

Forum ECom 2014

“Le marché de gros de l'électricité en mouvement”

ITALIAN EXPERIENCE WITH CAPACITY SUPPORT MECHANISMS

Guido Bortoni, President AEEGSI (Italy)

Palais des Congres Biel/Bienne, November 14th 2014

SUMMARY

- **Why is generation capacity an issue?**
- **Italian CRM model: aims and tools**
- **Italian CRM model: expected benefits**
- **Milestones**
- **Structure of contracts**
- **Yearly auctions**
- **Contract parameters**
- **Adequacy target**

WHY IS GENERATION ADEQUACY AN ISSUE?/1

Theory says

- Potential missing money problem
- Low price elasticity of demand
- Lack of storage
- Transmission + Generation investments coordination failure

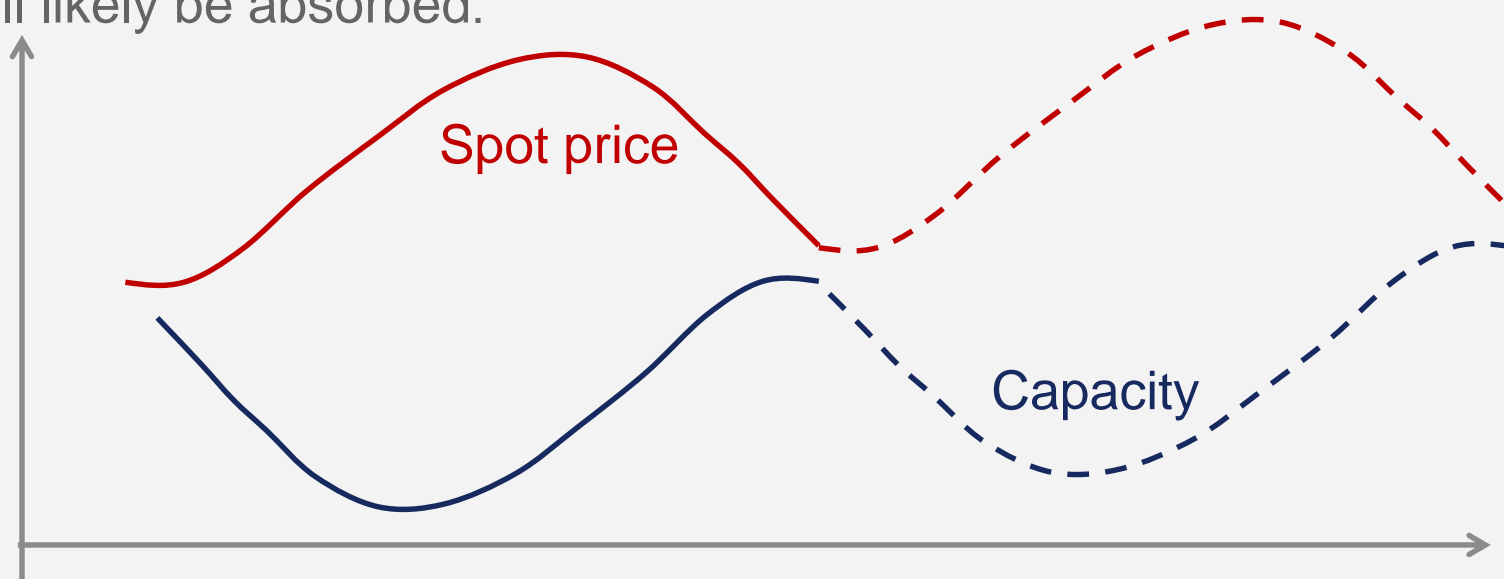
RES generation may

- Change price profiles
- Reduce price levels
- Increase price volatility
- Worsen the use and profitability of conventional generation

