



South East Europe Energy Dialogue 2013: New Regional Parameters

Flexible Generation Capacity in the European Markets

Dr. Giorgos Stamtsis
Senior Strategy Advisor

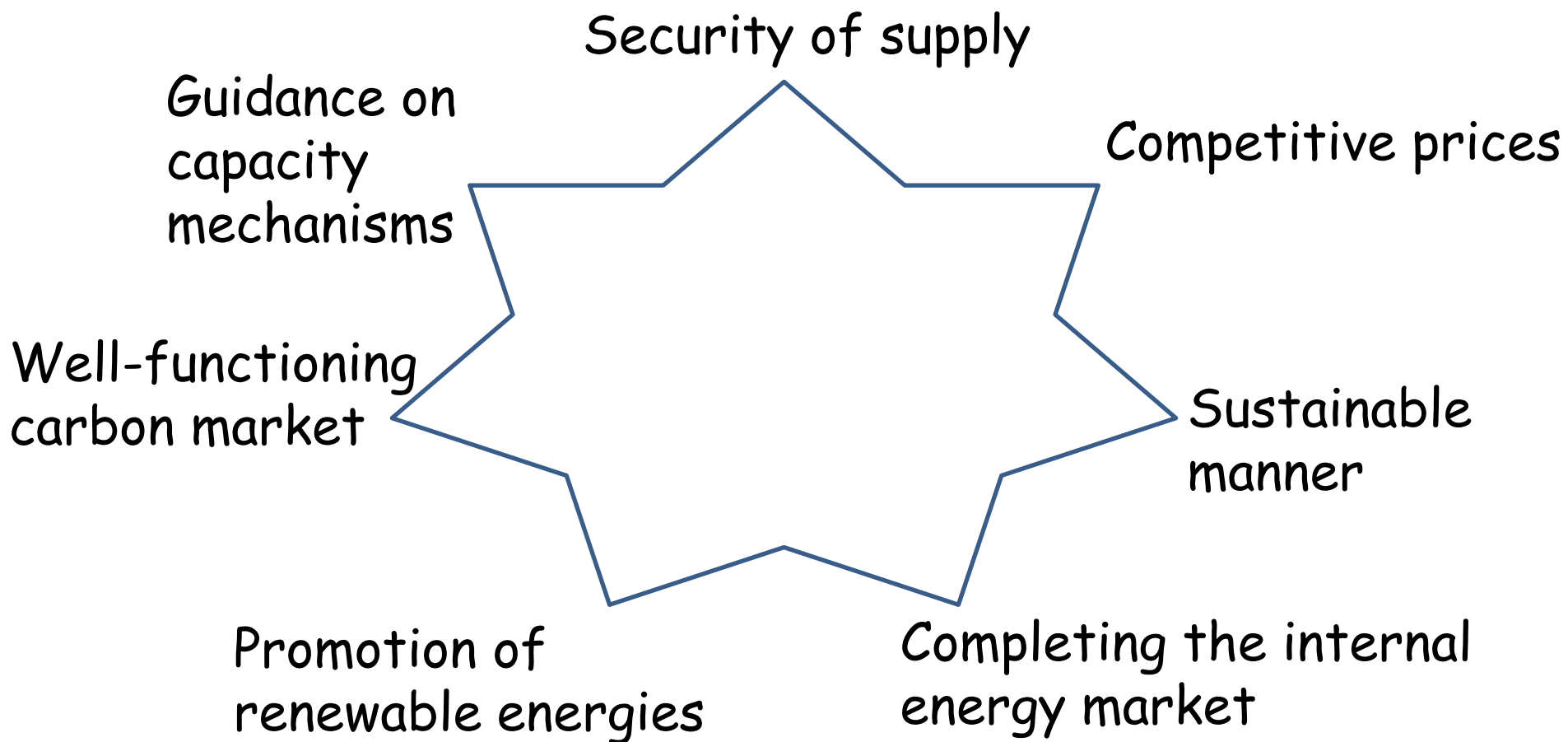
19 June 2013

Company Information

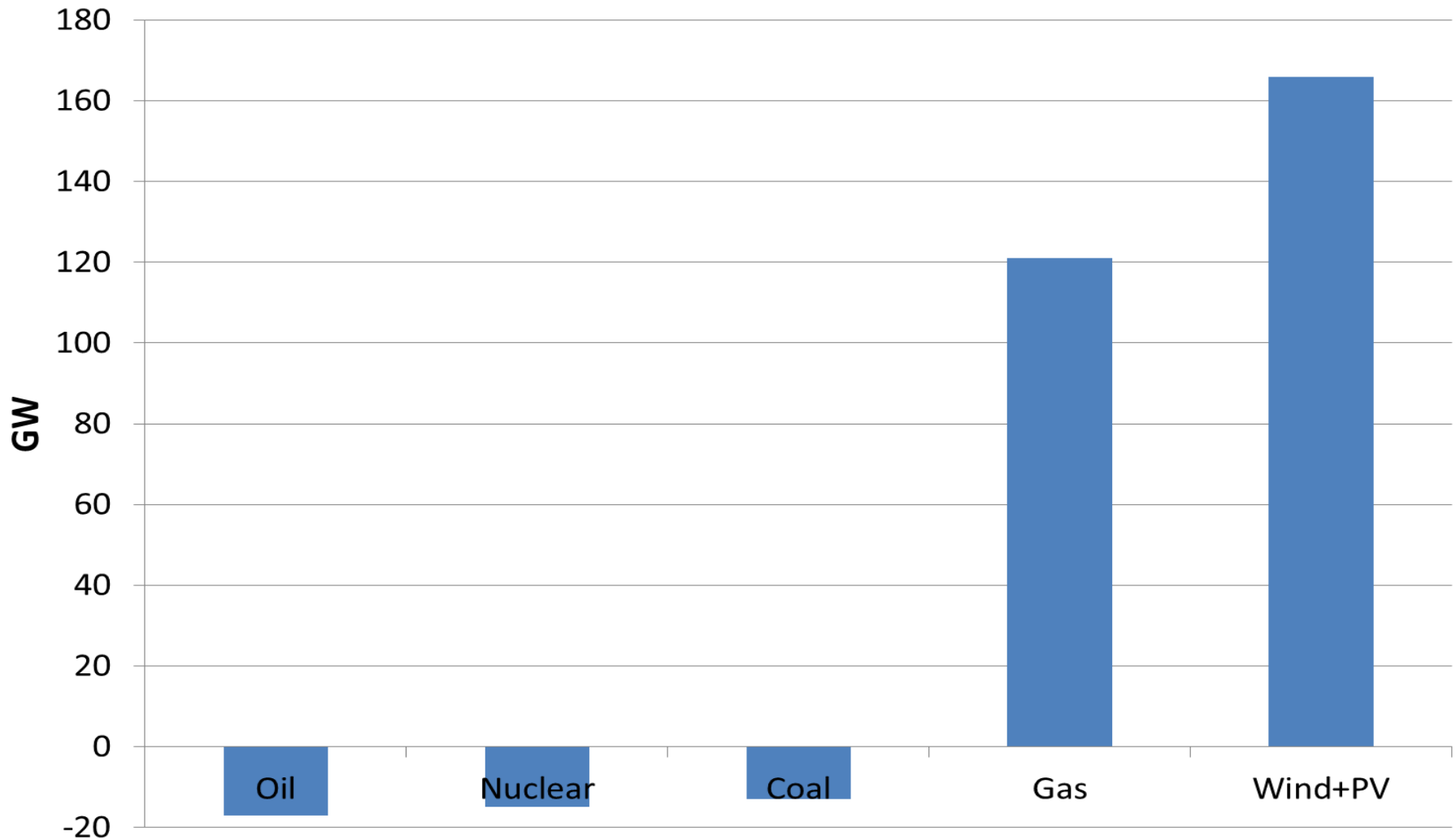


- Protergia is 100% subsidiary of MYTILINEOS Holdings and is the energy branch of the Mytilineos Group.
- The Group is the largest independent power producer in Greece with 1.200 MW installed capacity.
- The company's activities include holding or/and managing of thermal power plants and renewable energy sources (wind, hydropower and photovoltaic parks), development of renewable energy sources projects as well as energy and emissions trading.

