

# Geography should not be a barrier to harnessing green electricity from your own small turbine

Gerry Lalonde, CEO, Orenda Energy Solutions, tells PES how he feels wind energy could be exchanged from one location to another. This is certainly food for thought and could make a big difference to small turbine owners, or perspective owners with no space near their current location.



Gerry Lalonde

One of the chief concerns facing the small/medium wind energy industry is a geographical one, based purely on supply and demand.

Imagine a business located in the middle of an urban area that wishes to be self-sustaining with its own 'green' electricity supply. If the business is located in an area where there is little or no wind and local planning laws preclude them from siting a small turbine on the property, is there not a conversation to be had with Government, which leads to a relaxing of the rules whereby any business can buy and erect a turbine on a 'wind-friendly' landscape, in another part of the country and have access to the equivalent amount of generated energy by these turbines from the grid?

Is this not a classic case of supply not being efficiently matched to demand?

Current legislation prohibits an energy consumer based on the South Coast of England, to purchase a wind turbine and

locate it hundreds of miles away in the North of Scotland, export energy to the grid and use the same generated amount of electricity albeit from the grid where they are located.

The situation differs for a large utility company that might own a mega-watt wind farm. It may have the resources to become a re-seller. However, for an individual who owns one or two small turbines, this is currently very hard to achieve.

I believe the UK government needs to facilitate a change in legislation which harmonises the rules for everyone. If a company based hundreds of miles away from its turbine location can generate vast amounts of energy within that location, then what should stop them from drawing the same level of local 'green' electricity from the grid? Is this not appropriate and fair?

Small investors, private landowners and farmers need parity with the big power suppliers.

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To achieve a kilowatt hour from a small turbine, depends of course, on wind speed on the site of the turbine, but based on an average of 8 metres a second wind speed, a turbine should produce energy at a cost of 8 or 9 pence per kW hour. Therefore, if the turbine has a good wind site, you can use the power at under 10 pence as opposed to buying it in for around 12 pence per kW hour which is typically the cost paid by high end users. Over time, these savings are significant.

I would like to see a time when 100,000 kW hours of green electricity placed onto the grid, by a rurally located small turbine, gives the owner parity to draw the same amount -100,000 kilowatt hours from the grid and not have to pay for it, other than perhaps transportation charges or a management fee to support a logistics infrastructure that has been put in place to allow the electricity to get from one location to another. This, in my view, is a perfectly fair scenario.

Equally, I reason that this is not easily achievable right now, especially without government intervention and therefore, goes some way to restrict the overall development of small wind farms in the UK.

For example, I know of a company in Liverpool that spends almost £700,000 a year buying electricity. It was planning to specify solar panelling and erect a small wind turbine to give them a level of self-sufficiency. A site inspection revealed that the location was not viable for a turbine.

The street they were located on was mostly residential, so there was little separation distance between them and the residents. Moreover, under test conditions the wind speed on that site was very poor, averaging 5.4 metres per second. For this company, wind energy at this location was simply not viable.

However, they would be more than happy to rent some land in northern Scotland in high wind areas such as Caithness, or Aberdeenshire, erect three or four turbines across the area where significant wind speeds will bring them a surfeit of electrical power.

There is a missing link though: synergising the company with their turbines. Separation by 400 plus miles should not be a barrier for adopting wind energy. We need to be more efficient in our use of this power and as it stands, we need to somehow find the missing piece in this jigsaw.

A new government regulation is needed that promotes fairness for the small wind turbine owner. They should have access to the equivalent amount of kW hours of power from the grid, generated by their own turbine, regardless of where that turbine is sited.

That's why we have an imbalance between where the demand is and where the capacity for use lies and the government needs to redress this.

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