

The size of market zones in the gas market and European context

Christophe Poillion, Vice President Strategy & Europe

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Level 1 – Plenary Hall



French Transmission System Operator



Patron



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Establishment of a European gas market based on:

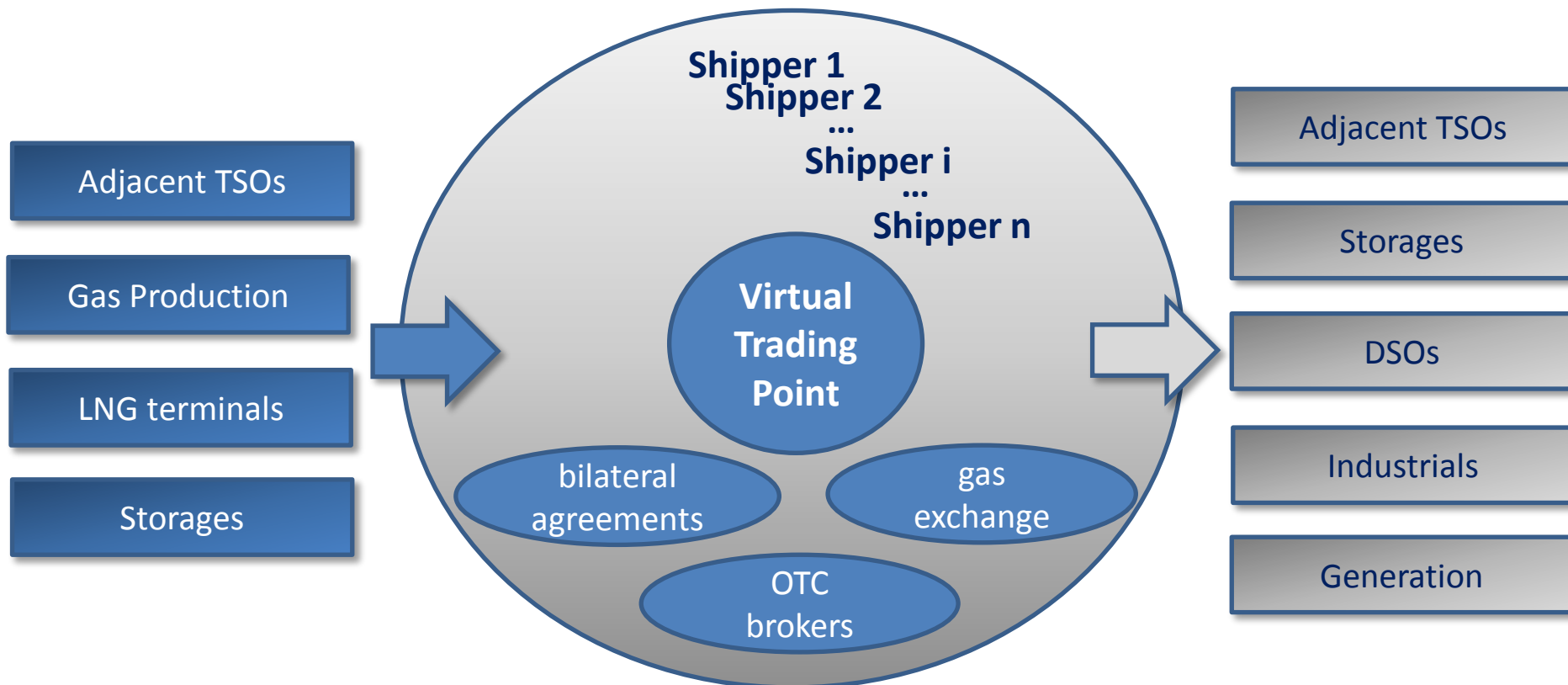
- Competition between gas suppliers (retail market)
- Competition between gas sources (wholesale market)
- Regulation of gas infrastructures (transmission & distribution networks + LNG & storage facilities)

