

# **Gas and the energy markets**

## **A European regulator's perspective**

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# Challenges & new opportunities

1. New fundamentals in the gas market : volumes & prices
2. Dilemmas for Europe: policy & regulation
3. A changing scenario for energy companies: new risks, losses and windfall profits in the gas industrial chain, possibly affecting investments.
4. Italy: the “National Energy Strategy” (SEN) and new rules by AEEG



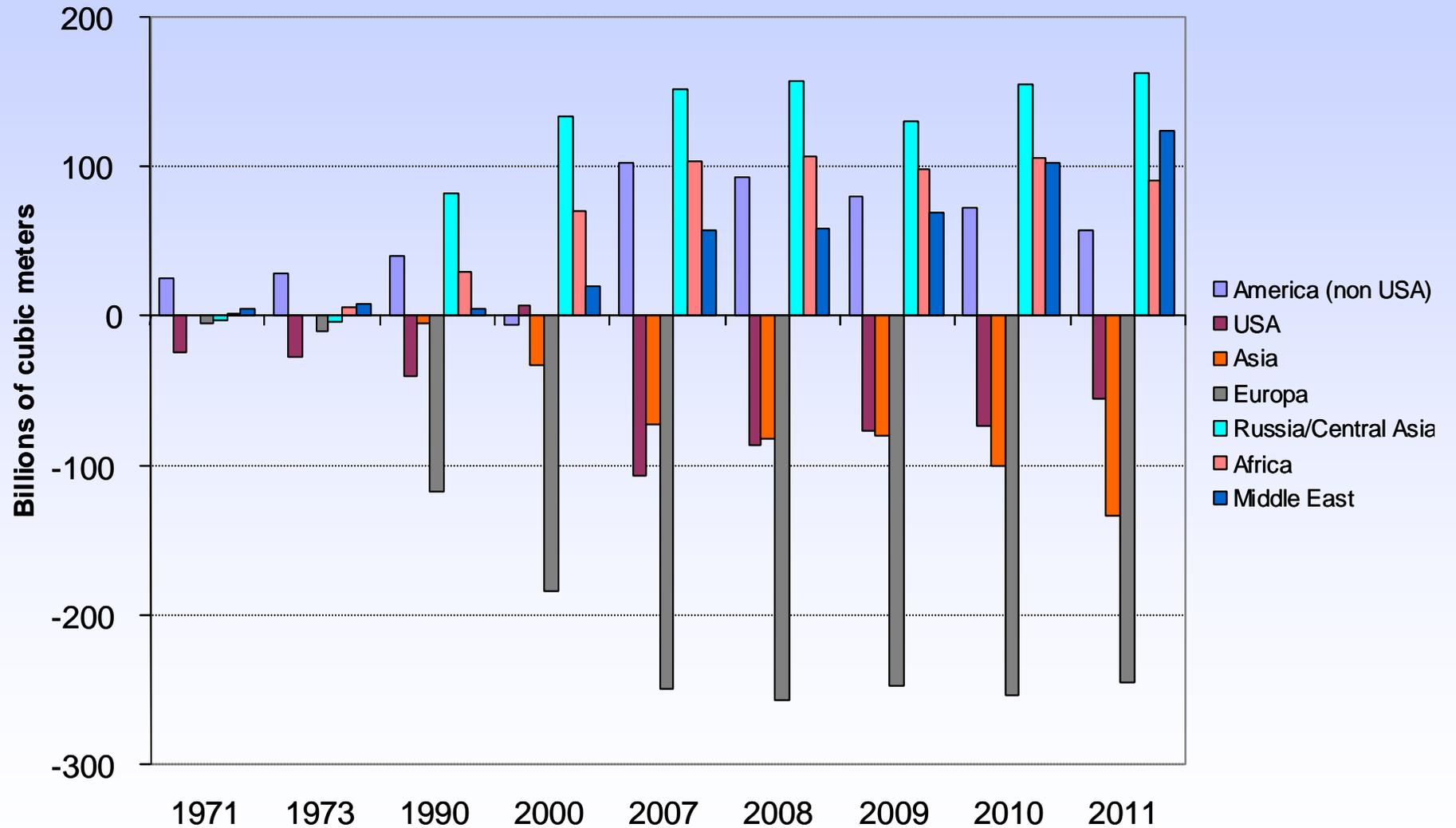
# 1. The new fundamentals

- Relevant increase in international gas flows
- On the demand side: new roles for gas.
- On the supply side:
  - will shale gas spread all over the world?
  - will US export gas?
  - possible effects for Europe?
- Prices



# The increase in gas flows

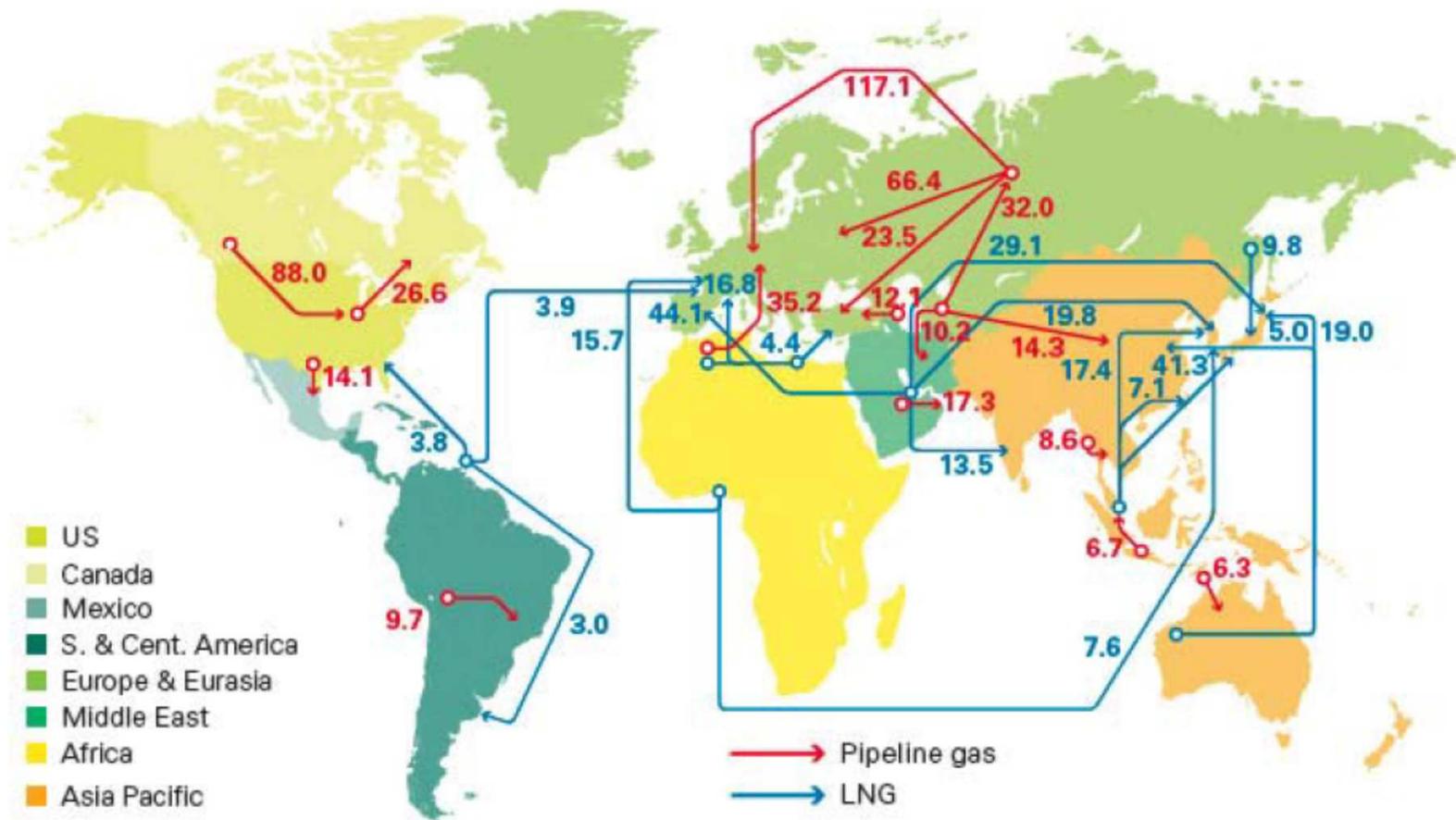
Natural gas net export flows  
Source: IEA, Natural gas information 2012



# Gas trade flows

## Major trade movements 2011

Trade flows worldwide (million tonnes)



Source: BP

# Gas demand

- Traditionally, gas demand has a cyclical path & follows GDP
- Today, many converging reasons for a new role of gas:
  - a. environmental policy (twinning of RES & gas)
  - b. nuclear exit strategy in power production (Jp, D)
  - c. diversification policy in Europe (sources & producers)
  - d. change of relative prices (oil-gas decoupling)
- Europe has a strong dependency on foreign gas

