



Snam in the European gas market

Strategic portfolio management – Optimising the relationship between renewables and gas

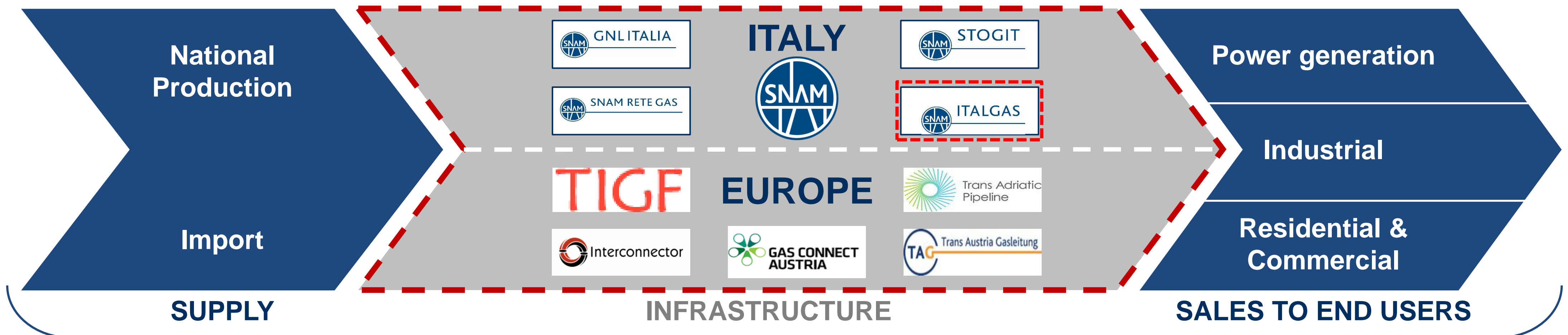
Andrea Stegher – Head of Business Development

18th October, 2016

Amsterdam, The 10th ICIS European Gas Conference

snam.it

Snam overview



[2015 Italy]

Transportation

- Regul. Revenues: €m 2,094
- EBIT: €m 1,165
- RAB⁽¹⁾: €bn 15.1
- Network: 32.534km
- Market positioning: 94% of the Italian market

Distribution

- Regul. Revenues: €m 1,071
- EBIT: €m 469
- RAB⁽¹⁾: €bn 5.7
- Network: 56,717 km
- Market positioning: 33% of the Italian market

Spin-off approved on September 2016
Listing in the Italian stock market
by Q4 2016

Storage

- Regul. Revenues: €m 534
- EBIT: €m 319
- RAB⁽¹⁾: €bn 4
- Capacity: 8 storage sites (16 bcm)
- Market positioning: 96% of the Italian market

Regasification

- Regul. Revenues: €m 19
- EBIT: €m 1
- RAB⁽¹⁾: €bn 0.1
- Capacity: 1 LNG plant (3.5 bcm)

⁽¹⁾Estimated RAB



Demerger benefits: focus, efficiency and flexibility



- RAB: € 19.2* bn
- High pressure 32,534 km network and 9 storage operating sites
- Unique proprietary transport infrastructure and key long term storage concessions
- International portfolio
- Sizeable capex plan
- Active relationship with the EC and Regulatory Bodies
- Broad portfolio of services
- **Active contributor to a sustainable low-carbon future**

Strengthening European leadership

- Focused and prudent implementation of domestic and international organic growth strategy
- Flexibility to support investments and the development of new opportunities
- Further strength Snam sound balance sheet
- Retention of a strategic minority stake in Italgas to capture future value



- Stable RAB and enhanced financial flexibility
- Sustainable long term growth of shareholders remuneration



A steady path towards Europe

Interconnector (UK)

- 235 km bi-directional submarine pipeline connecting UK and Belgium

TIGF

- Transmission (~5,000 km network) and storage (3 Bcm capacity) operator in France

