

Study

# MARKET INFO FRANCE – PHOTOVOLTAICS

dena-Market Information System

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# IMPRINT

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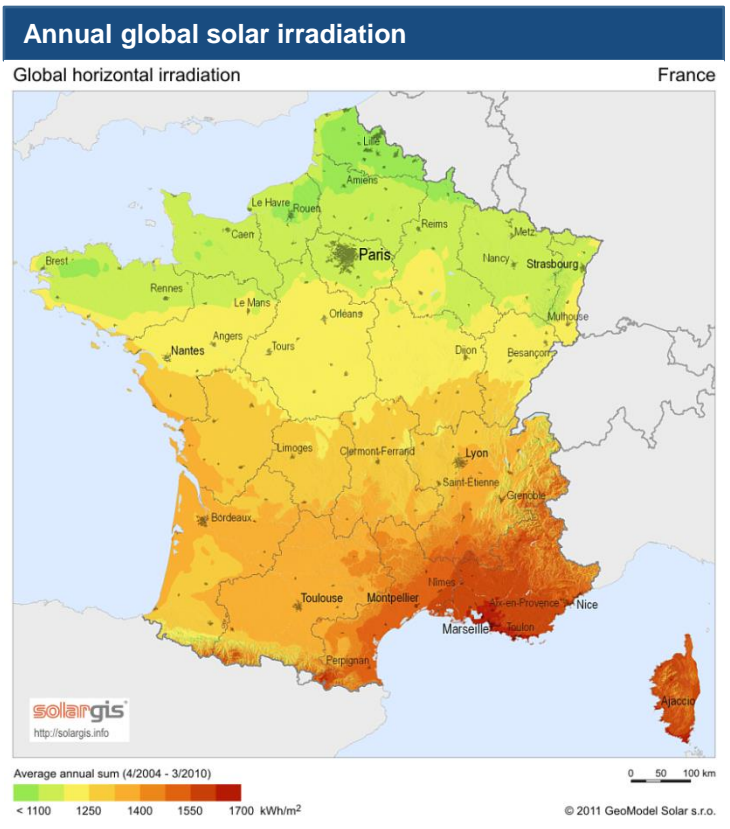
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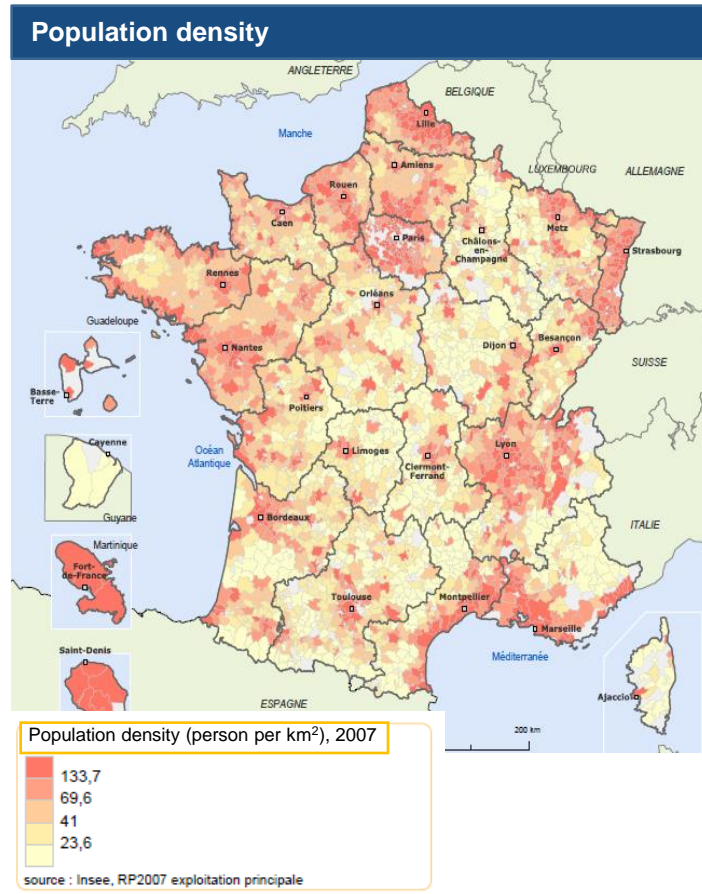
Federal Ministry  
for Economic Affairs  
and Energy

