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Key characteristics of France's mainland PV market

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ABSTRACT
Mainland France's photovoltaics market is substantially different from the situation in the country's overseas Départements (DOM) and Corsica. Feed-in tariffs, tax breaks, financing and market players all differ in these territories. This paper takes a look at France's mainland market, providing a projection for the country's future market and some resources for more information on the DOM and Corsican markets [1].

On the mainland, the most indicative statistics on the PV market are the quarterly grid connection data released by the distribution grid manager, ERDF [2], which covers approximately 95% of all clients. In these high-growth times, long grid-connection delays have resulted in a significant number of installed but not yet connected systems, which are not included in the quarterly figures and thus skew the results slightly. However, when considered over a period of time, this data gives invaluable insight into market growth, with exact figures that are not dependent on manufacturers' or installers' sales estimates.

Several characteristics of the French local market are key to understanding data

- France's feed-in tariff was and is very high – depending on the system and the date at which procedures were completed, between €0.30 and €0.60/kWh. However, to benefit from the highest tariffs, BIPV products must be used on small (<250kWp) systems.
- From July 2006 to January 2010, the feed-in tariff of any project was determined by the date at which the systems requested a feed-in contract; this request could be made up to three years before grid connection and before finalising many aspects of the project.
- In early 2009, the government announced a revision to the feed-in tariffs. Draft changes were available in November 2009 to industry insiders, but the final revision was published and took effect in January 2010, creating a rush of investors (and developers) attempting to secure the known conditions in November and December 2009.
- Since January 2010, the feed-in tariff has been determined by the date of the grid-connection request, which may only be completed when the project material and permission has been finalised.
- Grid connection and administrative procedures require three to 18 months to be completed, resulting in long lead times for projects.

As a result of these characteristics, general growth of the mainland market over the past five years has been dependant on the availability and ability of products to comply with the rules regarding BIPV, and the capacity of market players to accomplish the previously complex, but still very time-consuming grid-connection and administrative procedures.

A small but growing market...

Quarterly figures at the end of March 2010 indicated a combined grid-connected power of 271MW, with 71MW connected in the previous quarter. This represented a growth of 36% in power output, compared to the 42% growth in the previous quarter. Given the long grid-connection delays, these systems were essentially finalised or installed before the feed-in tariff modifications of January and March 2010.

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At the same time, the power queued for grid connection was a whopping 10 times higher, at over 3.2GW. Whilst it is expected that at least 0.5 to 1GW of projects will be abandoned due to recent legislative changes and financing difficulties, this still represents an enormous change in scale for the local market. Not only is the combined power undergoing sharp growth, but the average power of systems requesting grid connection is also up by a factor of 10. This increase is primarily the result of the development of ground-based multi-MW systems, and the continued strong growth in small domestic PV systems.

The following figures give a clear illustration of the current PV market in France:

- Current connected power: 271MW for 58,000 systems (average power 5kWp)
- Power connected last quarter: 71MW for 16,000 systems (average power 4kWp)
- Power awaiting grid connection: 3.2GW for 66,000 systems (59,000 with average power of 3kWp; 7,500 with average power of 400kWp).

So why is the queue so big and the currently connected power so low? Much of the problem is in the hands of ERDF, who have demonstrated a consistent inability (or unwillingness) to anticipate market growth ever since the first 'official' feed-in tariff in 2002. Whilst the growth over the past six months has been significant, the gap in grid connections and grid-connection requests is not new. The dramatic difference visible in the quarterly figures over the past six months has illustrated the real difficulties faced by project developers and private investors. It will probably take several years for ERDF capacity to catch up with grid requests, leaving increasingly large numbers of future producers unsatisfied.

...driven by 3kWp domestic BIPV systems

The previous – and actual – structure of France's feed-in tariff doubles the tariff for BIPV systems. With extremely attractive tax credits and tax breaks for private citizens, it is not surprising that small domestic systems of 3kWp and under are the driving force behind local market growth. Thanks to the falling system prices that are resulting from the Spanish market slowdown, investors in southern France were, and still are, able to reach payback times as low as five years on a 20-year guaranteed feed-in contract. Over 90% of all systems and approximately half the connected power fall into this category, with the bulk of the remaining power kept on systems small enough to be connected

to the distribution manager's low voltage grid (under 250kVA).