Access to the transmission network based on the “Entry-Exit” model

Entry Points

“Entry - Exit” market zone

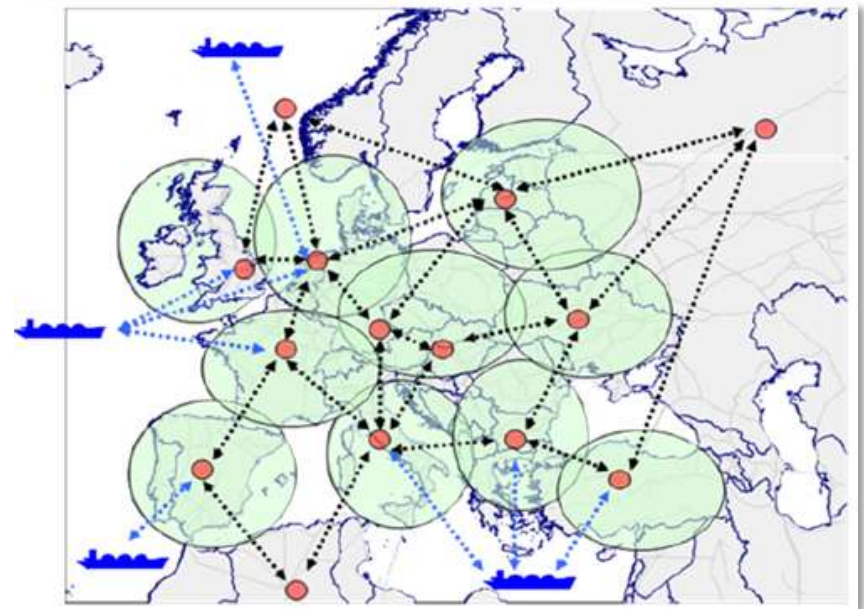
Exit Points



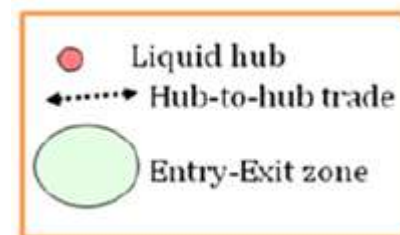
The European Gas target model:

5 criteria for a well-functioning market zone

- $HHI < 2.000$
- $RSI > 110\%$ for more than 95% of the days of the year
- $churn\ rate > 8$
- $gas\ consumption > 20\ bcm/y$
- 3 different sources of supply