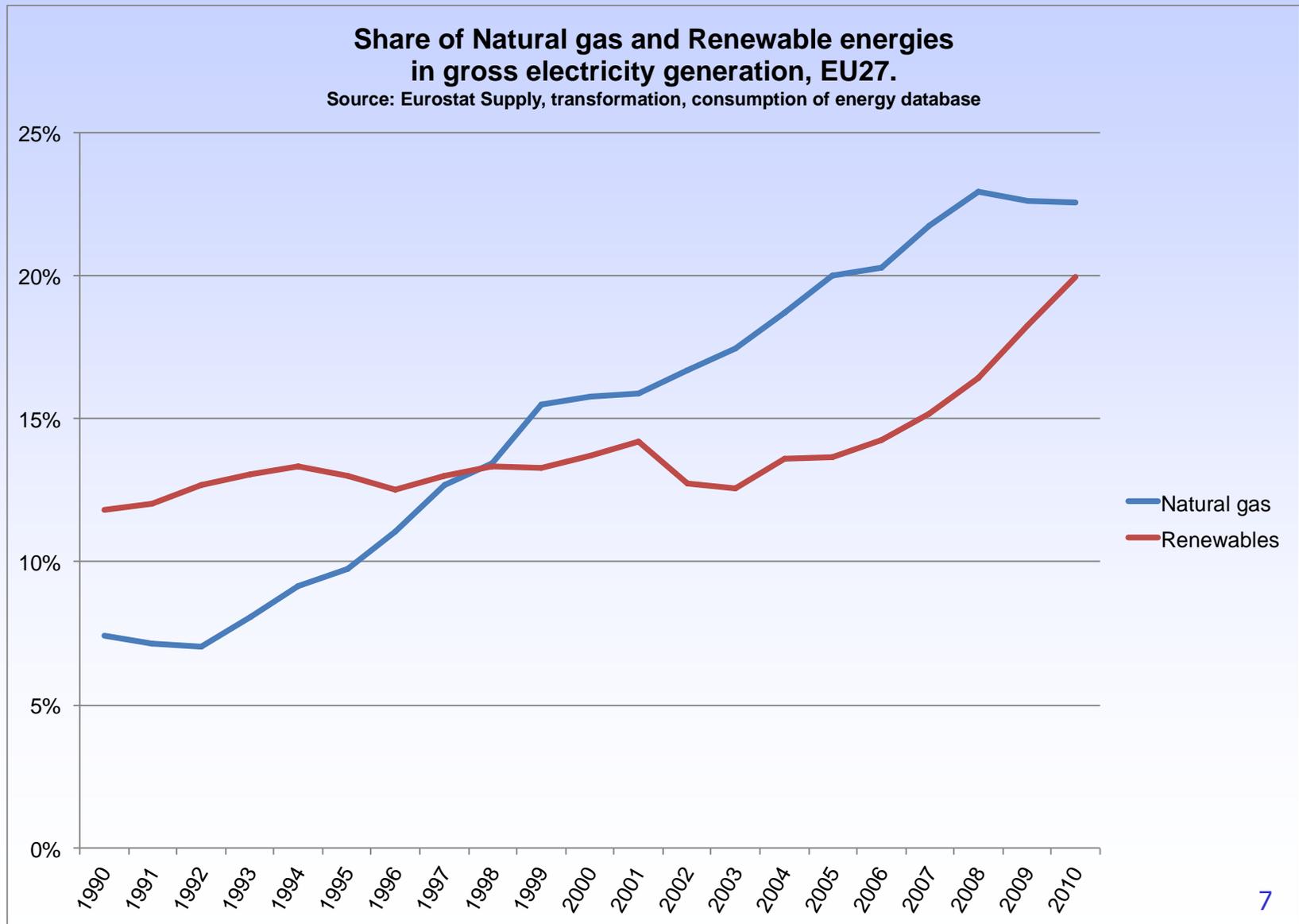
**=> geo-political changes are expected**



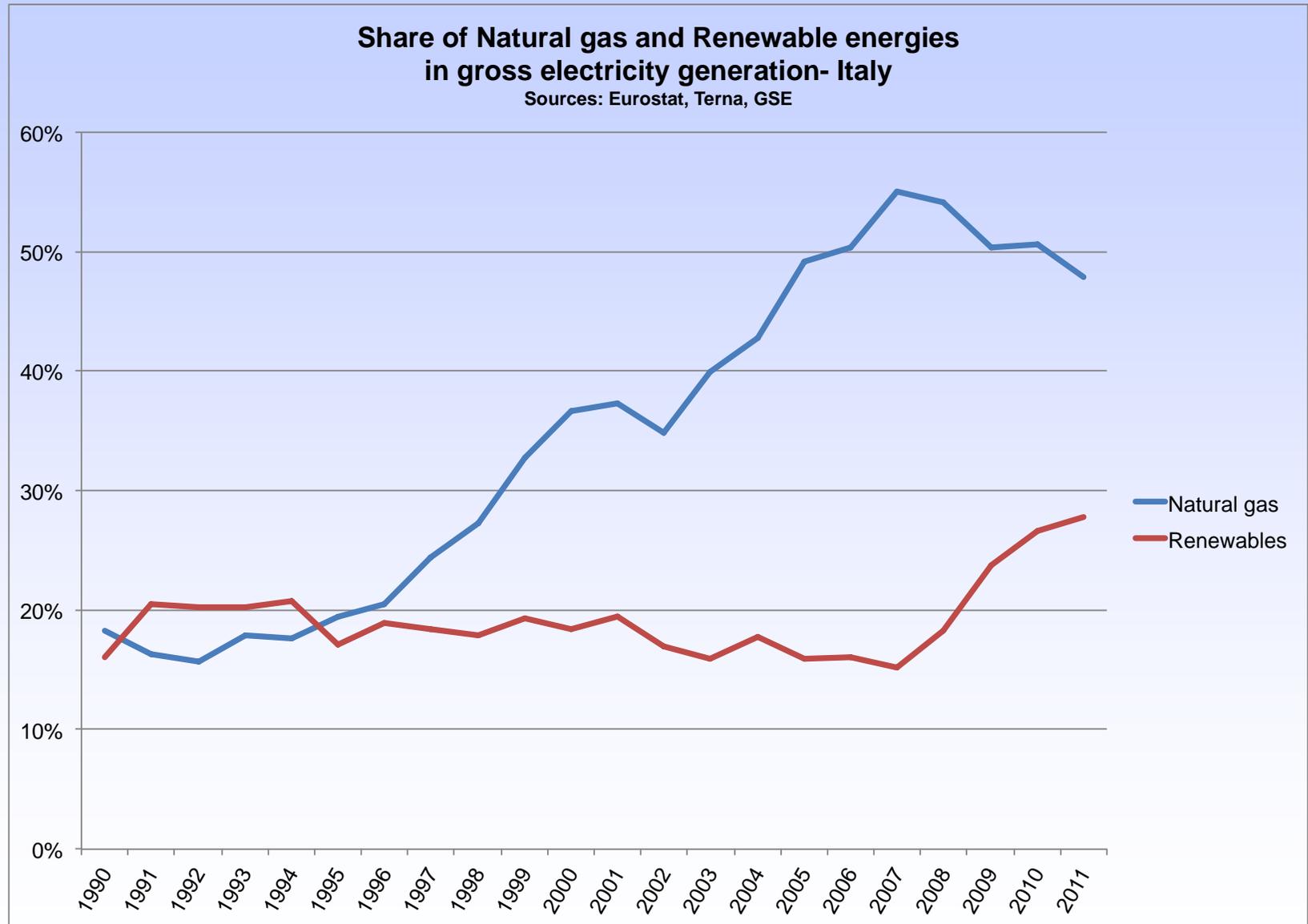
# The growing role of gas and RES

Share of Natural gas and Renewable energies  
in gross electricity generation, EU27.

Source: Eurostat Supply, transformation, consumption of energy database



# The growing role of gas and RES in Italy



# Gas supply

Uncertain developments from a technological break:

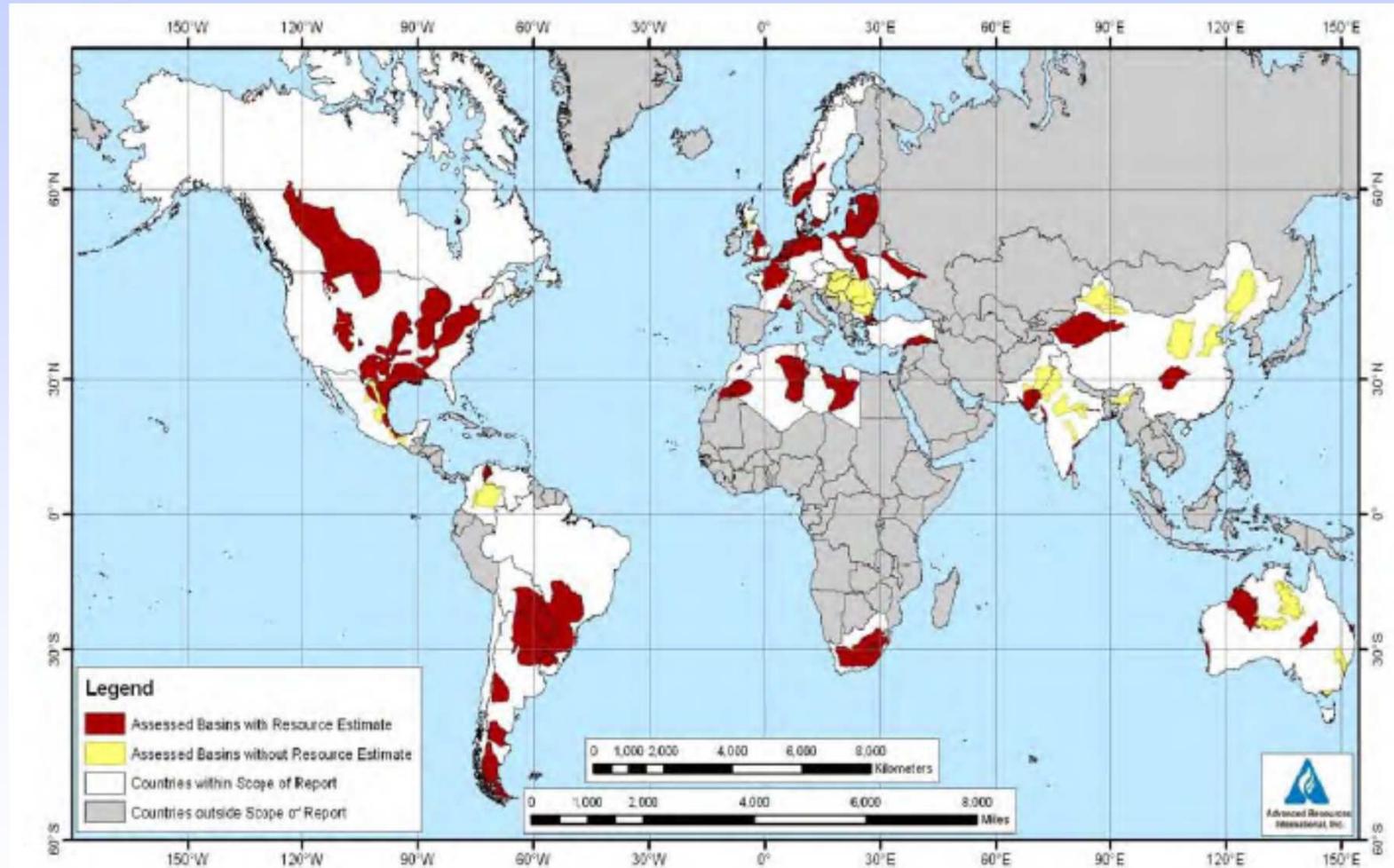
1. Will shale gas production spread all over the world ?  
(Evidence of shale gas reserves China, Africa, Mediterranean area)
2. Will US export gas ?
3. The inevitable impact

