The gas market in France

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1. French gas association (AFG)
2. French gas market
3. French gas infrastructures
4. French gas industry challenges

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The gas union in France

- AFG is the union of the whole gas industry (natural gas, biomethane & liquefied petroleum gas)
- All business activities of the gas chain are represented: infrastructure operators, equipment & appliance manufacturers, installers, gas supply companies, etc.
- AFG aims to:
  - ✓ Promote the use of gas in France and the development of the industry
  - ✓ Represent its members besides French public bodies (Government, legislative bodies, regulator)
  - ✓ Add value to legislation, regulation and standardisation by taking part in drafting
  - ✓ Ensure international representation (IGU, Eurogas, Marcogaz)

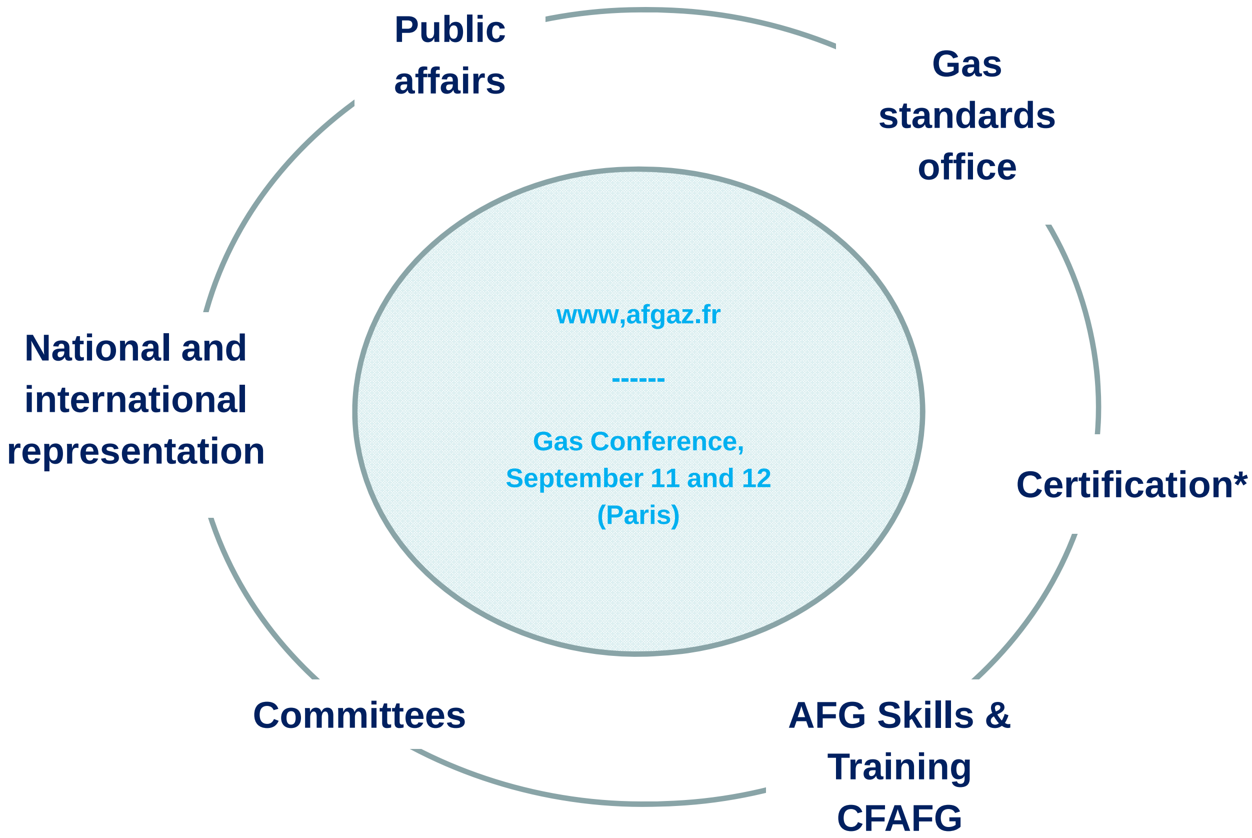
Our members

7 standing members

23 associated members

About 1000 individual members

AFG's activities



* Through Certigaz, a company jointly owned in equal shares with Afnor Certification

