

Conférence du bureau de coordination énergies renouvelables

Overview of France's PV support policies

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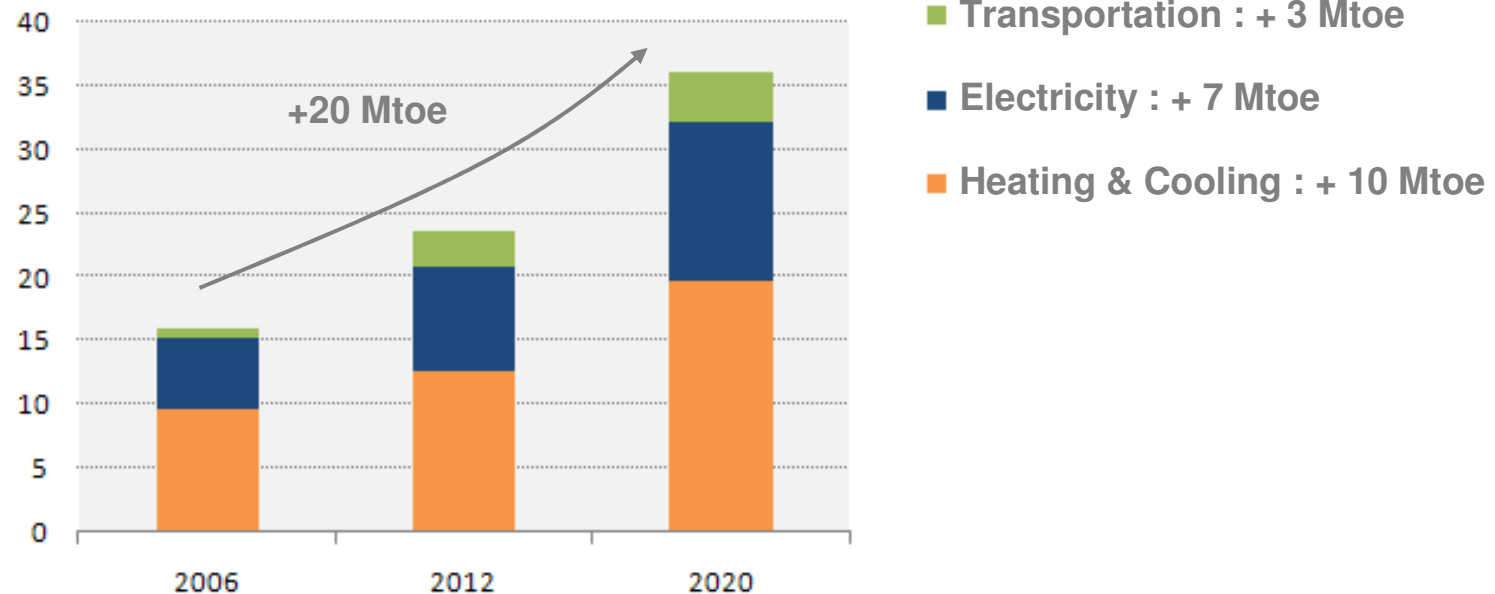
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**Présent
pour
l'avenir**

Objectives 2020 for renewables

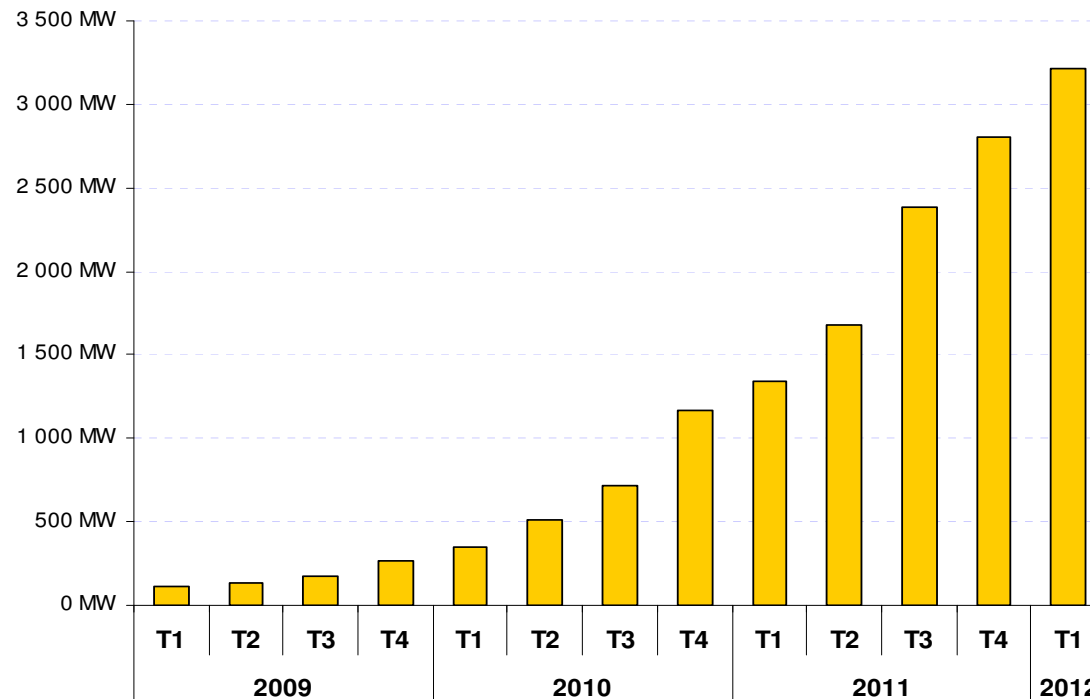
- **UE Objective (2009/28 directive)** : 23% of renewable energy in final energy consumption in 2020
- French objective : 23 %, confirmed by National Assembly (**Grenelle de l'Environnement**)
- **National Renewable Energy Action Plan (NREAP)** submitted to the Commission each 2 years shows trajectory to reach the objective