TAG

- Pipeline (~1,140 km) bringing Russian gas in Italy through Austria

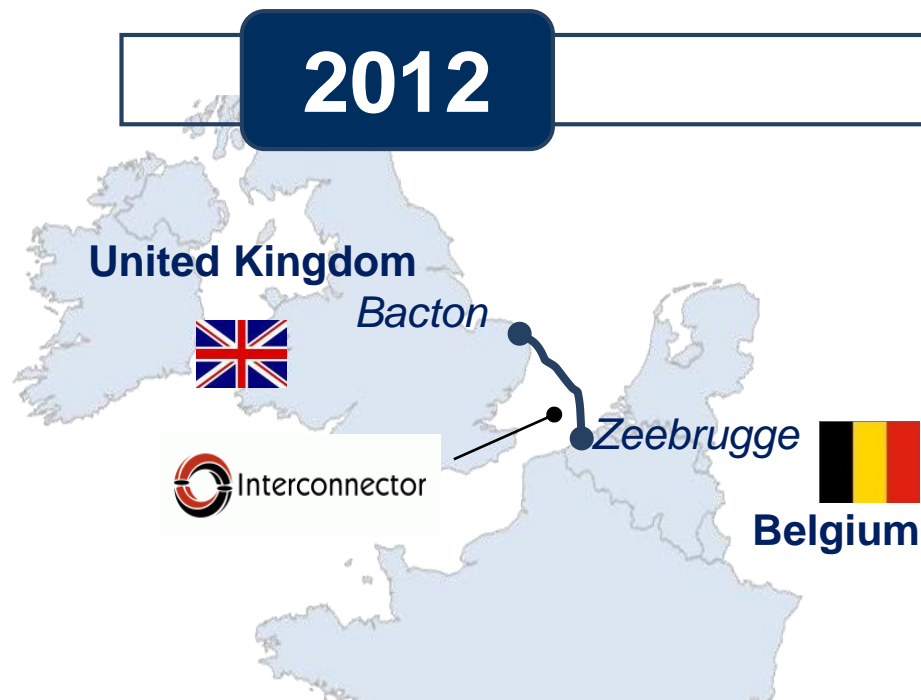
TAP

- EU section of Southern Corridor through Greece, Albania and Italy (880 km)

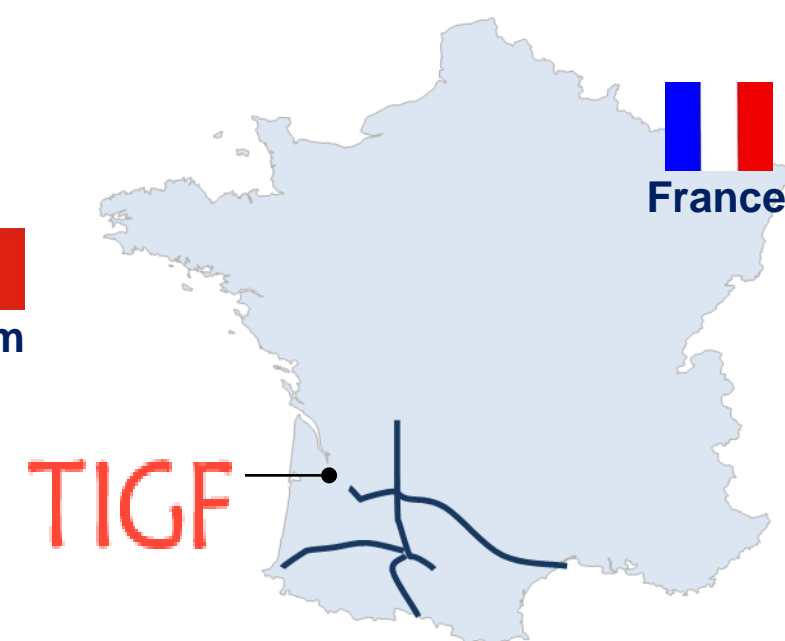
GCA

- Transmission network (886 km) in Austria linking Germany, Hungary, Slovenia and Slovakia