**→ LNG is transforming the gas industry & the markets worldwide**



# Shale gas potential

EIA estimates of 48 basins in 32 countries



# Gas supply focus: will US export gas ?

- Contrasting interests for the expected impact on domestic prices
  - Oil producers,
  - industrial energy users -chemicals, petrochemicals, etc-,
  - companies of the gas chain,
  - financial pressures (macro & micro),
  - geo-political experts, etc. ....

All have different positions and goals



# US gas export/2

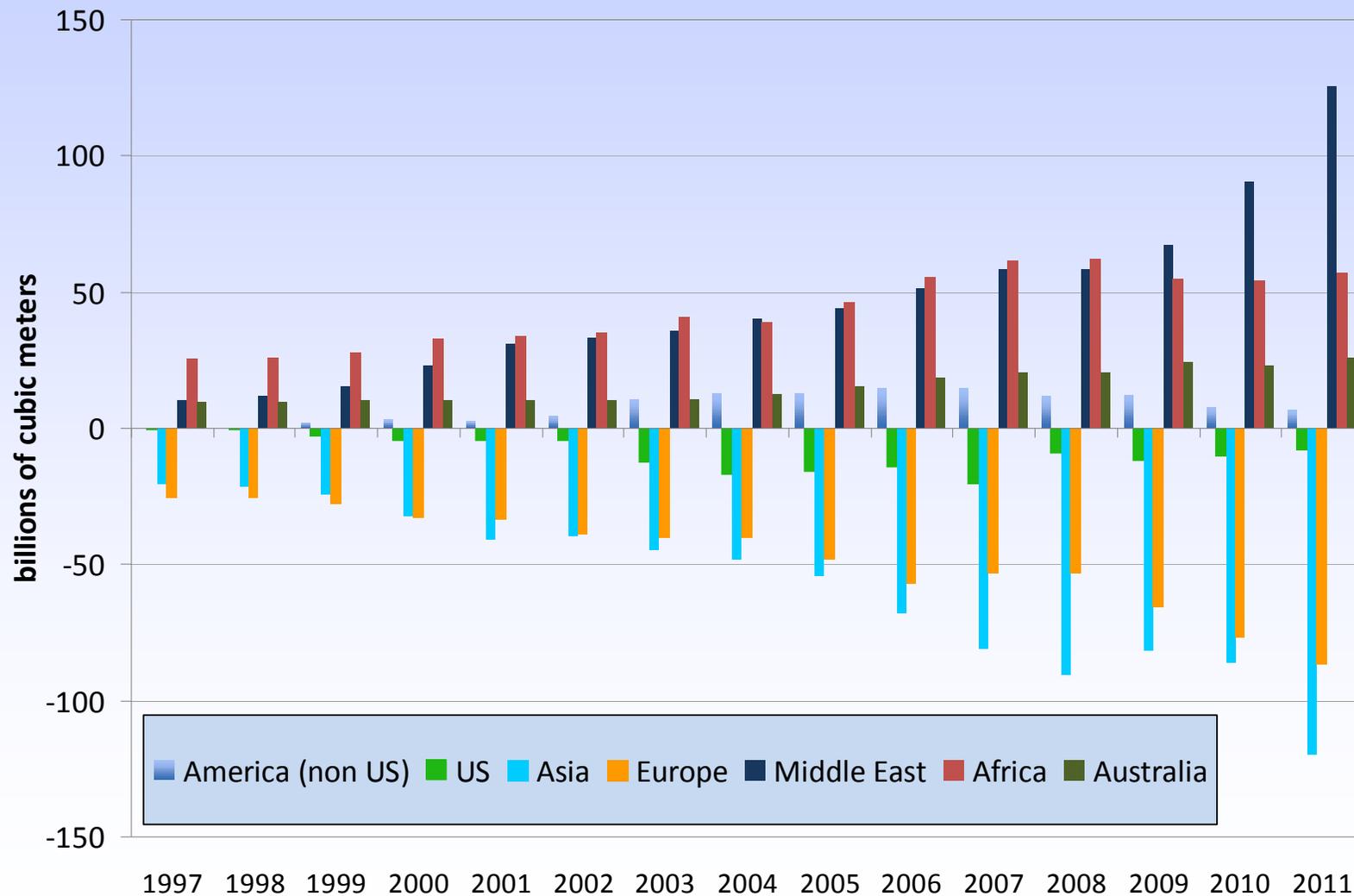
- **However**, signals & evidence converge:
  - LNG import projects are reshaped to export –eg in North Colombia, Kitimat; in the Gulf of Mexico Cheniere Energy inc. reshapes its project for export; BP, Conoco & Exxon Mobile have a joint project for export; on the East coast, Sabine Pass & Cove Point build projects to export in Europe-.
  - The Panama Channel will be enlarged to allow bigger gas tankers to transport gas to the West Coast and Asia by 2014.
- Asia and (in part) Europe are building import LNG facilities
  - ➔ **This will take some time: in a couple of years US will export gas to balance domestic market**



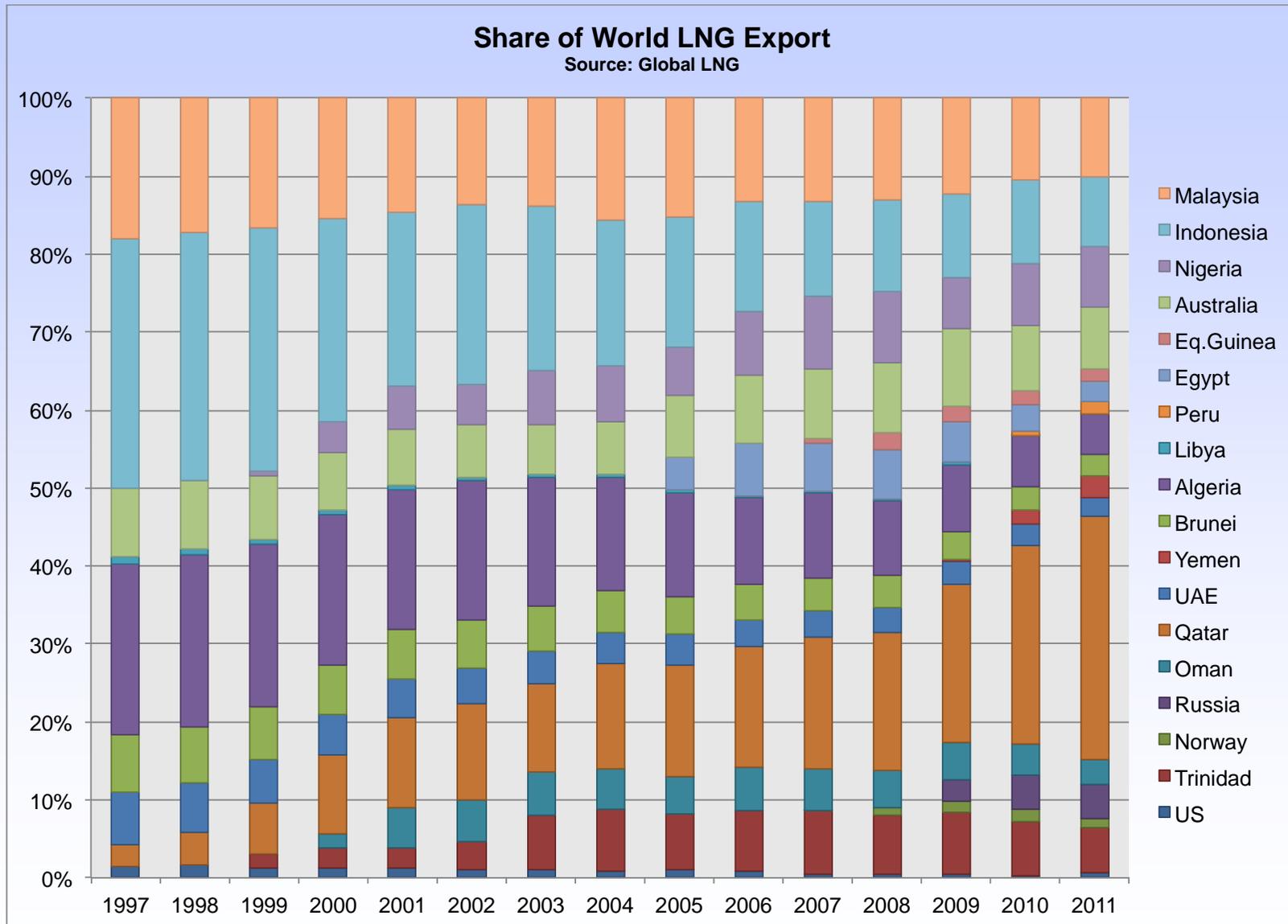
# LNG is transforming the global gas market

