

Onshore Wind FAQ's

Q1 – Do people like wind farms?

The perception of wind turbines is a matter of personal taste. However in a recent RUK poll published in the Guardian showed 67% of the UK public are in favour of wind farms compared to 8% who were against wind energy.

<http://bwea.com/media/news/articles/pr20120419.html>

Q2 – Why do we need onshore wind farms?

We believe that security of supply comes from a having mix of technologies. We cannot put all our eggs in one basket. Having a mix means that if there is a problem in one part of the system, we have a better chance of keeping the lights on, and doing so affordably. This mix will include cleaner fossil fuels as well as nuclear and renewables.

Q3 – Are there any economic benefits?

Onshore wind brings substantial new economic benefits and job opportunities to the country. At a time when many industries are struggling, we've seen over £600m of investment in the industry in the UK over the last financial year, creating supply chain and manufacturing jobs across the country.

A survey of firms in 2011 revealed that 81% of companies said they intended to increase staffing levels in the next 18 months, with a quarter saying they would increase staff by over 20%.

Q4 – Is the Government focusing more on wind rather than other renewables?

Onshore wind is one of the most cost effective and established renewable technologies. The UK has the best wind resource in Europe, and of course it is free so it protects consumers against rising energy bills. But other technologies are important too. We want to see more offshore wind; bioenergy, such as wood, energy crops and waste; and marine energy, such as wave and tidal.

The Renewable Energy Roadmap published in July 2011 outlines the anticipated mix of technologies needed to meet our 2020 renewable energy target (insert link).

Relying on renewables alone won't be enough to power the nation in the years to come. That's why we need other technologies to ensure a low carbon, energy secure future for the UK, such as [new nuclear](#) without public subsidy, and [carbon capture and storage](#). However renewables, including wind, are firmly part of the mix.

Q5 – Does the Government subsidise wind farms?

Yes. At the moment generating electricity from renewable technologies is more costly than generating it from fossil fuels. If we are to meet our target of producing 15% of our energy from renewables by 2020 then appropriate support must be provided now to these technologies to ensure that they become viable and cost effective in the longer term.

We recognise that the costs of renewable technologies must come down - and they are. The gap between onshore wind costs and combined cycle gas turbine costs has halved in the last five years. We are therefore proposing a reduction in the level of support to onshore wind to reflect that their renewable technologies must become cost competitive with other low carbon sources in the longer term.

Q6 – Are wind farms the reason why my energy bills are so high?

Recent energy bill increases have been driven by rising wholesale energy costs, mainly the price of imported natural gas, which makes up around half of household energy bills.

Figures published Ofgem, the electricity regulator, shows that the impact of the Renewable Obligation for large scale onshore wind in 2011 was £6.00 per household.

We recognise that subsidies need to strike a balance between bringing forward investment in well-sited projects and minimising costs for billpayers, and so must incentivise renewable energy in the most cost-effective and efficient way. That is why the Renewable Obligation consultation document proposes a 10% reduction in subsidies for onshore wind to reflect the fact that the costs have come down, and to incentivise further efficiencies so that wind will be cost-competitive with other low-carbon energy sources.

Q7 – How effective are wind farms especially when the wind does not blow?

Wind turbines tend to generate electricity for around 80-85% of the time, but wind speeds vary and this has an impact on how much power is produced. Sometimes we may see a period of a few days when turbines produce comparatively little electricity. However, the electricity system always has more generating capacity available than the expected demand and by having a diverse energy mix, we can manage the fact that some technologies, such as wind, are intermittent.

In 2011 onshore wind farms produced enough renewable electricity to meet the average electricity consumption need of almost 2.4 million households.

Q8 – Do they really save emissions?

Put simply - wind turbines save carbon emissions by displacing carbon emitting fossil fuel generation from our electricity supply. DECC estimates that the net savings from wind power in 2010 were 6 million tonnes of carbon dioxide.

Electricity generated from wind power also has one of the lowest carbon footprints, compared with other forms of electricity generation. As with other low carbon technologies, nearly all the emissions occur during the manufacturing and construction phases, arising from the production of steel for the tower, concrete for the foundations and epoxy/fibreglass for the rotor blades. These account for 98% of the total life cycle CO₂ emissions.

Emissions generated during the operation of wind turbines are, relatively small and arise from routine maintenance inspection trips. They include the use of lubricants and transport to and from the site.

Q9 – Do wind farms affect house prices?

It is entirely understandable that homeowners in the vicinity of a planned wind farm will feel concerned that the value of their property might be affected by the presence of a wind farm, although we have yet to see any compelling evidence that this is indeed the case.

A report published in March 2007 by the Royal Institute of Chartered Surveyors and Oxford Brookes University found a limited linear relationship between the proximity of wind farms and house prices. It looked at transactions of residential property near wind farms at two locations in Cornwall, and found that while terraced and semi detached houses within a mile of one of the wind farms were of lower value than similar houses at a distance of four miles, other factors influenced the devaluation: the houses were ex-Ministry of Defence properties and less desirable.