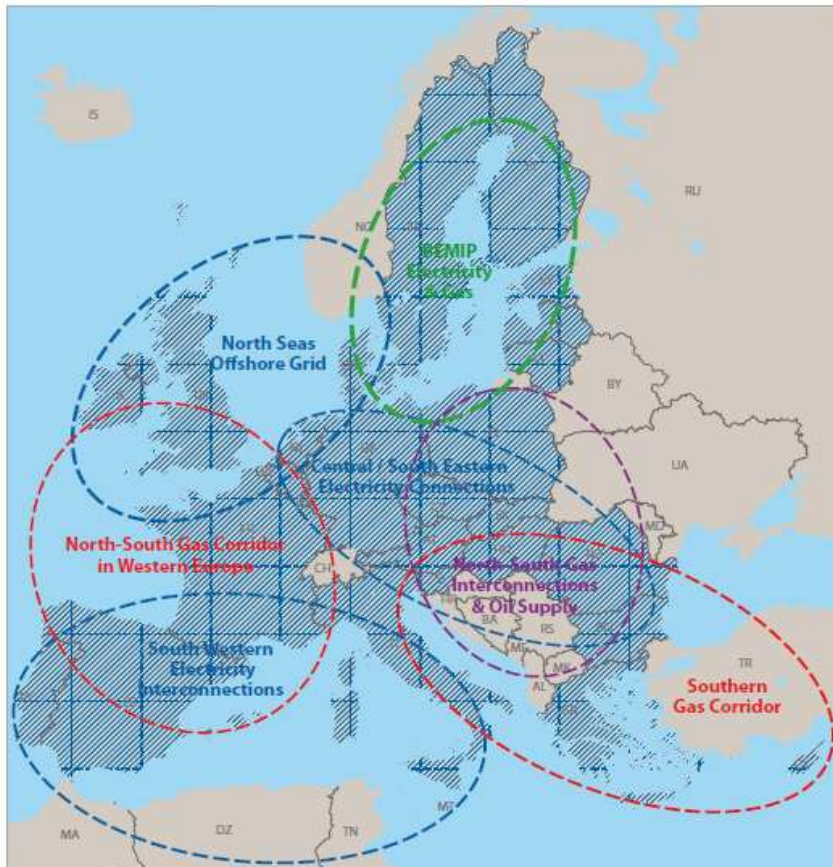


Indicative map



European background

Investments are still needed for European market integration
& for increasing competition between gas sources



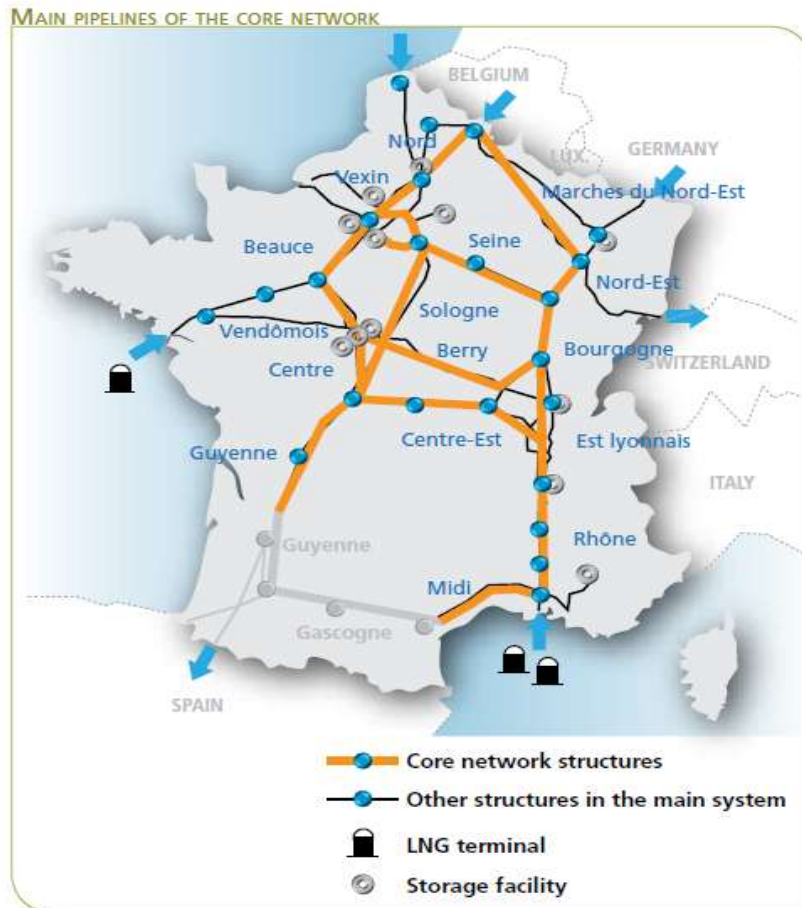
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Identification of
12 priority corridors
(4 for gas) at EU level

- Gas
- Electricity
- Electricity and gas
- Oil and gas
- Smart Grids for Electricity in the EU

