Oil installer

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Autumn 2019 Volume 13 No 3

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A&D PUBLISHING

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Autumn 2019 Volume 13 No 3

ISSN 1755 – 3490

Printed by Stephens & George Print Group. Tel. 01685 388888

Complacency can lead to disaster...

Business as usual is the default position for many of us. We get up, go to work, and the things we do while we are there are often very similar, one week or even one year to the next. It's all too easy to fall into the comfortable trap of assuming that our work routine will carry on for as long as we want it to, until we fancy a change, or we reach retirement.

It is easy for businesses, or even industries to do this too. Pay too little attention to what is going on around you and you risk missing the warning signs that change is coming. Complacency can lead to disaster and if you stand still, whether as a business, industry or individual, you risk being left behind and discovering that your skills, services or products are no longer in demand. Keeping ahead of the game, expanding your knowledge, innovating and watching for emerging trends are all parts of the essential ingredients for success.

We are acutely aware of this at OFTEC. The oil heating industry has been a familiar part of our working lives, in some cases, for several decades. Products have improved, regulations and standards evolved, but the fundamental ingredients have remained the same. All that is about to change! Climate change is now front-page news and most governments are committed to taking action. So far, the decarbonisation agenda has had little impact on our industry or the work done by the overwhelming majority of heating technicians – but only sceptics and deniers of climate change would expect this to continue for much longer.

We are already busy planning for the future. On page 12, you can read about the latest clean growth news and the research OFTEC has commissioned into alternatives to kerosene. Building on this research, work is gathering pace to prepare for the successful introduction of low carbon biofuels, and we are also developing plans for how we can support you, our most important customers, in the heating industry of the future.

These are exciting times and at OFTEC we are committed to the decarbonisation challenge.

Paul Rose,

CEO, OFTEC

Out and about with OFTEC

This year OFTEC has participated in several events – including the Low Carbon Homes UK Forums (more on page 5), the Installer Show at the Ricoh Arena in Coventry, FPS Expo, a SNIPEF/Skillplumb event in Scotland and several solid fuel exhibitions where we promoted our solid fuel training and registration schemes (more on page 35).

At events we've spoken to everyone from apprentices just starting out, right up to those who are about to retire after several decades on the tools. It's a fantastic opportunity for OFTEC to be able to learn from both ends of the spectrum – the expectations of the 'newbies' and the experience of the 'older' generation.

Still to come are the Romerils show in Jersey on 8th October, Selfbuild Live in Dublin on 13th September and the Installer Scotland show in Glasgow on 12th September. If you are visiting any of these events, do come and meet the OFTEC team!

OFTEC staff update

Since the last edition of *Oil Installer*, we've said goodbye to Gemma Ramsey who had worked in the registration department for two years and welcomed Abby Card to the team – she will be putting the excellent customer service skills she's gained in the travel industry to very good use.

Welcome to Abby Card

Installer focus group – *feedback*

Ahead of an online survey that the department of Business Energy and Industrial Strategy (BEIS) will launch for installers later this year, OFTEC was asked to carry out some initial research to help formulate the questions. A big thank you to those that took part and apologies to those who offered but didn't receive a call – unfortunately time was against us!

BEIS wants to find out whether there are enough installers trained in different technologies to phase out fossil fuels, and whether consumer attitudes to renewable technologies such as heat pumps, are changing. They are trying to identify what is deterring businesses from diversifying so that they can devise schemes and policies to encourage installers to get involved in non-fossil fuel technologies.

Installers are aware of the government's targets to decarbonise heat, however, there is not a clear enough pathway to encourage the investment of time and money in getting trained up in new technologies. Particularly as, even though renewables are becoming a more frequent topic of conversation, most customers still opt for traditional oil or gas boilers.

The complexity of funding schemes is a definite deterrent to small businesses who feel that they could be squeezed out by the big players who are better placed to adapt to change.

The installers we spoke to felt that there should be funding for training and that industry could provide product specific training road shows. It was also felt that those involved in the sale of equipment needed product training to provide better advice to consumers on the suitability of equipment for individual homes. Free expert technical support will need to be widely available.

The BEIS installer questionnaire will be a fantastic opportunity for you to really let government know the challenges your business will face during the transition to low carbon heating. Keep a look out in OFTEC's E-News for more details.

Ollie – star of the show

OFTEC Ollie recently made a guest appearance at the Suffolk Show (his local agricultural show). He dusted off his running shoes to compete in the annual mascot race against favourites such as Bluey and Punch from Ipswich Town FC.

He's now back to his day job helping the technical team collate the Ask Ollie feature on page 38 and devising special offers for the OFTEC Direct shop. ***Look out for the new offers advertised on Twitter or Facebook!***

Low carbon homes – reflections on the challenges ahead

What does the future hold for the homes we live in and the way we use energy? That was the ambitious and very timely question posed by a series of seminar events called Low Carbon Homes.

OFTEC has participated in all three so far this year – in Dorset, Sussex and Suffolk – and there is another planned for Manchester in the autumn and more next year. The events featured a morning of lecture-style presentations, followed by a diverse series of mostly technical workshops in the afternoon. The audiences have been incredibly varied and included local authority planners, architects, specifiers, facilities managers, social housing providers, landlords, energy assessors and heating technicians.

This audience mix makes you realise how many different players are potentially involved in the decarbonisation of heat in buildings, and emphasises the scale of the challenge ahead. It also shows that these events are a vital way to disseminate information, encourage engagement and stimulate discussion on the best ways to make progress.

Malcolm Farrow, OFTEC's head of communications, at the Low Carbon Homes forum

Heating-related emissions

So why was OFTEC there? Our role was to show that the existing fossil fuel industries can play a significant role in driving forward the decarbonisation of heating-related emissions. Far from being the enemies of change, traditional heating industries are increasingly committed to reducing emissions and, collectively, we are more likely to succeed if all sectors of industry play their part. As examples of this, we highlighted OFTEC's development work on biofuels as a replacement for heating oil, and the efforts of the gas industry to develop a hydrogen solution.

Going forward, consumer buy-in is paramount to success, so low-cost, low disruption options are essential. Many of the low carbon options don't tick either of these boxes and so there's a massive opportunity for industries that can show they have the answers. Liquid biofuels should certainly be one.

CONFERENCE UPDATE:

Decarbonisation dominates the agenda at OFTEC's mini conference

Mark Crowther of Kiwa UK, presented an overview of hydrogen as a replacement for natural gas (methane) in heat, and its use in transport and industry, either directly or via fuel cells, during OFTEC's mini conference in June.

Producing enough hydrogen is one of the biggest challenges and Mark emphasised the enormous potential that exists to generate renewable electricity in windy or sunny parts of the world that could be harnessed to manufacture hydrogen by electrolysis. Produced in this way, hydrogen could become a vital tool for meeting the UK's future energy needs, overcoming the problem caused by the inter-seasonal variation in energy demand.

Mark also described the various trials and other development work currently underway in the UK, noting that hydrogen could readily replace natural gas in the existing plastic low pressure distribution system, but that new high pressure national and international interconnectors would be required. He concluded by saying that a transition to hydrogen would be cost-effective compared to alternative all-electric heating options.

Mark was followed by Jason Woods of In Perpetuum Partners, who described their research for OFTEC into liquid biofuels. This explored seven areas that must be addressed if these fuels are to be a viable option:

- Feedstock
- Logistics
- Sustainability
- Markets
- Policy and regulation
- Technology
- Economics.

Niall Fay (former chairman), Jason Woods (In Perpetuum, guest speaker), Mark Crowther (Kiwa, guest speaker), Paul Rose (OFTEC CEO) and Laurance Coey (newly elected OFTEC chairman)

Jason reported that the research clearly showed that low carbon biofuels were deliverable over the next two decades and set out several deployment pathways, highlighting their potential to deliver carbon reductions over different timescales.

Alongside the biofuel research, Jason also described their work to compare the decarbonisation potential of biofuels with other low carbon heating options in oil heated homes. The modelling focused on heat demand and showed that by making 'reasonable' upgrades, heat demand would be reduced by 15%, however, 'deep' improvements, while costing more, would reduce heat demand by a substantial 42.5%.

By combining all the analysis, the research ranked all solutions by carbon saving cost (£/t) – a metric measuring both decarbonisation and cost to the end consumer. This revealed that biofuels reduced carbon at a significantly lower cost than other competing options. ***See Jason's separate article on pages 14/15.***

What happens next? was the subject of OFTEC CEO, Paul Rose's presentation. He first set out the political context, noting the recent announcement of a UK net zero target by 2050, and measures to ban or restrict the use of oil heating across Europe. He confirmed that the In Perpetuum research will inform the future decarbonisation strategy of the industry. Highlighting significant work that had already been done in America, Paul set out a range of practical next steps that the industry must now focus on as it develops its plans for biofuel use.

Paul ended with the positive message that BEIS had confirmed that all low carbon options were still on the table and that, for our industry, it was all still to play for, providing we embrace the need for change.

Look out in future issues for further details on the biofuels project.

The OFTEC AGM took place immediately after the conference when the new board of directors was voted in. OFTEC is pleased to welcome Laurance Coey of Harlequin Manufacturing Ltd as the new chairman, with Nick Hawkins of Kingspan Water & Energy Ltd taking on the role of vice-chairman.

Don't forget... *handy reminders for registered businesses*

If you are moving home or business address, updating email addresses or telephone numbers we need to know! You can update contact details 24/7 in your account at: www.ofteconline.com

You need to email: registration@oftec.org to notify us of any technicians starting or leaving your business.

E-News is sent out every month by email. If you haven't seen a copy in a while, please check that your email address is correct in your account, if it's correct, please email: marketing@oftec.org to investigate.

We provide a free leaflet service – OFTEC's impartial advice can help you win installation or servicing work. Visit: www.oftec.org/consumers/consumer-home-guides to view the range of leaflets. You can either link to these when sending quotations or service reminders by email or we can send you printed copies.

It can take several weeks to get your refresher training certificates through, so make sure you plan well ahead so you can book a course when it's convenient to you and to avoid a break in your registration.

OFTEC's registration scheme – *some myths explained!*

Occasionally, we come across posts on social media that suggest we need to explain a few aspects of our registration scheme a little better. So, here are a few frequently mentioned topics to give you a closer insight into the registration team.

OFTEC makes up all the rules

No we don't – schemes like OFTEC's are tightly controlled by other agencies. The Ministry of Housing, Communities and Local Government (MHCLG) in conjunction with the Welsh Government set the conditions for Competent Persons Scheme (CPS) registration. Accreditation is granted by the United Kingdom Accreditation Service (UKAS), who ensure we apply the rules and standards set for operating registration schemes. UKAS audit us every year to check that our management systems are robust and that we administer the registration schemes correctly. We also have an independent internal auditor who scrutinises our systems throughout the year, helping us demonstrate our commitment to best practice. We also audit our regional inspectors annually to ensure consistency of approach.

Why do we do things differently to Gas Safe?