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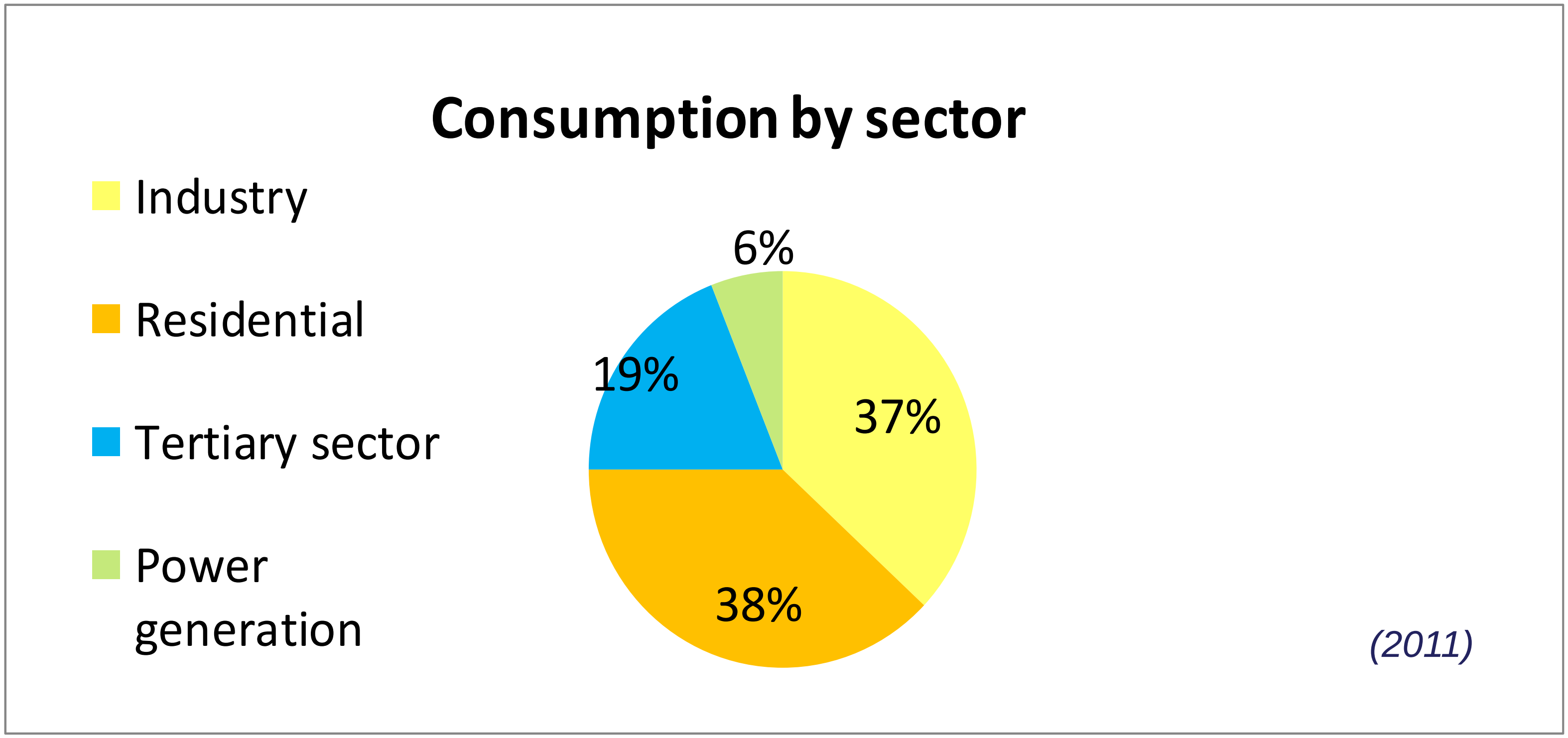
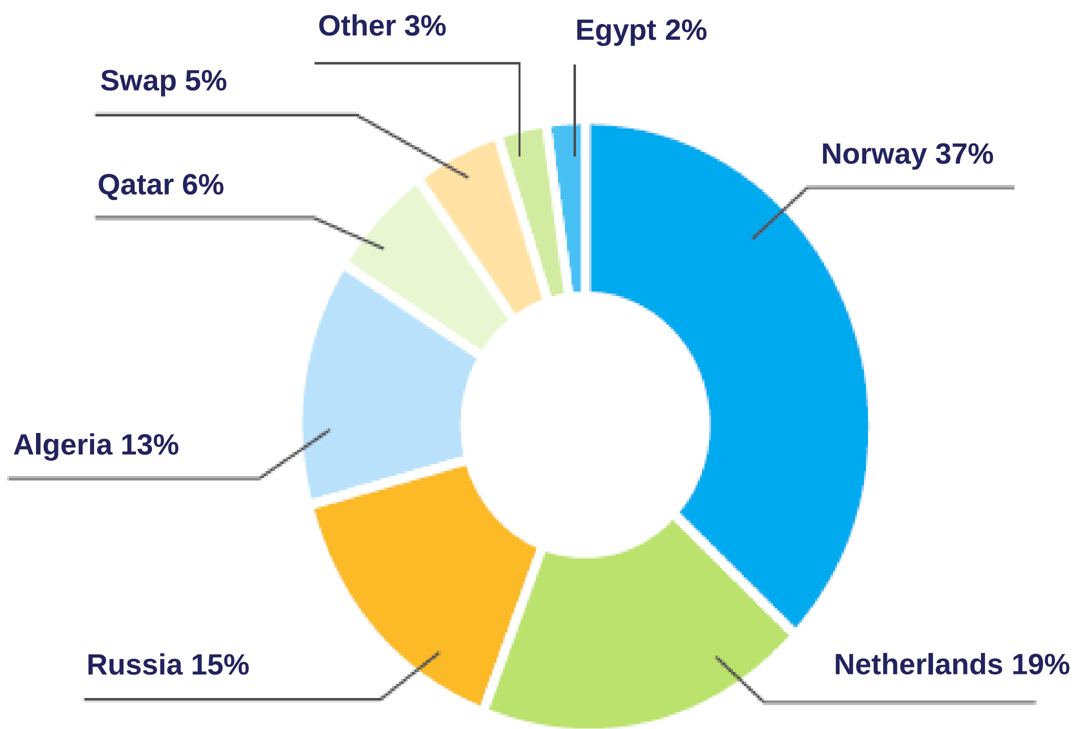
Gas consumption in France