The December 2009 'speculative bubble'

Throughout the economic slowdown of the past few years, a booming PV market and increasing demand on the compensation fund that finances the feed-in tariff raised concerns in government that PV would lead to an unacceptably high burden on public funds. How much of this concern is justified remains open to debate in a country that financed a massive nuclear programme in the past.

Although much of the industry dislikes the term 'speculative bubble', it is understandable why the government introduced the term early in 2010. In 2009 the combined power requesting or having signed feed-in tariff contracts saw a steady growth rate of between 15 and 30% per month, but this leaped by a staggering 230% in December. Total requests for feed-in tariff contracts had reached a combined power of 600MW at the end of September 2009, then leaped to 2.8GW in December. Clearly, the domestic PV systems were not at fault, as two thirds of this power was accounted for by systems over 250kW.

The March 2010 legislation that introduced retroactive measures to eliminate 'speculative' projects, combined with modifications to the permitting process for ground-based systems introduced in late 2009, should reduce this 2.8GW significantly.

Much of the industry supports the goals of these changes, recognising the need for an industry clean-up, although the method chosen is not as consensual. Controlled, sustainable growth benefiting the local industry is desired by most industry stakeholders, and much of the speculation concerned systems that were clearly to be installed with low-cost foreign products by a greatly reduced number of companies.

Whilst these changes have a significant impact on the volume of the French market, they will not significantly change the grid-connection queues or the number of systems to be installed, as private domestic systems are not affected.

Long-term pressure on support mechanisms

Whilst the impact of spectacular growth in planned projects in late 2009 brought the subject into national media, industry representatives have been concerned about the sustainability of existing support mechanisms for quite some time. Although there is no general agreement on which market sectors should be encouraged, there is a consensus that current support is too high for most sectors, and a further revision is necessary.

The main goal of support mechanisms is to ensure continued growth in the industry until grid parity can be reached, with a very clear desire on the part of government to favour local industry and companies, for example through the creation of BIPV niche markets best covered by local industry.

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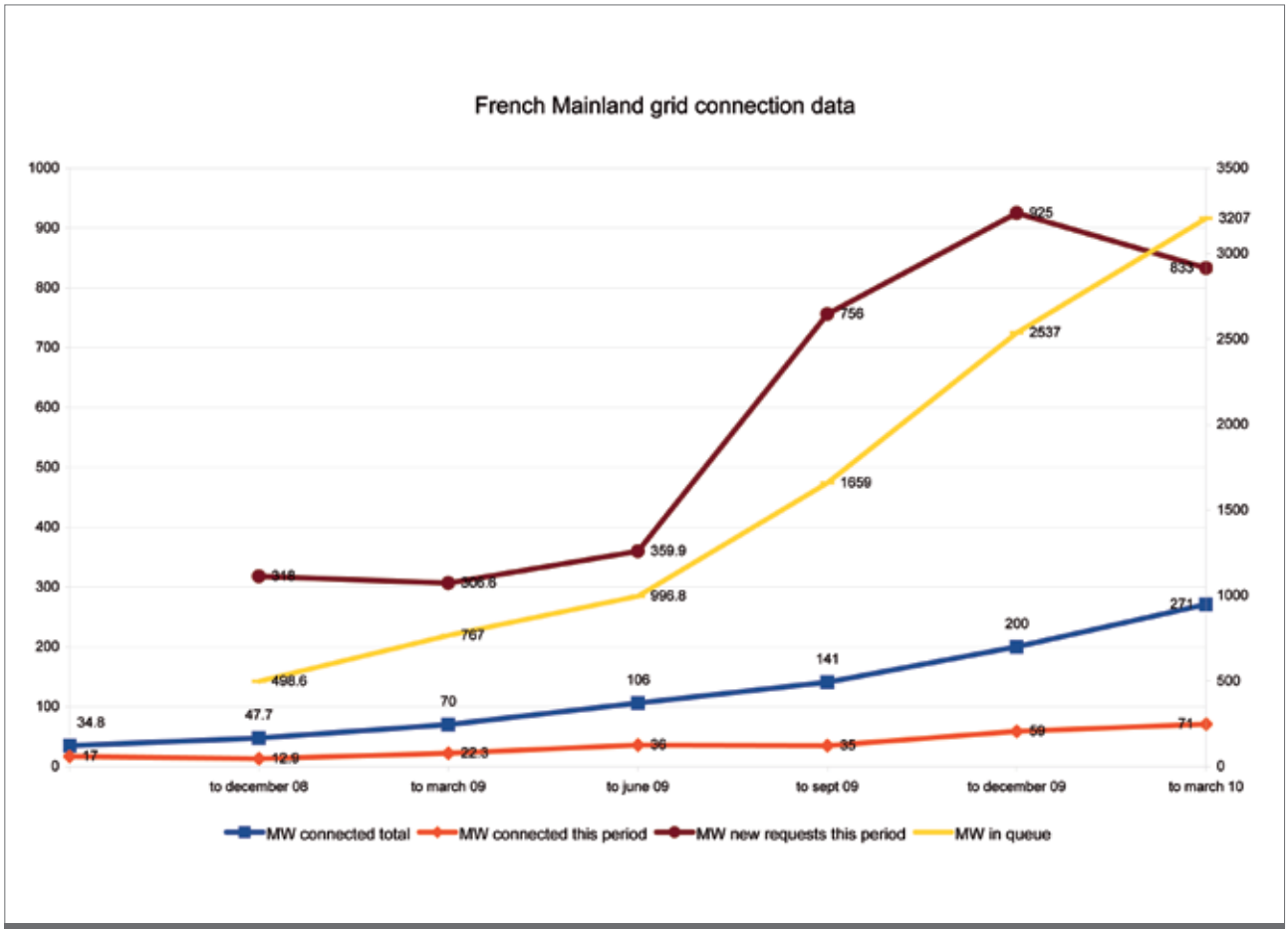
In the past few months, several different investigations and working parties have been set up by the government, and most industry representatives have been heard in at least one instance. The pressure on financing mechanisms is clear, as a special task force from the Inspection Générale des Finances prepares to deliver a report that aims to "analyse national PV support mechanisms and their impact on local industry and the benefits they bring to the nation".