In short, because the schemes are authorised differently by government. Gas Safe is solely appointed by the Health and Safety Executive (HSE), whereas CPS operators are authorised by MHCLG and the Welsh Government. Being appointed by the HSE means that Gas Safe can call upon them for stronger powers of enforcement, whereas CPS schemes mainly rely upon Trading Standards and local authority building control departments to take legal action against substandard workmanship.

I've been installing for years, why do I need to keep retraining?

Regulations and best practice do change over time and whilst we keep you updated through E-News and *Oil Installer*, nothing beats returning to a training centre every five years to pull everything together. You can check when your qualifications are due to expire in your registration account on: www.ofteconline.com

Don't forget expired qualifications can cause a lapse in your registration as it can take up to six months to book onto a course, so it's good to plan ahead.

How do I get certificates?

One of our most common enquiries is about work notifications. When the original certificate has been mislaid, we regularly provide copies to homeowners, solicitors, local councils or even housing associations to enable the sale of a property to proceed. Did you know you can also email a copy certificate direct to your customer through your OFTEC registration account?

How to log a work notification or access your account is another FAQ, so here's a quick recap:

Go to www.ofteconline.com and enter your company number and password – if you've forgotten your password, just click on the link and it will be emailed to the address registered to the account.

Once logged in, you can check your contact details are up to date, view qualification expiry dates, log work notifications and even renew your registration.

Click on the 'Work Notification' section to log a new installation, or you can view details of any work you have previously notified through OFTEC. Once it has been submitted to the local authority (usually the following Saturday), you can click on 'Request Standard Certificate' and email a copy to yourself or your customer.

Members of the registration team (l/r): Judy Mostert, Paula Shackleton, Melissa Mayne, Catherine West and Becky McPhillips.

Inspections – be prepared!

Inspections are a scheme requirement and during the first three years of registration all businesses will have an annual inspection. Following this, and a clean track record, you will only be required to meet your regional inspector periodically.

Members of the registration team (l/r): Adrian Lightwood, Jenny Durrant, Judith Salmon, Abby Card and Matthew Northcott

Many technicians get nervous prior to an inspection, but in fact they can often be a useful time to discuss best practice, find out about new industry innovations as well as alternative ways of working that might make things easier – after all, our regional inspectors have spent many years 'on the tools'.

It's important to be prepared! Before an inspection you will be sent a checklist, make sure you work through it and get everything ready with plenty of time to spare. It's no good finding out the night before that your flue gas analyser needs an up to date calibration certificate!

In addition to the day to day administration processes, the registration team are always happy to help guide technicians through the application process, works notifications, what to expect at an inspection or accessing technical information on www.oftec.org. Drop us a line at: registration@oftec.org or call us on 01473 626 298 from the UK or 01-8645771 from RoI.

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A Year Down the Line...

The beginning of June this year marked an important milestone in the history of Firebird Heating Solutions Ltd.... The month marked the first-year anniversary of when the company launched its ground-breaking Envirogreen Low NOx boiler range into the market.

After a three-year consultation and field trials programme, the company was able to launch three months **ahead** of the 26th September deadline, which placed a maximum limitation on low NOx emissions from domestic heating boilers to 120mg/kWh.

The limit, which was introduced by the Eco Design Directive in September 2018, was driven by the need to reduce nitrogen oxide (NOx) created during the combustion process from liquid fuel boilers for domestic heating purposes.

Working very closely with its chosen burner partner, Firebird was able to provide the industry with a state-of-the-art, unique 'Plug and Play' burner that not only met the limits but exceeded them! The result was the FB2K LN and 3K LN burner range developed by European burner manufacturer, Elco - a company that is no stranger to Low NOx technology. The design was so good that, when coupled with a Firebird Envirogreen boiler, independent testing of the range measured levels as low as 60mg/kwhr (NOx).

Firebird Technical Supervisor Martin O'Brien picks up the story: *"From a technical point of view, the transition to Low NOx technology could not have gone smoother. The Technical team, Production and Sales groups had been preparing months in advance for the launch. Initially, we were all working towards September but we knew the product was ready and the support for training given by Elco had been superb, so we decided to bring the launch forward!"*

"The introduction of the Envirogreen boiler across all outputs (from 12kW right up-to 100kW) also gave us the opportunity to upgrade the boiler models with new door seals and 316 stainless steel condensate traps, while providing us with the opportunity to make other improvements too."

Firebird was keen to share its message, so the company embarked on a series of road shows both at home, and at Elco's manufacturing facility in Italy, to demonstrate the capabilities of the FB2K LN burner and the performance when precisely matched with the Envirogreen boiler range.

Elco was also represented at the road shows and support was given by members of its Research and Development, and Engineering teams, who met with the many hundreds of engineers who came to view the product. To date, Firebird has met with around 2,000 members of the industry at these events, which continue to be a success to this day.

So, interested in seeing how the first boilers had faired during that year, Martin O'Brien decided to visit an installation at its first service.

The installation chosen was an Envirogreen Heatpac 26kW, which had been used extensively since its installation in June 2018, as part of a boiler replacement project.

"Every Elco burner is pre-fired in the Elco factory prior to dispatch to Firebird and therefore only requires minor commissioning for onsite conditions," explains Martin. "I was keen to find out if the settings were as good as the day the boiler left the factory. I put my fuel pressure gauge on and ran the boiler for 15 minutes before taking a combustion check and I was pleased to see that the burner was firing as good as the day it left our production line. Combustion levels were perfect!" But the best was yet to come. Martin recalls his reaction when he removed the burner from the combustion chamber: 'It was spotless!' says Martin. "The blast tube, nozzle and diffuser disc looked brand new and further inspection of the combustion chamber showed no signs of carbon build up at all." Martin puts this down to the extremely clean burn from the light blue flame of the burner. "I reckon that that particular burner must have used nearly 2,000 litres since install and I was amazed at the condition of all the components. They looked brand new!"

Checking Settings with setting guage

View from centre of Blast Tube

As part of the servicing routine, the pressure jet nozzle was changed, and all settings were checked using the Elco supplied setting gauge tool, before re-commissioning the boiler to its peak efficiency.

The Elco Low NOx Burner Range.

Elco Kerosene burners are totally exclusive to the Firebird Envirogreen range, but the story doesn't end there. Firebird is keen to build on the success seen during the past year by introducing the new **Elco 'Pure Blue' and 'Modulating'** range of burners, which will complement the successful FB LN range.

This is all being achieved by close co-operation between Elco and Firebird, which can now offer a highly efficient condensing boiler coupled with a Low NOx environmental burner. The FB LN range of burners can also be used as a retrofit burner on previous Firebird boilers.

For advice on your next project – or to find out more about Firebird – please visit www.firebird.ie or www.firebird.uk.com or call +353(26)45253, + 44 (0)1752 691177 or +44 (0)28 3088 8330

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Are heat pumps a good option for your business?

Heat pumps are one of the government's preferred technologies for the decarbonisation of heat, which means there are potentially huge opportunities for heat pump installers as we move into the 2020s. The word 'potentially' is important because there have already been a couple of false dawns in the development of the heat pump market, and consumer awareness of their benefits remains comparatively low. That is unfortunate because heat pumps offer several advantages over traditional heating systems, particularly for homes that are well insulated and where the installation can be carefully planned.

The government's advisers, the Committee on Climate Change, have recommended that heat pumps should play a much greater role in the future and, as the carbon intensity of the electricity falls, their deployment at scale could be vital to meeting the new net zero carbon target. The chancellor has already announced that fossil fuel appliances will be banned from new buildings from 2025, and more support is expected to support the growth of the heat pump market after the RHI ends in 2021, so now could be the perfect time to upskill!

QCF and RCF mapped training courses regulated by Ofqual are available nationwide for the installation and commissioning requirements of heat pumps and most manufacturers will offer additional product training to enhance your knowledge. In order to attend a regulated course, technicians must hold pre-requisite qualifications in topics such as Part L Energy Efficiency, WRAS Water Regulations and unvented hot water systems. Please check with your training provider that you are eligible to sit the course and that the course is QCF or RQF mapped which then makes the holder eligible for MCS registration.

Registration schemes

Once trained, OFTEC offers two government backed registration schemes for heat pump installers:

- The England and Wales competent persons scheme (CPS) which allows installers to self-certify installations in accordance with building regulation, rather than paying expensive building control fees.
- The microgeneration certification scheme (MCS), which is required if your customers wish to apply for RHI support.

One of the main benefits of heat pumps is their high efficiency compared to a boiler. While a condensing boiler is typically 90% efficient, an ASHP is closer to 300% and a GSHP around 400% efficient.

Normally, heat pumps work at their most efficient when producing heat at much lower temperatures than gas or oil boilers, and consequently bigger heat emitters are required (or improved insulation so that existing emitters can be utilised). However, high temperature heat pumps are now available that overcome this problem, although their purchase price is likely to be higher and overall efficiency slightly lower.

Heat pumps can also be used in combination with other heating appliances. Commercially available hybrid systems are already available that combine a heat pump with a condensing boiler. The heat pump meets the bulk of the demand, with the boiler kicking in to supply additional heat during peak demand periods.

For further information about our heat pump registration schemes, please contact the registration team on 01473 626 298.

The future of low carbon heat for off-grid buildings in Scotland...

OFTEC CEO Paul Rose has commented on the trade association's response to the Energy Efficient Scotland Call for Evidence: The future of low carbon heat for off-grid buildings, which closed on Monday 17 June.

"OFTEC's response to the Scottish government's recent call for evidence on the future of low carbon heat for off gas buildings highlighted that the low thermal efficiency of the majority of rural properties presents a significant challenge to future strategy. Therefore, supporting consumers to make fabric improvements to their homes should be an immediate priority to lower heat demand and cut fuel bills. This will, in turn, support the urgent need to reduce fuel poverty levels.

OFTEC CEO Paul Rose

Viability of biofuels

"Included in our response was evidence from OFTEC's recently commissioned, independent research into the condition of off-grid housing stock and the viability of liquid biofuels as a route to decarbonise off-grid heating. This showed how liquid biofuels provide the most cost-effective and practical solution for homes that currently use oil heating.

"The biofuel option was contrasted with the difficulties of transitioning these homes to alternative low carbon options such as electrically driven heat pumps and stressed that the most successful solutions will be those which consumers most readily adopt. For oil using homes, this means switching the fuel rather than the appliance.

"Whilst OFTEC's research was primarily based on English housing stock, biofuels offer an equally compelling solution for rural consumers in Scotland, Ireland and Wales and we remain committed to bringing low carbon liquid fuels to market across the UK and the Republic of Ireland at the earliest opportunity."

Clean Growth update

Unless you've been living on a desert island for the last couple of months, you'll have noticed that climate change has been giving Brexit and the Tory leadership contest a run for their money when it comes to grabbing headlines.

As a result of the efforts of David Attenborough, Greta Thunberg, Extinction Rebellion and the detailed recommendation of the Committee on Climate Change, the UK government has made a legal commitment to achieving net zero carbon emissions by 2050.

This is much more ambitious than the previous target, set out in the 2017 Clean Growth Strategy, and will bring significant changes to the way we all live. Hitting net zero will mean an end to heating homes with traditional fossil-fuels, more green electricity, a switch from petrol and diesel cars to electric vehicles, more walking and cycling, and much more besides.

