C/M/S/ Adonnino Ascoli & Cavasola Scamoni

Risks and Opportunities in the Italian PV Market

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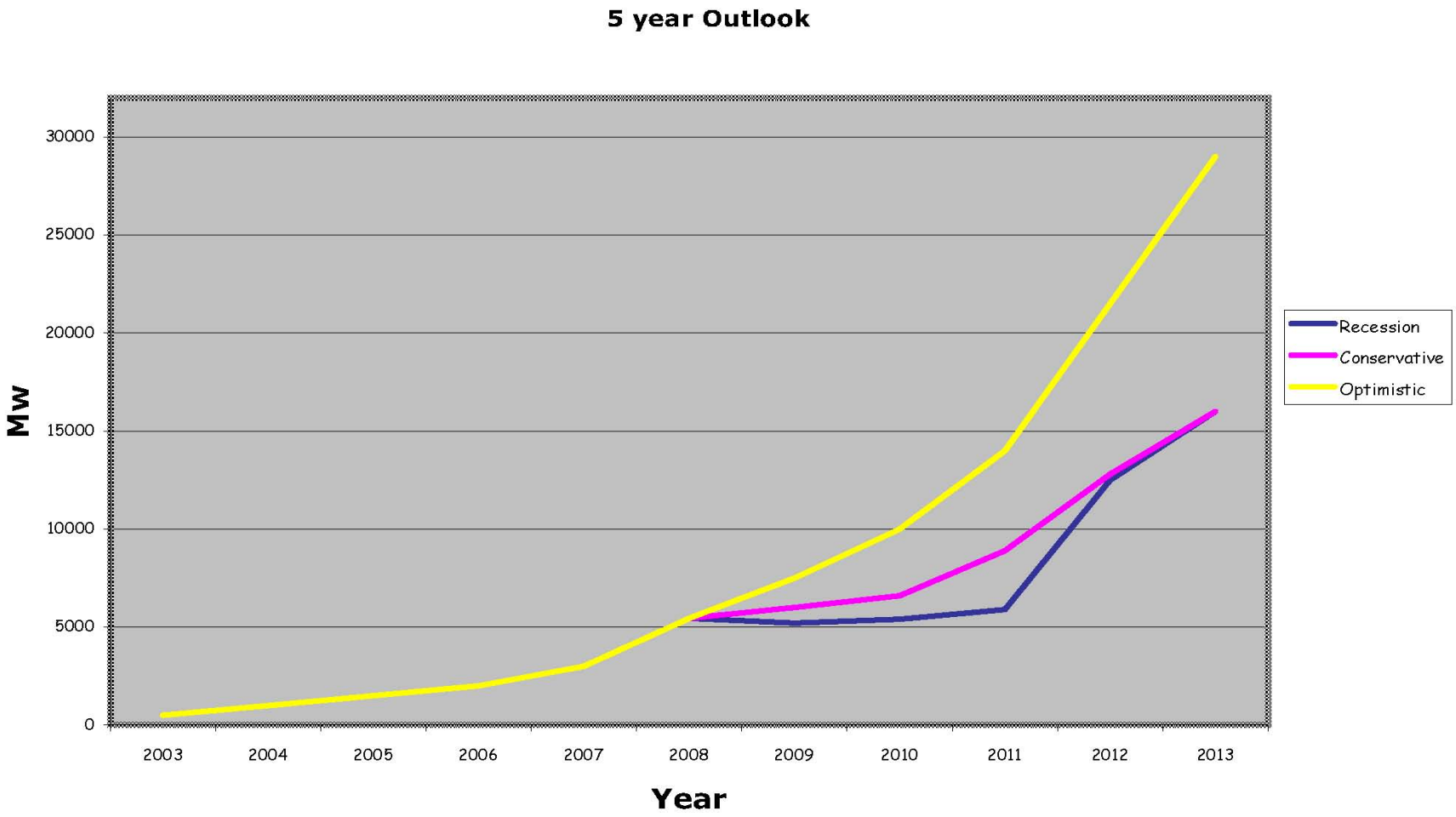
Photovoltaic Energy Outlook



Published by IlSole24Ore on 16 April 2009: Data *Navigant Consulting*

An overview of the world incentive schemes

- **Renewable Obligation Certificates**: ROCs prove that an energy supplier has met its obligation to derive a certain quota of power from renewable sources. ROCs are purchased from renewable power generators. Usually, in case insufficient Rocs are available, suppliers must pay into a “buy-out fund” that is distributed among renewable suppliers to foster the building of more generating capacity (UK and Italy).
- **Feed-in-Tariff**: A special tariff which applicable for a certain period is guaranteed by the Government for energy produced by renewable sources (Germany, Spain and Italy).
- **Production Tax Credits**: Power generators are granted a kW/h benefit for in period of operation. Historically the short time periods set for the tax reaks have created uncertainty for investors. Lately in the US the PTCs ave become applicable to solar industry as part of the financial rescue

Published on FT.com on 27 October 2008.

