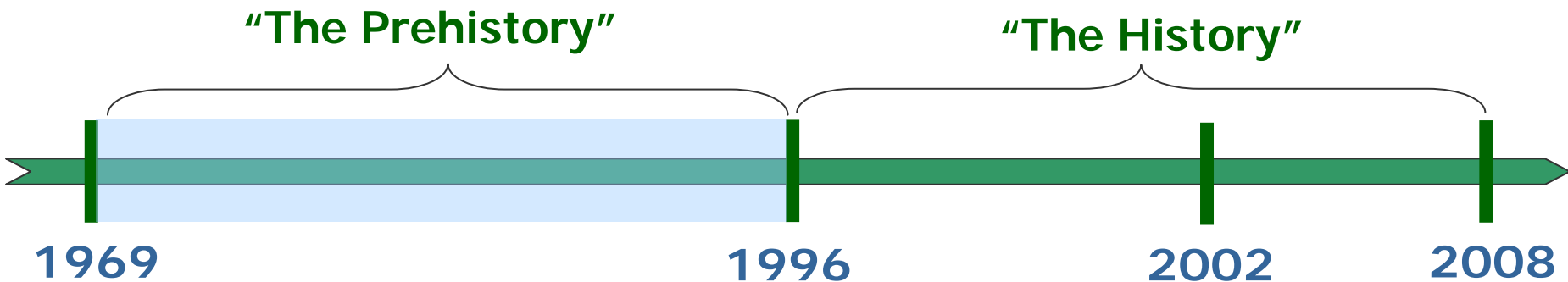


Bucharest, 23<sup>th</sup> October 2008

- 1. History: Milestones**
- 2. Enagás Today**
- 3. Infrastructure Development & Investment**
- 4. Liberalisation Process: The Results**
- 5. Summary**



# HISTORY: Milestones



## 1969-1996: Development of the Natural Gas Industry

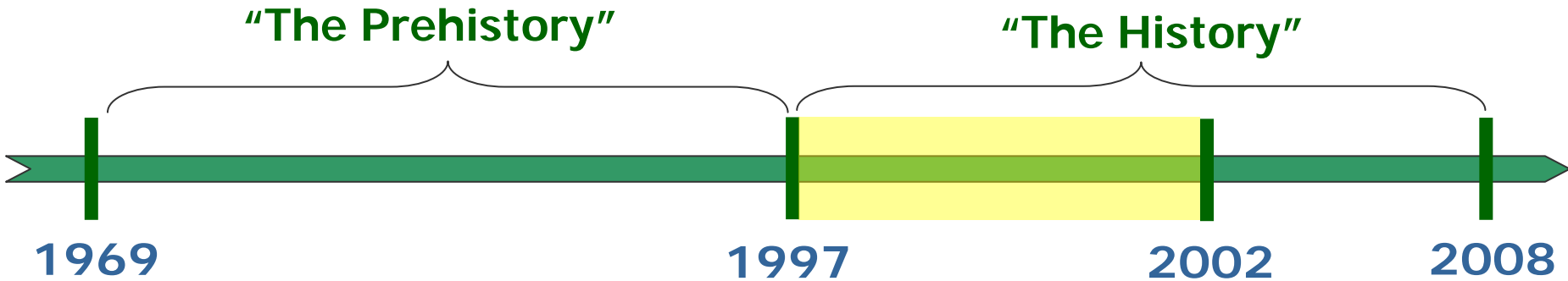
**1972: Creation of Enagás.**

**1975: Enagás signs Algerian LNG contract.**

**1983: National Energy Plan.**

**1991: Agreement to build Europe-Maghreb Pipeline.**

**1994: 90% Enagás sold to a group of LCD.**



## 1997-2002: The liberalisation Process Starts

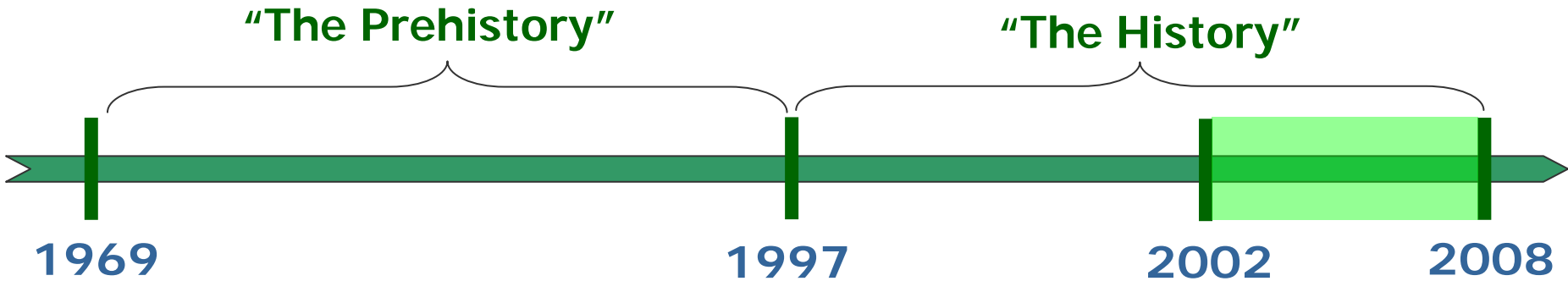
**1997: First TPA provisions**

**1998: Hydrocarbons Act /First EU directive/Remaining 10% Enagás sold to a group of LCD.**

**1999-2002: Basic Regulatory Framework Development.**

**2001: Spin-Off of Enagás.**

**2002: Enagás IPO.**



## 2002-2008: The Liberalisation Process is Completed

**2003: Full eligibility since 01.01.2003**

**2005: System Code (for all infrastructures: transmission, distribution, LNG terminals & UGS)**

**2008: Integral Basic Tariff disappears. 100% market supply by the TPA market.**



# ENAGÁS TODAY



## regasification

- Barcelona: 1.650.000 m<sup>3</sup>(n)/h ; (6 T's : 540.000 m<sup>3</sup> LNG)
- Cartagena: 1.200.000 m<sup>3</sup>(n)/h ; (4 T's : 287.000 m<sup>3</sup> LNG)
- Huelva : 1.350.000 m<sup>3</sup>(n)/h ; (4 T's : 460.000 m<sup>3</sup> LNG)