- Gross consumption in 2012: 45 bcm *(source CRE)*
- Gas represents 15% of the primary energy-mix and 22% of the final consumption
- Due to the importance of the residential- and commercial sector, French gas demand is very sensitive to weather conditions.



Gas supply in France

Origin of natural gas in France (2011)



- Strong diversity of supply
- Almost 30% of LNG imports

Gas market opening

- In France, gas supply mainly was ensured by Gaz de France from 1946 till 2007.
- Two major Directives : Directive 98/30 of 22 June 1998 + Directive 2003/55 of 26 June 2003 set up a large market for natural gas.
- These directives have been transposed into National Law (cf January 3, 2003 / August 9, 2004). Amendments introduced 7 December 2006.

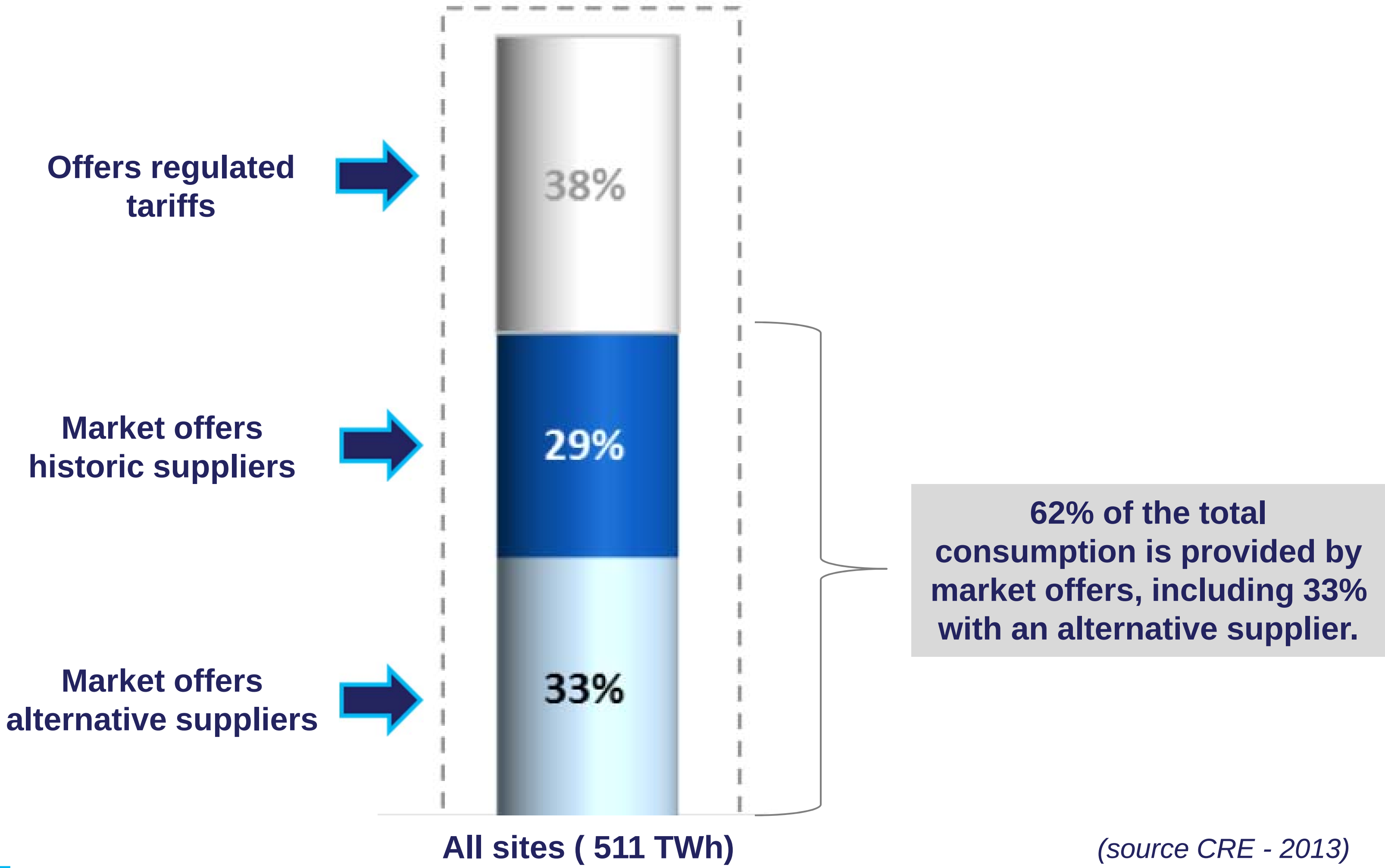
- **Gradual market opening:**

August 2000	August 2003	July 2004	Since July 2007