Italian incentive schemes

- Both ROCs and the Feed-in-Tariff apply in Italy renewable energies.
- However, for PV plants which have not requested the relevant authorization within 31 December 2007 ROCs no longer apply.
- As of 31 December 2007 only the Feed-in-Tariff applies to solar energy for such period until the national power from PV plants achieves overall 1,200 Mw.
- As of the day the GSE (i.e. Italian Government authority in charge of the Feed-in-Tariff) will publish on its web-site that the 1,200 Mw threshold has been achieved, the Feed-in-Tariff will still apply to plants started up within the following 14 months.

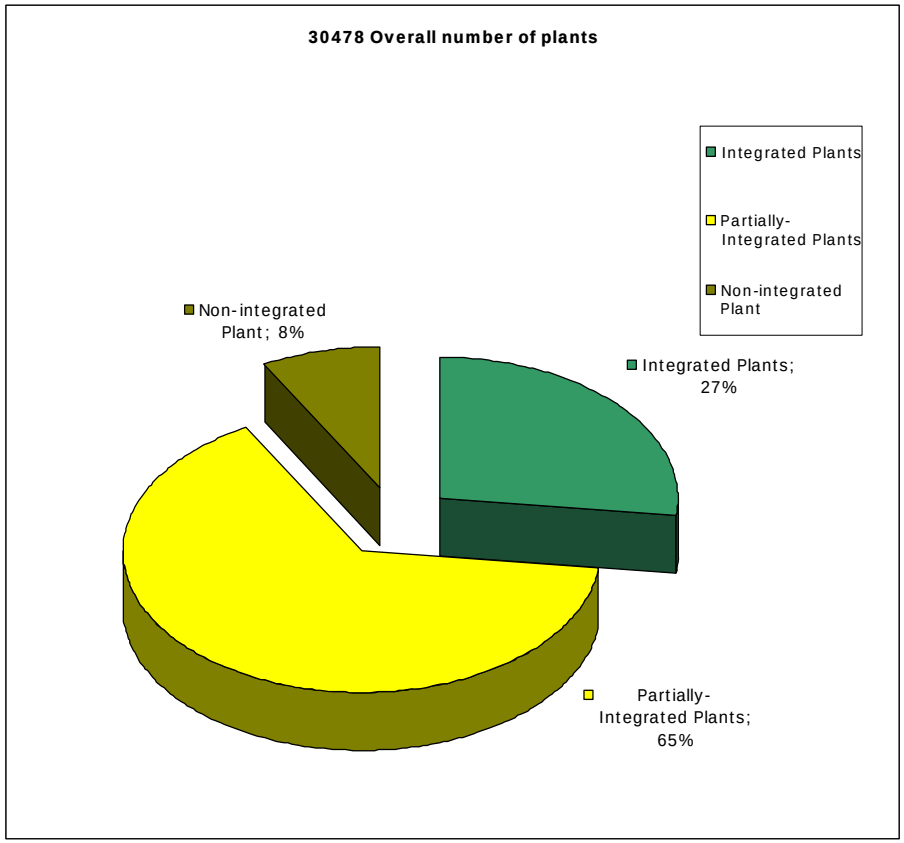
Feed-in-Tariffs applying in 2009: Italy-Germany Comparison

