



Autorità per l'energia elettrica il gas  
ed il sistema idrico



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# SNAPSHOTS FROM MARKET INTEGRATION IN CENTRAL-SOUTH EUROPE

*Salvatore Lanza, AEEGSI*

*3rd Workshop of Eastern Partnership Energy Regulatory Bodies*

*Abbey Centre, London*

*May 27, 2014*



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# Outline

The Italian electricity system in a nutshell

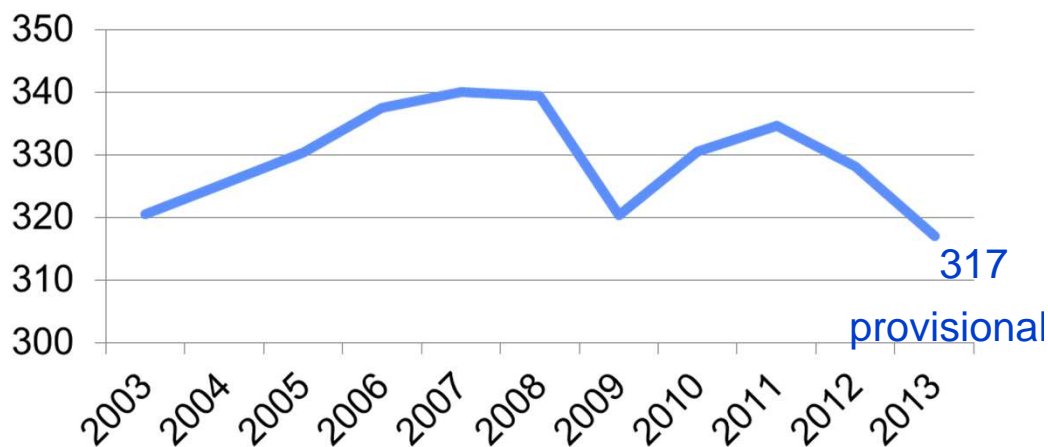
The Italy-Slovenia market coupling project

Building blocks for Central South Europe Region integration: day-ahead market coupling

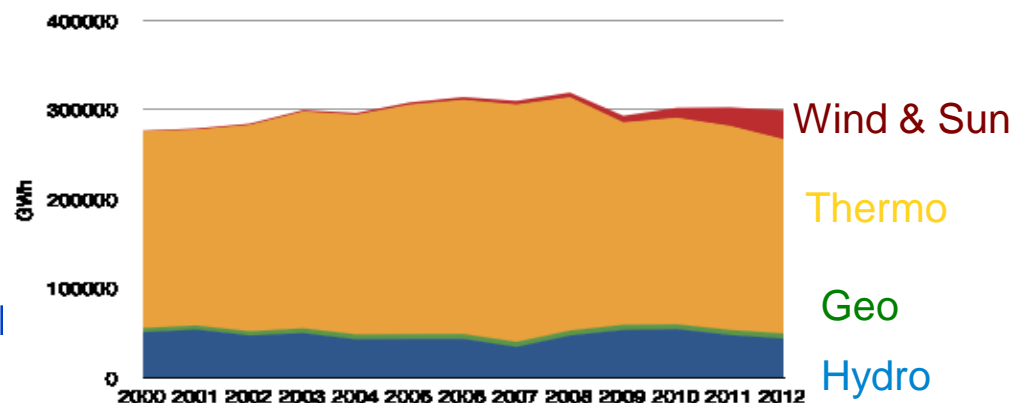


# ITALIAN ELECTRICITY SYSTEM IN 2012

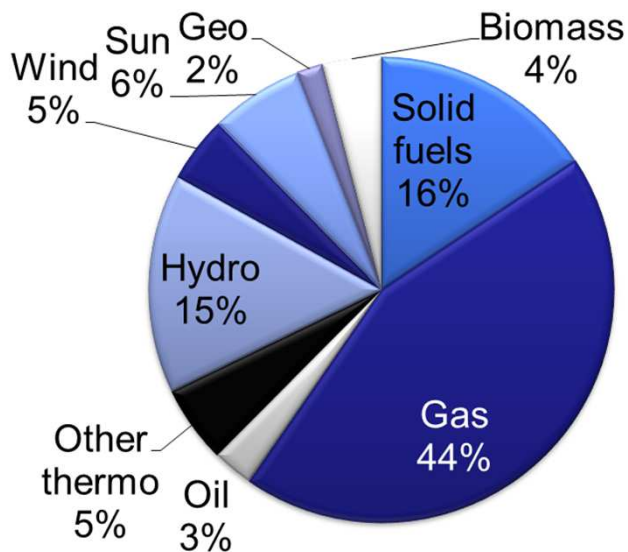
## Electricity demand (328 TWh)