European Council, 22.05.2013



Net additional generation capacity in Europe, 2000-2012

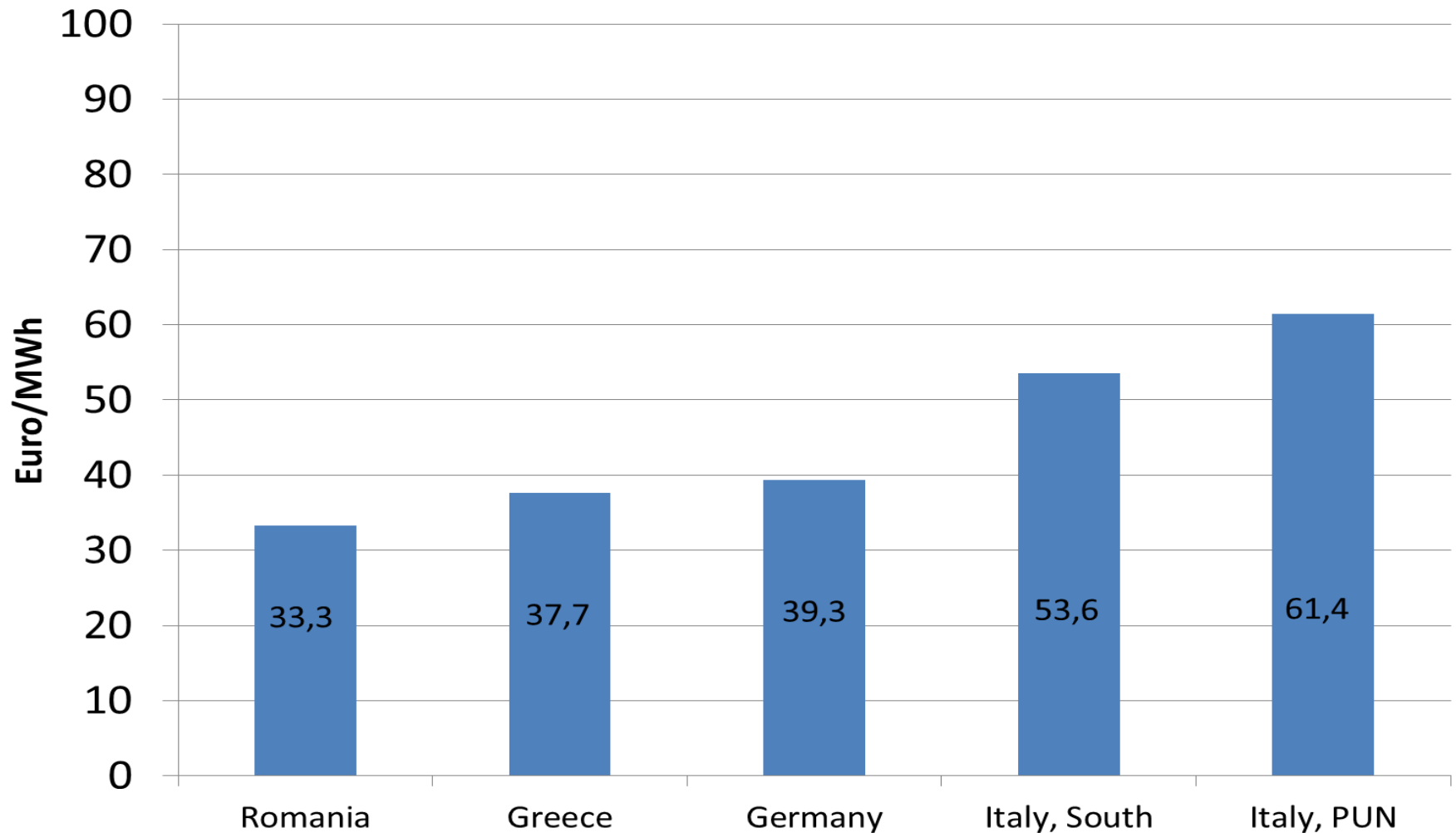


Source: SG, EWEA

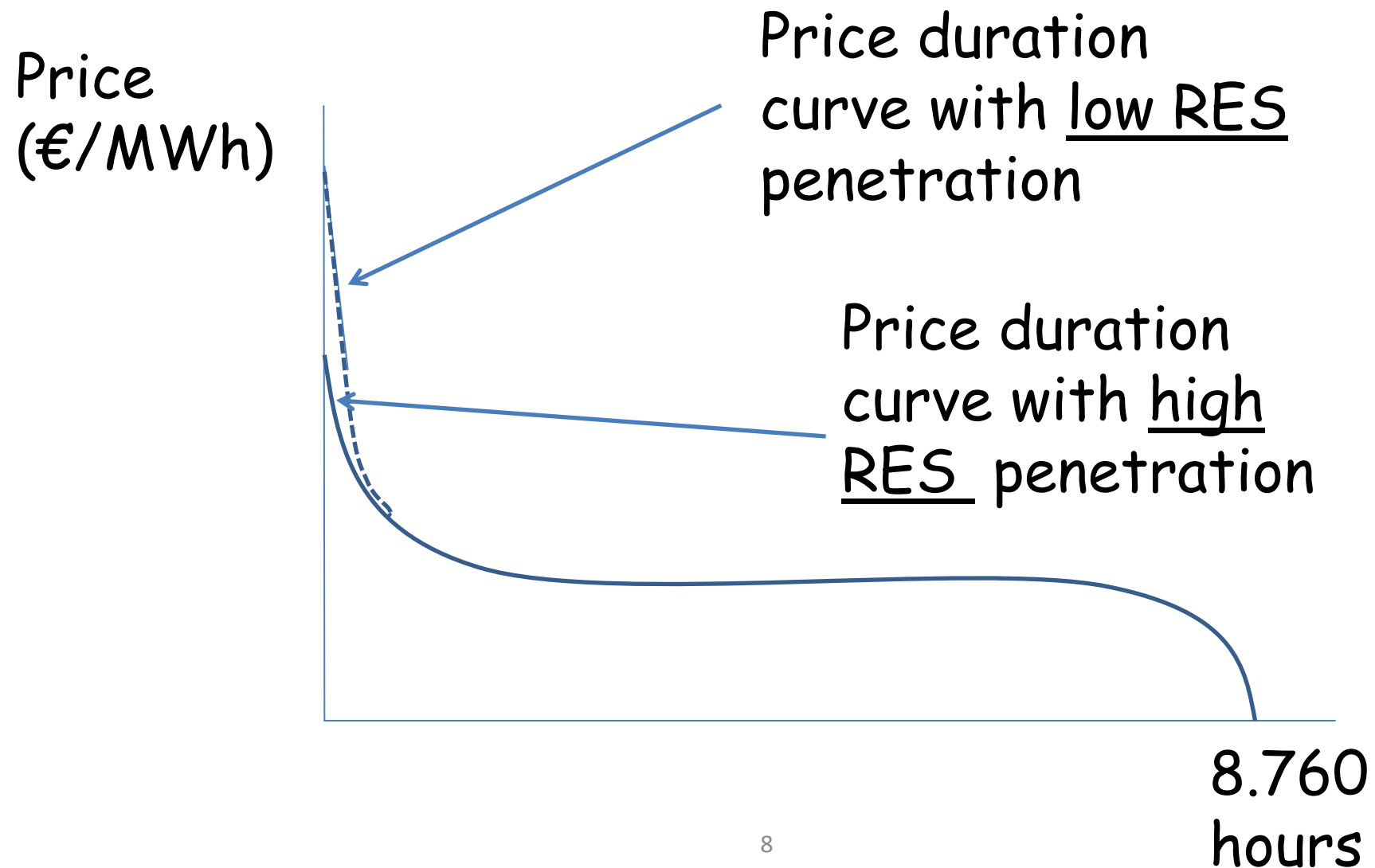
Implications from high RES penetration

- 1) Lower wholesale electricity prices
- 2) Lower utilization factors for conventional units
- 3) Increased demand for flexible generation capacity

Wholesale electricity prices, 5M 2013



Price duration curves



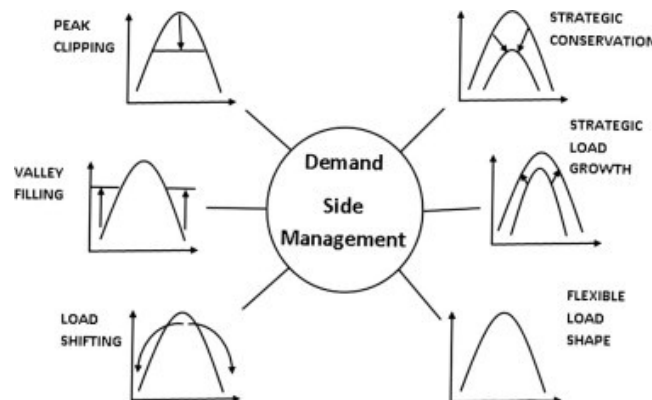
Intermittent RES require flexible, dispatchable units