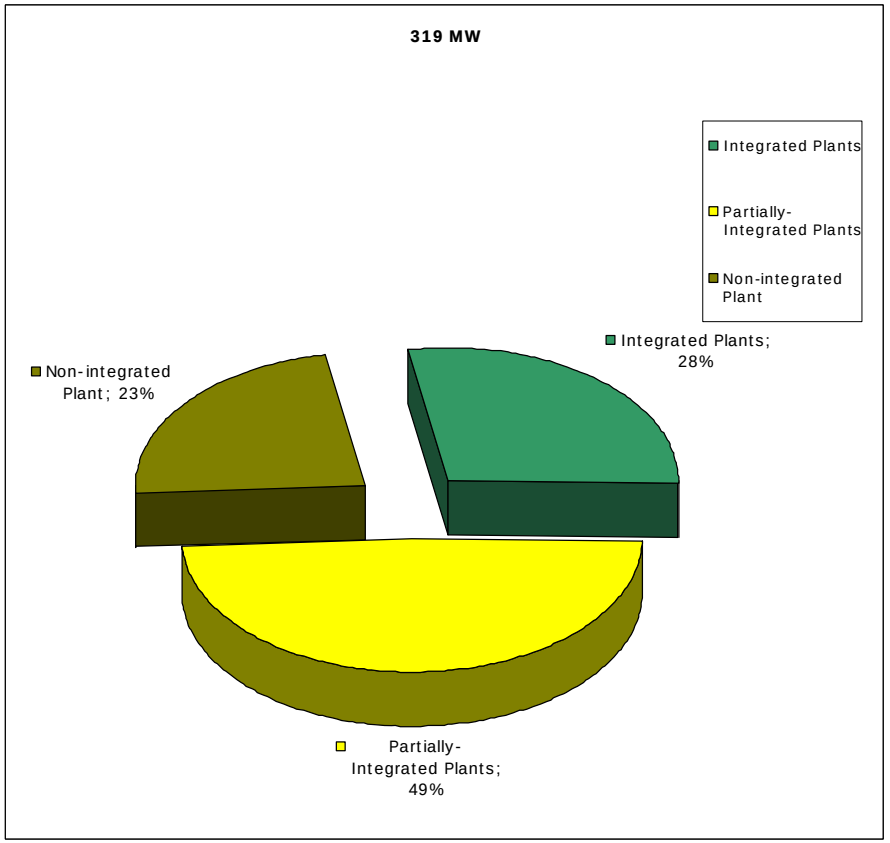
ITALY	1≤kWP≤3	3<P≤20	P>20
Non-Integrated	0,392 €/kWh	0,3724 €/kWh	0,3528 €/kWh
Partially-Integrated	0,4312 €/kWh	0,4116 €/kWh	0,392 €/kWh
Fully-Integrated	0,480 €/kWh	0,4508 €/kWh	0,4312 €/kWh

For plants started up between 1 January 2009 and 31 December 2010 the original value of the incentives will be reduced by 2% for every calendar year as of 2008. So the feed-in-tariff provided above will be applicable only up to the end of 2009.

GERMANY	P>1,000	100<P≤1,000	100<P≤30	P≤30
Integrated	0,33 €/kWh	0,3958 €/kWh	0,4091 €/kWh	0,4091 €/kWh
Non-Integrated	0,3195 €/kWh			

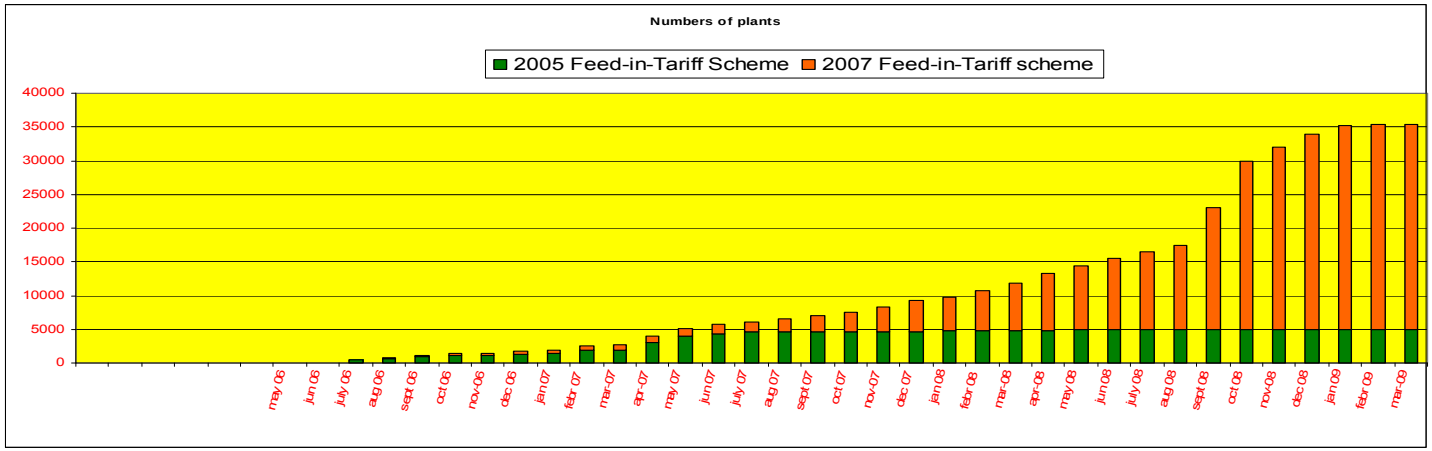
Plants operative on 30 April 2009 under the Ministerial Decree 19 February 2007

