



25th world gas conference
"Gas: Sustaining Future Global Growth"

Driving Forces for Changes of Natural Gas Market Structure in the Atlantic Basin:

A prospective Approach

Jeanne Liendo & Marco González

Simon Bolivar University

June 7th, 2012

Kuala Lumpur, Malaysia



Patron



Host



Host Sponsor



Agenda

- Aim
- Background
- Natural Gas Market Structure
- Natural Gas Trade in the Atlantic Basin
- Critical Variables & Driving Forces
- Scenarios
- Summary

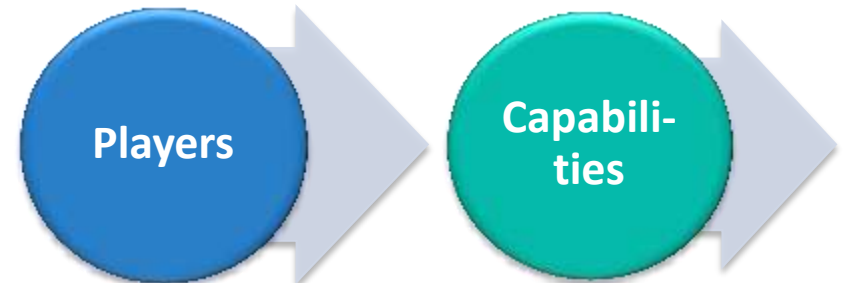
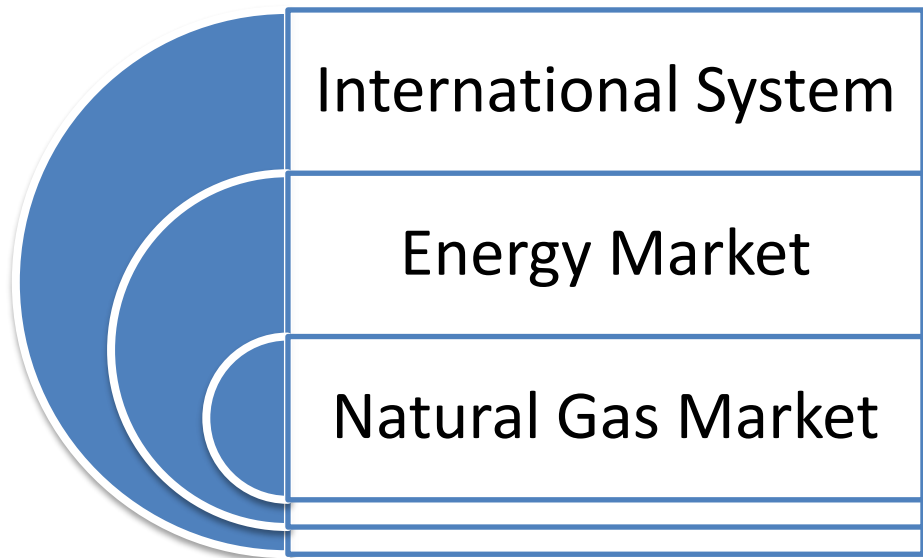
Aim

Identify the **driving forces** in natural gas market that, in a **competitive environment**, will determine the configuration of a new **structure of the physical market** for natural gas in the **Atlantic basin** in a **five years** horizon

Background

Energy as a:

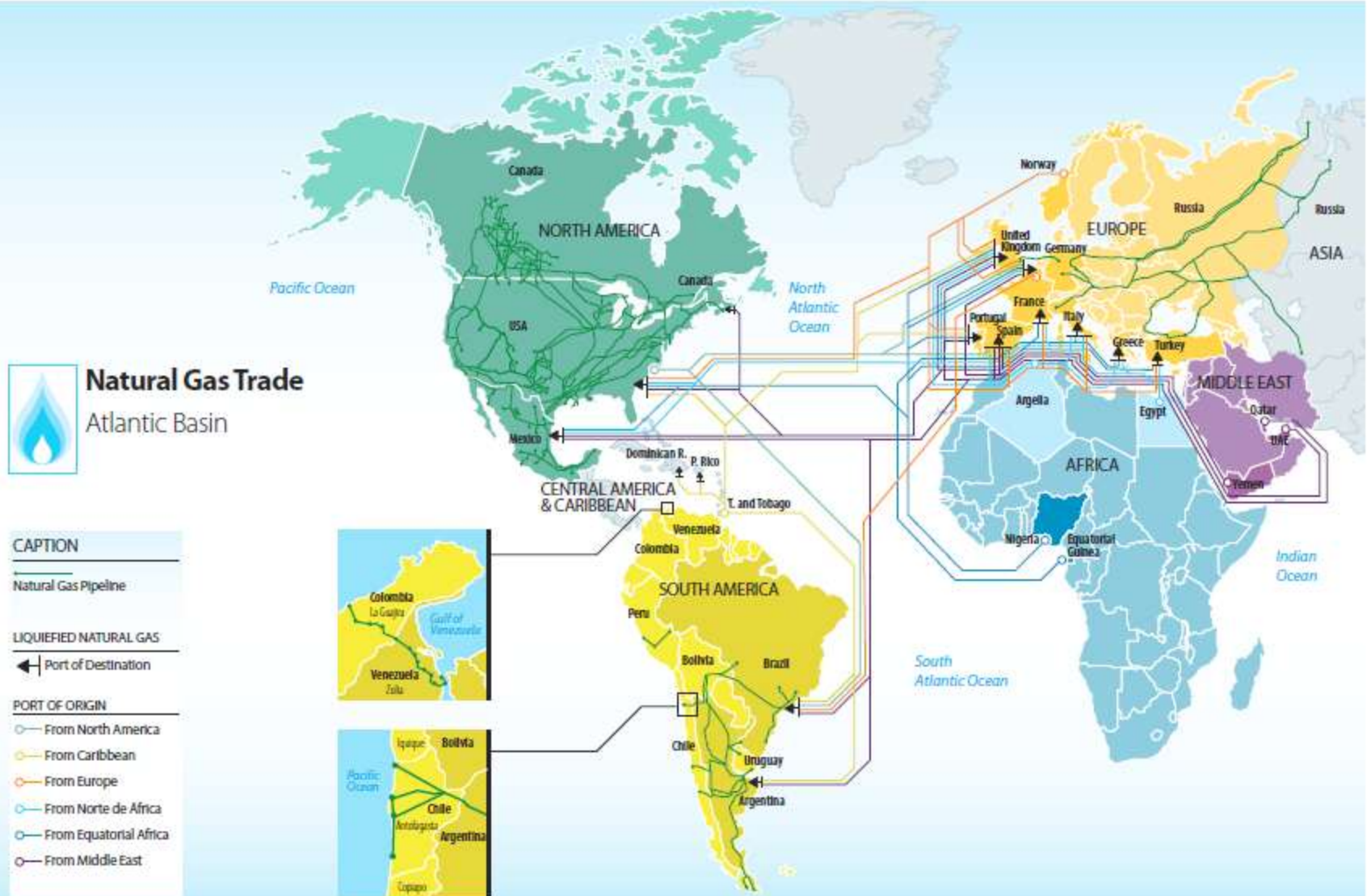
- Subsystem of the international system.
- Link to industrial progress and economic development.
- Strategic element of power and relationships among the international system.



Natural Gas Market Structure

- Degree of competition
- Market players
- Factors that determine the efficient configuration of the market structure in a dynamic model
- Evolution of market structure after deregulation:
 - Vertical integration
 - Competition in natural gas production
 - Open Access and Wholesale competition
 - Unbundling and retail competition
 - Unbundling of pipeline transportation and open access to distribution
- Current market structure in the Atlantic Basin

Natural Gas Trade: Atlantic Basin



- How we see the future? Multiple – most likely scenario
- How the future looks like and how we could take advantage of it
 - Define a set of variables that can potentially affect the whole system under study
 - Identify variables that affect or potentially will affect the market structure by consulting experts
 - Predetermined variables (its evolution is considered foreseeable) and critical variables (subject to uncertainty) were identified
 - Critical variables were evaluated according to degree of impact on market structure and level of uncertainty

Variables and Critical Variables

**22 variables will impact
the market structure in the Atlantic basin...**



...But just 9 are critical

V2.- Volatility in natural gas price

V7.- Geopolitical tensions

V17.- Restrictions on the deregulation of markets in South America

V11.- Gas glut

V14.- Changes in business model

V6.- Development of unconventional gas resources, available technology, production costs and environmental risks associated with its operation

