

**- PSV and SBSM -**

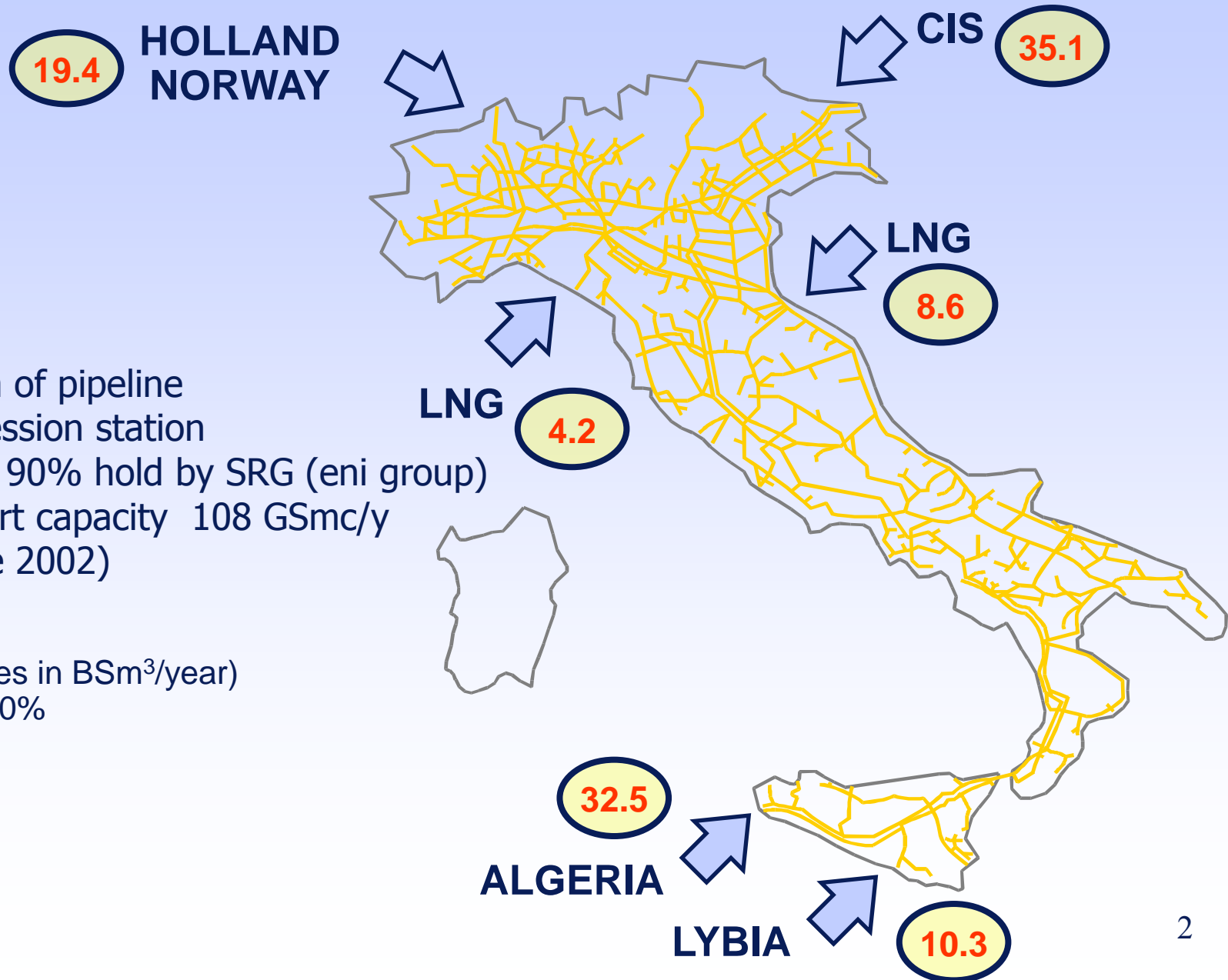
***Autorità per l'energia elettrica e il  
gas  
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**ECRB WORKSHOP ON GAS MARKET  
MODELS**

