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## Solar pv cost plunge presages surge in UK subsidy free solar projects

All over Europe there are reports of a plunge in the prices of solar pv projects, and in the UK a leading solar analyst has predicted that over 1 GW of solar pv will be deployed in the UK in 2020.

Solar pv prices have been hurtling ever lower for many years. and some crazily low prices for solar pv projects have been reported in Middle East in contract auction contests such as in countries like UAE and Qatar. But this trend is now even affecting not-as-sunny parts of Europe. Solar pv costs - what finance geeks call 'levelised cost of energy' (LCOE) - and which indicate what projects investors and banks will support - are dipping below wholesale electricity prices in more and more countries.

That means that solar pv schemes, big ones that can be built efficiently using higher power outputs compared to rooftop solar projects, are now coming forward on what is called a 'subsidy free' basis in the UK. That is without Government based incentives such as feed in tariffs that launched the first markets for solar pv (before being scaled back in recent years).

Even in often rather cold Finland the cost of solar pv is now below that of the wholesale power price. In Germany, which still gives some feed-in tariff support for what is now a booming rooftop solar pv market (increasingly associated with home batteries) the Government is giving out contracts to large schemes through auctions which deliver low prices. Nearly 4 GW of solar pv was deployed in Germany in 2019.

The surprise is that in the UK, which no longer has a Government backed system of awarding contracts to solar pv schemes, increasing quantities of 'subsidy free' solar pv schemes are in the development pipeline. According to Finlay Colville, Head of Market Research at the Solar Power Portal, around 6.6 GW of solar pv capacity is currently at various stages in the pipeline, with over 1 GW said to be deployed in 2020. These projects are dominated by (what is for solar pv) very large projects, many being 40 MW or bigger in size. Of course this pipeline is, on this trend, likely to grow in the future. 6.6 GW of utility solar projects would generate around 2.4 per cent of UK electricity on its own on an annualised basis.

There have been so far, in the UK, a small number of 'subsidy free' solar projects that have been deployed in particularly favourable circumstances (eg alongside already available grid connection equipment, or as extensions of battery projects). However this new crop of what can be called 'utility scale' projects represents a new

development that will make a substantial addition to UK generating capacity.

There are also various plans for 'subsidy free' onshore wind projects (including projects being taken ahead by Scottish Power and SSE). Around 500 MW of what will be 'subsidy free' wind projects are registered for the capacity mechanism for the 2022-23 year, but the capacity of solar pv projects threatens to move well ahead of wind power in the subsidy-free development stakes (note: for comparison a MW of wind power will generate roughly twice as much electricity per annum as a MW of solar on average). Although wind projects on the best sites offer very cheap prices, a big constraint on renewable energy projects is the availability of sufficiently low cost grid connection options. Solar pv may have an advantage here. Whilst high windspeed sites are tied to specific limited locations, there is an even spread of sun resources around the country. Hence solar pv may have more of a chance to pick up good grid connection possibilities.

Of course when it comes to offshore wind power, things are different. There are very, very large areas of good windspeed locations offshore, and grid connection costs for schemes can be calculated down simply by building ever more massive windfarms. But that's another story, albeit a very big one!

By David Toke 22/02/2020

Reference links:

Solar Power Portal

[https://www.solarpowerportal.co.uk/blogs/uk\\_utility\\_solar\\_sector\\_starts\\_gw\\_plus\\_deployment\\_roll\\_out\\_for\\_2020](https://www.solarpowerportal.co.uk/blogs/uk_utility_solar_sector_starts_gw_plus_deployment_roll_out_for_2020)

also LCOE analysis at

<https://onlinelibrary.wiley.com/doi/full/10.1002/pip.3189>