



Solar Energy (PV) Investments

The Greek Market - Lessons Learned

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Hellenic Association of Photovoltaic (PV) Companies

- HELAPCO is a non Profit Organization, established in 2002, representing the major PV Companies active in the production, trading, installation and maintenance of PV Systems in Greece
- HELAPCO represents the Domestic Market before the Greek Authorities, in International Meetings and Fora, and is a Member of SolarPower Europe (ex. European PV Industry Association)



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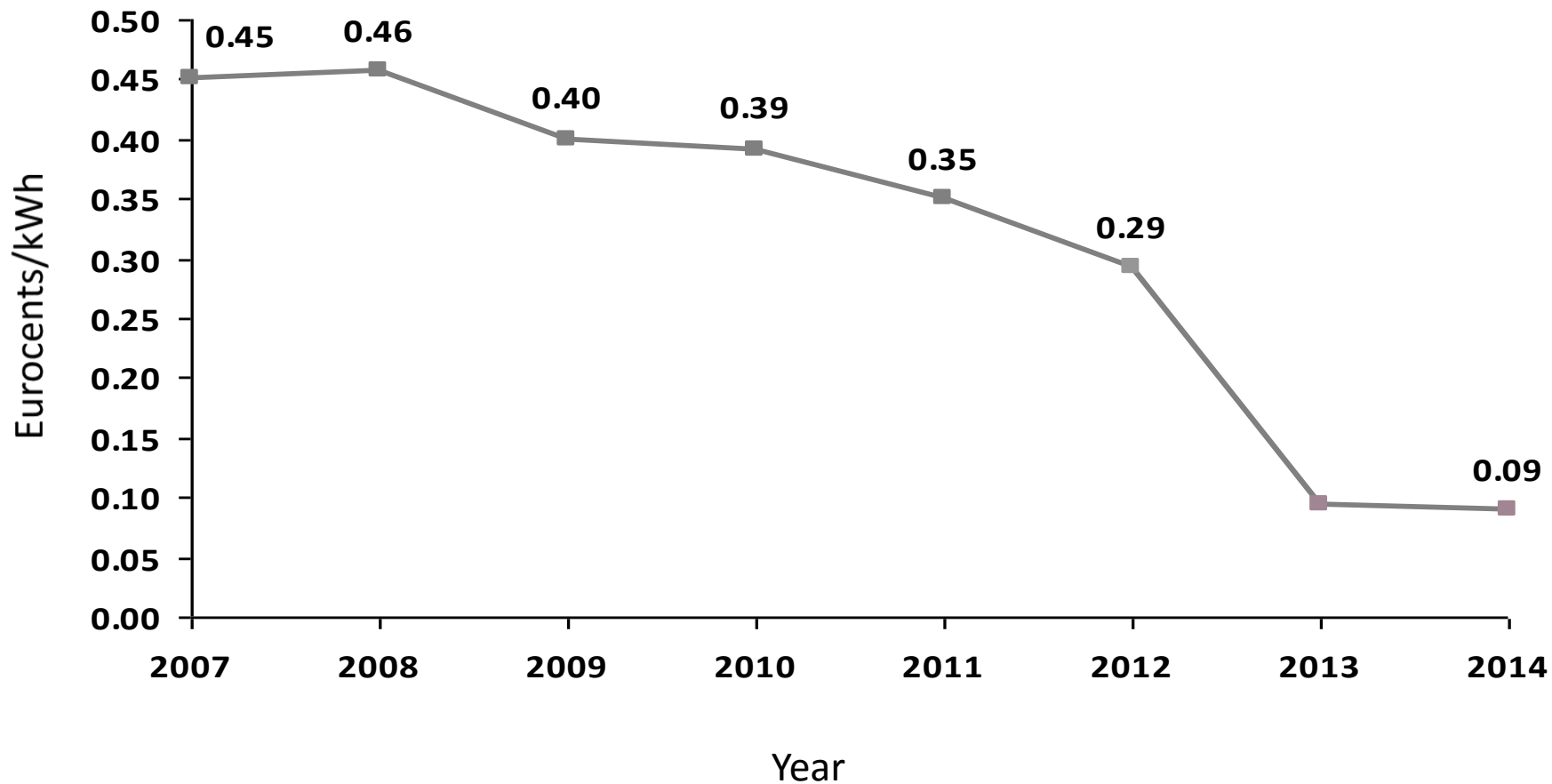


Greek RES Remuneration Regime

- A Successful Feed in Tariff (FiT) Model was applied from 2007 to 2014 for PV Projects Remuneration
- An Intermediate Model was applied for 2014 and 2015 that resulted in very few PV Projects
- Auctions Sliding Feed in Premium Model to be applied from 2016 and on

