WHILE THE SUN SHINES

By simply letting a field for a solar array, a Hampshire farm is now helping to secure the UK's future energy supply

During the Olympics last summer, parts of London were earmarked to be switched off if the pull on the national grid reached capacity. Luckily, it coped – but this is a microcosm of what could happen in the UK within just a few years. Last October Ofgem reported that the amount of spare generation capacity on the system could fall from 14% today to just 4% in 2015/16. We're reaching a point where we're consuming almost as much as we're generating, putting our energy security at risk.

Strutt & Parker's Resources & Energy (R&E) team has just finished overseeing a new solar installation at Lovedean Farm in Hampshire. The site, owned by farmer Andrew Hull, is one of the latest solar farms to be completed by the UK's largest solar energy generator, Lightsource Renewable Energy, and will go a small way in contributing to the UK's much-needed replacement energy capacity. The 18,700 individual panels over 23.7 acres will generate almost 5MW of electricity to feed into the national grid – enough to power 1,200 typical UK homes – saving more than 2 million kg of CO_2 emissions every year (the equivalent to 750 large family cars driving continuously for a year).

The rows of solar photovoltaic (PV) panels are fixed to a framework 1.5m above the ground, with grassy avenues between so they don't overshadow each other. In the middle of the field, housed in a cabin, is an inverter, which converts the direct current electricity generated by the PV panels into →



Farmer Andrew Hull (left) with Strutt & Parker's Henry White at the newly finished solar farm



Basic site requirements

- Flat or south-facing land
- Large field, 30-80 acres
- Less than 3km to a national grid substation
- Well screened
- Grade 3 or below agricultural land
- No restrictive planning designations



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Words: Samantha Whitaker. Photography: Alun Callender

alternating current that's fed into the grid via a transformer.

It was Andrew's son, Tom, also a farmer, who saw the potential for renewable energy generation on the land. He contacted Charlie Evans of Strutt & Parker's Estates & Farm Agency, who recommended he get in touch with the R&E team. Following a site assessment, the team decided that solar was the most suitable option, and promoted the site to the market, negotiating an offer with the developer, which took an option on the land, sought planning permission and organised the connection to the national grid. Once they had these in place, they took a 25-year lease.

Despite the site's proximity to the South Downs National Park, and the fact that it is overlooked by several houses, the scheme was actually fairly planning positive, says Henry White, an associate in Strutt &Parker's R&E department. 'Compared to wind turbines or AD [anaerobic digestion], for example, solar parks are generally less contentious,' he explains. Local residents expressed concerns about noise, glare and electromagnetic fields, as well as the ecological impacts, but the planning team was quick to allay their fears, as solar farms emit no noise. Also, it's quite common to see panels on airport terminal buildings, such as those at Gatwick, proving the glare provides no risk to aeroplanes.

As far as the visual and ecological impacts are concerned, detailed assessments concluded that the development wouldn't cause any significant harm. In fact, a planting plan included in the proposal to help screen the array was considered a biodiversity gain at the local level. And, although there is no noticeable change to drainage, an infiltration swale will be constructed as a precautionary measure. During the planning process, the scheme had to be scaled down slightly because the national grid infrastructure didn't have sufficient capacity, even though the field lies next to a substation. 'The grid in this country isn't really set up to take new-generation power,' says Henry. 'We're finding that a lot of schemes aren't currently viable due to grid capacity issues. There are instances where the district network operator won't even provide a price for the connection; they'll just say there isn't an opportunity for up to two or three years, until they've upgraded the infrastructure.'

There is also the challenge of changing government subsidies. Following the cut in the Feed-in Tariff for domestic PV last year, from 1 April the Renewable Obligation Certificate (ROC) banding levels were reduced from 2 to 1.6 ROCs/MWh for large-scale schemes. As a result, Lovedean's solar park had to be constructed in record time, and commissioned by 29 March, in order to benefit from the higher tariffs and, therefore, a higher rental rate for Andrew. The developer installed the park in just over a month, battling rain, snow and a lot of mud. They finished with just an hour to spare before the Distribution Network Operator arrived to commission the site.

As the landowner, Andrew receives an attractive and guaranteed rental income, which is index-linked. 'This gives the landlord a predictable, guaranteed revenue stream, which he can then reinvest back into his core business of farming,' explains Henry.

Andrew is extremely happy with his solar park. 'It's part of modern-day farming,' he says. 'To my mind, we're now harvesting the sun, rather than growing oats to feed a horse to pull a cart.' Importantly, he admits that the profit generation is almost double what he would receive from a cereal crop – and there is no input cost. 'A lot of farms undertake some form of activity outside the core business of farming,' says Henry. 'Income from a renewable energy project adds to the security of the farm for the future.'

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The site will make a valuable contribution to the UK's renewable energy capacity, which is currently around 6.9% and needs to reach 15% by 2020, according to the EU Renewables Directive. A range of generation methods is required to ensure security of supply and, once constructed, solar PV is incredibly low impact and low maintenance. The panels need to be washed around twice a year, and the grass mown – although Andrew plans to graze sheep in the field. The operating costs are low, noise levels are minimal and there are no emissions or waste. Also, the panels produce electricity during the day, when demand is at its peak, and have a long-service lifespan of 25-30 years. Most importantly, perhaps, the development is temporary, so that at the end of its operational life the solar park can be decommissioned and the site fully restored to agricultural use.

As an independent adviser, Strutt & Parker can test the market with a wide range of potential developers to ensure the landowner gets the best deal. 'There's a wide range of developers in the market with differing abilities and resources,' says Henry, 'so it is key to ensure the developer for any site has the financial backing and track record. The rents on offer vary considerably, and it is important to test the market to ensure the landowner gets the best deal.'

Obviously, there are criteria to meet, and planning obstacles to tackle, but around a third of sites go ahead, he says. Andrew is certainly pleased with the outcome – but, he says, it took everyone working hard to make it happen. 'We're over the moon with our solar park – we just wish it would be sunnier!'

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