

2nd ACER workshop on Gas Target Model

GTM: New challenges and obstacles for CCGTs

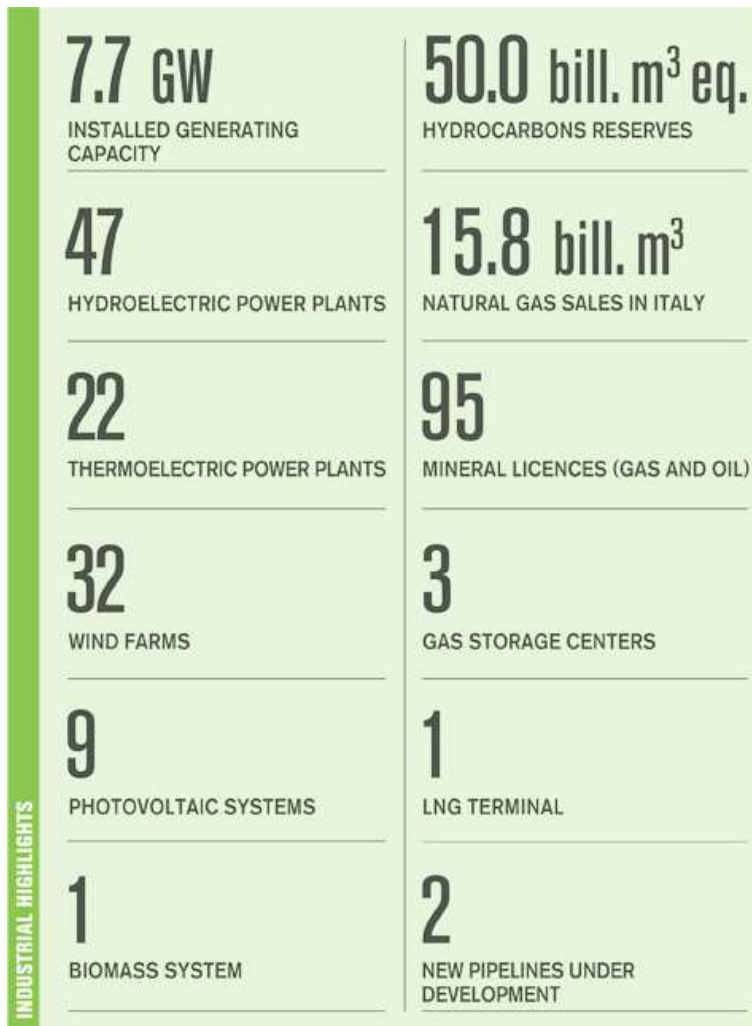
Elisa Rondella – Regulatory Affairs Department

19th March, 2014



Edison in a nutshell

Edison, today part of EDF Group, is the European oldest power company and one of the Italian key players on the energy market. For 130 years Edison has always been active in the energy industry, making a strong contribution to the development of Italy's industrial structure.

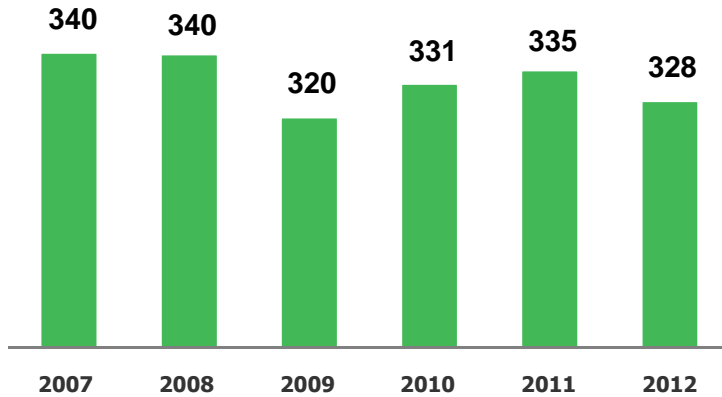


(in millions of euro)	2012	2011
Sales revenues	12,014	11,381
EBITDA	1,103	890
EBIT	229	2
Net profit (loss) from continuing operations	36	(273)
Net profit (loss) from discontinued operations	50	(605)
Group interest in net profit (loss)	81	(871)
Net invested capital (A + B)	9,800	11,030
Net financial debt (A)	2,613	3,884
Total shareholders' equity (B)	7,187	7,146
Shareholders' equity attributable to Parent Company shareholders	7,055	6,988
Debt/Equity (A/B)	0.36	0.54
Number of employees	3,248	3,764

