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# Is it decision time for off-grid heating?

Will 2023 go down in history as the year when the critical decisions relating to the future of off-gas grid heating were made?



It's over a year since the BEIS consultation

on phasing out the installation of fossil fuel heating systems off-the-gas grid and much has happened since then. However, at the time of writing, we haven't had the Government's response. Since the changes are proposed to come in from 2024-2026 there's certainly no time to waste. Action on heating is urgently needed if we're to stay on track to achieve net zero by 2050, because heat is a major contributor to the UK's greenhouse emissions.

But any proposals must be fair, and these are anything but. Off grid homes and businesses are being forced to begin transitioning to renewables nine years earlier than those that use gas, and the penny has dropped with MPs who represent rural constituencies – this is not a vote winner! As you can read in our article on this page, there is now increasing support in Parliament for changes to the Government's plans.

OFTEC and UKIFDA have been at the forefront of work to make the case for these changes. We don't want to prevent progress from being made, but we think consumers need more choice, and the options need to be much cheaper too. HVO could tick both those boxes with some simple changes to an existing incentive scheme and duty that would cost the government nothing to implement.

The alternative is to go ahead as planned, imposing a one-size-fits-all solution before industry is ready and long before the cost of heat pumps is comparable with boilers, or to delay the transition. Neither option makes sense, and could put at risk the progress that is already being made. Let's hope the Government sees sense and adjusts its plans accordingly.

### Nick Hawkins

Chairman OFTEC

# Future Ready Fuel campaign update

### George Eustice intervention raises hope of progress with HVO deployment plan

Our campaign to get Hydrotreated Vegetable Oil (HVO), for heating supported and incentivised by government has taken an important step forward in the UK. In December the influential Cornish Conservative MP, George Eustice visited the village of Kehelland, Cornwall where many properties have been converted to HVO as part of the OFTEC/UKIFDA demonstration project. Mr Eustice met many of the residents and was extremely impressed with everything he saw and heard.

As a result, he promised to actively support the campaign and, on Wednesday 11th January, he introduced a Ten Minute Rule Bill in Parliament to support the use of HVO in heating. The bill proposed to reduce the duty charged on renewable liquid heating fuel, provide for the imposition of obligations on suppliers of heating fuel in relation to the supply of renewable fuel, and for connected purposes.

The Bill was passed unopposed, having achieved the necessary support, and Mr Eustice expressed thanks for the "extraordinary expressions of support" that he had received from MPs of all parties. The second reading of the Bill is set for 3rd March and OFTEC and UKIFDA will continue to provide all possible support. This is a very helpful development because Ten Minute Rule Bills are a good opportunity to raise the profile of an issue and to see whether it has support among other members of Parliament, which this one clearly has.

Alongside the HVO demonstration project, which is entirely funded by industry, OFTEC and UKIFDA campaigned to get the Bill supported by encouraging Future Ready Fuel subscribers to write to their MP, and by sending detailed briefings to rural MPs to explain the benefits.

As a result of this work, we now have a good number of MP supporters who understand the benefits of HVO, and why it is so important for the rural households and businesses they represent. Despite this progress, we are still some way from achieving our goals. The next step is to build further grass roots support from back-bench MPs and pressurise the Government to modify its decarbonisation plans.

The Government's Energy Bill, which is currently going through Parliament, offers a perfect opportunity to do this. Our proposed changes to the Bill will do two things:

- Extend the incentives for using HVO in transport to include heating use as well.
- Align the duty levied on liquid fuels for heating by removing the duty that is currently charged on HVO.

The effect of these changes would be to bring the price of HVO down to a level much closer to kerosene, making it an affordable choice for many households.

### We need your help NOW!

If you want your customers to have the option to continue using liquid fuel heating in the future, you need to support our campaign. Please help us by writing to your MP and encouraging your customers to do the same. The next OFTEC e-newsletter will explain how. It will only take you five minutes, but the impact could be huge.

# Into renewables? Get properly qualified!

If you are thinking about offering renewable installations as part of your existing business, then it's important you keep on track with this fast-moving sector, and that includes your qualifications.

Many more consumers are asking about heating their homes from renewable sources and, like typical gas, liquid fuel and solid fuel combustion appliances, renewable installations fall under Building Regulations and either building control approval or self-certification via a government competent person scheme (CPS) is required.

The Microgeneration Certification Scheme (MCS) should also be considered. It offers registration schemes for renewable installers and manages installation standards like MIS 3005-I for the installation of heat pumps. Most funding schemes will require the installer to be MCS registered, and the technology installed to MCS standards. Competence levels of heating technicians are set by government's minimum technical competencies (MTC) for CPS and, for MCS, they have a Competency

Standard 025. Last year MCS revised its 025 Standard and made some comprehensive changes to those entering the renewables market.

Gone is the 'experienced worker' route. This was in originally for when renewable training was not easy to access, but now a lot more training centres are offering renewable installer courses. Also, the focus is now on regulated courses that are updated regularly to conform to the latest MTC's. At the end of the course there will be an assessment to 'test' the candidate and this will result in a certificate being issued by an accredited certification body or a regulated awarding body. After five years there is a requirement for re-assessment based on changes to standards, technology and working

There are several courses that meet this MCS criteria, including the new air source heat pump installation and heat pump design courses that are now available at many OFTEC training centres. These are being run along the lines of the current Accredited Certification Scheme (for the gas sector), and OFTEC oil courses, in that

you will receive a personal certificate of achievement that makes you eligible for CPS and MCS registration.

MCS registration has been available via OFTEC since 2014, so there will already be many technicians currently registered for renewables based on the experienced worker route, or who have taken a course that is now past the five-year allowance. We will write to everyone affected and advise that the MCS Competency Standard 025 becomes mandatory on 1st April 2023, and it is the intention of the OFTEC Scheme Committee that all existing renewable technicians will hold a valid regulated course. However, to prevent difficulties, there will be a 12-month transition period (until the 31st March 2024) for courses to be attained.

To find out more about the heat pump courses at OFTEC centres please visit https://www.oftec.org/technicians/industry-training/training-courses-assessments

For a full list of regulated training courses for all renewable technologies visit MCS https://mcscertified.com/skills-and-competency/find-a-training-course/

### Demand for solid fuel installers heats up

With energy costs at record highs many consumers are replacing, or installing from new, a wood burning stove to supplement heating their homes. This was confirmed by the Stove Industry Association (SIA), which released sales figures for quarter three of last year that were up a MASSIVE 66.22% on the same period in 2021, with over 55,000 units being sold between July to September.

With no immediate end in sight to the ongoing energy cost crisis, it's likely that sales have continued to be high since then. The installation of solid fuel appliances falls under the same legal requirements as liquid fuel, need to meet Building Regulations and be self-certified by a registered installer, or notified directly to the local authority building control.

A few years ago, OFTEC extended the scope of our competent person registration scheme as we think liquid fuel technicians have transferable skills to be able to self-certify solid fuel installations. Since then, we have seen an influx of businesses wanting to join but, if the demand in stoves continues, there's clearly a potential business opportunity for others too. The requirements to join the OFTEC solid fuel registration scheme is that a technician needs to hold a regulated qualification mapped to the minimum technical competencies, or a Level 3 NVQ diploma in plumbing and heating with solid fuel pathway option. Either must have been undertaken within the last five years.

If you are interested in finding out more about the solid fuel registration option, visit the OFTEC website or call OFTEC and speak to the registration department.

# DESNZ replaces BEIS following government departmental restructuring

The government has split the Department for Business Energy and Industrial Strategy (BEIS) into four new departments. Of most significance to the heating industry, a new Department for Energy Security and Net Zero (DESNZ) has been created and tasked with securing our long-term energy supply, bringing down bills and halving inflation.

OFTEC and UKIFDA have written to welcome the new minister and have proposed a meeting to explain how HVO can support the transition to net

### **Chris Skidmore review**

The Government has published the Chris Skidmore review, which was initiated by Lis Truss, who tasked Skidmore with completing a comprehensive review of net zero and how it can be implemented. OFTEC and UKIFDA contributed to the review.

The review is long and detailed. It is relatively critical of government policy and highlights that there is an urgent need to step up progress, both to achieve net zero on time and to achieve the potential economic gains that may accrue from the UK playing a lead role in the transition. The report also acknowledges that there are genuine issues around affordability, accessibility and fairness that require a strong response.

It supports the idea that heat pumps are the technology to replace boilers, calls for the 2035 gas boiler ban date to move to 2033 and underlines the 600,000 heat pump per year target. There is little direct mention of the offgas grid heating decarbonisation, although it agrees the mid-2020s date for a move away from fossil fuels should be kept. However, it doesn't say how the off-grid transition should be achieved. Biofuels are discussed and the report proposes cross-sectorial approach to liquid fuels – but it



doesn't go as far as to say anything specific about the off-grid homes. The review calls for increased energy efficiency and work to mandate the Future Homes Standard by 2025 and for all homes sold to be EPC C by 2033. However, it acknowledges that older homes are very expensive to retrofit and therefore backs up our data

Perhaps of most significance for us, the review acknowledges that: "Not all our energy needs can be met with electricity and so we will continue to need liquid, gaseous and solid fuels. Government has therefore set ambitious targets for greener fuels, including hydrogen, low-carbon fuels produced from biomass and other waste resources for use in different sectors such as transport, heating, power and wider industrial applications."

The review can be downloaded here: https://assets. publishing.service.gov.uk/government/uploads/system/ uploads/attachment\_data/file/1128689/mission-zeroindependent-review.pdf

# InstallerSHOW returns to the NEC, Birmingham in June 2023

Following a record-breaking event in 2022, InstallerSHOW returns to the NEC, Birmingham on 27-29 June 2023 to house over 400 leading manufacturers, suppliers, and associations driving the industry forward.

As the UK's number one destination for influential installers and specifiers of heat, water, air and energy technologies, InstallerSHOW is the place to be this June. Visitors can expect to see and try new product innovations, network with their industry peers and industry colleagues, make valuable connections with manufacturers, and gain industry insights from a packed schedule of seminars, presentations and debates that will keep your business ahead of the curve.

Speaking about the 2022 show, Mike Costain, managing director of Installer said: "It was our pleasure to welcome installers to the NEC for our biggest ever InstallerSHOW," Looking forward to the 2023 event, Mike said: "It's an exciting time for the industry as we accelerate to net zero, and engineers are on the frontline of this transition. We are delighted to be partnering with OFTEC once again and look forward to welcoming the association's members to InstallerSHOW, to get hands-on with the latest innovations, learn new techniques and discuss ideas to help futureproof themselves and their businesses."

InstallerSHOW is delighted to continue its partnership with OFTEC, the leading not-for-profit trade organisation for the UK off-gas grid heating industry, and invites all members and registered technicians to attend the show in June, where OFTEC will also have an exhibition stand (122).

Tickets to InstallerSHOW are free and available now. For more information and to get your ticket, visit https://installer-2023-visitor.reg.buzz/oftec

### **OFTEC** compliance

OFTEC's compliance team works hard to ensure that all registered businesses and technicians uphold the highest standards. However, each quarter a few are suspended or have their registration revoked. This can be for various reasons and mean they no longer have the right to display themselves as OFTEC registered.

From the 12th October 2022 – 7th January 2023 a total of 17 businesses had their membership revoked.

The revoked businesses are:

Company No.	Business Name
105880	A Cochrane Ltd
11195	Amoco Ltd
1860	Barnstaple Plumbing & Heating
4430	C Rutland and Son Ltd
104448	D & S Jose Ltd
13579	Elm Plumbing and Heating Services
14123	Euros Jones Heating Services
9189	Haiths Heating Ltd
13848	Hergreen Ltd
101645	Home Insulation Services Ltd
5962	Matthew Coe – Heating Services
12128	Moore Tank Services
105715	Paul O'Neill Plumbing and Heating
10044	S J McNulty
10742	Shoprite Group Plc
13687	Speed And Street Ltd
13541	Westlands Heating Ltd

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### Worcester Bosch launches HVO conversion kits

Worcester Bosch has announced it will be launching HVO Conversion Kits for its oil boiler portfolio.

The HVO (Hydrogenated Vegetable Oil) Conversion Kits will be made available for general sale later this year and will be suitable for the manufacturer's Heatslave and Danesmoor oil-fired boiler ranges. The kits will enable the company's Heatslave or Danesmoor products manufactured after September 2018 (or September 2019 for outputs between 35-70kW) to be converted to operate on HVO.

