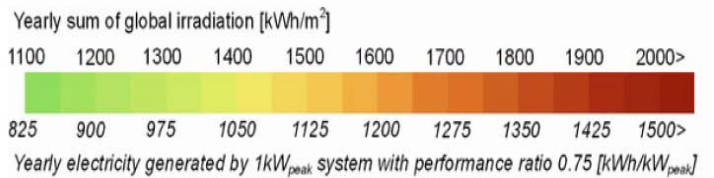
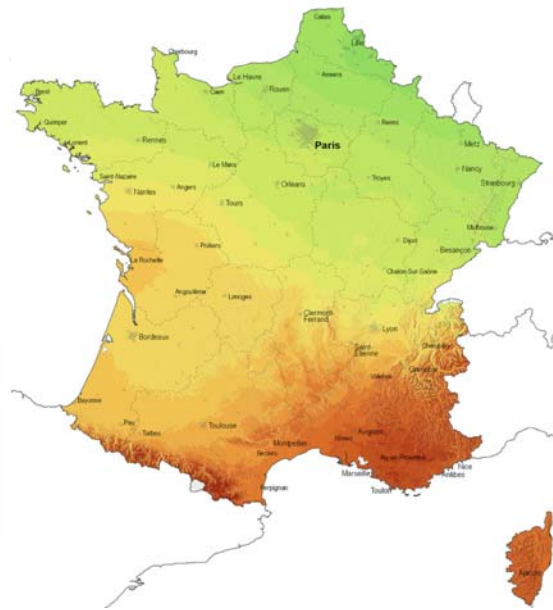


# France: an important solar potential

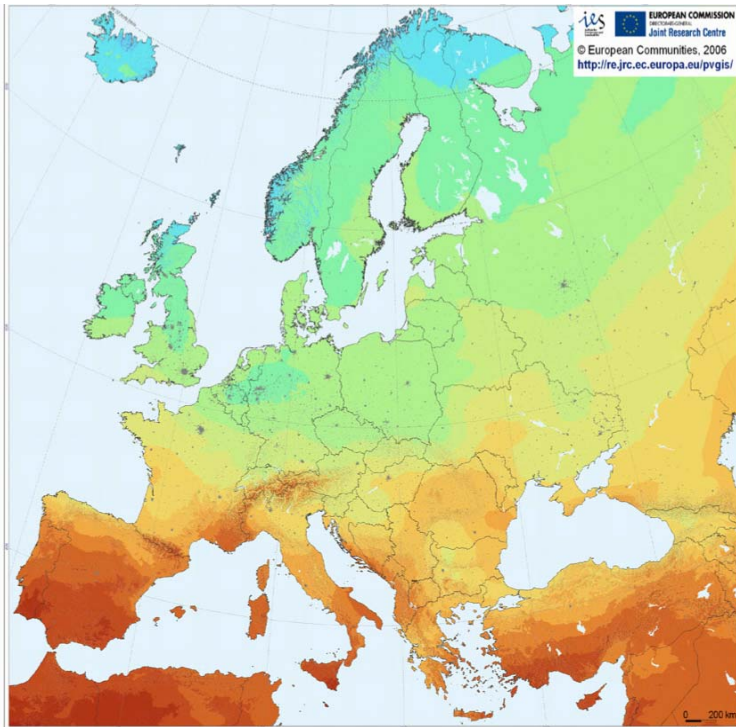
Compared to the other European countries, France has a good irradiation on it's territory : 1100 to 1800 kWh/m<sup>2</sup> per year on a pannel installed correctly.

Authors: M. Šúri, T. Cebecauer, T. Huld, E. D. Dunlop  
 PVGIS © European Communities, 2001-2008  
<http://re.jrc.ec.europa.eu/pvgis/>

0 50 100 200 km



## Photovoltaic Solar Electricity Potential in European Countries



ies  
 EUROPEAN COMMISSION  
 Joint Research Centre  
 © European Communities, 2006  
<http://re.jrc.ec.europa.eu/pvgis/>

Yearly sum of global irradiation incident on optimally-inclined south-oriented photovoltaic modules

Global irradiation [kWh/m<sup>2</sup>]

<600	800	1000	1200	1400	1600	1800	2000	2200>
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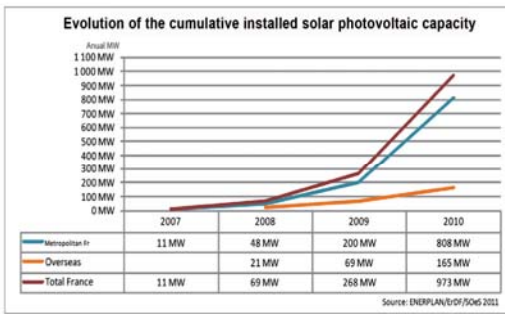
Yearly sum of solar electricity generated by 1 kWp system with optimally-inclined modules and performance ratio 0.75

Solar electricity [kWh/kWp]

<450	600	750	900	1050	1200	1350	1500	1650>
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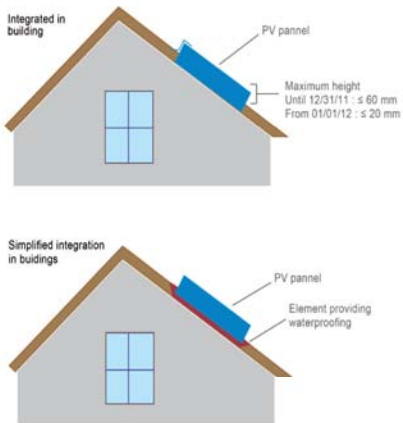
# French solar energy market at a glance

## The photovoltaic sector



The solar photovoltaic sector has grown rapidly since 2006 and accelerated considerably in 2010. End of March 2011 some 1336 MW were connected to the grid. The French industry has taken advantage of this expansion and by end of 2010 the yearly production capacity reached 600 MW.