## transmission

- >7.600 km of high pressure pipelines (72-80 bar) (>90% of total)
- International lines to Morocco, France & Portugal (x2)

## storage

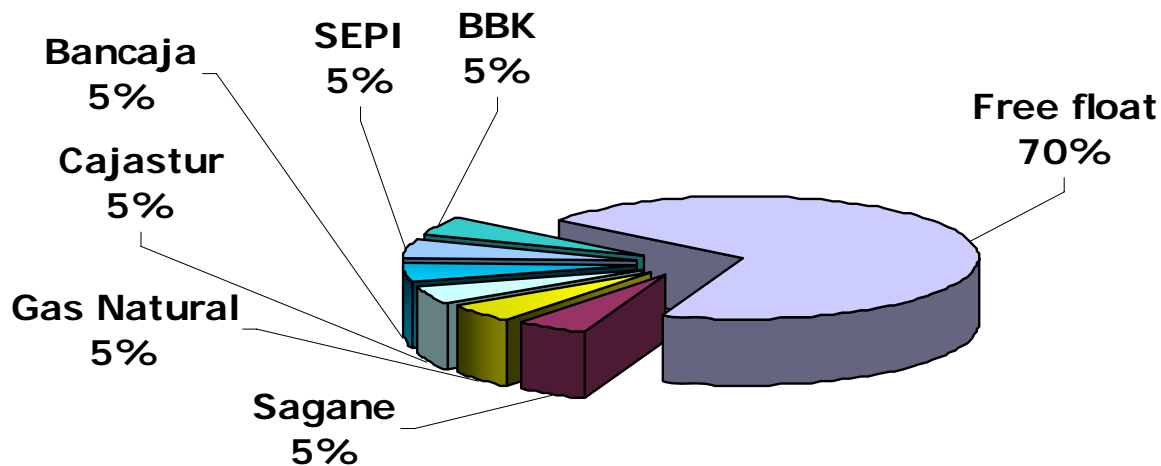
- "Serrablo" underground storage facility (Total capacity: 9.6 TWh)