Oil users that purchase a HVO conversion kit will be able to reduce the carbon output of their existing heating system without the need of moving to an alternative technology.

Martyn Bridges, Director of Technical Services of Worcester Bosch, said: "At Worcester, we believe the road to net zero requires a technologyagnostic approach, to ensure all homeowners have options when it comes to reducing their carbon output. This is why we continue to develop, introduce and strengthen new and existing technologies that can help reduce the carbon intensity of our products.

"Although availability of HVO and other bio-fuels remains limited in the UK today, we strongly believe that this will improve significantly in the next few years, which is why we are introducing new Conversion Kits later in the year."

The company says that further information on HVO Conversion Kits will be released later this year.



### Work notifications – making them easier for the consumer and the environment!

To make our work notification self-certification system more efficient, we introduced an option for certificates to be emailed to your customers within 24 hours of you completing your notification. It's already proving popular and, currently, 50% of certificates are now being emailed, with the homeowner receiving an electronic copy which they can print, or store on their computer.

Our aim is to have all certificates emailed to consumers in the future, cutting down on the amount of paper used, and enabling OFTEC to take a significant step towards being more environmentally friendly. We would encourage all installers to do their bit for the environment, and help their consumers, by filling out the homeowner's phone number and email address, to make use of this new electronic feature.

Unfortunately, consumer certificates cannot be emailed to you as Building Regulations require that they are sent direct to the homeowner/occupier, but you can obtain a copy free of charge via your OFTEC portal account, once the local authority have been notified.

If, in the future, the homeowner needs a copy, then you can retrieve this from your account on the OFTEC website portal, or they can do it themselves by using the certificate find service in the consumer area of our website www.oftec.org/consumers/order-certificates.

# Technicians face exciting opportunities from the Scottish Government

It will now be simpler and more affordable for people to install climate-friendly heat and energy efficiency measures in their homes. Homeowners can now apply for a standalone grant of £7,500 from the Home Energy Scotland Scheme to install heat pumps. Previously, applicants were required to sign up for a loan before they qualified for this funding, but they can now access the money directly. The new approach is designed to offer greater flexibility for those looking to make their homes more climate friendly. The enhanced measures will also include an extra £1,500 to homeowners in rural areas, in line with a commitment made as part of the Bute House Agreement. A standalone grant of £7,500 for energy efficiency improvements to homes will also be made available.

Changes to the scheme involve.

• Grant funding for heat pumps up to £7,500. The remainder of funding requested can be taken up as an optional interest-free loan.

• Grant funding for energy efficiency improvements – up to 75% of the combined cost of the improvements and up to the maximum grant amount of £7.500.

maximum grant amount of £7,500.

• A rural uplift of £1,500 to both the heat pump and energy efficiency grants. This uplift increases the heat pump grant flat rate and the maximum limit of the energy efficiency grant to £9,000.

 Packages of measures to support the uptake of complimentary measures that offer substantial improvement to energy efficiency and heat decarbonisation of households

If you undertake installation work in Scotland, there has never been a better time to get into renewables, allowing your business to take advantage of the demand from consumers wishing to use the grant funding. Installers must be MCS registered to participate in the programme and OFTEC can help extend scope of registration into renewables under our accredited scheme.

Technicians can also receive help with the cost of joining the MCS registration scheme via the Scottish Energy Saving Trust – visit www.energysavingtrust.org.uk for details.

### HVO-ready Rayburn on show in Cornwall

The Rayburn Heatranger is a new model of the popular home-heating and cooking appliance that has been designed to run on fossil-free liquid fuel straight out of the box.

Put to the test recently when the directors of Cornwall-based fuel distributors Mitchell & Webber invited UK industry leaders to a low-carbon, HVO-heated pasty lunch at the company's Scorrier headquarters, the Rayburn Heatranger has been specially designed to run on Hydrotreated Vegetable Oil (HVO).

### No compromise

Carl Moon, national sales manager for Rayburn, commented: "At Rayburn we are looking ahead to a greener future. We are so pleased that the team at Mitchell & Webber has installed one of our brand-new HVO- ready Rayburn Heatrangers in its showroom, ready to show customers that there is no compromise on effciency or effectiveness when it comes to HVO."

The new models, which are available to purchase now, have been especially manufactured by Rayburn to be able to run on HVO out of the box – with an immediate reduction in carbon emissions of 88%. The low-carbon fuel, made from certified waste fats and oils, can be used to replace conventional heating oil and has been classified as sustainable by the International Sustainability and Carbon Certification, meaning that it doesn't contribute to deforestation.

As rural areas, Cornwall and the South West have large numbers of homes and businesses that are reliant on oil-fired systems such as Rayburns for both cooking and heating. Mitchell & Webber director, John Weedon commented: "It's hugely exciting to see such a well-established and iconic manufacturer as Rayburn bringing out an appliance which is HVO-ready, and we'd like to



Left to right: Robert Weedon and John Weedon, Directors of Mitchell & Webber, with Ken Cronin, CEO of the UK and Ireland Fuel Distributors Association, and Carl Moon, National Sales Manager at Rayburn, enjoy a pasty at Mitchell & Webber's head office in Scorrier.

welcome one and all to our showroom to see it in action."

He continued: "As the UK government plans to phase out the use of conventional heating oil, we need to be ready to use other energy sources and we think that HVO offers a clear way forward – which is why we've updated our Heatrangers to be HVO-compatible. And we're sure that people in Cornwall, in particular, will be relieved to know that you can definitely cook your pasties using HVO!"

### A place for HVO

The industry leaders were gathered at the distributor's headquarters for an update on the progress of the national HVO trials in which Mitchell & Webber, in partnership with industry bodies UKIFDA and OFTEC, is testing the effectiveness of HVO as an alternative fuel to conventional heating oil.

Ken Cronin, CEO of UKIFDA, added: "The work Mitchell & Webber are doing is showing that dramatic reductions in household carbon emissions can be achieved simply by changing the type of fuel you use. We are delighted to see the new Rayburn models are HVO compatible and it is a testament to the central place we believe HVO will have in the switch to greener energy solutions in the coming years."

Mitchell & Webber was the first company in the UK to trial the new fuel, which is estimated to save the average home five metric tonnes of carbon emissions per year. Since 2020, the company has converted over 50 appliances in Cornwall to HVO, including a church and a school. To date the trial has been incredibly successful in gathering evidence to demonstrate to the government that HVO is a viable alternative to standard heating oil.



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### Office move for Grant

Grant UK has moved to new premises in Swindon, Wiltshire. The new site includes offices and storage facilities that are three times larger than its previous premises, allowing Grant to continue to expand in the sustainable heating sector.

For over 25 years, Grant has been supplying award-winning heating products and developing its range of support services for customers. During this time, the company has grown significantly and after trading in Salisbury for a number of years, it moved to Devizes, Wiltshire where its sales, training, technical, marketing and distribution teams have been based since 2003. Nearly two decades on, Grant has undergone further expansion and has moved to a new site in Swindon, which was formally opened on 3 November 2022 by Tim Pollard, principal of Pollard and Pollard

The new facilities are considerably larger, totaling over 80,000sqft. In addition to providing greater office spaces and significantly increased on-site storage capacity, the new site has also enabled Grant to expand its Training Academy.

The official opening was the culmination of a ten-month renovation



project, which involved the entire site, installing state-of-the-art new racking in the warehouses, creating engaging workspaces for employees and transforming one of the units into training rooms and practical assessment areas for the Training Academy.

An integral part of the renovation project was sustainability and Grant has implemented numerous environmentally friendly measures throughout the site. A biomass heating system has been installed which is providing the heating and hot water for the site. In addition, 768 solar panels and storage batteries have been installed as part of the 303kWp Solar PV system which has been fitted on the roof of both units, a system which will fulfil all their



electricity demand while also feeding renewable electricity into the grid.

"Our move to Swindon marks an exciting new chapter for Grant," comments managing director, Paul Wakefield.

"Moving premises is a significant step for any business to make, but the hard work that has gone into creating our new larger facilities will enable Grant and the team to settle into a site which will support our continued growth for many, many years to come. The road to a cleaner, low-carbon future will be full of opportunities and this move to new facilities will ensure that we as a company can continue to deliver the high-quality products and services that our customers have come to expect from Grant."

### Smart technology joins the battle against tool theft

ARMD has launched the ARMD GUARD Smart Van Alarm, its 'plug and play' sensor which provides the ultimate tool protection package, combining smart technology with insurance.

Tested by the trade, it silently watches over your tools and in the event of a break-in the alarm triggers a phone call notification. This instant alert allows you to take immediate action by calling the police and catching them in the act while it locates and tracks your van, if it is stolen, with the inbuilt GPS.

The ARMD GUARD sensor is a crucial piece of technology and deterrent in the battle against tool theft. Tool thieves use 'peeling' – the cutting and bending back of a van panel – to get into the loading bay where tools are normally kept, but many van alarms do not respond to this type of activity.

No technical knowledge is needed to set up the alarm; it has been developed to be a simple 'plug and



play' installation in just two minutes. Furthermore, it integrates seamlessly with the ARMD App, so that your tool inventory, security, insurance, tool and van location is all in one place.

"When ARMD was launched, we promised that smart technology would form part of our tool protection package and after rigorous testing with the trade we are delighted to fulfil that promise," says co-founder, Devin Chawda. "The ARMD GUARD means the trade can now have total tool protection which includes dedicated tool insurance, the ARMD GUARD alarm, a tool inventory app and a deterrent van sticker from just £9.99 per month. These all work together to bring a superior layer of protection to your livelihood."

If the worst does happen, ARMD can still get you back to work with fast, self-service digital insurance claims. Recently an ARMD user who was a victim of tool theft was back on the tools within three days of the claim being made. Normally that can take anything up to five weeks or longer.

"It is fair to say we have transformed the way tradespeople can protect their tools and protect their livelihoods," continues Devin. "We believe the launch of our smart technology and the peace of mind it can bring to busy tradespeople has tipped the favour back towards the good guys in the ongoing battle against tool theft."



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We are taking steps to future proof our industry. Scan to read our HVO blog and find out more.



grantuk.com

# High demand for discounted heat pump training



Training centres have reported high demand for pump training following OFTEC's successful application for funding through the Home Decarbonisation Skills Training competition, run by the Department for Business, Energy and Industrial Strategy (BEIS).

The discounted training, which offers a saving of up to 70%, is available currently through 18 OFTEC approved training centres in England. However, the offer ends at the end of March, so you'll need to be quick, and you may be disappointed as some of the courses are now fully booked up.

The £9.2m funding from BEIS was allocated to successful training organisations which tendered for a bid in a funded training incentive in support of the UK's net zero ambitions. After successfully completing the training, which is available for air source heat pumps, and heat pump system design, technicians can access OFTEC's competent person scheme for heat pumps as well as MCS registration to install the technology through the Boiler Upgrade Scheme (BUS).

David Knipe, training manager at OFTEC, commented: "This subsidised training has been a fantastic opportunity for installers to take advantage of the growing heat pump market. The Government wants to accelerate the rollout of heat pumps which presents an opportunity for technicians to diversify and futureproof their business in a changing landscape."

Anyone interested in the training should contact one of the following

Business Name	Telephone
Anglia Heating Training, Wymondham	01953 857448
Crownship Technical, Hull	01652 658151
ECS Gas Training, Hoyland, Barnsley	01226 741800
Focus Training Group, Plymouth	01752 348980
Focus Training Group, Newton Abbott,	01626 832374
Gas Training UK Limited, ose, Holbrook, Sheffield	0114 327 9698
Gastec Training and Assessment Centre, Milton Keynes	01908 587665
Gas Training and Assessment Ltd, Basildon	01268 727797
Grant Engineering (UK) Ltd, Swindon	01380 736943
Lincolnshire Gas Training, Scunthorpe	01724 849689
PGL Training, Topsham, Devon,	01392 437373
SERT Training, Gosport	07961 737444
South West Assessment and Training, Liskeard	01579 348544
TAF Training Limited, Row Road, Romford	01708 607188
Vaillant UK Ltd, Belper	0345 601 8885
Vaillant UK Ltd, Maidstone	0345 601 8885
Vaillant UK Ltd, Elland, West Yorkshire	0345 601 8885
Vaillant UK Ltd, Farnborough	0345 601 8885
Vaillant UK Ltd, Bristol	0345 601 8885

Full details can be found on OFTEC's website.

