



Achieving net zero

The term 'net zero' crops up ever more frequently, with many industries developing sustainable processes for the future benefit of our planet. But what is net zero and how can you help?

What is net zero?

'Net zero' refers to achieving a carbon neutral process in which the amount of greenhouse gases (GHGs) removed from the atmosphere is equal to that produced. The term 'greenhouse gas' covers many things, including carbon dioxide (CO₂), methane (CH₄) and even water vapour (H₂O). Not all GHGs are equal, so these are often evaluated in terms of 'carbon dioxide equivalent' (CO₂e), which considers the global warming potential (GWP) of the various emissions.

The UK Government has committed to reducing the country's GHG emissions to net zero by 2050¹, while the National Farmers Union has pledged to help the farming sector achieve this target by 2040².

What can I do?

Reduce and reuse

Western European farming methods are already very efficient, using only 40% of the global energy average, but you can probably still improve your energy efficiency and, together, we must do better.

GrowSave has been helping growers to improve their energy efficiency for over a decade. Start with the simple things; for example:

- Use timers to switch off equipment when not required
- Insulate buildings
- Reduce heating set points

More complex solutions can involve considerable investments. They could also include identifying local industries with waste heat or CO₂ – often an unwanted byproduct released to the atmosphere. Through collaboration, these 'waste' streams can be utilised for mutual benefit and overall emissions reductions.

Renewables

To achieve a net zero industry, it is clear we must also transition from fossil fuels to renewables. Biomass has replaced a considerable proportion of conventional fossil fuel sources. Heat pumps are the latest popular heating technology: their relatively low temperature outputs can be adapted to suit horticultural needs. Combined with renewable electricity generation, they can be a truly carbon-neutral technology.

The evolution of solar continues with translucent solar panels. These let light through at the wavelengths required for photosynthesis, while the rest produces electricity. A trade-off between energy production and light transmission means increasing one sacrifices the other, but the solar cells could also add a layer of insulation by reflecting infrared light. Depending on location, researchers estimate that using these systems could offset 40–100% of energy demand³.

Many will require financial incentives to invest in low-carbon technologies, such as subsidies or reduced operating costs. See the article overleaf for information about aspects of the Government's response to this challenge.



Ed Hardy
GrowSave Consultant

¹ www.gov.uk/government/news/uk-becomes-first-major-economy-to-pass-net-zero-emissions-law

² www.nfuonline.com/news/media-centre/press-releases/nfu-reiterates-its-net-zero-aims-for-agriculture

³ www.eurekalert.org/pub_releases/2020-02/ncsu-ngo020720.php

What do the budget announcements mean for farmers and growers?



Jon Swain
Director at NFU Energy

Although somewhat overshadowed by recent events, on 13 March 2020, Chancellor Rishi Sunak announced his first budget.