## LNG net export by area

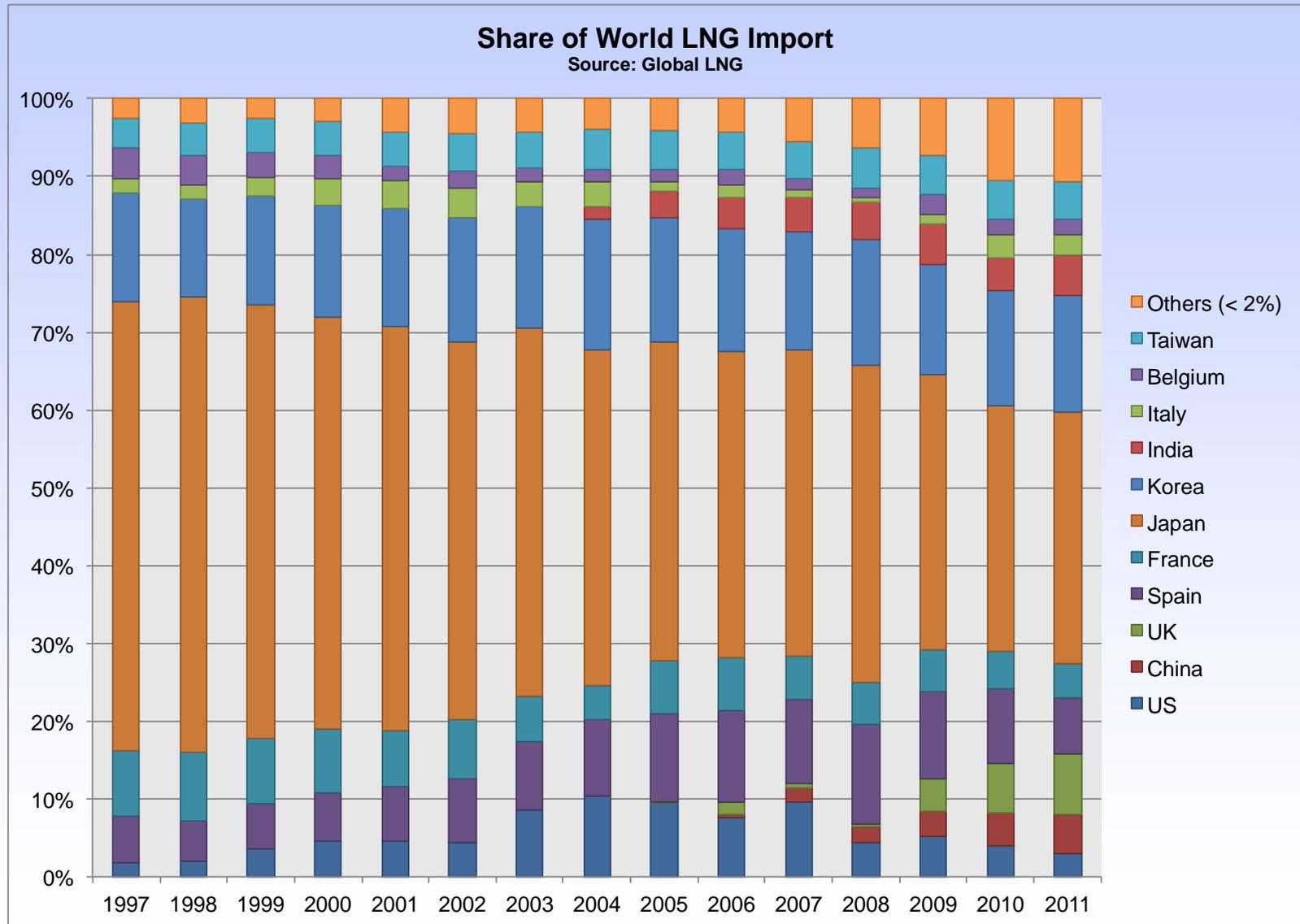
source: Global LNG



# Where does LNG come from?



# Where does LNG go?

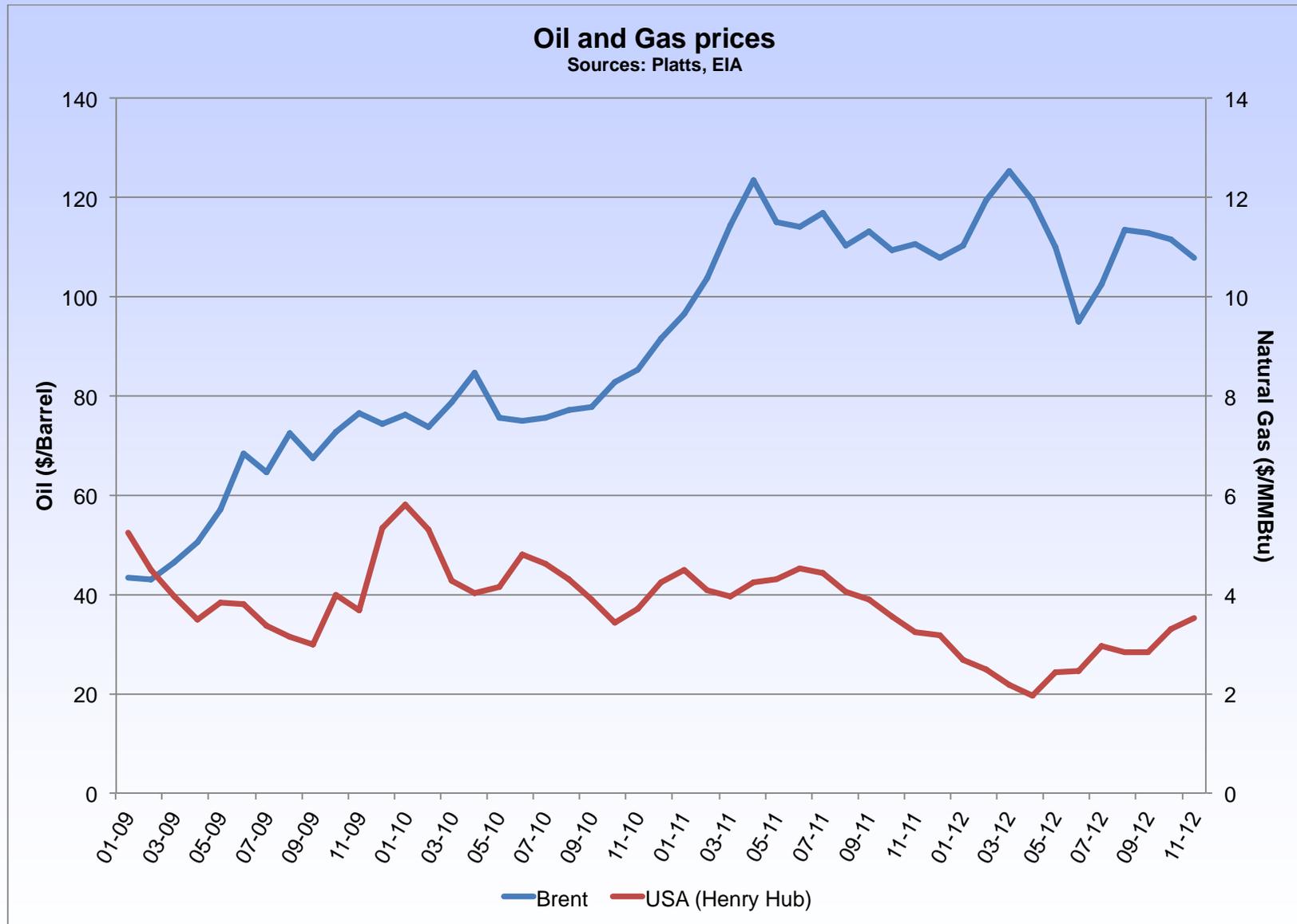


# Prices:

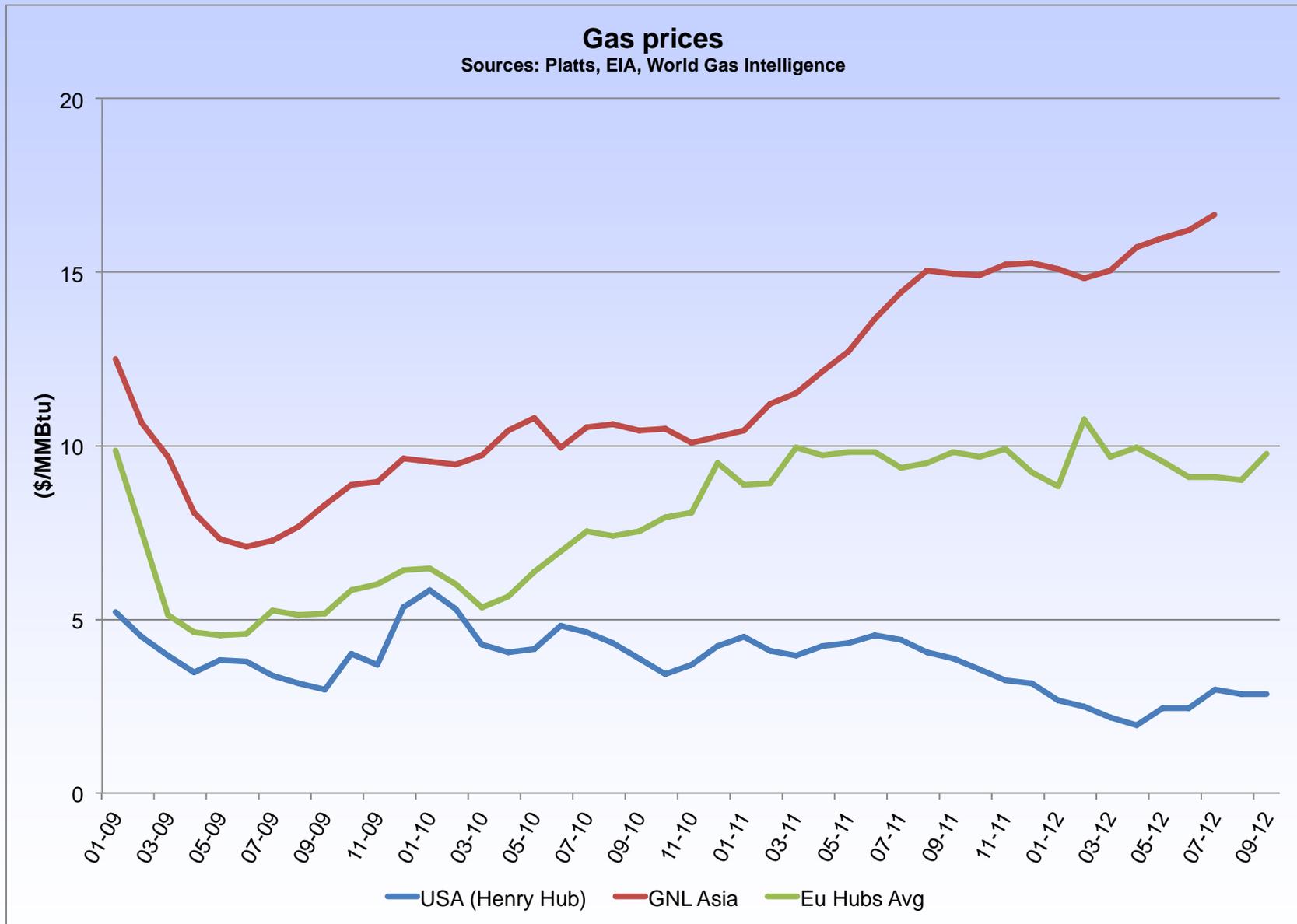
- a. oil/gas decoupling: causes and effects
- b. One market, one price: will a global gas market eventually emerge?  
  
(regional markets still prevailing; LNG infrastructures are crucial)
- c. changes in the gas chain: short term profits / long term funding needs (eg. price of tankers,...)
- d. the contracts



# Changes in relative prices: oil-gas decoupling



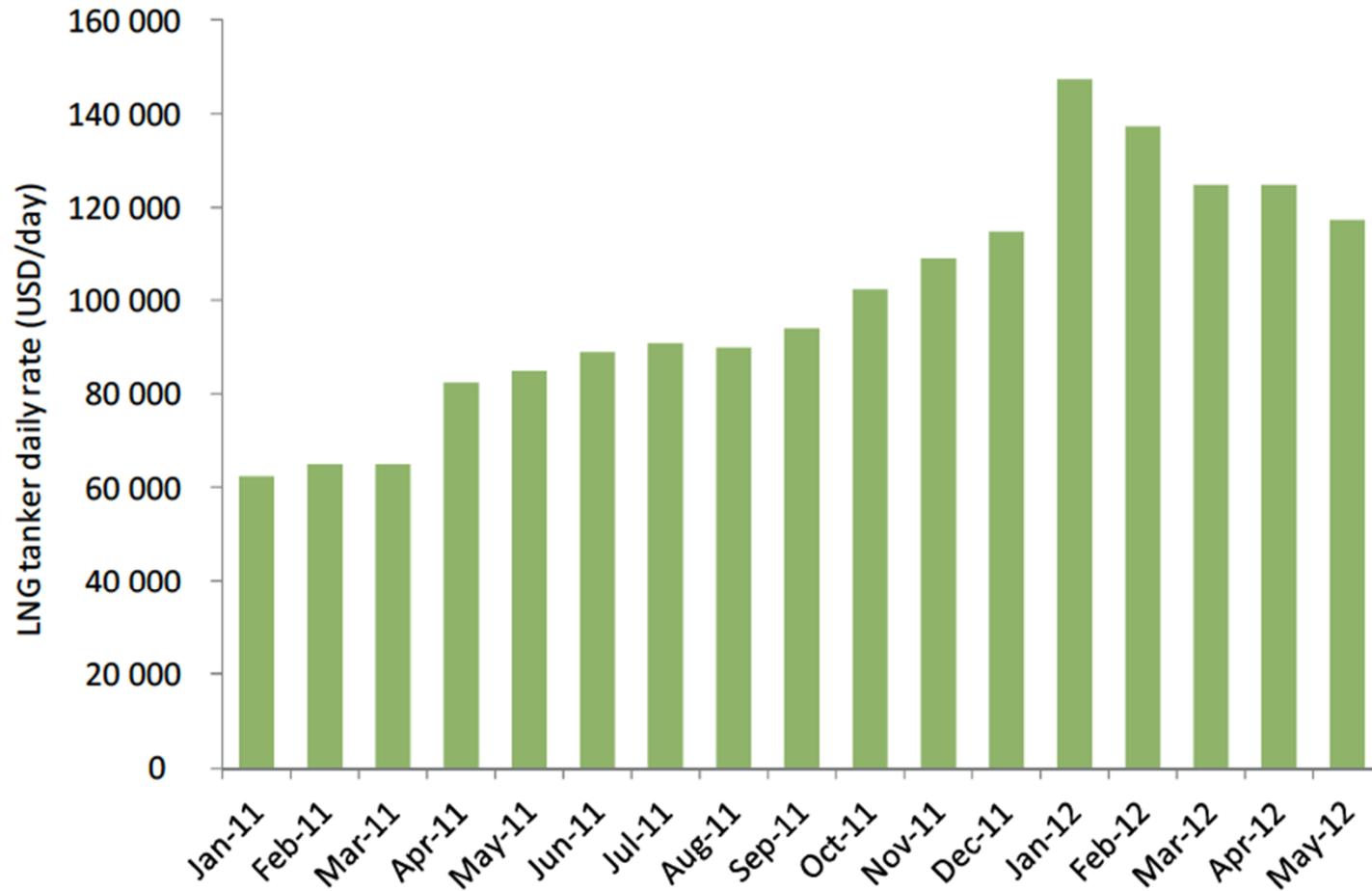
# Regional gas prices



# LNG transportation costs

Source: IEA Medium Term Gas Market Report 2012

LNG tanker daily rate, January 2011-May 2012



# The contracts

- In this scenario, long term take or pay contracts become unsustainable relative to spot gas prices....
- Shippers (& producers) may lose money and role
  - Renegotiations, arbitrations → producers (eg Gazprom's losses)
  - Asymmetric pricing in Eu regulated markets → shippers losses, sellers extraprofits/losses, change of rules (eg in Italy: new CCI spot indexed)
  - Cfr companies Ebitda
- Spot contracts reinforce the need for financial tools to address risk.
- What future role for long term contracts ?



## 2.Challenges for Europe: policy & regulation

The new fundamentals face EU policy & impose new rules:

- a. A new market design ? (the emergence of hubs + new rules)
- b. Huge investment needs (infrastructures, PCI, etc)
- c. New ways of addressing security of supply: flexibility and cooperation among Member States ? Diversifying sources and external producers ?
- d. The transition – some controversial issues: policy, regulators and firms