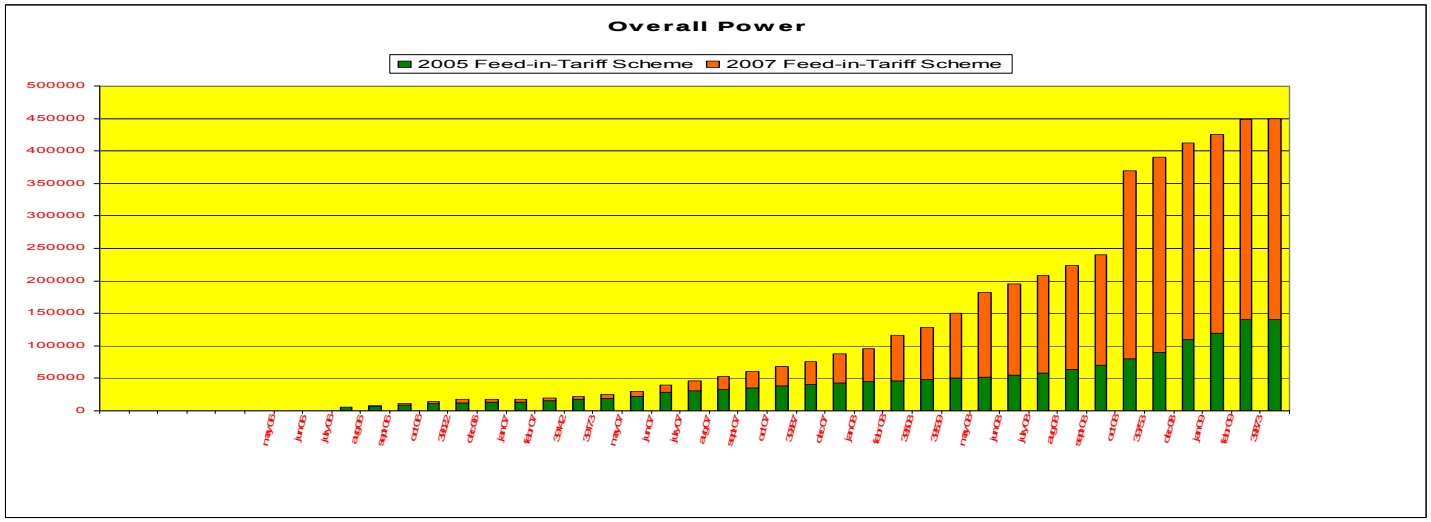




Data GSE S.p.A.

Growth of the PV energy due to the Feed-in-Tariff





PV market and Grid Parity

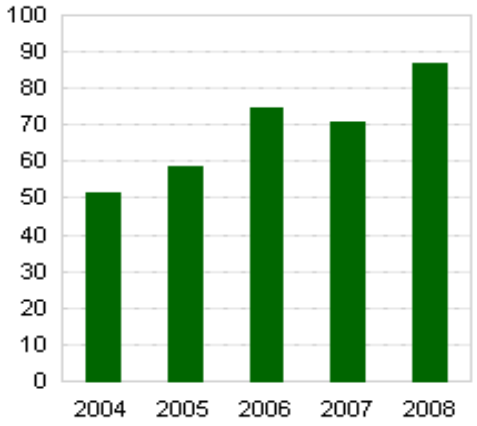
- Recent market analysis pointed out an ongoing race to the bottom in the market of silicon-based solar modules mostly for the following reasons:
  - Germany has cut its feed-in-tariff by 10%; and
  - Spain has set a limit of 500 Mw for subsidiesed solar plants in 2009 (half of 2008 cap).