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# SOLAR IRRADIATION & POPULATION DENSITY



Source: SolarGis (2011)



Source: INSEE (2011)

# BASIC DATA

General basic data (2014)			
Area	643,801 km <sup>2</sup>	GDP (est.)	2,108.1 bn €
Population(2013 est.)	65,951,611	GDP per capita (est.)	32,964 €
Language	French	GDP growth (est.)	1 %
Government type	Unitary semi-presidential constitutional republic	Inflation (est.)	1 %
Administrative division	27 regions, 101 departments	Unemployment rate (est.)	10.4 %
Basic energy market data (2012)			
Final energy consumption (2013)	1,792.18 TWh		
Total electricity consumption	489.5 TWh		
Total electricity import	44 TWh		
Total electricity generation	541.4 TWh		
Electricity price 2013 (industry, 500 – 2,000 MWh/a)	0.0958 € / kWh (excluding taxes)		
Electricity price 2013 (residential, 2,500-5,000 kWh/a)	0.1472 € / kWh (including VAT)		
Share of renewable energy (electricity consumption)	16 %		
Increase of electricity consumption (2010 – 2020)	8.7 %		
Global solar irradiation	900 - 1,600 kWh / m <sup>2</sup> a		

# PHOTOVOLTAIC MARKET INDICATORS

Indicators						
Market size (annual installed capacity, on-grid)	2010: 688 MW	2011: 1,688 MW	2012: 990 MW	2013: 742 MW	2014e: 700 MW	2015e: 1,000 MW
National PV target	2015: 2,151 MW		2020: 5,400 MW			
Main market drivers 2013/14: national and regional level	<ul style="list-style-type: none"> <li>▪ FIT and tender: Support for PV electricity in accordance with regulation 2009-252 and decree of 07<sup>th</sup> January 2013 about an increase of the electricity feed-in-tariffs for certain solar energy systems.</li> <li>▪ Regional expansion plans for renewable energies: Schéma régional air climat énergie (SRCE): Different support schemes and technology focus by each region</li> </ul>					
FIT 2014	<ul style="list-style-type: none"> <li>▪ PV roof-top systems ≤ 100 kWp are supported by FITs: from 01<sup>st</sup> July to 30<sup>th</sup> September 2014 with 13.25– 27.38 € ct / kWh for 20 years (since March 2011, indefinite).</li> <li>▪ Adjustment of the tariff depending on the number of requests for new installations with grid connection.</li> <li>▪ Simplified variation of rates by type of building, construction and capacity of the system, see following slide.</li> <li>▪ Roof-top installations &gt; 100 kWp and ground-mounted systems are tendered quarterly since 2011 (tariff is 6.98€ ct / kWh in this case).</li> </ul>					
Recent changes in PV regulation	<ul style="list-style-type: none"> <li>▪ <b>New PV FIT:</b> Since April 2014 new tariffs apply for PV.</li> <li>▪ The Decree of 25 April 2014 abolished the increased feed-in tariff (increase of up to 10%) for PV installations produced in the European Economic Area. The Decree applies to all PV installations for which an application for grid connection was submitted after 10 March 2014.</li> <li>▪ <b>Tender:</b> Notice on special tenders for systems &gt; 250 kWp, which was published in March 2013, and further existing quarterly tenders for systems from 100 to 250 kWp. These plants must be built on roofs, carports or fallow land such as former industrial land. The deadlines for project submission for the three tenders were 31<sup>st</sup> October 2013, 28<sup>th</sup> February 2014, 30<sup>th</sup> June 2014.</li> </ul>					