**Vienna - November 16<sup>th</sup>, 2011**



# Network and transport capacities (2010)

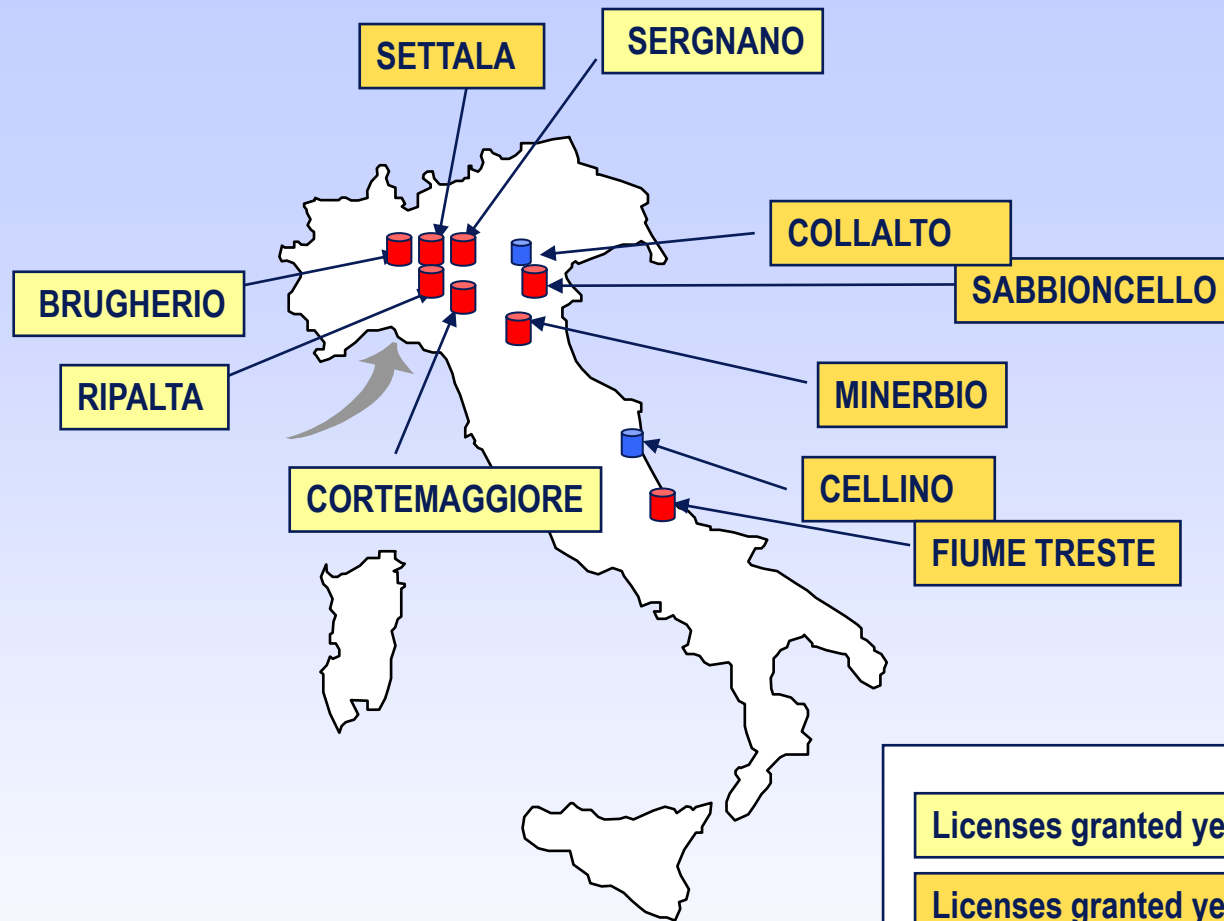


31.500 km of pipeline  
11 compression station  
More than 90% hold by SRG (eni group)  
Total import capacity 108 GSmc/y  
(+34 since 2002)