French NREAP Objective : + 20 Mtoe* of RE in 2020 compared to 2006



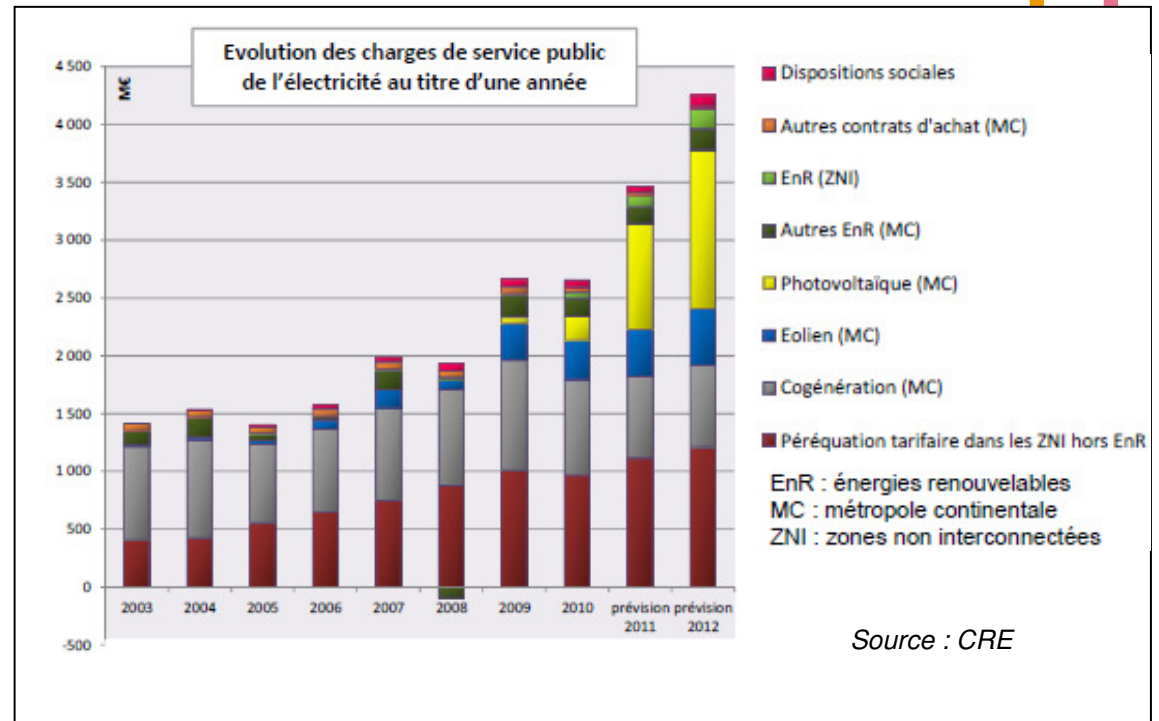
Objectives 2020 for renewables : zoom on PV

- Target for PV capacity to be installed in France by 2020: **5 400 MW**
- Installed PV capacity continues to grow quickly :
 - End 2009 : 268 MW
 - End 2010 : 1 167 MW
 - End 2011 : 2 802 MW



PV support scheme in France : 1,5 Bn€ in 2012

- French Law allows 2 support mechanisms for PV :
 - Feed-in tariffs (for installations <100kW) :
 - Purchase obligation by national operator (EDF) and DNN
 - Tariff guaranteed for 20 years, indexed on the inflation
 - Call for tender (for installations >100kW) : Selection on several criteria
- Electricity consumer supports PV's incremental* cost through a contribution on the electricity bill (CSPE)
- Incremental* yearly cost for PV:
 - 250 M€ in 2010
 - 1 Bn€ in 2011
 - 1,5 Bn€ in 2012



Note: (*) compared to average wholesale electricity price

PV is promised a high-potential future...