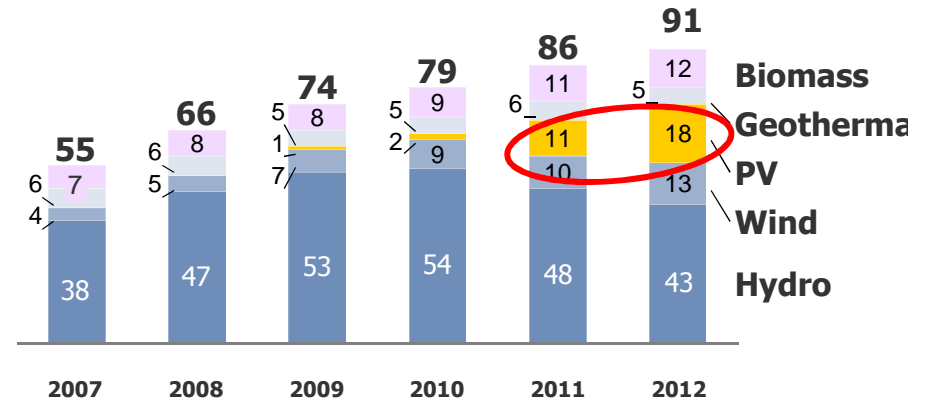


What has changed in Italy

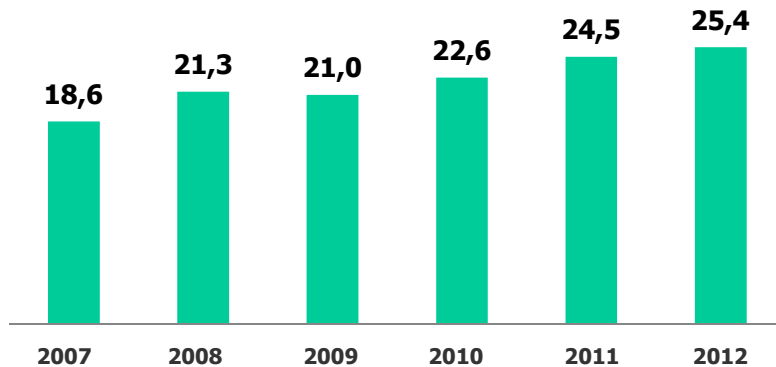
Reduction of Electricity demand (TWh)



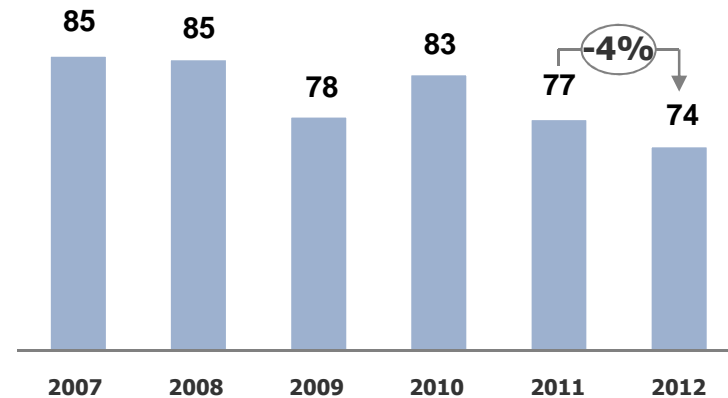
Huge development of Renewables (TWh)



Increase of CCGT Installed capacity (GW)



Decrease of gas demand (Bcm)

