

**Environmental impact statement**

1. Availability of the wind resource at the site:  
Based on the information provided in the bidding documents and retrieved from the web site [www.emd.dk/windres/](http://www.emd.dk/windres/) using the Wind Resource Mapper software we could conclude that the average speed at the site would be an average of 5 meters/second (based on statistics of wind turbines at 25 meters above ground)

**2. Speeds required:**

Conventional generators require speeds exceeding 10 m/s to generate power efficiently. An alternative for slower speeds is the use of "micro-turbines" whose diameters range between 26 cm and 2 meters and being mechanically coupled together by gears. There by reducing the need for an electric generator for each propeller. This idea was proposed by Lucien Gambarota in Hong Kong, in 2007.

**References**

[1] <http://www.motorwavegroup.com/files/motorwindhkupressconference.pdf>

[2] <http://www.reuk.co.uk/Calculation-of-Wind-Power.htm>

[3] <http://www.reuk.co.uk/Betz-Limit.htm>

**Other related articles or websites**

<http://edition.cnn.com/2007/BUSINESS/04/15/ft.gambarota/>

<http://www.motorwavegroup.com/>

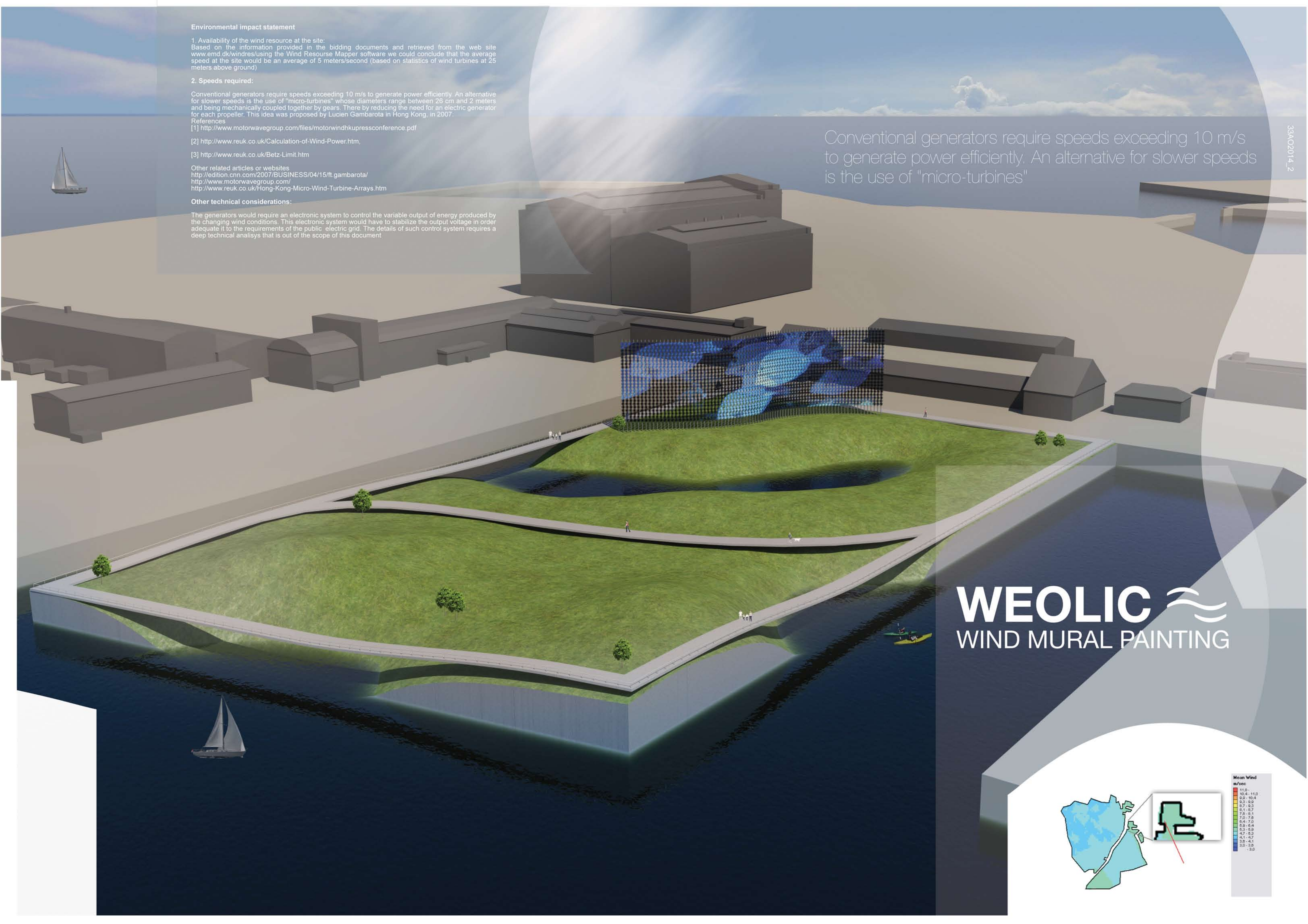
<http://www.reuk.co.uk/Hong-Kong-Micro-Wind-Turbine-Arrays.htm>

**Other technical considerations:**

The generators would require an electronic system to control the variable output of energy produced by the changing wind conditions. This electronic system would have to stabilize the output voltage in order adequate it to the requirements of the public electric grid. The details of such control system requires a deep technical analysis that is out of the scope of this document.

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