Gas Regional Investment Plan

South Region

Second Edition

Stakeholders Consultation

GRIP WS – 26 November 2013

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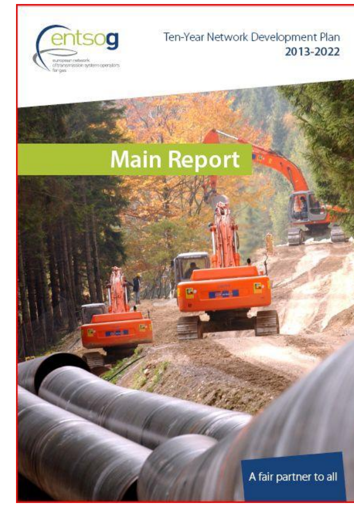
Perimeter /Objectives

- **3 Countries (FR, SP, PT) and 4 TSOs**
- **Main drivers/objectives**
  - **Complementing the EU-TYNDP 2013**
  - **Feedbacks received:**
    - → *updated information / TYNDP*
    - → *More harmonization (with ENTSOG assistance)*
    - → *More communication/consultation*
    - → *More comprehensive approach on the system needs and on remedies (projects)*



- **EU energy policy, "Trans-European energy infrastructure"** (17/04/13)

"The strategic concept of the North-South Corridor in Western Europe, that is to better interconnect the Mediterranean area and thus supplies from Africa and the Northern supply Corridor with supplies from Norway and Russia." (EC, EIP for 2020)

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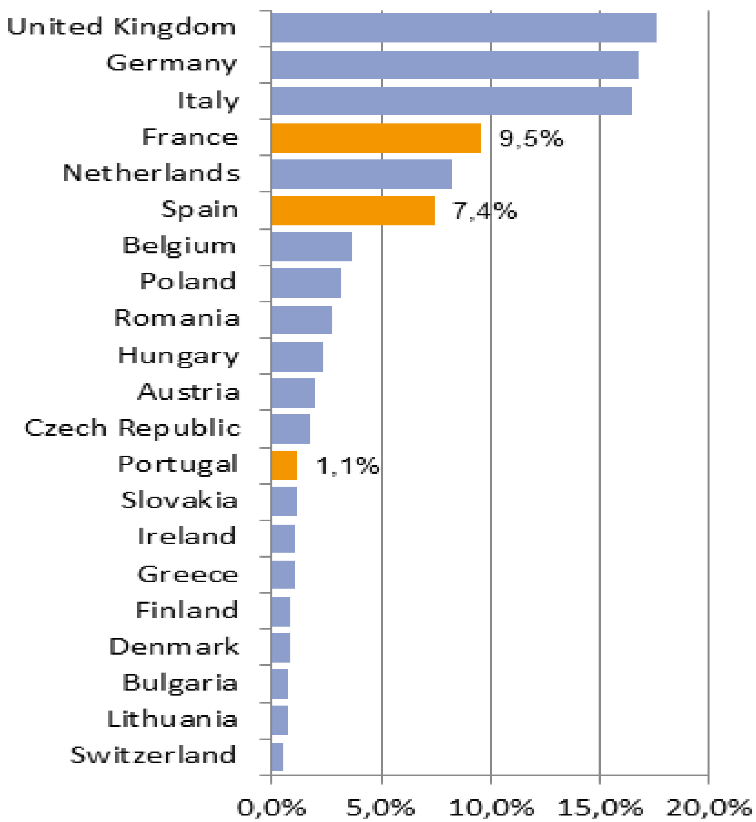
GRIP South – Demand ANALYSIS (2011)

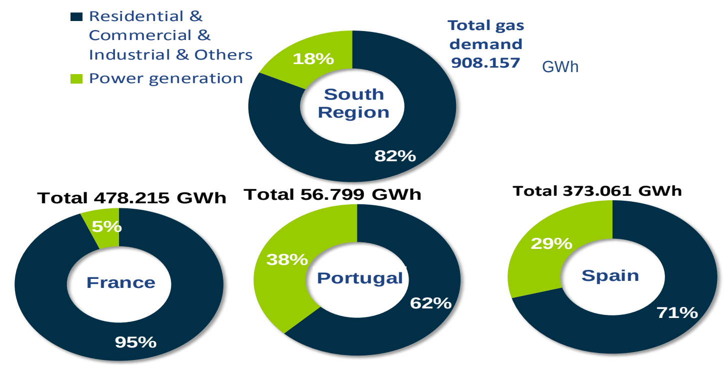
Weight/size of the South Region:

18% of EU gas demand

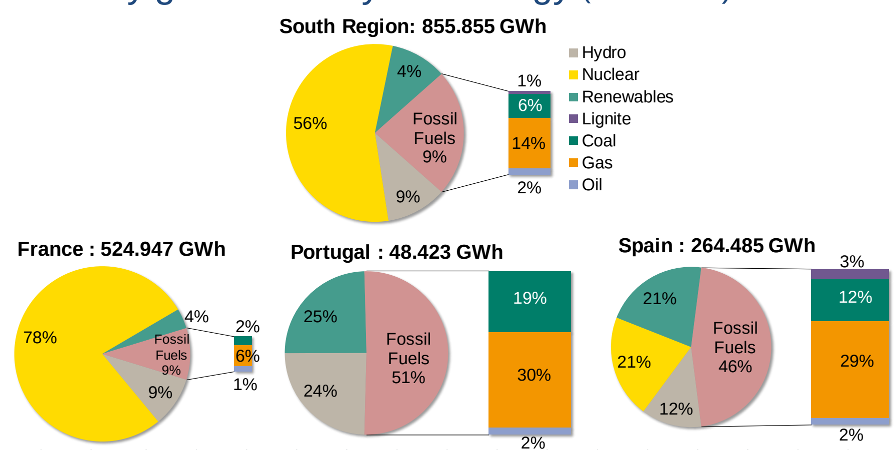


Focus on the Power generation sector:

- Growing sector
- Lost of competitiveness / coal
- Differences / countries



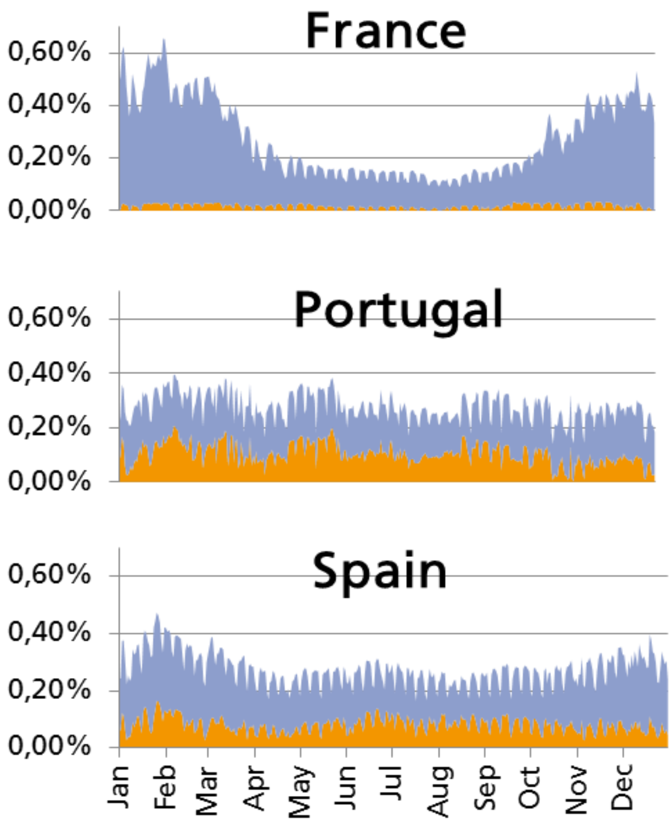
Electricity generation by technology (ENTSO-E)



