

GrowSave Annual Report: 2021-22

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Introduction

In the 2021-22 GrowSave year we returned to core activity. The sixteenth of the programme and the third within the current five-year contract, the wind down of AHDB’s activity for potatoes and horticulture and the review of the other sectors means that Horticulture was the only sector to participate in the programme for the whole period, and Dairy had a 3 months participation. The bigger effect on growers however has been the hugely volatile and unprecedented changes in the energy market, especially with regard to energy costs, culminating in government intervention to shore up energy exposure for UK business, which was announced towards the end of summer 2022. This highlights the importance of the activity of the GrowSave team in delivering valuable content to the industry through other means, including online training courses and videos.

This report summarises the activities and deliverables that were contracted and delivered between September 2021 and August 2022.

Steering Committees

The GrowSave programme continues to be advised by steering committee, which represents the various stakeholders. The complementary and diverse mix of people includes project managers (AHDB), the delivery team (NFU Energy/NFUE) and industry representatives (e.g. growers and business owners). The Horticulture steering committee was slightly consolidated this year with the loss of AHDB colleagues in the Soft Fruit and Ornamentals sector in Dec 21 as shown in Table 1. Regular meetings were again held via Teams this year – which continues to prove a reliable means of getting good attendance and reducing burden on growers to participate. The steering committees help ensure the programme focuses on topics that are both timely and relevant to the sector.

Table 1: Steering Committees

| Sector | Member | Organisation | Role |
|---------------------|-----------------------------|------------------------------------|------------------------------|
| Management | Nathalie Key | AHDB | Project oversight |
| | Jon Swain | NFU Energy | Content delivery manager |
| Horticulture | Wayne Brough (until Dec 21) | AHDB Horticulture | Ornamentals Sector Oversight |
| | Scott Raffle (until Dec 21) | AHDB Horticulture | Soft Fruit Sector Oversight |
| | Sandy Booth | New Forest Fruit | Industry representative |
| | James Broekhuizen | Anchor Nurseries | Industry representative |
| | Richard Fox | Neame Lea | Industry representative |
| | Andrew Fuller | Neame Lea | Industry representative |
| | Richard Harnden | Berry Gardens | Industry representative |
| | Roly Holt | R&L Holt | Industry representative |
| | Phil Morley | Tomato Growers’ Association | Industry representative |
| | Matthew Simon | Glinwell PLC | Industry representative |
| | Neil Stevenson | Double H Nurseries | Industry representative |
| Dairy | David Ball | AHDB Dairy | Sector Oversight |
| | Joe Towers | Lune Valley Dairy | Industry representative |
| | Ian Ohnstad | The Dairy Group | Industry representative |
| | Ian Harvey | AHDB Dairy Board & Harvey Brothers | Industry representative |

| Sector | Member | Organisation | Role |
|--------|------------------|--------------|------------------|
| | Alistair McLaren | AHDB Dairy | Sector oversight |
| | Emily Collins | AHDB Dairy | Sector oversight |
| | Kate Harris | AHDB Dairy | Sector oversight |

Steering Committee Meetings

The steering committees, where already established, meet as frequently as necessary, typically bi-monthly or quarterly. The dates and locations of these meetings are summarised in Table 2. Meeting minutes are included as appendices.

Table 2: Summary of Steering Committee Meetings

| Sector | Date | Location | Minutes |
|---------------------|------------|-----------|---|
| Horticulture | 02/09/2021 | Via Teams | P:\AHDB\Growsave 2019-2024\2021 - 2022\Horti SG meetings\Horticulture SG minutes |
| | 20/10/2021 | Via Teams | |
| | 20/01/2022 | Via Teams | |
| | 13/04/2022 | Via Teams | |
| | 23/06/2022 | Via Teams | |
| | 11/08/2022 | Via Teams | |
| Dairy | 08/11/2021 | Via Teams | |
| | 08/12/2021 | Via Teams | |
| | | | |
| | | | |

Management Teams

The management team (see Table 3) oversees the running of the programme from an overarching and holistic viewpoint, ensuring themes are relevant and aligned to AHDB's goals and the industry.