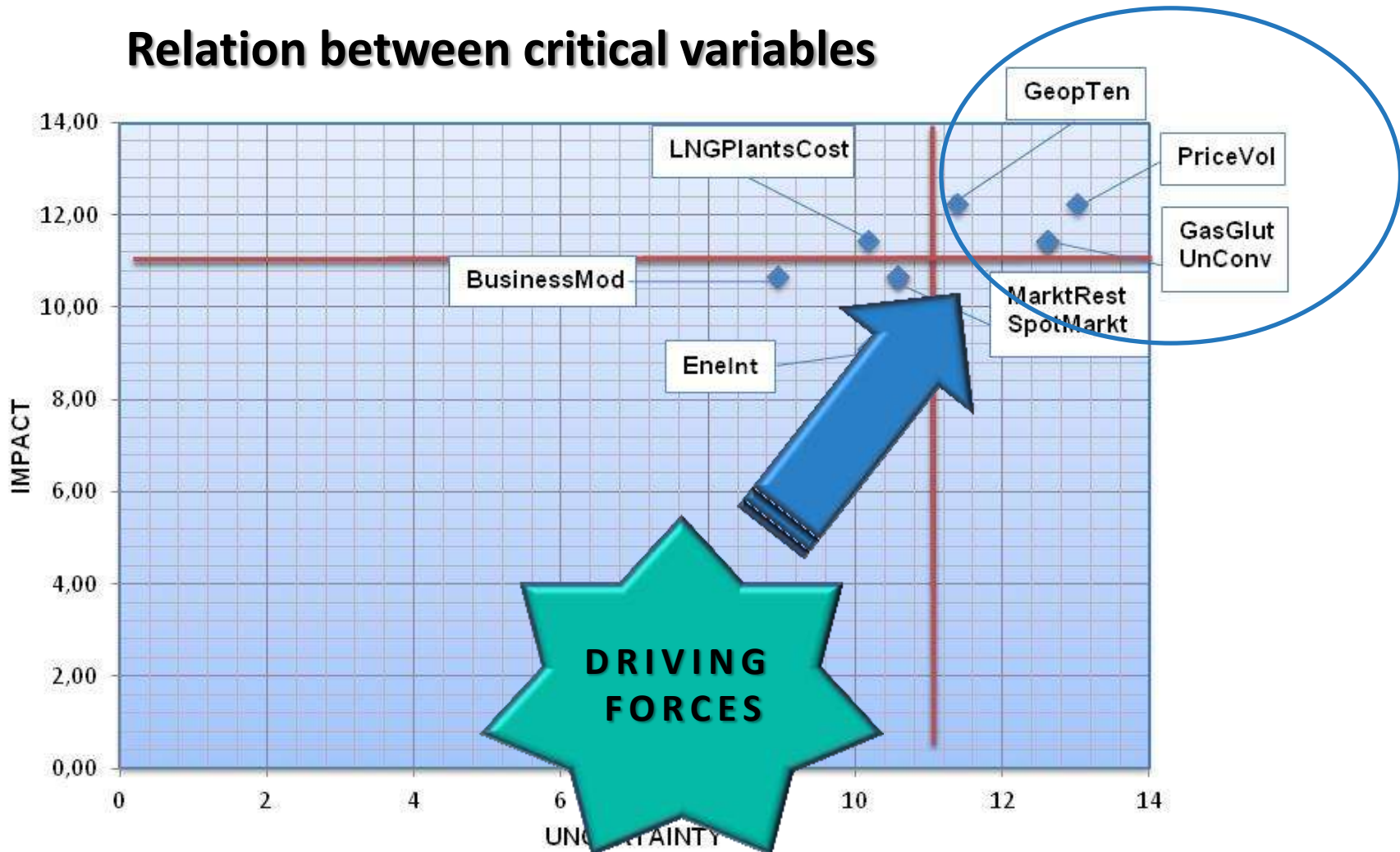
V9.- Growth of the LNG spot market

V16.- Rising capital expenditure of onshore LNG plants

V22.- Energy integration based on natural gas among countries in the Atlantic region, especially in Central and South America.