In terms of future heat policy, it will send some plans back to the drawing board in the short term, which means the next round of government consultations may be delayed. But it also means the bar will be raised higher and that action will need to happen faster.

OFTEC and the oil heating industry is in a good position to meet these new challenges. Our recent research project has made a very convincing case for the use of biofuels. It demonstrates that a switch to these fuels would be less disruptive to consumers and could achieve the necessary level of decarbonisation more cheaply than any other alternative. This is important as it makes the chances of success much more likely – households are more willing to adopt changes that are cheap and easy – and this advantage has not been lost on the government's heat policy advisers.

The next step for industry is to put in place the practical steps that are needed to make the switch to low carbon fuels a reality. This means that plans for field trials will need to be developed quickly, new standards put in place and, where necessary, new products developed to meet the requirements of the new fuels. It will also mean changes to the fuel supply chain and establishing new relationships with biofuel suppliers.

OFTEC and the oil heating industry is in a good position to meet these new challenges

The window of opportunity to achieve this is very short. The government must make progress very quickly to achieve the demanding new net zero targets, so we must convince them that we are 100% committed and able to show the level of ambition needed to support their decarbonisation agenda.

The OFTEC board of directors is unanimous and fully committed to the challenge, and this industry-wide commitment to act will be vital to making the necessary progress in the months and years ahead.

Meanwhile in Ireland… turn to page 20 to find out how the oil heating industry is responding to the launch of the new Climate Action Plan.

Call for case studies

Everyone enjoys commiserating with fellow technicians when they see the tales of woe pictured on the Gallery pages. However, we'd love to also feature some of your proudest installation moments – installations that were tricky to access or were in unusual locations, or have you been privileged to work on an amazing restoration project?

Please contact: marketing@oftec.org or jane@oilinstaller.co.uk if you'd like your project to be considered for a case study.

Grant heat pumps awarded Quiet Mark

Two of Grant UK's latest air source heat pumps, the Aerona³ R32 13kW and 17kW, have achieved the Quiet Mark – an accolade which recognises some of the quietest, high performing products in the market.

Quiet Mark is the international award programme validating and awarding low-noise, high performance technologies which help to deliver solutions which can overcome noise pollution throughout the world. Associated with the UK Noise Abatement Society charitable foundation, Quiet Mark encourages companies across the globe to prioritise noise reduction within the design of their products. The Quiet Mark accolade is awarded to products which meet the programme's criteria and which are identified as being amongst the quietest models within their given category.

Launched earlier this year, the Aerona³ R32 heat pump range incorporates the more environmentally friendly R32 refrigerant. This refrigerant is cleaner and more sustainable because it has a significantly lower global warming potential compared to that of other refrigerants used in heat pumps, such as R410A. R32 is a single-component refrigerant and has no temperature glide which enables the heat pump system to recharge and recycle with greater ease thus improving the unit's efficiency.

"The launch of the Aerona³ R32 air source heat pump range is an exciting addition to Grant's product portfolio," comments Paul Wakefield, Grant UK's managing director. "The awarding of the Quiet Mark to the 13kW and 17kW models is something we are very proud of as it reflects how quiet these heat pumps are, something which is important to householders. Quiet in operation and compact in size, these Aerona³ R32 heat pumps have minimal impact on their surrounds being our greenest, most efficient and quietest heat pumps yet."

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Jason Woods, In Perpetuum Partners

Delivering the benefits of affordable, clean energy in a low-carbon economy...

By Jason Woods, founding partner, In Perpetuum Partners

In March 2018, BEIS published a Call for Evidence to seek views on how industry, government and consumers could work together to phase out the installation of high carbon fossil fuels from rural homes and businesses off the gas grid during the 2020s. The rationale was firmly rooted in delivering the benefits of affordable, clean energy in a low-carbon economy for all sectors of the UK economy, in line with the industrial strategy, while meeting national and international commitments to tackle climate change.

This challenge in relation to decarbonising heat in buildings is reflected in the Buildings Mission announced by the prime minister on 21st May 2018 as part of the Clean Growth Grand Challenge. It aims to at least halve the energy use of all new buildings by 2030, including those off the gas grid, and highlights the ambition to shift to 'clean heating' in new build.

OFTEC has engaged In Perpetuum Partners to help respond to government thinking for the off-gas heat network. In Perpetuum is the newly created entity to deliver a bio energy cluster investment portfolio around the bio power, heat, fuels and chemicals markets globally. All products and projects deliver measurable sustainable benefits, meaning they have a positive and provable local and/or global effect on society and the environment. In Perpetuum Partners founders have over 50 years of combined experience in this bio economy market sector covering:

- Bio mass / fuels and chemical markets
- New team / market development
- Project evaluation & delivery
- Sustainability systems
- Price / value discovery and trading
- Government and public affairs

In Perpetuum has applied its full seven filter methodology. This methodology covers feedstocks, sustainability, markets, supply chains, technology, economics and policy, this was completed and delivered to OFTEC during Q2 2019. These assessments have been used within a scenario mapping exercise based on existing and understood future energy scenarios (FES). The outputs

of the mapping have been assessed for their strengths, weaknesses, opportunities and threats. In Perpetuum have also assessed relative risks associated with various policy options in relation to key stakeholders.

Off-gas heat network

Through this work, In Perpetuum have found an established industry for supply of equipment and fuels into the off-gas heat network. There are high levels of competition between suppliers of equipment and fuels. The fuel supply industry is well placed to adopt bioliquids as large parts of the asset infrastructure has already found means of buying, storing and blending bioliquids for use in transport. The equipment manufacturers report readiness for use of bioliquids, though the precise nature of the readiness with regards to broad and deep field trials is yet to be understood. 30% inclusion of biodiesel type fuels is believed to be very low risk and potentially 50% inclusion too.

Fossil kerosene and biodiesel fuels trade internationally in mature markets. Prices are publicly available. The fossil kerosene market has strong links to the aviation kerosene market. The biodiesel market links to surface transport.

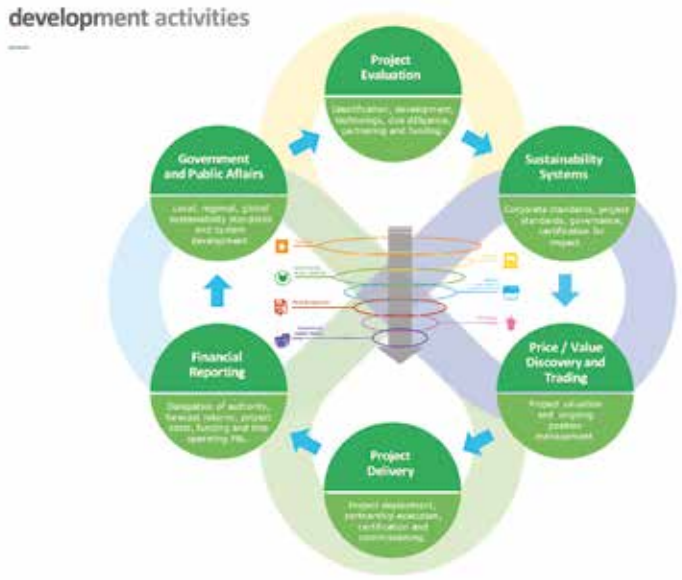
After full analysis of all the technical heating options available and once you have understood the fabric improvement costs and impact, the CAPEX, OPEX and the total CO2 emissions per heating option, you can rank the alternative heating options by the metric that measures both decarbonisation and cost impact to the end consumer – the carbon saving cost (£/t) shown below:

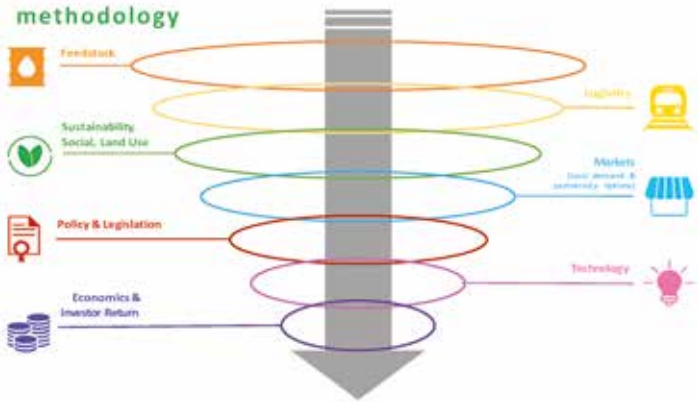
As you can see from the accompanying charts, the bio options give best decarbonisation impact for £'s spent. When you also assess the carbon saving ability of each of the heating options, you can clearly see that the B100 not only gives the end consumer/UK treasury the lowest cost of reducing carbon for the off-gas heating network, but also provides the highest carbon reducing percentage of all heating options available today and in the mid to long-term.

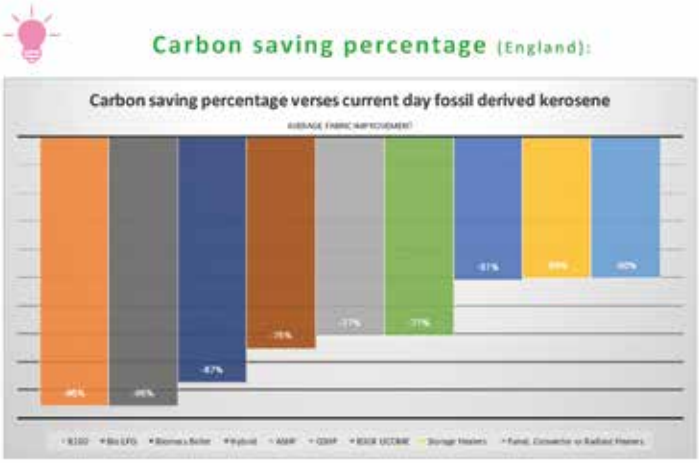
The electric options will start to compete on carbon saving percentages as the national grid becomes fully renewable over time, but will still have barriers on cost and availability as more sectors use electricity as their decarbonisation method (e.g. electric vehicles).

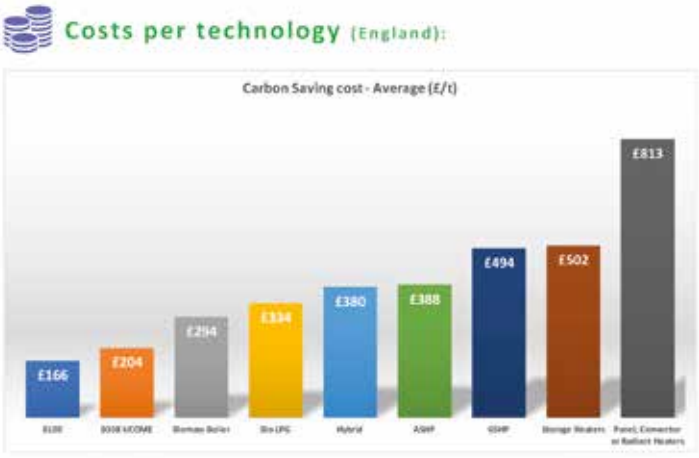
Next steps for the industry is to:

- Develop a "no regrets" engagement strategy for advocacy to begin to advise and inform policy.
- Engage with whole supply chain to organise and carry out industry wide field trials to address all outstanding questions pre-legislation being written.
- Alongside field trials, set up academic links to run academic trials, during the same field trials timeline, to run simulations on all future scenarios, technologies and potential feedstock/blend stocks.
- Engage with supply chain to choose scenarios that are right for the industry and develop models and documentation to consult with government and key stakeholders.
- Assess impact of each final scenario in terms of impact on economic status of the industry with regards to jobs, growth and investment.
- Consider with industry partners what must be done to achieve chosen scenarios – eg BS2869 specification amendments.
- Create policy, communication and lobbying strategy for industry and whole supply chain.