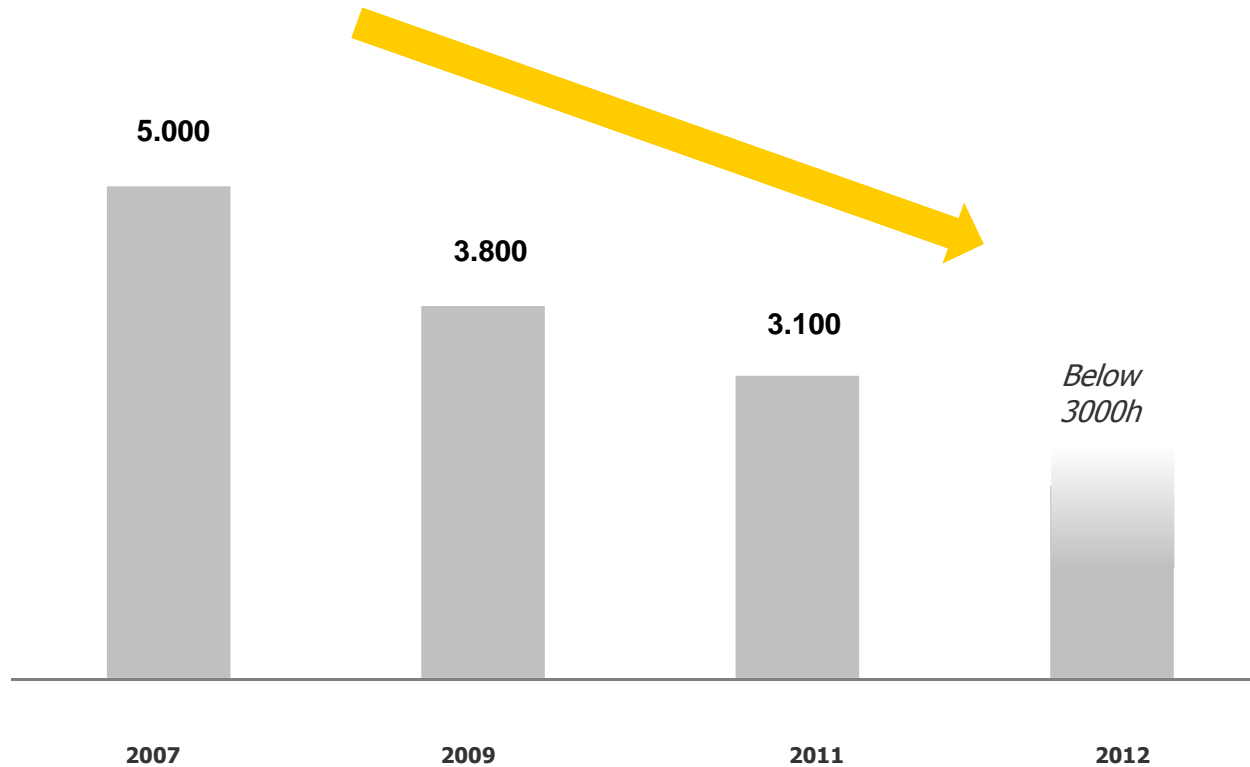


What has changed for CCGTs

- **Decrease of Operating Hours**
- **Different way to operate**

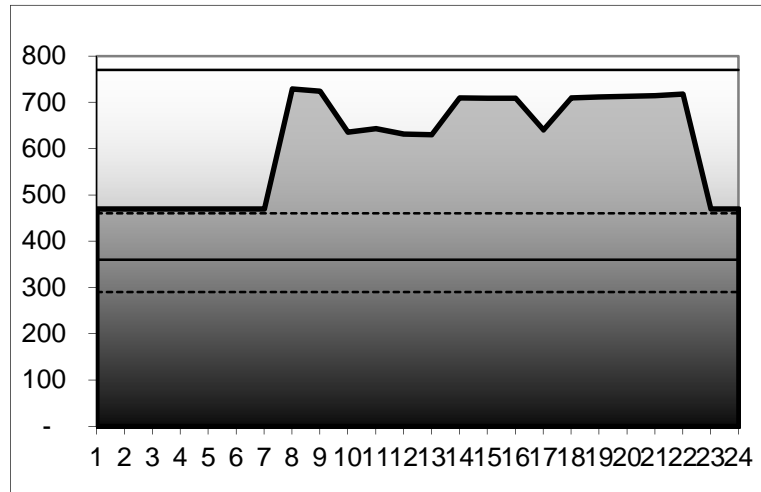
Decrease of operating hours

CCGTs equivalent operating hours (h)