GRIP South – Demand
Other analyses & Forecasts

Modulation analysis

(Ratio Day/Year in 2011)

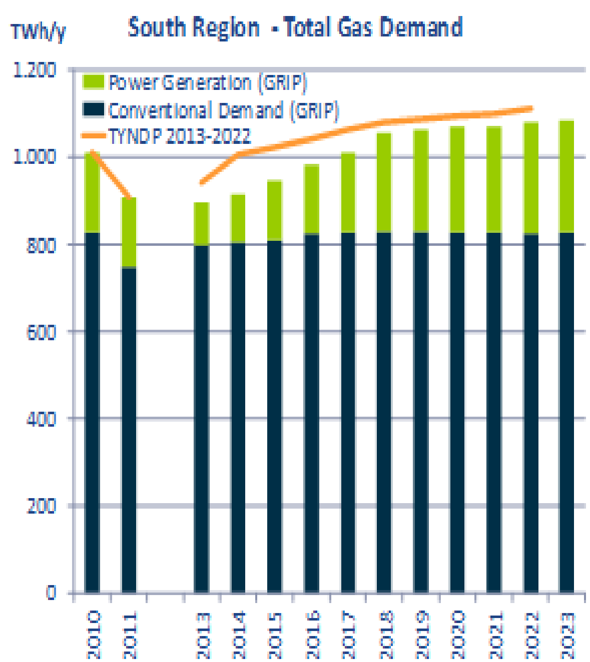


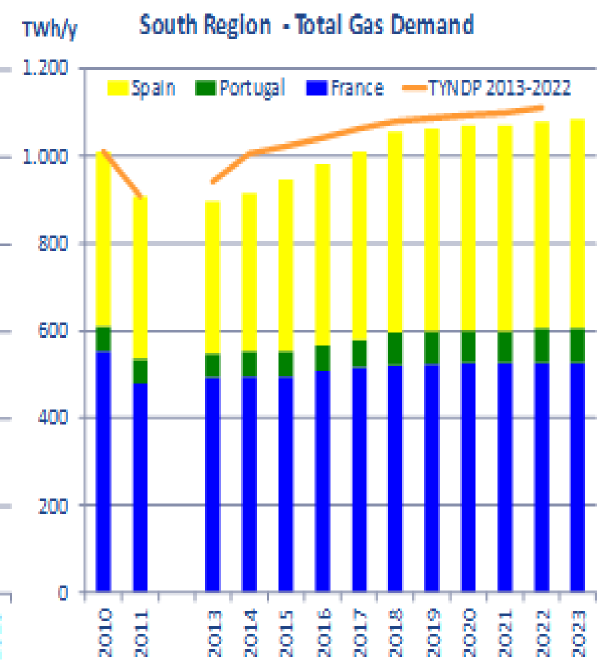
Residential + Commercial + Industrial

Power Generation

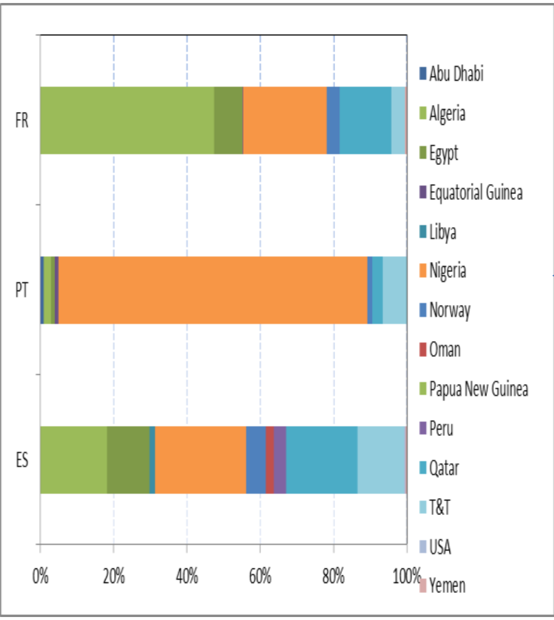
Demand forecasts:

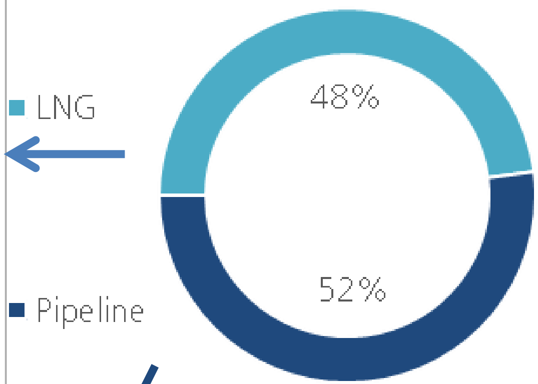
- **Updated:** yearly volumes, peak days and cold period
- **Analyzed:**
  - -By sectors (power gen.)
  - -Evolution / TYNDP



