

A wind turbine in winter

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France is the only country in the world where a wind turbine has been burned by opponents and where the debate about exploiting the strength of the wind stirs up such lively exchanges. Meanwhile, Spain has gone ahead with the installation of more than 1200 MW over the last six months.

The opponents' arguments are myriad but to take only the two leading affirmations of an associated grouping: *“Regulation of the demand, which is neither assured by hydro or nuclear means, cannot be assured by intermittent wind turbines. Moreover [...] for every wind turbine MW, one needs to build a MW thermal power station that must produce at least 3 times the amount of electricity of the wind turbine. The more wind turbines you put up, the more thermal power stations you need to build for regulation purposes.”*

The recent publication by the Réseau de Transport d'Électricité (RTE - Electricity Transportation Network) of the “provisional budget to balance the supply and demand of electricity in France” provides a serious refutation of this position. First of all, it should be noted that the load factor (relationship between the maximum power and the power produced) has for the last two years followed a curve that is easy to predict (see diagram below).



More importantly, analysis of wind turbine production during the six months of cold in the years 2005-2006 shows that not only do wind turbines function correctly but they produce, even statistically, 10% more than during the rest of the year (load of 25.9% against 23.5%).

This first analysis, which encompasses a limited sample, is further confirmed by a study of Météofrance made over the last twenty years. The results of the study cannot be clearer: “ *the idea according to which the periods of greatest cold are associated with anticyclonic situations with very little wind is erroneous. The situations studied are all associated with periods of tramontana¹ or mistral² that are sometimes violent.*”

Beyond the generally accepted ideas, these two studies therefore provide a total rebuttal to the argument that consists of correlating wind turbine production with the putting in place of thermal power stations to compensate for their stoppage during peaks in consumption. Not only do wind turbines produce correctly during the periods of greatest cold but their share in national production today is in no case sufficiently high to affect the balance of the network significantly.

It seems that France is poorly placed to respect its commitments to obtain 21% of its electricity production from renewable sources in 2020. France is even clearly the bad student of Europe, with a green production that has collapsed from 18% to 12% over the last ten years. While the arguments associated with the visual impact on the countryside, the reinforcing of the network or the cost of production are admissible, the reports by the RTE and Météofrance clearly demonstrate that wind turbines make a good contribution to a reduction in the emissions of greenhouse gases ... a fact that does not displease their detractors.

¹ Cold, dry wind blowing south or south-west from the mountains in Italy and the W Mediterranean

² Cold, dry wind blowing north-south through the Rhône valley to the Mediterranean