Variables and Critical Variables

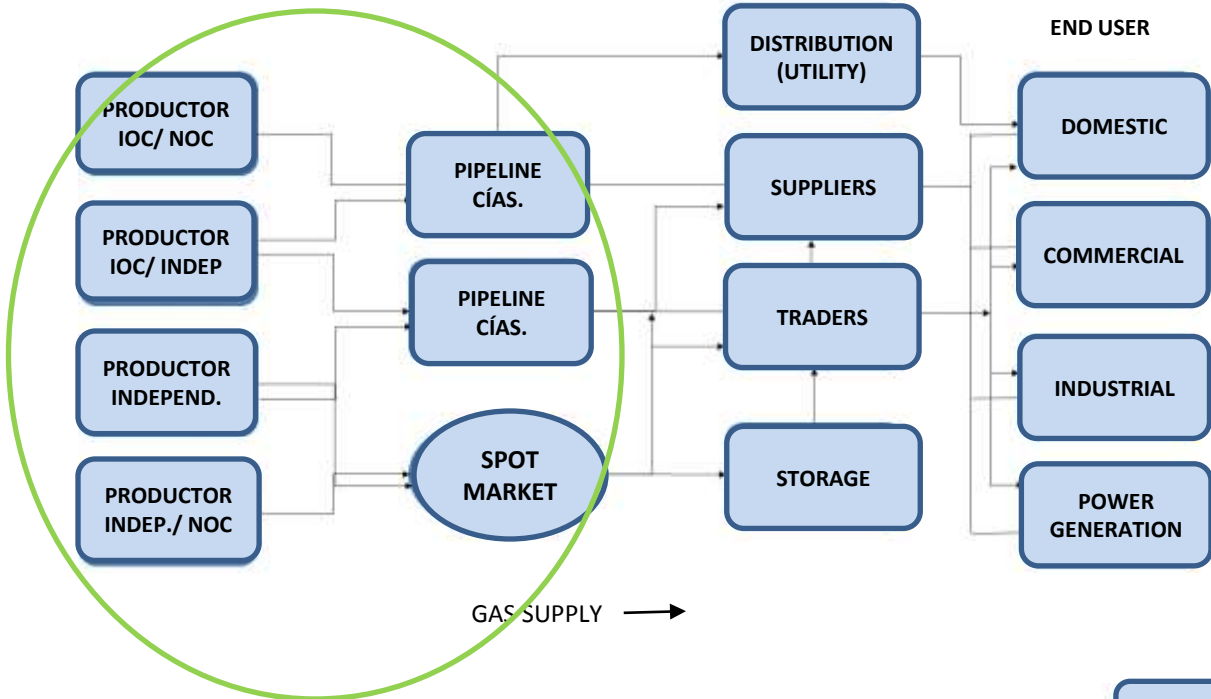
Relation between critical variables



Blue Gold Scenario

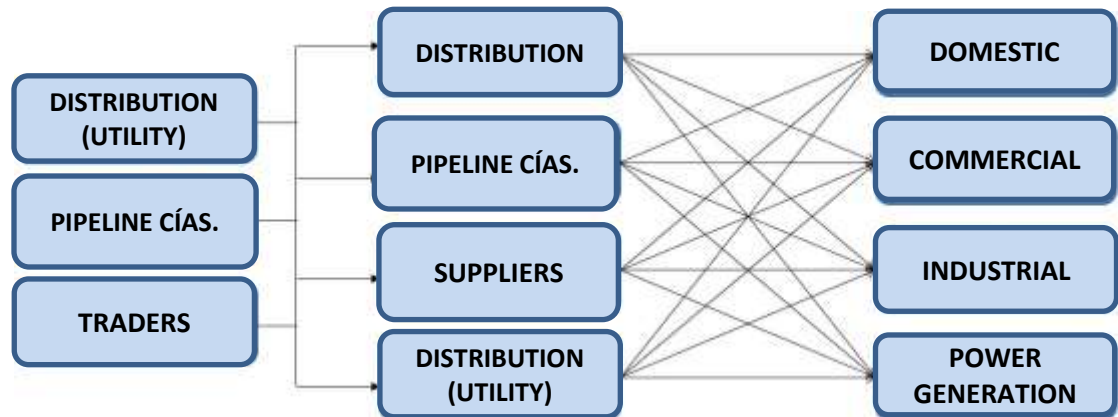


Blue Gold Scenario (cont.)