# MAIN PV SUPPORT SCHEME: TENDER

Kategorie	Details
Tender of the Ministère de l'écologie, du développement durable et de l'énergie	The French Ministry of Ecology, Sustainable Development and Energy (MEEDDM) is auctioning PV capacities with a total of 520 MW.
	<b>Applicability</b> <ul style="list-style-type: none"> <li>400 MW for large scale PV rooftop systems with a minimum capacity of 250 kWp were tendered.</li> <li>120 MW in three rounds until 2015 for medium scale projects with a capacity of 100 to 250 kWp.</li> </ul>
	<b>Status/ Procedure timeframes</b> <ul style="list-style-type: none"> <li>Deadline for the 400 MW tender was 26<sup>th</sup> September 2013.</li> <li>There have been 396 project proposals with a total capacity of 1,968 MW, of which 355 proposals with a total capacity of 1,720 MW were deemed complete by the electricity board (CRE) and forwarded to the Ministry on 8<sup>th</sup> October 2013 for further evaluation.</li> <li>In March 2014, 212 projects with a total capacity of 380 MW were awarded.</li> <li>The deadline for the first tender of 40 MW for medium-scale PV projects was 31<sup>st</sup> October 2013. The winners were officially announced in March 2014. For the second and third round for medium-scale projects (100 to 250 kWp) the deadlines for project submission were 28<sup>th</sup> February 2014 and 30<sup>th</sup> June 2014.</li> </ul>
	<b>Remuneration</b> <ul style="list-style-type: none"> <li>Depends on the FITs for each system (see slide 7).</li> </ul>
	<b>Evaluation criteria</b> <ul style="list-style-type: none"> <li>MEEDDM and CRE are evaluating the different project proposals according to a weighted evaluation system (allocating points).</li> <li>Points are allocated for the price ( 10), environmental friendliness (10), and innovation (contribution to research and development purposes) (10).</li> <li>The maximum amount of points is 30, the projects with the most points will win the tender.</li> </ul>



Further information on the tender can be accessed on the website of MEEDDM: <http://www.developpement-durable.gouv.fr>

# PV SUPPORT SCHEME: FIT 2014

FITs for electricity from PV systems (valid between 01/07/2013 and 30/09/2014)

System category / Tariff	Capacity	(01/07/2013–30/09/2013)	(01/10/2013–31/12/2013)	(01/01–31/04/2014)	(01/04–30/06/2014)	(01/07–30/09/2014)
Standard building integration ("intégré au bâti")*	0-9 kW	29.69 ct / kWh	29.10 ct / kWh	28.51 ct / kWh	27.94 ct / kWh	27.38 ct / kWh
Simplified building integration ("intégré simplifié joint au bâti")**	0-36 kW	15.21 ct / kWh	14.54 ct / kWh	14.54 ct / kWh	14.16 ct / kWh	13.95 ct / kWh
	36-100 kW	14.45 ct / kWh	13.81 ct / kWh	13.81 ct / kWh	13.45 ct / kWh	13.25 ct / kWh
All other PV systems	0-12 MW	7.76 ct / kWh	7.55 ct / kWh	7.36 ct / kWh	7.17 ct / kWh	6.98 ct / kWh

**\* A rooftop PV power system fulfills the "intégré au bâti" (IAB) criteria under the following conditions:**

- A PV power system has to be installed on a fixed and stationary rooftop. The PV system should not threaten or hinder any persons, animals, objects, or related human activities.
- The PV system is installed in accordance with number 5 of the amendment, which came into force on 4<sup>th</sup> March 2011.
- The PV system is compatible with the rooftop elements, which borders and covers the entire roof. If the PV system or its modules are removed from the rooftop, the rooftop still has to be bordered and covered. Installing the PV power system should not impair proper functioning of the rooftop.
- If the PV system has fixed non-detachable modules, those modules have to be the main element of the rooftop sealing.
- If the PV systems have loose and detachable modules installed on the rooftop, those modules have to form one unit, pre-assembled by the manufacturer. The manufacturer has to render the PV system beforehand.