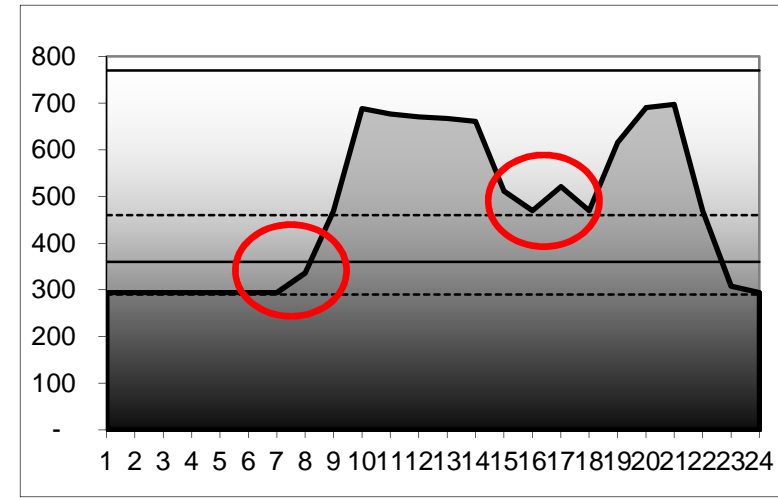


New way to operate (MWh)

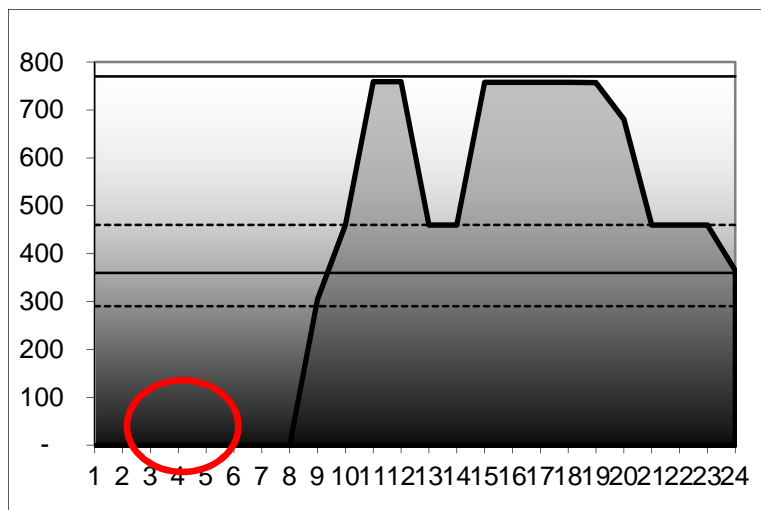
2007: standard profile



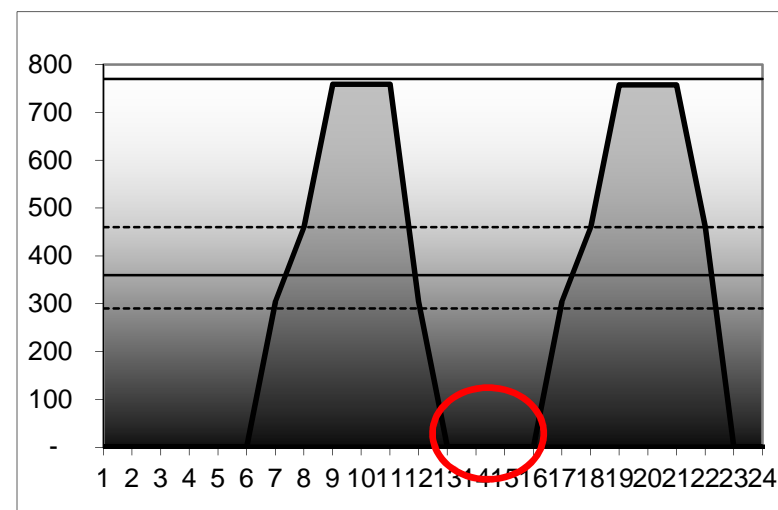
2008: CCGTs competition



2010: huge CCGTs competition



2012: RES penetration



Which are the main consequences?