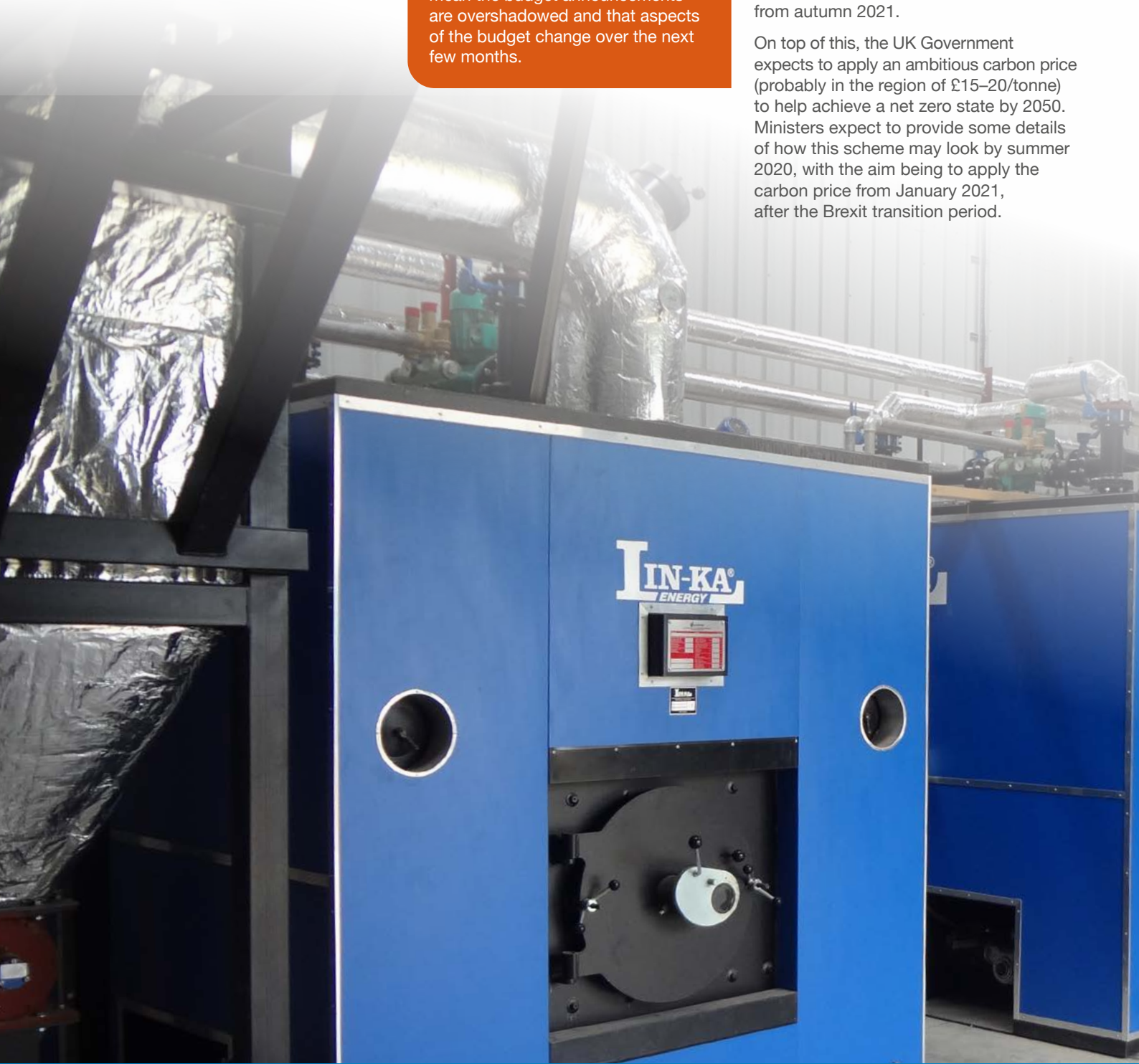
The budget was a positive one for growers with renewable energy or green projects, with several key announcements about financial incentives and disincentives to increase uptake and supply of renewable energy, while discouraging the use of fossil fuel energies.

The Coronavirus pandemic may mean the budget announcements are overshadowed and that aspects of the budget change over the next few months.

Disincentives for fossil fuel use

While the Climate Change Levy (CCL) charges on electricity will be frozen from 2022, they will be raised on some heating fuels. This will help to discourage their use and, in a further disincentive to use gas and to help pay for some of these incentives, a new Green Gas Levy will be introduced. This is likely to apply to all users of gas, in a similar way to the Feed-in Tariff charged on electricity prices. We expect to see details of this in a consultation from the Government in the coming months, with an implementation date planned from autumn 2021.

On top of this, the UK Government expects to apply an ambitious carbon price (probably in the region of £15–20/tonne) to help achieve a net zero state by 2050. Ministers expect to provide some details of how this scheme may look by summer 2020, with the aim being to apply the carbon price from January 2021, after the Brexit transition period.



Although fuel duty has been frozen for another year, there are plans to abolish red diesel tax relief in 2023 for users other than agriculture, low carbon heating, fishing and rail. While this is good news for our sector, the removal for others is a demonstration of intent and may well change as we move forward.

Incentive schemes for renewable energy

There are limited extensions of some schemes, including the continuation of zero allowances for low carbon vehicles and an extension to Climate Change Agreements and the Climate Change Levy (CCL) reduction scheme for major energy users (pigs, poultry and horticulture) for a further 2 years, to 2025. Those who have an agreement and meet their energy savings targets will be able to access a discount of 81% on gas, LPG etc., and 92% on electricity CCL charges from April 2020 onwards.

In the short term, there are also limited extensions to the Renewable Heat Incentive (RHI). For domestic participants, this means new applications will continue to be accepted until 31 March 2022. For non-domestic participants, the scheme in its current form will end in March 2021.

