

# Wind Farm Costs

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Good afternoon Ladies and Gentlemen, my Name is Ralph Marshall and I am here to talk about the Economic and Financial Costs of Wind Farms with particular reference to the Turbines that Navitus are proposing to build off the beach of Bournemouth. However before I do start I would like to thank David Hughes and his colleagues for giving us the opportunity to make this presentation. I am aware that there is an election due in about 3 months so this time is precious for you. Thank you.

I am speaking on behalf of the Poole & Christchurch Bay Association. The PCBA are a group of like minded individuals who are passionately opposed to the Navitus Bay project. You might or not be aware that an Inspector is to be appointed to examine the merits of the Wind Farm, and as a result various experts within the PCBA are working very hard at the moment on subjects like Wind Noise, Impact on Bird Life, Dangers to Shipping, etc. The reason that they are working on these subjects is because it is these aspects that the Inspector will be looking at when considering the merits or otherwise of this Wind Turbine Project. I gather that one aspect that the Inspector is not allowed to address is Cost. Politicians can reject projects on the basis of cost but the Public are not allowed to oppose a project on cost grounds. So if you do write to your MP please consider commenting on this fault within the system.

A little something to amuse you. About 3 years ago I read an article in the Sunday Times by Dominic Lawson about the inefficiency of Wind Turbines. On the strength of that article I wrote to my MP quoting from the article and asking for his observations. He wrote back to say that "Offshore wind energy is one of the most developed and cost effective renewable energy technologies". I asked him to justify this comment and had to chase him for a response over about 15 months. He eventually

came back supporting the case against the Navitus Bay development.

Scottish Power were planning an offshore wind farm off the coast of Scotland, called Argyll Array. On Friday 13 December 2013 they decided to abandon it and accordingly made the following statement:

1) "It is our view that this project is not financially viable in the short term. The rate of progress in the development of foundation and installation technology has been slower than anticipated. The current outlook for offshore wind development in the UK suggests this will not significantly improve in the short term. This supports the view that it could take 10–15 years for the technology improvements to be available for this project."

This problem is supported by the fact that about 3 years ago the cement grouting began to dissolve on more than half of all of Europe's offshore turbines, leading turbines to move on their foundations requiring expensive repairs and redesign.

How is it possible for Navitus to suggest that they have an answer to the problem when Scottish Power say that it is 10–15 years away.

The Argyll Array had plans to build 300 Turbines of over 200m high. In other words the proposals are very similar to the Bournemouth Beach ones. The only difference is that the Bournemouth ones are for about 200 Turbines.

2) Navitus, the developers of the proposed Turbines off Bournemouth Beach, want to build these Turbines between 9 and 12 miles from the shore. A question:

Which 2 EU countries will not allow Turbines to be built other than over the horizon, which they deem is in excess of 26km. ie; 16 miles. Holland & Germany.

I did chase my MP, Conor Burns, on this point in a couple of letters. His basic response was that the Government hadn't made up its mind. I asked him why not considering that the Dutch and Germans had. I now hear that he is co-sponsoring a bill to stop wind turbines from being built closer than 15 miles (24 km) from the coast.

3) The National Grid has revealed that they paid £26.6 m to onshore operators in “constraint fees” in order to prevent over production of electricity for a 6 month period in 2013.

4) They also confirmed that Operators are earning £125k a DAY for not operating their turbines in periods of low demand.

5) It has been estimated that Navitus will be paid a Taxpayer subsidy of approx. £7bn over the 20 years of the operation of the wind turbines. This is in addition to the Taxpayer subsidies they will receive for building the Wind Farm.

6) Prof Gordon Hughes of Edinburgh University is a former energy advisor to the World Bank. Using official data from the UK and Denmark, he showed that due to wear and tear on Turbine mechanisms and blades, the amount of electricity they generate falls very dramatically over the years. A turbine that initially produces an average of 25% of its capacity can degrade over 15 years to produce less than 5%. He advises that with the effects of weather and salt erosion the average efficiency of large wind turbines falls to less than 15% over its useful life which he also estimates to be nearer 15 Years rather than the 25 years that operators profess.

7) When preparing their forecasts for energy production, Operators estimate that the turbines will be operating at just 1/3<sup>rd</sup> of the time. Prof. Hughes advises that the large turbine efficiency starts off at around 30% but quickly deteriorates by year 5 and by year 15 this drops to about 13%.  
Please remember that it is Large Turbines they want to build here.

8) He goes on to suggest that we will have to build substantially more turbines or pay tens of billions of pounds more for most of

those turbines to be replaced if we are to meet our EU obligation to generate 32% of our energy from renewables!! I gather that Prof Hughes has shown this information to David MacKay, the chief scientific adviser to the Dept of Energy and Climate Change, who does not dispute these findings.

9) Would anyone buy a Washing Machine or Dishwasher or other appliance which only operated efficiently for between a fifth and a third of the time?