Essential reading on new code of practice

BS 5410-1:2019, the best practice standard for domestic oil-fired installations, came in force on 30th June 2019. Technical book updates reflecting the changes have been issued and are available to download and print from the 'registered technicians' section of www.oftec.org. Alternatively, packs of updates are available to purchase from OFTEC Direct (oftecdirect.com).

British Standards are drafted by different representatives of an industry and undergo public consultation before publication. Whilst often cited in regulations as offering an accepted means of compliance, they are not intended for use as a specification. Instead, they take the form of guidance and recommendations. However, whilst not legally binding documents in themselves, they are often used in legal proceeding as a measure of whether someone's actions are considered reasonable.

A major change is the title and scope of the standard, which has been amended to '*Code of practice for liquid fuel firing. Installations for space heating and hot water supply purposes for domestic buildings*'. Notably, the appliance output has been extended from 45kW to 70kW and reference to oil has been replaced with 'liquid fuel' in preparation for the use of bioliquids. The scope for fuel storage tanks remains up to and including 3500 litres.

Key technical changes include:

Appliances

- Where the combined outputs of multiple appliances located together at a domestic dwelling exceed 70 kW then a dedicated plant room as specified in BS 5410-2 is recommended.
- A compartment is now defined as an 'enclosed space intended solely to contain a heating appliance with or without ancillary equipment'. Technicians should check these are not used for other purposes, such as storage.
- Appliances inside a building or restricted area externally should have a CO detector conforming to BS EN 50291-1 installed in the same room/space.
- Wherever possible, room-sealed appliances should be selected for use within habitable spaces.
- The roles of installer and commissioning technician have been clarified. The installer of an appliance is to ensure it is commissioned (whether by a third-party or himself). Subsequently, the installer is to commission the 'wet' side of the heating, including balancing the heating system. See updates to OFTEC Technical Book 4 section 4.1.8 for full details.
- Technicians commissioning or servicing appliances with burners other than traditional single-stage yellow-flame burners should undertake manufacturer's training for the burner type.
- Where a client refuses to have consumable items such as flexible hoses, wicks or nozzles replaced on a routine service, this should be recorded on the technician's paperwork and a warning label classifying the risk now present should be attached to the appliance.

Fuel storage tanks

- Underground storage tanks (USTs) should be constructed to BS EN 12285-3 or BS EN 977.
- The vent pipe from a UST should terminate a minimum of 1.8m from buildings and 760mm from boundaries, and be fitted with a flame arrestor terminal fitting if below 3m.
- If the fill point of a UST is below ground it should be within an access chamber that will contain spilled fuel. The access chamber lid should be sealed when closed to prevent the ingress of water or heavier than air gasses, such as LPG.
- A filter with a maximum 50µm (microns) should be installed at the tank outlet.
- Fire-resistant barriers to protect a tank should be constructed from products that have been tested to provide integrity, thermal insulation and stability for the minimum time period required. Such products should be installed as tested and in accordance with the manufacturer's installation instructions. The completed barrier should not be supported by a structure containing combustible material.
- An increased distance of 300mm clearance should be provided around a tank for visual inspection purposes; 600mm where physical access is needed.
- Technicians should recommend all single-skinned tanks are provided with secondary containment.
- When checking integrally bunded tanks, water finding paste should be used to check for the presence of water in the bund. Where possible the bund should be checked for debris. Where found, this should be brought to the attention of the end user in writing.

Fuel supplies

- Existing fuel supplies should pass a pressure test prior to connecting an appliance or tank to them.
- Recognition that some appliance manufacturers permit the use of single pipe suction systems without the use of a de-aerator.
- De-aerators should be of durable, non-combustible, i.e. metallic, material.
- Continuous sleeving/ducting can be used to protect buried fuel pipework as an alternative to using concrete tiles.
- Underground joints should be within an inspection chamber.
- Pipe-in-pipe systems should be considered in environmentally sensitive areas, such as Ground Water Source Protection Zones, areas of Special Scientific Interest, water catchment areas, etc.
- Technicians should recommend five-yearly pressure test intervals for hidden or inaccessible pipework.

General

- The definition of a boundary has been clarified. As well as referring to "a legal boundary dividing one person's property from another's which might or might not be a physical boundary in the form of a hedge, fence, wall, etc", it also refers to the line that divides land used for differing purposes. For example, the line that divides a caretaker's house and/or garden from other school grounds; or the line that divides a farmhouse and/or garden from agricultural land.

As always, the technical team is on hand to answer any questions you may have with regard to installation or maintenance of equipment. Call: 01473 626 298 (UK) or 01 864 5771 (ROI)

"Time to approach relevant industry for input"

Martyn Bridges, director of technical communication and product management at Worcester Bosch

Martyn Bridges, director of technical communication and product management at Worcester Bosch, has hit back at PAS 2035 – complaining that the regulation body hasn't approached the industry it will directly affect for advice and discussions.

PAS 2035 is a new specification that came into force at the end of June. It is the new overarching document in the retrofit standards framework which specifies the requirement for a holistic approach to the retrofitting of dwellings.

Commenting on the new regulations, Martyn Bridges said: "A panel consisting of amongst others, several certification bodies has published PAS 2035, bringing new measures for those required to fit energy efficient measures. This of course includes heating appliances.

"The first point to make, is that this new PAS or publicly available standard was not authored by anybody from our industry. It is the certification market that stands to gain from putting the extra compliance in place, not installers or even end-users.

"In short, it looks like that there are two new trades that have been introduced – A retrofit project manager and a retrofit designer – alongside the existing retrofit installer.

"Aside from making the process longer and more complicated for installers, who have been doing this job for years and understand retrofitting like the back of their hand, it is the homeowners who will be most affected.

"You can imagine that with two more parties involved, the costs for installing a new boiler will go up – and it will be coming out of the homeowner's pocket."

Martyn Bridges concludes: "Overall, this is another example of a regulation body that hasn't approached the industry it will directly affect for advice and discussions. It will be interesting to see what implications PAS 2035 will bring, both for the industry and the general public."

Grant launches heating solutions roadshow

Until the end of September, Grant UK will be going on tour, taking its package heating solutions to the doorsteps of merchants and installers up and down the country.

In preparation for the tour, Grant UK's display van has been completely revamped with a wider selection of products now on board for visitors to see.

The refurbished display van will be heading to various venues throughout England, Scotland and Wales to visit merchants and installers and, at all of the roadshows, two members of Grant UK's sales team will be on board to welcome visitors and to answer any questions they have about the products.

The display van now presents the products against in-situ backdrops, allowing visitors to get a feel of how Grant products can be installed within the environs of the home. Stepping into the van and positioned to the left is one of Grant's latest Aerona³ R32 air source heat pumps. A working model, the front panel on this heat pump can be easily removed to demonstrate to installers how easy it is to access and work with the unit's major

components. Adjacent to the heat pump is a pre-plumbed MonoWave high performance cylinder with integral 50ltr buffer.

Kitchen interior

The main interior of the display van now resembles a kitchen with a Vortex Pro Utility 15/21kW oil boiler installed under the countertop. At 348mm wide, this boiler can fit into the smallest places.

A full complement of Grant's heat emitter range is also on board and available to see within the van. This includes the Solo Compact Fan Convector along with the Hideaway model. Installed alongside the Solo Compact is another new product from Grant which will be launching soon – the Afinia aluminum radiator. These heat emitters are compatible with both high and low temperature systems, heat up and cool down rapidly and are therefore particularly suited for use with air source heat pumps.

Taking centre stage within the van is the installation of a Uflex Mini underfloor heating system. The pipe arrangement has a clear perspex cover over the top so that the pipe layout is clearly visible and highlights the extremely compact arrangement of this system. A manifold and controls display are also installed for visitors to view and interact with.

For details about the roadshow venues and dates visit: www.grantuk.com/professional/support/events

Van concession will *"kick-start zero emission market"*

The zero-emission van market has been boosted by the Department for Transport's (DfT) decision to provide payload concessions to operators of alternatively-fuelled vans, according to FTA, the organisation representing the interests of the logistics sector.

The guidance will fast-track adoption of zero-emission vans by making them a more viable option for operators, providing clear benefits to air quality and the wider environment, in the view of FTA.

James Firth, FTA's head of road freight regulation, commented: "As the organisation speaking on behalf of 17,000 logistics businesses, FTA has long been asking government to offer payload concessions to operators of alternatively-fuelled vans; we are thrilled DfT has listened to our advice.

"Our members are committed to transitioning to low or zero emission vehicles, but with their propulsion systems and fuels far heavier than those of petrol and diesel, operators were left in a difficult position. They were forced to either lose payload or use heavier vehicles, which incur the expense of tighter regulatory regimes in relation to driver and operator licensing. These limitations were preventing operators from investing in green vehicle technology; they were a clear barrier to the adoption of low and zero emission vans.

"This may be the first time the government has given transport operators a tangible operational advantage through investing in greener technology. Relying on 'nice-to-have' gestures will not drive the business decisions that need to be made to bring these vehicles into mainstream operations. The guidance will fuel interest in the alternatively-fuelled commercial vehicle market; hopefully it will pave the way for such vehicles to become the norm rather than the exception."

In July 2018, the government laid down legislation which allowed a holder of a category B driving licence (which allows a driver to drive cars and vans up to 3.5t) to drive alternatively fuelled vehicles up to 4.25t, provided they had undertaken a further five hours of training. In September 2018, new legislation put these vehicles out of the operator licensing framework. The latest guidance outlines how operators can take advantage of the new concession.

www.fta.co.uk

Kensa celebrates 20 years of innovation with new growth plans

With recent announcements from the Committee for Climate Change and the government calling for significantly higher numbers of heat pump installations, the Kensa Group has announced changes to its senior management team and additional business services as it looks to celebrate its 20th anniversary.

James Standley has been promoted to managing director of Kensa Heat Pumps, the UK's only ground source heat pump manufacturer, whilst Dr Matthew Trewhella will step up to the same role for Kensa Contracting, the specialist in-house installation business, which celebrated the launch of a dedicated website earlier in the year (www.kensacontracting.com).

