



Coronavirus continues to affect energy prices

The spring and summer months have produced some of the most unpredictable electricity prices we have had. This was a result of several factors that individually would have caused little impact but conjoined have had a big effect. The energy specialists at NFU Energy, Josh Robinson and Mike Bond, explain.

In April, wholesale energy prices fluctuated initially, before falling. This was primarily caused by the impact of the lockdown measures caused by coronavirus, with only an agreement to cut oil production by 9.7 million barrels a day offsetting the fall, as the global impact of lockdown hit the energy market. The US experienced negative oil prices for the first time in history, as the global impact of the pandemic led to a sustained lack of demand.

In early May, prices increased as some European countries began to relax restrictions, and the impact of the OPEC-led production cuts was felt. As the price of oil strengthened, the market continued to experience minimal increases throughout the month. However, longer-range weather forecasts and good weather assisted in weakening demand for energy and keeping the price rises muted.

While larger commercial growers with heavier electricity usage may well be operating on the flexible market, buying (and, if generating, selling too) at spot prices, smaller sites will normally find themselves buying electricity at a fixed tariff, possibly with separate day and night rates. Those fixed tariffs continued to fall but have now bottomed out, and there is evidence of a rise underway. Meanwhile, for those in the flexible market, another factor has been highlighted by lockdown: renewables generation.

The increasing overall contribution of the UK's solar PV and wind generation is well documented, but its immediate effect on traditional generation, and market prices, may not be. Unprecedented low demand, coupled with simultaneous strong sunshine and significant wind, on the VE bank holiday weekend in early May, caused a Sunday of very low prices, and then the first negative spot prices of the year: -£2/MWh at 2am on the Monday. The spring bank holiday brought far worse, with 30 hours of negative prices, hitting a low of -£38.80 on the Saturday afternoon. For flexible customers buying and selling a day ahead, before prices are announced, this brought major headaches and sudden reactions. As a result, we now have Optional Downward

Flexibility Management (ODFM) – Ofgem's compensation scheme for generators asked at short notice to switch off. When you also rely on your generator for heat and CO₂, this becomes a complex decision.

The recovery of oil prices saw prices fluctuate again throughout June, as oil, coal and carbon prices increased almost week on week. An initial easing of lockdown restrictions assisted the rise in prices. As the UK and the rest of the world return to the 'new normal', price increases are expected to continue. During the uncertainty of the coronavirus pandemic, energy markets remain cautious.



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Towards a Green Recovery?

As we reported in the last edition, the March budget contained many details that affect energy supply and use for horticultural businesses. Since then, we have had a spring and early summer full of government consultations on how these aspirations may be implemented. With some detail now available, in this edition, we look at these.

Energy taxation

Two key areas worthy of note are the changes to the Climate Change Levy (CCL) scheme and the transition from EU ETS as we head towards the end of the transition period.

The extension to the CCL discount scheme for an additional two years to allow users to benefit until 2025 is good news for horticultural participants. Set against increases to CCL charges on non-electricity fuels, the value of the scheme will be greater than before. The extension is generally to allow the Government time to consider whether there should be a replacement scheme and what this would look like. As a reminder, the purpose of the discount scheme is to reward growers who make energy savings by providing a reduction in the CCL components of their energy bills. Since a large proportion of the industry has adopted some form of renewable energy since the baseline year, the Government is being lobbied to allow a change in focus from energy savings to carbon savings to align the scheme with the industry's aspirations to achieve net zero.

For the larger energy user (those who have combustion capacity of more than 20 MW on site), the EU ETS has been a means of paying for carbon emissions from their fossil-fuel combustion. The end of our participation in the EU and the end of the transition period in January 2021 means that a new UK scheme is required. A consultation was launched in mid-July, canvassing opinion regarding the establishment of a new UK ETS or an alternative 'Carbon Emissions Tax'. Regardless of the final format, a scheme for large combustion sites will be in place to further discourage the combustion of fossil fuels. Some have suggested that total carbon taxation (sum of all taxations linked to carbon emissions) could achieve £50–£75 per tonne equivalent soon.

Green gas and renewable heat

In a set of consultations closed on the 30 June, the Department for Business, Energy and Industrial Strategy (BEIS) sought opinion on support mechanisms for renewable heating systems and implementation of policy to 'green' the gas network. Alongside this, there was an urgent request to look at the mitigation of the impacts of coronavirus on the development of Renewable Heat Incentive (RHI) projects.