2012



2013



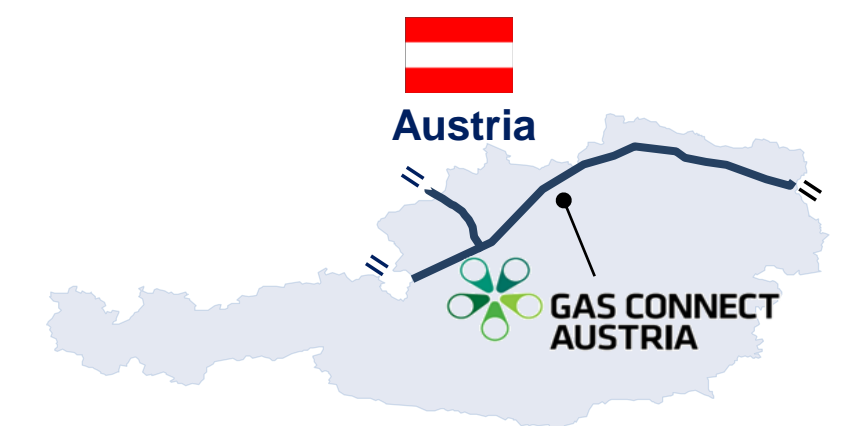
2014



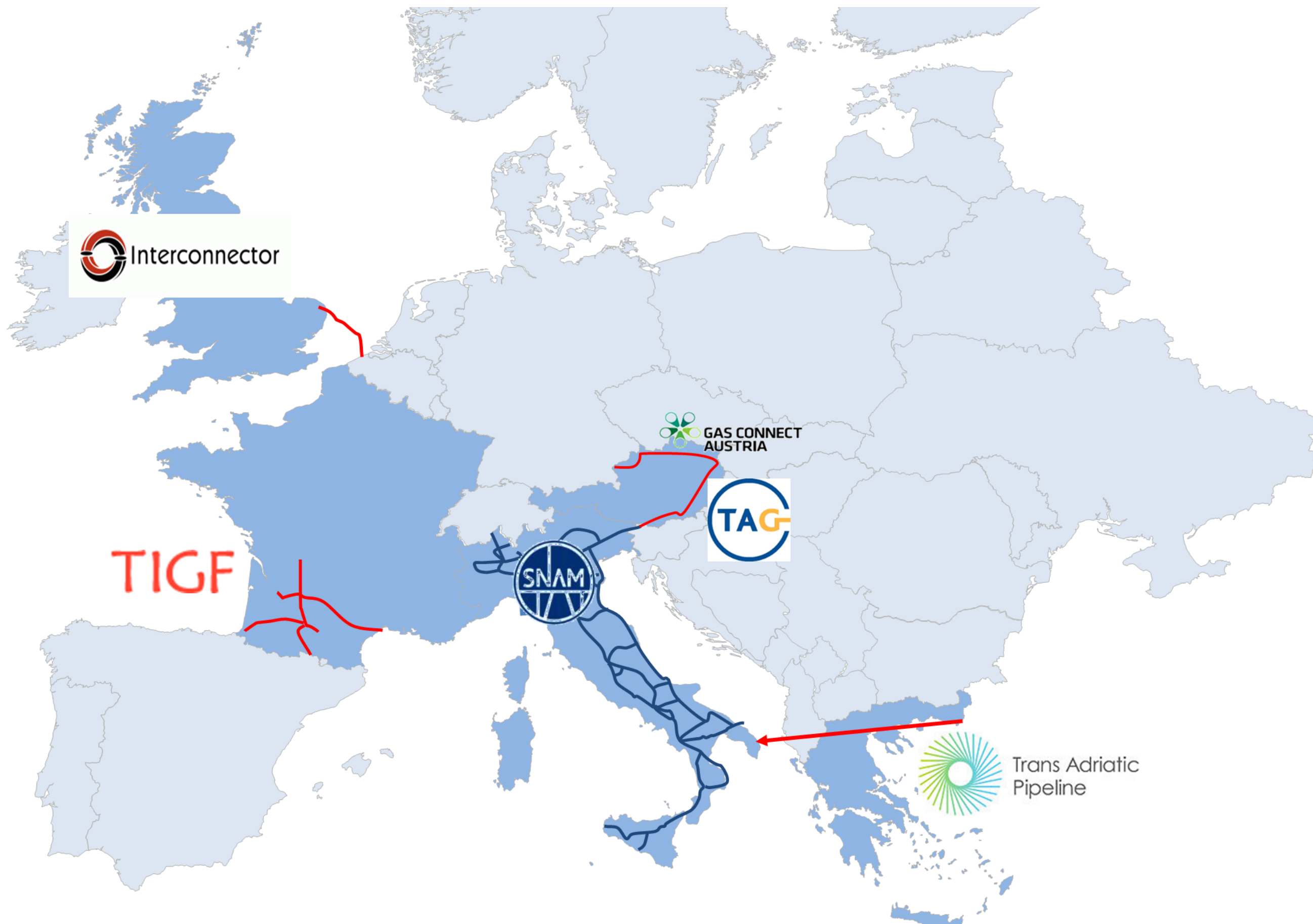
2015



2016



Snam: from national to European footprint



Snam in Europe

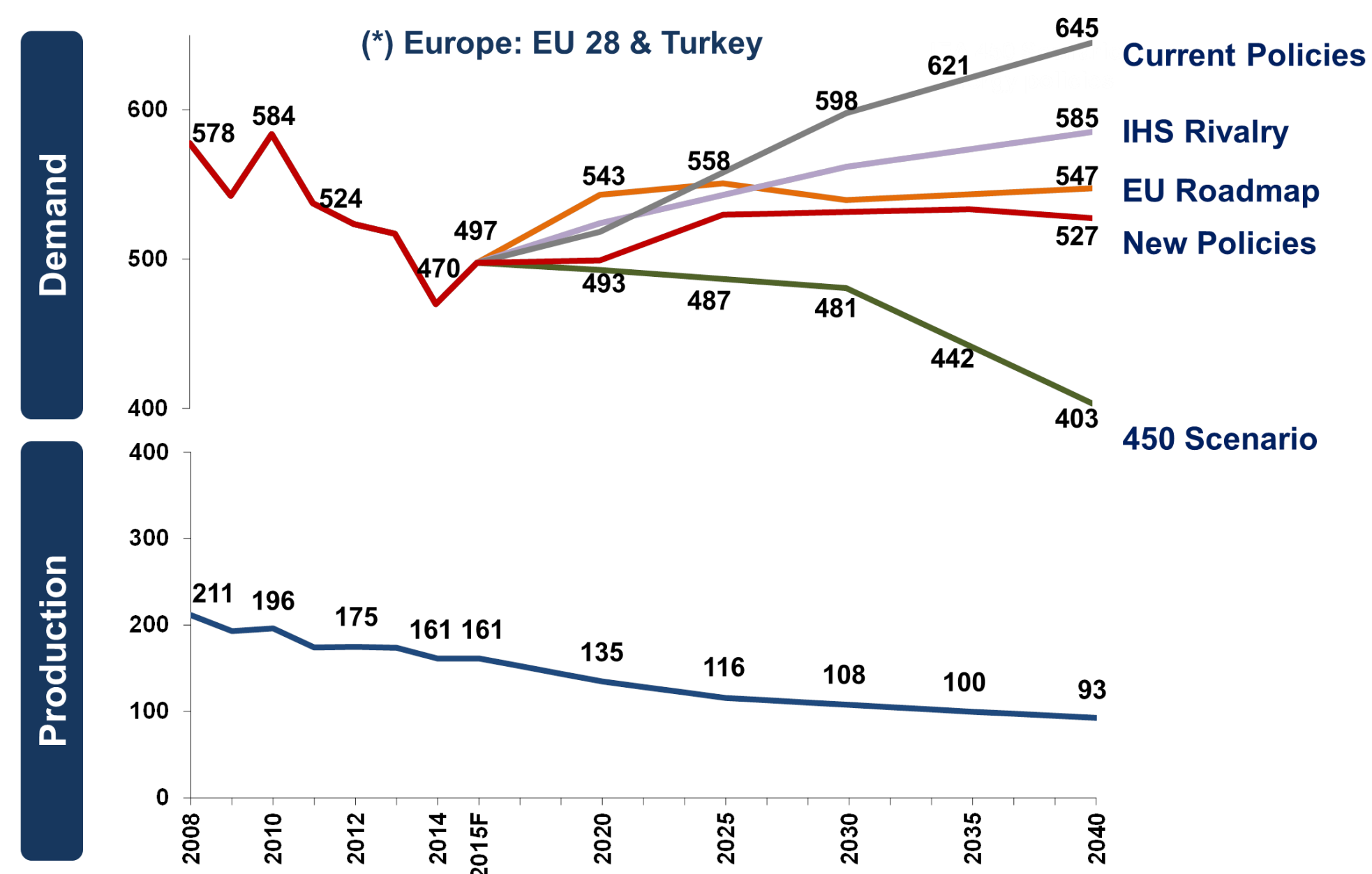
- 40,200 km of gas transmission pipelines
- >100 Bcm of volumes transported in 2015
- 19 Bcm of storage capacity
- Operations/investments in 7 different countries (Italy, France, Austria, Belgium, UK, Greece, Albania)