## system technical manager

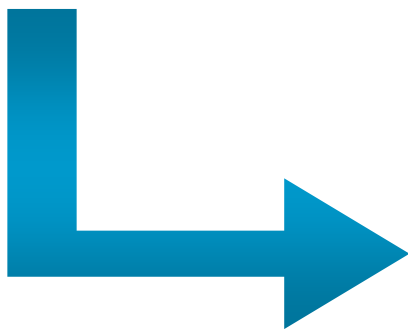
**BIO**



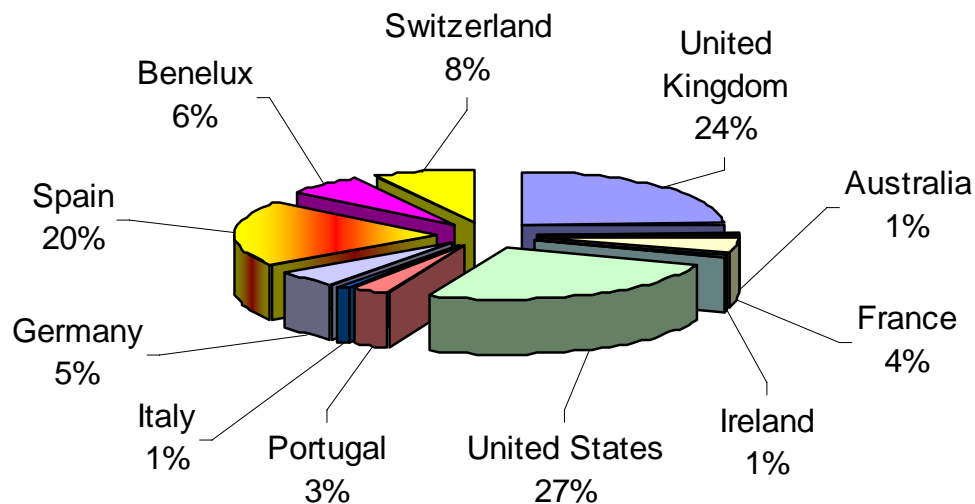
# ENAGAS: Shareholder structure



**"ENHANCED" OWNERSHIP UNBUNDLING**



## Composition of "Free Float"



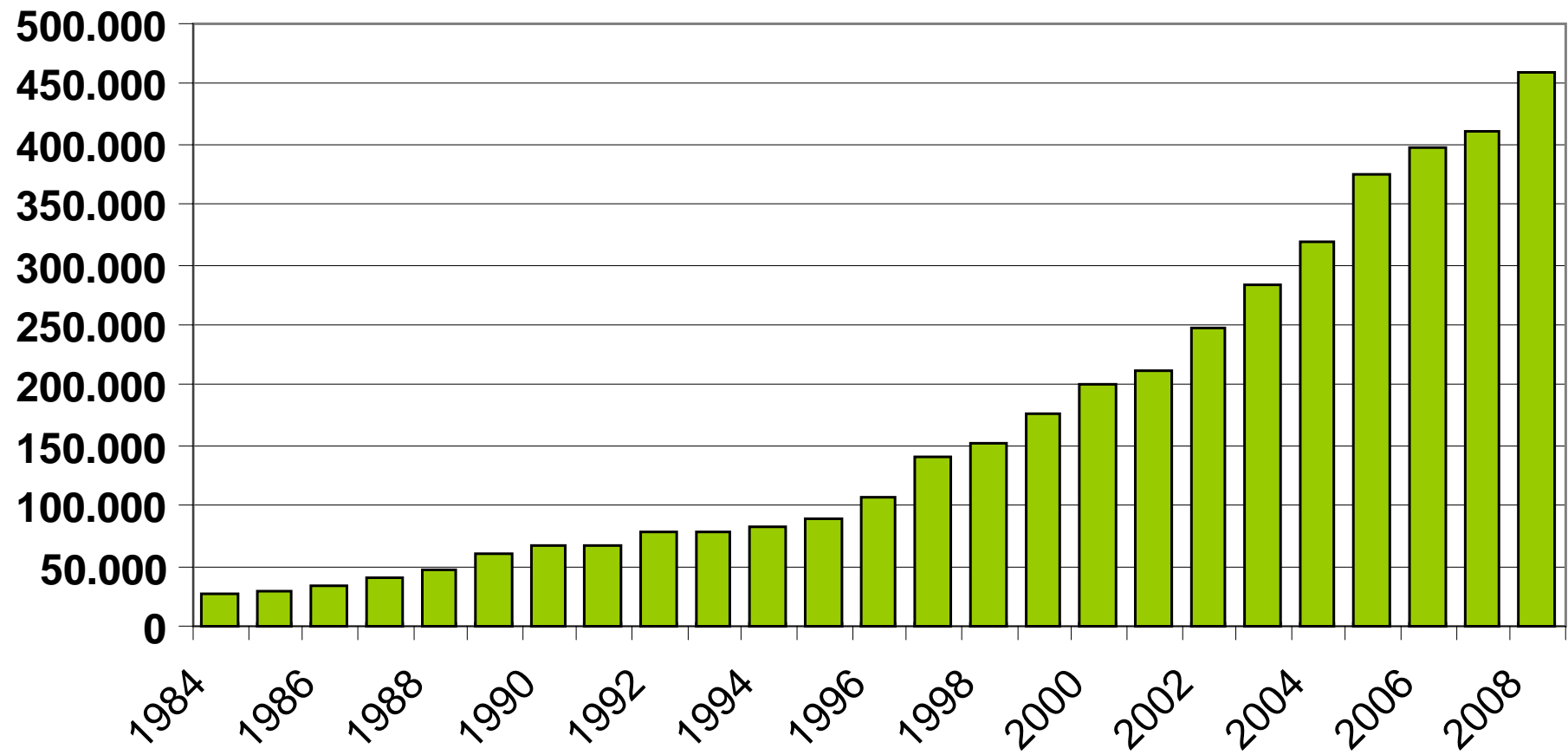


# Infrastructure Development & Investment

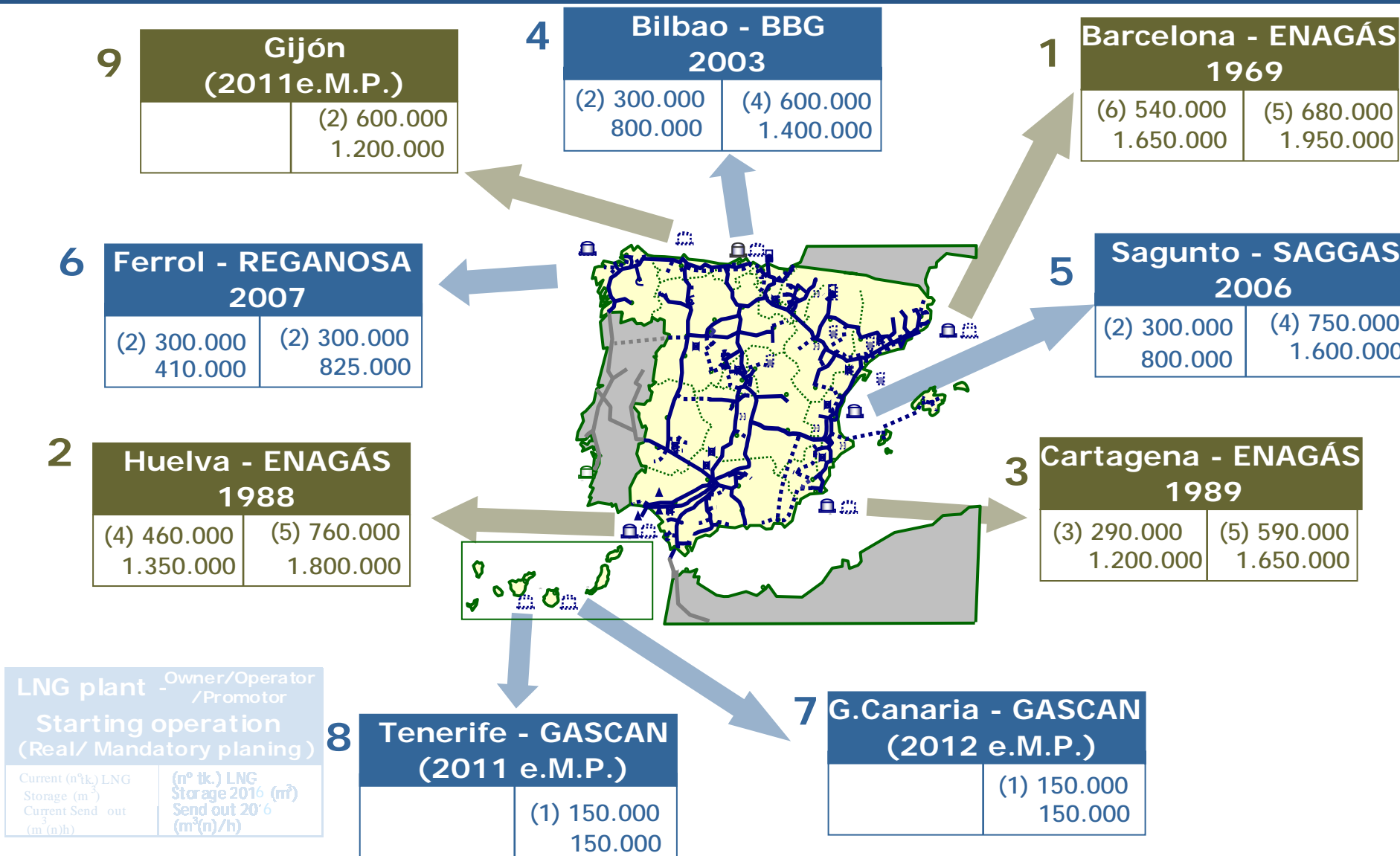