Gas-fired

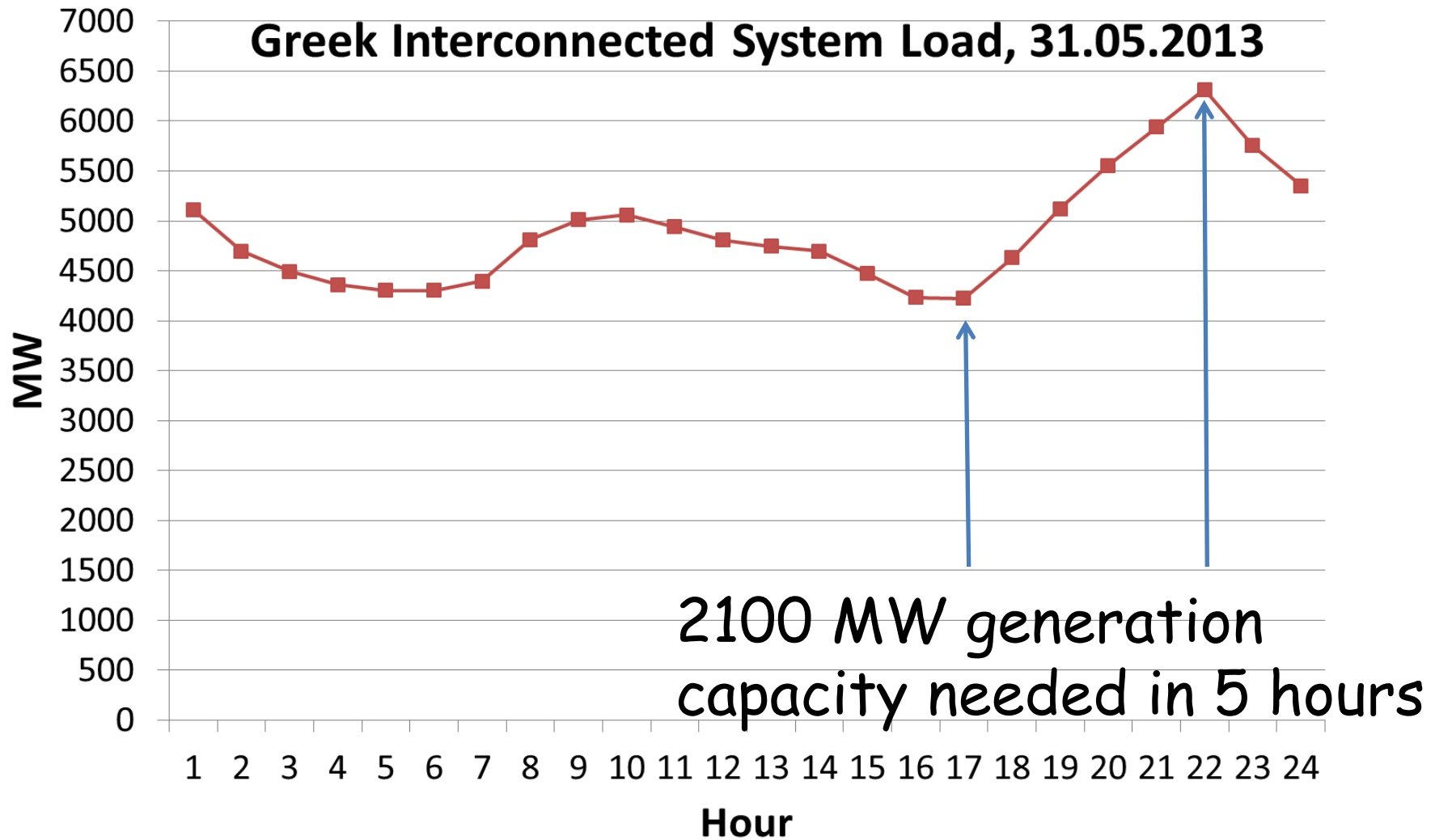


Hydro



Demand
Side
Management

Sunset effect



Main economic parameters for having financially viable flexible units

Natural gas price



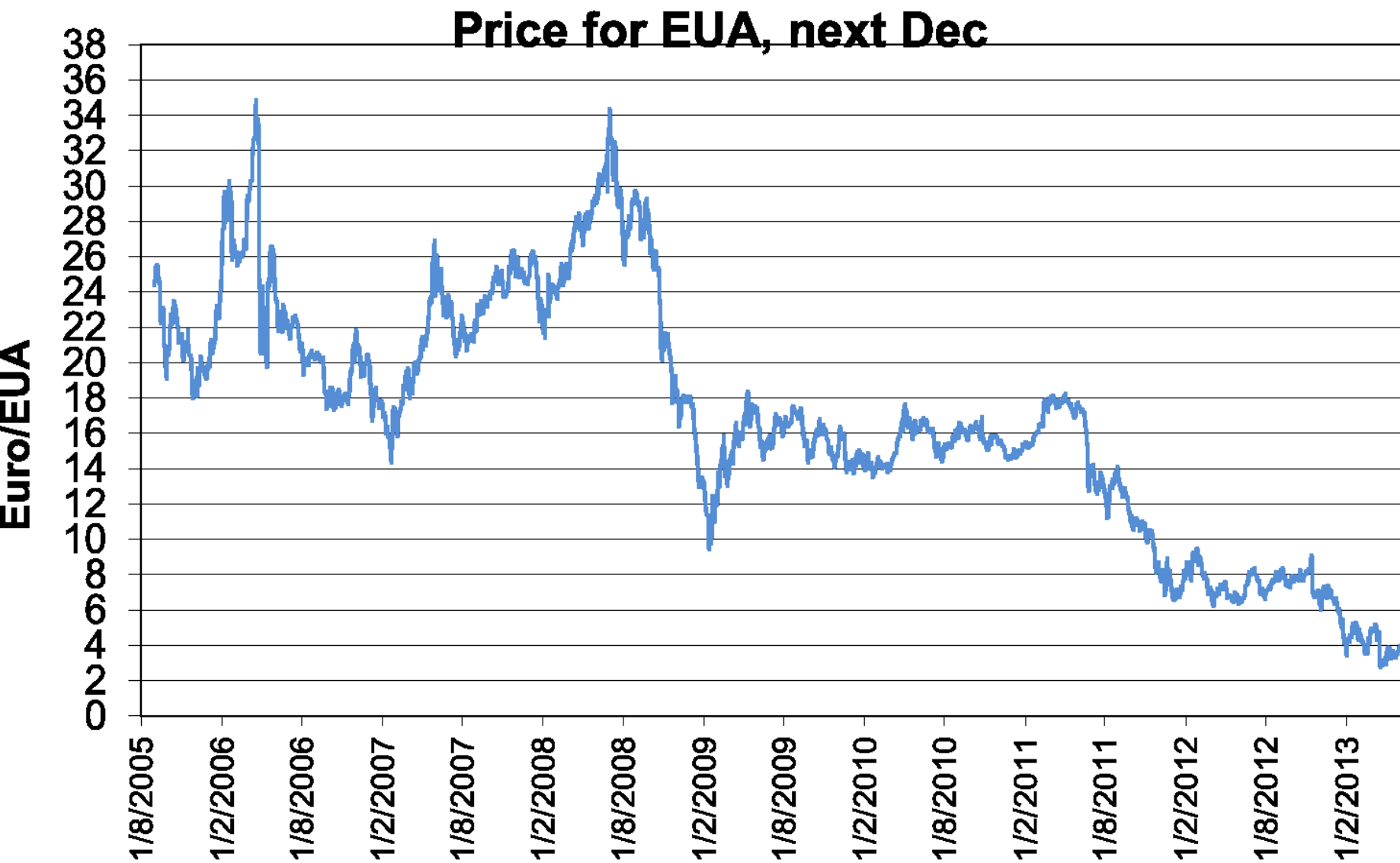
Emissions allowance price



Europe needs cheaper gas

- USA, **11-14 €/MWh**. Shale gas ensures cheap energy for power plants and industry.
- Western Europe, **24-33 €/MWh**. Gradual replacement of oil-indexation by hub pricing results in essential reduction of gas cost.
- Southeastern Europe, **>40 €/MWh**. Oil-indexation and absence of gas source diversification retain gas cost at high levels.