In their new role of back – up to variable - RES, CCGTs need to adapt to a world they were not built for, facing:

- **Unpredictable running patterns**, causing high imbalance risks and therefore penalties;
- **Cold starts and sudden ramping up and down**, implying:
 - Higher maintenance and operation costs
 - Increased plant breakdown
 - Shorter economic lifetime



**Mid/Long-term
consequences on plants
still unknown!**

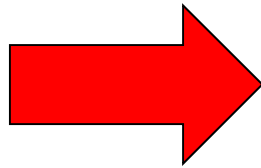
**What to bear in mind
when thinking on how to
integrate gas &
electricity mkts?**



**Axioms don't
exist....**

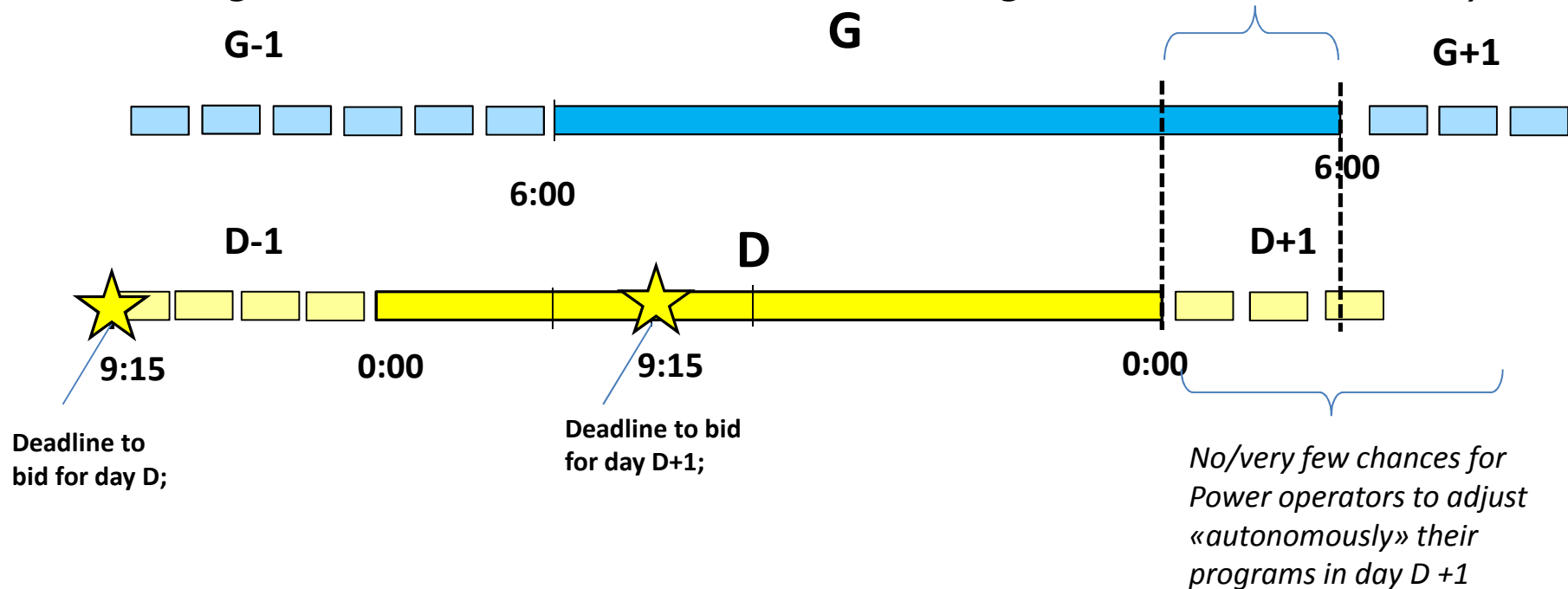
Different Gas- Electricity day...not necessarily a problem

2nd AXIOM



~~Difference between gas and electricity days is always a problem; maximum harmonisation should be pursued~~

Gas unbalances in day G can be reduced by modifying the power production in D+1. Today this can be done by taking advantage of the current misalignment between the gas and electricity day. However it requires a well in advance knowledge of the unbalance forecast because the gate closure is 9.15 of day D.