Long term gas demand as a crucial element of infrastructure investments



Natural gas: fuelling climate targets in an efficient and immediate way

Natural gas long-term demand & production (Bcm)



- European gas demand needs an active support from leading gas players
- Snam is engaged in an intense gas advocacy effort
 - Biomethane (January 2016)
 - Gas for road transportation «CNG» (October 2016)
 - Small scale LNG and bunkering (ongoing)
 - Switch coal to gas (ongoing)



Gas can (must) play a substantial role in the decarbonisation path

The fundamental role of biomethane in the Italian (and EU) energy transition

Position Paper of Consorzio Italiano Biogas - Snam - Confagricoltura for COP 21 - Paris
Delivered to national and EU institutions



Drivers for development

Policy commitment & stable support regime

National Target for biomethane – Valorization of flexibility, programmability, efficiency not only for transports but also (mainly?) for power generation

Economic and technical efficiency in production

Economies of scale – Maximization of the energy yield of the land under the constraint of Sustainability Criteria and ILUC provisions

Diversification of biomass and technology

Not only anaerobic digestion – Thermochemical gasification of ligneous-cellulosic biomasses will enhance long term sustainability

Avoided cost of emission

To create an **economic link** (arbitrage) between biomethane and CO₂ Emission Unit Allowance (and we should consider the additional CO₂ reduction on agriculture)

Technology Integration & Development

Bio(methane) Power To Gas
Biomethane and Carbon Capture and Storage (BECCS - Bioenergy Carbon Capture & Storage)

Life cycle approach

For **every energy source** (also photovoltaic, wind and hydro)



Gas for road and maritime transportation «CNG, LNG»

Snam, FCA and Iveco signed a MoU for the development of CNG in Italy



Cooperation designed to boost the further development of methane for vehicle usage in Italy

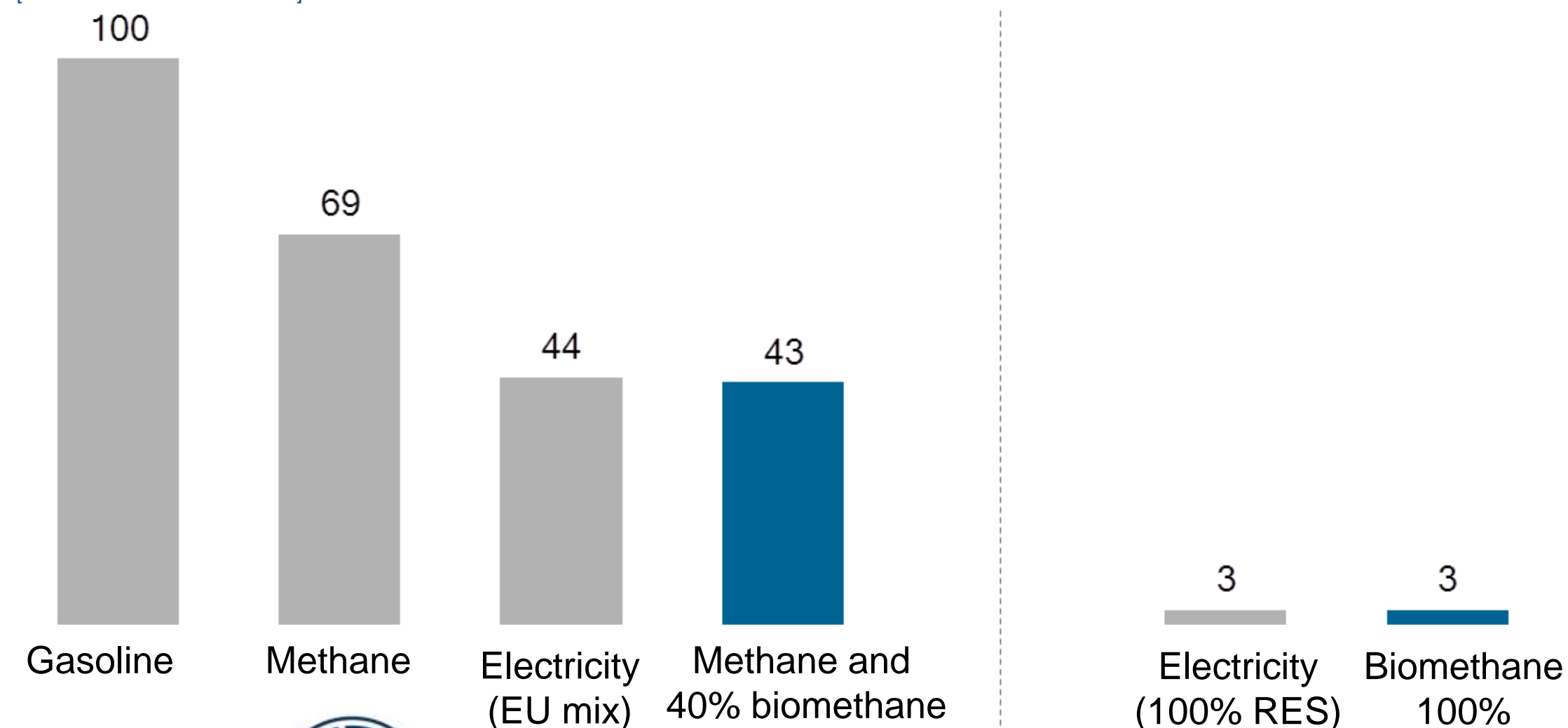
Efficient, immediately available and economical solution to reduce emissions (CO₂, NO_x and Particulates) in the automotive sector