- (Volumes in BSm<sup>3</sup>/year)
- c.u. = 90%



# Storage availability in Italy



10 depleted fields  
Total Working gas 15 Bcm  
96% hold by Stogit /eni group



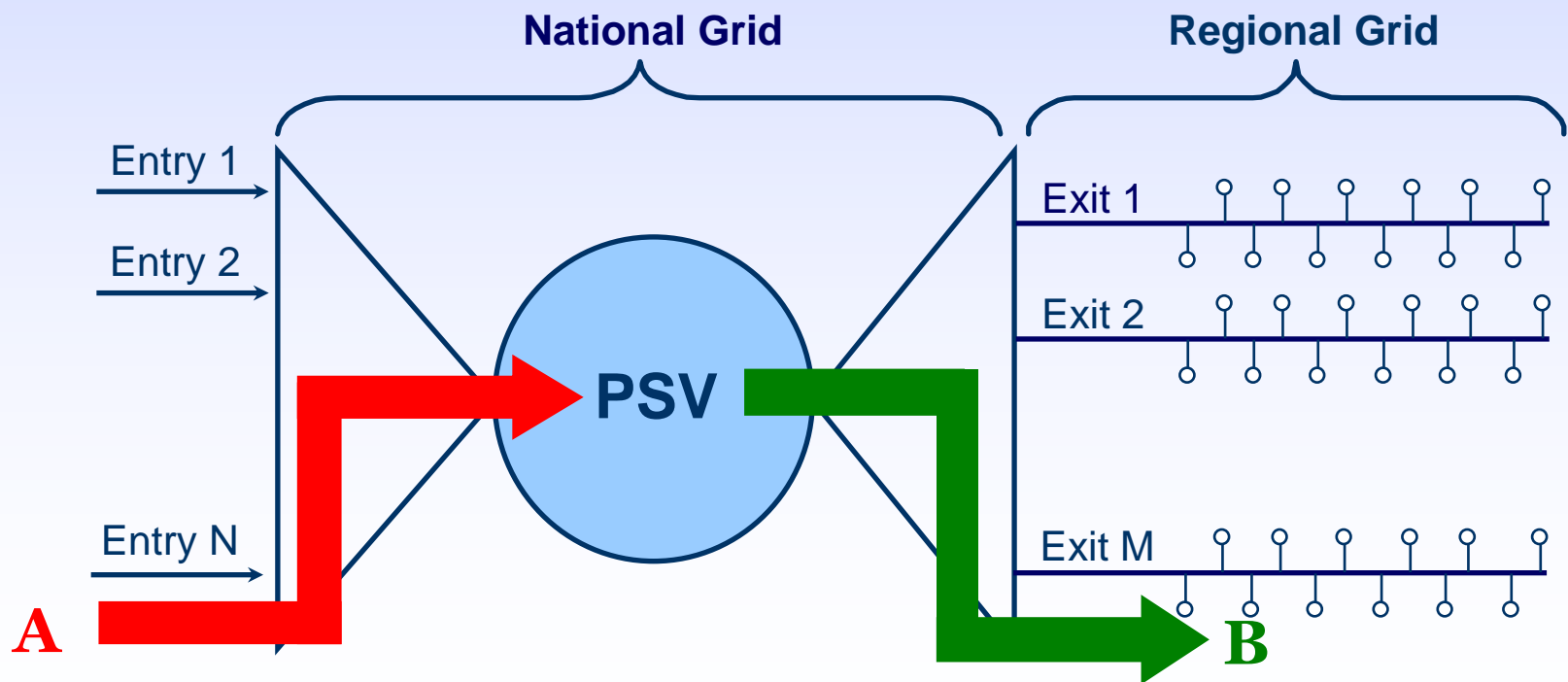
# The regulated gas and capacity market

- **Deliberation n. 22/04 settles four steps toward the creation of a centralized gas and capacity market:**
  - 1) PSV is awarded the title of “regulated gas and capacity market” with the provision for SRG to introduce new functions
  - 2) Definition of standard contracts for trading of gas and capacity on the PSV
  - 3) Establishment of a balancing market and introduction of a new balancing regime
  - 4) Introduction of a centralized market (OCM)



