

winds of change

DO WIND FARMS REPRESENT THE FUTURE OF OUR ENERGY USE, OR A BLOT ON THE LANDSCAPE?

Interviews by **Yayeri van Baarsen**

“I’m completely opposed to wind turbines and I’m very happy for you to quote me on that,” says Sir Tim Rice. In fact, Sir Tim is just one of many opponents to this particular form of renewable energy. While some critics simply find the wind turbines themselves aesthetically damaging to the environment, others have more fundamental concerns. “My particular feeling is that they don’t produce enough energy to be of any real use, and that the only people who really profit from them are the operating companies,” says Sir Tim.

And yet, Cornwall is blessed with a climate and geography which lends itself to wind farming. The county apparently has some of the highest average wind speeds of any European country, with an annual wind speed of 6.5 metres per second. Add in the fact that it is a rural area with lots of exposed, unpopulated land and it’s ideal for producing this form of energy. Since 1991, nine commercial wind farms have been built across the county, with some turbines 100 metres in height.

“I feel strongly that there needs to be vigorous debate on this topic,” says Sir Tim. “It’s an important issue for Cornwall, and I feel that we need to establish firmly whether local communities are really going to benefit from wind farming before we continue to go ahead and keep building more.”

Here, we invite two people on opposite sides of the argument to set out their stall.

AGAINST: DANNY MAGEEAN

“Not green energy,
but greed energy”

Based near Liskeard, Danny Mageean has lived in Cornwall since 1979 and worked for Cornwall Council social services department for almost 30 years. He has been campaigning against wind turbines since 2007, and is co-founder of Cornwall Protect (www.cornwallprotect.org), an organisation dedicated to conserving our landscape.

“It’s beyond doubt that the human race is destroying the finite resources of this planet at an alarming rate. It’s also true that wind turbines produce electricity. Problems arise, however, when an unjustified leap is made and one is seen as the answer to the other.

“We have to find alternative energy sources that can replace fossil-fuelled power stations, but wind turbines are not the solution. They cannot replace the essential role of power stations within the National Grid, balancing supply and demand minute by minute.

“Wind doesn’t blow all the time; on average, it’s available three days out of ten, providing an intermittent supply of electricity which cannot be stored. If we depend on wind power, simple household tasks needing electricity are impossible on a calm day. Your freezer won’t work.

“Wind is as unpredictable as the weather, with forecasts only accurate for a four-hour period. Given this uncertainty, the National Grid operates back-up generators to cover the sudden and unexpected loss of wind power to avoid power cuts. Last year, one electricity generator admitted that for every 1MW of wind electricity penetrating the grid, there was at least 0.9MW of back-up generation operating. These backup generators are gas-fuelled, producing carbon dioxide. We will always need sufficient generating capacity to meet demand when the wind isn’t blowing. Ofgem has warned of the potential for power cuts as early as 2015 if firm generation isn’t added to the National Grid.

The claims of wind turbine developers suggest whole sections of the National Grid shut down immediately their

turbines begin to turn. This is not true. Closing down and starting up power stations takes days rather than hours. The National Grid accommodates wind power by a slight reduction in output from power stations, but always with back-up generation operating.

Claims that wind turbines power homes is also misleading, as it totally disregards the way in which we use electricity - a large amount at peak times during the day, and little at night. When they say, “This turbine will power 600 homes,” it means that on average over a year, it produces the same amount of electricity as used by 600 households. But those households would also need gas cylinders as a back-up because the turbine doesn’t produce the electricity when the homes need it. Wind cannot produce energy on demand.

Wind power’s contribution to the National Grid varies from very little to about 6 per cent of demand on a windy day. Ironically, on an extremely windy day, turbines have to be turned off for safety reasons. The potential savings in emissions are very small, and they come at high cost. Costs of back-up generation are estimated to rise from £18m currently to £400m in 2020. The rush for wind turbines has everything to do with feed-in tariffs and the commercial profits to be made. For example, a 330kW turbine would produce an annual income of £207,000 - £3million over 20 years. This is greed energy, not green energy.