GWh

## Gas Demand in Spain (1984-2007)

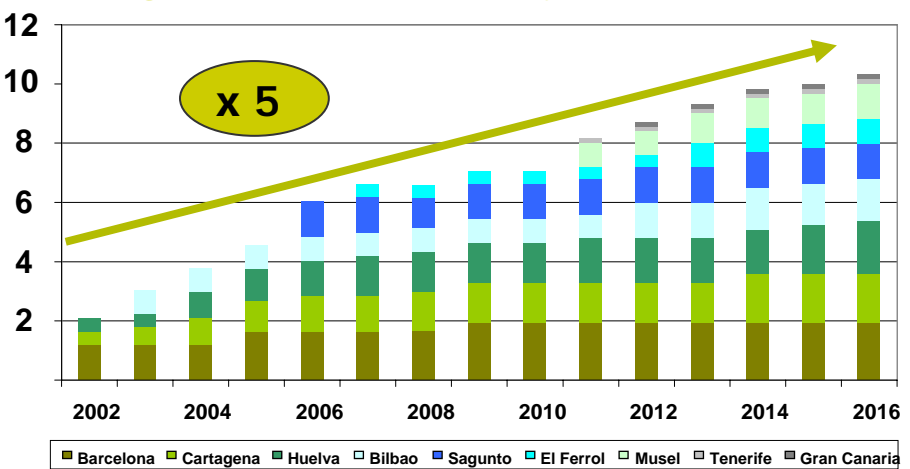


# Spain: LNG Terminals to 2016

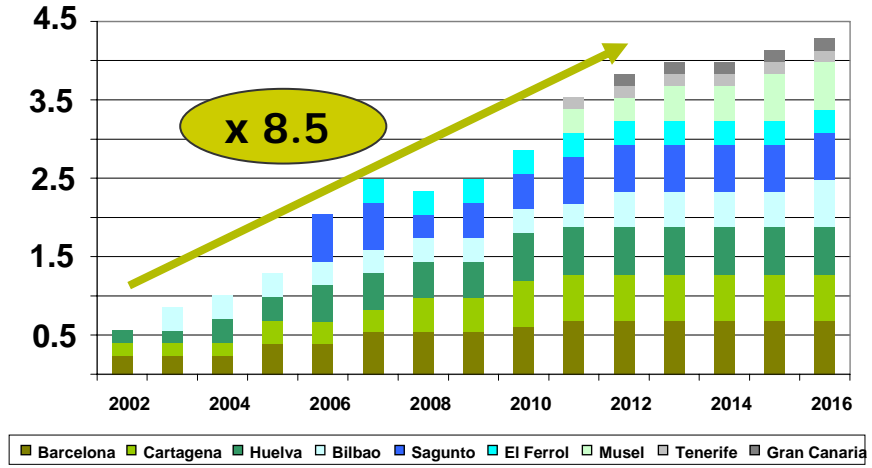


# Spain: LNG Infrastructure to 2016

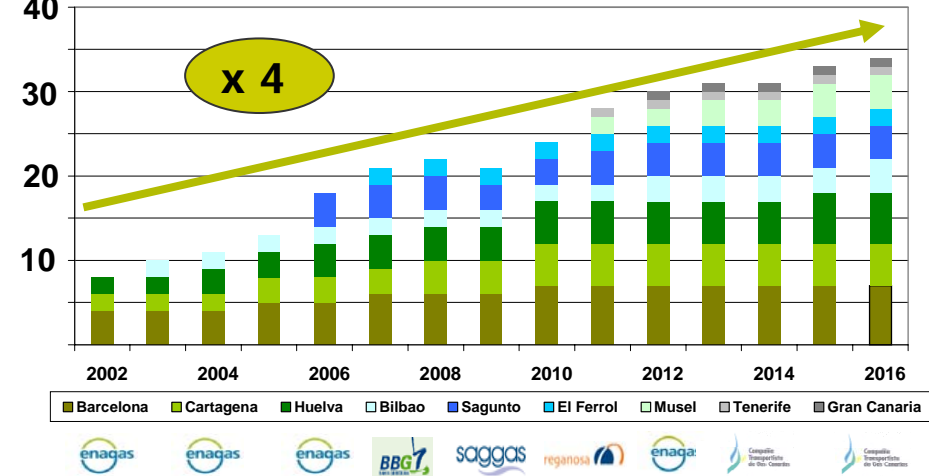
## Regasification Capacity [Mm<sup>3</sup>(n)/h]