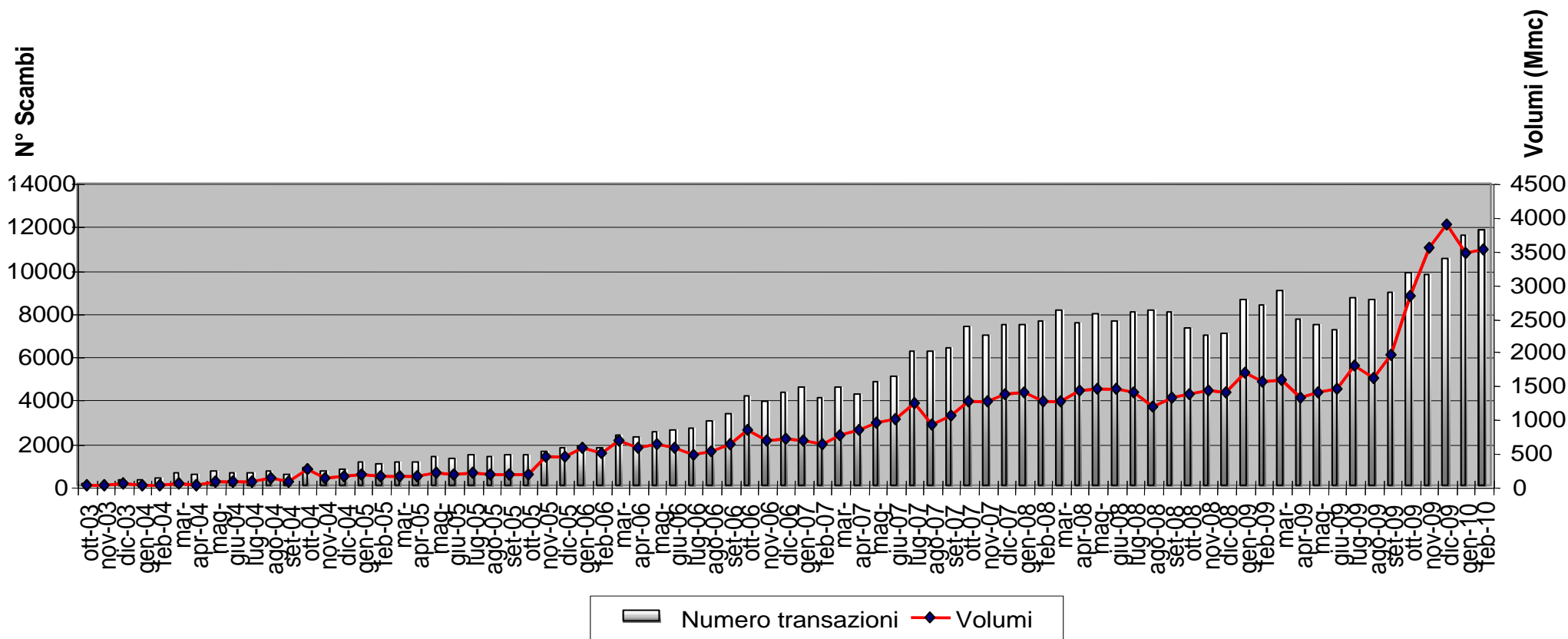
# “Punto di scambio virtuale” (PSV)

- PSV is a virtual point situated between the entry and the exit points of the national grid, where shippers can trade and exchange gas