20% of the market, 600 sites (consumption > 237 GWh/year) ;	**37% of the market**, 1200 sites (consumption > 83 GWh/year ;	**70% of the market**, 640000 professional sites	**French market is completely open** (more than 11 million customers)

(source DGEC)

The gas market in France

Share of annualized consumption for each contract on 31 December 2012



(source CRE - 2013)

Actors and competition: Overview

- **124 suppliers** are registered with the French Ministry of Energy (including GDF Suez and 22 local distribution companies);
- **Of the 124 authorized suppliers**, end users provide 81 and 43 are only buying for resale to other suppliers
- **Suppliers** can provide several segments (distribution, transmission or both).

(source DGEC, CRE)

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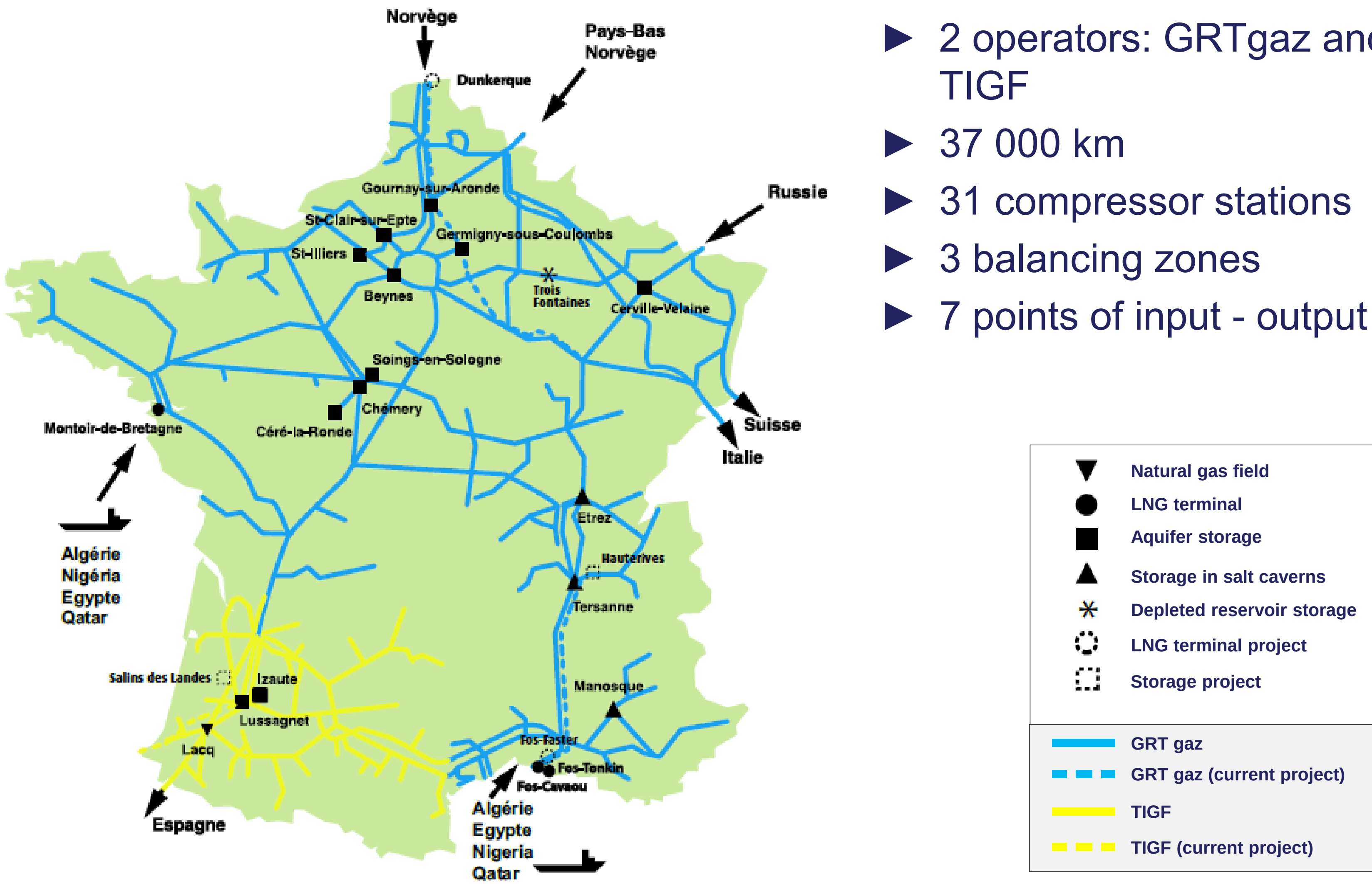
Transmission network