Commenting on the changes, Kensa Group CEO Simon Lomax says: "Having spent 20 years promoting the benefits of ground source heat pumps, it is encouraging that many stakeholders finally recognise their strategic importance. Regulation is now replacing subsidy as the main market driver and the Kensa Group is remarkably well-placed to take advantage. James and Matthew have been heavily involved in the creation of two exceptional businesses and their plans for the future will ensure Kensa continues to flourish."

Alongside the management changes, Kensa has announced the launch of a new group business, Kensa Utilities, which will operate alongside a number of partners to fund, own and maintain heat pump assets. In addition, the group is developing alternative business models, including a 'heat as a service' offer, designed to reduce upfront capital costs.

According to Simon Lomax: "The emergence of heat storage products, dynamic electricity tariffs, smart controls, demand aggregation and battery storage will revolutionise the heat market and strengthen the appeal of our technology. Ground source heat pumps are far more suited to maximise the benefit of demand side response initiatives and benefit from far lower ownership costs. The challenge has been to reduce their upfront cost to mirror air source heat pump pricing and we can now deliver on that ambition. As a result, the market can benefit from a more efficient, reliable, durable and unobtrusive product."

www.kensaheatpumps.com

Guy Cashmore, Simon Lomax, Matthew Trewhella, James Standley

David is one of Gallery's first winners!

David Hadlow – a Rugby-based OFTEC registered technician with family company, Custom Heat, was one of the first winners of a special fleece in *Oil Installer's* Gallery pages, newly sponsored by OFTEC Direct.

David supplied some shots for the Spring edition of a boiler he had been called out to service when the owner was about to move house. His shots showed how neglected the boiler had been over many years, and it was touch and go whether he could get it operating smoothly again. But using patience and determination, he eventually managed it!

David is shown here proudly wearing his new fleece whilst servicing a boiler in his home town of Rugby!

For your chance to win a special prize, send your Gallery entries to: jane@oilinstaller.co.uk
See pages 40/41

OFTEC committed to helping government achieve its goals for off-grid homes

In June 2019 the Taoiseach (Irish Prime Minister) Leo Varadkar, published the Government's ambitious plans to tackle 'Climate Breakdown'.

The proposal under the National Development Plan (NDP) is to move 170,000 liquid fuelled homes to air source heat pumps (ASHP) by 2030 (in addition to a targeted 200,000 in new build). However, the CAP suggests that around 400,000 homes currently heated by fossil fuels (oil/peat/gas) would need to be 'converted' to ASHP by 2030 to meet the carbon targets – a huge challenge!

Mr Varadkar was careful to play down elements such as increasing carbon taxes and the overhaul of building regulations as simply "nudging people and businesses to make the right decisions." But opposition parties have been quick to criticise a lack of detail on key elements such as transport and costings.

What's OFTEC's position?

OFTEC fully supports Ireland's transition to low carbon heat and is committed to playing an active role in helping government achieve its goals for off-grid homes.

However, over 90% of Ireland's off-grid properties are below BER C1 and therefore less suitable for moving to ASHP without significant disruption and expense. Recent research indicates that it can cost on average €40,000 to €60,000 to upgrade a house to make it suitable for a heat pump (https://superhomes.ie/) and we believe that homeowners will be reluctant to spend this amount of money on a new heating system if their current system is working.

Government grants for heat pumps and insulation fall far short of the average cost of retrofitting a typical Irish house. So, in our opinion, it's simply not economically viable to propose the widespread replacement of oil boilers (or indeed natural gas boilers) with heat pumps.

We believe that a more realistic solution is to decarbonise the liquid fuel and continue to utilise the existing heating systems that are in 686,000 homes in Ireland.

Building on successful field trials of FAME based fuel, OFTEC proposes phasing in a low carbon liquid fuel to replace kerosene during the 2020's. This realistic approach will see an increase in the blend of sustainable biofuel with kerosene, until a 100% biofuel is reached after several years. Alongside this, we recommend introducing a scheme to encourage consumers to upgrade older, non-condensing boilers to condensing models, install extra insulation and use more sophisticated heating controls to gain higher levels of energy efficiency and carbon reduction.

Is this cost effective?

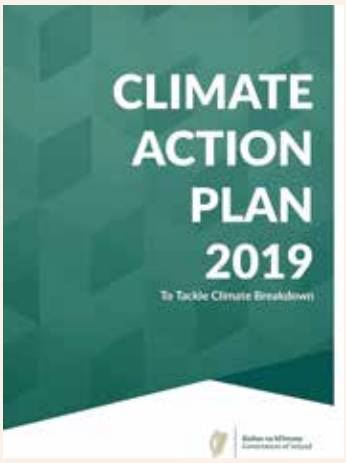
Crunch the numbers and moving all 686,000 liquid fuelled homes to a 30% biofuel blend by 2030 would deliver over twice the carbon savings of moving 170,000 oil fired homes to ASHP (the NDP's current strategy) at a significantly lower cost.

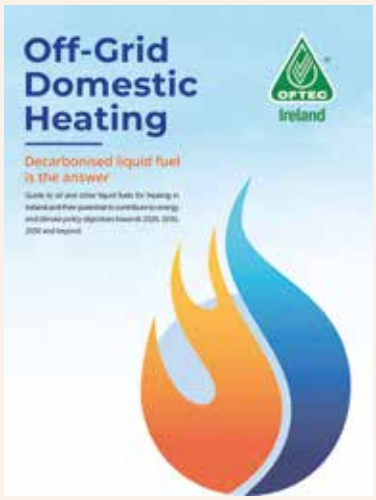
It's all still to play for as the policy decisions made over the next couple of years will have major ramifications on how we heat our homes in Ireland for the next century. We would advocate a liquid biofuel is the answer – providing a cost-effective, seamless transition for users – let's hope government listens to the voice of reason!

The Climate Action Plan 2019 (CAP) includes major policy shifts to enable a rapid decarbonisation up to 2030 which would deliver a pathway to net zero emissions by 2050. This includes the following targets:

- 1 million electric vehicles on Irish roads
- retrofitting 500,000 homes
- 70% renewable electricity generation
- a ban on oil and gas heating in new builds by 2022/2025 (respectively)

The plan will be backed by annual increases in carbon tax which raises concerns over its impact on the fuel poor. The plan also stipulates a study into how and when the replacement of oil and gas boilers in existing dwellings (domestic and commercial) could commence.





Can we do it

We are asking government to back liquid biofuels which support the move to decarbonisation whilst retaining energy security and diversity in the mix.

Our Vision Document, circulated to all TDs in Ireland, states that the liquid fuel sector wants an active role in the transition to a decarbonised economy and offers a cost-effective solution addressing both carbon reduction and energy efficiency for 686,000 off grid houses.

Competition winners light up the future of energy

David Blevings, OFTEC Ireland Manager, with local primary school children at the competition launch

OFTEC has unveiled the wealth of creativity across Northern Ireland as it announces the winners of its Energy Enterprise competition.

Matthew Nelson, age 9, from St Macartan's Primary School has been crowned the overall Energy Enterprise winner, impressing judges with creativity and expert knowledge of home energy efficiency.

With more than 150 entries, Matthew has beaten off strong competition from across Northern Ireland. The competition helped share expert tips on energy saving with the younger generation and encouraged families to be more energy efficient in their homes.

Matthew's winning entry highlighted all elements within the home that could be changed to create better energy efficiency. The competition aimed to teach primary pupils different ways to save energy within the home, including turning the thermostat down, turning electrical items off standby, closing doors and windows, and switching to energy saving lightbulbs.

David Blevings, OFTEC Ireland manager, congratulated Matthew on his win: "Matthew's winning competition entry is fantastic. He has taken such care in attention to detail, both in his colouring, and in his understanding of what it takes to make a home energy efficient. His knowledge that energy efficiency is important as it saves the planet is something we should all take into consideration, looking at the bigger global picture when it comes to the future of energy.

"At OFTEC, we're thrilled to see the level of interest in the competition – we have had a fantastic number of entries and congratulations to all those who were shortlisted. It was very difficult to choose an overall winner as we had such a variety of entries, and we are delighted to welcome so many entrants as members of OFTEC Energy Enterprise."

David added: "OFTEC recognises that mixed fuels are key to the successful future of energy and efficiency. We understand that taking steps to improve the energy efficiency of your home can seem like a daunting task. Yet making small changes to the way you heat your home, including upgrading to a condensing oil boiler, can save you from unnecessary spending and create an energy efficient home environment."

The shortlisted winners received a professional Crayola artist set, with the overall winner receiving a school trip for their class to W5, Belfast. The winners were chosen by an expert panel of judges, including David Blevings, OFTEC Ireland manager, Colin Williams, creative director, Sixteen South and Eibhlin de Barra, director, Young at Art.

www.oftec.ie

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GRANT UK

Tank manufacturers *"fully behind"* OFTEC's Irish bunded campaign

As one of Ireland's most established oil tank manufacturers, Kingspan, is fully behind OFTEC's bunded campaign which has been created to advise homeowners to replace single skin oil tanks with bunded oil tanks, for superior quality and safety of double-skinned bunded tanks. Other Irish tank manufacturers, Harlequin and Carbery, are also supporting the campaign.

Representing the oil heating industry in Ireland, OFTEC's campaign has been designed to educate homeowners on the benefits of choosing bunded, and why it's the best option for safety and prevention.

The OFTEC campaign highlights important messages including how costly accidental oil spillages can be, how they're often not covered under insurance, are extremely harmful to the environment and are the homeowner's responsibility.

A recent OFTEC report highlighted potential remedial costs from their retained Irish insurance expert, with actual costs ranging from €400 (very minor spill) to €800,000 for an extensive oil spill at a domestic home.

"In Ireland, oil heating is the premier fuel choice with approximately 700,000 homes fuelled by oil heating, which is why OFTEC's bunded campaign is so important to homeowners. It's essential to treat oil tanks with the same care and attention as you would treat your heating system, and by choosing bunded, homeowners have the reassurance that they have protected their home against spillages, oil theft and potential insurance claims," comments David McDonagh, Ireland national sales manager, Kingspan Water & Energy Ltd.

Kingspan is reiterating OFTEC's messaging and is encouraging people to prioritise their tank health and choose bunded when replacing their tank. Mr McDonagh continues: "We are fully in support of OFTEC's call for a warranty passport scheme to protect the end user from potential cracks or leaks from their oil storage solution. At Kingspan, we offer a ten-year guarantee on all bunded tanks, and we would encourage homeowners to ensure they register their warranty and remain 'tank safe'."

During May, Kingspan launched a free tank health check pack, which is downloadable via: www.kingspanenergymanagement.ie/tankhealthcheck. This simple guide will provide homeowners with the knowledge to assess the current health of their oil tank and make informed decisions if a replacement tank is necessary.

Kingspan offers an extensive range of Titan bunded oil tanks, ranging from 650 – 9000 litres to suit all spaces. All of Kingspan's oil storage products are manufactured to the very highest of standards, have a 10-year guarantee and come with a Watchman oil monitoring device as standard.