Table 3: Management Team

| Member | Organisation | Role |
|--------------|-------------------|-------------------------|
| Jon Swain | NFU Energy | Content delivery |
| Nathalie Key | AHDB | Project oversight |
| Wayne Brough | AHDB Horticulture | Industry representative |
| David Ball | AHDB Dairy | Industry representative |
| Scott Raffle | AHDB Horticulture | Industry representative |

Jon and Nathalie met formally (see Table 4) to discuss management of the project, the other industry representatives for Horticulture were only involved to the middle of December 21 and the Dairy representation ceased in early December 2021 (see future section on dairy participation).

Table 4: Management Team Meetings

| Date | Location | Minutes |
|------------|-----------|--|
| 15/04/2021 | Via Teams | See Error! Reference source not found. |

Sector Engagement

Engagement of the various sectors is dependent on several factors, including budget, target audience and the type of information to be shared. Information typically falls into two categories:

1. Technical reference material, delivered as:
 - Technical updates
 - Technical articles
 - Workshops/Seminars
2. News
 - Sector publications
 - Sector conferences

Horticulture

GrowSave website

One of the major projects undertaken by the GrowSave team in this third year was the rebuild (under NFU Energy control) of www.growsave.co.uk (see Figure 1). This was contracted additionally to the main programme but falls under the auspices of the same management and team to deliver.

Starting in March 2022, and using content structures previously provided to AHDB, the Noisegate Media team under direction of NFU Energy re-created the pages of relevant content. The website went live in June 2022 and between June and September was modified, reviewed and refreshed, so that it is now a functioning live resource for the use of UK Growers.

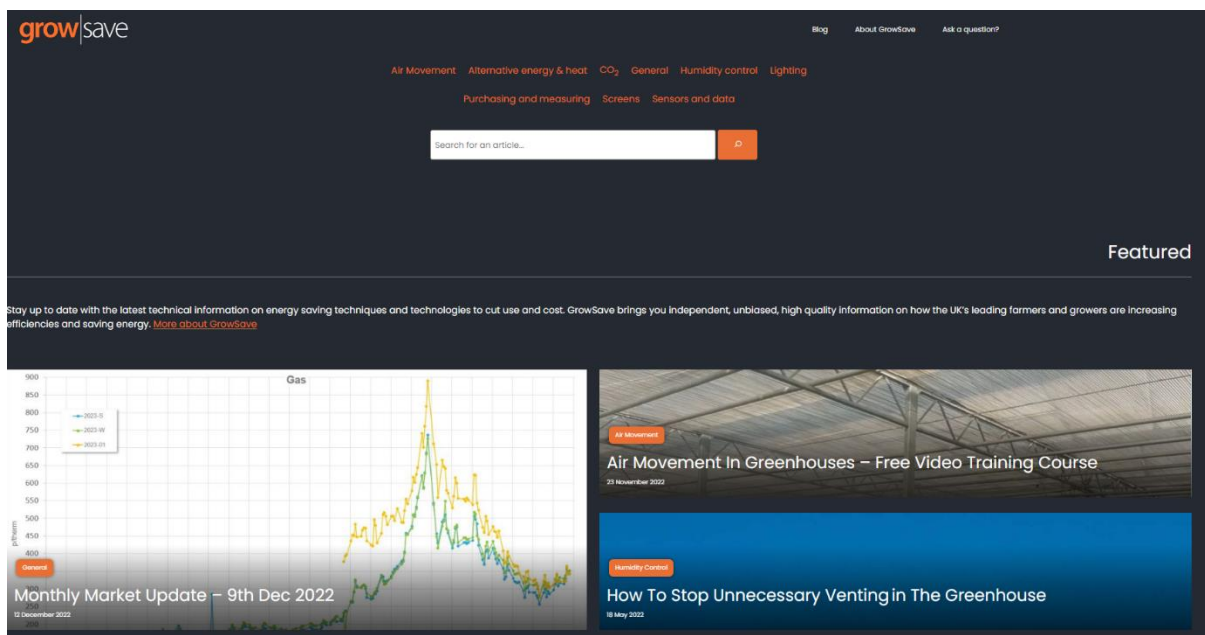


Figure 1. The new GrowSave website format

In re-creating the project website one of the key changes beyond the look and feel was to make the sections much more thematic and therefore more accessible for the user, especially in a mobile environment. The current themes covered are:

- Air Movement
- Alternative energy and heat
- CO2
- Humidity Control
- Lighting
- Energy purchasing and measurement
- Screens
- Sensors and data

In addition there is a general section for the content that does not naturally have a home within this content structure.