- Italy is expected to achieve the "***Grid Parity in 2 years***" before any other European country. Such result would be mostly due to the following reasons:
  - Significant and increasing drop of silicon-based solar modules;
  - Highest European price of power (as a result of **(i)** lack of fossil fuels in the Italian territory and **(ii)** the past outright ban of nuclear power);
  - Optimal irradiation.

Mr Winfried Hoffman, President of EPIA, as reported on IlSole24Ore published on 16 April 2009.

Electricity Market in Italy

- The 2008 average purchase price of power in IPEX (Italian Power Exchange) has been equal to **86.99 €/MWh**, increasing by 22.5% in a single year



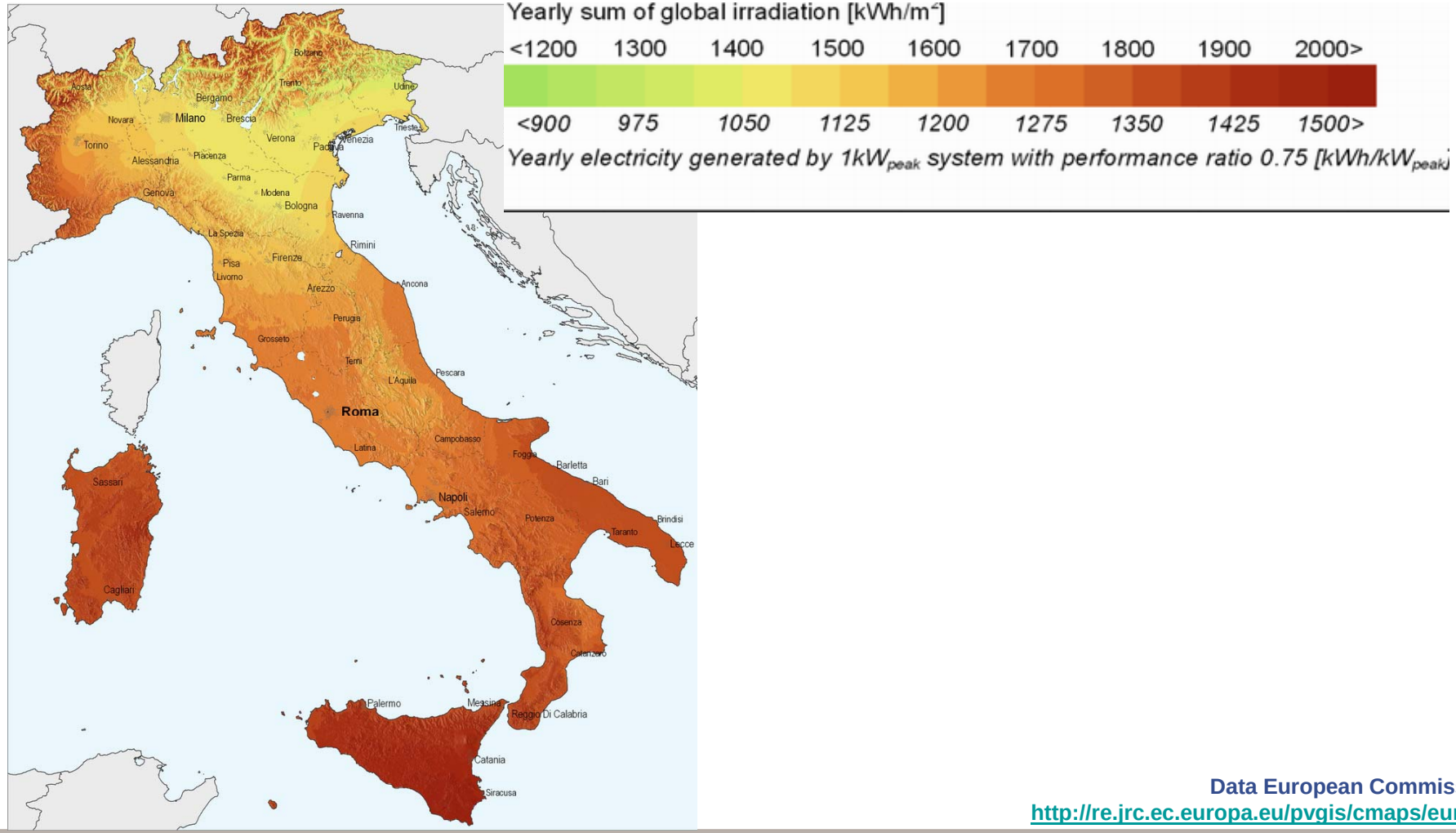
compared to

- 65.76 €/MWh (EEX - Germany)
- 44.73 €/MWh (Nord Pool – Finland/Sweden/Denmark/Norway)
- 64.44 €/MWh (OMEL - Spain)
- 69.15 €/MWh (PowerNext - France)