**\*\* A rooftop PV power system fulfills the "intégré simplifié joint au bâti" (ISB) criteria under the following conditions:**

- The PV system should not threaten or hinder any persons, animals, objects, or related human activities. The PV system has to be installed in a plain manner on the rooftop.
  - The PV system is compatible with the rooftop elements, which borders and covers the entire roof.
- 07/2014 The Decree of 25 April 2014 abolished the increased feed-in tariff (increase of up to 10%) for PV installations produced in the European Economic Area. The Decree applies to all PV installations for which an application for grid connection was submitted after 10 March 2014.

# FURTHER PV SUPPORT SCHEMES

Support scheme	Details
Tax reduction	<ul style="list-style-type: none"> <li>▪ Credit note to the income tax (from 01/2006 until 12/2015)</li> <li>▪ Reduced VAT from 19.6 % to 7 % (as from 09/1999, unlimited)</li> <li>▪ PV systems are exempt from property tax (as from 01/2002, unlimited)</li> <li>▪ Exemption from property tax on real estate (as from 01/2008)</li> <li>▪ Standardization of revenues for agricultural enterprises: Rating of the revenue from electricity generation as agricultural earnings (since 01/2008)</li> <li>▪ Tax exemption for income from privately produced PV electricity (retroactively in force as from 01/2008)</li> <li>▪ Newly established companies, which were established only for the production of electricity from PV systems and comply with certain requirements can be exempt from of the income or corporate tax for 23 months.</li> </ul>
Support for the modernization of the electricity supply *	<ul style="list-style-type: none"> <li>▪ Tenders, which were carried out to fulfill the capacity objectives that arise from long-term investment plans, take place at irregular intervals.</li> <li>▪ On 1<sup>st</sup> August 2011 and on the 26<sup>th</sup> July 2013 PV roof-top installations with a capacity from 100 up to 250 kWp were tendered.</li> <li>▪ Last deadline for applications: 31<sup>st</sup> October 2013, 28<sup>th</sup> February 2014 and 30<sup>th</sup> June 2014.</li> </ul>

\* Loi n° 2000-108 du 10 février 2000, Loi relative à la modernisation et au développement du service public de l'électricité

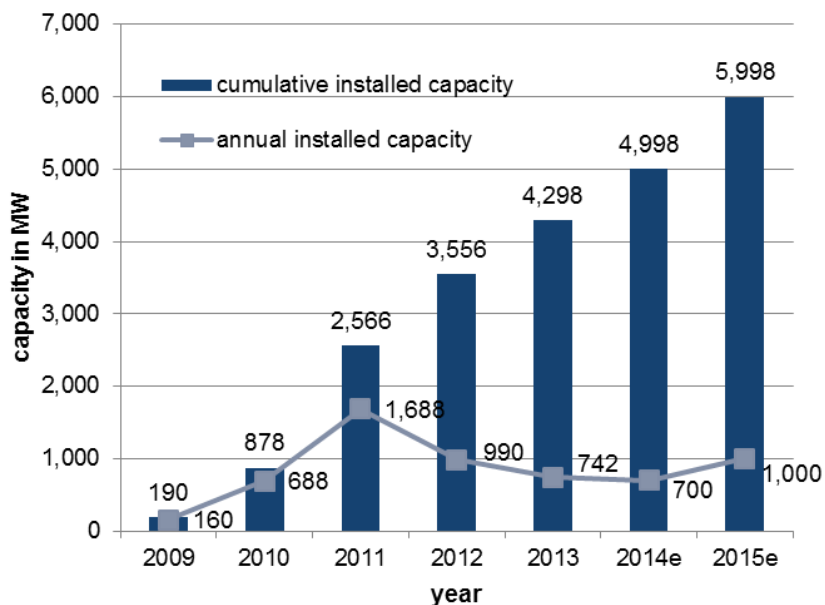


For more information on the tender procedure please refer to the [dena-Subsidy Overview PV 2014](#)



# MARKET DEVELOPMENT AND BARRIERS

## Development of installed PV capacity (on-grid)



## The main barriers in the French PV market

### Dominance of nuclear energy

- France's energy supply is largely dominated by nuclear power plants.
- The power grid is designed to supply power from large power plants to the consumer.
- Furthermore, government investments (especially R & D) are strongly focused on the nuclear energy sector.