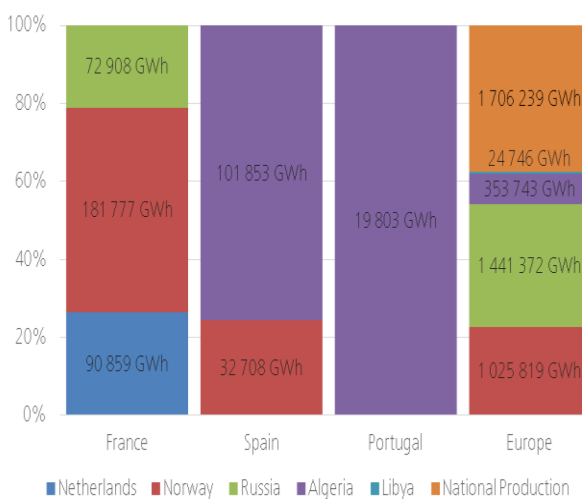


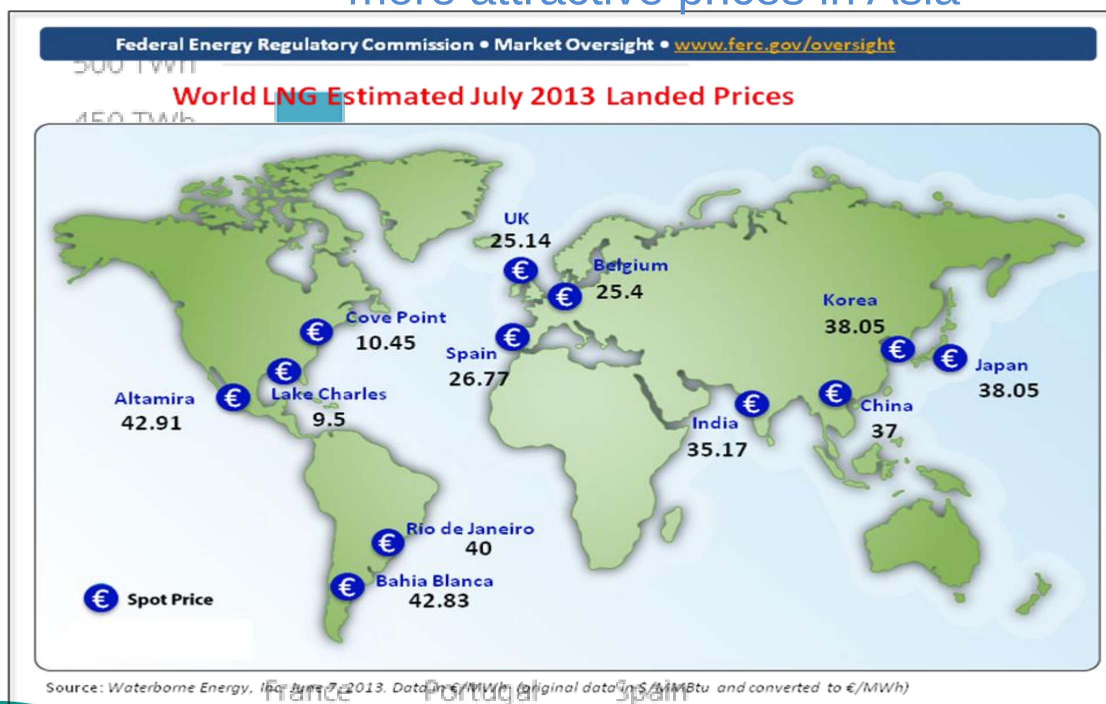
GRIP South – Supply Overview





- Imports (99%)
- 48 % LNG (16% at EU level)
- Very diversified portfolio (14) but not homogeneous by countries
- Word LNG market but currently more attractive prices in Asia





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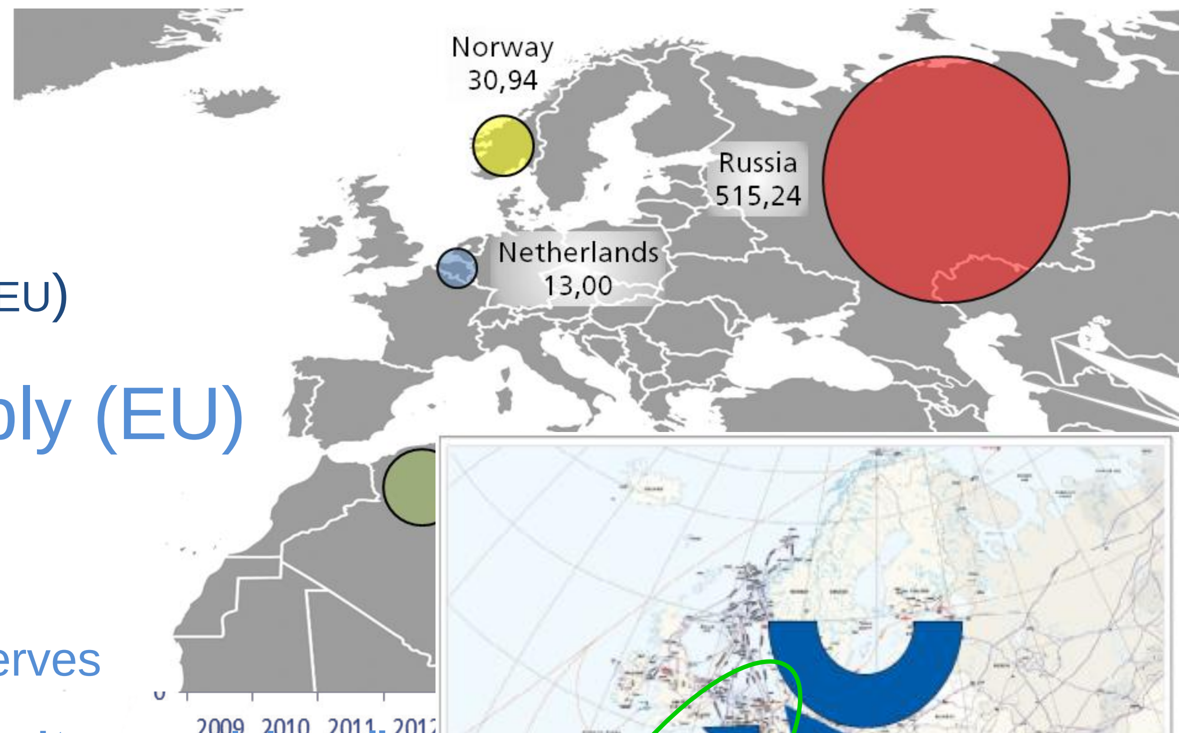
GRIP South – Supply
Needs and forecast

Proven conventional gas reserves , in 10^3 TWh



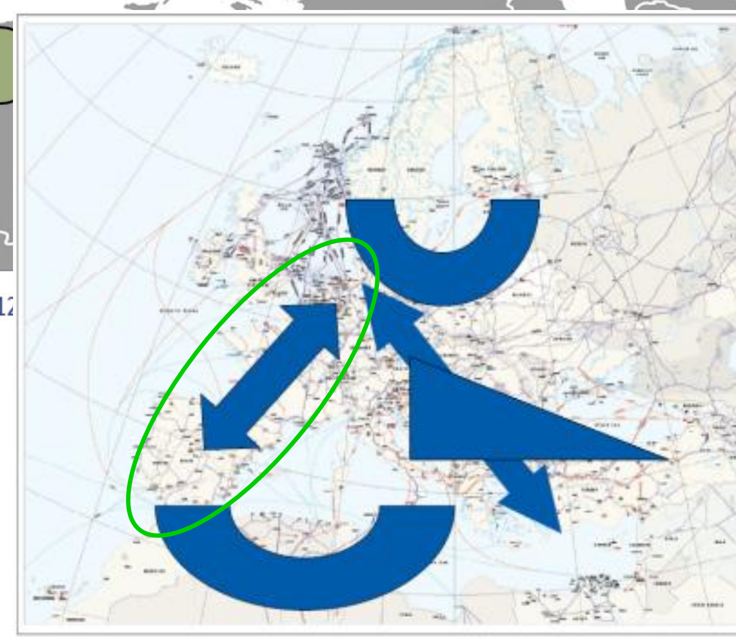
- **Decline of EU gas production**

- **Growth in demand**
(world, uncertainties on LT for EU)

- **Additional Gas Supply (EU)**
  - Non conventional gas → EU?
  - Biogas → LT
  - LNG
  - Local (by pipe) conventional reserves

- **Infrastructures: "EU Priority corridors"**

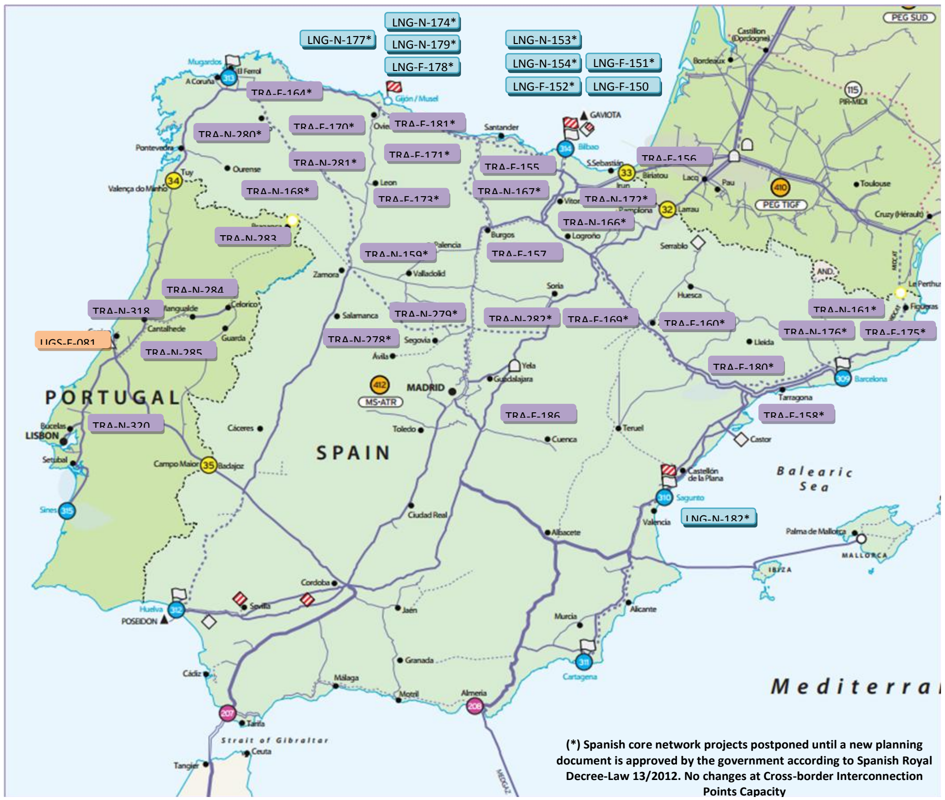
North-South Corridor to better interconnect Portugal, Spain and supplies from Algeria to the Northern supply Corridor with supplies from Norway and Russia.