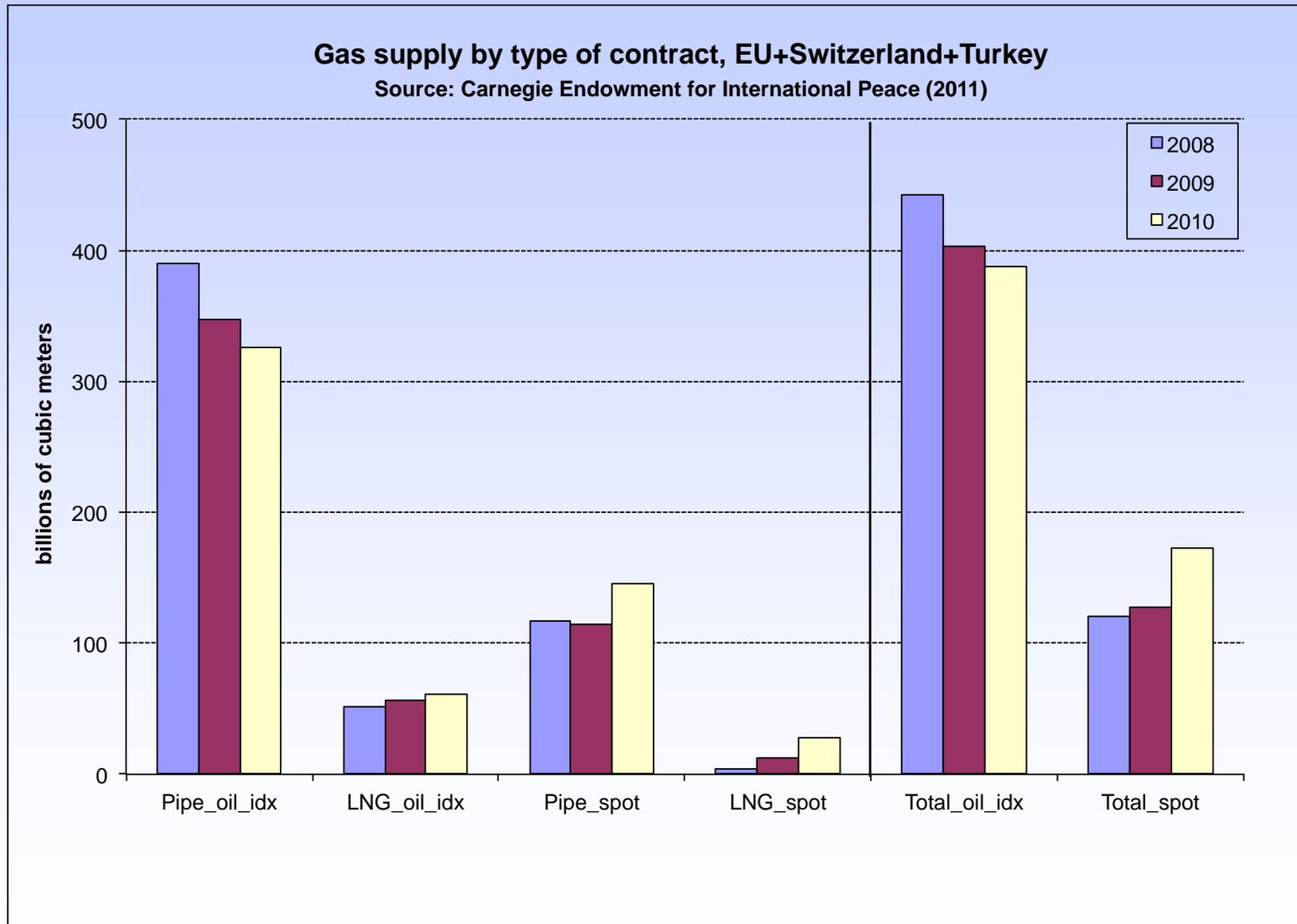


# Dilemmas for Europe: spot (cheaper gas)/ long term (guarantees to investors) ?

1. Are we really going towards a spot gas market?
  2. Which risks ? (physical and financial)
    - Will the spot market have enough gas ?
    - Price volatility? Security of supply ?
    - What role for shippers and gas companies?
    - Which protection from oligopolistic extra-Eu producers ?
- ➔ How to balance 2 opposite needs: A. opening the gas mkt to spot, cheaper supply / B. providing long term stable guarantees to investors to fund infrastructures

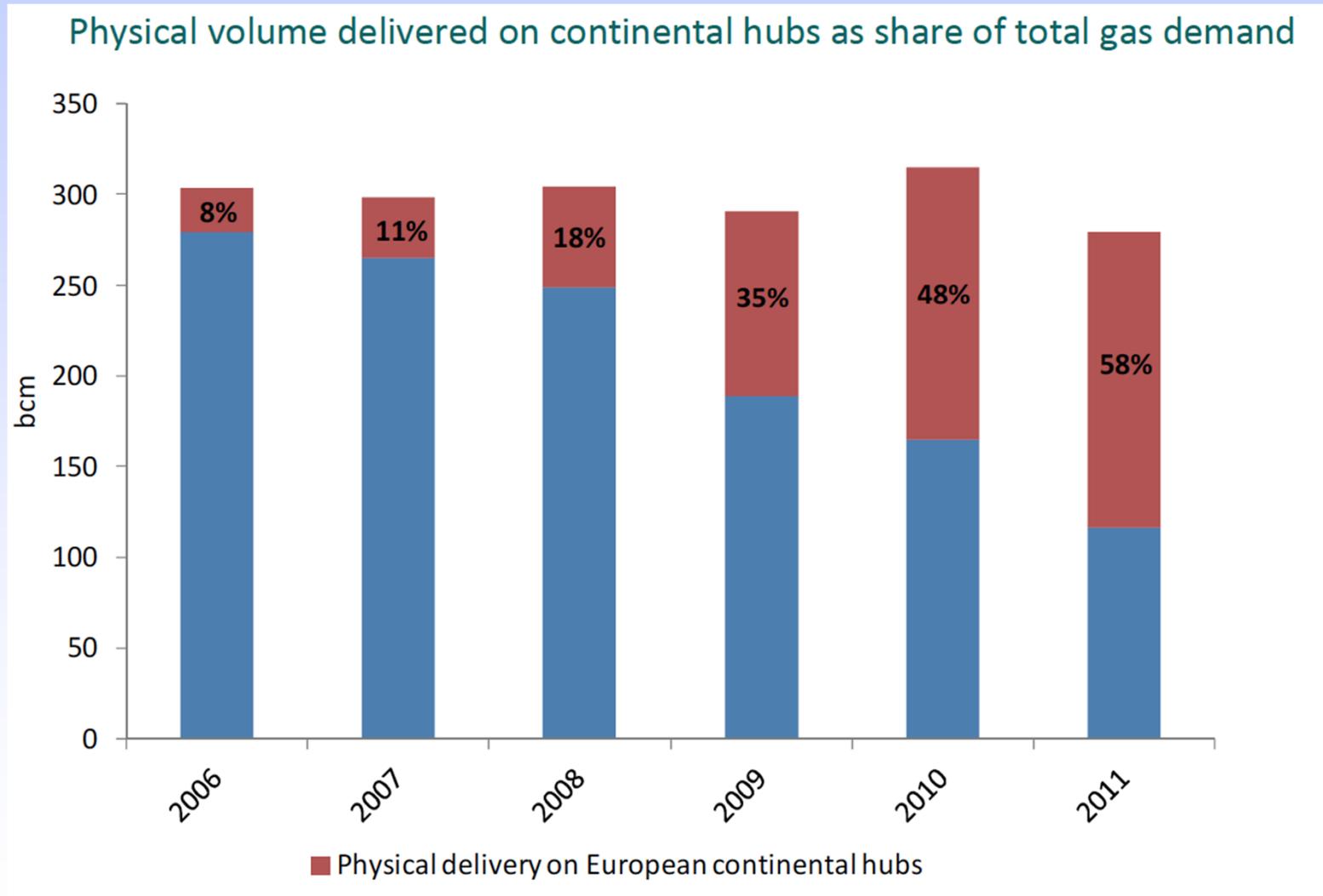


# The growth of spot markets



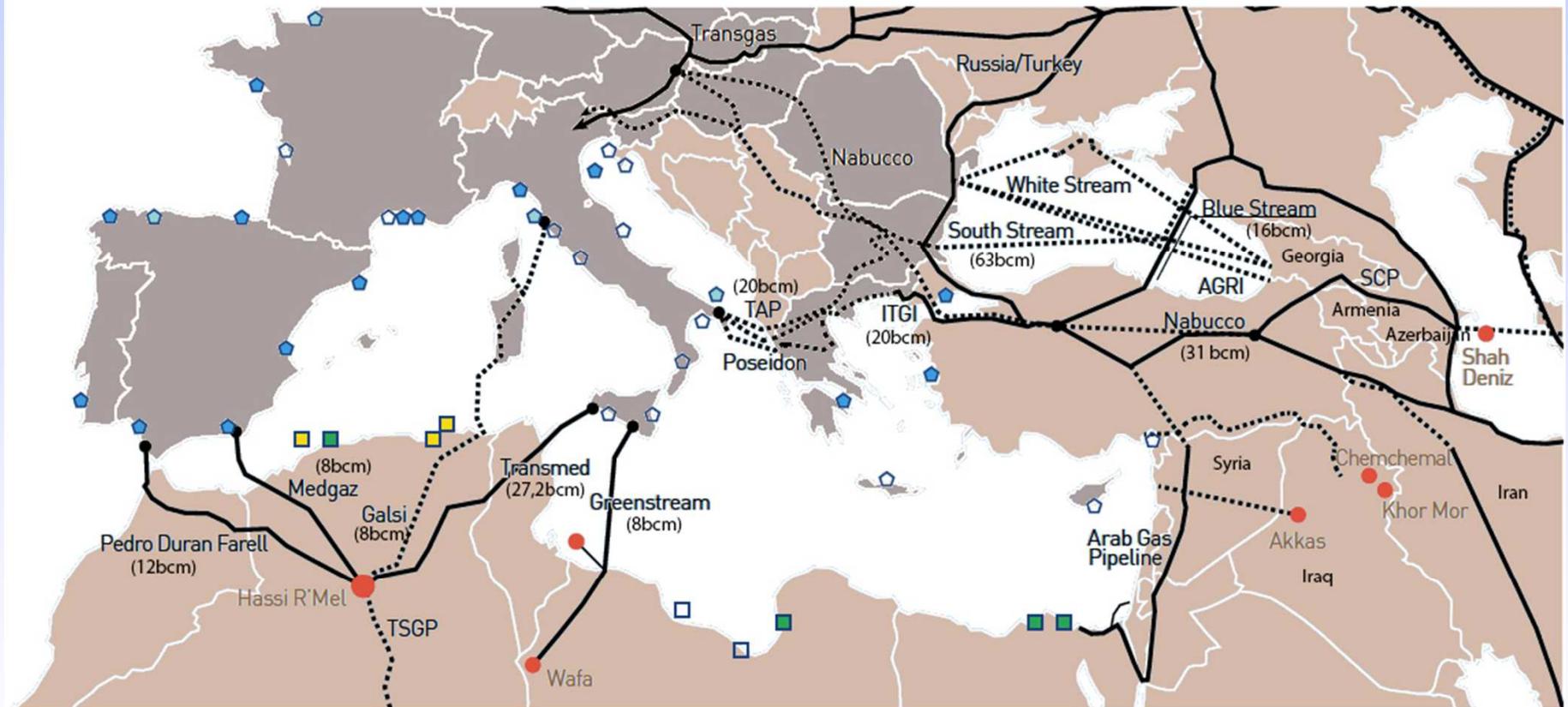
# The emergence of gas hubs

Source: IEA, Medium term gas market report 2012



# The need for gas infrastructures

NATURAL GAS EXPORT-IMPORT INFRASTRUCTURES IN THE WIDE MEDITERRANEAN REGION



- ..... Planned pipeline
- Existing pipeline
- Existing LNG Plant
- Under construction LNG Plant
- Planned LNG Plant
- ◆ Existing LNG Terminal
- ◇ Under construction LNG Terminal
- ◇ Planned LNG Terminal

Source: OME.