CNG in Italy (2015):

- 1 million of methane vehicles and 1,100 methane stations
- 1 bcm of gas consumption

Well to wheel CO₂ emissions (Fiat Panda 1.2 EURO6)

[100 = fuel with max emissions]



Snam's Role

Actions

€ 200 mln investment in 5 years.

Strengthening of infrastructure.

Balanced development of infrastructure and vehicles fleet.

Targets

Contribute to doubling the number of methane stations, currently at 1,100, in 10 years.

More balanced distribution of filling stations throughout Italy.

Improvement of customer service quality.

Benefits

Reduction of polluting emissions

-40% CO₂ -94% NO_x
-95% PM

Economic savings

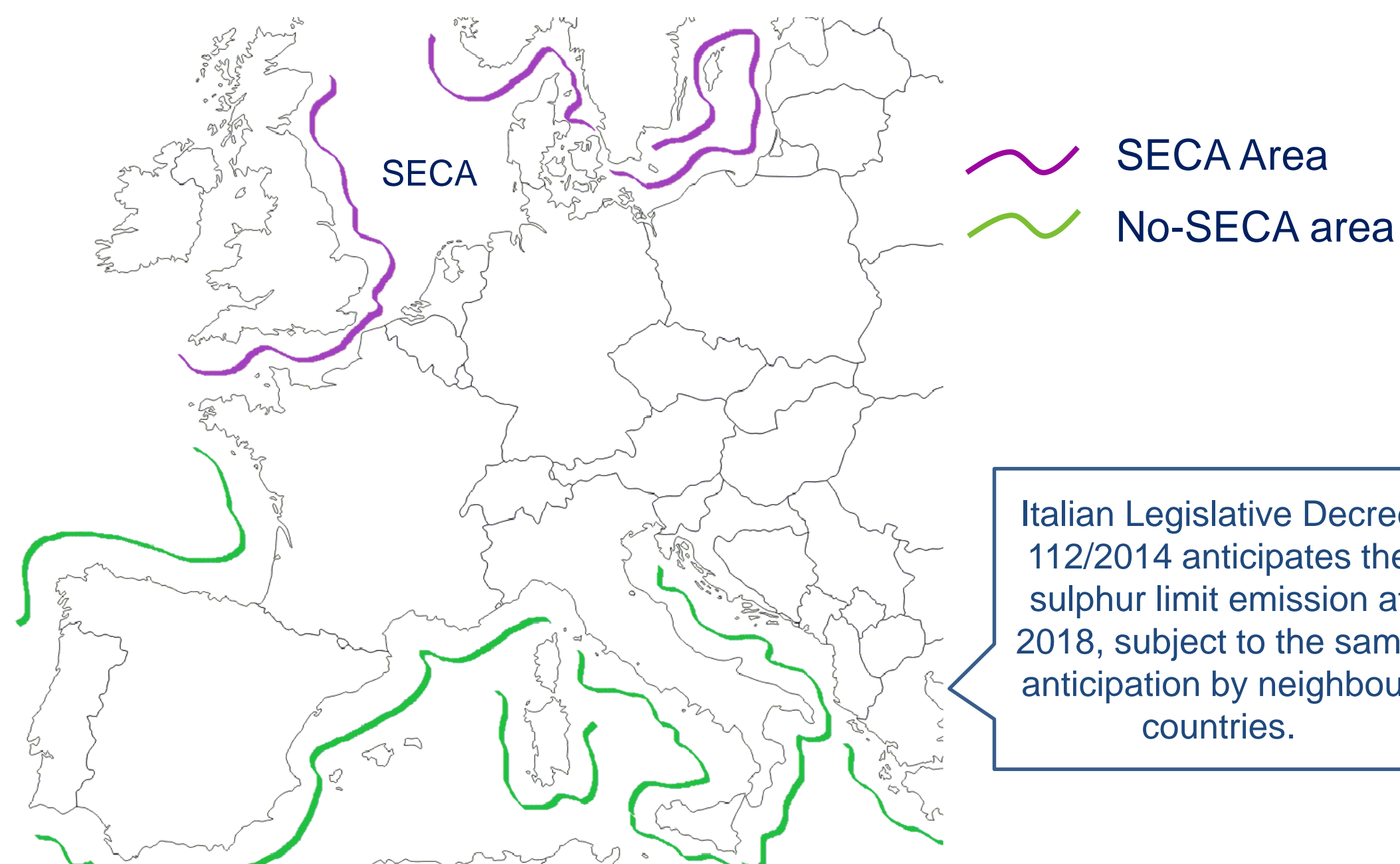
Estimated at up to 800 mln € in five years' time