Content includes webpage based textual information, pictures, diagrams and videos to enhance the grower experience. Crucially none of the content is via downloadable PDF meaning accessibility and ability to make updates is much improved.

The following website statistics were available to determine the activity on the site, accessed on 30 November 2022:

Since the website was launched on Monday 27 June the website has had:

- 644 visits from 452 different users
- They spent an average of 2 minutes 45 seconds on the site

Broken down by month:

- 84 users in July
- 136 users in August
- 75 users in September
- 89 users in October
- 85 so far in November

Below are the top 10 most visited pages:

| | | |
|----|---|-----|
| 1. | / | 392 |
| 2. | /category/alternative-energy-and-heat-storage/ | 67 |
| 3. | /spark-spread-what-is-it-and-what-does-it-mean/ | 65 |
| 4. | /category/humidity-control/ | 59 |
| 5. | /category/air-movement/ | 52 |
| 6. | /category/general/ | 50 |

| | | |
|-----|---|----|
| 7. | /about/ | 49 |
| 8. | /blog/ | 48 |
| 9. | /category/lighting/ | 46 |
| 10. | /introduction-to-air-circulation-fans-in-greenhouses/ | 41 |

Content delivery

Whilst for the most part of the GrowSave year there was no outlet for content, this was created nonetheless to ensure adherence to the contractual requirements and also to have readymade content for upload to the GrowSave website when it was ready. In addition limited content, produced prior to March, was produced and uploaded via the GrowSave pages of the AHDB site for a short period of time.

In order to deliver content to growers in a more effective manner, opportunities were taken to provide updates to, and to meet with, grower groups, including British Herbs, British Protected Ornamentals Association (BPOA), Tomato Growers' Association (TGA), Cucumber Growers' Association (CGA) and others.

The Steering Group decided that this year should tackle the two key themes facing protected cropping – heating and CO₂, the content delivery reflects this.

Table 5: Horticulture Deliverables

| | | Content | Delivered |
|---|--|---|--------------|
| 'Extra' Industry representation | British Herbs | Energy Update | March 2022 |
| | TGA Tech Committee | Energy Update | March 2022 |
| | Growsave SG | Energy Market update from our trading team | June 2022 |
| Technical Updates and articles | 1 | Vertical Farming | May 2022 |
| | 2 | Low GWP and High Temp heat pumps | May 2022 |
| | 3 | Energy Market updates and Innovate projects update | March 2022 |
| Events | CGA Conference | Moving towards Net Zero - presentation | October 2021 |
| | Grower workshop | The Future of heat and CO ₂ for Protected horticulture | October 2021 |
| | BPOA Technical Meeting (online) | Energy session | January 2022 |
| | Online Training Portal (Thinkific) | Air Movement | August 2022 |
| | Study Tour | Alternative CO ₂ sources | March 2022 |
| Other – link with Innovate project | Study tour – Visits to the Netherlands and Switzerland looking at alternative heat sources | | March 2022 |
| | Industry exhibition GreenTech , Netherlands | | April 2022 |
| | Industry Exhibition Fruit Logistica, Berlin | | June 2022 |

Event round-up

Pleasingly this GrowSave year saw the return to in-person capabilities for events. An online workshop was held first (see Figure 2), however, in October 2021 to discuss with Growers and other industry representatives what the future may hold for alternative sources of heat and CO₂ in protected horticulture.

What is the future for heating and CO₂ in protected cropping?

A virtual workshop with a difference...

With the end of the Renewable Heat Incentive (RHI) and the recent policy shifts towards Net Zero appearing to demonstrate increases in carbon costs for fossil fuels, protected horticulture is potentially facing an unprecedented challenge to manage heating and CO₂ enrichment requirements against a background of ever higher prices and reduced incentives.

