

Hellenic Association for Photovoltaic Energy Producers

Stelios Loumakis – President of SPEF

Conference: Innovation week on RES – Patra

Electricity production from PVs and the changes in the wholesale market



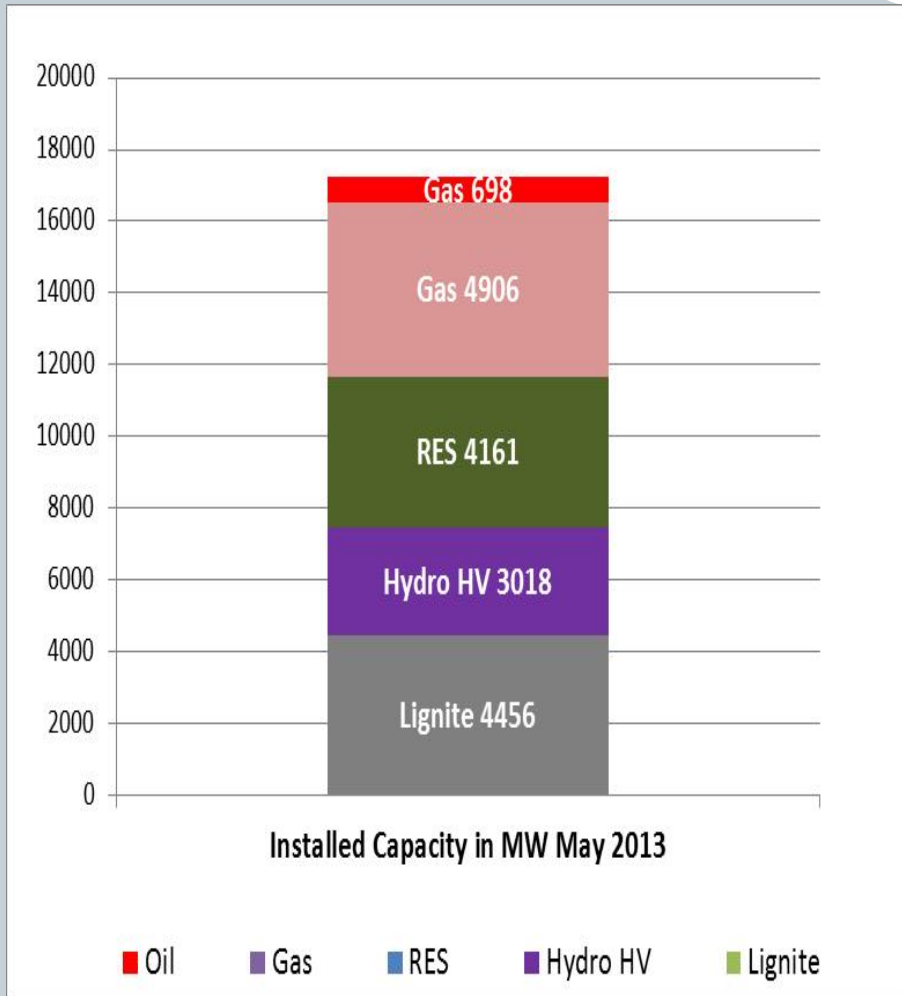


Who is SPEF

1. Scientific and business association.
2. Founded on March 2009.
3. Represents electricity producers from photovoltaic plants all over Greece.
4. Members have at least on PV installation (from 20 kW up to many MWs) in operation and interconnected to the grid.
5. Our mission is to support the interests of producers in a manner that develops, serves and preserves a healthy market.

Actions

1. Participation in public consultations of Authorities involving electricity production from PVs together with other aspects of the wholesale market in general that are affecting RES.
2. Participation in seminars, conferences, events and representation of producers to the media.
3. Conducting scientific work so that SPEF can act as an advisor to the State on matters concerning electricity production from PVs and the wholesale electricity market to the extent associated with them.