### Administrative barriers

- The development of renewable energies – primarily wind and photovoltaic – are hindered by the administrative processes and channelled by public tender.
- In particular, the grid connection process is a barrier to the implementation of projects due to lack of transparency and a multitude of actors involved.

Sources: PV-Magazine (2013), NPD Solarbuzz (2014), dena (2013), RTE in SolarServer (2014)

## MARKET NEWS (1/3)

Date	Topic	Source
13/10/2014	<p><a href="#">SunPower supplies 41 MW of panels for four French PV plants</a>            The La Compagnie du Vent projects include the 12 MW Langele Solar Power Plant in in France's Aquitaine region. The latest projects reunite SunPower and the GDF Suez subsidiary California's SunPower is supplying 41 MW of solar panels to La Compagnie du Vent for the construction of four solar power plants in France under the country's national tender program administered by the French Energy Regulatory Commission.</p>	PV-Magazine
13/10/2014	<p><a href="#">France votes to cut nuclear reliance</a>            France has taken a historic decision to curtail the nation's reliance on nuclear energy while also approving an increase in renewable energy and energy saving targets. Members of the French Parliament voted on Friday to reduce the share of nuclear power in the country's electricity generation from 75% to 50% by 2025. The bill voted on Friday also includes a goal to increase the share of renewable energies in the country's electricity generation to 23% by 2020 and 32% by 2030.</p>	PV-Magazine
09/07/2014	<p><a href="#">juwi builds agricultural solar park in Southern France</a>            The 25 MW ecological flagship project - the biggest solar park juwi has ever constructed in France - supports local wine growers, bee-keeper and sheep farmers. Located in the Pyrenees of Southern France near the Spanish border, the array comprises nearly 300,000 solar panels and spans 87 hectares, providing energy for some 10,000 households. The park will generate 35.5 million kilowatt hours of electricity annually.</p>	PV-Magazine

## MARKET NEWS (2/3)

Date	Topic	Source
14/05/2014	<p><a href="#">Sillia energy to take over Bosch solar plant in France</a>            The companies signed a purchase agreement in March. The French photovoltaic manufacturer has agreed to take over 128 of the approximately 230 employees and continue the production of solar modules.</p>	PV-Magazine
03/02/2014	<p><a href="#">France's solar PV market falls again in 2013 to 743 MW</a>            France installed 743 MW of solar photovoltaics (PV) in 2013, according to a report by the nation's grid operator RTE (Paris). This is the second year of market decline from a high of 1.69 GW in 2011, and brings the nation to 4.3 GW of installed PV. RTE also reports that French PV generated 4.6 terawatt-hours (TWh) of electricity in 2013, meeting 0.97 % of the nation's electricity demand. This is a 15 % increase over 2012 PV output.</p>	SolarServer
05/04/2013	<p><a href="#">France: 120 MW of medium sized rooftop installations by 2015</a>            France announced it will tender 120 MW of medium sized rooftop PV installations by 2015. The installations concern non-residential buildings with a roof surface ranging from 700 to 2000 sqm. Each project can have an installed capacity of between 100 and 250 kW. Overall, there will be three tenders of 40 MW per year, the French Ministry of Energy, Ecology and Sustainable Development said. The deadline for submission of tenders for the first round of applications is October 31 and successful applicants will be announced in early 2014. The ministry also introduced a criterion for carbon assessment of the projects to enhance the contribution of the projects to climate protection. The carbon footprint criterion will count for a third of overall project ratings. The three tenders, the ministry said, will result in a cumulated investment of around €250 million (US\$325 million). The announcement for the tendering of 120 MW of medium sized rooftop installations came only a few days after the ministry detailed a tender for 400 MW of PV plants 250 kW and larger. France has a 1 GW minimum PV installation target for 2013. This target was lifted in January from 500 MW last year.</p>	PV-Magazine