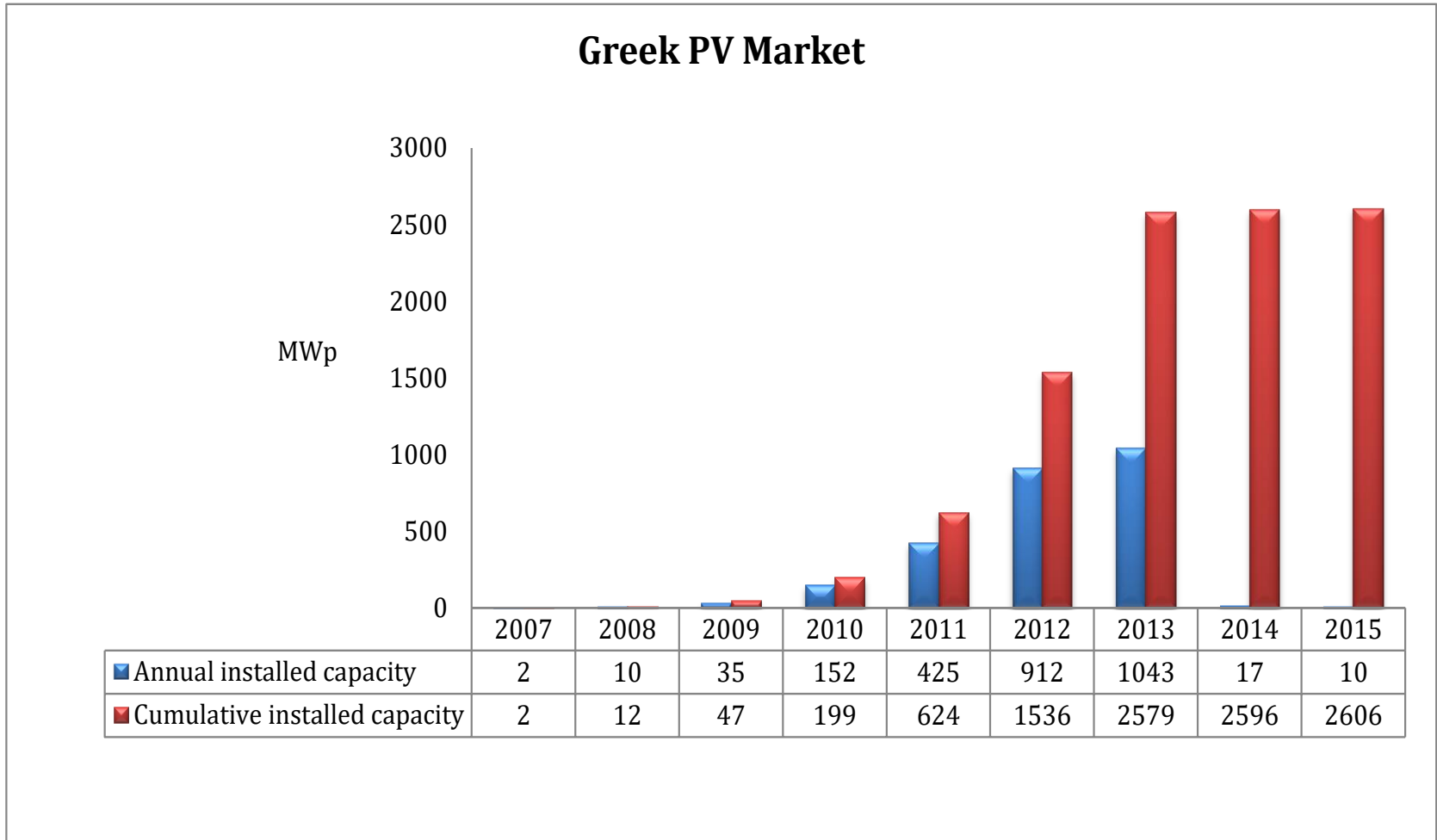


Greek FiTs 2007-14





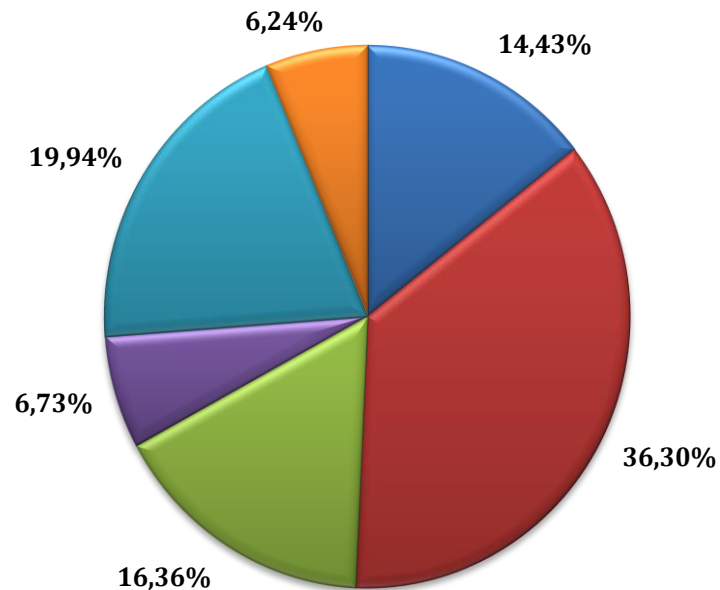
Greek Market Evolution 2007 - 2015





Installed PV distribution per size (2015)