This workshop hosted by GrowSave aims to:

- Capture industry concerns and opportunities around:
 - Increasing taxation on gas prices;
 - Reducing CO₂ content in gas (increasing Hydrogen content);
 - Electrification of heat (reduced CO₂ and temperature);
 - Direct air capture of CO₂;
 - Improvements in glasshouse design and technology to mitigate effects.
- Direct study, research, investigative work possibilities.
- Capture non-direct industry thoughts to explore opportunities for PC;
- Direct appropriate GrowSave output.

We sincerely hope you consider our invitation as an opportunity to help shape the future of horticulture and would welcome a response from you so we can mail you with a full programme closer to the time. Please RSVP to ceri.kinsella@nfuenergy.co.uk.

Many thanks and warm regards,
NFU Energy

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helping horticulture save energy
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AHDB
GrowSave is delivered for the AHDB Horticulture by NFU Energy — the UK's leading energy consultancy specialising in agriculture and horticulture

Figure 2. Future for heating and CO₂ workshop advert

In March 2021 a study tour was organised and held, looking for alternative sources of CO₂ in Horticulture. A small contingent of growers and industry reps were in attendance to:

- Site visit to Springvale Farm Anaerobic Digestion (AD) plant to hear about direct capture of CO₂ from biogas
- Presentation from Future Biogas on their plans to widely capture CO₂ and sequester it
- Presentation from an American company – Direct Air Capture, about how to capture CO₂ from fresh air
- Visit to Drax power station to hear about their plans for Amine scrubbing from the biomass flue gas to recover the CO₂.

GrowSave also benefitted from NFU Energy's involvement in an Innovate project looking at district heating options for alternative heat supply. This work has been ongoing since Summer 2021, but most pertinently within this GrowSave year were the following in March 2022:

- Visit to DES in Rotterdam to view a biomass boiler fitted with CO₂ scrubbing and supplying a complex of 3 different greenhouses
- Visit to Hinwil in Switzerland to view the heat supply from a district energy from waste plant to 2 greenhouses and the supply of air captured CO₂ by Climeworks to one of them.

Findings from these visits were used in KE activities including the conferences later in the year.

In addition two key industry exhibitions were attended:

- Greentech at the Amsterdam RAI in March 2022
- Fruit Logistica in April 2022 in Berlin.

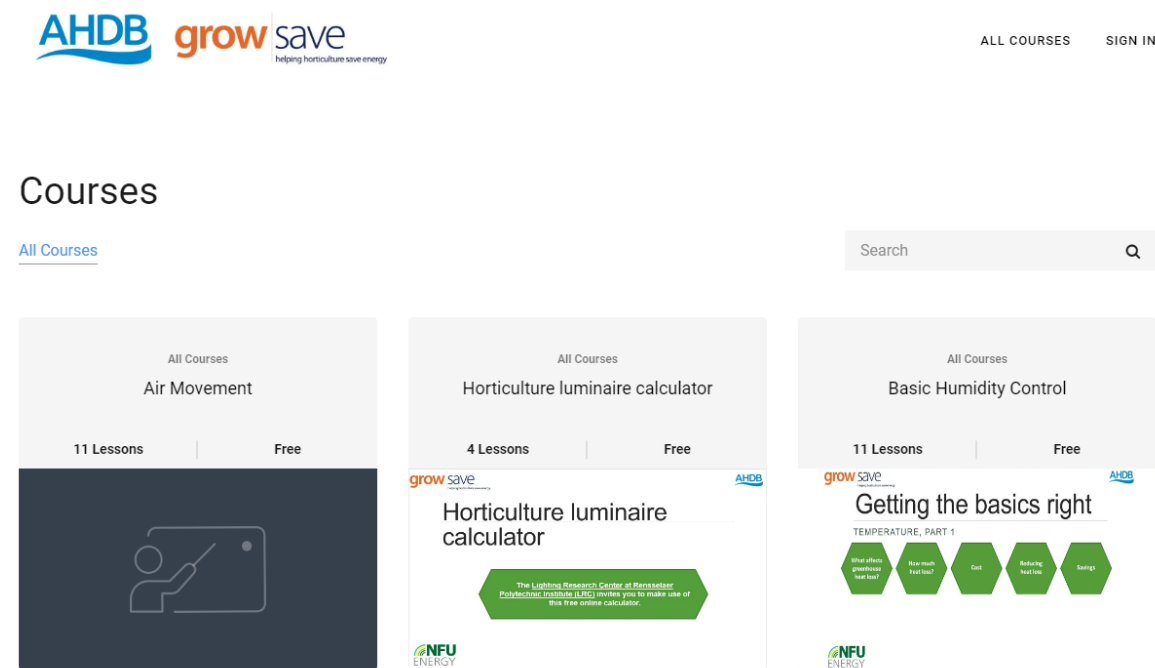
All the events and visits conducted have been directly related to the theme for this year and the information obtained used in the preparation of materials, discussions with growers and presentation at events, throughout the second year and into the third GrowSave year (22-23).