## Trend of generation mix

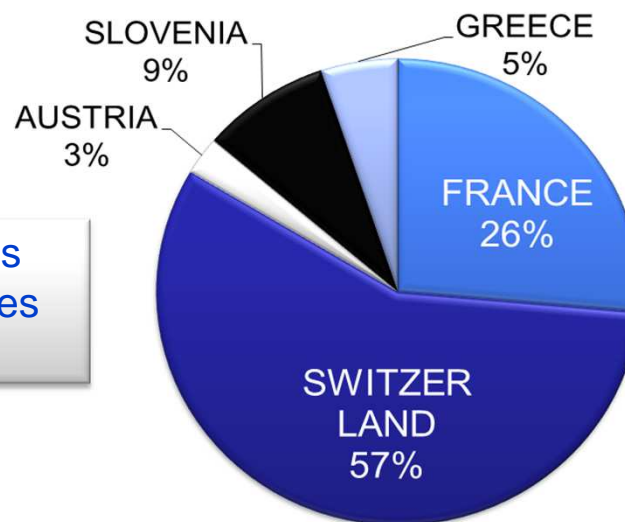


## Electricity Domestic Production (285 TWh)



32% of generation comes from RES and 13% comes from abroad

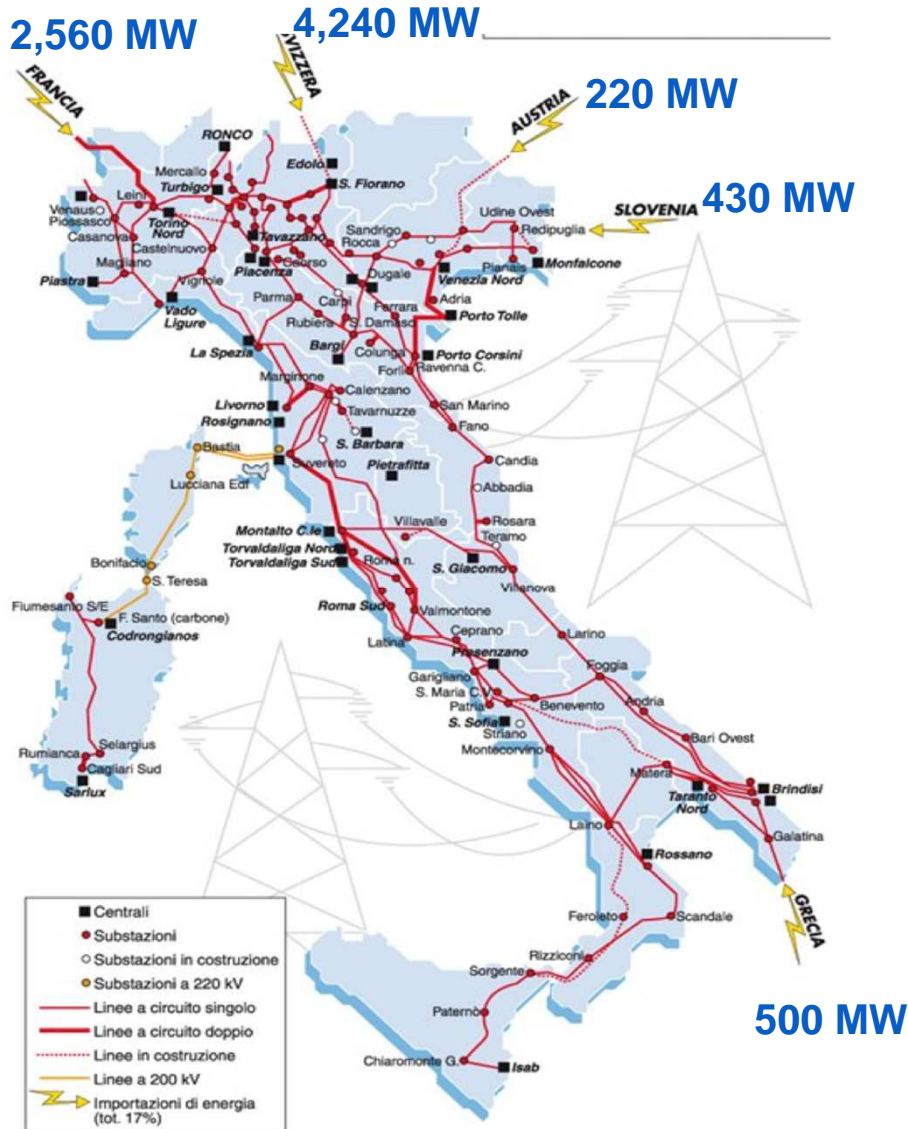
## Net import (43 TWh)





