

BRIEFING

Subject: Potential for Siting of Onshore Wind in Portsmouth

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0. Context

The Leader requested a briefing note on the potential to install wind turbines on the Lakeside site. The briefing note considers the Lakeside site and draws attention to the issues related to any land based installations.

1.0 Background

- 1.1 Wind is an important component of the UK's renewable energy mix and will be an increasingly important technology as the National Grid seeks to decarbonise its operations by 2035.
- 1.2 There has been an interest in onshore wind within Portsmouth expressed by members and officers within the Authority as it seeks to be net zero carbon by 2030. The sites discussed most often have been Lakeside and the International Port.
- 1.3 Central government policy effectively imposes a moratorium on all new onshore wind developments in the UK.
- 1.4 The energy services team has been looking into the potential of siting wind turbines in Portsmouth.
- 1.5 One of the energy services team's core functions is the delivery of capital projects to provide localised, low carbon generation within the city.

2.0 The Technology

- 2.1 Wind power is an important component in the UK's electricity mix with around 20% of the UK's power being generated by this technology. This percentage is split roughly 50/50 between onshore and offshore wind.
- 2.2 Onshore wind is the cheapest form of new large-scale power generation in the UK in terms of capital cost per megawatt hour of generation (£/MWh).
- 2.3 The technology can be installed economically to sell power directly into the grid; or can be used in a private wire arrangement to sell power directly into a building with a high power consumption.

- 2.4 Subsidy support has been removed for onshore wind power; however, the low £/MWh is sufficient to allow a business case to be made without this support.

3.0 Planning Constraints

- 3.1 Unfortunately, national planning guidance is almost entirely obstructive to new onshore wind developments.

- 3.2 Paragraph 5 of the Low Carbon and Renewable Energy chapter of the National Planning Procedure Guidance states:

"In the case of wind turbines, a planning application should not be approved unless the proposed development site is an area identified as suitable for wind energy development in a Local or Neighbourhood Plan."

- 3.3 Portsmouth has no such areas identified in its Local or Neighbourhood Plan.
- 3.4 Resultantly, for wind to be allowed in Portsmouth, it would need to be included within the emerging local plan. This report would need to be commissioned as an evidence base for that work; looking at predicted wind resource, considerations relating to air safeguarding, electromagnetic interference, access for large vehicles, topography and landscape visual impact, implications for local heritage assets, ecological implications (especially bats), and potential impacts on local amenities, including noise and shadow flicker.
- 3.5 A report of this nature would involve a considerable amount of time and financial resource to undertake.

4.0 Other Considerations

- 4.1 In 2010 PCC commissioned a study on the feasibility of wind turbines in the city. The port has checked with the consultancy that produced the 2010 study and they have confirmed that the advice provided then would not be altered under current circumstances. The advice, other than in respect of some smaller sites on Portsdown Hill (straddling and mostly outside the PCC boundary), was: 'It was felt that the local constraints were too high to make it worth investigating to a full feasibility study'.
- 4.2 Some of those local constraints are:
- Old Landfill/made up ground
 - Ecological constraints - SPA, Ramsar, SSSI, SAC, LNR (designations that cover almost all of our coastline and harbours)
 - Brent geese (which have protected habitat covering a number of open spaces around the city)
 - MoD installations (which have an exclusion zone around them).
 - Proximity to residential homes (900m buffer zone)
 - Topology of sites (steep slopes)
 - Radio communication links (corridors joining telecoms towers, with a 100m buffer zone).

- Roads and tracks (154m buffer zone)
- Overhead line (450m buffer zone)

4.3 These constraints mean that turbines almost anywhere in Portsmouth (and certainly in the port) cannot be safely or practically delivered.

5.0 Alternatives

5.1 The alternatives can be broadly divided into three options:

- a) Focus on other low and zero carbon generation
- b) Invest in offshore wind
- c) Investigate the potential of micro-wind installations

6.0 Other Low and Zero Carbon Generation

6.1 The energy services team has an existing pipeline totalling around £5 million to invest in low carbon technologies; largely focussed around generation technologies

6.2 The sites within this pipeline include Lakeside and the International Port.

6.3 There is significant experience in developing solar PV projects where the Council has installed 6MW of the technology across 400 sites. To increase the scope and scale of this deployment, the energy services team has recently tendered a new framework with an estimated value of work between £100 and £500 million.

6.4 The energy services team has recently developed a £50 million framework for the expedient delivery of Combined Heat and Power (CHP); and has a number of projects in a pipeline for delivery.

6.5 This low and zero carbon generation compliments energy efficiency technologies and projects such as lighting, insulation and storage.

6.6 The above technologies are typically installed under permitted development; with the planning legislation being largely supportive of easy deployment. They offer a relatively hurdle-free route to large-scale deployment of zero and low carbon generation.

7.0 Investment in Offshore Wind

7.1 The Council could decide to invest in a 'shovel-ready' offshore wind development.

7.2 Offshore wind does not face the over bearing restrictions that onshore wind does. As a result, new offshore wind farms are regularly being built around the coasts of the UK.

- 7.3 Offshore wind is incentivised by a subsidy regime (Contracts for Difference) which means that returns on investment in such schemes can be economic and comparable to other investments such as commercial property.
- 7.4 To the best of our knowledge, there is no expertise within the authority for making investments such as these.

8.0 Micro-Wind Installations

- 8.1 It has been advised that micro-wind installations are not subject to the same restrictive planning conditions as medium-large turbines.
- 8.2 Early investigation of this technology suggests that the £/MWh is relatively extremely high for this technology; when compared to traditional wind, solar PV or CHP.
- 8.3 The cost study example seen suggests a £/MWh for micro-wind of ~9 times the cost of solar PV, for example.
- 8.4 Micro-wind, whilst not particularly cost-effective; it does have the advantage of being able to be operable at night and is more visible than most other low carbon generation (though at these costs it would be more effective to install collocated battery storage for night time use; and solar car ports if visual impact is the aim).

9.0 Summary and Conclusions

- 9.1 PCC discounts pursuing wind technology until the national planning guidance is changed. The energy team can support planning to include wind in the local plan as it develops.
- 9.2 PCC continue to focus our resources on other generation technologies such as PV, storage and CHP.
- 9.3 Should PCC wish to pursue wind, PCC should consider the option for offshore wind as an investment opportunity, as we do other investments such as commercial properties etc, and should seek specialist advice