Online training

Following on from last year's creation of the online training platform, this year GrowSave added modules on air movement to provide a continuously accessible training potential:

<https://ahdbgrowsavetraining.thinkific.com/collections>

Figure 3. The online training platform



Dairy

Funding had been agreed by the Dairy sector of AHDB until the end of GrowSave year 2 (2020-21) and further funding was complicit on GrowSave providing proposal for further activity and this being agreed by the steering committee and AHDB boards.

At the final Steering Group (SG) meeting of Yr 2 (14 Sept 2021) it was agreed that NFUE would prepare and circulate a proposal for work and required funding to AHDB and the group, discussions on which would be held in late Oct 2021 (actually held on 8th November 2021 meeting in the event). This was completed and the proposal has been included with the appendices. Subsequently AHDB representatives undertook to determine agreement for this at board level as it was widely supported by the industry representatives, prior to a further SG meeting held on 8 December 21 a rejection of this proposal by AHDB was sent to NFUE.

The SG meeting of the 8 December 21 was marked by its disappointment that the funding could not be agreed, the reason given that it did not fit with the Market Failure Objectives of AHDB Dairy. Options were presented for next action:

Option 1 – Wait and allow GrowSave Dairy to dwindle until it becomes an important AHDB objective. Mostly we agreed that this option was not compatible with SG ideals.

Option 2 – Come up with alternative proposals for GrowSave to pursue that might meet Market Failure objectives – none immediately came to mind (other than David’s suggestion about Generic Dairy Audit)

Option 3 – Lobby the relevant people within AHDB about the project seeking to persuade through Sector Councils that it should be an objective of AHDB Dairy

Option 4 – Wait until the vote is concluded in the spring and result known (possibly autumn) and table the proposal in the ‘new format’ thereafter

Option 5 as per 4 and include market updates and the webpages as an important part of keeping GrowSave profile high during this period.

Ultimately Option 4 was adopted (by default as costs for Option 5 were not agreed) and it would be pertinent now to refresh AHDB Dairy’s view on the GrowSave programme now that the proverbial dust has settled.

Pork

Following the conclusion of work carried out in 2019-20, the Pork sector did not commit to any GrowSave work, meaning there were no contracted activities this year. The Pork sector should consider how the GrowSave programme can be of benefit – i.e. what activities, publications or workshops would be of use to the pork industry.

Potatoes

As mentioned previously, the winding up of AHDB Potatoes operations has meant the proposed steering committee has not been formed and further work has not been scheduled.

Cereals & Oilseeds

Following the conclusion of work carried out in 2019-20, the Cereals and Oilseeds sector did not commit to any GrowSave work, meaning there were no contracted activities this year. The sector should consider how the GrowSave programme can be of benefit – i.e. what activities, publications or workshops would be of use to the industry.

The Impact of GrowSave

Financial Benefit

Quantifying the impact of GrowSave is never easy, given that the primary output of the programme is knowledge. It is incumbent on the industry to take the information provided and to apply it to business processes. There is no strategy to benchmark energy consumption and measure subsequent energy savings of those engaged by GrowSave.

Anecdotally NFUE have seen a doubling of calls from growers, within the GrowSave year, for advice on energy costs and market insight than in previous years, this is a reflection both of the presence of the programme and the extraordinary energy price changes seen within the period.

As reported previously, energy prices had started to rise to (then) unprecedented costs in September 2021, the invasion of Ukraine by Russia in January 2022 caused even more significant upward movement with the spring/summer period characterised by uncertainty and volatility in the markets and the subsequent knock-on effect on prices as upward movement.