French market design evolution

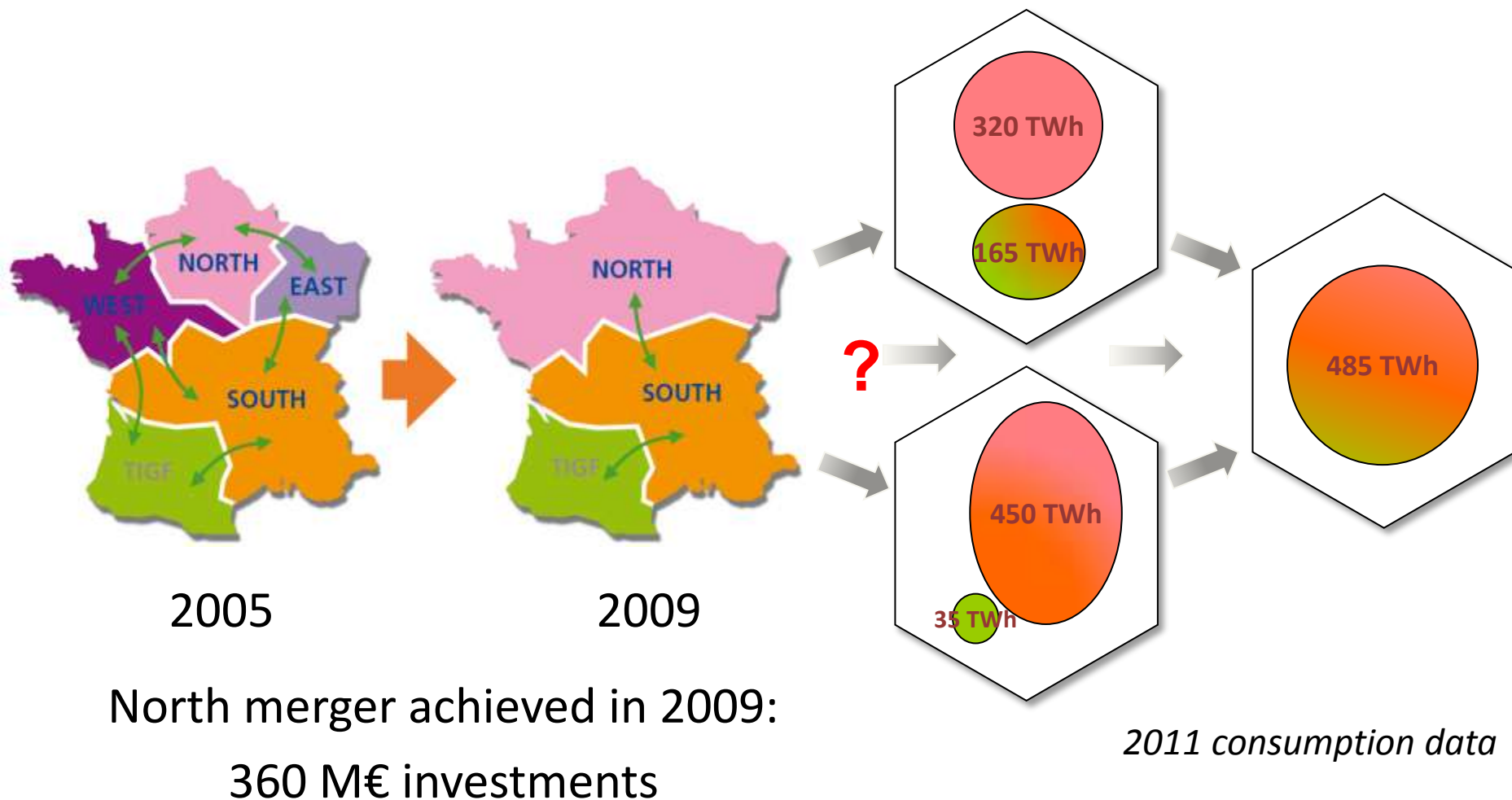
Main transmission system of GRTgaz



Commercial design of the French market



Possible options for market design evolution

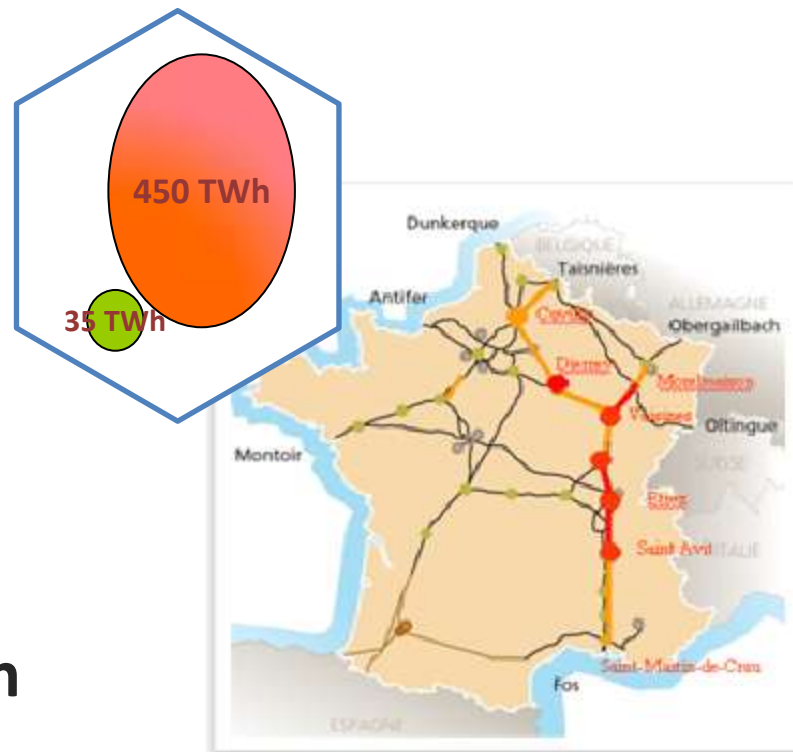


Benefits

- Enhanced liquidity & competition leading to lower gas prices
- price convergence
- Easier access to the network (balancing, nominations ...)

Costs with a full investment solution

- 1,8 b€ additional investments
- 16% increase of transmission tariffs