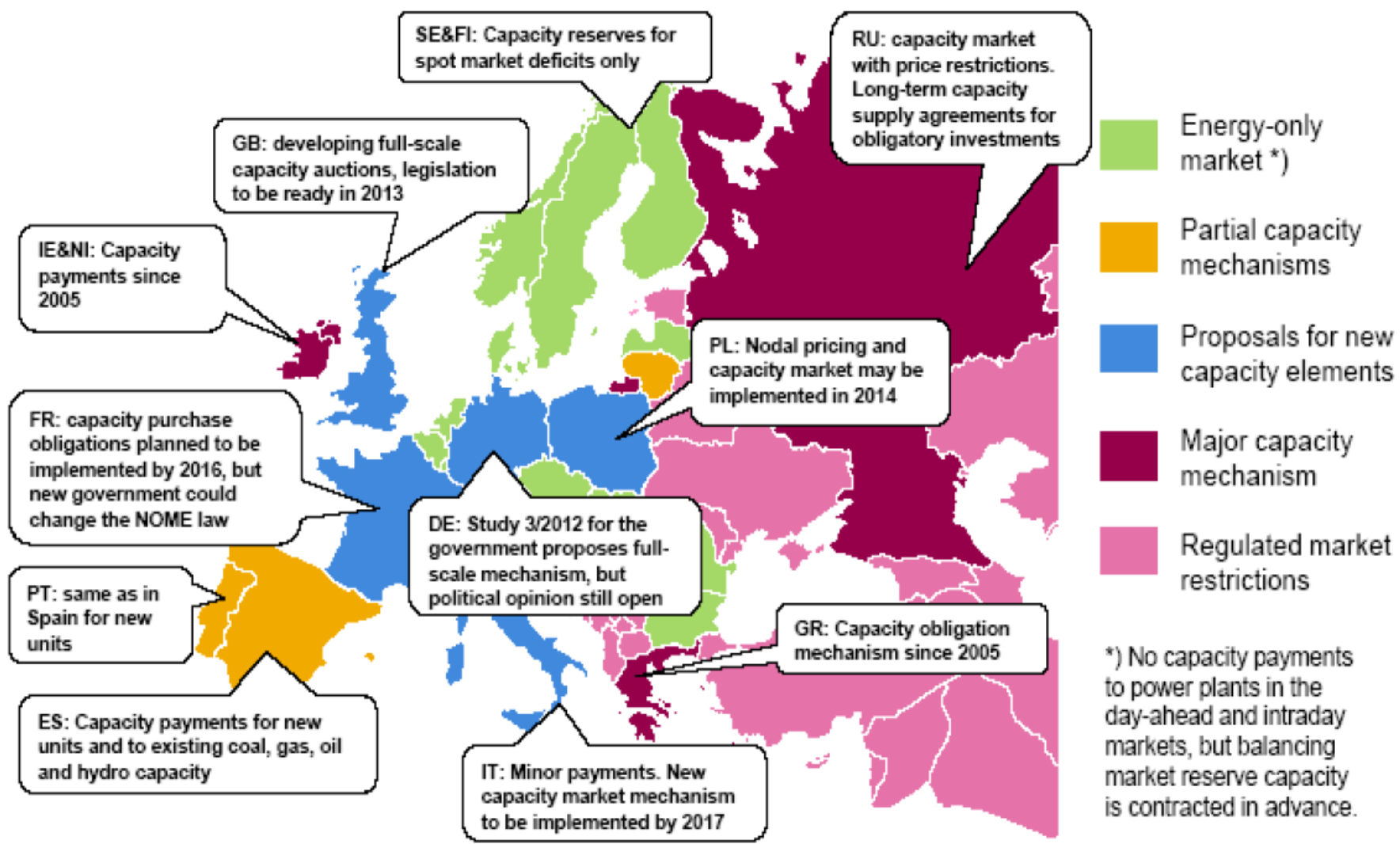
Carbon prices do not motivate fuel switch



How to overcome the situation

- Transitional method: Regulated capacity mechanisms
- Permanent method: Change the market design (including capacity reward and RES market integration)

Existing and Planned Capacity Mechanisms in Europe



Conclusions

- Europe needs secure and affordable electricity produced in sustainable manner.
- High RES penetration results in lower wholesale prices and requires increased flexible generation capacity.
- The current market design and fuel prices cannot provide financial sustainability for flexible units.
- Regulated capacity payments ensure the needed flexible capacity in the transitional period.
- Lower gas prices, a well-functioning carbon market and a new market design rewarding capacity are necessary in Europe.

Thank you for your attention!