### Swindon MPs visit Grant's new HQ

MPs for the two Swindon constituencies visited Grant UK's new headquarters in January to tour the facilities and to learn more about what the company is doing in the local community and the field of sustainable home heating products.

In September 2022, Grant moved to larger premises and relocated its head office to Blagrove in Swindon. On 13 January, Grant welcomed Sir Robert Buckland, MP for Swindon South, and Justin Tomlinson, MP for Swindon North, to its new HQ, to take a tour of the facilities, which total 80,000sqft of offices, warehousing and a training academy. During the visit, both MPs got to meet staff and learn more about the premises' sustainable features, as well as discussing low-carbon heating.

The renovation project involved the creation of thoughtfully-designed offices, the development of



employee wellness spaces, the use of sustainable materials throughout and the installation of a biomass heating system and solar PV panels for renewable energy generation.

Sir Robert Buckland commented: "It's great to see a local business expand and choose Swindon as a destination, and for the regeneration of a former disused site to take place as part of this process."

Justin Tomlinson MP said: "It was fantastic to see this growing business

choose Swindon for its exciting, modern, new facility – a real boost for our town with new jobs and opportunities being created in this increasingly green sector."

Neil Sawers, Grant's commercial technical manager added: "We were pleased to welcome Sir Robert Buckland MP and Justin Tomlinson MP to our new head offices. As local MPs, they were interested in learning more about our business and our community plans. It was also a great opportunity to discuss the Renewable Liquid Heating Fuel Bill that was recently raised in Parliament. We believe that low-carbon liquid fuels have an important part to play in the Government's roadmap to net zero carbon targets, alongside air source heat pumps, and it was positive that we could discuss this important topic with both these MPs."

# Top sales strategies to help kickstart your business in 2023

Fergus, the job management software for tradespeople, has released a guide of the top sales strategies that installers can adopt to kickstart their business in 2023.

Business owners can use a variety of sales strategies to attract new clients and grow their business. From networking and referrals to lead generation and special offers, there are numerous ways to promote your services and reach potential customers. By implementing the right tactics and being, business owners can grow their business and stand out in a competitive market.

**Networking:** Attend local networking events and join industry associations to meet potential clients and partners. You can also network online through social media platforms and online forums

**Referrals:** Encourage satisfied customers to refer your business to friends and colleagues. Offer incentives such as discounts or gift cards to encourage referrals.

Marketing: Develop a marketing plan



to promote your services to potential clients. This can include creating a website, using social media, and creating promotional materials such as brochures or flyers.

Lead generation: Use lead generation techniques such as email marketing or pay-per-click advertising (on Google for example) to attract potential clients. This could be as simple as responding to questions on social media forums or emailing previous customers who may now need more work carried out. Think about creating

a good website which can act as a great 'shop window'.

**Special offers:** Consider offering special deals or promotions to attract new clients. You could offer a discount for first-time customers or a free consultation or quote.

**Partnerships:** Partner with other businesses or professionals to cross-promote your services.

Job management software: Gain more time for sales by automating key admin tasks. With a job management system, you can track and manage the progress of multiple projects at once, ensuring nothing falls through the cracks. This can help reduce errors and ensure that projects are completed on time and within budget.

Another benefit is improved communication and collaboration. Job management software often includes features such as project scheduling, task tracking, and document sharing.

By implementing these sales strategies, trade companies can attract new clients and grow their business.

### Royal award for Kane

Last year, Kane celebrated winning the Queen's Award for Innovation for its Kane Care promise.

The Queen's Award is the highest honour that a British business can win and was first proposed by Prince Phillip in 1965 to celebrate British industry. Nowadays companies can win a Queen's Award for innovation, international trade, sustainable development and opportunity through social mobility – the Voluntary Service Award is equivalent to receiving the MBE.

The award required two independent audits and was an intense process for the company as Jonathan Kane explains: "We were interviewed by experts who asked a lot of questions, and gave nothing away; it felt like Dragon's Den.

"Another group investigated if our Kane Care promise delivered its



guaranteed same-day service and recertification or your money back, 10-year warranty when annually serviced and recertified by the company and 20-year all-inclusive pricing. Thanks to years of five-star customer comments on Trustpilot and the auditors' forensic investigation of our accounts, turnaround times and refunds, they agreed that Kane Care does uphold its promise."

Kane Care also includes free overnight tracked delivery to and from Kane and free theft protection – customers get 50% off a new Kane analyser if theirs is stolen.

The Queen's Awards were announced on her birthday and published in the London Gazette. Kane got to meet the Royal family and receive their award from Her Majesty's representative, the Lord Lieutenant of Hertfordshire and can now promote their fantastic achievement for the next five years.

Jonathan added: "Last year we said goodbye to our longest reigning monarch and the King will soon decide whether to continue the award, rename or leave it in her name.

"Whatever happens as Kane turns 60 and prepares itself for the next decade of challenges and opportunities, we thank Her Majesty for introducing this unique award."

### **New MD for TG Lynes**

Andrew Ingram has been announced as managing director at heating, plumbing and air movement materials supplier, TG Lynes, where he has taken over from Martin Hastings.

Andrew has been with the company for almost 20 years, having started out as transport manager before progressing to general manager and now MD.

He commented: "Becoming MD of TG Lynes has been a goal of mine in recent years, so I am delighted that the board agreed with my ideas and has given me the opportunity to carry on Martin's fantastic work," said Andrew.

"TG Lynes offers excellent career progression opportunities and a chance to improve yourself and I am just one example of that.

"The business is in a strong position and has enjoyed seven years of year-on-year growth – but we still have big plans and goals for the years ahead. We have great clarity on how we continue to move forward. Our overriding aim is to make the



experience as simple and as easy as possible for customers."

Andrew said the business would also continue to look for new products to add to its already extensive range, while continuing to make strides in sustainability and towards net zero.

He added that the business would continue with its promise to support the local community in Enfield. Last year TG Lynes launched its inaugural Helping Hands campaign which saw more than £15,000 of product and

labour awarded to three good causes in its vicinity.

He said: "Our commitment to excellence and the four pillars of the business – sustainability, community, integrity and quality – will remain the same.

"We have made significant advances in sustainability and our community work in recent years, and we're keen to continue building in those areas while offering first-class, hassle-free service to customers, old and new."

### **New appointment for Grant**

Grant UK has appointed Lewis Barr is its new area sales manager for the South East of England. A familiar face for many installers and engineers, Lewis has worked for Grant for over a decade in its technical department and in his new role, he will be providing sales and product support out in the field.

In his new role, Lewis will be covering the counties of Hertfordshire, London, Surrey, Kent, West Sussex and East Sussex. In addition to providing sales support for installers and engineers in his area, Lewis will also be working closely with merchants and helping customers improve the efficiency and sustainability of home heating systems.

He first joined Grant in 2011, working in the quality department as a technical returns analyst. A few years on, he joined the pre-sales technical team and was later appointed a technical advisor, and in both these roles, Lewis provided in-depth product support for pre-installation enquiries and after-care for installed products. More recently, Lewis has been the project support manager, looking after



larger renewable installation projects, supporting customers with technical support for air source heat pumps and Grant's other renewables ranges. During his eleven years working with Grant, Lewis has amassed extensive technical knowledge on all of Grant's products, from its biofuel compatible oil-fired boilers through to their latest

renewables offering.

Lewis will be on the road visiting merchant branches, installers and providing on-site support for all Grant products. Over the coming weeks and months, Lewis will be visiting local G1 Installers, as well as arranging breakfast mornings and trade events with merchants, delivering product training and helping customers develop their understanding of Grant's sustainable heating solutions.

"I am very excited to start this new chapter with Grant, joining the sales team and supporting our customers in a different capacity," comments Lewis.

"Over the years, I have seen the renewables industry grow and followed Grant's own offering of air source heat pumps, hybrid technologies and ancillary products significantly developing as well. It is set to be an exciting time ahead for the heating sector and I am looking forward to working with installers, engineers, merchants and other customers, providing them with the tailored product support they need."





### Grant raises £10,000 for Wiltshire Air Ambulance

Grant UK has raised a further £10,000 for Wiltshire Air Ambulance (WAA), a local charity that it has supported since 2019. This latest donation follows another successful year of fundraising activities carried out by the Grant team last year.

Throughout 2022, employees took part in a series of fundraisers in aid of WAA, a local charity which provides critical medical care in Wiltshire, Bath and the surrounding areas. Like so many charities, WAA relies on donations from the public and it has been Grant's chosen charity since 2019 – a decision made by the company's employees.



Either side of Grant's move to new premises, its staff organised and took part in bake sales, wellness initiatives and other funfilled events which helped raise funds for the charity. Grant's Christmas staff raffle returned for another year as

well, with suppliers providing generous prizes and the ticket sales to staff raising over £1,000 for the charity.

"Everyone at Grant has enjoyed fundraising and supporting WAA for another year," comments Anna Wakefield, head of marketing. "We have been working closely with this great local charity for several years now and our enthusiasm to raise money for WAA has increased year on year. We are thrilled to present this new donation of £10,000 which brings our grand total raised to £45,000 – something we are incredibly proud of."

WAA corporate partnerships lead, Naomi Barker, writes: "Each year we need to raise £4 million to keep the helicopter flying and continue saving lives. We receive no regular direct government funding or National Lottery, so we have to rely on generous donations from the public and local businesses, such as Grant, to help support our lifesaving work.

"This latest donation means the company has now donated over £45,000 to Wiltshire Air Ambulance in the space of three years, which is enough to keep us operational for four days! We can't thank all the staff at Grant enough."

# The times, they are a changin'...

Oil Installer magazine has been a constant for OFTEC since it's first publication in 2010, over 12 years ago. However, the words of the Bob Dylan classic from the 1960s are as true now as ever; we live in an era where change is probably the only normal. That certainly applies to off-gas grid heating. While it may seem that we work in an industry where little has changed in decades, we stand on the threshold of profound change as momentum builds in the renewable transformation of heating.

How we communicate and share information has also changed dramatically. While some of us still prefer to read a physical magazine, many now get all our information from a smart phone or tablet. After a lot of thought and consideration, we've decided it's time we embraced these changes for our magazine too.

It means that from the summer issue of Oil Installer, you'll now have a choice whether to read the magazine electronically, or continue to receive it as a paper copy, exactly as now. The default option will be the electronic version, so you'll now need to notify OFTEC if you wish to keep receiving a printed hard copy. You'll can change your preferences at any time and, rest assured, we have no plans to phase out the paper version. OFTEC will shortly be sending out details for how to choose your preferred option, so make sure we have an up-to-date email address for you by checking your details on the OFTEC website.

If the first reflects changes to how we consume information, the second relates to how the industry is changing. OFTEC's registration scheme now caters for a much wider range of technologies than when it

was originally set up. The name Oil Installer will seem irrelevant if your business installs only heat pumps or biomass, so we need to create a more inclusive publication that will be useful to everyone in the heating industry. We've decided that, starting from the autumn issue, the magazine will be retitled and will amalgamate with Renewable Energy Installer, a sister title also currently produced by the publishers.

There will be no change to OFTEC's commitment to liquid fuels, and the magazine will continue to fully support the needs of existing oil heating technicians, alongside newer technologies such as heat pumps. It's a solution that we hope will retain all the best features of the current magazine, while keeping it relevant for the future.

### What you need to do

- Everyone will get access to the new electronic magazine, so if you only want to receive it this way, there's no need to do anything you'll receive a notification and link from OFTEC as soon as the next issue is published.
- If you'd like to continue to receive the paper version of the magazine, simply click on the link OFTEC will send you in the next e-news and complete the form, confirming your name, registration number and delivery address. You'll also find the form in the technician area of OFTEC's website.

OFTEC will send further information about this in our next E-newsletter.

# Parliamentary 10 Minute Rule Bill to support renewable liquid fuels

In January, the influential Cornish Conservative MP, George Eustice, introduced a Ten Minute Rule Bill in Parliament to support the use of HVO in heating. The bill proposed to reduce the duty charged on renewable liquid heating fuel, provide for the imposition of obligations on suppliers of heating fuel in relation to the supply of renewable fuel, and for connected purposes. This is exactly what OFTEC would like to see happen.