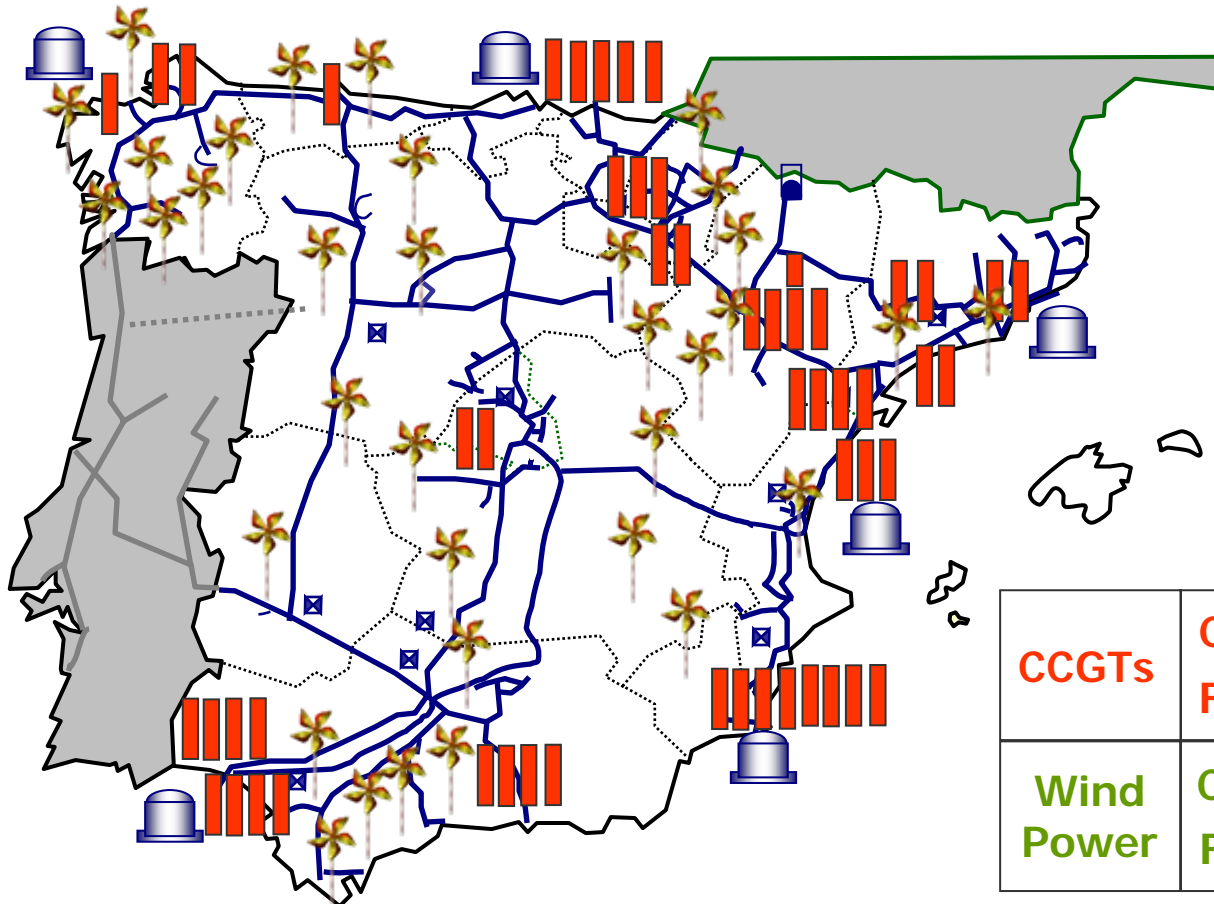
## Storage Capacity (Mm<sup>3</sup> LNG)