- ~ 30 c€ / MWh to be compared with gas prices > 20 €/MWh and a North/South spread reaching 1,20 €/MWh last winter



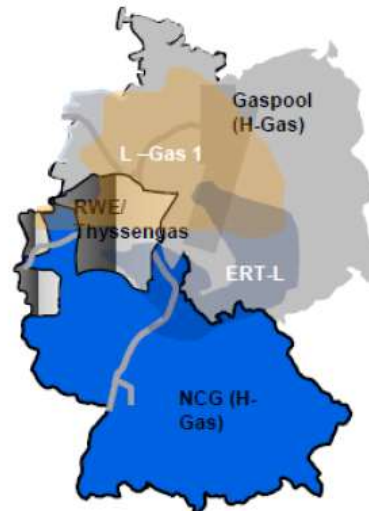
Assessment of other solutions based on the German approach

- A mix of investments and different kinds of contractual arrangements with shippers or infrastructure operators

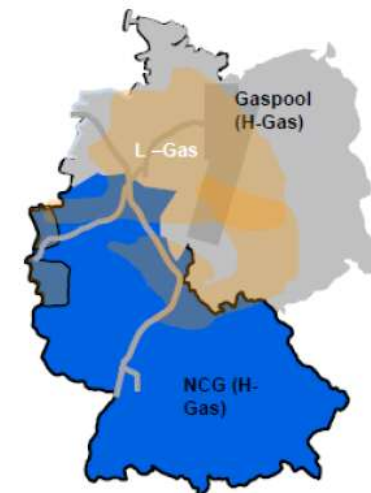
October 2007: 14 market areas



October 2009: 6 market areas



April 2011: 3 market areas



➤ 2 market areas as of October 2011

Schematic clustering of congestion management mechanisms to different types of physical congestion