By early summer there were real concerns that winter energy prices were going to be 5-10 times historic levels (50p/therm for gas becoming 500p/therm) and the government stepped in with policy and action to tackle these concerns – introducing the Energy Bill Relief Scheme (EBRS). Subsequent events, including the lack of progress by Russia in the Ukraine, European gas storage volumes filling in early autumn, expectations of a milder winter than usual and reductions in consumptions across the board meant that wholesale prices began to move downwards leaving September prices starting to decline.

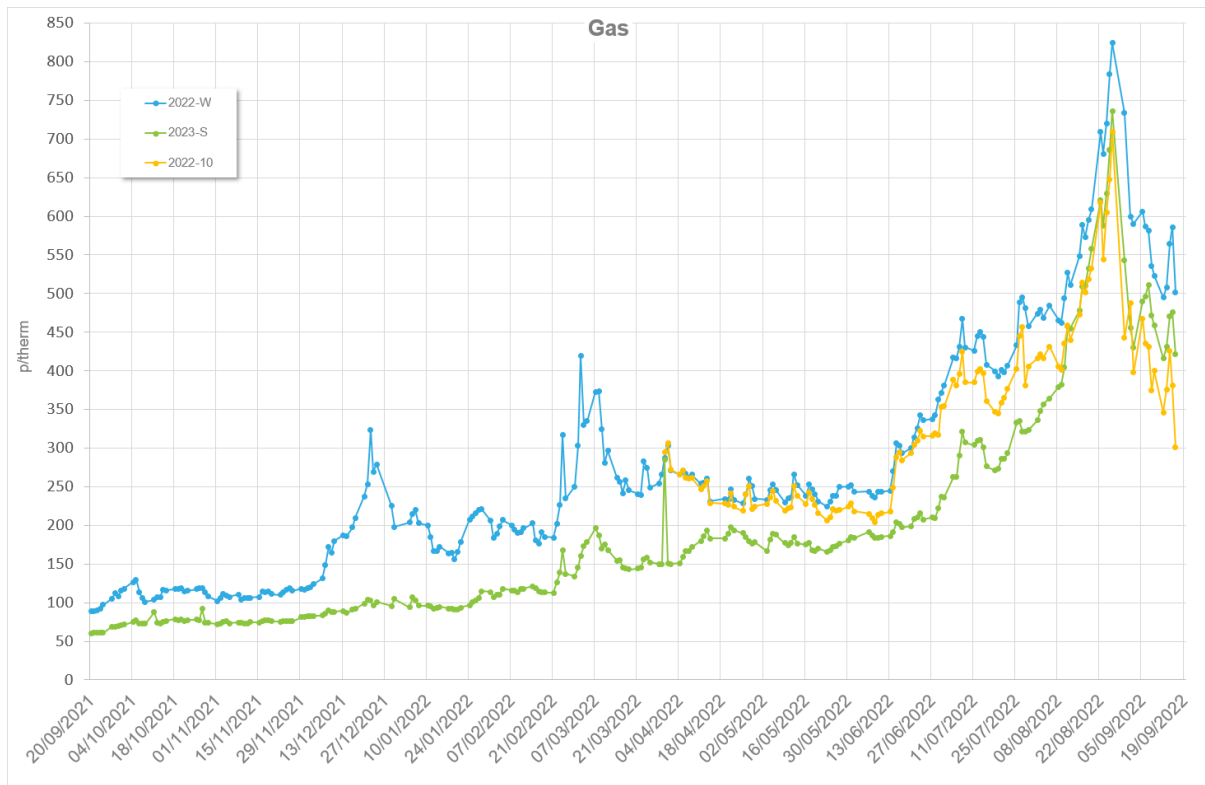


Figure 4. Forward gas prices for GrowSave year 2022 – Oct 2022, winter 2022, Summer 2023