Small scale LNG and bunkering

Directive 2012/33/UE

Increasing attention in **controlling emissions in maritime transport**. 2 different targets for specific areas:

- SECA: sulphur contents in marine fuel < 0.1% by Jan 2015
- No-SECA: sulphur contents in marine fuel < 0.5% by Jan 2020



LNG for transport



- **Development of LNG with the adaption of terminals and realization of coastal deposits**
- Efficient and economical solution to reduce emissions in the automotive sector
- Necessity to start infrastructure development to achieve the benefits



- **Benefits:**
 - Contribution to environmental targets (road transport and maritime sector)
 - Support to gas demand and reducing unitary transport cost

Role of gas in the security of electricity market

Electricity system in Europe is moving towards:

- **increase the share of renewables** in power generation to meet the European **targets of 45% by 2030**
- increase market integration among European countries in order to reduce wholesale prices

ENTSO-E proposes investments for the development of the grid infrastructure in the next 10 years **mainly linked to renewables integration developments**

The **increase of renewable shares** in power generation **to 45% in 2030** (target of EU) requires a **higher flexibility and security of supply support from “conventional” plants**

The **most suitable technology** to operate in combination with power generation from renewables is **gas-fired power stations** due to:

- **Flexibility:** Gas-fired power stations can be turned on and off much more quickly than other power plants and are therefore ideal to compensate for fluctuations in supply resulting from variable renewables generation. The gas system is already designed for managing this flexibility requirements not needing additional investments
- **Lower CO₂ emissions:** natural gas is the «greenest» among fossil fuels (coal vs gas: x2,2)

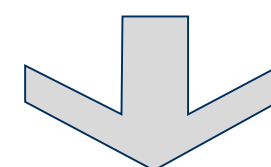
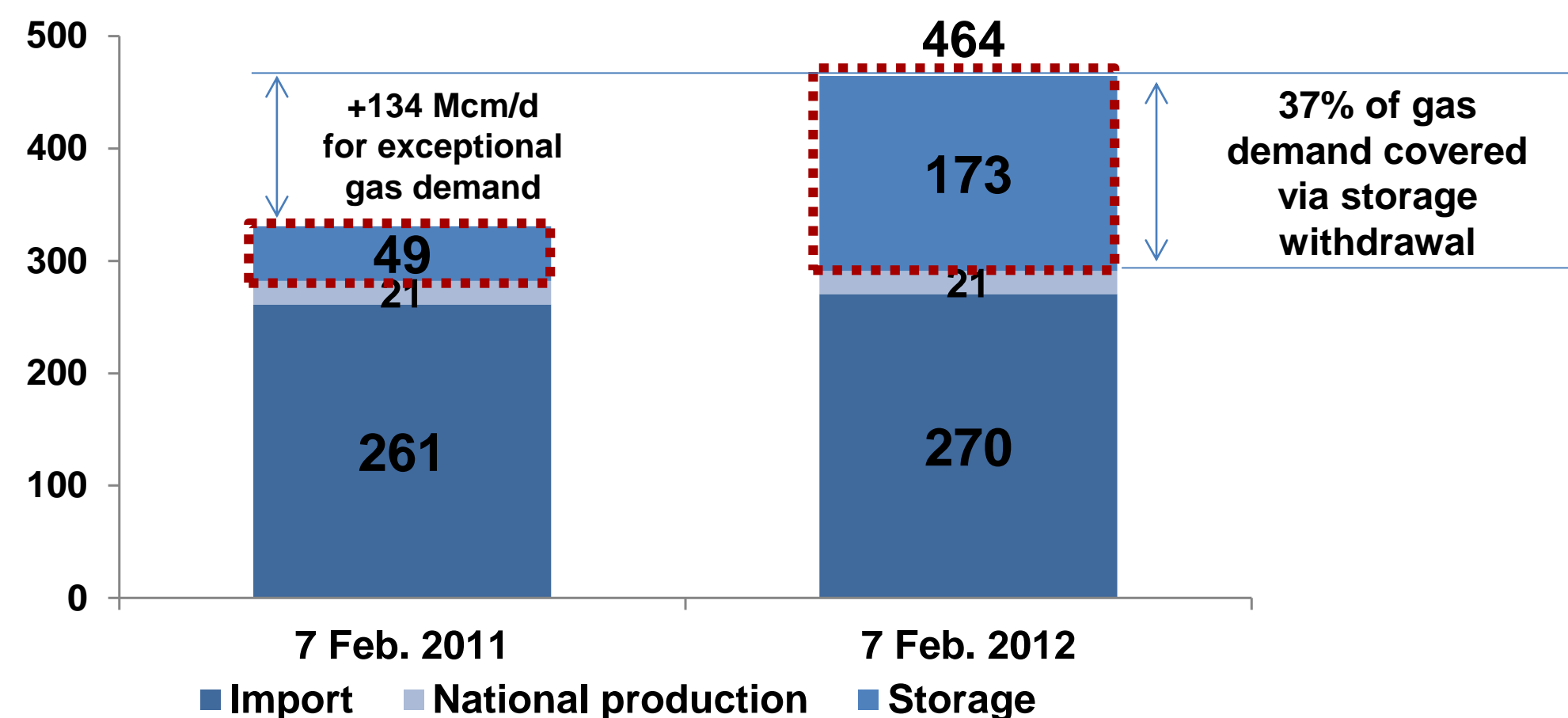


