

SUSTAINABLE DEVELOPMENT: EIFFEL TOWER RECEIVES TWO WIND TURBINES

As part of the overall refurbishment of the 1st floor, the Société d'Exploitation de la Tour Eiffel (the Eiffel Tower operator) is extending its commitment to sustainable development by installing two vertical-axis wind turbines on the monument.



Each 7 metres high and with a 3-metre span, both wind turbines were deployed 127 metres above ground on the 2nd floor, the most suitable location for optimal windage.

Both wind turbines together **can produce up to 10,000 kWh per annum**, and this will cover the equivalent energy need of the 1st-floor shop.

For the Eiffel Tower, one of the principal goals of the first floor's renovation responded to a strong wish to reduce its ecological footprint in the context of the City of Paris Climate Plan. The approach used when refurbishing the 1st floor of the Eiffel Tower was exemplary in terms of sustainable development, even though there are no actual "High Environmental Quality" references regarding the monument.

The positioning of the windows in every pavilion on the 1st floor was reviewed without affecting the visual comfort provided by the panorama. This **protection against "solar discomfort"** will help cut heat absorption by over 25% in the summer, reducing energy use for air-conditioning.

In addition, virtually all lighting on the first floor of the Eiffel Tower uses **LEDs**.

The roof of the Ferrié Pavilion has been equipped with **solar panels** deployed across a 10-m² area. They cover about 50% of hot water requirements in both pavilions. The Ferrié Pavilion also features a **rainwater retrieval system** which supplies the toilets.

The pavilions also have **heat pumps** to ensure the temperature remains balanced.

Lastly, on January 1, 2015, when renewing its electric power supply contract, the Eiffel Tower chose GEG, a company from Grenoble, to supply the monument with 100%-renewable energy.

Key figures:

Wind turbines: Height 7 metres – Span 3 metres – Colour grey

Eiffel Tower's yearly electric power use: 6.7 GWh

Electric power use breakdown:

1st: Air-conditioning and heating; 2nd: Lifts; 3rd: lighting

Current height (including antennae): 324 metres

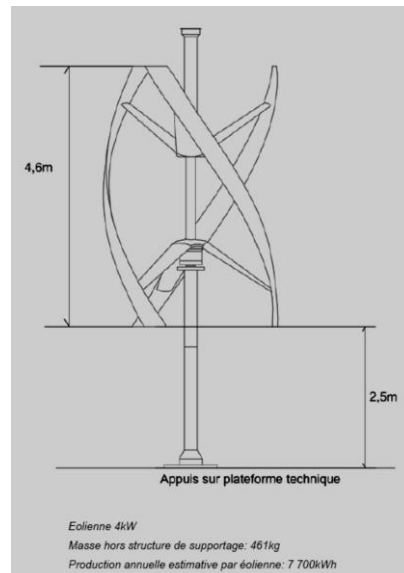
Total weight: 10,100 tonnes

Lighting system: 336 projectors (sodium lamps) delivering 600 watts

Amount of lightbulbs used for sparkling display: 20,000

Attendance: over 250 million visitors since the opening in 1889.

7,097,302 visitors in 2014



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