OFTEC and UKIFDA worked hard to obtain support for Bill by encouraging Future Ready Fuel subscribers to

write to their MP and sending briefings to rural MPs to explain the benefits. The Bill was passed unopposed, having achieved the necessary support, and the second reading of the Bill is set for 3rd March. OFTEC will continue to provide all possible support for this initiative. We see this as a very helpful development because Ten Minute Rule Bills are a good opportunity to raise the profile of an issue and to see whether it has support among other members of Parliament, which this one clearly has.

### New training academy for NIBE

Toby Perkins, MP for Chesterfield and shadow minister for skills and further education, visited NIBE's newly refurbished Training Academy in January following its grand reopening in December.

Meeting with NIBE's managing director, Phil Hurley, discussions were held on the role of heat pumps in decarbonising the economy and the need to upskill the installer base to meet net zero targets.

Toby Perkins said: "I was delighted to visit NIBE's new Training Academy and very pleased that they have chosen to further invest in Chesterfield. Green investment is vital to the future of our economy and our ability to meet our net zero commitments and fight climate change.

"The development of new technologies, such as advanced heat pumps, also requires the development of new skills in the workforce. The NIBE Training Academy will help provide the next generation of skilled engineers in this sector and provide vital new job opportunities locally. I was pleased



Toby Perkins, (L) MP for Chesterfield and shadow minister for skills and further education, visited NIBE's newly refurbished Training Academy in January following its grand re-opening in December.

Meeting with NIBE's managing director, Phil Hurley

(R)

to discuss Labour's plans to allow firms to utilise the apprenticeship levy more flexibly to ensure that our country has the green skills required to make a net zero future a reality and am excited that we have, in Chesterfield, a firm leading the green revolution."

The Training Academy is taking bookings for best-in-class comprehensive installation, commissioning, and servicing and maintenance courses, alongside the NIBE Pro installer partnership scheme, providing MCS & NAPIT recognised and Ofqual regulated training and technical support.

NIBE's newest technology was also showcased, including the award-winning S2125 air source heat pump which produces a low environmental impact while operating in temperatures down to -25°C. Mr Perkins also got a chance to see the award-winning heat pump system with PV-T panels, which demonstrates the versatility of NIBE heat pumps by transforming ground source into multi-source systems.

Phil added: "It was a pleasure to meet our local MP and show him around our flagship Training Academy. We held productive talks on the vital need to expand the heat pump installer base and how our products will contribute to producing more sustainable heating across the country."





## Get ready for net zero and diversify your business with OFTEC's air source heat pump training

The assessments will consist of three options:

OFT21-504A - Installation, commissioning and servicing of air source heat pumps

**AVAILABLE NOW** 

OFT21-504D - Design of heat pump systems

**AVAILABLE NOW** 

OFT21-504G - Installation, commissioning and servicing of ground source heat pumps

**COMING SOON** 

The assessments are modular and can be taken individually or combined as required. There are four modules - core, air source, ground source, and design. The core module is mandatory for each assessment.

Contact your local OFTEC approved training centre to book your place!

www.oftec.org



# Carbon reduction using HVO in Ballyfrenis

OFTEC's Ireland manager, David Blevings, highlights how a mix of low-carbon solutions – including HVO – can work in Northern Ireland

If you were planning to move, build, or renovate your house and were given a choice of what fuel to use for your central heating and hot water demand what would you choose – air source heat pump, ground source, natural gas, oil, or biomass? There is a wide range of heating solutions on the market and the recent energy price 'spike' has made consumers more energy aware as we look to a net zero carbon future.

### But what option is realistic and affordable in today's world?

As NI looks forward to a heat consultation in the summer months, many pundits are suggesting we need a range of technologies and that all low-carbon pathways should be explored.

In GB and the Republic of Ireland, both governments are proposing an all-electric future with Air Source Heat Pumps (ASHP) being promoted as the preferred option, with district heating in urban areas. In this author's opinion, an ASHP is an ideal product for a new build or thermally efficient house but with 70% of bungalows, 50% of semis, 53% of detached and 44% of terraces in Northern Ireland being in SAP Band D – G, the question remains, "will these houses be suitable for a heat pump?"

Many will claim yes, but with Governments' own data showing that to retrofit/upgrade insulation and install a heat pump will cost anywhere from £23K to £30K and, with consumer finance at a real time low, is this really a viable option for the c.500,000 homes currently using oil and c.200,000 using natural gas in Northern Ireland?

One consumer in Ballyfrenis, Millisle, believes that low-carbon liquid fuels and off-peak battery storage is the answer. They have taken the plunge and converted their new liquid fuel boiler to run on a renewable liquid biofuel called Hydrotreated Vegetable Oil (HVO). The solution

was designed by Next Gen Power, and London-based Green Biofuels Ltd. (GBF) supplied the advanced HVO fuel, called GD+, which is made from renewable waste cooking oil and reduces CO2 equivalent emissions by up to 90%. The solution was designed by Next Gen Power and, as part of the project, the hot water is hydraulically separated from space heating and is supplied by a solar assisted heat pump. This allows the boiler to operate in condensing mode all the time. In addition, the client has added 4.5kW of solar PV linked to battery storage in the garage. He charges the battery pack overnight. Any excess is exported back to the grid.

The new homes in Ballyfrenis were completed in 2022 and are built to a good energy efficient specification. A biofuel ready condensing boiler was already in place and air permeability is 6.7 m³/h.m², which is average. The EPC on completion was B86, which is very good but that was before the fuel change and the addition of solar.

### So how carbon 'friendly' is this house?

We have modelled the emissions on kerosene and grid electricity and, for the purposes of this exercise, we have assumed a space heating demand of 9,000 kWh, a hot water demand of 3,000kWh and a further 6,000kWh of general electric use. This gives a projected annual carbon emission total of c. 6.3 tonnes. This is made up of 4.5 tonnes for the space heating, 1.125 tonnes for hot water and 1.80 tonnes from the grid.

When we model using HVO for the space heating we can reduce the carbon emissions to 0.48 tonnes per annum. With the hot water being provided by the solar assisted heat pump, the emissions reduce to c.0.18 tonnes. For general electrical requirements and utilising the 4.5 kW solar PV generation and an assumed load factor of 0.1 we can assume approx. 4,000 kWh from solar over the year, leaving a 2,000 kWH requirement from the grid. This results in c.0.6



The team behind the project; Mark Bailie (Nextgen), Chris Renehan (GBL), Magnus Hamick (GBL), David Blevings (OFTEC) and Patrick Keatley (Nemo Energy)

tonnes of CO2 from general electric use.

OFTEC oversaw the boiler conversion and the project is being monitored by Dr Patrick Keatley of NEMO Energy Limited. Looking at the figures he commented: "With HVO emitting 0.036 kgCO2/kWh compared to kerosene at 0.298 kgCO2/kWh, we can achieve a substantial reduction in the carbon footprint immediately. Adding in the benefits of the solar assisted heat pump for hot water, along with battery storage, we are estimating that we can bring the carbon emissions down to 1.14 tonnes of CO2 which is almost 90% lower than the original footprint using kerosene and 100% grid electricity. We will be monitoring the property over the next 12 months and will confirm the findings at the end of the year."

The revised EPC (incorporating the fuel change and solar) moves from a B85 rating to an A96 which is extremely high. For reference, the average energy rating in Northern Ireland is D60.

In terms of CO2 emissions, an HVO-fired boiler can deliver the most rapid and significant reductions and requires the least behavioural change by customers. While there are challenges around cost and supply at scale, it is clear that HVO could be an effective decarbonisation solution for energy efficient, liquid fuelled homes in the future. Government support for HVO as a low-carbon heating solution could make it a relatively straightforward and cost-effective option for decarbonising liquid fuelled homes today.

Project Team; https://www. nextgenpower.ie/ https://www. nemoenergy.co.uk/ https://www.gbf. ltd/ www.oftec.ie

# BURNING CONTROLL CLEANER TODAY FOR A GREENER TOMORROW



CUTTING-EDGE BURNERS FOR HEATING AND INDUSTRIAL APPLICATIONS. FROM 11 KW TO 80 MW



Thanks to more than 90 years of experience in the design and production of burners ELCO, part of the Ariston Group, is a leading brand in the development of innovative, efficient and reliable burner technologies with a consolidated presence in the field of low NOx emissions. Wherever a small, medium or high power burner is required, ELCO is the best partner you can rely on.



# Approved Document L compliance with EOGB's Sapphire boiler

The Sapphire fully modulating stainless steel kerosene or HVO liquid-fuelled boiler with OpenTherm options, can be utilised to enable and exceed compliance requirements with the new Approved Document L Requirements for England, both for new build and replacement works says Martin Cooke, MD of EOGB Energy Products. He answers some commonly asked questions below.

### What does ADL really require of us:

Full room-by-room heat loss calculations to demonstrate the correct sizing of replacement boilers.

- **Q:** Can I simply measure the existing radiators to size the replacement boiler?
- **A:** No. Who knows if the existing radiators were sized correctly in the first place?
- **Q:** Can I just measure the volume of the building or room and estimate the boiler size from that?
- A: No, not to be able to demonstrably prove that the replacement boiler is the correct size, considering different room temperatures and wall, floor, ceiling U values and different air change rates for different room usages.
- **Q:** Do I have to carry out full roomby-room heat loss calculations for quotation purposes?
- A: Not necessarily, as quotations are not covered by the Building Regulations, however, full calculations will still be needed, should you win the job, to demonstrate installation compliance with the Building Regs.
- **Q:** Why can't I replace an existing boiler with one the same size?



- A: How do you know whether the existing boiler is the correct size today? Property improvements such as replacement UPVC double glazing, loft and cavity wall insulation added to a property over the year can leave a boiler, which was originally correctly sized, twice the size that the building now needs it to be.
- Q: What's the point in all this when oil fired boilers are fixed output based on an external temperature of say -3C, meaning that the boiler when 'correctly sized' will pretty much always be running at an output grossly greater than necessary, i.e. oversized?
- A: Good question. That's why at EOGB we invested heavily in first creating a domestic-sized low NOx fully modulating (15 set points) package burner, which can be controlled by OpenTherm load-compensating controls. Then we created a specially designed heat exchanger to accompany full room-

by-room heat loss calculations and 55C max flow temperature system design, for new wet central heating systems installed in either existing or new build dwellings.

- **Q:** If I replace night storage heaters with a wet central heating system in an existing property house do I need to comply with the design max 55C flow temperature?
- **A:** Yes, as this is a completely new system the requirements apply irrespective of whether the new system is installed in a new or existing property.
- **Q:** Are there any times where this does not apply?
- **A:** Yes, this does not apply if it is an existing system i.e. it is not newly installed or where a wet central heating system is not fully replaced in an existing building.
- **Q:** A 55C max flow temperature design limitation means that oil boilers are effectively banned from new build because of their traditional mild steel construction or else they would rot out in no time!
- A: I understand your concern and hope that you will appreciate that I cannot speak for other boiler manufacturers, but here at EOGB with the Sapphire boiler we designed out any potential and historically demonstrated material failure problems associated with oil boilers by simply adopting a bespoke fully stainless steel 316Ti heat exchanger, which has been tested and proven to be able to operate on high, medium, and low water temperature heating systems. So confident are we in the exceptionally high grade of stainless steel used that we even guarantee them for 25 years!

- ♠ An alternative fuel and/or technology applied to an existing dwelling shall not result in an increase in emissions from that property.
  - Q: How do I know if I can use a Sapphire boiler to replace other boiler and fuel types like LPG regarding emissions?
  - A: The information you require can be found in Table 12 of SAP 10.2. This gives you the carbon emission values for the fuel and its primary energy factor to enable you compare what is existing to what is proposed, and to replace it to make sure that it is compliant. We have calculated the values for the Sapphire boiler for you as follows:

### Sapphire Kerosene boiler

0.298 kgCO2e kWh / boiler eff of 93.0% = 0.32kg CO2e/kWh

### Sapphire HVO boiler

0.036 kgCO2e kWh / boiler eff of 93.0% = 0.04kg CO2e/kWh

#### Biomass boiler

0.053 kgCO2e kWh / boiler eff of 75.0% = 0.07kg CO2e/kWh

This clearly demonstrates that you could not compliantly replace a biomass boiler with an oil boiler as the emissions per kWh would be greater, as expected from fossil fuel. However, applying an HVO Sapphire boiler would be compliant and as is demonstrated here, could be approaching 60% less environmentally damaging in terms of emissions than a Part L complaint biomass boiler!