For further information on OFTEC's Bunded Campaign, please see: www.OFTEC.org.uk

Worcester launches nationwide search to find best installation

As part of the Greenstar 8000's "Beautiful Beast" marketing campaign, Worcester Bosch has announced a new *BeastOfTheMonth* social media competition, which gives installers the chance to showcase their best Greenstar 8000 Lifestyle installations.

At the end of each month, all valid entries will be put to a vote across Worcester Bosch's trade social media channels for installers to pick their favourite. The winning installation will take the BeastOfTheMonth prize and the installer will receive an exclusive Greenstar 8000 Lifestyle merchandise bundle which includes: a Worcester Bosch branded soft shell jacket; octopus power bank; wireless speaker; and a black pen.

At the end of the year installers will vote for their favourite installation from all the monthly winners and the winner will be crowned "BeastOfTheYear".

The winning installation will see its installer awarded an exclusive VIP day at Worcester Bosch's headquarters and they will get the chance to build their very own 8000 Style boiler and then take it home!

Nicola Fisher, B2B PR and communications manager at Worcester Bosch, said: "Installers take huge pride in their work, often sharing their best installations across their social media channels and this sparks huge interest and interaction amongst their counterparts. We think this competition will be a great way to encourage a showcase of best-practice installations. This is an exciting opportunity for installers to not only get to grips with our new Greenstar 8000 range, but also to gain recognition from fellow installers and win some exciting prizes."

www.worcester-bosch.co.uk/professional/beast-of-the-month

JCT to deliver hybrid boiler by 2020

HERU is the world's first hybrid boiler that takes everyday items destined for disposal – such as coffee cups, plastics and nappies – and converts them into energy to heat water for the occupants of the home or commercial building.

Under a licence agreement, Worcester-based James Clark Technologies (JCT) will manufacture and sell the commercial HERU by the third quarter of 2020.

Headed up by Tristan Carmichael, JCT has substantial experience within the heating and electronic controls industry. Tristan told *Oil Installer*: "The HERU is a truly remarkable innovation. Our customers will be able to power their HERU at a comparable cost with their existing waste collection service. Not only do they benefit from the heat and hot water generated by their own resource collection and processing, but also reduced CO2 emissions. To be working in partnership with such an amazing innovation, bringing it to market is a real privilege."

Creator of the HERU, Nik Spencer, is thrilled to be working with JCT and added: "We are absolutely delighted to be working alongside James Clark Technologies to deliver HERU in 2020 as planned. Tristan has extensive experience within the engineering industry and his expertise and knowledge will be invaluable during the

commercial development and delivery phases of HERU."

The partnership between HERU and JCT follows a recent successful technical trial at Wychavon District Council, where HERU is using the resources generated in the council cafe to heat water.

Hailed by the BBC as potentially 'the next Dyson', the HERU takes everyday items, which would have been destined for disposal. The process uses controllable heat pipe technology, enabling a highly efficient, low temperature pyrolysis process to take place, creating outputs that are used to fuel the home. The small amounts of emissions are cleaned before being released to air and sewer without posing risk of harm to human health or the environment. The HERU process can generate up to 2.5 more energy than is required to operate it.

www.myheru.com

Riello launches installer video for RDB BX low NOx burners

Riello has introduced a video guide for installers, covering all aspects of the recently launched RDB BX ErP-compliant low NOx oil burners.

The video is divided into sections providing step-by-step instructions for installation, commissioning, maintenance and fault-finding. For ease of use, it follows the format of the manual, so that each step described in the manual is also demonstrated on the video.

RDB BX burners feature improved combustion technology to ensure that NOx levels comply with the latest ErP regulations. Whilst retaining the same first line spares as earlier models to simplify installers' stock control there are some differences, which are clearly demonstrated in the video. For example, combustion head adjustment may be necessary for certain flue configurations and CO2 levels need to be checked during commissioning.

www.rielloburners.co.uk

Firebird's Envirogreen combi *"takes the headache out of installation"*

The new Envirogreen Combi HE from Firebird features many technological advances, including a 'Hydroblock' which reduces the number of individual components by incorporating them into a single moulded brass block.

Following changes to the ErP directive in 2018 which placed limits on harmful NOx emissions, Firebird introduced a new burner developed in conjunction with European burner experts' Elco. Not only are the NOx emission levels lower than any other boiler on the market, claims the company, but the cutting-edge Firebird by elco burner is also simple to commission, install and service using a single allen key.

Firebird claims that the new Envirogreen Combi HE provides the following benefits:

- The Firebird by Elco low NOx burner is available in a range of outputs and is easily installed, commissioned and serviced. The burner produces NOx emission of 60mg/kWh – half the new 120mg/kWh limit.
- The new burner is designed to streamline installation and servicing for the heating engineer.
- Once the burner cover is removed, the heating engineer has access to all major components which are clearly positioned.
- Burner components are quickly removed and replaced through a 'plug and play' approach. No major wiring tasks are involved.
- Each component is supplied with its own unique clipped plug to prevent any errors occurring when re-connecting components after servicing.
- For routine annual servicing the one-piece combustion head can be quickly removed to allow access to the electrode group and atomising nozzle.
- Mistakes when reassembling after a routine servicing are reduced by the addition of a locating point to ensure that the unique air mix disc (coloured for different output identification) is correctly located.
- All routine servicing tasks can be carried out at the boiler front. A special plate that forms the frame of the burner can be attached to the burner quick release bolt on the burner flange.

"Boasting technological superiority, the Envirogreen Combi HE boiler range offers unbeatable reliability," says Firebird.
www.firebird.uk.com

New models introduced to Grant's heat pump range

Following the launch of its first R32 air source heat pump last year, Grant UK has announced the launch of four new models with outputs ranging from 6kW up to 17kW.

Four new Aerona³ R32 inverter driven air source heat pump models are available from Grant which all incorporate the more environmentally friendly R32 refrigerant. The range consists of 6kW, 10kW, 13kW and 17kW models. These heat pumps are not only cleaner and more sustainable working products, they are also exceptionally efficient achieving an A+++ energy rating at low temperatures such as 35°C or 45°C (new ErP labelling from September 2019).

Grant's latest Aerona³ air source heat pumps use R32 refrigerant which, while still an HFC, has a GWP of 675 which is considerably lower than other typical heat pump refrigerants such as R410A (GWP 2088), requires less refrigerant volume per kW and offers higher efficiencies. Quiet in operation and compact in size, these latest Aerona³ R32 heat pumps have minimal impact on their surrounds both aesthetically and acoustically. The heat pumps are also available with a guarantee of up to seven years (subject to full T&Cs and status) which reflects Grant's confidence in the products.

This latest product offering from Grant UK further develops the range of air source heat pumps available from the company, combining even greener technology with the trusted attributes of the Aerona³ and Grant brands.

www.grantuk.com

Ben is aiming for the top!

Why is OFTEC registered technician Ben Kennedy – together with nine intrepid mates – trying to take a Turco boiler (as a backpack!) to the summit of Errigal – at 751 metres, the tallest mountain of the Derryveagh mountain range in County Donegal, Ireland? *Don't miss the winter edition of Oil Installer to find out!!*

Worcester raises funds for Prostate Cancer UK

Over the last 12 months, employees at domestic boiler manufacturer Worcester Bosch have raised £33,100 for leading men's health charity Prostate Cancer UK.

Staff at Worcester Bosch have been giving donations and taking part in fundraising events, including the London half marathon and the Big Half in order to raise funds to help stop prostate cancer being a killer. The money raised will help Prostate Cancer UK fund vital research into better diagnosis, treatment, prevention and support for men and their families facing a prostate cancer diagnosis.

Andy Garbett, Worcester Bosch marketing manager, said: "Prostate Cancer UK is a charity that is close to the hearts of many of us at Worcester Bosch and people from across the whole company were keen to get involved in a wide range of fundraising activities throughout the year. We hope our donation will help support important research into better treatment and awareness of the disease, as well as the wide range of essential services offered by the charity."

www.worcester-bosch.co.uk

Anglo Nordic launches non-drip oil filter

For 60 years Anglo Nordic has been a supplier of components and auxiliary equipment to the oil burner industry. Their latest product redesign has been five years in the making – an oil filter that can be changed without oil dripping from the screw point. It is the only oil filter in the UK that has OFTEC approval (OFS E104 OFCERT license no. 2253061901).

Developed based on feedback from oil installers around the country, the patented design allows engineers to loosen the main bolt, and remove the bowl, without oil running out through the hole.

Styled in the classic oil filter shape,

the unique internal design forms an oil-tight seal around the bolt, allowing the bowl to be removed without the normal mess. Until now the process of changing a filter has been messy and inconvenient, with oil frequently leaking out and onto engineer's hands.

Available with either ¼" or ⅜" connections, the Crosland equivalent style filter can be used with diesel, kerosene and biofuel blends up to B35, the unit can simply and easily replace existing filters. A 'universal' replacement element and seal kit is available that can be used both with this filter and other Crosland equivalent style filters.

Anglo Nordic components are available at all plumbing and heating stockists and merchants.

www.anglo-nordic.com

Grant UK expands national sales coverage

Grant UK's national sales coverage has increased further, following the addition of a tenth area sales manager. Chris Price is the company's new sales manager for the southern counties.

In June, Grant UK formed a new sales coverage area in the south which will be managed by Chris Price. This area includes Wiltshire, Berkshire, Dorset, Hampshire and the Isle of Wight and Chris will be on hand to assist merchants and heating engineers throughout these counties. From their oil-fired boilers through to their latest air source heat pumps and heat emitter ranges, Chris will be providing product support on all of Grant's package heating solutions.

Chris has more than thirty years of experience working in the heating and ventilation industry, starting his career with a building product supplier before joining a drainage system specialist. For the past two decades, he has worked for a plumbing and heating component supplier where he developed excellent relationships with installers and local merchants. Chris's experience in the industry is wide ranging allowing him to deal with a diverse set of heating enquiries. In particular, customers keen to work with Grant's new Uflex Underfloor Heating range will be able to call on Chris's extensive underfloor heating knowledge.

Grant UK's national sales coverage throughout England, Scotland and

Chris Price is Grant UK's new sales manager for the southern counties

Wales now consists of ten areas which are managed by a dedicated area sales manager who each assist local customers with product information and specification. The company's sales team, which is headed by the national sales manager, Andy Smith, is now at its largest allowing Grant to deliver comprehensive customer support at every level.

"I am excited to join the sales team here at Grant UK and to work with their growing product portfolio," comments Chris. "Today, Grant's offering to customers extends beyond its diverse range of heating products. Their ranges are backed up by a network both in the office and on the road, including product training, installer support, specification and system design, and I am looking forward to joining this team and working closely with customers."

www.grantuk.com

Extended warranty on biogreen oil hose

Burner manufacturer EOGB Energy Products Ltd has announced the introduction of an extended warranty on its range of biogreen long-life flexible oil hoses for domestic oil burners.

In line with the new and enhanced product properties, EOGB has increased the warranty from two to three years for all hoses purchased after 1st April 2019.

The hoses are available in a range of sizes and are fully-compatible with all FAME based biofuel blends up to B100 (100%). They are also suitable for use with other rapeseed-based fuels as well as standard oils.