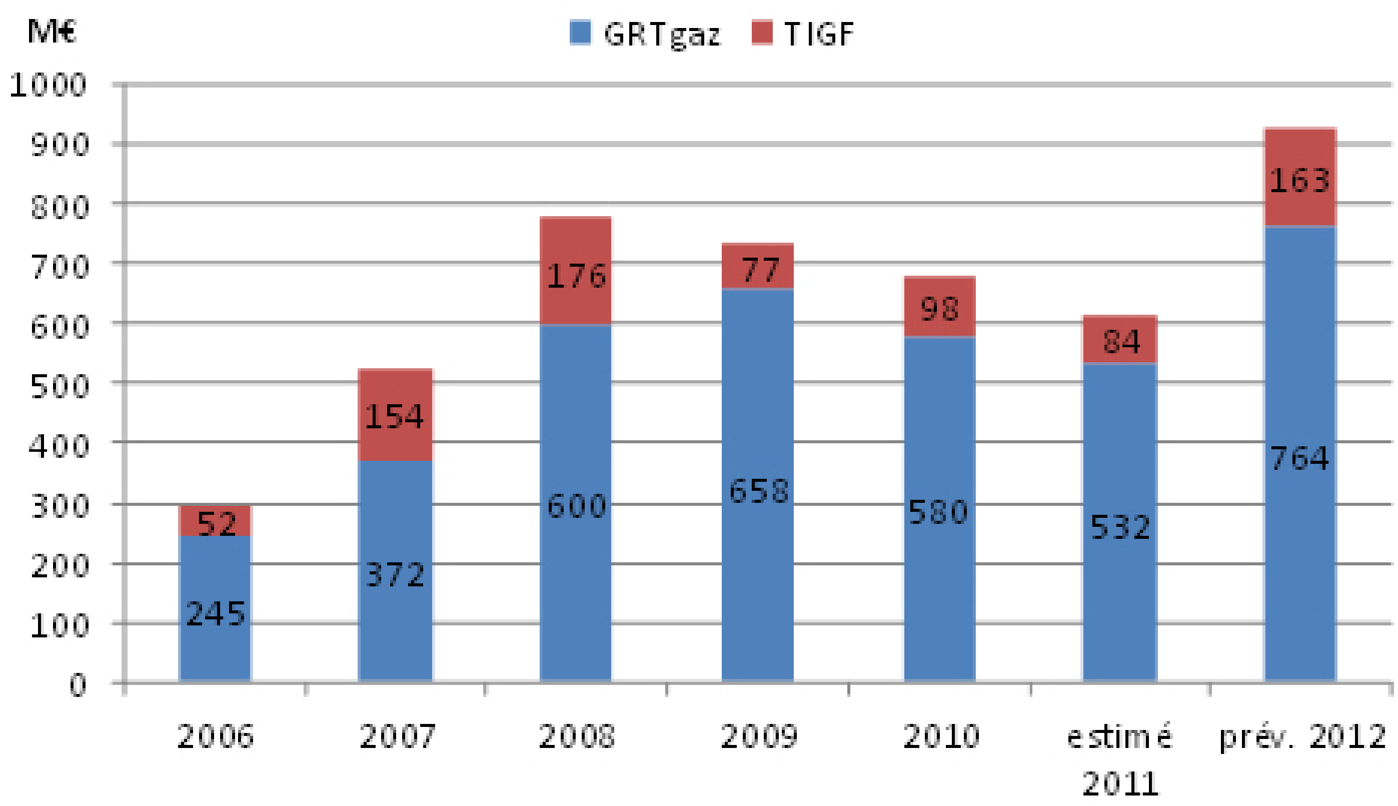


- 2 operators: GRTgaz and TIGF
- 37 000 km
- 31 compressor stations
- 3 balancing zones
- 7 points of input - output