### Sapphire Kerosene/HVO boiler primary energy

Kerosene/HVO primary energy

1.180 kgCO2e kWh / boiler eff of 93.0% = 1.269 kWhPE/kWh

### Biomass boiler

1.325 kgCO2e kWh / boiler eff of 75.0% = 1.701 kWhPE/kWh

Again, this clearly demonstrates that a Sapphire boiler, either kerosene or HVO, outperforms a building regs compliant biomass boiler by a 25% reduction in primary energy.

# 10-year guarantee for Grant Vortex Pro HVO compatible oil boilers

Grant UK has announced that its Vortex Pro oil-fired boilers are now available with a 10-year guarantee when installed by a G1 Installer. This means that all Grant Vortex Pro Internal, External and Combi models' which are installed on or after 1 February 2023 can receive a 10-year guarantee when installed and registered by a member of the G1 Scheme.

To activate this decade long guarantee, G1 Installers simply need to fit a Grant Mag One filter and register the boiler within thirty days of installation via the online G1 Portal or G1 Click app. The Vortex Pro range of boilers has long been a favourite amongst installers and heating engineers and this new extended guarantee is yet another benefit of installing one of these models.

Grant's Vortex Pro boiler range consists of five internal, white-cased heat-only and sealed system models, three external, powder-coated heat-only models, and seven combi boilers, which include internal, external and a slimline combi option as well. The Vortex Pro oil boilers have outputs from 15kW up to 70kW and each

model is incredibly efficient with A ErP ratings across all the range. All Vortex Pro boilers are also HVO compatible. With just a few minor alterations to the boiler, burner and system, the Vortex Pro models can be converted from kerosene oil to HVO biofuel operation, steps that can be completed as part of the annual service.

"This 10-year guarantee is an exciting addition to Grant's oil product offering," comments managing director, Paul Wakefield.

"The coming months are set to be pivotal for the oil heating sector with the lobbying of government in the hope to secure the inclusion of HVO biofuel in future legislation. Grant Engineering has been heavily involved in the research into HVO biofuels and their use in home heating and the tenyear guarantee further demonstrates our commitment to low-carbon liquid fuels. When G1 Installers install a Vortex Pro Internal or External heat only or combi boiler, they can give their homeowners complete peace of mind as well as giving them the option to convert to HVO operation in the future.'







# The Navien LCB700 oil boiler range... when only future-proofed will do

Reduced running costs, ultra-low NOx emissions and ErP A+ energy efficiency capabilities; these are just some of reasons why we only manufacture blue flame oil boilers. You don't have to wait for the next generation of oil boilers to arrive. It's already here. Find the LCB700 at your nearest merchant.

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To find your nearest stockist: info@navienuk.com

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\*Combi boiler models only



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### **KANE258**

Gas Analyser with direct O2, CO & over-range protection

 Entry level FGA for oil, domestic gas & biomass applications







### **KANE958**

Gas Analyser measures O<sub>2</sub> & CO with over-range protection

 Test any boiler up to 5 MW or 50 mbar stack draught











### KANE988

Industrial 9 Gas Analyser

- Test any size boiler
- Graphic colour display









Gas Conditioning Unit

For accurate NO2, SO2 & H2S measurement

















Save over

£900

per year on
heating bills

# When money's a stretch

Save it by switching from a standard efficiency boiler to a Firebird world-leading condensing boiler.

### Costs

#### **Makes financial Sense**

Firebird Envirogreen Condensing Boilers are 25%-30% more efficient than a Standard Efficiency Boiler.

### Here's Why

 With an efficiency of 97.5%, Firebird Envirogreen condensing boilers use less fuel than a standard efficiency boiler, therefore reducing energy costs.

### **Cost savings with Firebird**

This table shows the savings you can make when you upgrade from a standard efficiency boiler to a Firebird condensing boiler, based on a 4 bedroom home.

House Built	Region	Standard Efficiency	Condensing Boiler	Saving
1980s	NI/UK	£3545	£2602	£943
2006	NI/UK	£1971	£1343	£628

# A ERP Rating

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### UK:

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#### NI:

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**Environment** 



Innovation



**Technology** 







Statements made by Firebird based on Sutherland Tables figures are the responsibility of Firebird, and do not reflect the views of Sutherland Tables.



# Cleaner, sustainable and practical: Why HVO could be the future for oil boilers

Since 1978, Grant Engineering has been manufacturing oil-fired boilers which have efficiently heated thousands of homes in the UK, Ireland and further afield. The company has diversified its product portfolio over the years but, as Grant's managing director, Paul Wakefield explains, oil boilers remain a core pillar of the company's direction, with exciting developments in HVO biofuels helping to secure its place in a low-carbon future.

#### **Pioneers**

Designing innovative heating products has always been a central focus for Grant, whether that be manufacturing the first condensing oil-fired boiler, developing the patented Vortex heat exchanger or bringing to market the latest range of low-NOx oil boiler models. Grant products have been ahead of the curve when it comes to legislative changes and the brand is wellrecognised for being a pioneer in the field of domestic home heating. The technical innovation of our products has also resulted from the ongoing dialogue we have with heating engineers, feeding their comments into product development and ensuring that Grant products remain installer friendly while also being sophisticated in design and operation.

Another driving force behind our R&D is delivering choice for customers. Over the years, the Grant oil boiler range has developed to ensure there is a boiler solution for almost any rural home, whether that be a whitecased utility boiler for the kitchen, an external combi for properties where space is limited, wall hung variants when a floor standing model is unsuitable, or boiler house models when the garage is the most convenient location. In the last twelve months, Grant has streamlined its oil boiler range, but the same level of choice remains with the Vortex models, which range in output from 15kW up to 70kW, still comprising of internal, external, wall hung, boiler house and combi models.



### Low-carbon heating for all

Providing options for customers is more important today than it has ever been. We all have a collective responsibility to reduce our carbon footprint and how we heat homes will significantly help lower emissions. Renewable heating will be the future of our industry but how this looks should not be restricted. Grant first entered the renewables market in 2006 and since then, we have expanded our offering to include air source heat pumps, solar thermal systems, hybrid technologies as well as ancillary products such as hot water cylinders, underfloor heating and aluminum radiators, to give our customers complete package

The growth in the air source heat pump market has been an exciting development in our sector. Alongside the technological developments in heat pumps, understandings of low-carbon heating have significantly improved with consumers being more aware and more heating engineers undergoing heat pump training to meet the growing demand. Air source heat pumps, such as our awardwinning Aerona³ range, have been and will continue to be the right solution for hundreds of thousands of homes but it is important to recognise other low-carbon heating solutions.

### **HVO** biofuels

HVO has become a popular topic in the oil industry and rightly so because Hydrotreated Vegetable Oil could have an essential role in helping reduce the carbon emissions of hardto-heat homes currently on kerosene oil. Some properties are not suitable for low temperature heating systems because their heat loss is too great and, while improving the insulation levels of all buildings must be encouraged, the cost of such home improvements could make installing a heat pump unfeasible for some rural properties. This is why Grant believes consumers should be given more choice when it comes to changing their heating to a lower carbon solution and this choice should include low-carbon liquid fuels.

HVO trials have been underway for several years now with homes and other buildings being converted from kerosene oil heating systems to HVO operation. HVO is 100% biofuel, with feedstocks using oils that contain rapeseed oil, sunflower oil, soybean oil and non-food oils. Grant has been heavily involved in the trials researching the use of HVO in home heating, research which has shown that HVO can reduce carbon emissions by up to 88% when compared to standard kerosene. All Vortex floor standing oil-fired boilers are HVO compatible and they can be converted to HVO operation with a few minor alterations to the boiler, burner and system.

### Looking ahead

The coming months will be pivotal for the oil heating sector. Lobbying of government to secure the inclusion of HVO biofuel in future legislation is going to be crucial to support those homes currently on oil who are unable to make the swap to electric heating. To demonstrate our commitment to low-carbon liquid fuels, Grant's HVO compatible Vortex Pro oil-fired boiler models are now available with a 10year guarantee when installed by a G1 Ínstaller (effective from 1st February 2023, full T&Cs apply). This 10-year guarantee is available on the Vortex Pro Internal and Pro External heat only and combi boilers, something which will give homeowners complete peace of mind as well as giving them the option to convert to HVO operation in the future.

## Kinder to the bank balance and the environment

As we all look to make savings on our outgoings, boiler efficiency is high on the list for consumers, installers and the industry as a whole.

In the past, the boilers used in our homes typically had an efficiency of 60%, resulting in 40% of their energy being lost. Some of these older boilers are still in use in homes today.

Over the years Firebird has dedicated significant resources and invested heavily in developing products with increased fuel efficiency, reduced emissions and which use more renewable and sustainable fuel

"Thanks to this drive towards innovation, Firebird now has the most efficient liquid fuel boilers on the market at 97.5% efficiency and NOx emissions as low as 60mg/kWhr, half the EU limits," says Mark Doyle, Firebird's general manager.

Findings from The Sutherland Tables in September 2022 show that by upgrading from a standard efficiency boiler in a house built in the 1980s to a high-efficiency Firebird condensing boiler, there can be average savings of £943 per year on heating bills. \*

A recent Firebird Trustpilot reviewer stated: "My oil doesn't go down as quickly, and it gets hotter more quickly." These savings would help alleviate the current pressure on households and businesses which have seen home heating oil almost double in price. Plus, by using less oil, these boilers are much kinder to the environment, as well as to the bank balance.

Firebird's boilers are also fully compatible with Hydrotreated Vegetable Oil (HVO). A viable and sustainable drop-in replacement to kerosene, HVO is fossil free and can reduce household emissions by up to 90%

Leading the charge in innovation, Firebird has trialled and tested HVO in the UK and Ireland to prove that it can be implemented almost immediately. The conversion requires little or no modification to existing home heating systems and no significant investment beyond a small conversion cost, (approx. £400) to upgrade to a Firebird by Elco HVO burner.

Mark explains how the introduction of HVO for household and commercial boilers would be an instant gamechanger for home heating: "There are 1.5 million or so homes with existing liquid fuel boilers in the UK with few other choices available for homeowners to adopt cleaner, greener heat solutions.

"HVO can work with any liquid fuel boiler and if used in homes, can potentially make these homes almost



Firebird Envirogreen condensing boilers with an efficiency of 97.5% and NOx emissions as low as 60mg/kWhr, half the EU limits.

carbon neutral immediately. Our trials of HVO for home heating in the UK and Ireland have proven how household greenhouse gas emissions could be reduced by 90% with CO2 emissions decreasing by up to six tonnes annually, per home."

He adds: "We passionately believe that we all have a part to play in reducing carbon emissions and we believe HVO is not the future, it's the 'now'. We're continuing to innovate and drive more sustainable heating solutions that help homeowners reduce their carbon footprint and future-proof their homes. Our responsibility to our customers and the environment is a key driver behind everything we do."

Firebird's manufacturing site in Ireland and offices in England and Northern Ireland are already fuelled by HVO and the benefits can be seen every day.

\*Statements made by Firebird based on Sutherland Tables figures are the responsibility of Firebird, and do not reflect the views of Sutherland Tables.

### Grant refreshes its Find an Installer too

The 'Find an Installer' search facility on Grant UK's website has been updated with an improved look and more user-friendly functionality.

The new Find an Installer tool – www. grantuk.com/support/find-an-installer - supersedes the engineer search which was previously available on its website. The new facility provides homeowners with a selection of local heating companies in their area which install, service and repair Grant products, from oil boilers and cylinders through to air source heat pumps, hybrids and solar thermal systems. With its additional functionality, the tool is a more extensive resource for consumers whether they are looking for a new heating system or looking after their existing Grant system.



The improved tool allows homeowners to enter more criteria to individually tailor their search. The styling of the search has also been updated with a new look throughout and updated company profiles within the results page, which provide more comprehensive listings about the G1 installers, their businesses and the technologies they work with. Homeowners can either contact their local installers directly or get in touch

with up to three companies in one go using a new contact form function, which submits an email enquiry to the relevant heating engineers for them to follow up.