10) Another question for you:

Which country has suspended the further building of Offshore Wind Farms because of the cost? Holland

11) The tax payer subsidy that operators will receive during the period of operation of the wind farm will be £150 per MWhr. You should be aware that by comparison Nuclear power plants will receive £90 per MWhr. However new nuclear plants are about 90% efficient. This compared with 15% for wind farms. Because of the difference in efficiencies between Nuclear and Wind the Taxpayer subsidy for Nuclear is equal to about 10% of the one paid for Wind. In addition to which a Nuclear plant will have a substantially longer useful life.

12) Dr Dieter Helm, an energy expert, from Oxford University argues that Offshore wind is one of most expensive short term ways of reducing CO2 emissions. He suggests that the most effective way of de-carbonising Britain's energy would be to build Gas Powered Plants. He suggests that this will achieve similar CO2 savings as wind power but at a cost of between 5% and 7% of the cost of wind power. He accepts that this will not give us energy security in the short term but would see us through until Nuclear power or some other form of energy is available and for which we have total control.

In addition to which he suggests that electricity prices will continue to rise because of lack of investment in new power plants and the fact that the gap between supply and demand is closing up. It is important to remember that Ed Miliband was Energy Secretary during the last Labour Govt. And is therefore

partly responsible for the mess we now find ourselves in, through lack of investment in new energy plants.

13) The London Array, in the Thames Estuary, is the worlds largest offshore wind farm. It cost £2.2 bn to build and can generate 200Mw of power. At the same time Europe's largest gas power plant, in Pembroke, was built at a cost of £1 bn, to generate 2000 Mw of power. In other words it will produce 10 times the power for less than half the cost. In addition to which Pembroke will have a far longer working life than the London Array wind farm.

14) The Energy Dept. Estimates that electricity prices are at present 17% Higher because of Green policies. This they say will rise to 33% by 2020 and if Gas prices drop then Green policies will be responsible for 44% of our energy bills by 2020.

15) Which source of energy is allowed to charge the highest price for electricity and is expected to receive the greatest Taxpayer subsidy over the next 7 years?  
Offshore Wind Power

16) We do know that wind farms are unreliable and so additional Power plants will have to be built as backup in order to provide security of power. In the winter of 2012/2013 it was very cold and during this time there was very little wind just at a time we needed the energy source.

17) General consensus amongst those who know is that because of the unreliability of wind, higher electricity prices will be paid by both businesses and homeowners and this will result in higher prices for UK based products.

18) They also go on to suggest that because of Green policies productive capacity and jobs will probably move abroad to China etc.

19) We have no productive capacity to build Turbines in this country so we will be importing the machines rather than building

them ourselves. We do not have the best balance of payments record as it is and this would make worse.

20) About 2 years ago the Guardian published the CO2 emissions for the countries around the world. Obviously China came top with around 25.3%, the US was 17.8% and India was 5.3%. The UK was about 1.7 %. The Chinese CO2 emissions were growing at the rate of 13% per year, so that if the UK became green overnight the Chinese would replace our CO2 emissions within between 7 and 8 months.

21) Decommissioning costs: Navitus have not told us what it would cost and how they would pay for the wind farm to be dismantled and what they would do with the concrete bases that they built for the Turbines. The probability is that they are likely to let the financial resources of the wind farm run down and the company be left with no reserves leaving the UK Taxpayer to pay for the wind farm to be dismantled. Someone said to me that Navitus is 50% owned by EDF Energy which in turn is owned by the French Government and therefore the costs would be met by the French Government if necessary. I recently read that the French Govt were suing EDF for compensation. So what are the chances of these decommissioning costs being met by the French Govt. Remember the BSE crisis in the 1990's. The French banned English meat products and refused to pay any fines.

22) Developers are only interested in these projects because of the large Taxpayer subsidies they will get. With these subsidies they will be making a return in excess of 10%.

23) The Valuation Office Agency is the Government Agency which decides if houses should be moved into a lower council tax band because the impact of the wind farm near their home is considered a "Statutory Nuisance". They have moved houses into a lower council tax band since the development of onshore wind farms. Obviously a consequence of moving houses into a lower tax band means that the rest of us will have to pay more council tax. In addition you could find that your Estate Agent tells you that your property is now worth less because of the location of the wind farm.

24) Navitus Bay developers have done some research into the impact that the wind farm is likely to have on tourism, the main source of income for this town. Their figures suggest that something like 14% of respondents said that they would never come back and approximately 33% of visitors to Bournemouth would stay away during the construction process, which is estimated to be about 5 years. How many businesses could withstand that level of drop in their income and what would it do to jobs in the town.

25) The last Labour Government, of Gordon Brown and Tony Blair sold our Nuclear heritage, in the form of Westinghouse to the US for a trivial, £3bn. This government says it wants energy security then sells our first nuclear plant in generations to the Chinese and French. We are also reliant on our friend Vladimir Putin for some of our supplies of fossil fuels. This policy does not constitute energy security

26) The Jurassic Coast has been granted World Heritage Status by UNESCO. Someone sent me an article about Tasmania and its world heritage status. When this was challenged, the politicians reduced the size of the World Heritage site in order to allow further development to go ahead within what was once part of the world heritage site. So please do not assume that something similar will not happen with our politicians.

27) Please remember to send your letters of objection to the scheme to Navitus , your MP and your local councillor.