(source CRE – october 2012)

TSO's investments

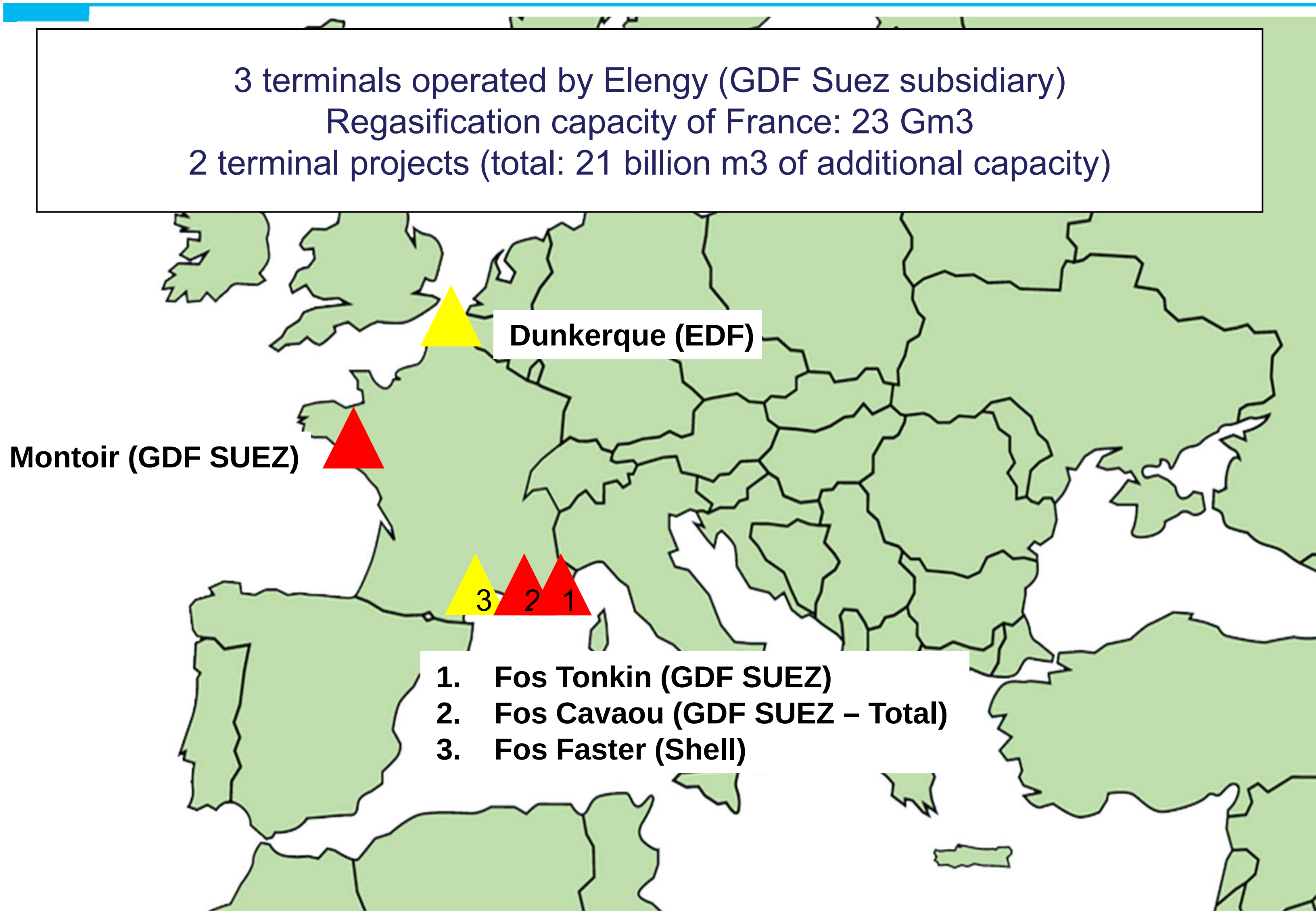
Evolution of annual programs



(source CRE)

LNG

3 terminals operated by Elengy (GDF Suez subsidiary)
Regasification capacity of France: 23 Gm3
2 terminal projects (total: 21 billion m3 of additional capacity)