WHY IS GENERATION ADEQUACY AN ISSUE?/2

Boom and bust cycles of investments

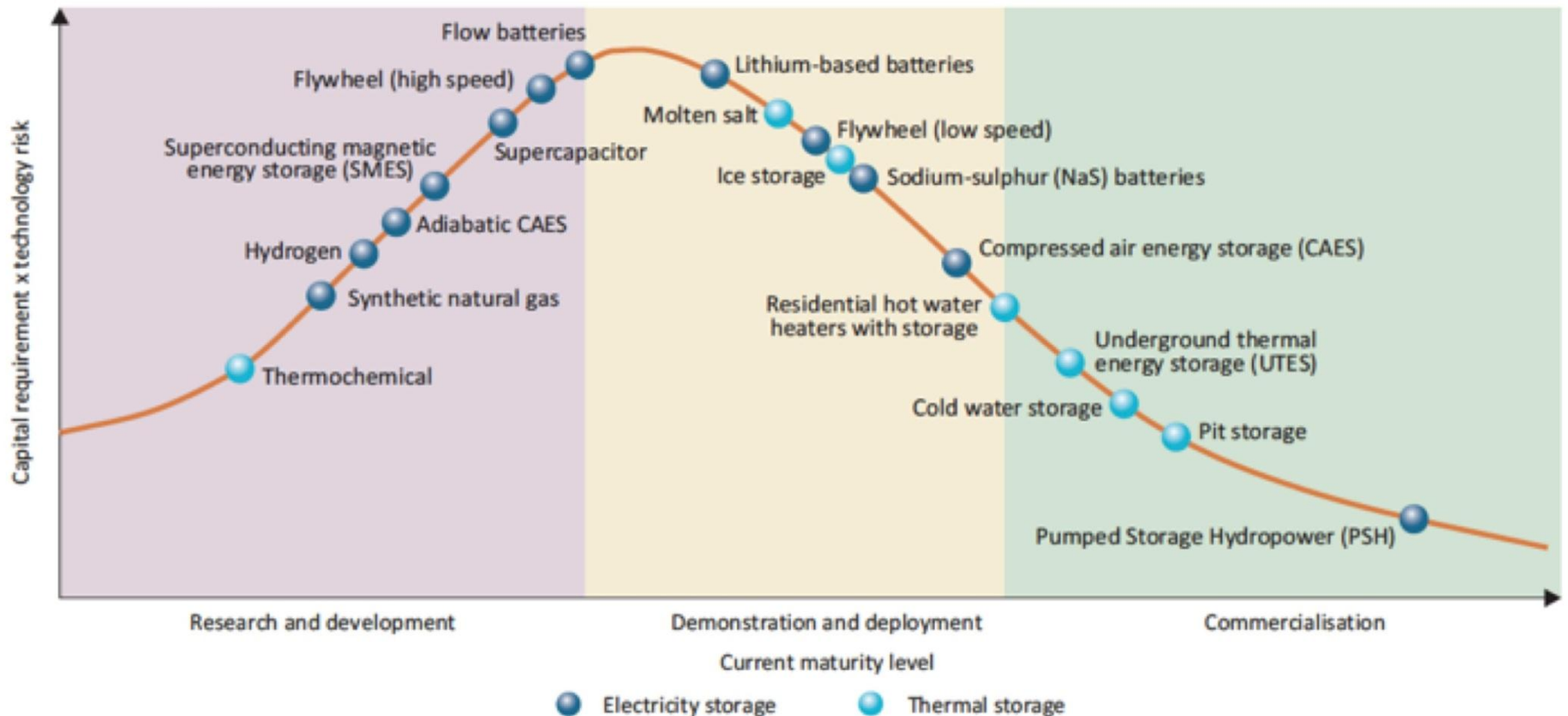
- Due to: generation mix, incumbent changes in pricing strategy, RES growth, lack of grid development, bad functioning of permitting procedures and RES support systems, Italy experienced a boom in generation capacity which is now over and is followed by a bust period under course. In the long term, the generation overcapacity will likely be absorbed.