"Providing customer support is at the heart of what we do", explains Anna Wakefield, head of marketing at Grant. "Our new and improved Find an Installer search tool is not only a more useful, user-friendly feature for householders, but the search will visibly generate enquiries for the G1 Installers listed on our website. Our previous engineer search helped thousands of visitors and we anticipate the new tool to be used even more, especially as homeowners look for ways to make their home heating more efficient and sustainable."

# RELIABLE... ROBUST... RIELLO RDB



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Riello R&D programs continually monitor and develop performance, implementing enhancing updates using Riello 'know how' and feedback from the field.

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The Genuine Riello RDB – THE residential oil burner

### Leaders in Burner technology for over 100 years

The RDB burner is the No.1 installers choice, it is trusted by thousands of installers with over 2 million burners sold into the UK and Ireland. The new ERP compliant Lo-NOx version ensures that Riello continues to offer the perfect match for all customers throughout 2023 and beyond.

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# What next for oil boilers in the race to net zero?

As the quest for sustainability heats up, the oil heating sector has been investing in developing renewable liquid fuels for homes in rural areas, with initiatives such as the 'Future Ready Fuel Campaign' leading the way. HVO has emerged as the clear frontrunner in terms of providing a clean and efficient alternative, as Sean Keleher, national technical manager at Navien, explains.

For over 50 years, heating oil has been the most popular choice of fuel for properties off-the-gas grid. However, given the onset of climate change and the drive towards net zero emissions by 2050, there is now a need to look towards a greener, more sustainable option. Fortunately, there is now an alternative fuel for oil boilers that can significantly reduce household emissions, without requiring the boiler itself to be replaced.

Hydrotreated vegetable oil (HVO) has been discussed as a potential green fuel for a few years now. It is a second-generation biofuel made by the hydrocracking or hydrogenation of vegetable oil during its production. Now, we are beginning to see it adopted as an alternative fuel for a range of technologies in a variety of industries. For example, last November, parcel delivery company DPD announced its plans to switch all its diesel HGVs to this biofuel by the end of 2023.\*

But it isn't just transport companies looking to HVO as an alternative liquid fuel. HVO is also fully compatible with modern oil boilers – including Navien's LCB700 Blue Flame units. This is good news for the owners of the 1.5 million UK homes currently fitted with oil boilers where, particularly for those that are off-gas, renewable technologies like heat pumps wouldn't be an effective or ideal alternative.

HVO makes an excellent replacement for heating oil (such as kerosene), requiring relatively simple and inexpensive changes to heating systems – while it can cut emissions by 88%. It is considered to be a 'drop-in' fuel, which means homeowners will not be required to replace their existing heating system, pipework or radiators. Plus, HVO can still be bought in bulk and kept in a storage tank in people's gardens.

Furthermore, it has a lower flashpoint, making it safer to handle, while its biodegradable credentials will see it classified as a non-pollutant. This



should make it a far more attractive proposition when looking towards a low-carbon future, especially in terms of older, rural properties.

The update to SAP 10.2 in December 2021 – the approved methodology for calculations used in Part L of the Building Regulations – includes references to HVO.\*\* Within these, the carbon dioxide equivalent listed for HVO is 0.036kg per kWh; this is lower than wood/biomass (0.053kg/kWh) and electricity/heat pumps (0.136kg/kWh), further demonstrating its advantages over other renewable fuel sources.

At the time of writing, nationwide trials conducted by trade bodies such as OFTEC and UKIFDA have taken and are still taking place to ensure oil boilers' compatibility with HVO, as well as help verify the logistics and practicality of rolling out biofuel heating systems across the UK's off-gas properties. The current findings have shown that oil boilers can be converted with no discernable difference in output, which is most encouraging indeed.

Of course, at Navien, energy efficiency has been at the heart of our oil boilers for many years already. Our stateof-the-art oil-fired units are already futureproofed when facing tightening energy efficiency regulations. Indeed, the efficiency credentials of oil boilers are significantly enhanced when utilising the latest modulating blue flame burner technology, which has steadily been growing in prominence throughout the oil heating sector.

Blue flame technology has been specifically engineered to turn heating oil into a vaporised spray. This is then premixed with the air required for combustion, before being drawn in through the burner, resulting in a clean blue flame, which has much lower NOx emissions and running costs when compared to alternative, yellow-flamed models. This enables oil installers to provide their customers with a more sustainable and efficient boiler when they are seeking a like-for-like replacement.

Incorporating the latest blue flame technology into modern oil boilers ensures an optimum level of energy efficiency and ultra-low NOx emissions of 57mg/kWh. In fact, at Navien, we recognise the importance of blue flame so much, we ONLY manufactures boilers utilising this technology! On top of that, our LCB700 Blue Flame boilers can be easily modified to burn HVO simply by installing different nozzles. This will have no impact on their performance, while also providing CO2 savings of 88%, as well as further reduce NOx emissions.

So, what next for HVO? Oil installers and other experts throughout our industry recognise its suitably for use in-off gas properties. What we need now is the Government to get behind this renewable liquid fuel and support it being made available to homes with oil-based heating systems. Doing so will ensure rural homes can be decarbonised easily, while continue to benefit from the many advantages of blue flame boiler technology.

- \* Source: Transport Enquirer https://www. transportengineer.org.uk/transport-engineernews/dpd-to-switch-all-diesel-hgvs-to-biofuel-byend-2023/248667/
- \*\* Source: SAP 10.2, 'The Government's Standard Assessment Procedure for Energy Rating of Dwellings' 17/12/2021.

# Powering the nation with Tuffa's think tanks and AMP Clean Energy

AMP Clean Energy is leading the way in the energy transition, funding, developing and running low-carbon heat and power facilities for businesess and organisations throughout the UK.

Low-carbon energy solutions will be critical if the UK is to hit its net zero target to decarbonise electricity generation and heating in the UK.

However, the sun doesn't always shine (this is the UK!), and the wind doesn't always blow. To support the journey to net zero carbon emissions, the electricity grid needs to meet the ever-growing demand within urban locations. AMP Clean Energy has developed its 'Urban Reserve' flexible electricity facilities to support this transition.

Urban Reserve is a backup source of power generation, which can be deployed when the energy supplied by renewables like wind and solar power isn't sufficient to meet demands. Typically, the extra need is between 4-7pm – after school or work and before millions turn on their TVs to watch celebrities eat camel hooves or more unsavoury body parts.

There are now 33 Urban Reserve sites throughout the UK, with 55 engines supplying power to strategic locations predominantly within populated areas in the southwest and northwest of England where power is needed most.

Through continual development, site blueprints are now well-honed to provide maximum efficiency with minimal manual intervention required.

During the early development days, the system was not as robust as it is now. Invariably, lubricant oils degrade over time, and oil levels drop either by the engine's design or as it burns away.

With most sites having multiple engine rooms – with 2MW or 2.5MW generators holding 1,000 or 1,200 litres of engine oils, respectively – the need for on-site maintenance equipment is high.

The initial Urban Reserve sites were maintained using IBCs and portable pumps – a laborious, inefficient method with a greater risk of oil leaks and spills.



Custom-built dual-compartment lubricant oil and waste oil tank

Following further development to improve the efficiency of the operations, AMP Clean Energy decided to upgrade from IBCs to lubricant and waste oil storage tanks. Researching the available tanks on the market highlighted that choosing a standard tank to solve a niche requirement wasn't viable.

"AMP Clean Energy needed a bespoke solution and chose Tuffa to supply it. Our unique method of collaborating on the tank design allows us to manufacture a custommade tank that meets precise site requirements," says James Shenton, Tuffa's managing director.

Tuffa assigned a dedicated project manager to oversee every aspect of the AMP Clean build. Working with a project development manager from AMP Clean Energy, the Tuffa team produced technical specifications and drawings for a unique storage and dispensing system.

A former Tuffa tank construction supervisor with additional technical sales training and a specialism in custom-builds, Dan Simpson was perfect for the project.

After consulting with the AMP team, the proposed solution was a bunded, dual-compartment tank with roller shutter doors and specifications including:

- 1600L lubricant compartment:
- 2" full point c/w overfill prevention valve
- Tuthill pump
- 30-meter hose reel
- Clock gauge
- 3-channel tank alarm
- Overfill prevention valve



Tuffa's tanks delivered across the country to support the journey to net zero carbon emissions



Replacing the old IBCs at the 33 (and counting) Urban Reserve sites

- 1600L waste oil compartment:
- 2" top suction located within a drip tray
- 30-meter hose reel terminating in a BSP c/w overfill prevention valve
- High-level float

The tanks, cited within close proximity to the engine rooms, simplify the ongoing generator maintenance at the weekly site visits.

With a lubricant delivery hose and waste oil extraction hose at 30 meters (10 meters more than a fire engine), the site engineers can rapidly top up the lubricant oils or complete a full oil service.

The additional capacity also means that AMP Clean Energy can benefit from fewer deliveries (around two annually per site), offering more efficiencies from bulk buying their oil.

With a total of 29 dual-compartment tanks ordered, AMP Clean Energy's programme manager, Luis Garces reported: "A maintenance regime is essential in keeping our flexible generation facilities running efficiently, helping provide electricity when and where it is needed most. Precision is vital as the sites are fully automated, with remote monitoring.

"Safe and efficient oil storage and distribution was the problem, and by working with Tuffa, we have been able to find a solution which is perfect for our sites. We plan to install a Tuffa tank in all future Urban Reserve sites and are retrofitting existing plants with the tanks."

"With Tuffa's best 'think tanks' on the job, designing the tanks in-house, collaborating with AMP Clean Energy, and fitting the best tier-one ancillary equipment possible, our tanks have become a critical aspect of the Urban Reserve blueprint," comments Dan.

"Tuffa has built an excellent reputation for offering fantastic, reliable turnkey fuel and oil storage solutions. Our company is big enough to cope with the fast turnaround, but our culture shone through. What was exciting about this project was its end usage. It was great working with the team at AMP Clean Energy."





### TIGERLOOP DE-AERATOR





### **HVO READY TIGERLOOP BIO DE-AERATORS**

As an authorsied UK importer of Tigerloops, we are working along side SPX Flow Tigerholm to ensure the HVO ready Tigerloop Bio range is available from us Ex Works.

### FEATURES OF A TIGERLOOP:

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- O Extends life on filter element



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### Is the recent Harlequin launch making installers 'appy?

As a supplier and manufacturer of bunded oil tanks who works very closely with its installers, Harlequin recently launched the Harlequin Tank Centre, a simple yet effective web-based app, to connect with their installers who do work on the ground. The app includes information on tank and base dimensions as well as easy access to tank warranty registration.

As we heard in the winter issue of Oil Installer, the app came about after it became clear that Harlequin needed to develop a solution to provide instant and easy access to all the relevant information required for the successful completion of their job.

Jon Jones, fuel product category manager for Harlequin said that the company had been delighted with the uptake of the app: "Since its launch last year we didn't expect the demand that has occurred. Several hundred tank installers have registered for the app which also provides a means of keeping up to date not only with product improvements but also developments within the industry such as the emergence of HVO as an alternative to kerosene.

Harlequin recently caught up with a few app users to hear more about why they decided to give it a try, how they are using it, how they feel about it and how it's benefiting them so far.

### **Enthusiastically received**

Since its launch the app has been well received by tank installers who comment generally on its ease of use, up to date information and easy access.

Using the app

The app is mainly used to get product information such as tank dimensions, base sizes, images, and videos of the tanks while on a job as Dylan Jones, director, Oil Tank Gwynedd explains: "I use the app whenever I require updated product information instantly, especially when customers ask for specific information.

"It is impossible to remember all the product information, carry brochures with us or call the office and ask for the information."

Also using it for easy access to product details is Neil Roberts, director, Oil Tank Solutions: "I normally use the app to access comprehensive product information that will help me sell and promote products better."

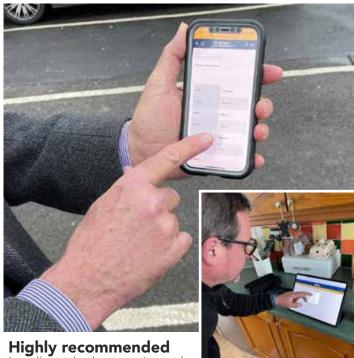
### **Bringing benefits**

"The ease of use, informal format, and the fact that the app can be accessed not only on the mobile but also on a tablet are some of the key benefits of the app," comments

He goes on to add: "The information provided is not technical which makes things a lot easier for the customer and gives them better control over the decision-making process."