GRIP South – Projects

78 <u>infrastructure</u> projects (/302 identified by ENTSOG) :

→ Updated (2013)
→ breakdown FID and non FID

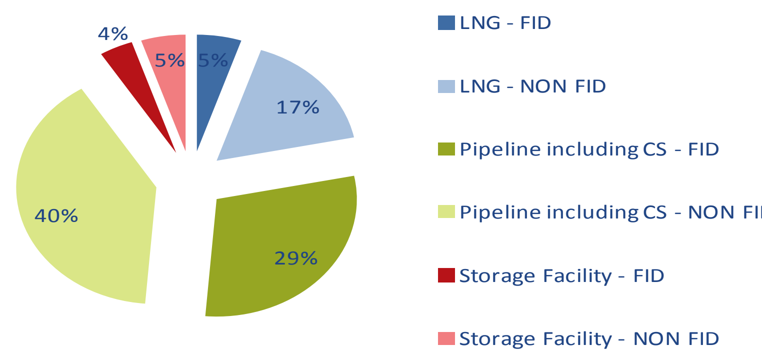


TRA-F-XXX

UGS-N-XXX

LNG-N-XXX

Projects in the South Region



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GRIP South – Projects

Updated and comprehensive source of information on Projects:
- Projected commissioning
- Impact on capacities

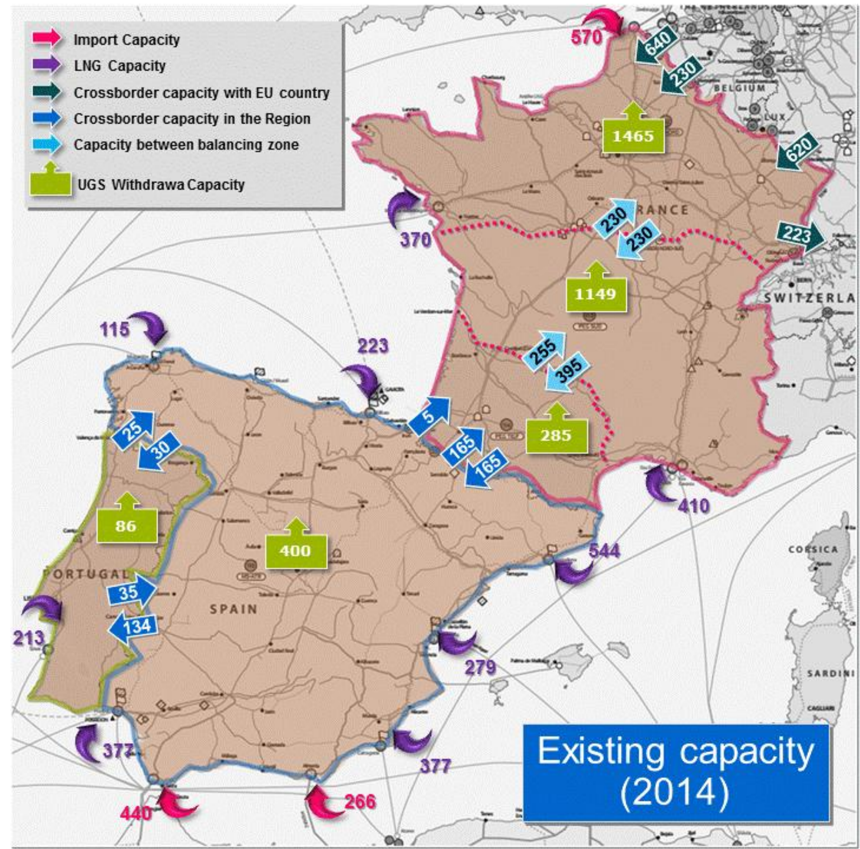
→ used in the network assessments (simulations)

FID Capacity (GWh/d)	Flow direction	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
1 Valença do Minho (PT) / Tuy (SP)	SP>PT	30	30	30	30	30	30	30	30	30	30
	PT>SP	25	25	25	25	25	25	25	25	25	25
2 Badajoz (SP) / Campo Maior (PT)	SP>PT	134	134	134	134	134	134	134	134	134	134
	PT>SP	35	35	35	35	35	70	70	70	70	70
I Mangualde (PT) / Zamora (ES) (3rd Spain / Portugal IP)	SP>PT						75	75	107	107	142
	PT>SP						50	50	97	97	142

nFID Capacity at existing IP
nFID capacity at future IP development

FID Capacity (GWh/d)	Flow direction	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
3 Biriatou (FR) / Irun (ES)	SP>FR(TIGF)	5	5	5	60	60	60	60	60	60	60
	FR(TIGF)>SP										
4 Larrau	SP>FR(TIGF)	100	165	165	165	165	165	165	165	165	165
	FR(TIGF)>SP	100	165	165	165	165	165	165	165	165	165
II Le Perthus	SP>FR(TIGF)										230
	FR(TIGF)>SP										80