# CROSS BORDER TRANSMISSION CAPACITY

Existing XB transmission capacity: 8 GW



Pursuant to Reg. EC 1228/2003, since 2005 XB capacity has been allocated according to market mechanisms

Explicit allocation

Implicit allocation

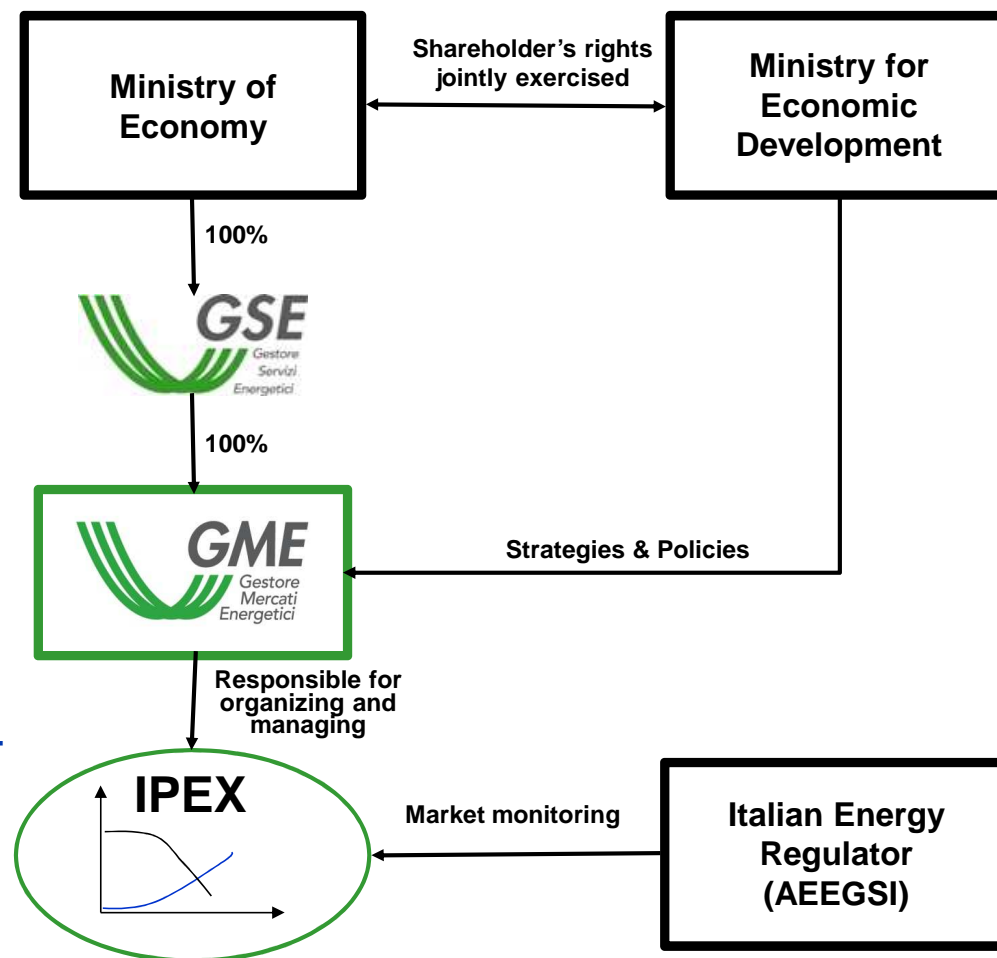
Fr, Sw, Au, Gr  
Joint auctions  
run by CASC

SI  
Market coupling  
(GME-BSP)



## AN ACTIVE PLAYER: THE GME\*

- Co-founder of EuropEX (Association of European Energy Exchanges, 2001)
- Market coupling Italy-Slovenia: MoU 2008 between GME-BSP; go live 2011
- Price coupling of Regions (PCR), in cooperation with market operators OMIE (SPA), EPEX (FRA), APX-Endex (HL), Belpex (BEL), NordPool (NOR): 2009 starting activity; 2012 co-ownership agreements



\*Gestore dei Mercati Energetici



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## PROJECT IMPLEMENTATION AND GOVERNANCE

### Master agreement

principles

objectives

starting date (1<sup>st</sup> January 2011)