- **PV attractiveness** will continue to increase as it costs come closer to the **Grid Parity**
 - PV **production costs** dropped significantly in the past 2 years, largely due to bigger scale production in Asia
 - PV **selling price** also dropped significantly, due to a lowering of incentives in Europe (world's largest market) and a production overcapacity.
 - In parallel, PV **systems efficiency** continue to increase
- However, there's no such thing as "a single" Grid Parity... it varies according to different generation and distribution set-ups:
 - Nature of electricity to which PV comes as a substitute
 - Scale of the generation itself (distributed residential vs large-scale ground installations)
 - Distance between generation and consumption locations, and characteristics of existing distribution network
 - Level of associated intermittency costs
- Grid "parities" will be first met in countries with :
 - higher solar irradiation
 - weaker transmission grid
 - higher wholesale electricity prices

... but the transition has proven difficult to manage for several European countries

- **Initial incentives schemes not necessarily well fit to rapidly evolving PV market conditions**
- **Generation of a “PV bubble” in many countries sparked adjusting measures**
 - FIT cuts
 - Auto-adjustable FIT mechanisms
 - Market caps
 - ...

Uncontrolled growth can be risky and requires attention : France set up 3 different support schemes

■ **Auto-adjustable feed-in tariffs (< 100 kWc installations)**

- Auto-adjustable FIT : automatic reduction every quarter depending on the amount of capacity added in the previous quarter
- The FIT adjustment is meant to reflect the rapid decrease of PV costs

■ **« Simplified » call for tender (100 – 250 kWc installations) :**

- Calls to tender for 300 MW of rooftop PV installations
- Winners are solely selected on the basis of the proposed price for the electricity

■ **« Ordinary » call for tender (installations > 250 kWc) :**

- First call to tender for 450 MW (big PV rooftop and ground installations)
- Innovative technologies represent +50% of the call : CPV, CSP, trackers, PV + storage
- Stricter industrial and environmental criteria required as a minimum for tendering
- Winners selected on multiple criteria : purchase price, environmental impact, local acceptance, contribution to R&D actions, project's maturity ...

Further reducing costs and improving PV efficiency requires a strong support for R&D initiatives

- **Support public research bodies : CEA – INES, CNRS, IRDEP, universities**
- **Continue the strong R&D Support Program « Investment for the future »**
 - Demonstration programme managed by ADEME (Agency for energy and the environment) :
 - **1,35 B€ funds** for renewable energy **demonstrators** and **test sites**
 - Eligible projects are selected after a call for tender (« Appels à Manifestations d'Intérêt »)
 - 14 laureates recently selected for PV, CSP and CPV demonstrators (114 M€ funds)
 - Most laureates are medium-sized companies, associated with research institutes and big companies
 - Centres of Excellence programme, managed by ANR (Agency for research policy) :
 - **1 B€ fund** awarded for creation of « Renewable Energy Excellence Institutes » (IEED)
 - Among them, the launch of IPVF (Institut photovoltaïque d'Ile de France) was announced in march 2012
- **Favor « Competitive Improvement Investments » through direct actions of local industry clusters (« pôles de compétitivité »)**
- **Improve the access to capital for innovative CleanTech start-ups :**
 - OSEO (agency to support businesses)
- **Facilitate the access to European R&D funding**
 - NER300
 - FP7

France continues to support its PV industry

- **Dedicated Task Force (« Filière verte ») :**
 - Develop and structure PV industry
 - Build a shared vision of the strategic choices for industrial policies
 - Gather different stakeholders : industry, utilities, research institutes, unions, ...
- **Support industrial export activities, such as the dedicated Call for Projects seeking financial support in emerging markets**
 - Launched by the Ministry of Finance in Oct 2011, closed in January 2012, selection in progress
 - Objectives :
 - Support innovative technology industry (PV, CPV, CSP)
 - Contribute to PV development in emerging markets
 - Operational support :
 - « **FASEP** » Funds: 5M€ subsidies for **study financing**
 - « **RPE** » Fund: 100M€ of subsidized loan for **project financing**
 - Funding for **mature and advanced projects abroad**
- **Participation at international initiatives such as those organised by IEA, IRENA, ...**