Data published by on the GME S.p.A. (i.e. the administrator of the Italian power exchange)

Irradiation and Electricity Potential

(Optimally-Inclined Photovoltaic Modules)



Data European Commission:
http://re.jrc.ec.europa.eu/pvgis/cmaps/eur.htm

Irradiation and Electricity Potential

(Horizontally-Inclined Photovoltaic Modules)

Data European Commission:
http://re.jrc.ec.europa.eu/pvgis/cmaps/eur.htm

Implementing a PV project: Critical Aspects

Purchase or surface rights on the land

- Scouting of the land is necessary in order to check its suitability both in respect of the applicable authorizing rules and in respect of the suitability of the land itself (e.g. closeness to the power grid and assessment of the soil).
- For agricultural land no rezoning is required.
- Due to the risk of the authorization being refused, once a land has been selected it is necessary to bind the owner but not the PV company:
- Two alternative solutions are possible:
  - Preliminary purchase agreement with condition precedent: Such agreement prevents the owner to sell to third parties, but it requires part of the purchase price to be paid upfront.
  - Option agreement: Such agreement, however binding, cannot be filed with the land registry and the owner may breach it by selling the land to a third party. The option may be granted by owner either freely or upon the payment of a price which is usually rather minimal.

Implementing a PV project: Critical Aspects

The Authorization Procedure

- National legislation versus local implementation.
- Authorization needed for non-integrated PV plants:
  - Single authorization including construction permit and environmental assessment pursuant to article 12 of Legislative Decree 387/03;
  - Regions may provide for local implementation of the law and require a different procedure in lack of national guidelines not yet issued (e.g. Puglia requires DIA, a sort of construction permit, but no environmental authorization for plants below 1 Mw).
- Small integrated plants may also be build without any authorization being required and plants below 20kW, however not-integrated, may not be required environmental authorization, provided that the area concerned is not subject to any special environmental restriction.

Implementing a PV project: Critical Aspects

Connection to the local power grid

- It is recommendable filling contemporaneously to the construction permit also the connection application with the local power grid operator annexing the relevant technical documents concerning the PV plant to be build.
- The local grid operator is obliged:
  - (i) to grant the grid connection provided such is technically possible (i.e. absence of bottle necks and other hurdles).
  - (ii) to provide an estimate of the connection costs to be borne by the PV company and procure the relevant authorizations for the connection works.
- The PV company has to pay upfront 30% of the estimated connection costs; in case the required authorizations for the connection work are not being granted the grind operator will return the deposit.

Implementing a PV project: Critical Aspects

The EPC Agreement

- EPC agreements shall foresee some important obligations for the contractor:

  (i) Building up the plant (detailed technical specifications in respect of all components employed);

  (ii) Connecting the plant (detailed rules on the costs which shall be borne by the parties and the risks related to the delay by the grid operators' works), and

  (iii) Obtaining the incentives from the GSE (final payment subject to incentives being actually granted).

- Obligations concerning the connection of the plant and the request from the GSE may be considered optional in respect of the main scope of the EPC agreement. However, such activities are crucial and, if not fulfilled timely and properly, may result in the incentives not being granted

Implementing a PV project: Critical Aspects

Sales of the electricity

- Within 60 days the PV plant has been connected to the local power grid the Feed-in-Tariff has to be applied for at the GSE. Upon check of the relevant technical documentation the GSE will grant the tariff to the applicant.

- In addition to the Feed-in-Tariff of the GSE the PV company has the option to:

  (i) sell the electricity produced to a consumer or a wholesaler according to a bilateral supply agreement;

  (ii) sell the electricity to the GSE according to a general convention the GSE is entering into with a variety of PV plant owners.

Conclusion

In the light of

- (i) current drop of silicon-based modules
- (ii) high price of power and
- (iii) the still high Italian incentives

invest in Italy

where the sun never goes down.

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