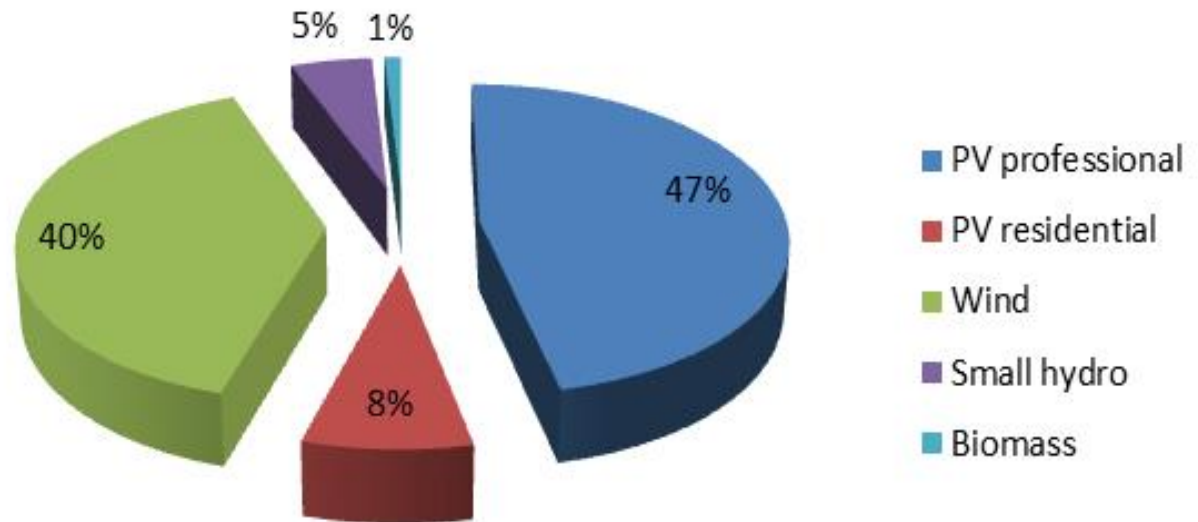
Overcapacity and demand

1. Power production capacity (both conventional and RES) exceeds 17,2 GW.
2. Average demand is around 6,500 – 9,500 MW (i.e. first 5-month period of 2013 peak demand was 8.564 MW).
3. Operating technical minimums of conventional plants moving around 4.500 MW together with RES volatility, pose significant constraints in everyday's electricity production mix.
4. Lack of large scale electricity storage plants do not help RES technologies to exploit country's high renewable potential.
5. **Under these circumstances, aiming to investment security together with technical stability of the system there is rather lack of clear growth potential for all players. Otherwise, growing plans for one technology should be accompanied with withdrawal plans of another.**

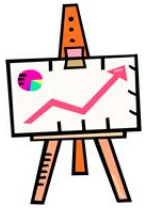
Power shares in Greek RES market (excl. Hydro HV) (installed power – May 13)



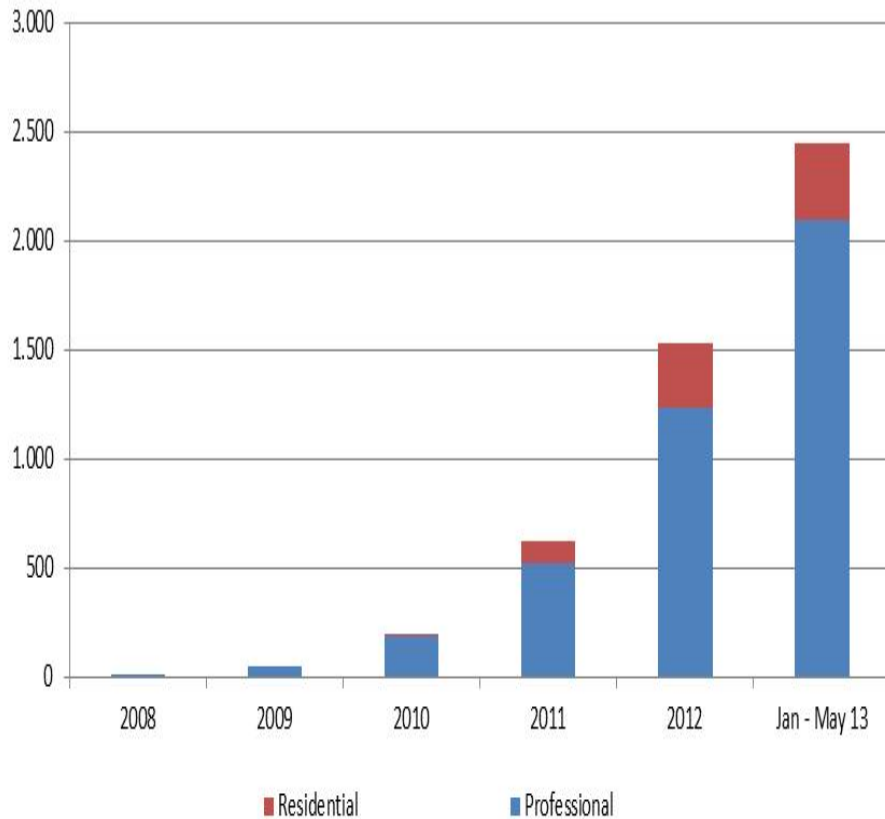
	MWp	% Share
PV professional	2100	47%
PV residential	351	8%
Wind	1785	40%
Small hydro	218	5%
Biomass	45	1%