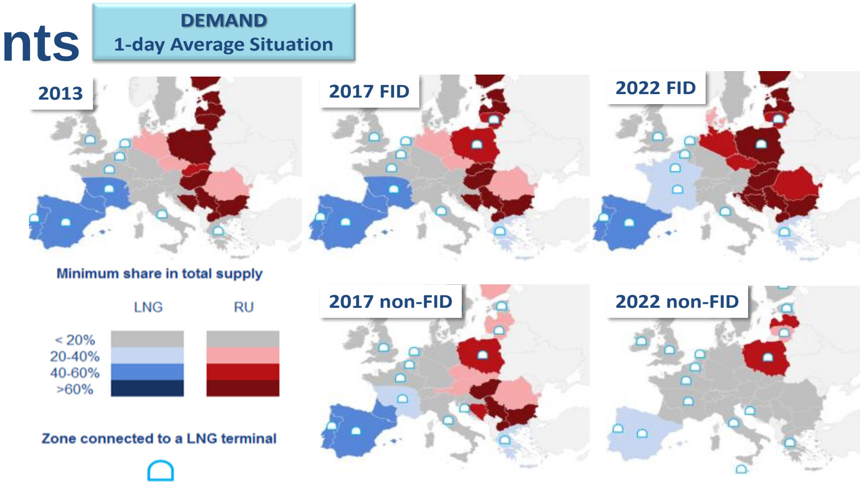
nFID capacity at future IP development

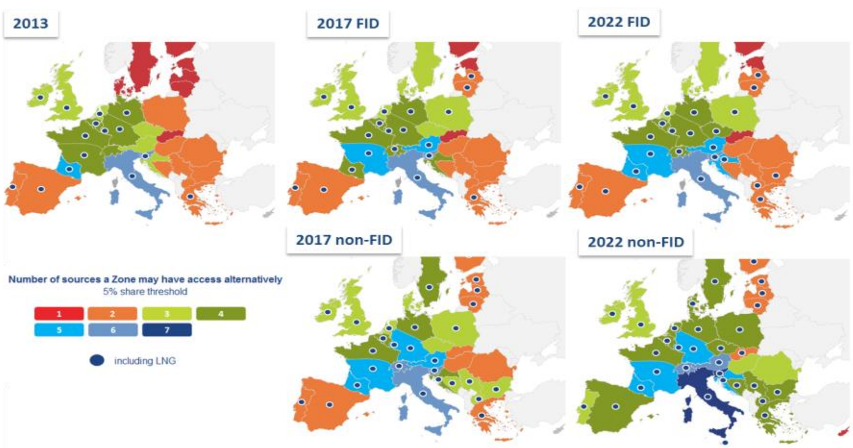


GRIP South – Assessments

In-depth analyses of TYNDP Assessments

- Resilience assessment (stress conditions)
- Supply source dependence
-Network adaptability to supply evolution
-Capacity for supply source diversification



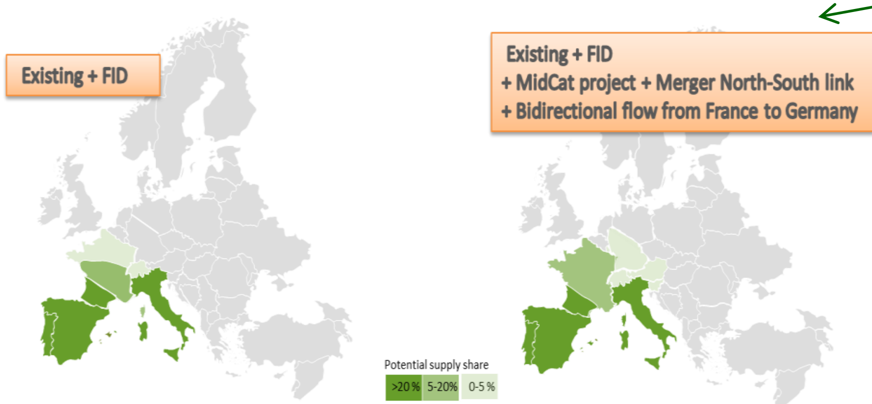


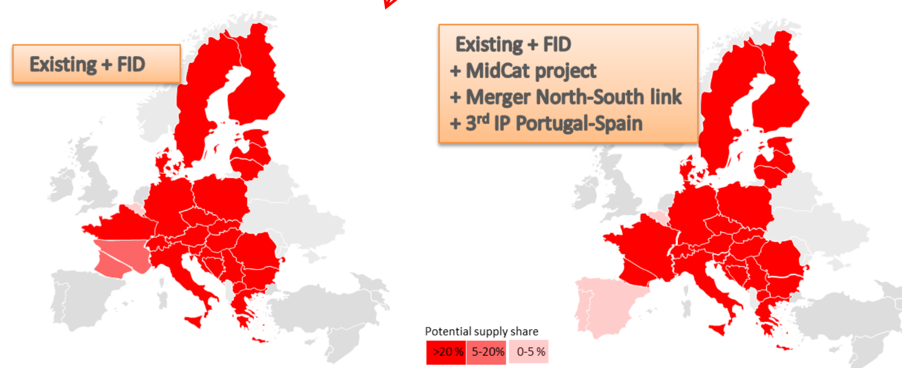
Additional studies (sensitivity)

- Resilience to low LNG delivery

-...

- Spread of Algerian/Russian gas through Europe





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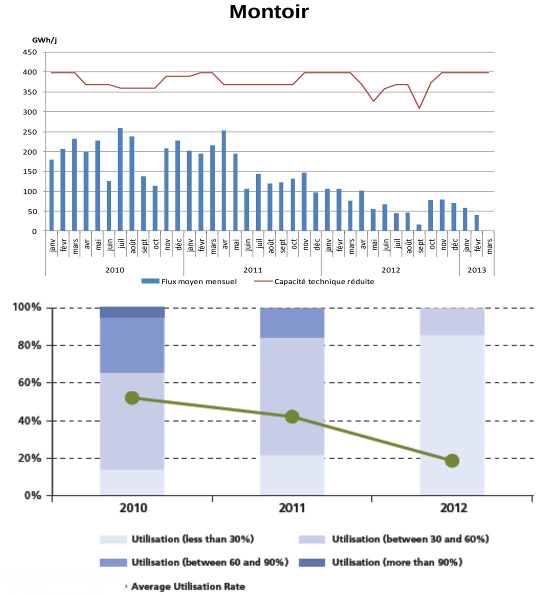
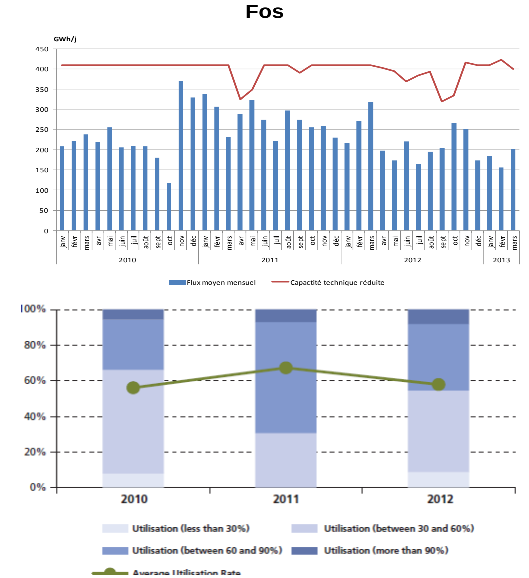
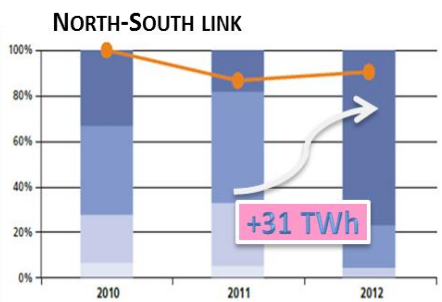
GRIP South – Assessments

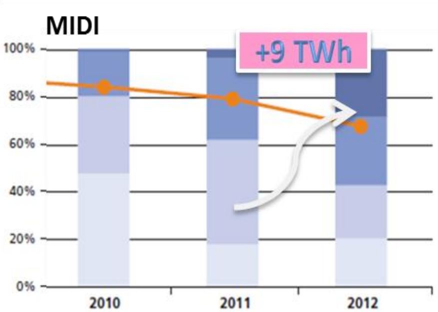
Additional analyses & information:

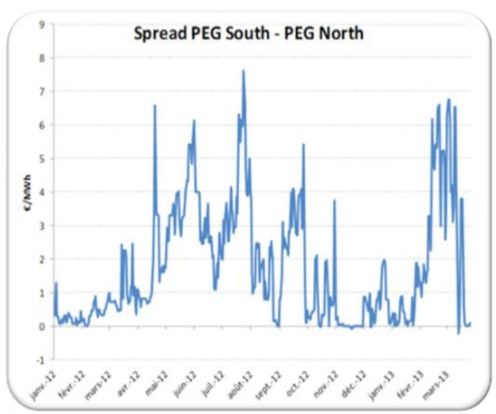
- Divergence of prices,
- IP capacity utilization
- PT: Fulfillment of N-1 criterion
- Odourisation issue (/ rest of EU)