1. Fos Tonkin (GDF SUEZ)
2. Fos Cavaou (GDF SUEZ – Total)
3. Fos Faster (Shell)

LNG terminal projects

► Dunkerque LNG - under construction

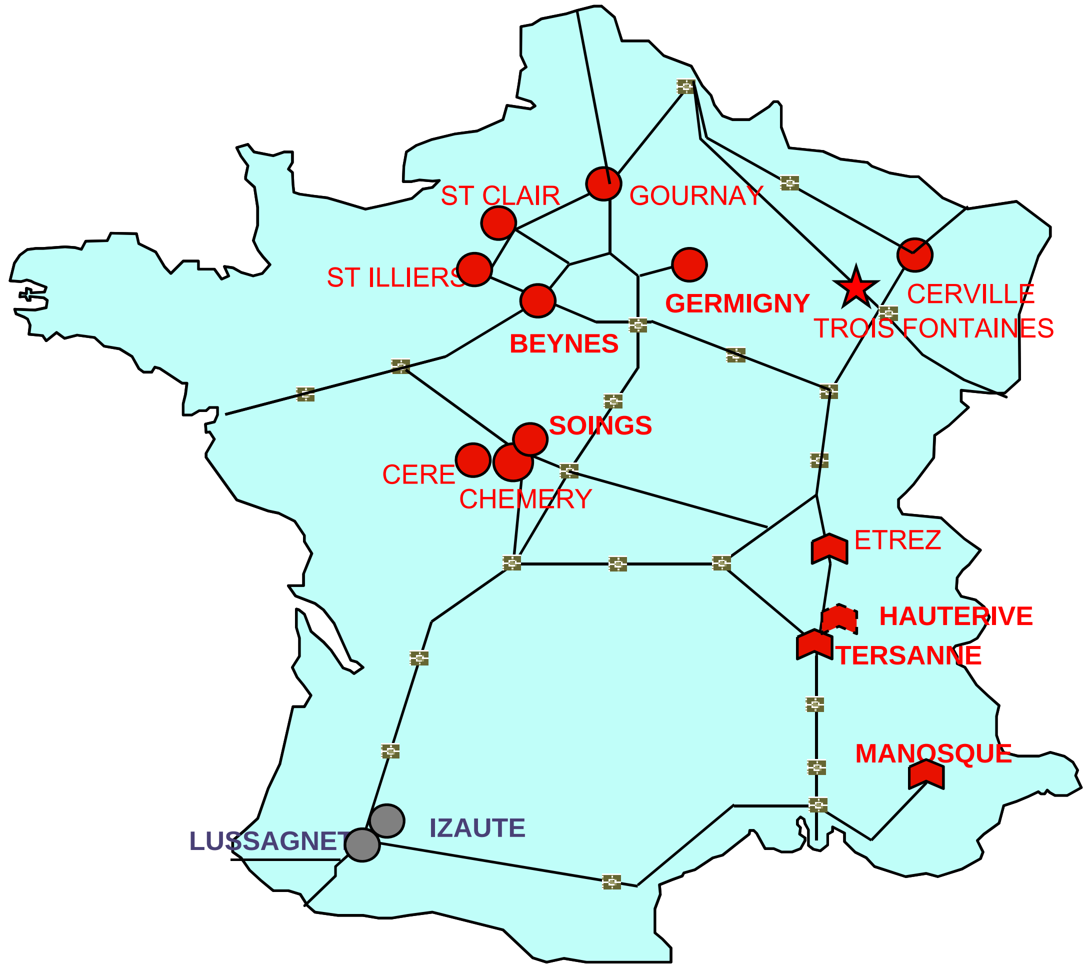
- ✓ The second largest French industrial site
- ✓ EDF, Fluxys et TOTAL
- ✓ Commissioning into 2015.
- ✓ Volume: 13 bcm
- ✓ Investment: 1,5 billion €

► Fos Faster

- ✓ Shell - Vopak
- ✓ Implementation scheduled for late 2016
- ✓ Volume: 8 bcm (or 16 bcm)
- ✓ Investment : 800 M €

Storage

- 15 sites in operation
- 1 project (Hauterive)
- 12 bcm working volume which represents 25% of French consumption
- 2 operators: Storengy and TIGF