## Number of Tanks



# Wind Power & CCGTs in Spain



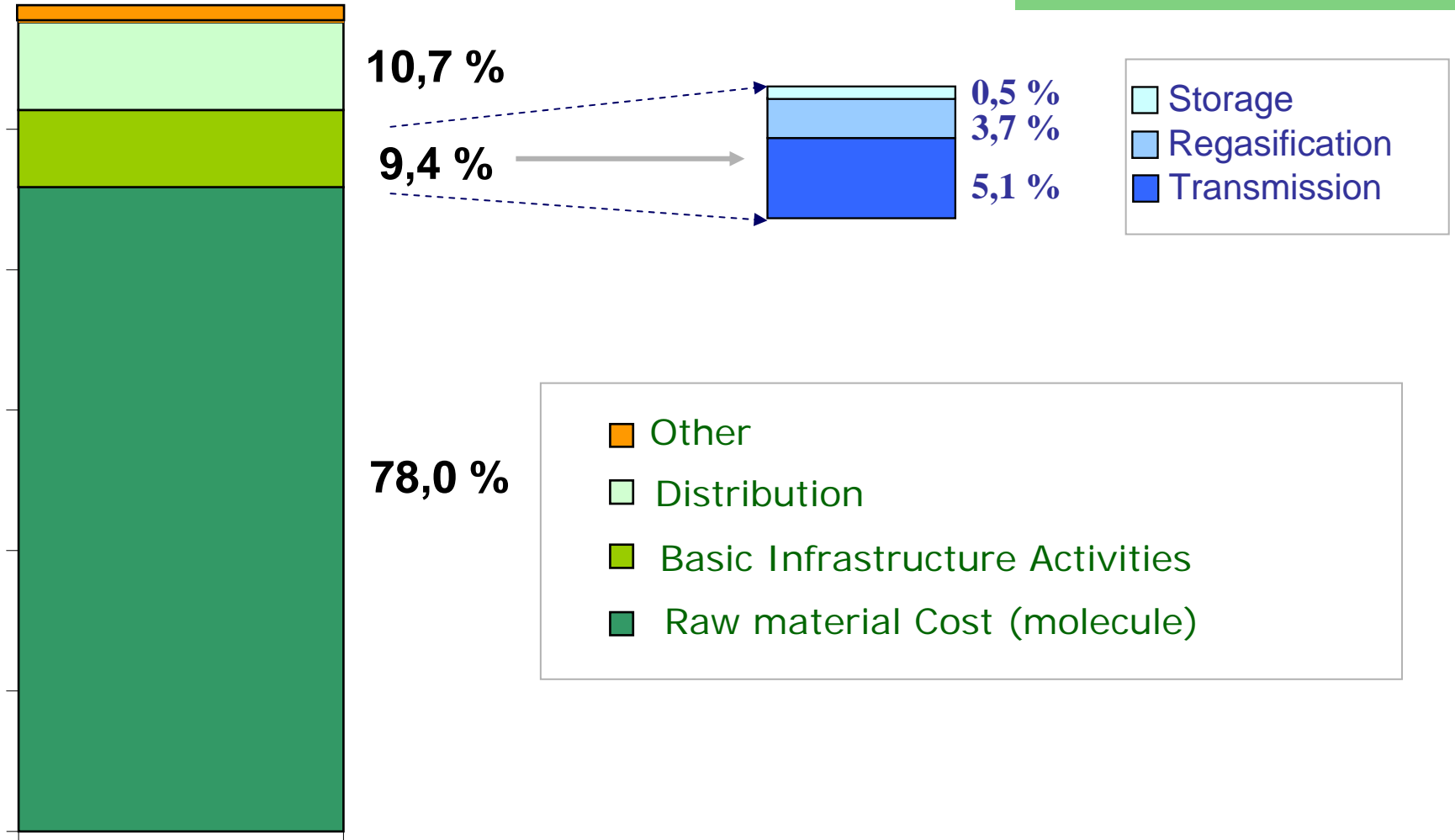
**Flexibility is Paramount!**

		Installed Capacity (GW)
CCGTs	Current	21
	Future (2016)	33
Wind Power	Current	15
	Future (2016)	29

- Wind Power generation means high electrical fluctuations.
- Wind Power generation are backed-up by CCGTs.
- CCGTs are backed-up by LNG.