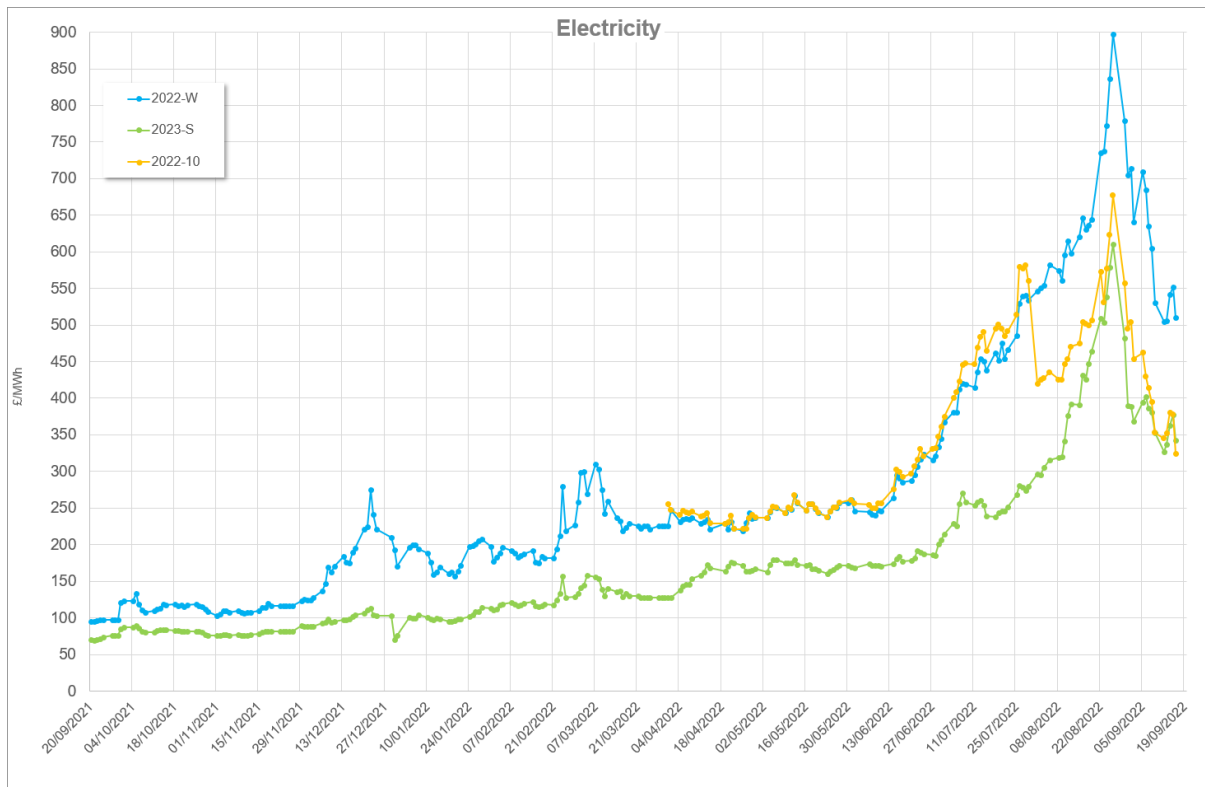


Figure 5. Forward electricity prices for GrowSave year 2022 - Oct 2022, winter 2022, Summer 2023

This kind of rapid rise in energy prices is felt directly by the industry and can potentially threaten business profitability and stability, especially for those who are still heavily dependent on gas or grid electricity. That is not to say that businesses with on-site generation capabilities are immune to market volatility, but they may be better placed to weather the storm. In all cases, however, reducing energy consumption and dependence on fossil fuels, such as through improved efficiency practices and by adopting emerging low-energy and ‘green’ technologies, can help businesses to ensure their long-term viability. GrowSave remains well-placed to help the agriculture industry achieve this, firstly by keeping abreast of developments and secondly through its programme of knowledge dissemination. If September’s energy prices represent a new long-term baseline, the agricultural industry could expect its annual fuel bill to increase by a factor of 7 or 8. It also means, however, that for every kilowatt-hour GrowSave can help save, the financial benefit of the programme is also multiplied by the same factor, thus offering a greater return on investment to AHDB.

Appendices

Appendix 1: <P:\AHDB\Growsave 2019-2024\2021 - 2022\Horti SG meetings\Horticulture SG minutes>

Appendix 2: <P:\AHDB\Growsave 2019-2024\2021 - 2022\Dairy SG meetings\Dairy minutes and proposal>