In gas markets, CCGTs can't perform as traditional flexibility sources (i.e. storage, LNG)

Key messages



- Differences not only between EU gas mkts, but also between EU electricity mkts should be carefully evaluated when designing TOP – DOWN regulatory models;
- However, as general rules, gas market design should:
 - ✓ *Be flexible*: renominations as late as possible to cope with sudden changes in the electricity mkt & WDO only if absolutely necessary
 - ✓ *Be transparent*: provide a timely and complete set of INFO with the highest possible degree of granularity



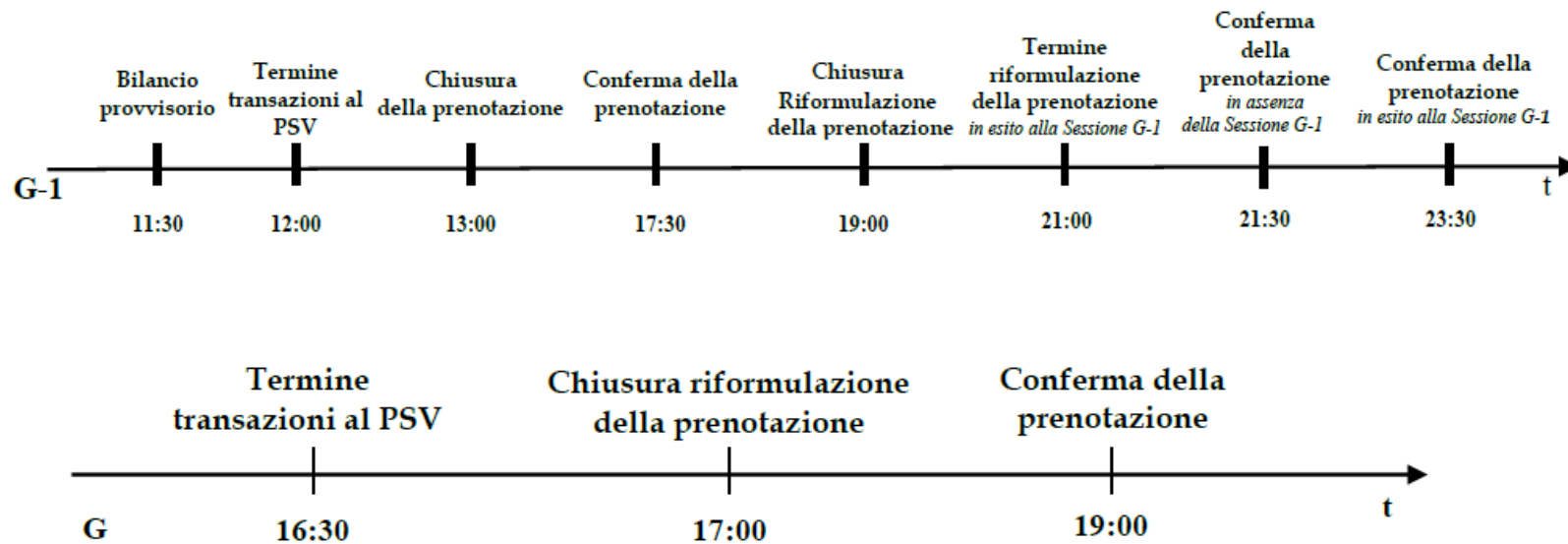
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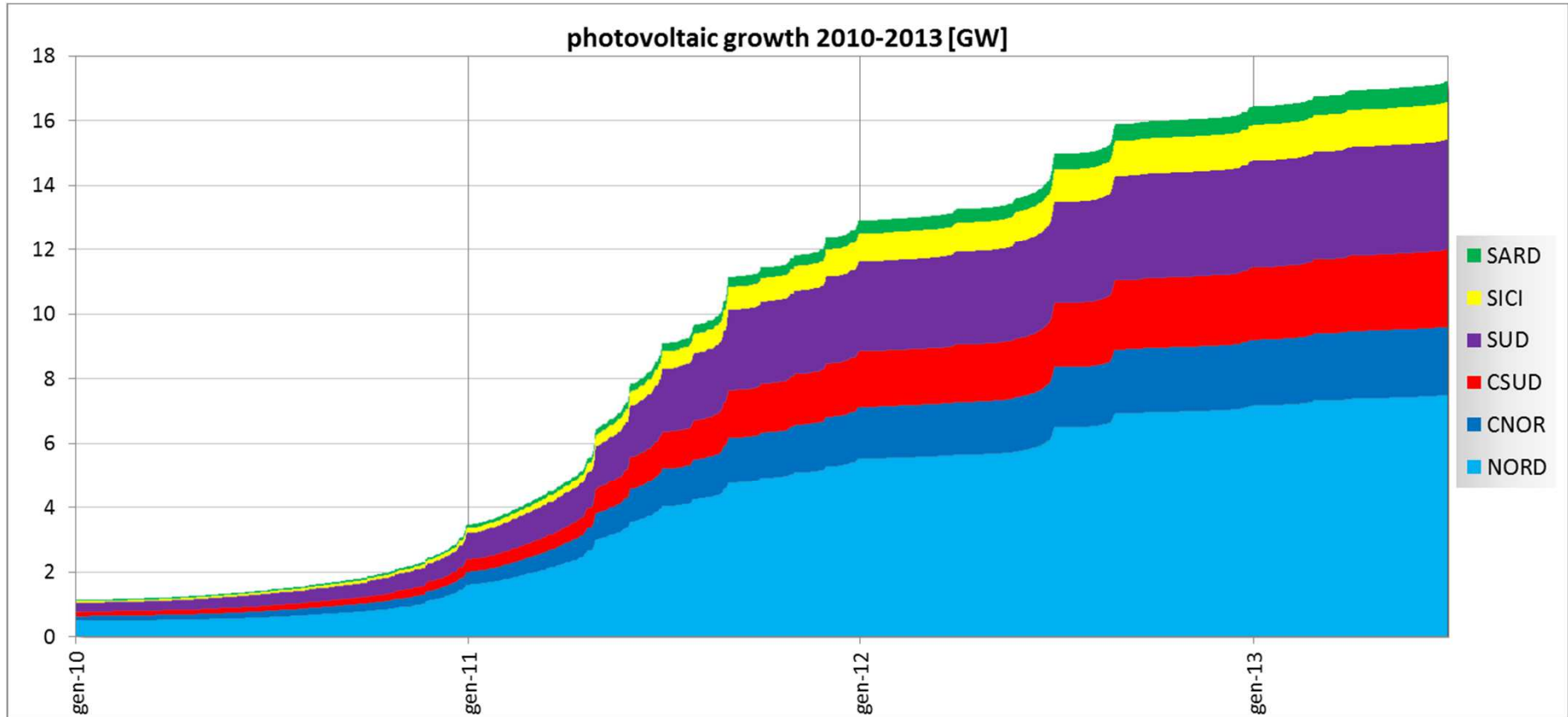