Gas system flexibility and security for both gas and electricity: the role of storage

Storage for market flexibility



Benchmark on 2012 peak gas demand (Mcm/d)



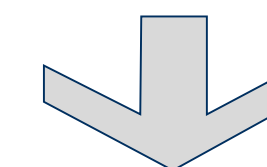
Storage role to cover exceptional peaks in gas demand in winter time, along with a reduction in electric power import and production from renewables

Storage for security of supply



Summary of gas emergencies in Italy

Interconnection Point (gas source)	Reason	Interrupted capacity	Duration
Tarvisio (RUS)	Ukraine crisis	100%	14 days (Jan 2009)
Gries Pass (NOR-NL)	Mudflow in Switzerland	100%	154 days (Jul-Dec 2010)
Gela (Lybia)	Internal conflict	100%	232 days (Feb-Oct 2011)

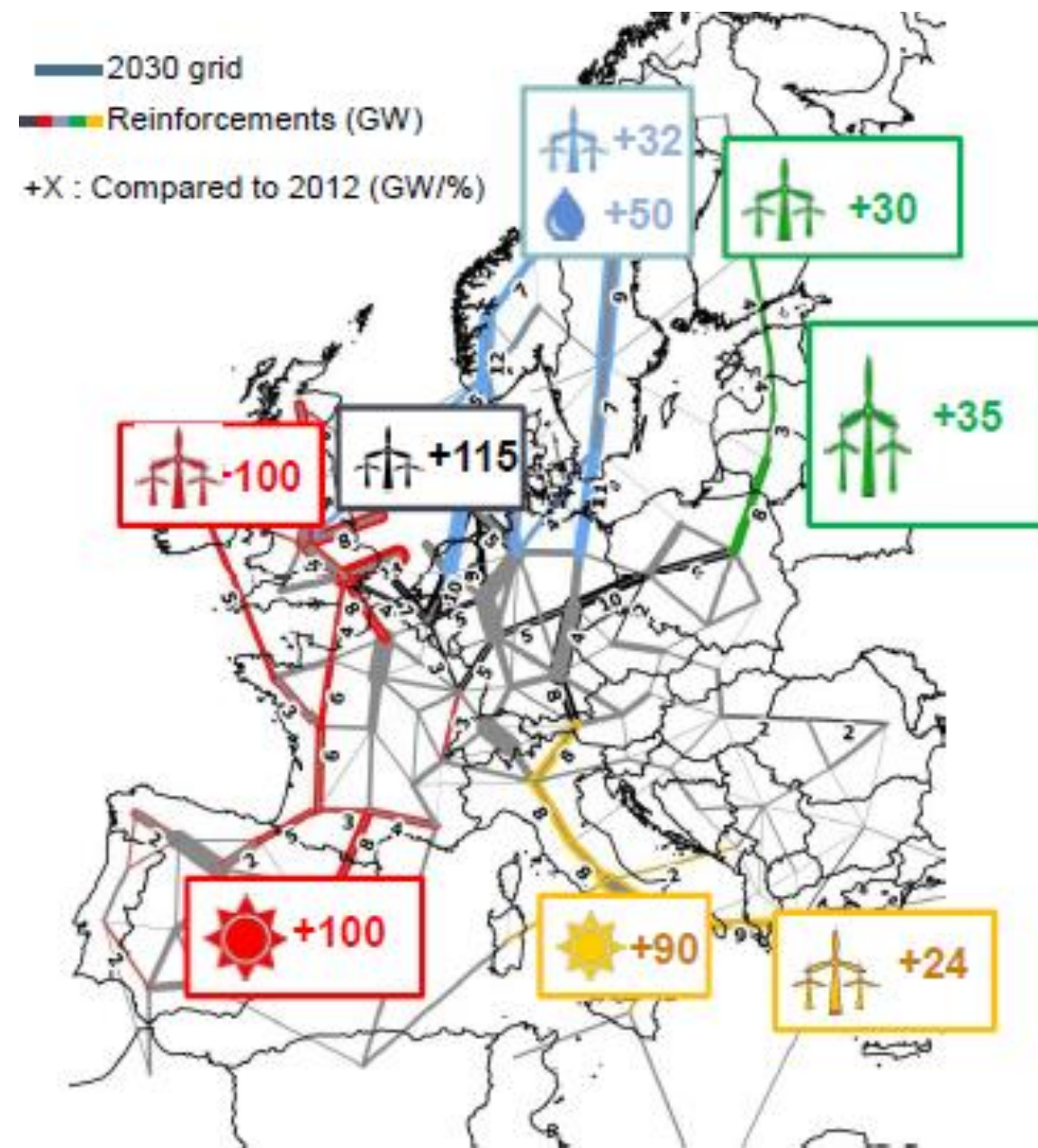


Strategic storage not being used due to large availabilities of alternative gas but a strong and effective measure to protect final customers in case of need