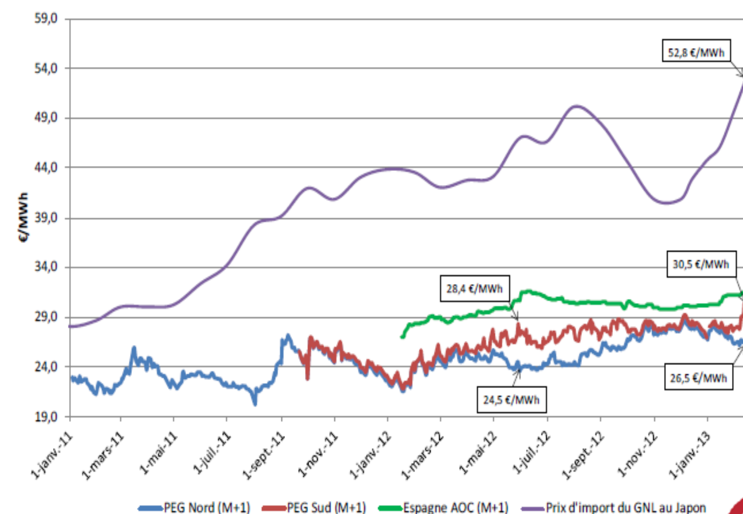












Sources : Bloomberg, ICIS Heren ; Analyse : CRE

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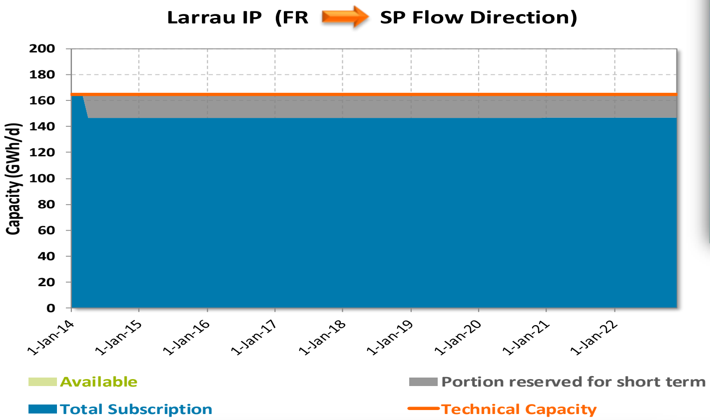
GRIP South – Assessments

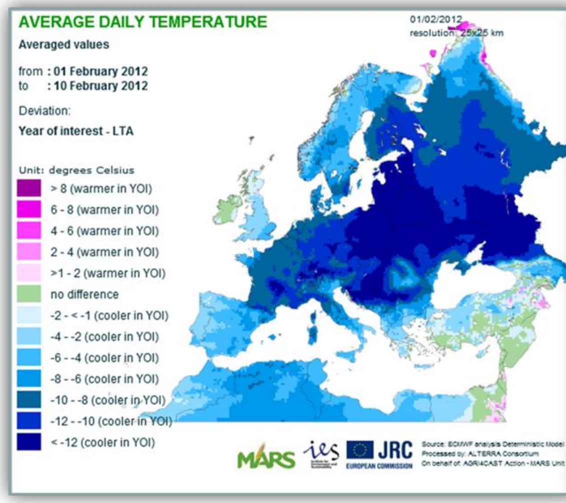
Specific analyses:

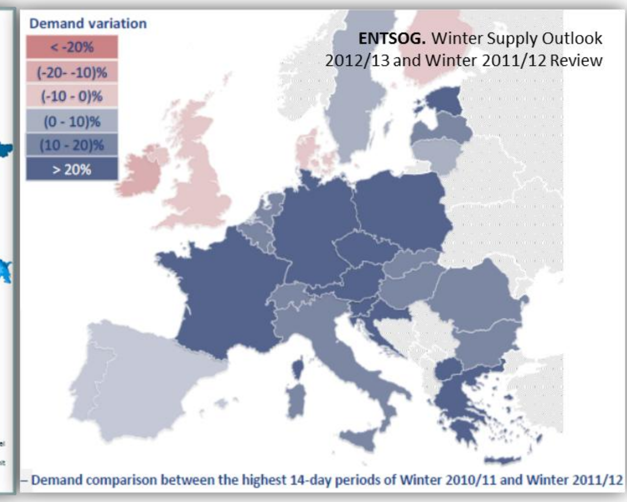
-Evolutions: 2012 vs 2011, UGS

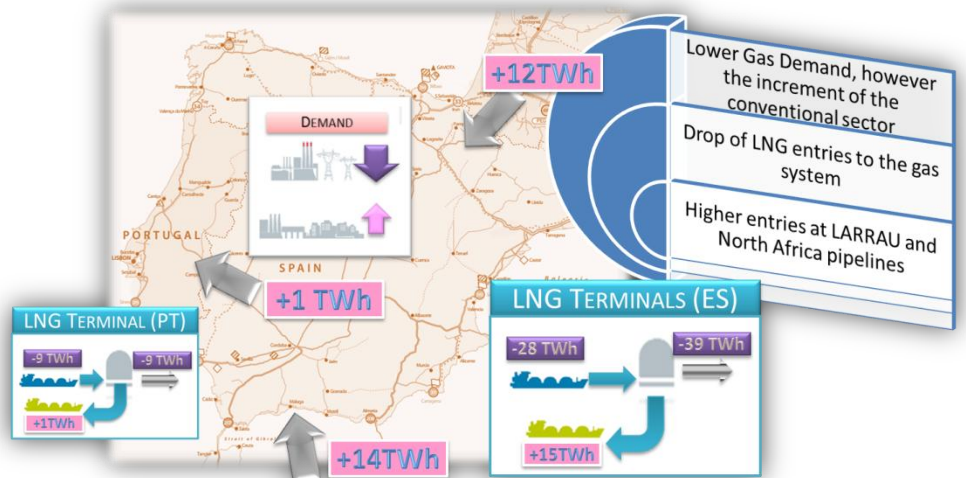
- Cold snap February 2012

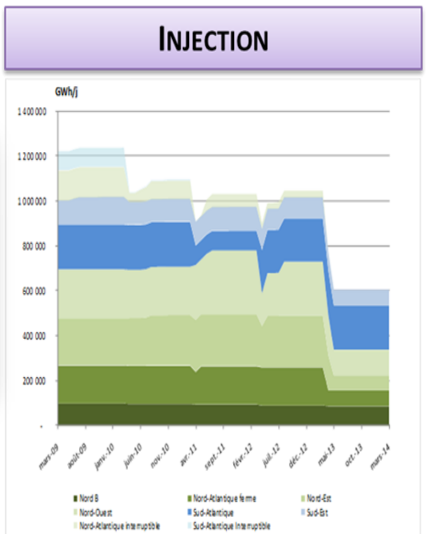
-IP capacity subscription

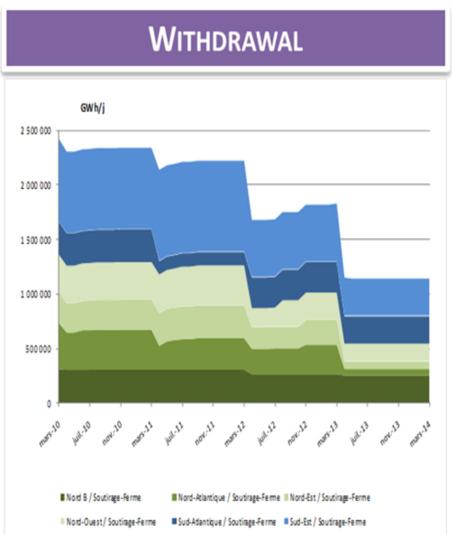












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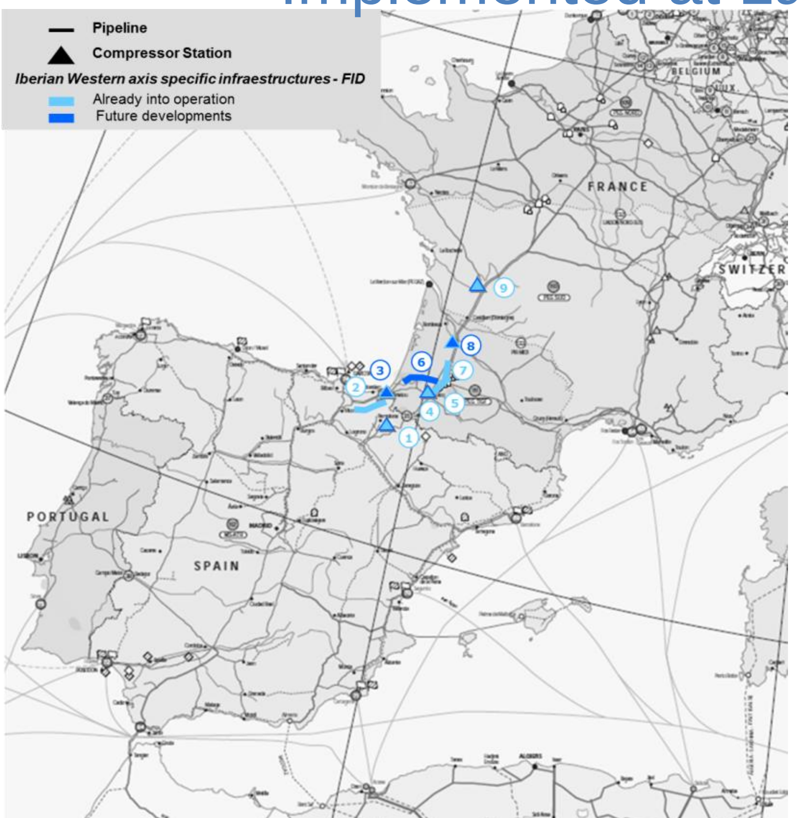
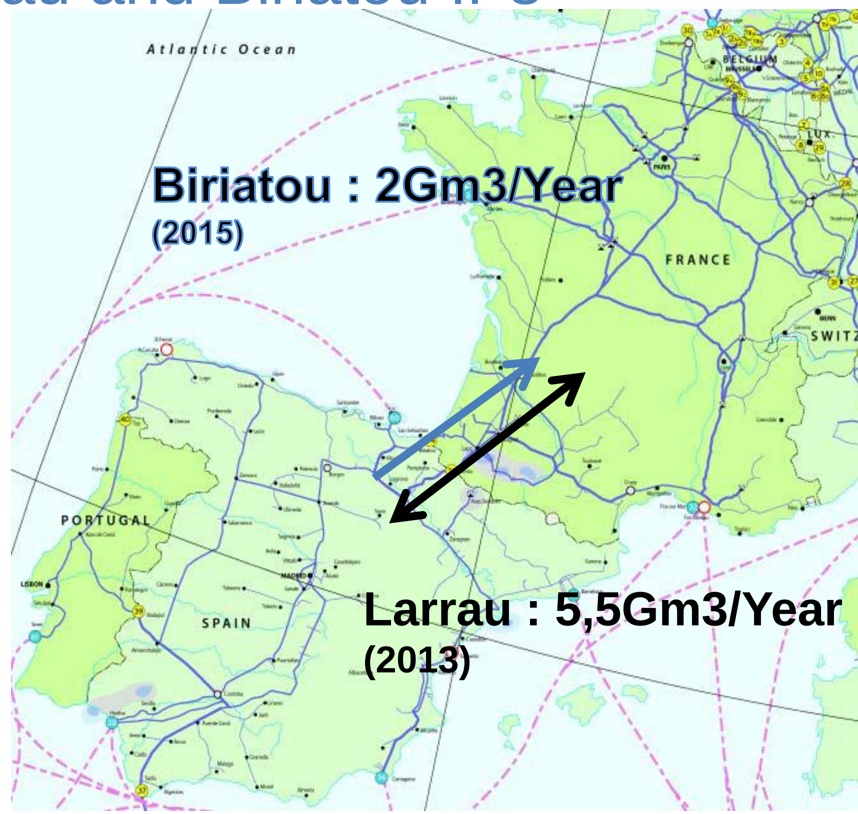
GRIP South – remedy projects
FID projects: Western axis

Open Season (2009/2010) **for developments in 2013 & 2015:**

- **Long Term commitments** enabled infrastructure development
- Remaining **Short Term capacities** are marketed jointly at common IPs

Implemented at Larrau and Biriatou IPs





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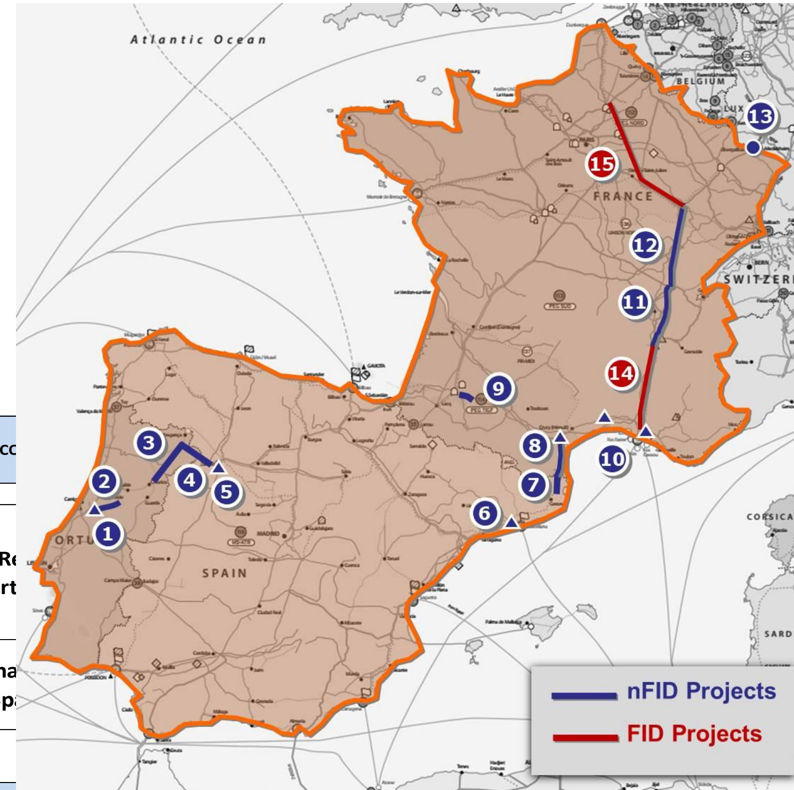
GRIP South – remedy projects