France's industry representative SER-SOLER proposes in a recent (June 2010)



Source: Hespul/ERDF data

Figure 1. Evolution of grid connections and grid-connection requests from December 2008 to March 2010 .

Courtesy: Photowatt

Figure 2. Domestic BIPV, such as this Photowatt Wattea system, is driving the market.

paper a 20% cut in feed-in tariffs and an annual ceiling on the power eligible for the feed-in tariff each period [3]. Both Hespul, an independent non-profit organization responsible for much of the early development of grid connected PV in France and editor of the national documentary resource site photovoltaique.info [4] and the French environment agency ADEME believe a cut in tax credits for private citizens is necessary, not only to reduce the impact of PV on the public budget, but also to reduce competition with investments in insulation and solar thermal systems. Enerplan [5], representing installers and consultants, agrees but also believes that whilst modifications are necessary, stability in the legal framework is even more important, a view also held by APESI, the organization that represents professional PV electricity producers [6].

What does the future hold for the local market?

Despite the changes to come, France's mainland market will continue to grow over the next two quarters, as systems that have completed all the administrative procedures are installed and connected to the grid. Whilst a probable drop in tax credits and the feed-in tariff will impact the market for domestic PV systems, the slowdown will probably not be too significant; there is room for a further drop in module prices on the French gross market and systems will still be financially viable for private investors over the 20-year contract – at least in central and southern France.

Multi-MW systems are likely to remain viable, albeit less attractive. The good insolation in southern France and constant reduction in module costs will ensure this. Increasing interest from local councils in 'green' investments means a steady supply of viable sites will remain available.

The sector that will be the most affected by any future drops in the feed-in tariffs will be mid-sized systems on professional and agricultural buildings; whilst roof integration remains a priority for the government and a condition for obtaining 'reasonable' feed-in tariffs, BOS and associated costs (insurance, grid connection, financing) will continue to make this sector fragile. A drop in the feed-in tariff could create real difficulties for this sector, unless the integration criteria are loosened to allow for lower-cost systems.

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About the Author

Melodie de l'Epine has accompanied the growth of France's PV market since before the introduction of the first feed-in tariff in 2002. She has spent the interim working not only on educating installers and the general public about grid-connected photovoltaics, but also local and national decision-makers, financiers and architects, covering the whole spectrum of people involved in creating a functioning solar industry. She takes an active part in national consultative workshops that prepare legislation and policy, as well as administrative procedures. She co-animates the national documentary resources centre on grid-connected photovoltaics at www.photovoltaiques.info.

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