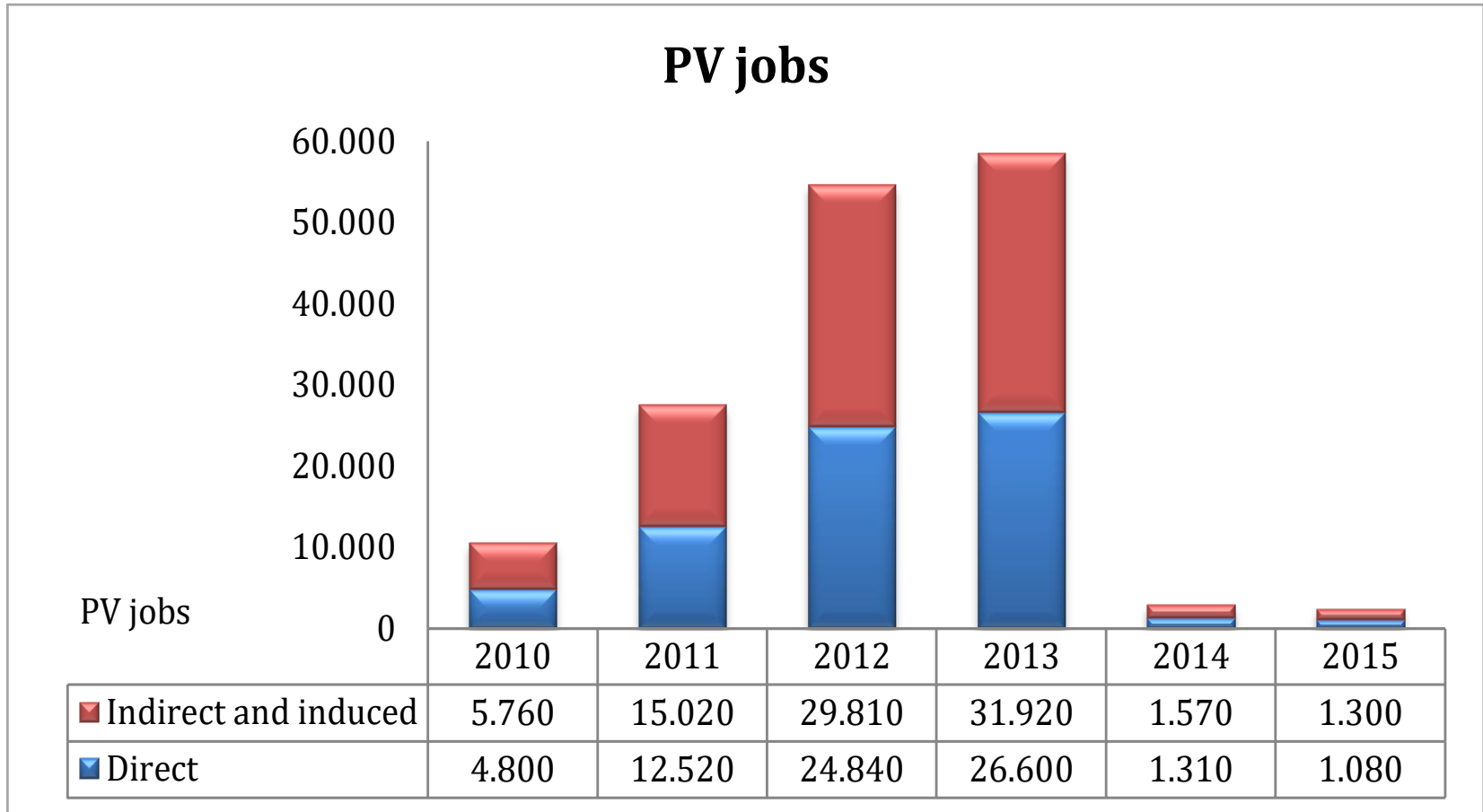
Installed PV capacity per size



■ ≤10 kWp ■ 10-100 kWp ■ 100-500 kWp ■ 500-1000 kWp ■ 1000-5000 kWp ■ >5000 kWp



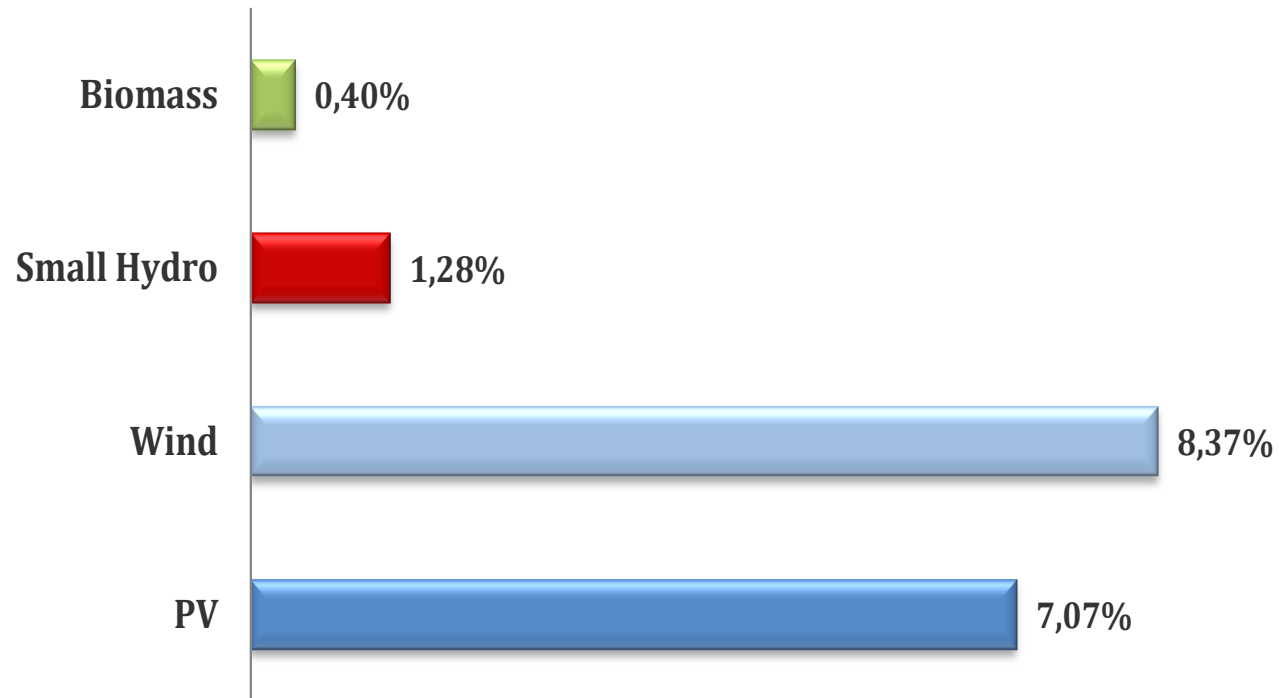
PV Jobs 2010 - 2015





RES Contribution to Annual Electricity Consumption (2015)

RES technology share in electricity consumption (2015)





Solar Investment Facts

- A PV Project in Greece Produces 1200 to 1600 MWh per Installed MW. In IRAQ the Production is 20% higher
- The Investment Cost (non EU) is expected to be below 850,000 euro per MW Installed
- Indicatively, with an Electricity Selling Price (FiT) of 80 Euro per MWh, a Project IRR around 11-12% is reached



Ideas for PV Development in IRAQ

- The easier and faster way to Develop a PV Market is an Auction Model with Fixed Selling Prices (FiT)
- Investors could participate in Auctions, Bidding the FiT for their Project
- Those that will propose the lower FiTs will win the Auction and sign the Power Purchase Agreement (PPA) with IRAQ Authorities getting the proposed FiT
- Successful Auctions have been done in Germany, Canada, France, Chile, Brazil, India.
- All RES in EU will follow the auctions Model from 2017 and on



Closing Remarks

- Natural Resources (Solar Radiation) is in favor of PV Development in IRAQ
- Solar is considered a Mature RES technology, since PV Investment Prices have dropped dramatically since 2009 and expected to further decrease with a lower rate in the next years
- In order to launch a PV Market a PV Project Remuneration Regime has to be applied. An Auctions Model is the fastest and easiest way.
- Having the Remuneration Regime in place, indicatively, a PV Project Investment can result to Project IRR around 11-12%