# Gas trade at the PSV

## N. transaction and volumes exchanged October 2003 – February 2010

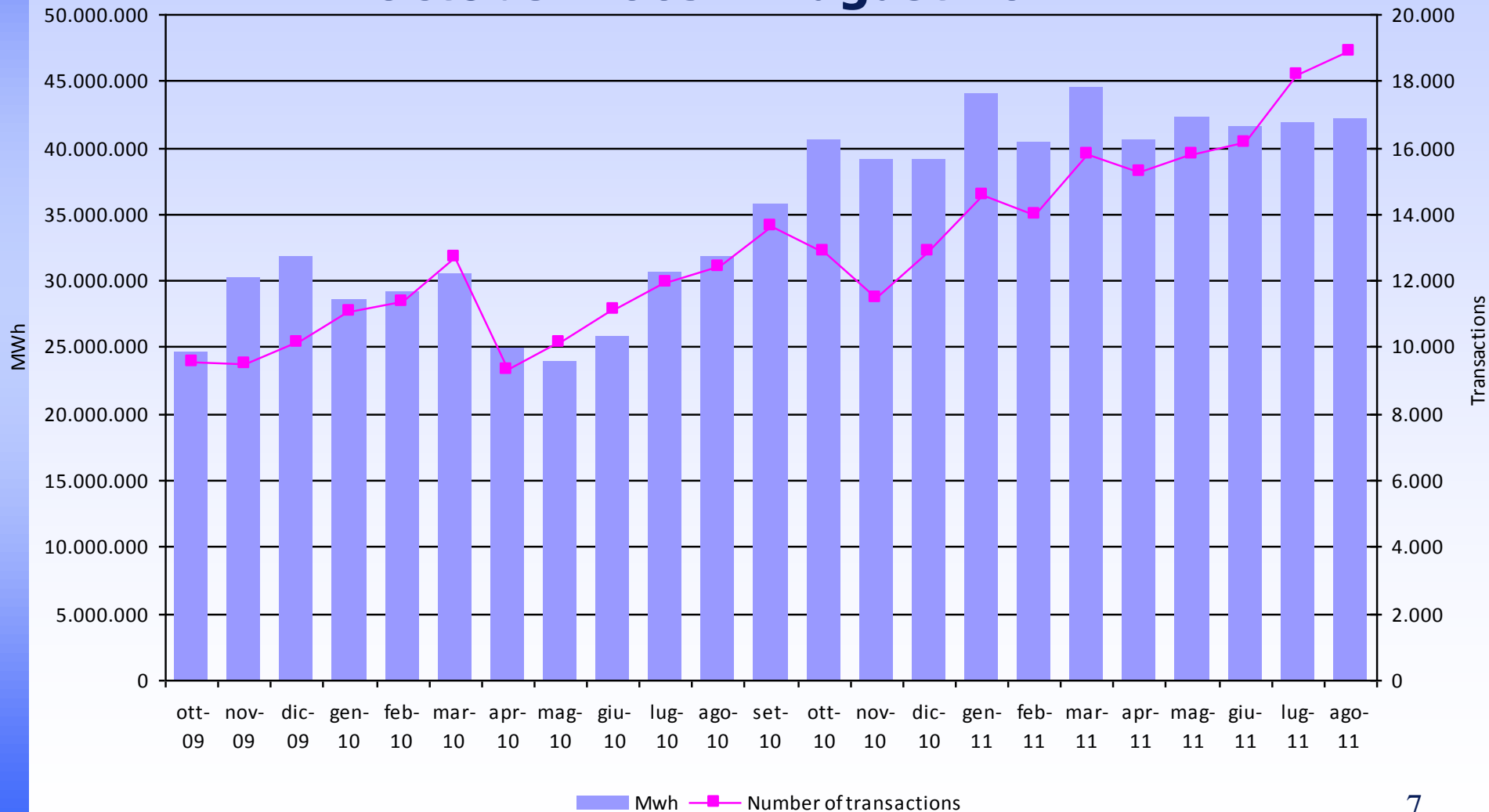


Fonte: Snam Rete Gas



# Gas trade at the PSV

## N. transaction and volumes exchanged October 2009 – August 2011



# From PSV to OCM

## **Psv: Trading platform only for bilateral transactions but**

- ✓ no signal price
- ✓ Managed by Snam (Eni Group: major company for selling gas in Italy!)