However, there will be new tariff guarantees for larger projects in some technologies from March 2021 onwards. Although we expect these to be weighted towards large-scale biomass, heat pumps and biomethane to grid, details of these schemes will be revealed as the months progress and consultations are launched. Similarly, Government expects to consult on a new renewable heat grant scheme to follow the RHI, which will include these technologies. This grant scheme has total budget of £100m for the years 2022–2024 inclusive.

Following on from the current Heat Network Investment Project (HNIP), £270m is allocated to a new green heat network fund to run in 2022–2025. This fund will contribute to the extension of existing heat distribution systems so more people can benefit from renewable heat.

It is expected that this will be targeted at the most cost-effective low carbon heat sources as a change from the existing HNIP, which is source agnostic.

There will be a doubling of Energy Innovation research and development funding to £1bn, plus a further £20m of research and development funding for distillery companies to investigate green options.

So, in all, there were a good number of announcements about how the Government aims to accelerate the UK as a low carbon country and establish a net zero economy. These announcements will have some immediate impacts on growers' businesses, as will some schemes to look out for in the immediate future.



Figure 1. Biomass system

Limited environmental announcements

The Government intends to introduce a so-called 'Nature for Climate Fund'. This will invest up to £640m in tree planting and peatland restoration in England and aims to increase the rate of tree planting by up to 600% over the next 5 years.

In addition, a Nature Recovery Network Fund will help to support and 'restore' existing habitats and wildlife. Finally, a Natural Environment Impact Fund will support green projects that could be suitable for commercial investment.

Stay ahead of the game and consider your fuel supply



During these unprecedented times of Coronavirus, many businesses find themselves working entirely from home and we are hearing reports of difficulties in obtaining heating fuel supplies, both renewable and non-renewable.

This may be because some businesses are closing, because of lack of staff, because they feel it is the responsible thing to do to protect their staff and customers, or simply because they are not able to continue trading effectively. Even if the fuel supplier continues to trade, some of the raw materials (for example, for making woodfuels) are reportedly becoming difficult to obtain.

To help reduce the risk of limited fuel supplies, it makes sense to plan further ahead than you might normally do. Take regular fuel stock levels and start the ordering process early, so that your chosen supplier can allocate fuel to you. Also, be flexible about delivery dates and times. You should follow all relevant Government advice about safe delivery and contact with delivery agents to your site.

Fuel oils are relatively straightforward because, generally, each supplier provides fuel of identical specification. However, this is not the case when it comes to sourcing fuel for your biomass boiler. If you receive RHI payments, you must remain within the eligibility of your accreditation. Review your RHI accreditation application to make sure you stay compliant.



Jon Swain
Director at NFU Energy

Within their Coronavirus guidance, the Government has specified fuel suppliers as key workers to minimise disruption to UK business. Therefore, these businesses can continue to trade and deliveries are considered to be essential journeys. We are hopeful that this is a short-term problem while we all adapt to the restrictions and, as we come into warmer weather, we hope that the lower overall demand will free up supplies for those still needing fuels.

For guidance on how to remain within the RHI eligibility of your accreditation, give the GrowSave team at NFU Energy a call on 024 7669 6512.



Energy market update

Joshua Robinson, Energy Consultant
at NFU Energy

The combination of a mild winter and a record number of LNG (liquefied natural gas) imports into the UK meant that January was a month in which prices fell consistently. Tensions between Iran and the USA briefly affected prices before subsiding throughout the month.

The trend continued in February as the impact of Coronavirus hit the Far East. Demand for gas and electricity reduced, which led to LNG cargos being redirected to Europe and the UK. Prices were also brought down by a fall in the carbon prices, as OPEC started to cut supplies to balance the market. Over subsequent weeks, the UK price was affected by stormy weather, which slowed imports.

Coronavirus affected the market in Europe an unprecedented manner. In March, lockdowns reduced energy demand across the globe, causing the price of both oil and carbon to fall. A short-term revival occurred towards the end of the month, a result of energy market buyers purchasing at a low market price.



T: 024 7669 2051
ahdb.org.uk



T: 024 7669 6512
ahdb.org.uk/growsave



T: 024 7669 6512
nfuenergy.co.uk