

## WIND

# How can UK onshore wind reach its potential?

**Years of patchy policy support have prevented the onshore wind industry from reaching its full potential. Here, Andrew Mourant looks at how wind farm developers, and determined clean energy buyers, are fighting back.**

Onshore wind has been buffeted in recent years by lurches in government policy. Changes to local planning rules – with communities given more say on what happens in their neighbourhoods – and a ban from competing for government support to enter the electricity market have, says Good Energy CEO Juliet Davenport: ‘stopped a national success story in its tracks’.

There’s currently just over 13.5 GW of onshore wind generation installed across the UK. The Committee on Climate Change (CCC) says that 29 GW is needed by 2030 to achieve government targets on emissions. But industry body RenewableUK believes that, at current levels, capacity will grow only to 18 GW. Reaching even that level relies on 4.5 GW of new onshore farms being built without any state aid.

A large majority – and the prospect of five years in office – gives the current government scope to look at promoting low carbon energy production in the long term. But there was no mention of onshore wind in the Conservative’s recent election manifesto. Labour, on the other hand, had promised 2,000 new onshore turbines.

## Winds of change

Annual installations of onshore wind peaked at nearly 2.7 GW in 2017, before falling by 80% in 2018 to their lowest level since 2011. The sector’s recent difficulties stem from 2015, when then Energy Secretary Amber Rudd announced the end of subsidies. Just one year earlier, onshore wind – which then made up around 5% of UK electricity generation – was propped up by around £800mn of subsidies. Government support,



Rudd said, was designed to help technologies stand on their own two feet, rather than encouraging permanent reliance on hand-outs.

Rudd believed this ‘tough judgement’ was warranted because existing and approved future onshore projects meant that government would comfortably hit its target of 11 to 13 GW of onshore electricity production by 2020. The industry was plunged deeper into disarray when it emerged that subsidies would close to new onshore wind schemes from April 2016 – a year earlier than had been planned. By Rudd’s own admission, plans for around 7.1 GW of onshore wind capacity – around 250 projects – were doomed.

Worse fortunes followed in 2017, when government excluded onshore wind from Contracts for Difference (CfD) auction bids, its new mechanism for supporting low carbon power. Under the scheme, developers receive a flat rate for the electricity they produce over a 15-year CfD term – the difference between the ‘strike price’, which reflects the cost of investing in a particular technology, and ‘reference price’, a

measure of the average GB market price for electricity.

Although the decision was designed to ensure only cost-effective projects are built, the legality of excluding onshore wind is being challenged. Banks Renewables, operator of 10 wind farms around Scotland and northern England with a capacity of 224 MW, began court proceedings last summer. It claims shunning onshore wind is against the public interest, prevents consumers benefiting from potentially lower energy prices and complies with neither EU nor UK law.

After 2015, when government gave local communities a stronger voice in determining where turbines could – or could not – be installed, applications to build new wind farms fell drastically. Environmentalists claim government had failed to consider the knock-on impact of this move for the country’s climate targets. They point to documents obtained under Freedom of Information requests which show no assessments were made of how the new planning policy would affect

Some 20 UK universities have signed a PPA that will allow them to purchase energy directly from Statkraft wind farms, including the Alltwalis Wind Farm in Wales

Photo: Statkraft

carbon emissions or impact on consumers' fuel bills.

### Planning obstacles

Last August, CEOs across the energy sector signed a joint letter asking then Energy Minister Kwasi Kwarteng to help revive onshore wind. Other signatories included the National Farmers' Union, the RSPB, the CBI and the Federation of Small Businesses.

They requested that the government update planning rules, the source of so much controversy, so that efficient modern turbines could be used at suitable locations in the UK. RenewableUK Chief Executive Hugh McNeal claims 'shovel-ready' projects would bring in billions of pounds of investment, support thousands of jobs and cut bills.

The letter highlighted that the government's independent climate advisory body, the Committee on Climate Change (CCC), believes onshore wind should be allowed to compete in CfD auctions. When the CCC made its annual report to Parliament last July, it found that the government had delivered only one of 25 'critical policies' needed to get emissions reductions back on track since June 2018.

The CCC also noted that onshore wind's levelised costs – the present value of the unit-cost of electricity over the lifetime of a generating asset – had fallen by a third from 2013–16 alone. The advisors subsequently urged the government to develop 'robust' contingency plans, which would allow for extra low carbon generation to be brought forward in case other energy projects are delayed or cancelled.