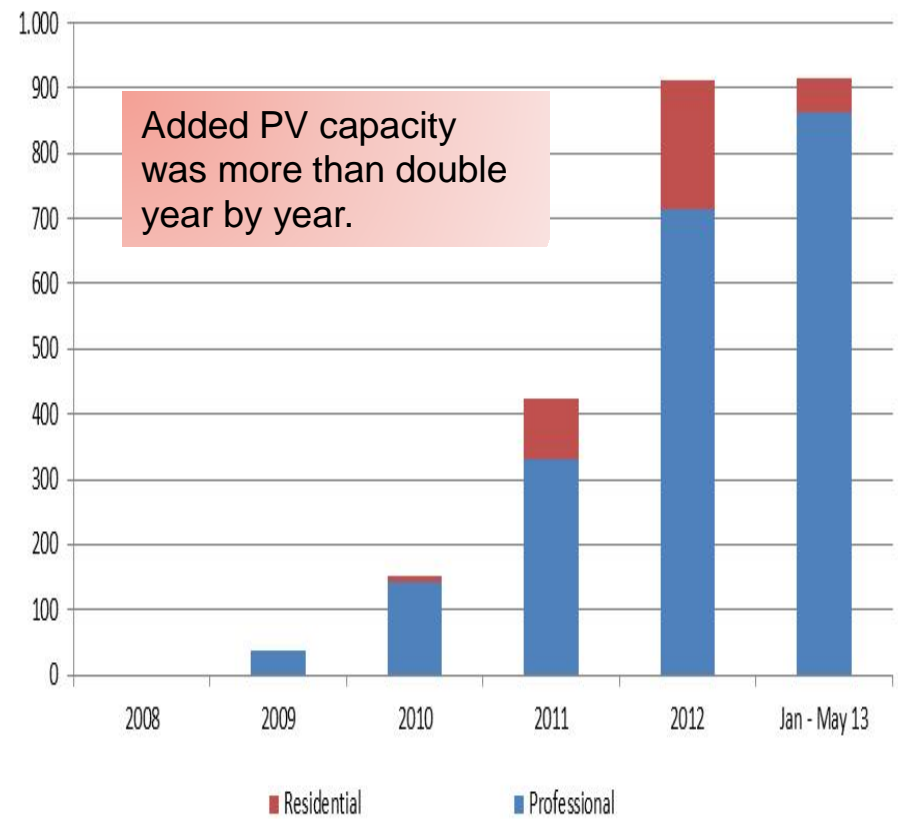
Evolution of PV installations at national level (interconnected system and non inter/cted islands)