WHY IS GENERATION ADEQUACY AN ISSUE?/3

Maturity of energy storage technologies

(Source: "Technology Roadmap - Energy storage" IEA 2014)



WHY IS GENERATION ADEQUACY AN ISSUE?/4

Investments coordination failure

- Investment in generation (and transmission) capacity are not coordinated by a central entity anymore.
- In a pure energy-only market design, decisions on new capacity are made independently and with information asymmetry (strategic uncertainty).
- Bad functioning of permitting procedures
- Network and generation development do not run on parallel tracks

ITALIAN CRM MODEL: AIMS AND TOOLS

Aims

- To ensure system adequacy at the minimum cost for the system as a whole (medium and long term) by:
- Fostering the coordinated development of generation and transmission network → risk hedging for private investors
- Promoting competition on a long term perspective → efficient long term price signals

Tools

- The auctioned product is a “reliability option contract”

ITALIAN CRM MODEL: EXPECTED BENEFITS

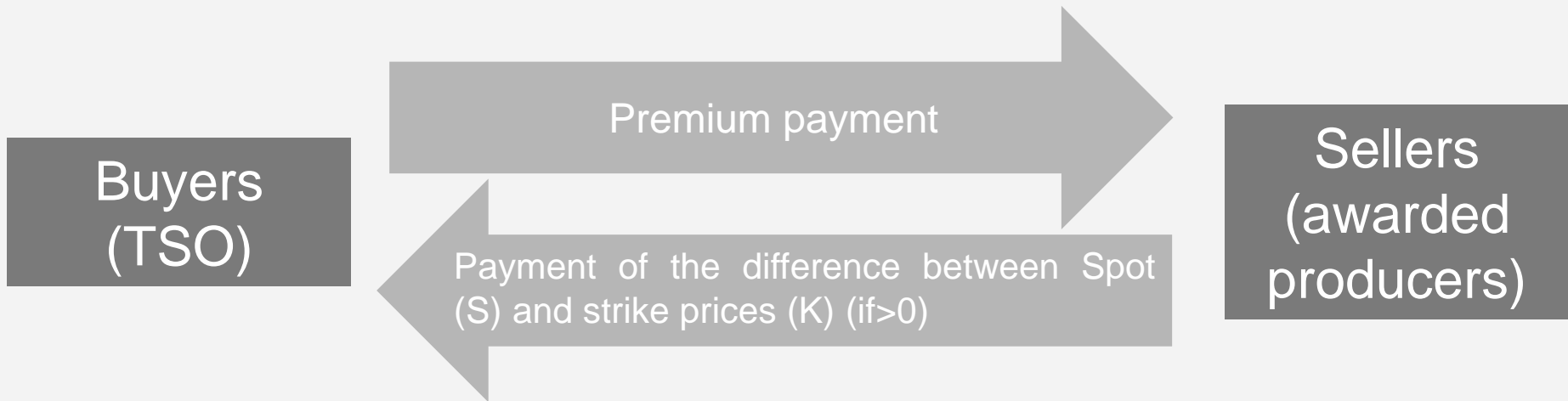
Expected Benefits

- Italian CRM model combines security requirements with market objectives
- The model was designed to favour:
 - Consumers, protected by a form of insurance that promotes stability and predictability of prices
 - Renewable sources, giving them, apart from incentives, a market remuneration for fixed costs, facilitating their integration into market mechanism in order to achieve safety and cost-effectiveness of the system
 - Thermoelectric operators, giving them a supplemental segment of market to compete in

MAILSTONES TOWARDS THE IT CRM

- Definition of principles by the law: competition, transparency, no discrimination, no market distortions | 2003
- Criteria proposed by AEEGSI: publicly consulted through five consecutive consultation documents, including a close examination of international experiences (New England, PJM and Spain) | 2005 to 2010
- AEEGSI defines criteria to be followed by the TSO in developing detailed proposal | 2011
- Detailed proposal by the TSO for public consultation | 2012/13
- AEEGSI positive of its compliance to the criteria | 2012/13
- Ministry of Economic Development final approval | 2014 1st semester
- Auctions | 2015
- Delivery period | 2018 - 2019

STRUCTURE OF CONTRACTS



- Contract structure: reliability call option (1-way CfD)
- Real option - Sellers are obliged to submit offers in Day Ahead, Ancillary Services and Balancing Markets