# Cost of Regulated Activities

**2008 (+molecule)**





# LIBERALISATION PROCESS: THE RESULTS

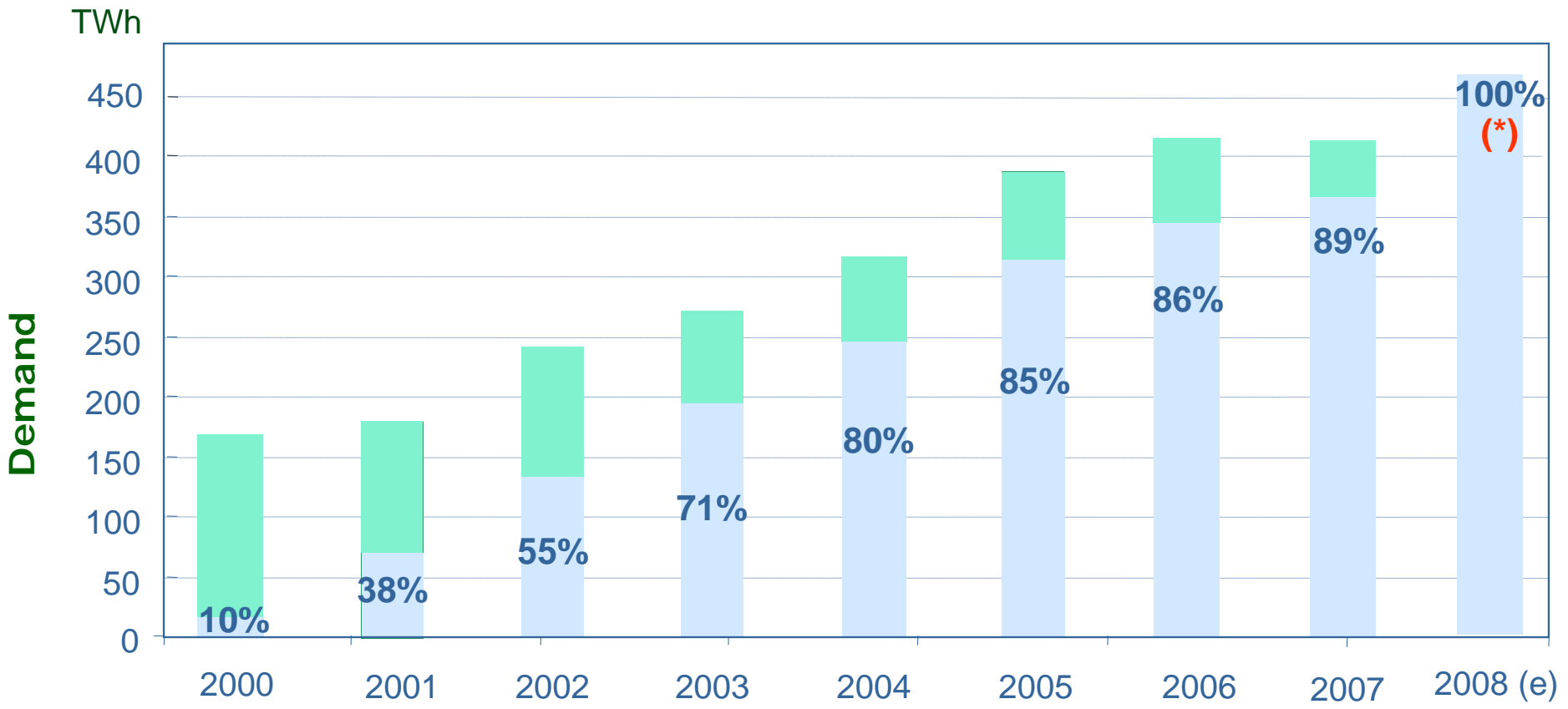


# Liberalisation: TBM & TPA markets



**Integral Tariff Based Market**

**TPA market**



**As from 01.01.2003 every customer is entitle to be eligible**

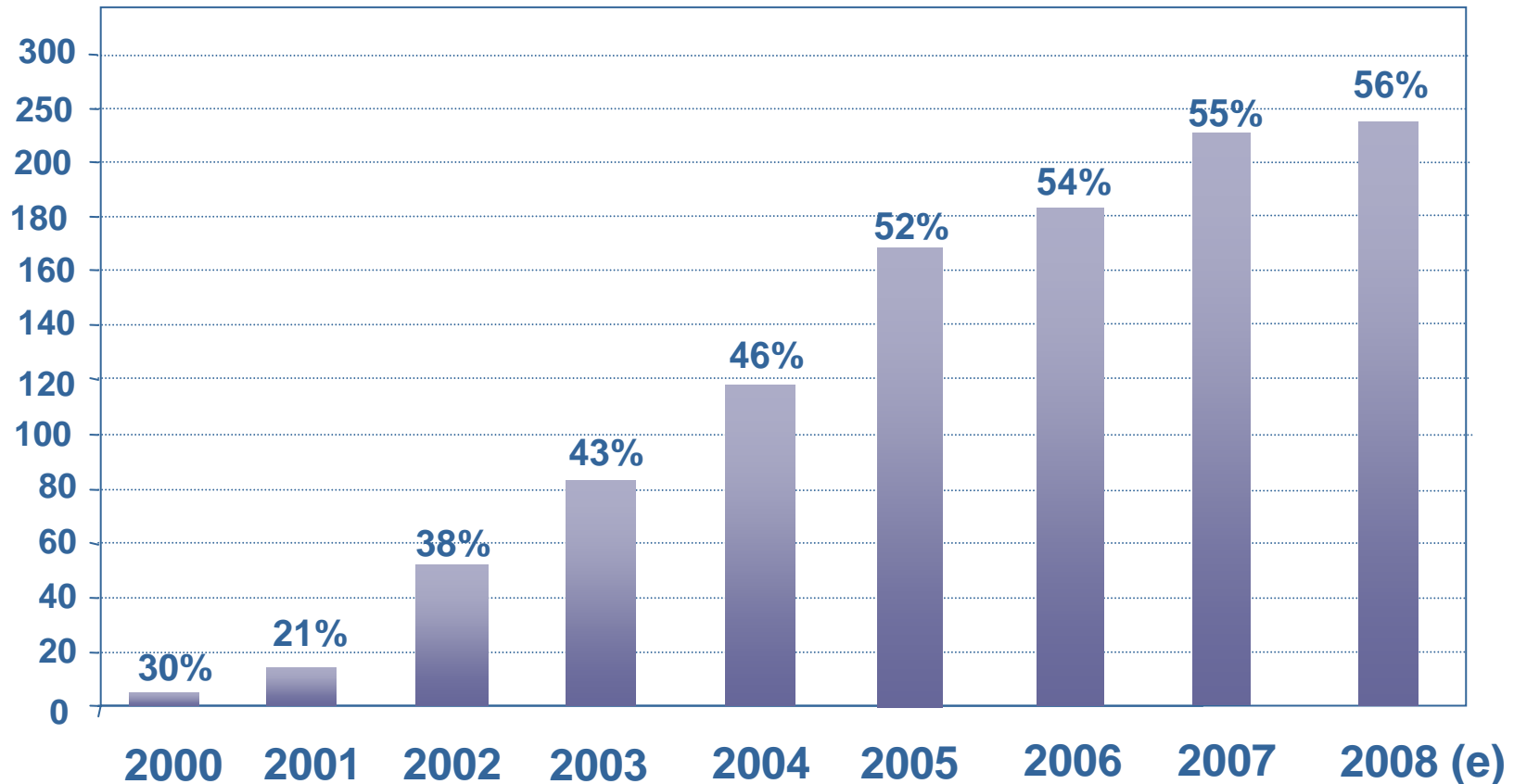
(\*) Since 1st July-08, the Integral Tariff Based Market has disappeared; all consumers are supplied in the TPA market



- Hundreds of TPA Contracts (for Transmission, LNG and UGSs), with more than 20 Shippers.

NEW ENTRANTS  
MARKET SHARE (TPA Market)

