

## **Wind farm at Plouarzel, Pays du Léon (France): turbine operation on 1 March 2004** **(CHANSON 2004, p. 16)**

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Wind mills and tidal mills were common in coastal zones of Western France for centuries. For example, the small island of Bréhat was equipped with mills as early as the late 14th century (locally called "moulins de Bréhat "); one tidal mill and two wind mills were rebuilt in the 1630s. During the 1850s, more than 3,000 windmills, and 5,000 tidal mills and waterwheels, operated in Bretagne alone, with 60 windmills at Ouessant island alone. However electricity production by wind farms is a very recent trend in Bretagne despite the huge wind energy potential of the Bretagne coastlines. The first major wind farms in Bretagne were opened in 2000: i.e., Goulien in Cornouaille, near the Pointe du Raz, and Plouarzel, Pays du Léon (Photo). In coastal zones, wind farms must be placed away (up to several hundred metres) from the shoreline to limit the visual impact and environmental nuisances. Wind turbines are preferably located on high cliffs for greater wind speeds and electricity production, even if the Plouarzel, Dinéault and Goulien sites are visible from Sea. Today 21 MW are installed in Bretagne and the electricity production was 26,500 MWh in 2003. The photograph illustrates the wind farm at Plouarzel (5 turbines, installed capacity: 3.3 MW, completed in 2000). Each mast is 38.4 m high and it weights 28.9 tons. On 1 March 2004, only 4 rotors were operating during a moderate Easterly brise (the 5th one was stopped). This photograph was published in CHANSON (2004, p. 16) [1]. Further photographs of wind farms by Hubert CHANSON are available on the website [2].

### **References**

- [1] CHANSON, H. (2004). "Coastal Observations: Wind Farms in Brittany (Bretagne), France." *Shore & Beach*, Vol. 72, No. 3, pp. 15-16 (ISSN 0037-4237).  
{[http://www.uq.edu.au/~e2hchans/reprints/shore04\\_1.pdf](http://www.uq.edu.au/~e2hchans/reprints/shore04_1.pdf)}
- [2] Gallery of Photographs in Fluid Mechanics and Hydraulic Engineering by Hubert CHANSON, Internet Resource. {<http://www.uq.edu.au/~e2hchans/photo.html> - [Wind\\_farms](#)}