## The French particularity : several integration tariffs



The price calculation is based on:

- Building type
- Integration type
- Power output

The feed-in tariffs will then be reviewed quarterly based on the volume (in kW) of projects that have submitted connection requests to the national grid's management during the preceding quarter.

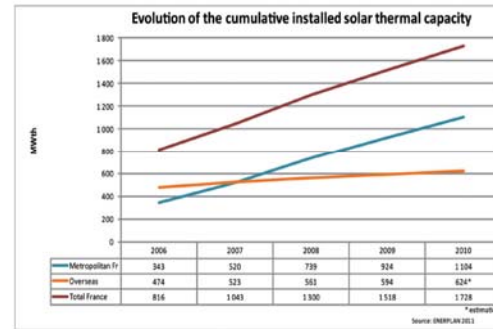
The adjustment to the purchase price for installations integrated into

residential buildings, and only for this installation type, will be separate of other installation types.

The following table summarizes the prices for the 1<sup>st</sup> quarter after the decree's effective date (March 10<sup>th</sup> to June 30<sup>th</sup> 2011). These prices will be updated on July 1<sup>st</sup> using an adjustment system based on the market volume from March 10<sup>th</sup> to June 30<sup>th</sup> 2011.

Installation type		Initial purchase price in new system	
Residential	BIPV	[0-9 kW]	0.4600 € per kWh
		[9-36 kW]	0.4025 € per kWh
		[36-100 kW]	0.2883 € per kWh
	Simplified BIPV	[0-36 kW]	0.3035 € per kWh
[36-100 kW]		0.2883 € per kWh	
Education or healthcare	BIPV	[0-36 kW]	0.4060 € per kWh
		[36-100 kW]	0.2883 € per kWh
	Simplified BIPV	[0-36 kW]	0.3035 € per kWh
		[36-100 kW]	0.2883 € per kWh
Other buildings	BIPV	[0-9 kW]	0.3520 € per kWh
		[9-36 kW]	0.3035 € per kWh
		[36-100 kW]	0.2883 € per kWh
	Simplified BIPV	[0-36 kW]	0.3035 € per kWh
		[36-100 kW]	0.2883 € per kWh
Non BIPV installations or > 100 kW or ground mounted		[0-12 MW]	0.1200 € per kWh

## The solar thermal sector



The solar thermal sector developed from a niche to a sector within only 10 years, totaling nowadays more than 715,000 residences equipped with solar installations. In 2010, 35,000 houses and the equivalent of 40,000 apartments were fitted with solar heat generating equipment.

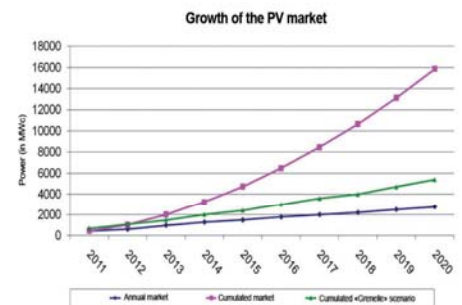
France has now become a net exporter of thermal solar panels thanks to new industrial installations. Although the previous decade has allowed France to make up some of its shortfall compared to Germany and Austria, the next decade will allow it to develop solar thermal equipment as consumers' best ally against the inevitable energy inflation



The French solar thermal is supported by a tax reduction (45% on material cost, eligible expense limited to 16 k€) for residential market. The tax reduction can be completed by regional and/or local subsidies for SDHW and combi-system. For collective solar thermal installations (up to 25 m<sup>2</sup>), the heating funds provides subsidies based on the productivities of the installation. An interprofessional collaborative platform named "SOCOL" has been developed to extend the market of collective installations. The solar cooling is developed in the framework of the Emergence program, to develop pilot-plants.

## The outlook for 2020

France has announced strong regulation intentions through three environmental regulation laws, which will encourage the development of solar energy on its territory.



## Grenelle 1 and 2 (French environmental law)

- Renovation of the entire social housing park before 2020 (4,2 millions accommodations)
  - Renovation from 2013 of 400 000 housings from the private residential park (10% of total park of 3,2 million housings)
- In total, 7,2 million housings will be renovated before 2020

## Thermal Regulation 2012 (RT 2012)

The objective of this regulation is to bring down to 50kWh/m<sup>2</sup>/year the primary energy consumption of new buildings. Its application will start on the 1<sup>st</sup> of January 2012. By anticipation, from the 1<sup>st</sup> of November 2011, PV in new public and industrial building will be generalized.

## BePos 2020 (Positive Energy Buildings 2020)

This regulation aims at generalizing the use of photovoltaic in new buildings. It will start by anticipation in 2018 for public buildings.

Managed by:



**ENERPLAN**  
Solar energy  
professional network  
in France

### Our identity

ENERPLAN represents interests of the entire solar thermal and photovoltaic sector in France: industrials, distributors, engineering companies ; installers, architects, associations as active members and energy producers as honorific members.

It is an active interface between professionals, institutions and stake holders.

#### **ENERPLAN acts for the promotion of solar energy applications:**

- Individual and collective solar thermal systems
- Solar heating and cooling
- Photovoltaic

### Our vocation

- Act for the promotion and development of solar energy
- Lobbying actions, consulting, training and communication

### Our missions

#### **Represent the French solar energy sector:**

- Solar national network
- Initiating suitable political conditions for stable market growth

#### **Structure the solar energy sector:**

- Selection of materials for regional subsidies
- Statistics and market analysis

#### **Develop demand:**

- Information, awareness campaign and support for investors and stake holders
- Study trips, fairs, exhibitions, conferences, inaugurations...