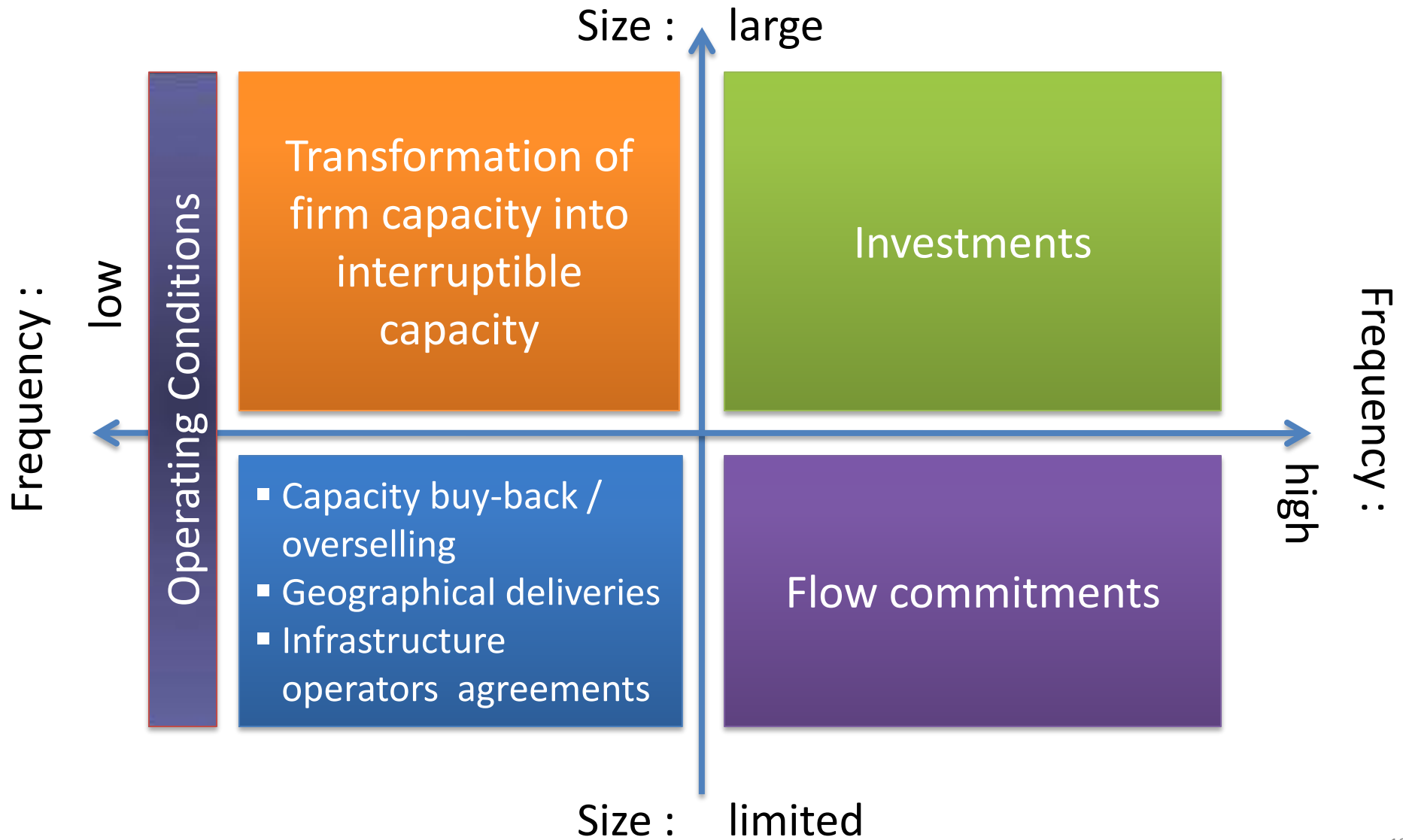


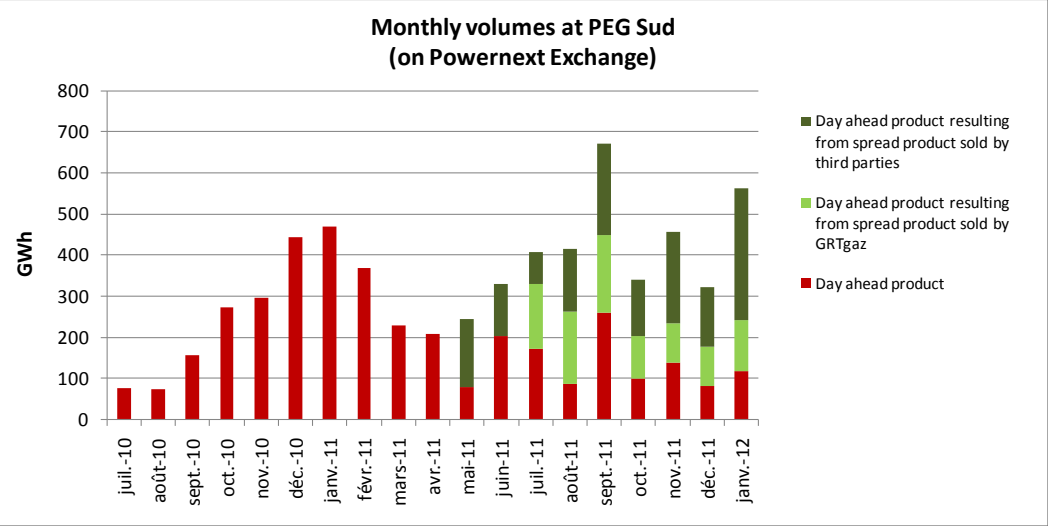
Illustration of the method for valuing contractual mechanisms, with an expensive LNG price scenario:

1. Assessment of the congestion = 34 TWh/year (North → South)
2. Assessment of the cost of a flow commitment in South zone = 170 M€ / year (11% increase in transmission tariff), based on a 5 €/MWh spread between Japan / Korea and Europe



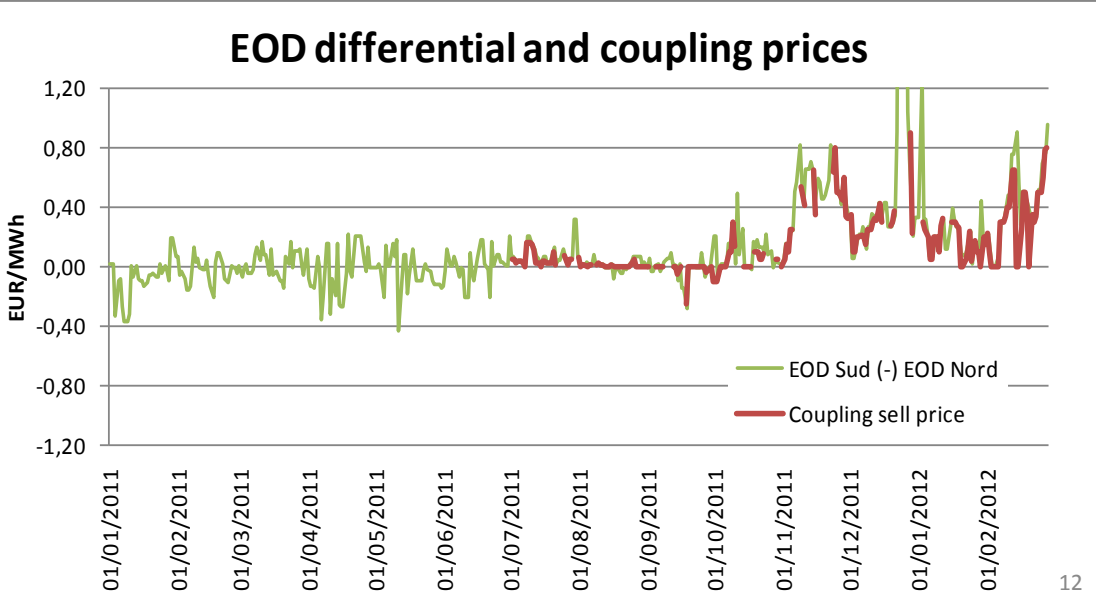
Assumptions are discussed with all market players and the corresponding solutions are compared to partial or full investment solution

Schematic clustering of congestion management mechanisms to different types of physical congestion



Market coupling: an intermediate step

- Positive impact on:**
- Price convergence when no congestion
 - Liquidity



Evaluation of the benefits of the different solutions

■ **Market coupling:**

☺ spot price convergence, if no physical congestion

■ **Contractual merger :**

☺ price convergence (future and spot)