North America Market Structure

Europe & South America Market Structure Wholesale and Retail

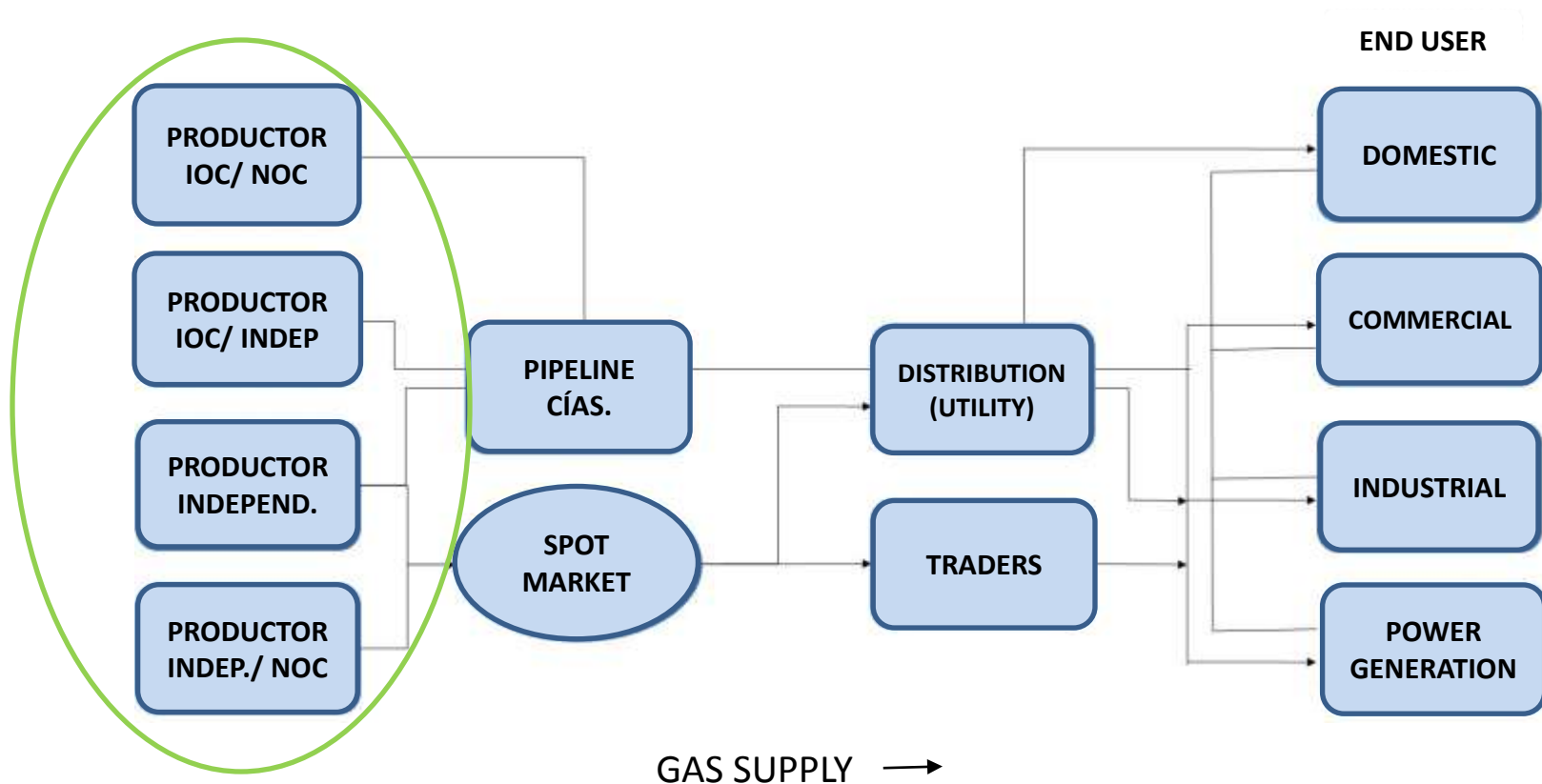


Black Gold Scenario



Black Gold Scenario

North America Market Structure



Summary

- Four driving forces: geopolitical tensions, volatility in natural gas prices, gas glut and development of unconventional gas resources.
- Factors like technology, uncertainty about the supply and demand, and the legal environment will be critical to set up a new market structure in the Atlantic basin, in a competitiveness environment.
- Major changes in the market structure will give it in the upstream and mid-stream natural gas value chain, particularly North America.
- In a blue gold scenario, energy security will promote market deregulation in the downstream value chain, mainly in European and South American markets.
- Prospective techniques can help to manage natural gas business by revealing the uncertainties and challenges of the industry's future.

Thank you!

Q&A