The gas sector in the decarbonisation path

Efficient and immediate

E-HIGHWAY 2050

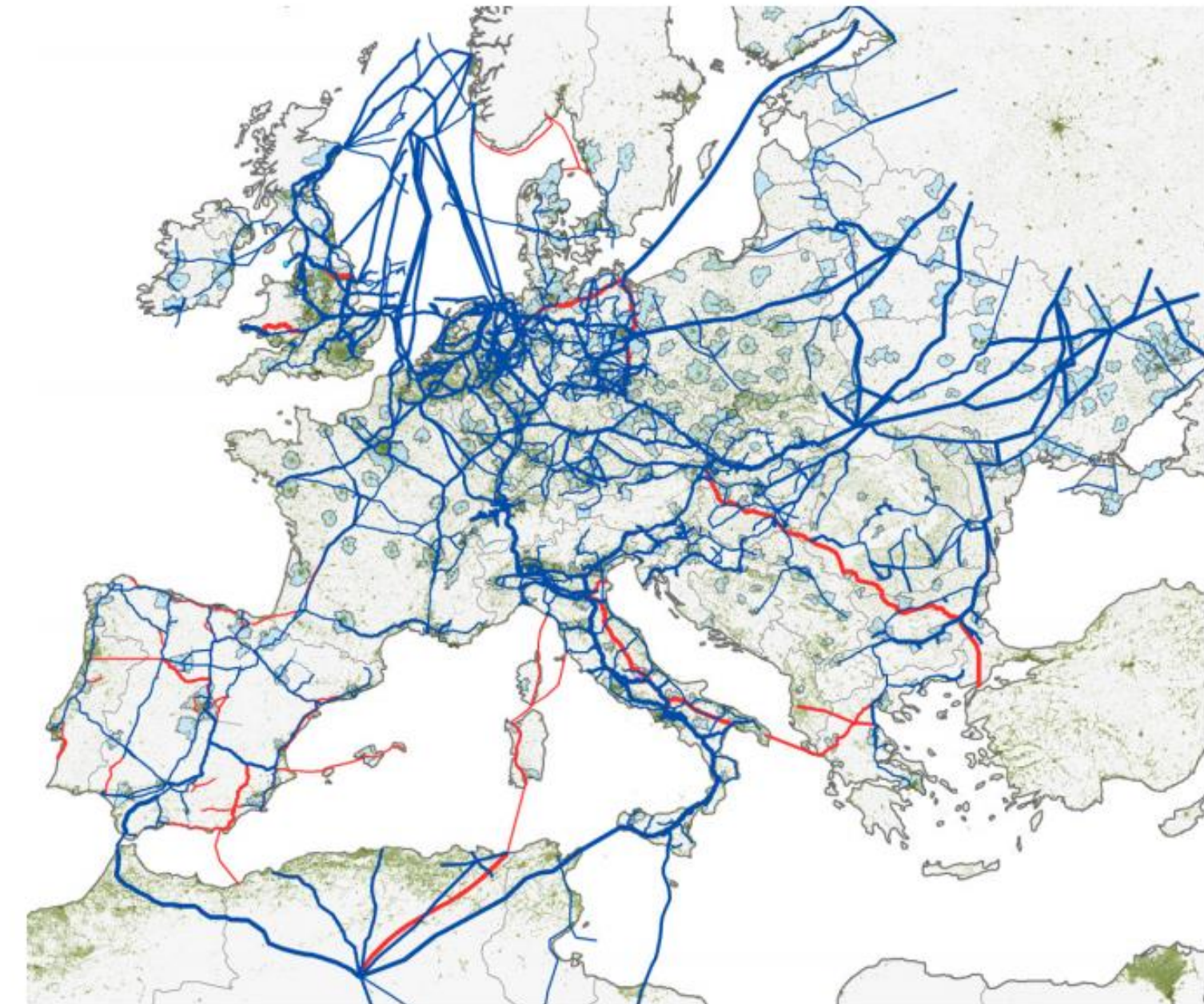


**Development of highway for power generation
from RES in EU**

**400 B€ for new electric grids
to reduce 200 Mt/y CO₂**



EUROPEAN GAS GRID



Gas Grid limited investment needed

**50% reduction of coal with gas switch in EU
reduces 250 Mt/y CO₂ emissions**



Snam in the European gas market

Strategic portfolio management – Optimising the relationship between renewables and gas

Andrea Stegher – Head of Business Development

18th October, 2016

Amsterdam, The 10th ICIS European Gas Conference

snam.it