Current deadlines in the gas day

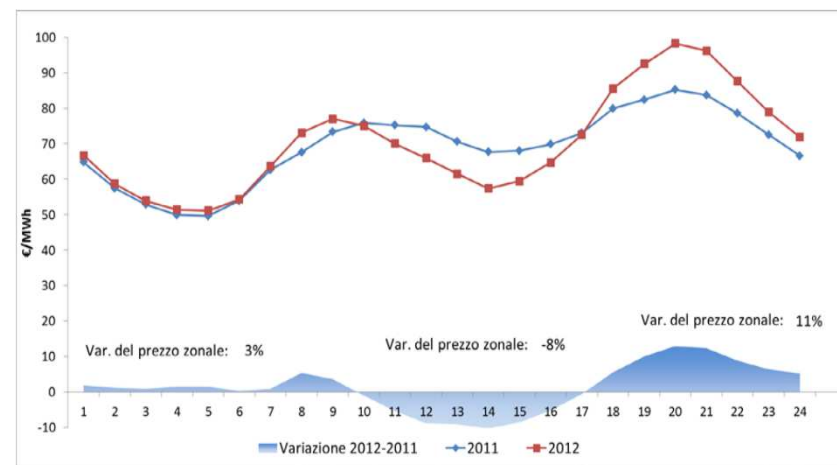
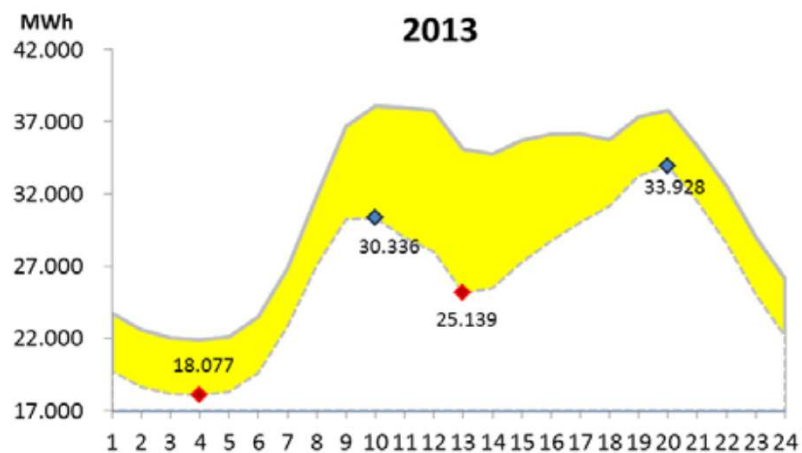
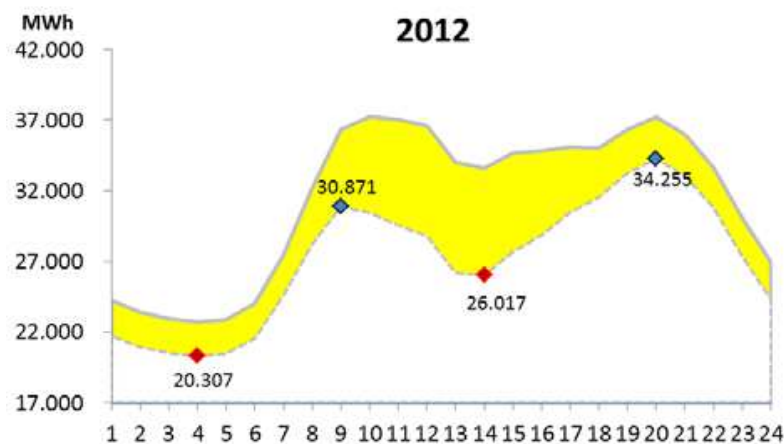
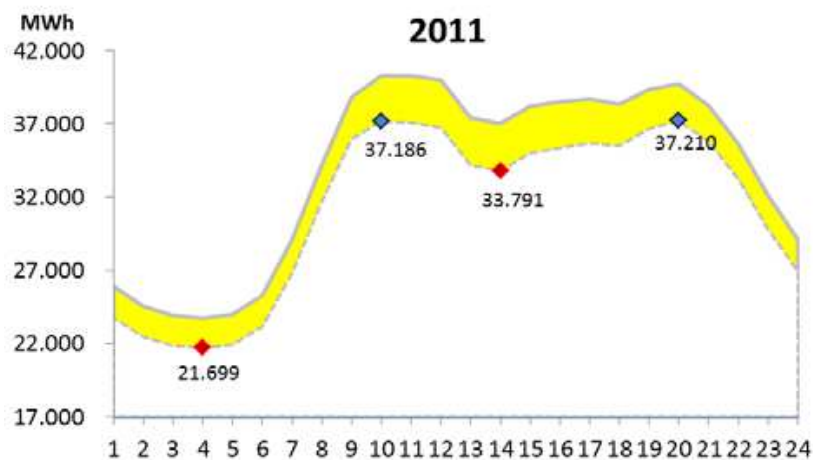


During the Gas day renominations are allowed only for E/E from storages, LNG, exit points towards final customers

The solar production continues to increase



Residual Load in March



Energy prices are strongly linked to wind and solar production

CCGT's are still fixing the hourly spot price

Technology Market Share on Day Ahead Market