Martin Cooke, technical director at EOGB, said: "We have supplied over half a million biogreen flexible oil hoses to the industry since they were launched 10 years ago, and they have become the product of choice for many heating engineers due to their performance and reliability. We are so confident in the quality of the product, that we're proud to extend the warranty to three years. This will add significant value for both installers and homeowners and, with the use of biofuel expected to increase, provide a future-proof solution."

As well as bio-compatible hoses, EOGB also manufactures the Xseries domestic oil burner range, which is suitable for use with kerosene, gas oil and FAME based biofuel blends up to B10 as standard.

www.eogb.co.uk

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www. **rielloburners**.co.uk

Riello factory visits showcase latest low NOx oil burner technologies

Heating engineers from a range of UK companies have recently visited Riello's manufacturing and R&D facilities in Italy. The trips, continuing through 2019, are organised jointly by Riello and its original equipment manufacturer.

During their visit, installers learn more about the stricter NOx limits for oil burners imposed by the latest ErP directive and the technical advances that enable the latest generation of RDB burners to comply with the directive.

The tour includes practical demonstrations on how to install, commission and maintain the new RDB burners, highlighting the same easy set up and commissioning, and the same first line spares, as earlier models. Visitors also have the opportunity to witness manufacturing and match testing processes, as well as Riello's extensive product development facilities.

Brett Hale, Riello's UK service and residential product manager, observed: "These visits provide an ideal opportunity for installers to see our latest oil burners at first-hand and also to experience the technical support and quality control that underpins the high performance and robustness of all of our products."

www.rielloburners.co.uk

SOS launches *"secret weapon"* at FPS

Shropshire-based Specific Oil Solutions (SOS) launched two new products at the hugely popular FPS Expo event in Liverpool during May.

Stuart Bratt of SOS told *Oil Installer*: "Both new products – our Ultimate liquid suction pump and the Spin-On filter – were very well received at the show and we gained a lot more interest in our existing filter range.

"The Ultimate liquid suction pump is the only one with a five-year warranty and we regard it as the new secret weapon of every professional fuel tank installer and oil-fired combustion technician. Meanwhile, our Spin-On filter significantly raises the bar and is engineered to perform."

The SOS products are already receiving considerable interest from major manufacturers and during FPS Expo, Stuart held a light-hearted competition on his stand to see who could swap a black production filter cartridge with the pre-production white cartridge the fastest. "We had a great time," says Stuart, "with many people getting very competitive! The top three each received a complimentary Ultimate liquid suction pump complete with connections pack, valued at £165 plus VAT."

www.sos-oil.co.uk

Grant UK's Big G1 giveaway is back!

Following its success in 2018, the 'Big G1 giveaway' is returning and it is going to be bigger and better second time round, says Grant UK. Open to all G1 Installers, Grant's 2019 'Big G1 giveaway' has thousands of prizes up for grabs between August and December with monthly prize draws and, new to this year's promotion, a 'super draw' where one lucky installer will win £5,000 in holiday vouchers.

All of Grant's products are eligible in the promotion, so G1 installers need to register their installations to be in with the chance of winning.

The fifty top prizes being given away every month will consist of supercar driving experiences for two, Grant UK branded workstation canopies and Velocity 6.0 tech cases. The runner-up prizes will be different each month and will include pipe cutters, tape measurers and a few surprises that Grant UK are keeping under wraps! Installers who register a Grant product every month during the course of the promotion will win five different items.

Super draw

New for the 2019 promotion is the 'super draw' which will take place in January 2020. Every G1 installer who registers a Grant product during August through to December will be entered into the 'super draw' with one winner taking home £5,000 in holiday vouchers.

"The 'Big G1 giveaway' was a huge success last year so we were keen to bring it back for a second year," comments Paul Wakefield, Grant UK's managing director.

"Once again, the aim of the promotion is to reward our G1 Installers giving every single member a change to be a winner by simply registering products – it really is that easy to enter. All of our products are eligible for the promotion, from the Vortex and VortexBlue oil boilers through to our latest Aerona³ R32 air source heat pumps. Grant's solar thermal systems, biomass boilers, cylinders and heat emitter ranges are also eligible so G1 installers of all technologies can win with this bigger and better Big G1 giveaway."

www.grantuk.com

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Grant updates TechBox app

The TechBox app from Grant UK has been updated with an improved layout, new features and additionality functionality, says the company. It continues to be the app for heating engineers to turn to for all of Grant's product manuals – but now, says Grant, it has a new look and enhanced navigation.

Grant UK first launched its TechBox app nearly five years ago, serving installers and heating engineers as an electronic resource for all of Grant's product manuals, both current and archive. This latest app update is the biggest yet and has involved completely freshening up the TechBox's styling to be in line with Grant UK's other digital platforms.

Users who download the updated app will now be able to select the content most relevant to them.

The TechBox now invites users to select the product categories that they want to download. This can be any combination of categories, for example 'oil', 'air source heat pumps' and 'cylinders', and additional categories can be added or deleted at any time, allowing engineers to make the TechBox bespoke to their needs.

Principal purpose

Amongst all the new features, the principal purpose of the TechBox remains the same, says the company – to be an electronic hub full of technical information supporting Grant's products. All the manuals are available to download as PDFs, can be accessed while users are online or offline, and the current and archived documents are now much clearer to find. The app continues to be straightforward in nature and, following this latest update, it is hoped that installers will find the TechBox better than it has ever been before.

"Last year, we carried out some research amongst our G1 installer network to see what they liked about the TechBox app and which features they felt could be improved," comments Paul Wakefield, Grant UK's managing director. "We fed these comments into this latest update and we hope that installers and service engineers will find the TechBox even more user-friendly and useful when out on the road."

www.grantuk.com

Baltur UK welcomes new sales agent

Heating solutions manufacturer, Baltur, has announced the appointment of Tony Stockton as a member of the brand's UK sales agent team.

Tony has been in the industry for over 40 years, working in a variety of roles, including service, installation, sales and management with major energy suppliers such as British Gas and Shell Oil. He is fully qualified in all natural gas, LPG, oil and is currently undertaking renewables training.

Commenting on the new role, Tony said: "I am really looking forward to working with Baltur UK and being a part of a global company with such versatility and quality in its product range."

EOGB sales director, Phil Pett, also commented: "We're delighted to welcome Tony as a Baltur UK sales agent. His experience is impressive and we're excited about the business development that's happening at Baltur UK right now."

Based in Italy, Baltur has a global presence in more than 60 countries.

www.baltur.com

Heating engineers urged to check fire safety valves

Engineering specialist Teddington Systems is urging heating engineers to ensure the KBB fire-safety valves they've fitted at properties are in good working order when they carry out their customers' annual boiler servicing before winter grips the nation.

The company warns that it is 18 months since the 'beast from the east' caused widespread disruption to the UK, with temperatures plunging as low as -14C (6.8F) and customers with broken boilers waiting almost a week for repairs during the coldest February for a decade.

Teddington is reminding engineers there is a requirement to test KBBs annually to conform to UK safety standards. The industry-standard valve safeguards a property against the risk of fuel being fed into a fire originating elsewhere than in a heating appliance.

Kenny Maxwell, sales manager at Teddington, said: "Now is the time to act to ensure our KBB fire safety valves are in good working order. British Standard 5410-1:2019 sets out the code of practice for domestic oil-fired installations.

"Section 16.4 on the oil supply system states oil-supply fire valves need to be inspected and checked for proper operation, including testing their reset function where appropriate, at least once a year. Where leakage is suspected from an oil-supply line, pressure testing should also be carried out."

He added: "The non-electric valve should be installed by an OFTEC-registered engineer and has a failsafe should it be damaged, but it is essential that it is checked using appropriate electronic test equipment."

www.teddingtonsystems.co.uk

Five reasons why domestic oil storage tanks are the unsung heroes of the heating industry

Cameron Bruce from Atlantis Tanks looks at the importance of domestic oil storage tanks and gives five reasons why they are the unsung heroes of the heating industry

1 – The unsung hero

Domestic oil storage tanks may not be the most aesthetically pleasing things in our garden. It is likely however that they are one of the most important!

Like many unsung heroes, our oil tanks sit in the background, working away to provide the much-needed heat for our homes. Speaking of unsung heroes, many will instantly recognise the name Edmund Hillary, he is the first man to reach the summit of the world's largest mountain, Everest. However, few will know the name Tenzing Norgay, he was Hillary's Sherpa for the expedition, a native of Nepal and expert climber. It is reasonable to think that the 1953 summit attempt would have been impossible without Tenzing, and some still contest that it was in fact him who reached the summit first, a report Tenzing disputes. Like the Sherpas of Everest, the oil tank is the bedrock of an oil-fired heating system, without which there is no heat. Oil-fired systems are a cheap and reliable way to heat a home, provided all the elements of the system are properly maintained, especially the oil tank.

2 – Trust & regulations

Though the homeowner can and should do as much as they can to monitor and maintain their tank, it is increasingly important to make sure the tank is purchased from a trustworthy and reliable supplier. With the rise of internet-based tank suppliers and the wealth of buying options, it is paramount to ensure companies are selling tanks which meet all the safety regulations so they will be as reliable and long-lasting as possible. Generally, with oil tanks you get what you pay for, and if the price looks too good to be true, it likely is.

3 – Be legendary

At Atlantis Tanks Group Ltd, we are passionate about what we do because it affects the lives of families just like ours. We have been in the business for over 14 years offering high quality, bespoke and reliable tanks

to customers throughout the UK and abroad – even as far as Nigeria. As we mentioned earlier, tanks are the unsung heroes of our modern world, battling the elements and working hard to heat and maintain rural communities and we are proud to be a trusted supplier of them. Atlantis lives by the mantra "be legendary" and this mind-set permeates our culture and everything we do! We do not think of our clients as customers, more as partners, extensions of the Atlantis family who help us bring warmth to communities around the country.

4 – What we offer

Like our tanks, we work hard to ensure impeccable customer service and satisfaction, we offer speedy delivery and extended warranties on our tanks. We are affordable, reliable & fast! If you need a high-quality tank quickly (even next day!), or you are just looking for some advice from a knowledgeable source, we are here to help! We also offer a service for old tank removal. We will collect the old tanks and recycle them.

5 – Our Partners

We recently visited our partners, Fords South West in Devon, who we have worked with for around 18 months, and asked about their experience in working with us. Fords are a plumbing, electrical, heating and bathroom installer and had recently added oil tank installations to their workload, we spoke to their operations manager who said: "We decided to make the whole process more inhouse, we needed to have somebody who could help us along the journey. Somebody who knew what they were talking about as opposed to just a salesman at the end of the phone, so that's when we started talking to Atlantis Tanks. Atlantis Tanks are of the easiest suppliers we deal with."

They also highlighted our quick deliveries, deliveries to site and our collection of scrap tanks as key services we provide. Fords finished by saying: "I would definitely recommend Atlantis, they are so professional and know what they are talking about."