### Auction rules

day ahead implicit allocation through market coupling

### Pentalateral agreement

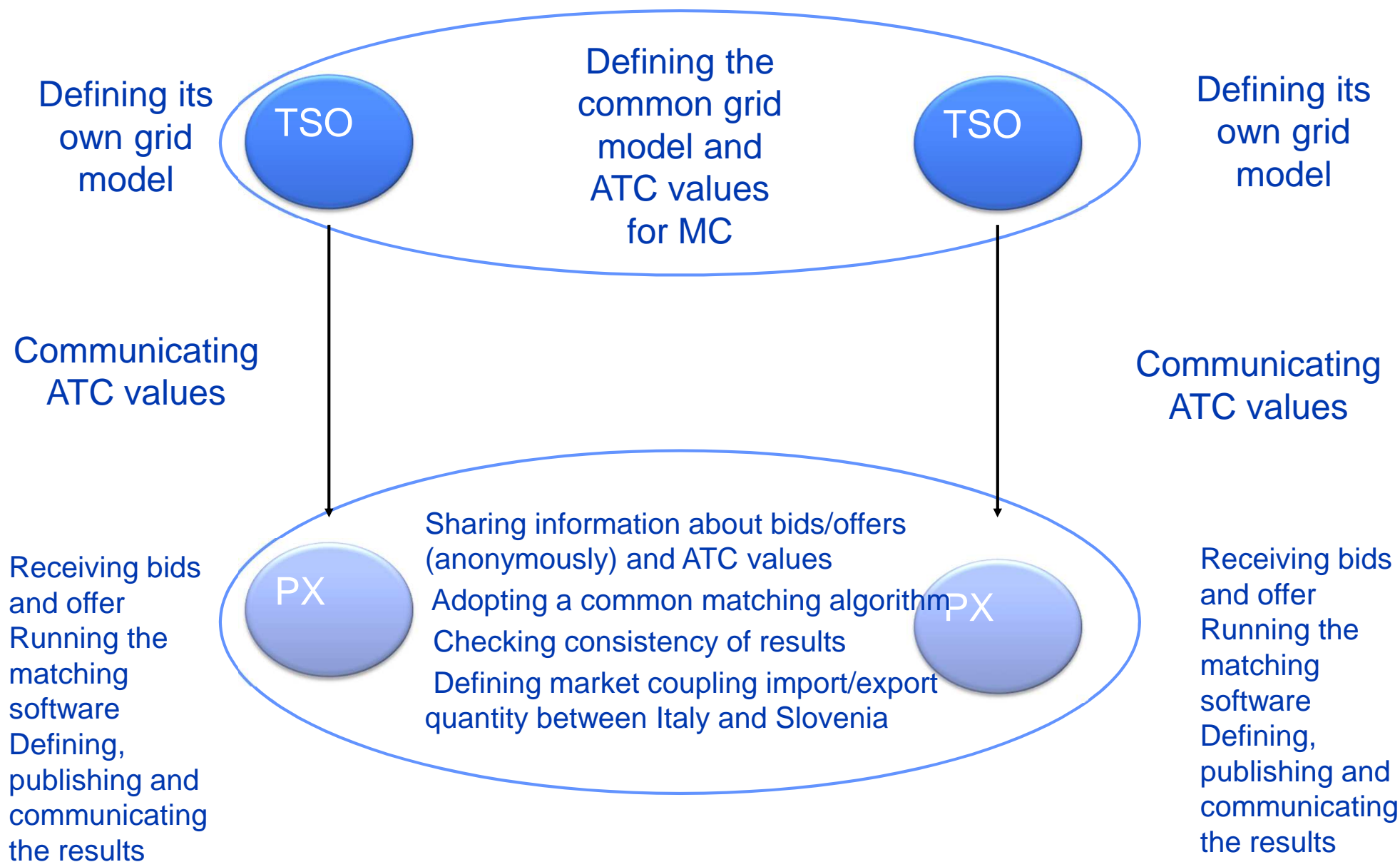
operational procedures:  
• timing  
• information to be exchanged

### Local agreements

local operational procedures:  
• information to be exchanged at a local level



## ROLES AND RESPONSIBILITIES







## THE MATCHING ALGORITHM

The Italian – Slovenian market coupling is a price coupling

GME and BSP adopted a common matching algorithm:

- hourly auction
- no inter-temporal constraints
- market splitting mechanism (with uniform purchase price only on Italian zones)
- zonal marginal pricing
- calculation of inter-zonal schedule
- both ATC and flow-based grid model supported (actual ATC is adopted both in Italy and Slovenia)
- bids/offers expressed with the indication of quantity and price (stepwise bid/offer curve)
- minimum quantity tick: 0,001 MWh
- minimum price tick: 0,01 €/MWh



# CLEARING AND SETTLEMENT

Local central counterpart

Local central counterpart



Invoicing (at the day of trading D)



Settlement of XB schedules (the second working day following the day of invoicing D+2)