# MARKET NEWS (3/3)

Date	Topic	Source
05/04/2013	<p><a href="#">France: 120 MW of medium sized rooftop installations by 2015</a></p> <p>While tendering 400 MW of PV projects in general, the Ministry of Ecology, Sustainable Development and Energy is also tendering 120 MW of PV capacity for medium-scale projects, which are to be installed on rooftops and have a capacity between 100 and 250 kW. Until 2015 there will be three rounds of tendering for 40 MW respectively. The deadline for applications is 31<sup>st</sup> October for the first round, the deadlines for the other two rounds will be announced in the beginning of 2014.</p>	PV-Magazine
12/03/2013	<p><a href="#">France launches 400 MW tender for large solar PV plants</a></p> <p>The French Ministry of Ecology, Sustainable Development and Energy has announced the launch of a tender for 400 MW of solar photovoltaic (PV) plants 250 kW and larger. Plants incorporating both innovative ground-mounted technologies, including concentrated photovoltaic (CPV), as well as mature PV technologies on carports and roofs will be eligible. The requirement of bank guarantees before submission of tenders has been removed, to avoid disadvantaging small and medium-sized enterprises. The tender will also take into account the carbon footprint of projects and their contribution to research and development, emphasizing innovation, high efficiency cells, and facilities of high value. The deadline for project submission is 16<sup>th</sup> of September.</p>	French Ministry of Energy, Ecology & Sustainable Development

## CONTACT INFORMATION

Category	Name	Website
Ministry of Energy / Environment	Ministère de l'écologie, du développement durable et de l'Énergie (MEDDE)	<a href="http://www.developpement-durable.gouv.fr">www.developpement-durable.gouv.fr</a>
Energy Authority (a division of MEEDE)	Direction générale de l'énergie et du climat (DGEC)	<a href="http://www.developpement-durable.gouv.fr/-Energie-Air-et-Climat-.html">www.developpement-durable.gouv.fr/-Energie-Air-et-Climat-.html</a>
Regional Environment Authorities	Direction régionale de l'environnement, de l'aménagement et du logement (DREAL)	<a href="http://www.verzeichnis-der-lokalen-behoerden.de">Verzeichnis der Lokalen Behörden<sup>1</sup></a>
Regulatory Authority	Commission de Régulation de l'Énergie (CRE)	<a href="http://www.cre.fr">www.cre.fr</a>
National Energy Supplier	Électricité de France (EDF)	<a href="http://www.france.edf.com">www.france.edf.com</a>
National Grid Operator	Réseau de Transport d'Electricité (RTE)	<a href="http://www.rte-france.com">www.rte-france.com</a>
French Energy Agency	Agence de l'Environnement et de la Maîtrise de l'Énergie (ADEME)	<a href="http://www.ademe.fr">www.ademe.fr</a>
Environmental Association	Comité de Liaison Energies Renouvelables (CLER)	<a href="http://www.cler.org">www.cler.org</a>
Solar Energy Associations	Institut National de L'Energie Solaire (INES RDI), Enerplan	<a href="http://www.ines-solaire.org">www.ines-solaire.org</a> <a href="http://www.enerplan.asso.fr">www.enerplan.asso.fr</a>
Renewable Energy Association	Syndicat des Energies Renouvelables (SER)	<a href="http://www.enr.fr">www.enr.fr</a>

<sup>1</sup><http://www.environnement-annuaire.net/direction-regionale-environnement-amenagement-logement/dreal.php>

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