## **For achieving a OCM**

- Increasing the liquidity of the market
- Establishing standardised contracts
- Giving signal prices
- Identifying a neutral subject for managing the trading platform and covering the exposures of the users - central counterpart (clearing house)



# Measure to develop a wholesale market

- **Two ENI gas release following antitrust procedures (fixed price formula – allocation pro rata)**
  - 2,45 Bcm/year for 4 years (1/10/2004-30/09/2008) delivery point A/I border
  - 2 Bcm/year for 2 years (1/10/2007-30/09/2009) delivery point PSV
  
- **Ministerial decree 28 April 2006 access priority to TPA open part of exempted infrastructure for those to commit to offer gas volumes at PSV**
  
- **Law decree n. 7/07:**
  - Obligation to sell royalties at the PSV
  - Obligation to offer part of the imported gas (for new importers) at the PSV
  - Criteria defined by the Ministry and procedure by the AEEG (auction, products, requirements)
  
- **Law decree 78/09: ENI gas release 5 Bcm for the year 2009/2010**



# Towards the gas exchange

- **Law 99/09:**

- entrust “Gestore del mercato elettrico” of the **exclusive organisation of a gas exchange** and management of bid/offer of gas
- the exchange regulation and the standardised contracts, proposed by the GME, are approved by the Ministry after hearing the competent parliament commissions and the AEEG

- **Ministerial Decree 18 may 2010:**

- From 10 may 2010 import obligation and royalties must be offered on a bilateral negotiation platform organised by the GME



# Reform of balancing regime

## ■ Until Now:

- Daily balancing regime
- Users must be in balance at the end of the day
- Imbalance is allocated to storage (implicit mandate to TSOs to have access to user's gas in storage)
- If users has finished storage: administrative charges

## Problems:

- ❖ no market price for balancing energy
- ❖ no cost reflectivity
- ❖ restriction of competition in non domestic market

## ■ Evolution:

- Daily balancing regime
- Users are responsible to be in balance at the end of the day
- Storage (nomination = allocated)
- TSO buy gas on a balancing platform
- Cost reflective imbalance charges



# Simplified Market Based Balancing System (SBSM)

- Introduction of a balancing market based on criteria of economic merit
- Retention of the “gas day” as the reference period of balancing
- Definition of a single balancing zone (a single virtual point in the national transmission system as the relevant point for balancing)
- Responsibility for balancing the system to lie with the major transmission system operator (TSO)
- Some activities involved in the balancing market to be assigned to the Energy Market Operator (Gestore dei Mercati Energetici – GME)
- Gradual, simplified introduction of the market-based balancing system.



# Physical and Commercial Balancing

## **“Physical balancing”**

- serves to maintain balanced flows within the transport network. It is managed through priority recourse to storage
- to ensure that the transport network is “physically balanced”, the balancing operator is entitled to access the entire available storage capacity purchased by users

## **“Commercial balancing”**

- serves in accounting for the gas injected and withdrawn by each user, and consequently in identifying imbalances and establishing any charges and costs envisaged for balancing purposes
- the user’s imbalance is offset by the withdrawal (or injection) of the gas held in storage by that same user, i.e., by the gas available to the system (strategic storage). The amounts of gas in storage for which each user is responsible are, therefore, allocated in relation to their imbalances



# The actors involved

- Major TSO (responsible for balancing - central counter party for the market as well as responsible for the financial settlement of the balancing )
- Major SSO (responsible for controlling and physically moving gas flows into and from storage sites)
- Energy Market Operator-GME (responsibility for matching the bidders and managing the balancing platform)
- Balancing users (users who, once the access procedure are completed, acquire the right to inject and withdraw gas to/from the national pipeline network)
- Entitled users (users of the balancing service who have the resources necessary for balancing)
- All entitled users are users of the balancing system, but not all users of the balancing service are entitled users
- The bids that entitled users are required to submit in the market must concern amounts of gas corresponding to the injection and withdrawal capacities at their disposal, with regard to purchase and sales bids respectively



# SBSM (1)

- The introduction of the SBSM does not affect the arrangements for managing physical balancing
- Until April 2011 purchase or sales bids submitted by users in the balancing session are accepted up to the point where the system's overall imbalance capacity is reached, now all the bids are accepted
- The system's overall imbalance represents the amount of resources activated by the balancing operator. The definition of the method used to determine this amount is established by resolution 45/11
- Major TSO (responsible for balancing - central counter party for the market as well as responsibility for the financial settlement of the balancing ) should determine and notify the GME of each user's imbalance
- Balancing users feel a keen need to be able to re-nominate their injections and withdrawals in the course of the gas day in order to adjust their imbalance, insofar as it is known