Collection of congestion rent

Collection of congestion rent

Commercial transaction corresponding to XB schedules are priced at the average price between the Slovenian price and the reference Italian price (price of Northern zone)





# OUTCOMES: THE EVOLUTION IN PRICES

April 2014

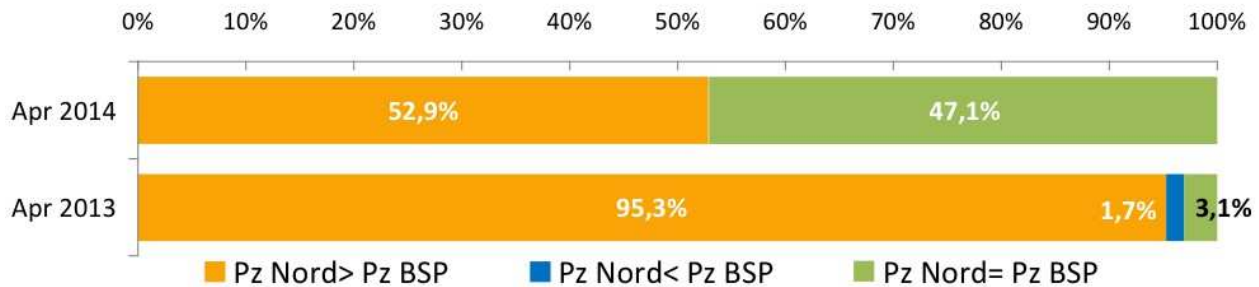
North Italy

Slovenia



	Average price			Rent €Mln	Import Limit* MWh	Flow MWh	Hours %	Congestions %	Export Limit* MWh	Flow MWh	Hours %	Congestions %
	North €/MWh	BSP €/MWh	⊗ €/MWh									
2013	61,58	43,18	18,41	65,51	443	430	97,8%	87,6%	153	101	2,0%	1,0%
2012	74,05	53,02	21,03	69,78	452	417	99,3%	79,3%	164	43	0,4%	0,3%
2011	70,18	57,20	12,98	14,21	155	134	96,4%	80,1%	483	83	3,3%	-

\*Average hourly values



Source: GME

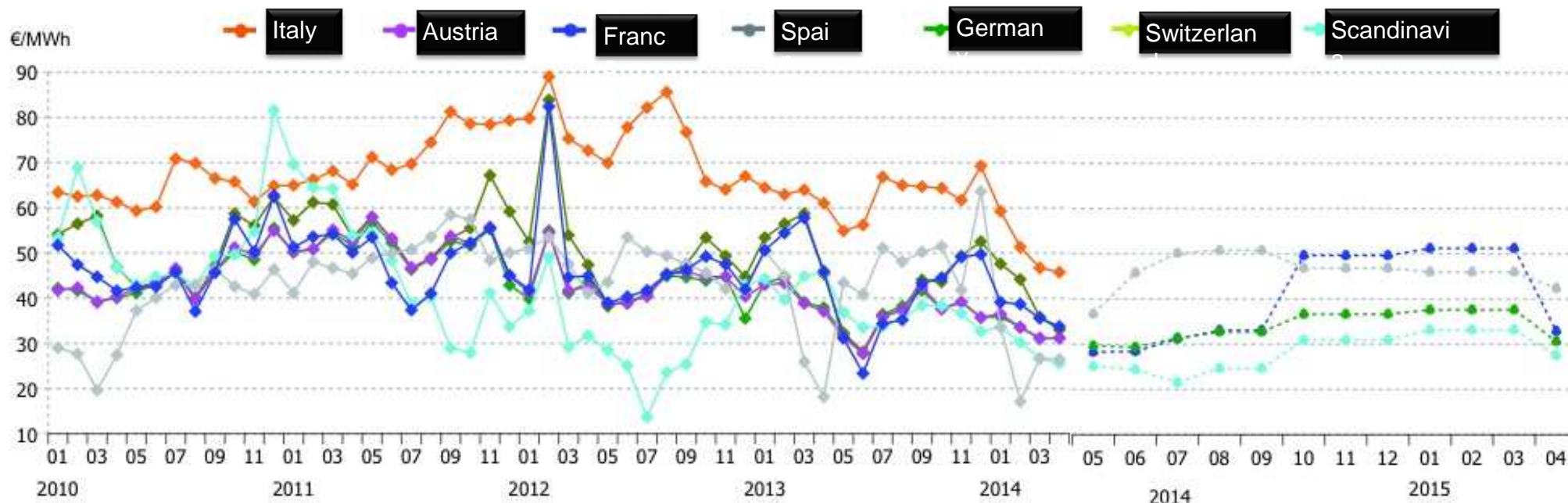


# INTERNATIONAL PRICE COMPARISON

## Monthly values (€/MWh)

Area	Apr 14	Var M-1 (%)	Var M-12 (%)
Italy	45,76	- 2 %	- 25 %
France	33,73	- 5 %	- 27 %
Germany	31,26	+ 1 %	- 18 %
Spain	26,44	- 1 %	+ 46 %
Scandinavia	25,52	- 5 %	- 44 %
Austria	31,13	- 0 %	- 16 %
Switzerland	33,05	- 8 %	- 27 %