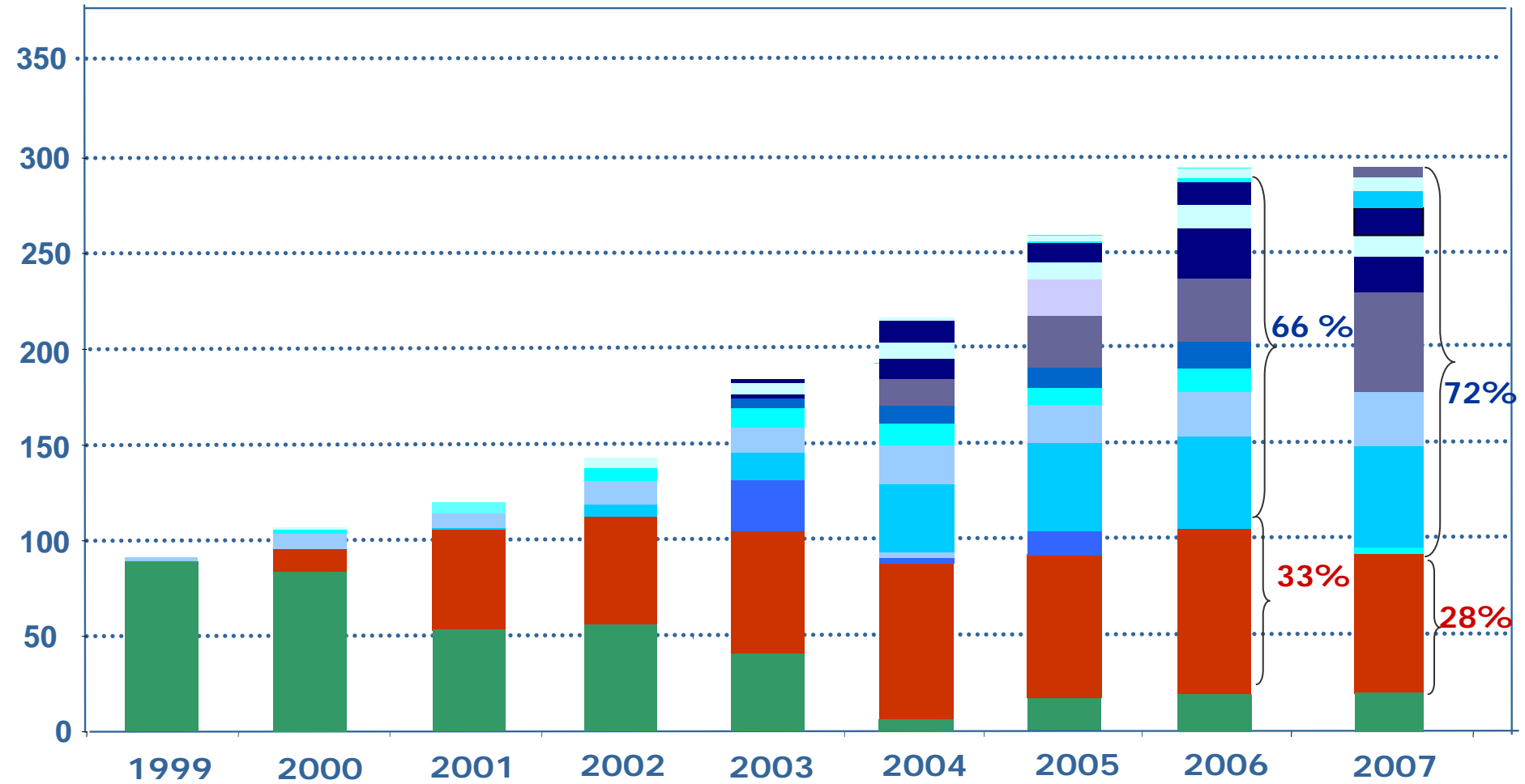
TWh



# LNG supplies to the Spanish Market



TWh

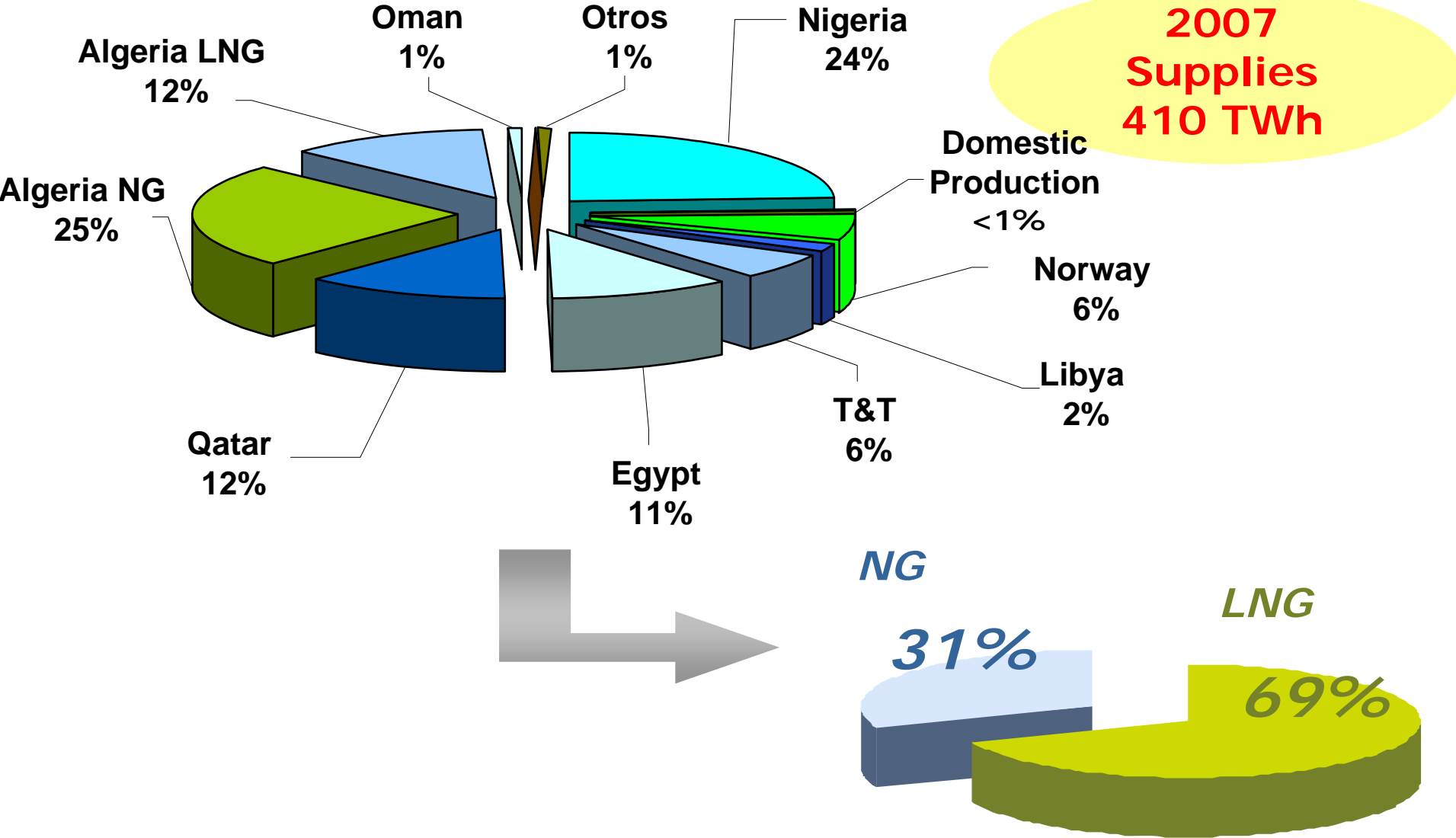


■ Integral Regulated Tariff Market   
 TPA market: ■ Incumbent ■ New entrants

# Active Shippers in Spain



# Supply Diversification 2007





# SUMMARY

- ✓ Regulated TPA to all Infrastructures
- ✓ Ownership Unbundling for Enagás
- ✓ Mandatory Planning for Infrastructure Development
- ✓ Investments

Liberalisation  
Competition  
SOS  
DOS

- 
- ✗ Ownership Unbundling not applied to all Infrastructure Operators in Spain

# Disclaimer

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# ENAGÁS, S.A.

[www.enagas.es](http://www.enagas.es)

A large, stylized version of the enagas logo. It features a thick, yellow-green arch above the word "enagas" in a bold, blue, lowercase, sans-serif font. The arch is positioned above the letters "n" and "a".