

SEEDS OF OPTIMISM

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The state of flux in the UK's onshore wind sector has never been more apparent than at present. On the one hand, wind energy and other renewable energy sources are currently generating over a quarter of power consumption across the UK annually, at a price cheaper than gas and nuclear, all while enjoying the highest level of public support.

At the same time, however, national policy and regulatory backing is at a particularly low ebb, and investor confidence has been dented to such a degree that the pipeline for new development has largely stalled.

Recent years have seen the cessation of both the Renewables Obligation (RO) scheme and Contract for Difference (CfD) support for onshore renewables, coupled with the rapid degeneration of Feed-in-Tariff (FiT) payments for all renewables prior to its phase-out in March 2019.

These support mechanisms enabled a staggering build-out of onshore wind capacity equal to nearly 5GW since 2012, with some 2.6GW of new generation installed in 2017 alone. In combination, onshore and offshore wind contributed approximately 45% of the UK's total renewables capacity, resulting in some 37,400 megawatt hours of annual generation.

This is roughly equivalent to the domestic power consumption of 12 million homes, offsetting in the range of 20 million tonnes of CO₂ that would otherwise have been produced through conventional power generation.

On the face of it, then, the UK's onshore wind industry should be in a strong position. It has already fulfilled much of its promise, despite the protests of many who never believed the wind sector would be a worthwhile partner in the UK's energy mix, and there is still plenty of remaining wind capacity to be harnessed if there is sustained support politically and publicly.

However, as the current construction boom draws to an end, there are fears that installed wind capacity is at a precipitous cliff-edge. Over the past three years, and ahead of the nose-dive in subsidy support, the decline has been most apparent in the small and medium wind sector, where development has clearly faltered.

Enquiries regarding new developments at this scale have rapidly diminished, wind generators are no longer seen as viable opportunities for the economic diversification of landholdings, and it is evident that there





are just a handful of remaining existing sites with previously secured planning permission that remain viable.

These sites have the opportunity to take advantage of second-hand, reconditioned machines from Europe that are cheaper than the price of new turbines. Yet the rate of new installs at this scale has been dramatically reduced, most noticeably in England where there is, in effect, a de facto moratorium on new wind installation. In addition, a lack of government support for onshore wind has been further compounded by the recent decision to delay any discussion of renewed subsidy support.

Under these current market and policy circumstances, the outlook is bleak for the small to medium wind sector. FiT wind installs have fallen from a high of 2228 turbines in 2012-13 to a mere 480 turbines in 2016-17, and are likely to fall still further over the next couple of years.

Projects that generate direct consumption of output, and therefore don't incur the costs of connection to the distribution network, or that utilise second-hand turbines to reduce capex costs, may stand a good chance of bucking this trend in the short-term, but the number of sites is dwindling.

Looking further ahead, if the UK is to meet its renewable energy targets for 15% of energy by 2020, as well as achieve an 80% reduction on 1990's CO₂ emission levels by 2050, then its onshore wind market will require a catalyst to enable further development that encompasses the entire range of small to large wind turbines.

Plus, while the chilling effect of the decline in economic support for onshore wind on the UK's project pipeline cannot be overstated, there are signs, however tentative, of green shoots emerging for the UK's wind industry as a whole, even though the prospects for development differ widely by region.

In the largely post-subsidy climate and, following a period of reflection by the wind sector, large-scale wind is finding renewed stimulation through a combination of market factors and the aspirations of the UK's devolved administrations. Scotland, Wales and Northern Ireland continue to demonstrate strong legislative, policy and planning support for the realisation of further renewables capacity.

This past September, Wales' Minister for Energy and Planning, Lesley Griffiths, set targets to increase renewables' capacity to

70% of electricity consumption in Wales by 2030, inclusive of up to 1GW in local ownership energy projects. Wind energy will be central to achieving these targets, and her statement highlighted how the planned exclusion of onshore wind from future CfD auctions would hold back Wales' aspirations for a low carbon economy.

However, the acquisition of decision-making powers for schemes up to 350MW, following the introduction of the Wales Act 2016, will give developers in Wales greater certainty of a fair hearing for new wind scheme applications. In addition, Wales will obtain further powers regarding grid consent for schemes of up to 132kW in early 2019, and this should assist new developments to more easily achieve permitting.

In Scotland, a new Energy Strategy was published in late 2017 confirming a further target for the generation of 50% of all Scotland's energy demand from renewables by 2030; the announcement was supported by the Onshore Wind Policy Statement, designed to further stimulate growth in this sector. Scotland continues to set the trend in embracing wind power unrelentingly and setting in place all necessary mechanisms to

engineer the further expansion of renewable capacity.

The most significant obstacle to further sustained growth in Scotland's wind sector is its government's inability to set energy policy and regulation, including subsidisation or inclusion in the CfD auction, powers which still reside with UK Government.

This strong devolved policy support has been further bolstered by the ongoing reduction in turbine prices, the increasing scale of wind turbine technology, and the commitment of the sector to making wind work in a post-subsidy environment.

Reductions in the costs of wind power were well publicised last year, following the success of offshore wind in securing CfD auction prices well below those of their gas and nuclear counterparts. Such costs are expected to further reduce by up to 30 per cent by 2030 owing to advances in turbine technology.

Perhaps counterintuitively, whilst the costs are plummeting, the size of wind generators is increasing rapidly. Large onshore wind projects frequently feature turbines that are now 3-4MW in scale, resulting in more 'bang for your buck'. From an average hub height of around 80m and rotor diameter of

90m in recent years, the industry has already moved to modelling new sites with wind turbines with a hub height of 115m and a rotor diameter of 135m.

Taller, larger turbines harness more wind energy and thus increase output, which, coupled with reduced capex costs, will result in schemes with the potential to provide an attractive return on investment.

One important outcome of this emerging picture is that the new generation of wind turbines will not only contribute to mitigating the rise in wholesale energy prices, but will have the potential to replace conventional power generation to a much greater degree – and thus have a greater impact in reducing the UK's greenhouse gas emissions.

Developers are also now showing renewed interest in new greenfield development, particularly in Scotland and Wales where, in addition to a more favourable policy environment, the wind resource is often greatest. In particular, there has been a noticeable increase in early-stage site prospecting and resource assessment activity.

The developer community is refocusing on new schemes modelled with larger, fewer generators, and, although their increased size risks giving rise to consenting concerns, there is a strong sense that both the devolved governments and public opinion have turned in favour of wind.

Corresponding encouragement from the corporate sector, thirsty to purchase green power in their belief, unlike some politicians, that climate change is an existential threat, is resulting in the healthy trading of output from new renewables projects. This can only gain greater ground if the understanding is there that renewable power only gets cheaper over time thereby giving long-term predictability in energy costs.

While limited to large-scale development in Scotland and Wales, there are nevertheless grounds for cautious optimism that onshore wind might once more prosper within the UK. Yet this optimism is fragile, and the absence of wider political support risks threatening investor confidence such that other European markets may prove more attractive. But one cannot fault the wind industry for its efforts, and indeed success, in demonstrating that renewable power is the best option for the UK's energy mix and for protecting the environment and our place within it; the onshore wind industry in particular has proved its resilience and will hope to reap the rewards in the coming years.



Michael Phillips at Cemmaes Wind Farm

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