Despite of the recent decrease, the Italian price is still above the average of other European prices (about +13 €/MWh with respect to the neighboring countries)





## ADVANTAGES

- Minimum level of harmonization required
  - low impact on national regulatory framework
  - easy to implement
- No need of a centralized office (at national or supranational level) to execute common operations envisaged by the coupling
- Each national regulator remains directly responsible to monitor the activities of regulated domestic operators (TSO, PX)
- **Possible future extension**
  - decentralized approach used follows the PCR operational principles
  - decentralized approach is no obstacle to coupling with additional countries with a different regulatory framework



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The Italy-Slovenia market coupling project

**Building blocks for Central South Europe Region integration: day-ahead market coupling**



## PROJECT EVOLUTION

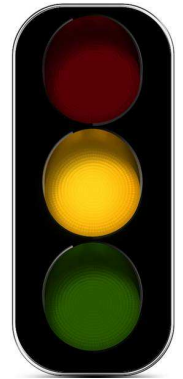
- 30 November 2012: A cooperation agreement among PXs and TSOs operating on the Italian borders to set up a common design of pre and post coupling arrangements (**PPC project**) is signed
- 22 July 2012: PPC parties deliver to the NRAs the project design, including an **implementation plan**
- 28 August 2013: PPC parties ask NRAs to support the **implementation phase**
- 25 November 2013: AEEGSI, on behalf of all NRAs, sends a **comfort letter** to PPC parties endorsing the overall process

**Go live envisaged mid December 2014**



## DAY AHEAD MARKET COUPLING: PENDING ISSUES

- Austria: PX still to be chosen (Epex Spot or EXAA)
- Greece: Market reform to be completed (not before 2017)
- Italy: Gate Closure Time (GCT) and settlement date to be shifted
- Slovenia : GCT to be shifted
- Switzerland: The ongoing negotiation with EC about the implementation of the *acquis communautaire* affects Swiss participation in the go live







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# THANKS FOR YOUR ATTENTION !

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# Backup



# MARKET COUPLING ITALY-SLOVENIA: ORIGINS

2008: - **MoU** between GME (ITA), Borzen (SLO) and South Pool (SLO)  
- proposal to **implement** market coupling sent to TSOs, Regulators,  
Ministries of Economic Development

2009/10: establishment of a **working group** Italy-Slovenia

- **stakeholders:** GME, BSP, Terna, Eles, Italian and Slovenian Ministries of Economic Development
- **objectives:**
  - define a viable solution to implement Market coupling on the interconnection Italy-Slovenia, compatible with solutions already adopted in the **CSE Regional Initiative**
  - agree on a roadmap to implement Market coupling
- **support by Governments (Italy, Slovenia):**
  - joint declaration of Foreign Affairs Ministers (Sept 2008, Nov 2009)
  - MoU between Italian and Slovenian Ministries of Economic Development (Aug 2010)



# Timing of activities



Publication ITA - SI  
ATC [7.45]

Closure of market  
session [9.00]

Calculation of market  
results [9.50]

Publication of market  
results [10.25]

Verification  
ITA - SLO ATC  
[7.45]

Sharing of bids  
(anonymous) [9.40]

Verification and  
validation of [10.15]



Publication ITA - SI  
ATC [7.45]