# EU policy: a single energy market by 2014

- The European Council set in february 2011 the target for a complete EU energy market by 2014.
- The third energy package is a set of directives and regulations with the same goal. For the gas market:
  - Aims at a competitive, secure and environmentally sustainable market in natural gas.
  - Introduces common rules for the transmission, distribution, supply and storage of natural gas.
  - Introduces the obligation to unbundle transmission systems and transmission system operators.
- The third package introduces ACER, the EU Agency for the Cooperation of Energy Regulators, that has a strong role in the definition of framework guidelines and network codes.



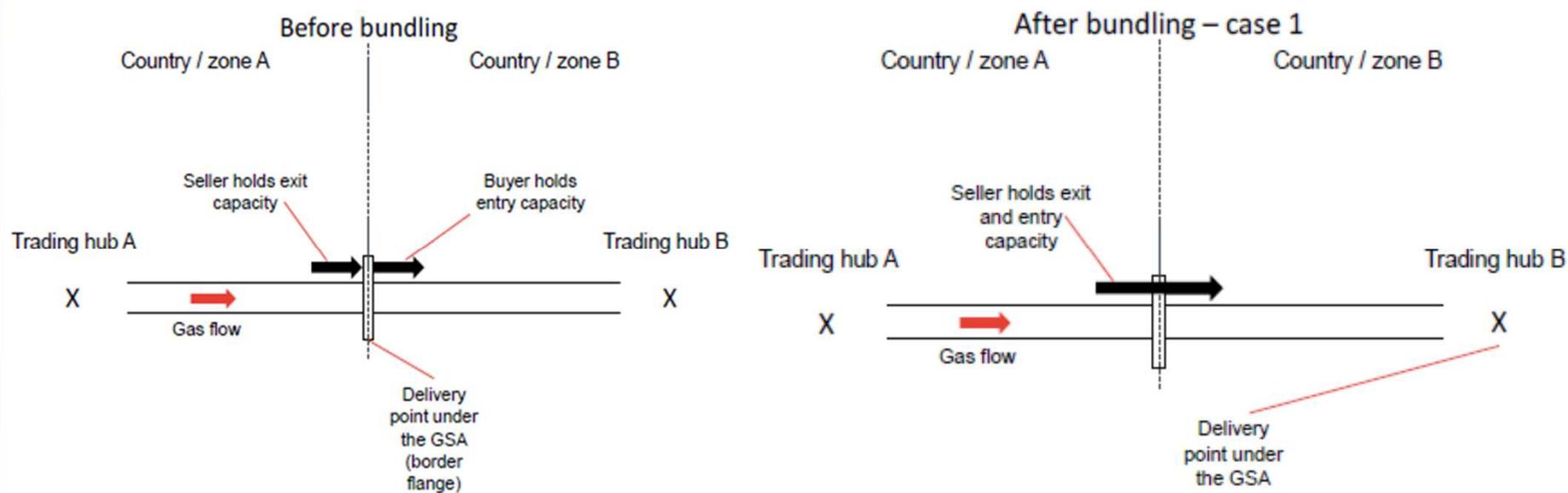
# EU regulation: ACER rules for the Gas Sector

- **Capacity Allocation Mechanisms for the European Gas Transmission** (ACER Aug/11 – NC presented by ENTSOG on 6/03/2012)
- The most innovative provision: bundled capacity services
  - the corresponding exit and entry capacity available at both sides of every point connecting adjacent entry-exit systems shall be integrated in such a way that the transport of gas from one system to an adjacent system is provided on the basis of a single allocation procedure and a single nomination
- Pilot projects already started at regional level to allocate bundled products (sometimes through regional platforms).



# Gas framework guidelines on capacity allocation

The goal is moving from borders to hubs, removing gas frontiers and the need to buy separate entry and exit rights every time gas is traded between countries. With this system, entry and exit rights are “bundled” and sold with gas.



# Italy - AEEG regulation favouring transition towards a EU gas market

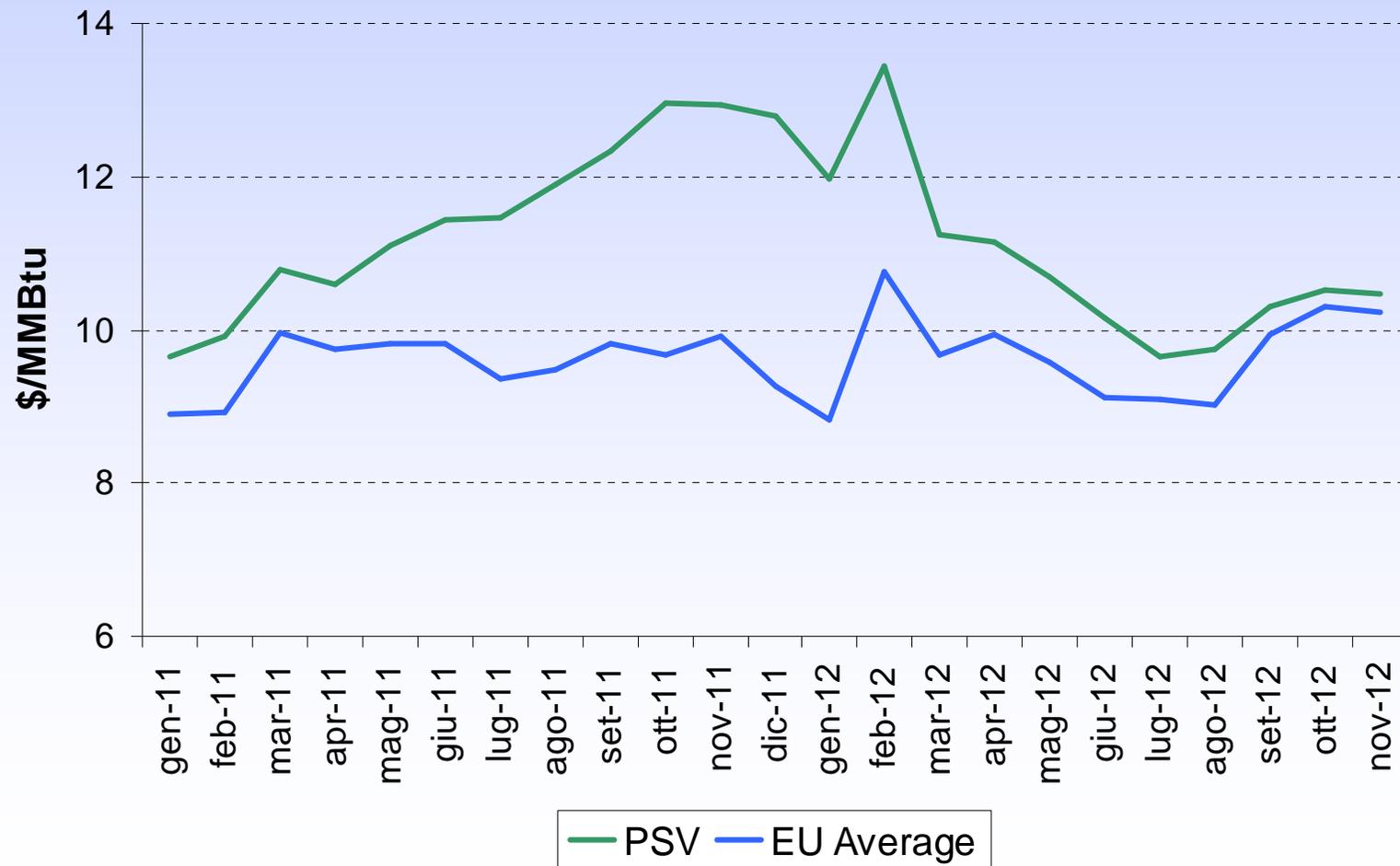
- New market based balancing market: providing a transparent price reference for the daily value of natural gas in the system
- Establishing a regulatory framework able to favour new investments: the TSO foresees 7 billion€ investments in the next 3 years



# An example of the impact of regulation: convergence of spot prices

## Natural gas spot prices: Italy and the EU

Source: Platts



## 3. Changing risks

- a. Risks and profits –short term profits, long term vision:
- b. **New role for financial markets?** How to facilitate the transition and make the most of it (long /short term, spot/forward, TSO, insurance, new functions, new tools)
- c. The REMIT and the MIFID reform
- d. New AEEG rules (gradually strengthening the role of spot contracts + financial tools)



## 4. Italy - The New National Energy Strategy (SEN)

Goals & results expected by 2020:

1. Wholesale prices alignment with EU levels
2. Reduction of energy imports costs by €14 billion/year (from current €62 billion) and of external dependency from 84% to 67%, thanks to the alignment of wholesale prices, energy efficiency, increased renewables supply and increased domestic production
3. €180 billion investments in the green economy (renewables + energy efficiency) and in traditional sectors (electricity and gas networks, re-gasification plants, storage, hydrocarbon development). These will be private investments, partly supported by incentives, expected to generate positive economic returns for the country



## Italy: the SEN – Expected results/2

- Greenhouse gas emissions should fall by about 19%, exceeding the European targets for Italy, set at 18% below the 2005 emission levels.
- Renewable sources should account for 20% of gross final consumption of energy by 2020 (10% in 2010, 2020 target for Italy coming from RES directive 17%). Fossil fuels use should fall from 86% to 76%. Furthermore, renewables should become the primary source in the electricity sector, equivalent to gas, accounting for 36-38% of consumption (23% in 2010).
- Primary consumption should fall by about 24% by 2020 (reference scenario estimated 4% below 2010 levels); this exceeds the European objectives of -20%, mainly thanks to energy efficiency measures.