Wind turbines are also a threat to Cornwall’s greatest sustainable asset: the landscape. Landscape is not about having a nice view, it is about conserving what is valuable in our environment; the history, land use, culture, wildlife and local character. Wind turbines put our greatest natural resource, the special environment that is Cornwall, at risk.

Investing in wind turbines is building an intermittent electricity system that has little impact on emissions but costs us a fortune in electricity bills. We need to invest in things that make a difference. We need to refocus on the real green agenda - ‘reduce, reuse, recycle’ - and we should refuse to have 125m industrial white elephants changing the face of Cornwall. →

FOR: TRISTAN MACKIE

“Wind energy has a key part to play in our future”

Tristan Mackie was born and raised in Cornwall. After training as a design engineer, he has been working in the wind industry for over 20 years. His company, All Wind UK Ltd, is based near Falmouth and is working on wind power projects across the UK.

“Wind energy occurs naturally; it’s free, clean and sustainable. In the UK today, only about 7 per cent of our electricity comes from renewable energy sources such as wind, water and the sun. According to the Department of Energy and Climate Change (DECC), in 2010 wind energy accounted for around 11 per cent of these renewable sources, therefore about 1 per cent of our total energy use. That isn’t very much, if our aim is to be more sustainable; but we are also aiming to

reduce pollution and secure our supply for future generations, so we should focus on increasing this amount until ultimately, there is no need for finite fossil fuels.

“At the moment, we are in a transition phase; it won’t happen instantly, but in time we will have to replace fossil fuels. Continued extraction is simply not sustainable - it is becoming more remote, more costly and more environmentally challenging. Already, companies are looking into drilling in the Arctic, which is less acceptable to an informed public.

“Wind farming fits in perfectly with European and UK energy policy to decarbonise the power sector. The Committee on Climate Change said that by 2030, the renewable energy share of the energy sector would have to be 30 per cent. Wind turbines are a mature technology with a big role to play in achieving this. Since it’s the most economically viable, it needs less financial support than other renewable technologies and therefore fits in well with the

government pressure to reduce energy costs. Once you have installed the wind energy equipment, you know the capital cost and operating costs. There will always be wind; therefore the price is not guided by demand.

“Naturally, it’s not only about wind; every renewable technology will have a part to play. However, resources, availability and occurrence change across the country; solar is more productive in the southern parts of the UK, and hydro-electrics can only be used when there’s a river around. Since we’re exposed to the prevailing South West winds, Cornwall is a particularly windy place. The European wind map shows that South West England is one of Europe’s windiest areas, being subjected to a great amount of the 40 per cent of European wind energy that the UK experiences.

“The majority of independent public surveys show there is overwhelming public support for wind energy. Because of planning processes, wind farms tend to get built where it’s most suitable and viable. People are often concerned before the turbines are built, as they are wary of change. However, many change their minds when the project is running.

“Whether wind turbines look nice or not is very subjective. They are certainly iconic and distinctive. Personally, I think they are attractive, but it’s like Marmite; you either love them or hate them. People might not like the look of windmills, but they can’t deny that once their life span is over, 85 to 90 per cent of the material used to build them can be recycled.

“To use wind energy most effectively in the future, we’ll need a different energy network - one that is not so centrally based as the current National Grid, but one that is more readily able to accept electricity being fed back into the system at many different points in the network. remotely based and feeds the energy back in to the system. This requires a gradual transition process. The percentage of energy from the wind will grow, with offshore wind farming at sea also playing a big part.

“Consumers increasingly realise that no matter how much renewable energy we produce, we mustn’t waste it. Luckily, nowadays people are more aware of the facts: we need to look for new sources, and be less wasteful. Wind farming is an emotive subject, but people often tell me: “I don’t like the look of them, but I realise it’s the right thing to do.”

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