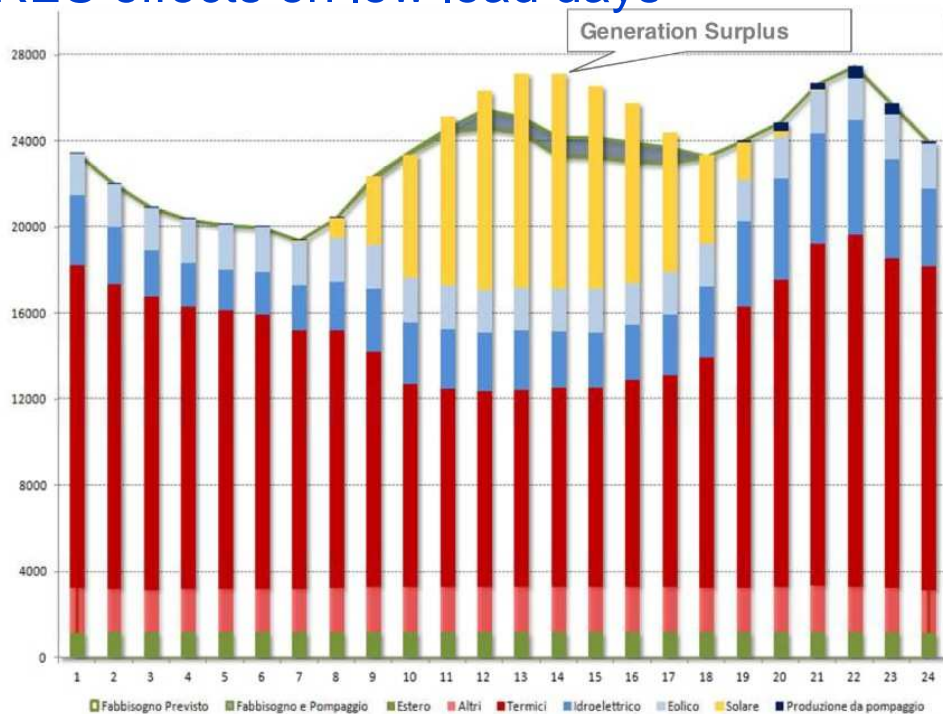
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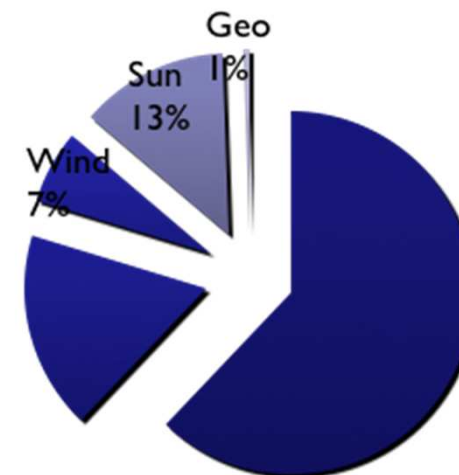
Publication of market  
results [10.25]

# SNAPSHOT ON ITALIAN ELECTRICITY SYSTEM (2012): CAPACITY

## RES effects on low load days



Net installed capacity (124 GW)



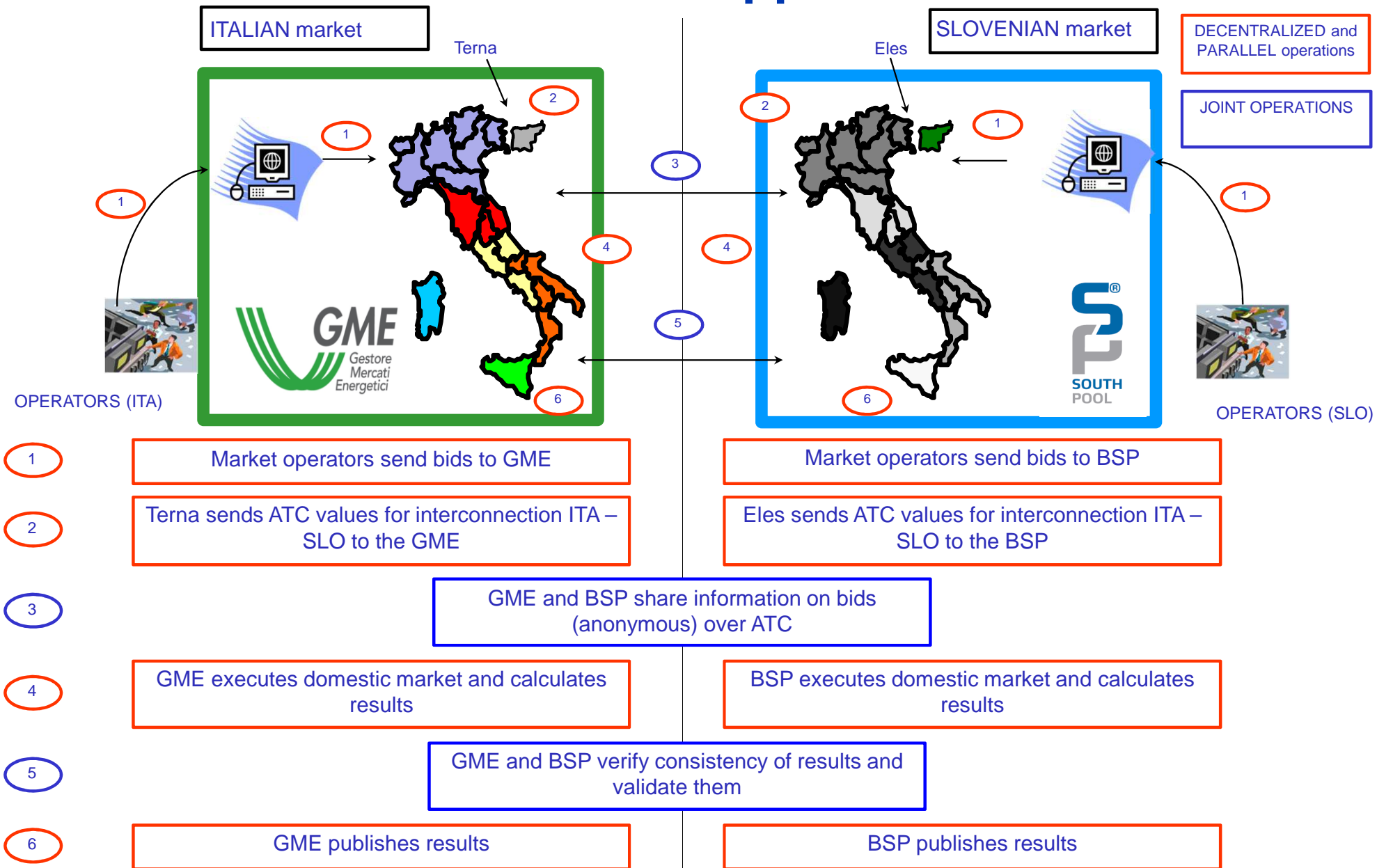
Demand peak 54,1 MW (max 56,8 MW in 2007)