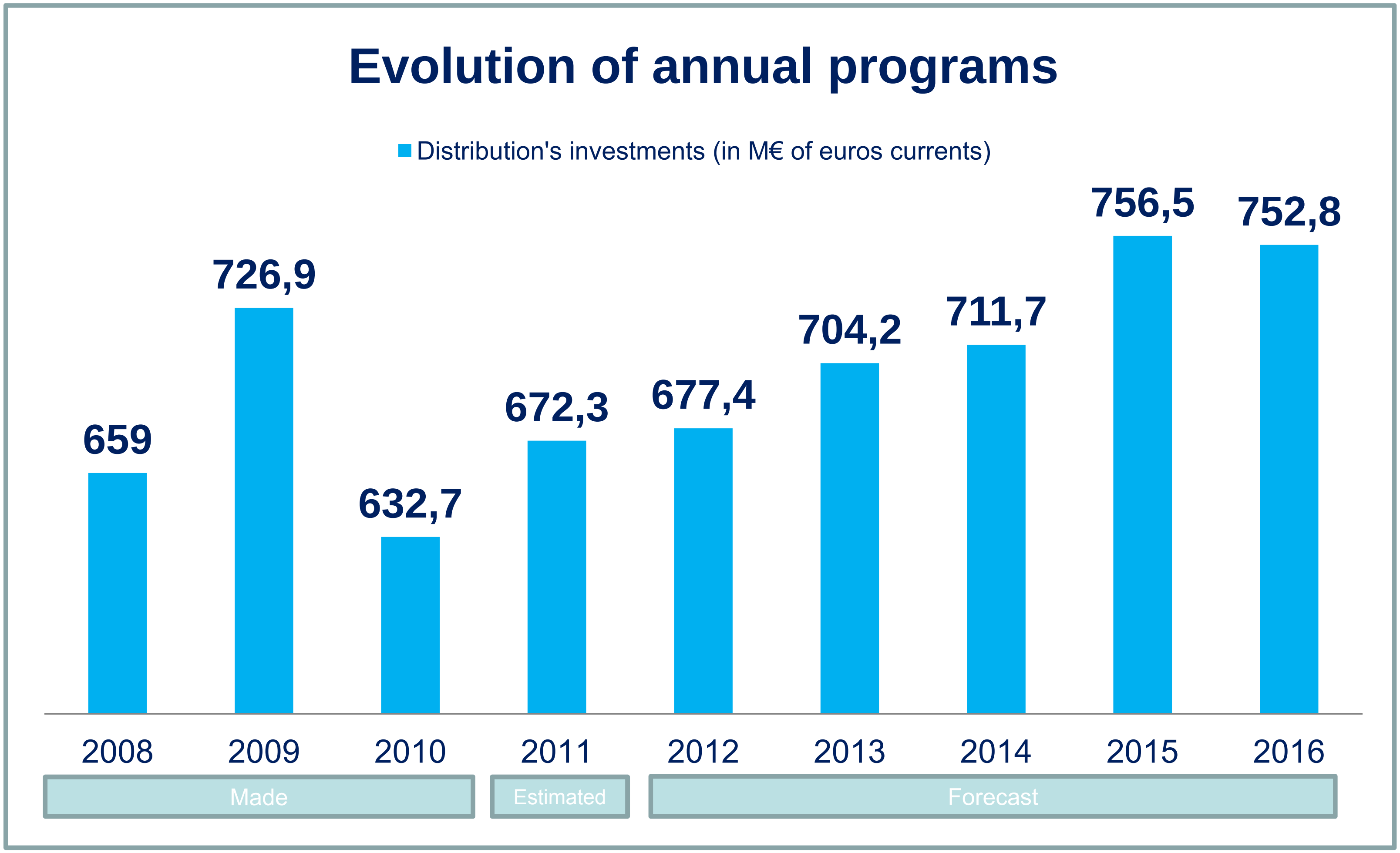
Aquifer storage
Storage in salt caverns
Depleted reservoir storage
STORENGY
TIGF

Distribution in France

- 200,000 km
- Pipe to medium or low pressure
- 9550 towns are connected (80% of the French population)
- GrDF subsidiary of GDF SUEZ operates 96% of the distribution market
- 22 local distribution companies share the rest of the market
- A new comer : Antargaz
- GrDF spends 1M€ per day for network safety.

(source AFG)

Distribution's investments



(source CRE)

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French gas industry challenges

- **Coal competitiveness:**
  - Use of gas in power generation slump in all Europe and in France (from 30.5 to 23.2 TWh in 2012)
  - Due to cheap coal exported from the US where cheap gas is now used in power generation, and weak CO_2 signal on ETS.

- **Gas in the future energy mix**: French government has launched national debate on energy transition. The gas must make its case :
  - It's a support to the development of the renewables (backup in power generation, micro generation)
  - It's an asset to the decarbonisation of the energy mix (biomethane),

- **Energy efficiency:**
  - New European regulatory Context: European directive on Energy efficiency
  - French legislation : energy saving certificates, RT 2012, coming action plan for renovation in buildings

Thank you for your attention

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