YEARLY AUCTIONS

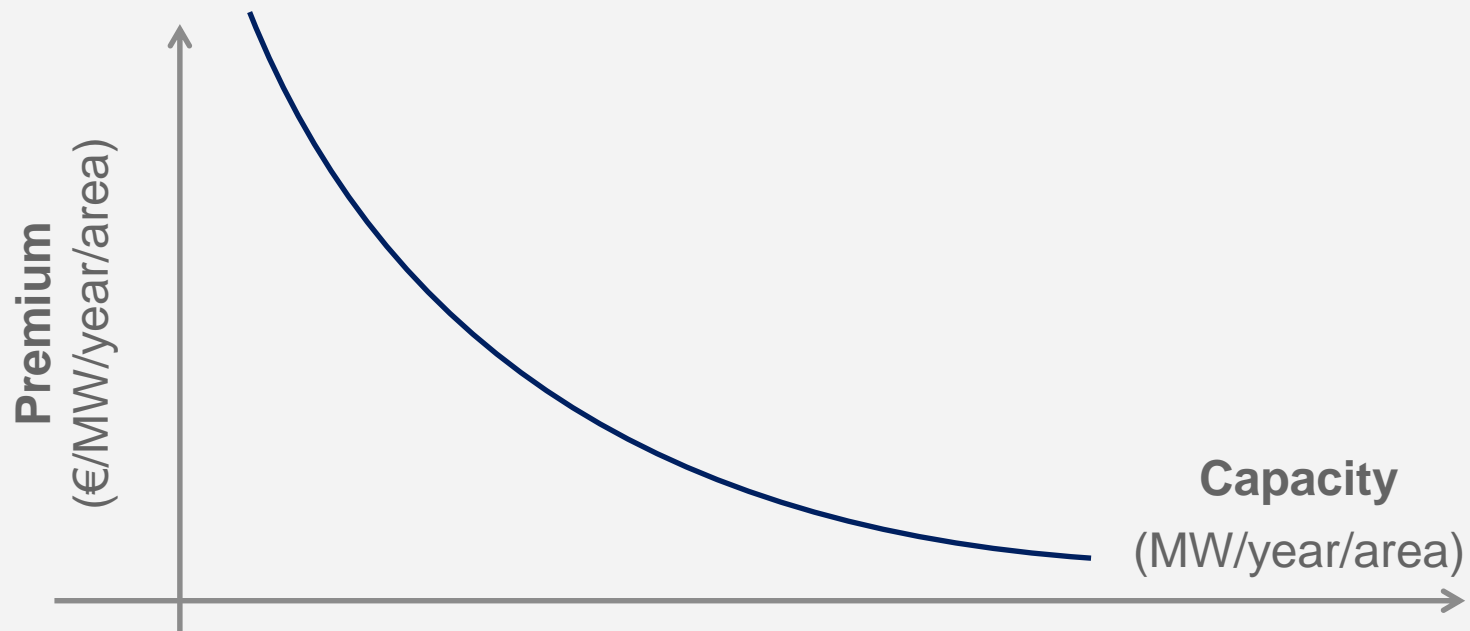
- Organized by Terna (TSO)
- Participation is voluntary
- Sellers submit their portfolio offers during a descending clock auction
- Both new (planned or under construction) and existing resources (generators and loads) are admitted to the CRM as long as these are:
 - programmable [for instance: thermal (fossil, biomass, solar), pumping storage, conventional hydro etc.]
 - not subject to any type of investment incentive scheme
 - not subject to any dismantling measures approved by competent authorities

CONTRACT PARAMETERS

Planning period	4 years	To promote competition between existing and new capacity
Delivery period	3 years + floor to stabilize 3 years revenue	To mitigate sellers investment risks
Location	Grid area where the resource is located	To give proper locational signals
Strike price	Standard variable cost of an efficient peak plant	To be efficient and non distortive with respect to the generation mix

ADEQUACY TARGET

- Terna (TSO) defines, on annual basis, the adequacy target as a function of VOLL, LOLP, Variable Cost marginal technologies. An elastic yearly demand curve is defined for any relevant area (areas to be identified according to transmission limits)



Forum ECom 2014

“Le marché de gros de l'électricité en mouvement”

Italian experience with capacity support mechanisms

THANK YOU!

Guido Bortoni, President AEEGSI (Italy)

Palais des Congres Biel/Bienne, November 14th 2014