Renewable Heat Incentive (RHI)

A response to the RHI issues was published with an effective date of the 20 July and allowed that:

- Any scheme which was in receipt of a tariff guarantee would be allowed, until the 31 March 2022, to commission and apply to the RHI
- Another round of tariff guarantee would be opened on the 20 July, with slightly different regulations around the application process, but in effect an extension for larger projects which could be installed and commissioned by the 31 March 2022
- All payments under the RHI scheme would end on the conclusion of a scheme's 20-year tariff lifetime or the 31 March 2041

This is good news for projects delayed by coronavirus and provides a limited level of reassurance that renewable heat and the RHI is still an important part of our transition to lower-carbon-emissions heating.

Green gas

While our electricity network has been decarbonised well in recent times, the heat network has struggled. In recognition of this, the Government plans to bring in a Green Gas Support Scheme, which will fund the installation of biomethane plants to allow approximately 3 TWh of green gas to be injected into the network. While many do not feel this goes far enough as an aspiration, this represents a doubling of what is currently available and provides a platform on which alternative gases could be supported.

The Green Gas Support Scheme will run for five years and is planned to have a similar structure to the RHI in terms of tariffs and lifetime, albeit at 15 years instead of 20. The scheme would be paid for by an implementation of a Green Gas Levy on all commercial users of natural gas from the network, estimated to increase the cost of gas by £0.5–£1.25 per MWh.

Renewable heat grant

Alongside the support for green gas, there will be a small-scale grant scheme to help pay for biomass boilers and heat pumps up to 45 kWth capacity. This will be of very limited interest to growers as the limitations on capacity fall short of heating requirements for anything other than office buildings. The proposed funding level (at around £4,500 per installation) is unlikely to figure highly in any decision-making.

Combined heat and power (CHP)

CHP is the subject of a call for evidence which closed in September 2020. This seeks views on how to best structure CHP as part of the Government's net zero targets to 2050. The document shows that horticulture had around 4% of the total number of CHP installations in the UK as of 2018 but delivered 15% of the power supplied. This call for evidence demonstrates how much change we may expect in our energy policy in the coming years – everything is being looked at.



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Case study: Low Carbon Farming

We have talked a lot recently about ‘net zero’ and the aspirations for the industry to reach this target by 2040. A previous edition of GrowSave News included some ideas for horticulture, including collaboration between industries. After all, one person’s waste is another’s treasure! One organisation taking this approach is Low Carbon Farming.

Based in East Anglia, Low Carbon Farming is well on with development at two sites, one in Norwich and the other in Bury St Edmunds, which will total nearly 30 hectares of high-tech greenhouses, while a third site is on the way in Wrexham. Partnerships have been set up with local water-treatment works to utilise waste heat, which is transported through more than 5 km of underground pipework.

The closed-loop system runs to ground-source heat pumps (GSHPs) located at the greenhouses. Heat pumps require electricity to operate but, typically, output around four times more heat energy than the electrical energy put in. The electricity is currently provided by

a mix of the grid and on-site generation from combined heat and power (CHP) units. The CHP plant provides additional heat to support the GSHPs, as well as providing carbon dioxide from the combustion of fuel, for the enrichment of the growing environment. However, since the CHP units are smaller than those on a typical site of the same size, an additional amount of liquid carbon dioxide will be used to reach the required level for the crops. This presents another area for sustainability, where carbon dioxide is sourced from a waste revenue; for example, from a biogas upgrading and grid injection site.

Low Carbon Farming’s aspirations are to improve Britain’s food security while simultaneously decarbonising the food chain. The company reports carbon savings of up to 75% from these projects. The development of the two operational sites in East Anglia is a demonstration of what is possible and is planned to lay the foundation for future low-carbon projects. However, substantial investment is required to get each project off the ground. Each of the sites developed to date cost

£50M+, but they have created over 300 jobs and will be capable of producing product equivalent to 12% of the UK’s tomatoes. These factors are significant if the UK is to achieve a higher level of self-reliance in terms of food production and reduce dependence on imported produce post-Brexit.

Furthermore, the swift decarbonisation of the industry is crucial to mitigate the looming threat of the climate crisis; the use of waste heat to offset the burning of fuels – especially fossil fuels, but also renewables such as biomass – is likely to be a vital component of success.

The circular economy approach of ‘reduce, reuse, recycle’ should be applied to any new development but is also relevant to existing businesses. It is worth considering if there are any untapped resources which you might be able to benefit from.



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