Dylan highlighted some of the key benefits of the app he has found: "Showing customers the look and feel of products, comparison between different products and helping them register the warranty while on site.

"Registering the warranty is particularly useful so we don't have to do anything once we leave site after the job is completed."



Installers who have registered

for the app and have already been using it for an extended period are finding it a valuable tool and are keen to use it more as well as recommend it to other installers.

As Dylan shares: "It takes a while to transition to using an app. But once you start using it, you realise that it is extremely beneficial."

Adding his own endorsement Neil agrees: "Harlequin Tank Centre App is a very useful tool for installers irrespective of the size of their business. Apart from being an informational tool, the ability to register product warranty on the app saves valuable time which we could spend effectively on getting more jobs."

### **Additional features**

Encouraged by the initial uptake and feedback, Harlequin are keen to get more installers using the app. Those using it are already finding the wealth of product information, literally at their fingertips, to be extremely valuable and the warranty registration is a big hit with those out installing

Created very much with installers in mind, Harlequin welcomes any thoughts or suggestions on other areas of development that will make this app an increasingly useful tool.

### Air source heat pump myths busted

### Written by NIBE Energy Systems

Here at NIBE, we appreciate heat pumps can be confusing and that this can lead to scepticism regarding the technology. Our experts are here to bust some of the common misconceptions around heat pumps and their installations so that your customers can be more confident when considering a heat pump as the solution to heat their home.

### **MYTH 1: Air Source Heat Pumps are loud.**

Most heating products emit some low-level noise, including traditional gas boilers, which have a similar noise level to modern air-source heat pumps. Heat pump technology is constantly evolving, and many units now come with intelligent compressor controls, which enable systems to run as quietly as possible. NIBE heat pumps are also equipped with a silent mode, which allows the system to operate at a lower volume when needed, for instance, at night.

Effective installation is critical when it comes to minimising the sound the system makes. It is important that an MCS 020 (Microgeneration Certification Scheme) calculation is completed to comply with planning regulations and units should be sited on a secure base. NIBE provides air source heat pumps with adjustable feet as standard, as well as additional antivibration mounts for floor standing units to reduce noise levels.

### MYTH 2: Heat Pumps require ongoing maintenance and servicing.

Heat pumps do require regular servicing and maintenance. However, this is no different to that which is required for a boiler to ensure that the system is working safely and efficiently. Manufacturer's instructions provide specific maintenance instructions depending on the heat pump model. It is also important that customers know how to check if their system is in working order between its annual service, including how to check for debris around the air intake and for possible leaks and pressure drops. As an installer you will be able to advise customers how they can keep their system running efficiently.

### MYTH 3: Customers need to replace all their radiators.

This is not always the case. Government figures state around 55% of radiators may need upgrading when replacing a heat pump, however the only way installers can confirm if radiators need replacing or upgrading is through a full room-by-room heat loss calculations<sup>1</sup>. Our NIBE Pro Installer programme offers comprehensive low flow temperature training to ensure NIBE Pro installers can provide the most accurate design and quote for their customers.

### MYTH 4: Air Source Heat Pumps won't work if it is cold outside.

While this is an understandable assumption as heat pumps draw heat from the atmosphere, it is not true. Heat pumps can work well in temperatures of down to -25°C. This is because 0°C is different to absolute 0 (zero kelvin) where

there is no heat at all, and this equates to -273°C. At any temperature above absolute zero, there is some heat to be utilised.

NIBE heat pumps are built for colder, Scandinavian climates compared to the UK so customers can be confident that their air source heat pump will continue to keep their home comfortable and warm throughout the winter months.

### MYTH 5: I will need to completely replace heating system pipework.

There is a common misconception that, when installing a heat pump, existing microbore pipework will need to be ripped out and replaced to enable its operation. This is based on the notion that the pipework is too narrow to deliver the heat required to the radiator at the flow rate of the heat pump system.

This is not always the case, and a full room-by-room heat loss calculation will determine the suitability of the existing pipework and confirm the steps that need to be undertaken. Our NIBE Pro Installer Scheme includes heating systems' design training to ensure you are able to recommend the most efficient heat pump system tailored to the needs of your customer's home.

### MYTH 6: SCOP and COP are the same.

Coefficient of Performance /Seasonal COP

The COP-figure applies only to a particular outdoor and flow temperature at a particular point in time. For example, in the summer an air source heat pump, (ASHP) when producing hot water, will have a really high COP, whereas in the winter it will be lower as the outside air is cooler and the heat pump will use more energy to heat the hot water cylinder.

SCOP (Seasonal Coefficient of Performance) is an average measurement that demonstrates how effective the heat pump is on an annual basis. So, the SCOP is the best indicator of how the ASHP is performing all year round. NIBE's latest S2125 ASHP performs very well in both summer and winter months, producing a SCOP of 4.8 with a flow temperature of 35°c and 3.59 with flow temperature of 55°c. In a nutshell, for every £1 of electricity used to run the heat pump you will get £3.80/£2.59 of free heat. Whereas, typical gas boilers can only run at 87% efficiency, which in turn equates to 13p of the £1 used to heat your home lost in the boiler emissions.

Heat pumps remain the cheapest long-term solution for heating homes, and NIBE's best-in-class products provide optimised savings while delivering powerful and quiet heat with a low environmental impact. Our NIBE Pro Installer Partnership Scheme ensures that our installers are MCS Certified and are well equipped to deliver heat pump systems that operate seamlessly all year round across the country.

Check out the NIBE Pro website to find out more about available training opportunities.

1 GOV.UK (2021). Domestic Heat Distribution Systems: Evidence Gathering.

Available at: https://assets.publishing.service.gov.uk/government/uploads/system/
uploads/attachment\_data/file/976021/beis-dhds-final-report\_\_1\_pdf.

### New Riello courses

Following continued demand, Riello is offering its RDB Residential Oil Burner training course for 2023. Courses are held at the Riello Training Centre in Huntingdon, Cambridgeshire.

All essential residential oil burner training elements are included in the course and cover:

- Correct burner commissioning
- Burner servicing
- Fault finding
- Basic combustion theory
- Yellow flame burners
- Low NOx burners
- Blue flame burners
- Digital controls

Courses also provide additional information and training on other key industry topics such as different types of fuels – including new renewable liquid fuels such as Hydrotreated

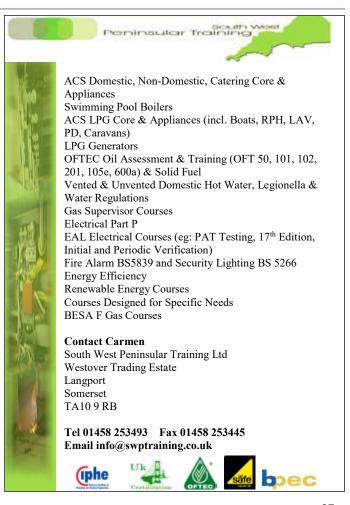


Vegetable Oil (HVO) – and installation requirements.

Courses are run over one day and involve theory training in the classroom and hands-on experience in the practical training area, working on burners. Further courses covering commercial oil, gas and dual fuel burners are also available.

For dates, prices and availability please contact t training.riellouk@carrier.com or 01480 432144 option 4.







Be safe - only use the best!



**TEDDINGTON** 

### Flue season

Recently, OFTEC's technical department has seen an increase in the number of solid fuel appliance queries, particularly relating to flues. Some of the more common queries were based on the following:

- Legislation
- Suitability of the flue or chimney for the appliance
- Flue outlet positions
- Connections and support
- Distance to combustibles
- Flue test procedures.

OFTEC has put the following information together to help technicians understand where the requirements, information and guidance can be found. Technicians registered with OFTEC holding the solid fuel scope, also get the benefit of free technical support if required as part of the benefits of registration. Even if you simply want guidance of where to find something in the OFTEC solid fuel technical book, it's worth giving us a call.

#### **Useful documents**

Information on how to achieve regional building regulations can be found in regional varying guidance documents that are freely available to download. We recommend that technicians download a copy and become familiar with the requirements. See QR codes below.



www.gov.wales Approved document J



www.gov.uk Approved document J



www.gov.scot Technical Handbook



www.gov.ie Technical guidance document



www.gov.gg Technical standard J

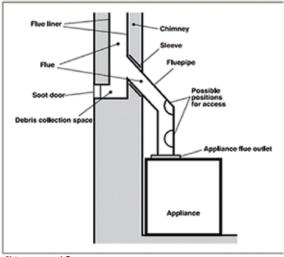


www.gov.je Technical guidance documents part 3

### Overview of the document

Based on Approved Document J of the Building Regulations (England), the requirements are shown below. Diagram 2. Shows the definitions for chimneys and flues, which is a simple, helpful illustration for identifying the different components.





Chimneys and flue

The approved document provides technicians and installers with information about different flue arrangements, the materials to be used, and makes reference to any supporting industry standards. Without going into too much detail, it covers air supply, flue positions, construction methods etc.

#### Manufacturer's essential information

The manufacturer's instructions may require a more onerous installation requirement and for this reason, it is very important that the correct information is obtained from the manufacturer for example:

- Supports, guy wires, brackets.
- Minimum diameter of flues.
- Connecting flue pipes and their suitability.
- Distances to combustibles.
- Suitability of the product for the fuel that is being burned in the appliance.

An example where this can become a problem, or deem an installation to be non-compliant, is when the fixing and supporting of flues are not to the manufacturer's instructions, or the designation of the flue is incorrect. Another example could be that although a flue may be selected based on the diameter, it does not mean it will be appropriate for its intended use.

These mistakes can be easy to make and costly and timeconsuming to repair. Some other helpful information is found in the appendices, which includes the following:

- Checklist for hearths fireplace flues and chimneys.
- Calculations for openings for flue sizing requirements.
- Compliance checking requirements with J2 (flue tests, smoke tests).
- Chimney designation.

This is just a small part of the subject of flues and chimneys, and differs from one installation to another, but it's an important piece of work and one that if done correctly will be there for many years.

### The HVO demonstration project – three years in and looking good!

Now into the third heating season, the UK HVO demonstrator project continues as a study to prove the use of HVO as an effective biofuel to replace kerosene.

Latest figures, from UKIFDA, show 130 properties are participating, nine of which are non-domestic, all demonstrating the value of HVO.

UKIFDA recently reported it was on target to meet the project's fuel distribution quota of c300,000 litres by the end of 2022. All properties converted as part of the project have been supplied with HVO, free of charge, by participating fuel distribution members.

Each property converted has had its heating boiler or cooker monitored for performance and efficiency and reports containing data are sent to OFTEC for analysis.

The appliances operating on HVO also receive a routine annual service by the participating fuel distributors, so that any irregular operation can be observed by the service technician, and any issues encountered by the property occupier can be reported to OFTEC for analysis.

The initial optimism that HVO would be a near drop-in replacement for kerosene has proved entirely justified. The use of HVO has been extremely successful and othan than a few minor upstream fuel contamination issues, the demonstration has achieved its technical goals, providing excellent carbon emission reductions by up to 90%.

To demonstrate carbon savings reliably, OFTEC required a control site in which to show carbon emissions. A test site was chosen. and a modern boiler and controls installed, which could be relied upon to provide reliable data of HVO fuel consumption, heating trends and emissions which

could be analysed on a month-bymonth basis. The output of which has been generated as a graph (top right) to show CO2 emissions savings compared to kerosene over a full year.

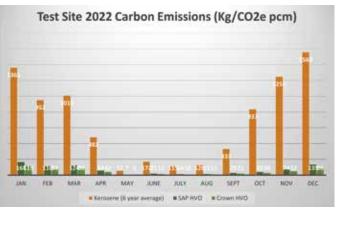
To calculate HVO emissions and explain calculation methodology, the Building Research Establishment (BRE) was asked to evaluate carbon emissions from waste-derived HVO provided by Crown Oil, and produce a generic waste-estimated UK typical value for inclusion in SAP 10, utilising the BRE methodology S10TP-15

BRE evaluated the HVO carbon equivalent emissions:

Used cooking oil only derived HVO (Crown HVO) = 0.025 kg CO2e per kWh

Generic waste derived HVO (SAP HVO) = 0.036 kg CO2e per kWh

The values are then used to compare average kerosene usage against HVO



measured fuel usage (x SE x BRE CO2e values) to give comparative monthly and annual emission values.