## Measures for balancing the grid

- Import reduction
- Pumping storage
- RES curtailment



# Decentralized approach





# CSE REGIONAL INITIATIVE



Organization and meetings

RCC: only NRAs

Implementation Group : NRAs, PXs and TSOs

Stakeholder Group: IG+ main stakeholders (including MS representatives)

**Lead regulator: AEEGSI**

Objectives and activities are stated in the work plan 2011-2104

Ongoing projects

DAMC : Pre and Post Coupling project to be integrated in the PCR project

Capacity Calculation project: from ATC calculation on an yearly base to a daily joint calculation in the day ahead

IDMC: continuous trading + implicit auctions (GME-Terna proposal)



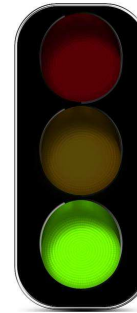
# BUILDING BLOCKS FOR THE CS REGION INTEGRATION: FORWARD MARKET

## Current arrangements

- ⑩ PTRs available on all borders
- ⑩ Availability of instruments (CCC) to manage price risk of the fee for Assignment of Rights of Use of Transmission Capacity (CCT)

## Main measures needed

- ⑩ Integration with CASC started in 2011, but full integration on rules needed (e.g. firmness and compensation)



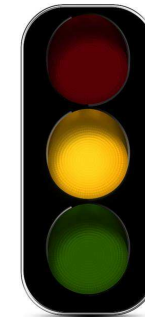




# BUILDING BLOCKS FOR THE CS REGION INTEGRATION: DAY AHEAD

## Main measures needed

- ⑩ Ensure a consistent set of traded products and order format are available to market participants
- ⑩ Ensure that the price zones are relevant both for supply and demand
- ⑩ Introduce portfolio bidding (i.e. per bidding area)
- ⑩ Remove any mandatory requirements to participate in day-ahead market
- ⑩ Coupling with remaining neighbouring countries, including shift of gate closures
- ⑩ Standardize the payment period

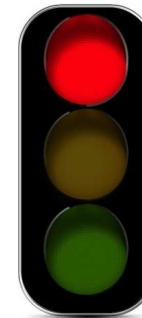




# BUILDING BLOCKS FOR THE CS REGION INTEGRATION: INTRADAY

## Main measures needed

- ⑩ Introduce continuous intraday trading with a continuous OTC market for the national market and together with neighboring countries
- ⑩ Progressively move to H-1 gate closure for nominations (i.e. 1 hour neutralisation lead-time)
- ⑩ Introduce portfolio bidding (i.e. per bidding area)
- ⑩ Establish SOB platform for intraday orders with explicit access: develop implicit allocation for intraday markets with progressive pooling of XB liquidity





# BUILDING BLOCKS FOR THE CS REGION INTEGRATION: BALANCING

## Main measures needed

- ⑩ Purchase of electricity for balancing and redispatch after the gate closure of Intraday market (target: H-1)
- ⑩ Remove price bidding limitations
- ⑩ Separate the procurement of electricity for balancing and redispatch purposes