## SBSM (2)

- For a market-based balancing system to function efficiently, information on the day's network withdrawals and injections needs to be made available to users during that same gas day
- The gas moved by users each day will be the result of the net balance of nominations injections or withdrawals and transactions concluded during the balancing session
- Given that the overall imbalance is needed to determine which bids are accepted in the balancing session, this total value must be determined promptly



# Determination of the imbalance term in the users's balancing equation

$$DS = P + GS - I - S - T$$

$$DS = \text{Imbalance}$$

- ✓ P = energy withdrawn at redelivery points on the regional network or at exit points corresponding to export links or transport networks operated by companies other than the major TSO
- ✓ GS = energy transferred to the TSO to cover self-consumption, network losses and gas not accounted for
- ✓ I: energy injected at entry points to the national network other than storage
- ✓ S = energy moved from storage
- ✓ T = the net balance of the transactions concluded at the Virtual Trading Point.



# Balancing price

Every gas day the balancing price is equal to:

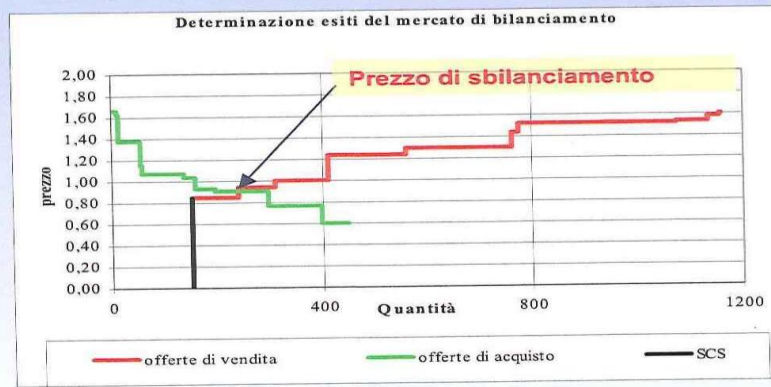
$$\mathbf{CB = Pb * DS}$$

Pb = balancing price as a result of the session of the current gas day

- **Users will pay the balancing price  $CB > 0$  if “short” ( $DS > 0$ ) during the gas day and he will receive the balancing price  $CB < 0$  if “long” ( $DS < 0$ )**
  
- **Each entitled user will submit two types of bid:**
  - One regards the user’s intention to sell quantities
  - The other regards the user’s intention to buy quantities

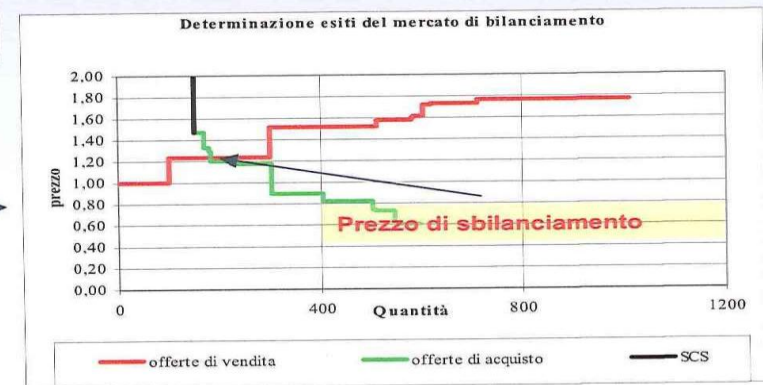


# Organizzazione della sessione di bilanciamento



Sistema lungo

Sistema corto



Autorità per l'energia elettrica e il gas - Direzione Mercati

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- Marginal price auction: evaluation price should be equal to that associated with the last bid accepted
- Now the bids accepted on an economic basis, up to to the point where they correspond to the overall system imbalance; in the future "the long system" is when the green line meets the black line "the short system" is when the red line meets the black line



**Thank you  
for your attention**

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