SAP 10.2 Table 12 Kerosene = 0.298 kg CO2e per kWh

N.B. The SAP Primary Energy Factor (PE) is the same for HVO and kerosene.

The OFTEC HVO Demonstrator control site has achieved a near 30% improvement in the Energy Performance Rating of the 300-year-old, off-gas grid "hard to treat" rural property, from a Band D to a Band C, simply by applying modern liquid fuel fired appliances and controls as a direct end-of-life replacement of existing liquid fuel fired equipment.

A further report will be published by OFTEC, providing technical details about the conversions, fuel characteristics, tanks, sustainability, and a Publicly Available Standard.

### Looking for a new challenge?

We have vacancies for field-based contracted inspectors in North Wales, Midlands, East Anglia and Central England. Our inspectors audit heating businesses and check individual competence through on-site visits. Applicants must have in-depth experience of off-gas grid and renewable heating technologies, including the Microgeneration Certification Scheme (MCS).

To discuss this opportunity, please contact John Vinter, Inspection Services Manager, on 01473 618 558 / 07432 715042 or email jvinter@oftec.org.

www.oftec.org



### Are you efficient in what you do in Scotland?

You may have read in previous editions of Oil Installer about energy efficiency changes that have been implemented in England and Wales. Now it's the turn of Scotland, and OFTEC's technical team have created a summary of the key changes affecting technicians working in dwellings, which came into effect on 1st February 2023.

So, what are these changes?

### The use of the compliance guides

Key information as referred to from the Scottish Technical Handbook – Domestic can still be found in the Domestic Building Services Compliance Guide, such as the minimum efficiency that appliances should meet, minimum controls packages to be installed, and insulation properties for hot water storage vessels and pipework.

#### Low temperature heating

This applies to newly installed heating systems, or where a replacement in an existing dwelling includes a heating appliance and the majority of the emitters (which provide more than 50% of the calculated heat demand). The system should be designed to allow the system to operate with a Mean Water Temperature (MWT) of 50 °C or lower and a flow/return  $\Delta T$  of 10 °C or lower. This might require some upskilling for heating engineers, as pipe and radiator sizing will need to be carefully specified to ensure enough heat is provided to each room. Unless it's already part of your normal routine, OFTEC strongly recommends that you dig out your copy of the Domestic Heating Design Guide to remind yourself on how to do this.

### **Specification of services**

The specification of the heating system should be based on building-specific heat loss calculations, and hot water storage should be based on anticipated demand. Neither should be oversized. On this basis, installers will need to ensure they keep records of such calculations to demonstrate compliance.

### **Enhanced minimum efficiencies Appliance replacements**

Minimum efficiencies for oil-fired appliances				
Boiler type	Minimum efficiency			
Regular boiler	91% ErP			
Combi-boiler	86% (SEDBUK 2009)			
Range cooker with integral boiler	80%			

Minimum efficiencies for heat pumps					
Heat pump type	Minimum efficiency				
Air to air < 12 kW	As per Ecodesign regulation 2016/2281				
All other types – Space heating	COP 3.0				
All other types – Heating domestic hot water	COP 2.0				

If work includes replacing a domestic primary heating appliance with an appliance that runs on a different fuel, a calculation should be undertaken to ensure that the new appliance does not produce more carbon emissions than the existing appliance being replaced. In addition, a second calculation is required to verify that the replacement appliance will not have a higher delivered energy demand. This means that all the following must be true for a compliant appliance replacement:

- The appliance should be at least as efficient as the minimum seasonal efficiency required for that fuel.
- The replacement appliance should not produce more CO2 emissions per kWh of heat than the appliance being replaced.
- The replacement appliance should not have a higher delivered energy demand.

To assist technicians, OFTEC have created Technical Notice 037 and the calculation tool that does the maths for you, they are currently both hosted in the registered technician's section of www.oftec.org.

Where replacing an appliance with one using the same fuel, the new appliance must be at least as efficient as the minimum efficiencies in the tables above.

#### Solid fuel appliances

Guidance on the installation of appliance types B1, B2, B3 (open fires), C1,C2 (open fire and non-high output boiler), and J3,J4 (multifuel or anthracite boilers) are no longer listed as suitable to install. This represents any appliance that can burn mineral fuels.

### **Heat pumps**

Heat pumps should be selected to meet the full space heating requirement at the design condition chosen for heat loss calculations. This should account for the space heating flow temperature assumed in the heat emitter circuit(s), and that no heat from additional electric heaters will be supplied within the design external temperature range.

Reversible heat pump systems (that can provide both cooling and heating) should be designed to optimise the heating function.

#### **Controls**

Where a heating system is installed, or a boiler replaced in nearly every case, each room should be provided with thermostatic room controls. This can be achieved by one of the following:

- A thermostat in a room that the heating circuit serves and an individual thermostatic room control for each heat emitter, such as a thermostatic radiator valve, on all heat emitters outside the room that contains the thermostat. Thermostatic radiator valves should not be used in the same room as the thermostat.
- An individual room/heating zone thermostat or fan coil thermostat for each room or heating zone
- An individual networked heat emitter control for each emitter.

#### Finally

We hope this article has given you a flavour of some of the changes which came into effect 1st February 2023. OFTEC strongly recommends that you download the new version of the Domestic Building Services Compliance Guide and use it as a guide to assist you when guoting for work.

For technicians who work at non-domestic sites, we recommend that you also download and familiarise yourself with the Non-domestic Building Service Compliance Guide. Both documents are available on the Scottish Government website or can be accessed via the QR code right. Once the webpage opens, scroll down to Section 6 – Energy.



### **Fuel price commentary**

The era of volatile and high average heating costs continues to play havoc with household and business budgets, causing stress and misery for many.

Interpreting the latest data is made more difficult by the UK government's Energy Price Guarantee, that effectively provide a discount for electricity and gas users in Great Britain. Users of oil have been promised a one-off payment of £200 but late delivery of this support means it has not been included in the Sutherland Tables data.

In the Republic of Ireland, the government announced that

electricity credits for all households totaling €600 would be made, paid in three parts, but the first payment was likely made after the latest Sutherland Tables data was calculated. This helps explain why the figures for the RoI are so high compared to GB and NI.

Users of heating oil in the UK have seen some falls in running costs. Users of storage heaters in Great Britain also appear to have benefitted from price falls although, strangely, owners of heat pumps have not seen similar decrease, indeed their costs have gone up. This is hard to explain, although the timing of government support, and differences

in tariffs may be factors. OFTEC has queried the data.

The prospects going forward are somewhat uncertain. The government has indicated that it plans to scale back the level of support from April, but there is growing evidence that wholesale energy prices are beginning to fall. For example, both the crude oil price and the wholesale cost of gas has gone down. Some economists are predicting that the inflation rate will also fall later this year, so we may see an improved situation by the next heating season – something that everyone would certainly welcome.

### Comparative space and water heating costs for a three-bedroomed home In Great Britain, Northern Ireland and the Republic of Ireland

BRITAIN

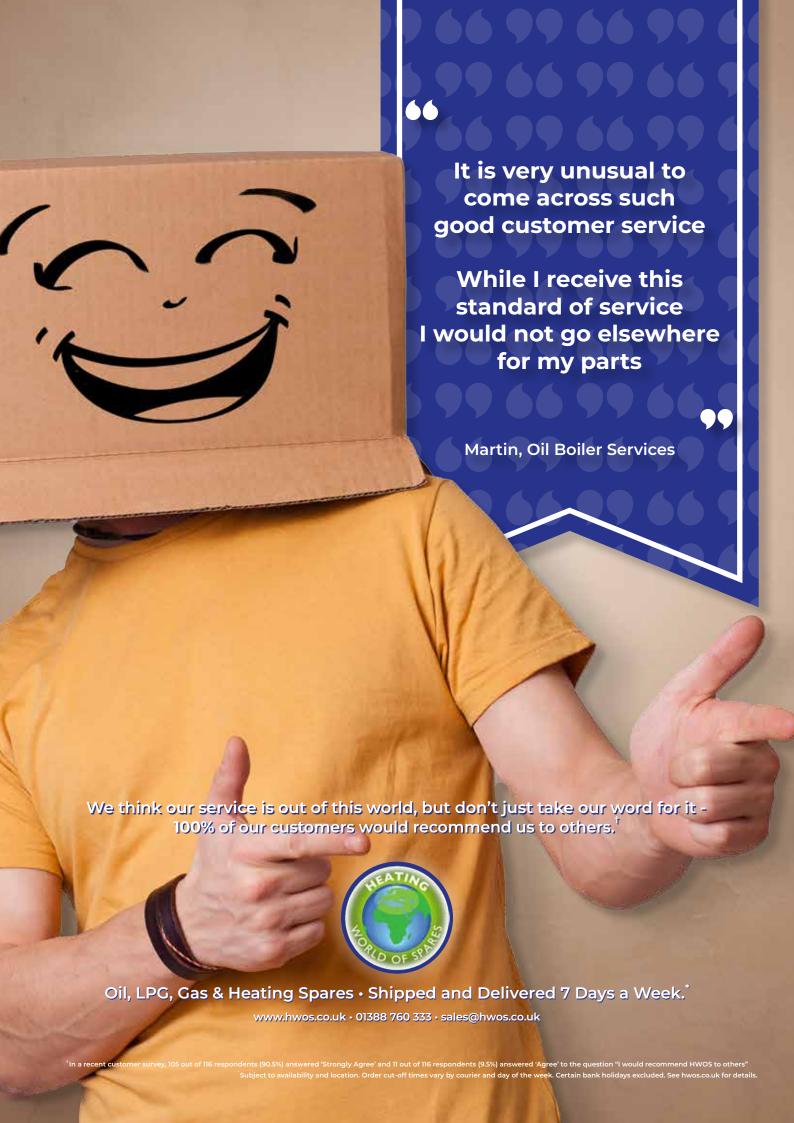
	Jan-19	Dec-22	Price change	% Difference	4 year average
Electric storage heater	2004	3135	1131	56.44	2466
Gas condensing boiler	1025	1930	905	88.29	1027
LPG Condensing boiler radiators and DHW cylinder	1625	1749	124	7.63	1539
Oil condensing boiler, radiators and DHW cylinder	1143	1752	609	53.28	1115
Wood pellets	1538	2902	1364	88.69	1650
Air source heat pump radiators	1771	3320	1549	87.46	2113
Air source heat pump underfloor	1355	2957	1602	118.23	1717

NORTHERN IRELAND						
	Jan-19	Dec-22	Price change	% Difference	4 year average	
Electric storage heater	1871	2480	609	32.55	2099	
Gas condensing boiler	1050	1869	819	78.00	1094	
LPG Condensing boiler radiators and DHW cylinder	2219	2293	74	3.33	2046	
Oil condensing boiler, radiators and DHW cylinder	1191	1781	590	49.54	1071	
Wood pellets	1131	2082	951	84.08	1284	
Air source heat pump radiators	1654	2498	844	51.03	1855	
Air source heat pump underfloor	1246	2066	820	65.81	1478	

#### REPUBLIC OF IRELAND

	Jan-19	Dec-22	Price change	% Difference	4 year average
Electric storage heater	2114	4613	2499	118.21	2516
Gas condensing boiler radiators and DHW cylinder	1399	2781	1382	98.78	1498
LPG Condensing boiler radiators and DHW cylinder	2574	2776	202	7.85	2470
Oil condensing boiler, radiators and DHW cylinder	1606	2236	630	39.23	1504
Wood pellets	1398	2484	1086	77.68	1489
Air source heat pump radiators	1852	3896	2044	110.37	2180
Air source heat pump underfloor	1458	3284	1826	125.24	1816

The tables above are based on quarterly data published by the Sutherland Tables. They show the annual average cost of a range of heating options for a typical pre-1980 three bedroomed semi-detached home with a heat requirement of approximately 16,000 kWh.Prices are shown in pounds sterling (£) for Great Britain and Northern Ireland, and euros (€) for the Republic of Ireland.



ENGINEERING TOMORROW



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