According to the Renewable Energy Association (REA), an additional obstacle has recently been put in the path of onshore wind: Ofgem's revised Targeted Charging Review (TCR). This determines how power generators pay to access and use the electricity grid. REA members say TCR changes protect existing business models while removing incentives for further renewable schemes.

While Davenport has called for a reversal of this 'hostile policy environment' Ofgem says that its TCR is positive news for consumers, and that the costs of maintaining the grid will be spread more fairly. The regulator points out that small-scale producers of renewable electricity continue to draw on the grid for top-up power when needed but have avoided paying charges.

***'If onshore wind had been readmitted to the CfD bidding cycle and awarded contracts for 5 GW of power provision from 2019 to 2025, it could have delivered a £1.6bn payback through reduced household bills'***

**BVGA report**

### Success stories

Despite what some see as malign government intervention, there are success stories in the sector. Last November, RenewableUK reported that onshore wind products and services had been exported to 23 countries. Companies such as turbine manufacturer Windhoist, based in north Ayrshire, have been active in Europe, Africa and Australia.

Detractors point to the variability of wind when questioning its economic viability – and supporters champion battery storage as the means of tackling fluctuations. Significant projects include Swedish energy producer Vattenfall's onshore farm at Pen y Cymoedd, South Wales, a 76-turbine site backed since 2017 by a 22 MW on-site battery. The company claims it can respond to the needs of the grid system in less than a second.

ScottishPower is following suit. It has announced plans for a 50 MW battery storage unit to capture power from 214 wind turbines at its existing Whitelee wind farm. This will store energy when wind speeds are high and release it when they're low. The battery will be the largest at any wind generating site in the UK, will be capable of achieving full charge in under an hour and can provide reactive power response to National Grid, says ScottishPower.

Technical challenges aside, onshore wind developers have been forced to find alternative routes to market since being frozen out of CfD auctions. This has resulted in the evolution of power purchase agreements (PPAs), where consumers enter long term, fixed-price supply deals with renewable providers.

### Power purchases

Until recently, PPAs were largely the domain of big corporations with the financial clout to strike favourable deals. But through collaboration, smaller entities are dipping into a previously inaccessible market. Last October, a group of 20 universities announced they had struck a PPA deal, said to be worth £50mn, to buy renewable energy directly from wind farms.

Arranged by brokers at The Energy Consortium and Squeaky Clean Energy, the universities' electricity bills will be fixed for the next decade. It's believed to be the first time UK public sector users have clubbed together in this way. The owner of the wind farms, Norwegian energy giant Statkraft, will issue certificates matching the output. The saving for all involved,

based on forward market estimates, is calculated at £6mn.

Vattenfall UK, whose Swedish parent company is among Europe's biggest power producers, intends to go even further and open up PPAs to individual small-scale customers. This year, the firm plans to start building a 50-turbine wind farm at South Kyle, south west Scotland. The project is expected to have an installed capacity of 240 MW when finished.

Business consumers who need only a limited power supply will have the chance to buy as little as 1 MW of wind energy at a price fixed for 10 to 15 years. However, a completion date has yet to be announced for the South Kyle farm and Vattenfall gave no indication of how many PPA deals, if any, have been struck. More information on the project's confirmed timeline will be available in the first quarter of 2020, according to a spokesperson.

A report published 18 months ago by BVG Associates (BVGA) cited data from the Department for Business, Energy and Industrial Strategy, and suggested that the UK's wholesale electricity price would exceed the levelised cost of onshore wind by 2023. BVGA claimed that if onshore wind had been readmitted to the CfD bidding cycle and awarded contracts for 5 GW of power provision from 2019 to 2025, it could have delivered a £1.6bn payback through reduced household bills. 'The auction process ensures only the most cost-effective projects are built,' says BVGA.

Tanya Davies, Head of Business Development at Innogy Renewables UK, says onshore's readmission to future CfD auctions would offer huge opportunities for the wider economy – with jobs in making towers and blades, as well as refurbishing and installing turbines. David Flood, Managing Director of Statkraft UK agrees: 'New onshore could underpin thousands of new skilled jobs in the industry and the supply chain,' he says. 'But government commitment to future CfD auctions is required for these benefits to be realised.'

Onshore wind developers know that the sector could continue to be instrumental in decarbonising UK electricity. Now they must wait for recognition from the politicians. ●