Non FID PROJECTS ANSWERING NEEDS IN THE SOUTH REGION

Corridor to better interconnect:

- *Spain - Portugal*
- *Spain - France*
- *France North - France South*
- *Region South - Rest of Europe*



3rd Interconnection Point between Portugal and Spain

	Infrastructure	TYNDP 13-22 Code Project*	Length (km)	Diameter (")	Compressor Power (MW)	Project Status	Commisioning Date	TSO/CC
1	PT-ES Interconnector Cantanhede Compressor Station	TRA-N-284			12	Non-FID	2019 Q4	Re Port
2	PT-ES Interconnector Pipeline Cantanhede-Mangualde	TRA-N-285	67	28		Non-FID	2021 Q4	
3	PT-ES Interconnector Pipeline Spanish Border-Celorico	TRA-N-283	158	28		Non-FID	2017 Q4	
4	Interconnection ES-PT (3rd IP)	TRA-N-168	86	28		Non-FID	2017 Q4	Ena Sp
5	CS Zamora power increase	TRA-N-159			23	Non-FID	2018 Q4	

* for further information about each project, see annex A Ten Year Network Development Plan 2013-2022 Document

Iberian-French Corridor: Eastern Axis MidCat Project

	Infrastructure	TYNDP 13-22 Code Project*	Length (km)	Diameter (")	Compressor Power (MW)	Project Status	Commisioning Date	TSO/COUNTRY
6	Iberian-French corridor: Eastern Axis-Midcat Project (CS Martorell)	TRA-N-176			36	Non-FID	2020 Q4	Enagas Spain
7	Iberian-French corridor: Eastern Axis-Midcat Project (Pipeline Figueras-French border)	TRA-N-161	30	36		Non-FID	2020 Q4	
8	Iberian-French corridor: Eastern Axis-Midcat Project Pipeline Spanish Border-Barbaira + CS Barbaira	TRA-N-252	120	32	10	Non-FID	2020	TIGF France
9	Iberian-French corridor: Eastern Axis-Midcat Project Pipeline Lupiac-Barran	TRA-N-252	28	32		Non-FID	2020	
10	CS Monpellier CS Saint Martin de Crau	TRA-N-256			15/20 10	Non-FID	2020	GRTgaz France

* for further information about each project, see annex A Ten Year Network Development Plan 2013-2022 Document

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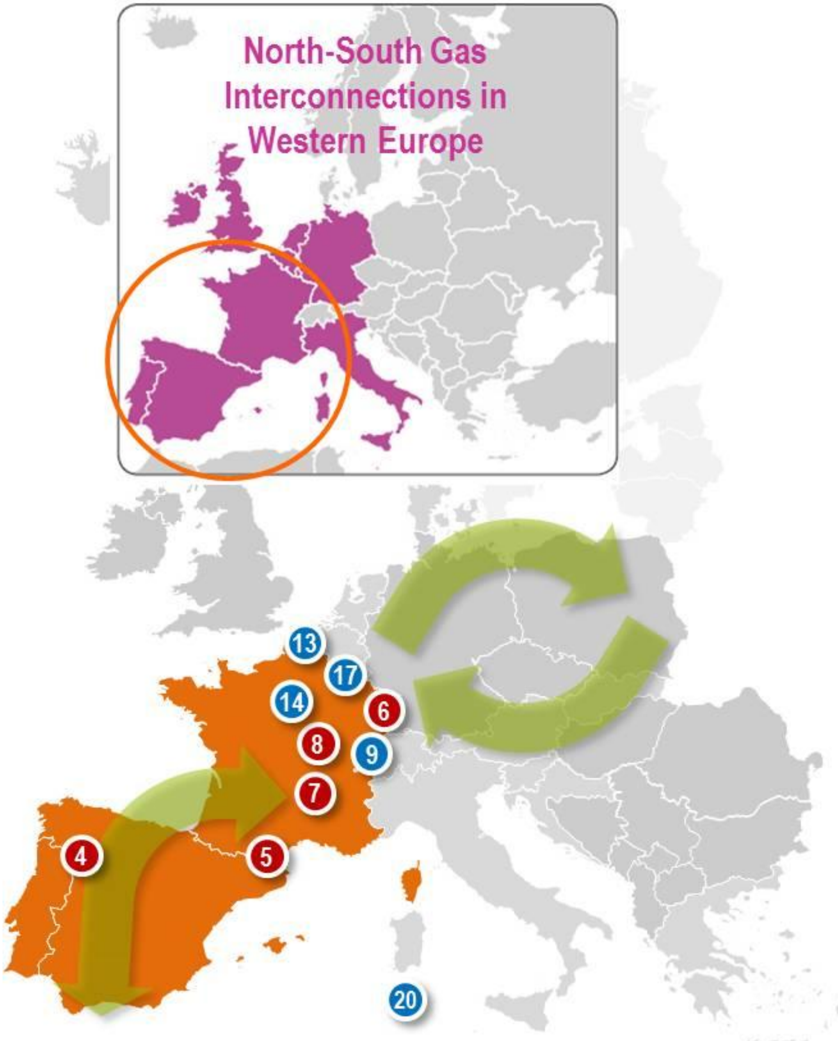
North - South Gas Corridor in Western Europe

Gas Projects of Common Interest (PCI) in the South Region



Project	Description
4	PCI 3rd interconnection point between Portugal and Spain
5	PCI Eastern Axis Spain-France–interconnection point between Iberian Peninsula and France at Le Perthus [currently known as Midcat]
6	PCI Reinforcement of the French network from South to North – Reverse flow from France to Germany at Obergailbach/Medelsheim Interconnection point (France)
7	PCI Reinforcement of the French network from South to North on the Bourgogne pipeline between Etrez and Voisines (France)
8	PCI Reinforcement of the French network from South to North on the east Lyonnais pipeline between Saint-Avit and Etrez (France)
9	PCI Reverse flow interconnection between Switzerland and France
13	PCI New interconnection between Pitgam (France) and Maldegem (Belgium)
14	PCI Reinforcement of the French network from South to North on the Arc de Dierrey pipeline between Cuvilly, Dierrey and Voisines (France)
17	Interconnection between France and Luxembourg
20	PCI Gas Pipeline connecting Algeria to Italy (Sardinia) and France (Corsica) [currently known as Galsi & Cyréné pipelines]

N Bidirectional flows between Portugal, Spain, France and Germany

N Rest of PCI projects at South Region

Conclusion

- ✓ **South Region TSOs are cooperating** to increase market integration (coordinated capacity developments, joint offers and services).
- ✓ An upper level of **market integration** needs **significant investments**
- ✓ Due to **lack of visibility** on gas market trends in EU, market players are less and less keen **to commit on long term basis**.
- ✓ The Regulation on **"Guidelines for trans-European energy infrastructure"** (347/2013 of 17/04/2013) **supports** these developments through accelerated permit granting, improved Regulatory treatment and Financial support.
- ✓ Nevertheless, **the role of the natural gas has to be affirmed in the energy policies** in order to secure the cost-effectiveness of these investments for the market.

Planning

- ENTSOG TYNDP publication : 21st February 2013
- Communication / consultation
  - Continuous and extensive consultation for identifying and updating projects & other datas (national, EU)
  - GRI South meeting(s): IG & SG meetings (5)
  - ENTSOG WS : 26th November → stakeholders consultation
- "Draft GRIP" beginning of December
  - to finalize with last results/verifications
  - + last feedbacks to introduce
- Publication : January/February 2014
  - Feedbacks after publication

Thank you for your attention

and

Your feedbacks

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