☹ Enhanced competition only on the retail market

☹ Solutions such as flow commitments mainly ensured by dominant suppliers

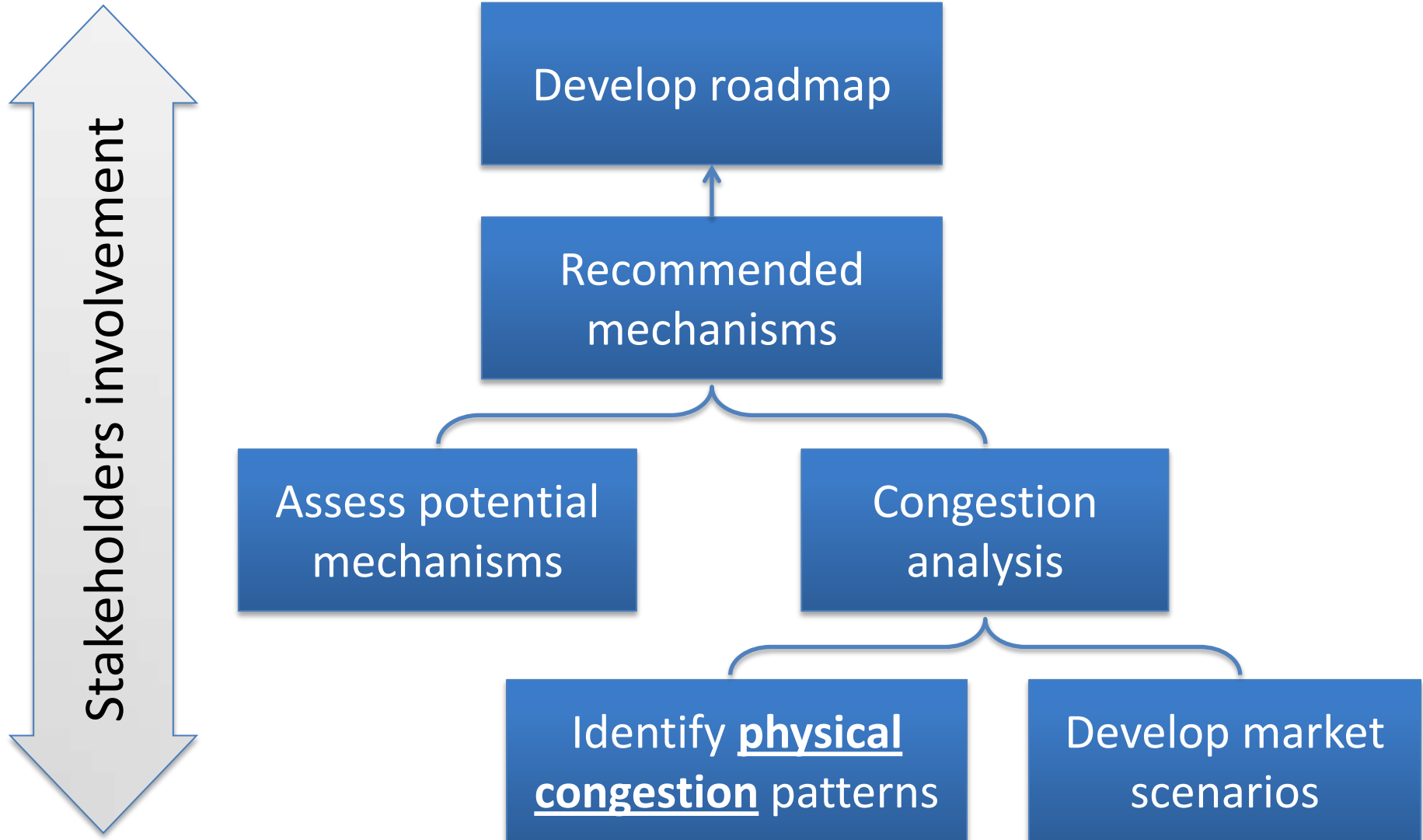
■ **Investment :**

☺ Enhanced retail *and* wholesale competition

☺ Enhanced security of supply

☹ Long-term solution but need time to be implemented

Outline of approach for the French market merger study



- The size of market zones is a critical issue for a well functioning wholesale market
- A challenge for the transmission system operator
 - *investment and/or a mix of contractual arrangements required with high level of reliability*
- Cost-benefit analyses necessary before deciding to merge existing entry-exit zones
 - *general framework and approach illustrated with GRTgaz's merger study*
 - *benefits to be valued by network users*

Thank you for your attention