# Gas projects - Italy





## Some final remarks

- Technological breaks introduce fundamental changes in energy markets, also affecting geopolitical equilibria; together with changing regulation this implies
- a shifting paradigm in the gas sector.
- The gas industry must evolve → survival of the fittest?
- Potential benefits for growth



***THANK YOU FOR YOUR ATTENTION !***

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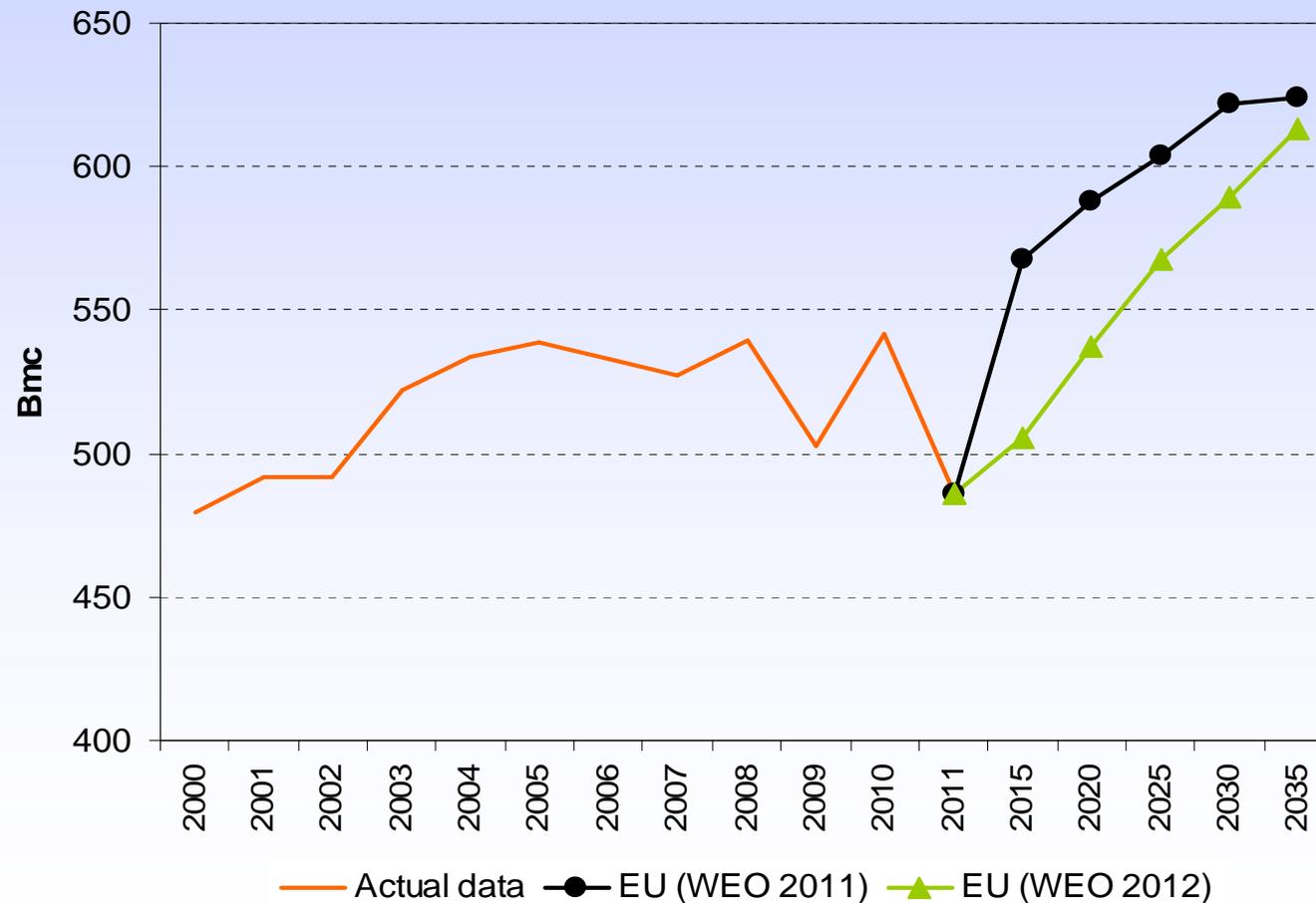
# Appendix



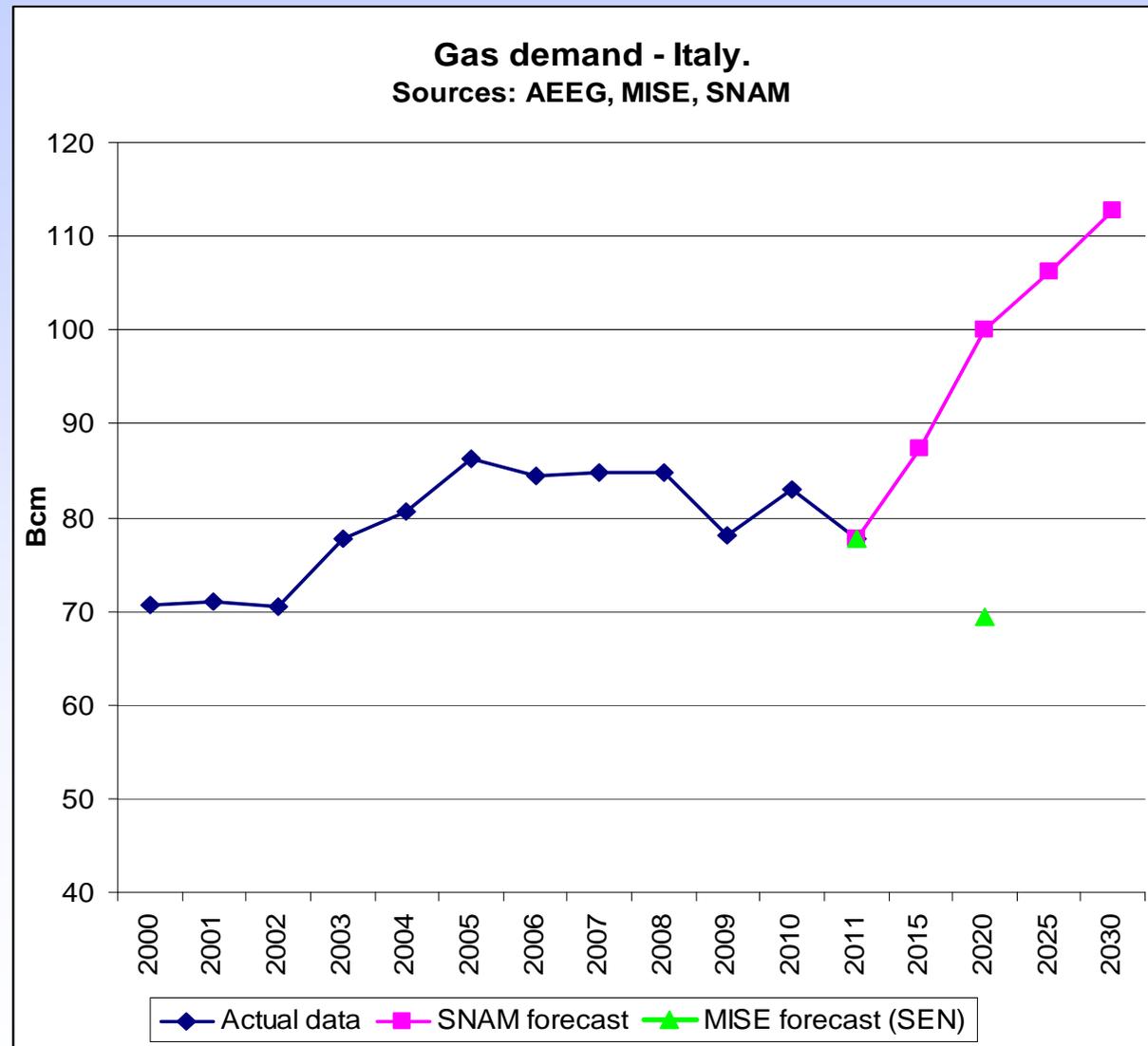
# Natural Gas demand - EU

## Natural gas domestic consumption - European union

Source: IEA, World Energy Outlook



# Natural Gas Demand - Italy



# EU regulation: synthesis of ACER activities in 2011...

- Framework Guidelines on Capacity Allocation and Congestion Management for Electricity (07/2011)
- Final version of Framework Guidelines On Electricity Grid Connections (07/2011)
- Framework Guidelines on Electricity System Operation (12/2011)
- Framework Guidelines on Capacity Allocation Mechanisms for the European Gas Transmission Network (08/2011)
- Framework Guidelines on Gas Balancing in Transmission Systems (10/2011)
- ACER opinion on the European Ten Year Network Development Plan 2011-2020 published by ENTSOG



## ...and in 2012

### ➤ Adopted decisions:

- Framework Guidelines on Electricity Balancing (09/2012)
- FG on Interoperability and Data Exchange Rules for European Gas Transmission Networks (07/2012)

### ➤ Main consultations:

- Draft Framework Guidelines on rules regarding harmonised transmission tariff structures for gas
- on Forward Risk Hedging Products and Harmonisation of LT CA Rules
- on ACER Guidance Note on Consultation
- on Transparency in Gas Markets
- on records of transactions under REMIT
- on REMIT Registration Format