More information is available on a [Royal Institute of Chartered Surveyors: frequently asked questions](#)

Q10 – Aren't wind farms a nuisance to public health, what with the noise and flicker they produce?

The Government takes these issues seriously. Both noise and shadow flicker impacts are considered within the planning process before any decision is taken whether or not to grant consent to construct a renewable energy project.

Wind turbines make noise, but not as much as some may think. The noise level of a wind farm at a distance of 350m (1150ft) is comparable to the sound of leaves rustling in a general breeze (approx 35-45 dB). A car travelling at 40mph at a distance of 100m (330ft) creates around 55dB.

A recent [report on noise carried out by Hayes McKenzie](#) for DECC concluded that good practice guidance is required to clarify and add to the existing planning guidance on wind turbine noise. The [Institute of Acoustics](#)[\[External link\]](#) has set up a working group and is taking forward work to develop such guidance.

Shadow flicker is the effect caused when rotating wind turbine blades periodically cast shadows through openings such as windows in neighbouring buildings. There are a range of factors which can impact on the extent and frequency of shadow flicker, including the location of the building relative to the turbine, the weather conditions, especially wind direction and position of the sun, topography and turbine height and blade rotor diameter.

An independent study published by DECC in May 2011 on shadow flicker, [Update of UK shadow flicker evidence base](#), concluded that there have not been extensive issues with shadow flicker in the UK and in the few cases where problems have arisen they have been resolved effectively.

Q11 – Do communities benefit from having wind farms in their area?

Yes they can do. [RenewableUK](#) a renewable energy trade association, has introduced a Community Benefit Protocol. Signatories to this commit a benefit package to host communities, worth a minimum of £1,000 per megawatt, per year of installed wind power during the lifetime of the wind farm (typically 25 years). In practice many communities receive much more.

In addition, through the Local Government Resource Review, the Government is introducing measures to enable communities hosting renewable energy to keep all of the business rates they generate, to benefit the local area.

Q12 – Do the changes in the planning system mean we'll see wind turbines springing up everywhere?

No. It is not true that the UK will be carpeted with wind turbines – our Renewable Energy Roadmap ([insert link](#)) shows that the majority of onshore wind which we anticipate is needed to contribute towards our objectives is already in the planning system.

Good planning will continue to play a vital part in ensuring that wind farms are sited correctly in order to maximise their efficiency and protect communities and the environment from unacceptable development.

- [Department for Communities and Local Government: National Planning Policy Framework - Myth-Buster](#)
- [National Planning Policy Framework \(Department for Communities and Local Government\)](#)

Q13 – Don't they damage the environment and spoil the landscape?

This depends on your personal view. Changes to the landscape happen all the time and some people find wind farms aesthetically pleasing, with studies showing that those living close to them are often the most positive when it comes to wind energy.

A detailed Environmental Impact Assessment is required for a vast majority of commercial scale onshore wind turbine applications. It must cover a wide range of issues including consequences for flora and fauna, landscape and visual impact.

Q14 – What about blade dislocation – are there any safety standards around that?

Wind generators, in the same way as all other industries, are covered by the [Health and Safety at Work Act 1974](#) [External link] (HSWA) which requires them as duty holders to ensure, so far as is reasonably practicable, the health and safety of their employees and any members of the public who may be affected by their activities.

Duty-holders are responsible for assessing and controlling the risks from their undertaking and it is for the sector to prepare industry standards. For example RenewablesUK have published wind turbine safety rules and guidance, details of which can be seen on the [Renewable UK: Health and Safety](#) [External link] web pages. There are also well established British and European Standards covering product safety.

The HSE performs appropriate regulatory checks on the operation and maintenance of wind turbines and also commissions research as needed. We understand that an HSE commissioned report on risk assessment in the vicinity of wind turbines will be published shortly, and we will consider the contents carefully once published.

Q15 – Why are we spending millions paying wind farms to switch off?

To ensure the secure operation of the electricity system, National Grid takes over a thousand actions each day to balance supply and demand, including paying generators to alter their output. This is a normal part of our market system, and the arrangement existed long before wind farms were connected to the grid. National Grid is incentivised by Ofgem to ensure this is carried out in the most cost effective way.

Less than 10% of all constraint payments are made to wind farms. Most are made to conventional generators such as coal and gas. The impact on a typical consumer bill of constraint payments to wind farms is no more than a few pence per year.

No generator of any type should receive an excessive benefit from constraint payments. That is why the Government is currently consulting on the introduction of a Transmission Constraint Licence Condition later this year to help ensure we don't encounter problems in the balancing market when normal competition amongst

generators is distorted by transmission constraints. Planned upgrades to the most congested parts of the transmission system are also underway which will help ease constraints. The upgrades will begin to take effect from 2013.