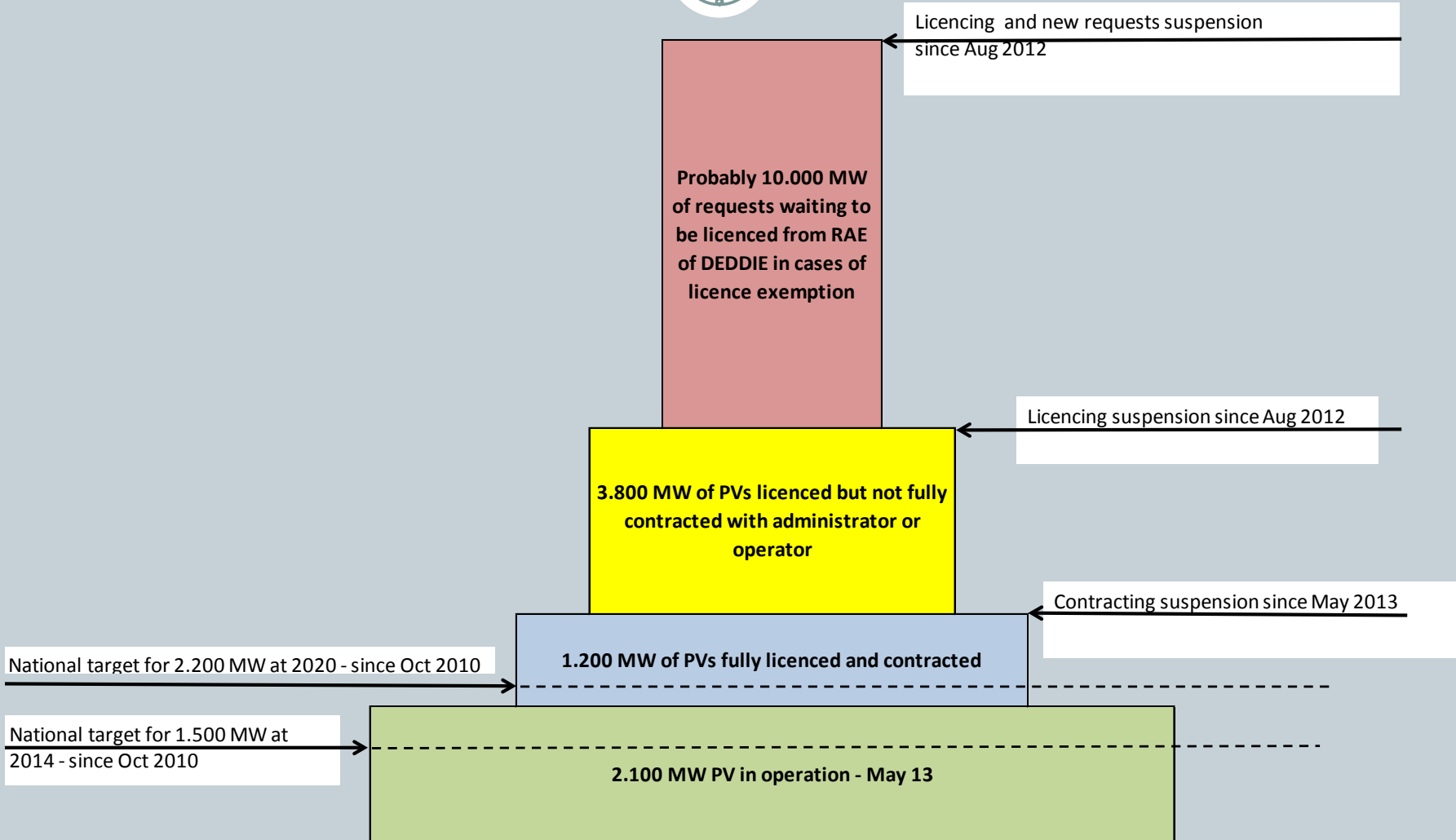
PV installed capacity in MWp



PV added capacity in MWp



The PV (professional) market vs National Targets





- Greece has strongly moved toward its PV national targets. It is expected to fulfill the target of 2020 within 2013, namely 7 years earlier.
- Radical changes in electricity production mix due to the rapidly expanding contribution of RES and especially PVs, revealed significant market distortions and constraints both technical and economic.
- Distortions recently started to be restored (mainly relating to System's Marginal Price), but constraints still exist and are not easy to overcome.
- Such constraints are:
 - the lack of electricity storage plants in order to exploit RES potential/electricity during hours of no RES production and hence stabilize further their volatility.
 - the poor interconnections and country's inability (for the time being at least) for physically exporting RES electricity to wealthy (that are able to pay for it) European countries.
 - the need for cheap electricity that only lignite plants can offer, due to economic recession and industry's weak competitiveness.
 - the rapid decline of CO2 rights at global level, makes lignite power even cheaper, increasing further the operational funding gap of RES.



- the overcapacity that country is rather facing, due to its simultaneous need to keep cheap lignite power together with new-built gas plants (named flexible) and clean RES.
- Under these circumstances the rapid PV growth model followed till today is obsolete. Future investments cannot ignore the broader context that demand and wholesale market in general are posing.
- The majority of PVs (<10 MWp) are interconnected to low or medium voltage grid, so there is no access/control on them by the system administrator (ADMIE). In cases of “inevitable” overcapacity it will not be the administrator that will put them “off” the grid but their own inverters. Hence, it will not be possible to provide them a refund for these off-grid hours, simply because the administrator will not be aware or have caused it through access/control he has on them. This is very crucial for the economic viability of PVs. On the contrary for i.e. wind parks that are mainly interconnected to high voltage grid, such a refund scheme is in principle provided (law 3851, art. 5).
- In order to achieve a viable economic growth and jobs creation through RES, we should firstly successfully face and resolve the constraints mentioned. Hence, we firstly have to be ready to replace conventional power with RES both in technical and economic terms and not just add RES. If we don't do so, temporary growth will rapidly convert to a deeper recession together with the collapse of investments.



Hellenic Association for Photovoltaic Energy Producers

Stelios Loumakis – President of SPEF

Thank you