We are proud and delighted to be able to help Fords provide the great services they offer. We welcome and look forward to more installers joining the Atlantis family soon.

www.atlantistanks.co.uk

Steve Willis Training: *Optimistic about oil's future*

Purpose built oil training facility at Portchester Training Centre

OFTEC CEO Paul Rose cuts the ribbon to open the oil training facility at Portchester, standing in between Nick Fothergill from Worcester Bosch and Steve Willis

Willis Training Centres have seen year-on-year growth in numbers on their OFTEC oil courses and continue to view the sector as an important part of their business. This reflects in turn the importance of high-quality training to the oil industry, together with the value that oil training can add for gas engineers and their employers.

Reflecting on OFTEC training manager David Knipe's recent comments on the importance of apprenticeships in addressing the skills shortage in the heating industry, MD Steve Willis outlined how one solution lies in incorporating oil training at the apprenticeship stage: "Although oil does not form part of the gas apprenticeship programme, an oil course can be dovetailed into the timetable, and this is something we're able to do at Steve Willis Training.

"For a gas apprentice who is 18 months into their training, completing an oil qualification adds value and produces a more highly skilled engineer, benefitting the employer as well as the apprentice."

Training facility

Recent investment in a new purpose-built oil training facility at their Portchester training centre, created in conjunction with Worcester Bosch, has brought in new trade, and prompted SWT to also upgrade their unvented training provision, which benefits more customers. Plans are also being made to upgrade the oil facilities at Burgess Hill in 2020, demonstrating strong confidence in the sector.

Steve also knows that it's worth it for the engineers who complete their training and become OFTEC registered, commenting: "I know a lot of people who've taken the oil training have told me it has been a good move for their business as the demand is definitely out there, and they're getting genuine enquiries coming in through the OFTEC registration scheme."

He also sees a positive long-term future for oil training: "There are a lot of robust oil appliances out there, and rural properties that are reliant on oil. That's going to continue for the next 20–30 years and beyond with the look to alternative fuel sources for oil-burning appliances. For us, it's definitely worth the investment."

www.stevewillis.com

Solid fuel training from OFTEC

OFTEC's solid fuel courses continue to go from strength to strength, and with the introduction of the OFT18-108S last December, the courses are available to technicians with a wider range of skills and business requirements. We now offer:

- OFT18-108S – Commissioning, servicing and maintenance of solid fuel appliances.
- OFT15-108D – Installation, commission and servicing of solid fuel appliances which are not connected to the central heating system.
- OFT15-108W – Installation, commission and servicing of solid fuel appliances connected to the central heating system.

All courses cover a variety of areas including: the combustion process, ventilation, flues, identifying unsafe situations, as well as practical servicing and commissioning. The installation courses also cover twin wall flues.

OFTEC's courses and assessments have been designed by a working group of industry representatives and technical experts. Just like our oil assessments, although OFTEC writes the assessment materials, certification of candidates is carried out by one of seven independent certification bodies to ensure impartiality.

There are now 12 centres offering OFTEC solid fuel training in the UK and a further 2 in Ireland. Gas Training in Sheffield is running its first course in August, but when evaluating solid fuel courses felt that the OFTEC course material is straightforward, informative and of a very high standard.

Don't just take our word for it though, here's what some recent candidates have said after completing their assessments:

H.E.A.T.S., Hingham, Norfolk

"Fantastic course, thoroughly enjoyed, instructors are extremely knowledgable"

"Really good informative course nicely paced, very good in every area"

"Very good centre and excellent value for money"

YTIC, Cardiff

"We have found the candidates very responsive to the structure of the OFTEC solid fuel course and positive about the content with it's simple to follow approach. It covers whatever an engineer would need to know in the field of solid fuel. Couple this with the informative OFTEC solid fuel publication and you have a recipe for success for engineers."

Here's what a few of our students said:

"Well structured, great centre and tutors."

"It was informative and interesting, well worth it."

"I found the training at YTIC really engaging. It's great to learn in a relaxed but professional environment with people who really know their stuff!"

"Really enjoyed the course and would definitely recommend it to anyone."

METAC, Co. Laois, Republic of Ireland

"Just a quick note about the OFTEC solid fuel course a few weeks back, very impressed, smart setup all people on the front desk very polite and highly professional each morning!

"But more so want to mention Pat, he was a very cool guy, great teaching, knowledgeable and highly professional in his trade with incredible passion for what he does, which is rare! Thanks again."

For more information visit: bit.ly/oftec-training

Training centres currently offering OFTEC solid fuel training courses

METAC	Co. Laois	Republic of Ireland
South Eastern Regional College	Newtownards	Northern Ireland
Crewe & Nantwich Gas Training Centre Ltd	Nantwich	Cheshire
Gasgain Limited	Mansfield	Nottinghamshire
Gas Training UK	Sheffield	South Yorkshire
H.E.A.T.S	Hingham	Norfolk
NGST (Newcastle) Limited	Cramlington	Northumberland
NGST Scarborough	Eastfield	Yorkshire
South West Assessment & Training (SWAAT)	Liskeard	Cornwall.
South West Peninsular Training	Langport	Somerset
Specialist Gas Assessment Services	Blackpool	Lancashire
T C Training Ltd	Marston Green	Birmingham
Vulcana Training	Wrexham	Clwyd
YTIC	Cardiff	Wales

BPEC launch new level 3 plumbing qualification

BPEC have launched their level 3 diploma in plumbing and domestic heating. The qualification is a mandatory requirement within the new plumbing and domestic heating technician (level 3) apprenticeship standard.

A range of bespoke resources have been developed to help centres and their staff in the delivery of this qualification, and these are available on registration. These include knowledge workbooks, practical workbooks, practical guides, PowerPoint presentations, schemes of work and centre guidance documents.

A new textbook for phase 1, offering specific guidance and tutor support throughout the programme and with

content aligned to the free resources, is also available. The textbook, which was developed alongside the qualification and which has been exclusively written for BPEC by plumbing author Mike Maskrey, offers full and comprehensive coverage of both practical and theory aspects, and includes learning outcomes and assessment criteria relating to each unit. The book is available via the BPEC online shop at: www.bpec.org.uk/shop

Neil Collishaw, BPEC CEO, said: "We are confident that our qualification and supporting materials are second to none, offering extensive support to colleges and training centres delivering this new qualification. The qualification and resources have been developed by our highly experienced team and I am proud that we have such an outstanding and comprehensive package available. The positive response we have received regarding our textbook and resources confirms to me that we have developed a qualification which will benefit both delivery staff and their learners."

www.bpec.org.uk

Underfloor heating training now available from Grant

A new course on underfloor heating systems is now available to engineers and installers who visit Grant UK's training academy. The course, which follows the recent launch of Grant's Uflex underfloor heating range, further expands the selection of product and industry training courses on offer from the company.

The one-day Uflex underfloor heating course is open to domestic heating installers who either have previous UFH experience or who are new to this form of heating. In addition to exploring the basic principles of UFH, the course also covers system design, installation and commissioning as well as the accompanying controls. The objective of the course is to give installers an understanding of underfloor heating as well as the relevant considerations that must be factored in before, during and after installation.

Also included within the course content is an introduction to Grant's underfloor heating range, providing an overview of the different types of pipe available from Grant UK as well as the various systems available within the Uflex range.

Candidates who successfully complete and pass the course will be eligible to become Grant UK G1 accredited underfloor

heating installers. With their G1 accreditation for underfloor heating, these installers will be able to have a company profile on the Grant UK website as well as having access to leads which are directed into Grant UK's renewable team who handle the design service support. It is hoped that through their underfloor heating training course, Grant UK can develop a network of accredited G1 installers who can meet the underfloor heating installation needs of customers throughout England, Scotland and Wales.

The course is currently available at Grant UK's training academy in Devizes, Wiltshire, and it will also be held off-site at Grant's other training locations later in the year.

www.grantuk.com/professional/training

Lack of confidence in heat pump installation

Only 20% of installers felt they were confident enough or qualified enough to fit a heat pump, according to feedback from a series of workshops held by Worcester Bosch on behalf of the Department for Business, Energy and Industrial Strategy (BEIS).

These workshops, held in Thurrock and Worcester, aimed to assess how installers perceive renewables, with a specific focus on installer skills on renewables and customer awareness. Attendees were asked questions on installer customer demand, installation feasibility, willingness to pay and installer skills and knowledge of renewables such as heat pumps.One of the installers had only experienced fitting them when specified by the local authority, and he had not received a single request from householders.

However, there was a unanimous feeling amongst attendees that if heat pumps were to become a serious alternative to boilers then national training courses needed to be introduced, run by manufacturers or industry, as was the case when condensing boilers were first mandated.

Martyn Bridges, director of technical communication and product management at Worcester Bosch, said: "It is clear from our work for BEIS that there is still a lot that needs to be done for installers, in terms of training and general awareness before heat pumps should be seriously considered as an alternative heating technology, particularly in existing properties.We hope to continue to work with BEIS and help research alternative and realistic technologies, with the overall aim to decarbonise the provision of heating and hot water."
www.worcester-bosch.co.uk

ASK OLLIE!

– Ollie and his friends in the OFTEC technical team respond to the latest questions

Do the minimum separation distances between an oil tank and a window still apply if the window is non-openable?

Yes. A non-openable window will not have the required fire resistance to internal fire to protect the tank, whether it is openable or not.

I have been asked to install an oil storage tank only, what documentation should I be completing for this work?

The OFTEC CD/10 form should be completed as a declaration of compliance. It is important to remember that only sections 1 & 10 of the form, 'Oil storage details' and 'Declaration of completion' respectively, should be completed. Alternatively, the tank may be supplied with an OFTEC CD/10T, which is a dedicated tank installation form, and should be completed in full.

Whilst servicing a boiler in a domestic property I found the flexible oil line connected outside of the boiler casing, is this acceptable?

No. Pipework carrying oil within a building should be constructed of steel or copper or other material with an equal degree of fire resistance, except where it is inside an appliance casing which is protected by a fire valve.

I have been asked to install an above ground domestic oil tank. The owner would like to hide the tank from view and has suggested erecting a wooden fence around it. None of the screening forms part of the boundary. Is this acceptable?

Yes, screening of domestic oil storage tanks is permitted. However, consideration should be given to providing service access for inspection of the tank and filter maintenance etc. A minimum 600mm separation distance should be provided between the tank and the screening.

I have been asked to install an integrally bunded oil tank at a large domestic property. It is likely that the capacity of the tank will exceed 3500 litres. Where can I find the correct fire separation distances for this installation?

Where the capacity of an oil storage tank exceeds 3500 litres, it is classed as a non-domestic installation, irrespective of the type of building it serves. For information on the siting of non-domestic oil storage tanks, reference should be made to OFTEC Technical Book 3, section 3.

Don't forget the filter!

OFTEC's technical department receives numerous enquiries from consumers who have had an appliance breakdown caused by a heavily contaminated filter, despite the boiler having been recently serviced.

BS 5410 is clear that consumable items such as nozzles and filter elements should be replaced at least annually. Cleaning the filter bowl and replacing the filter element is one of the checks included on a CD/11. There are good reasons to do so, some obvious, others not.

A heavily contaminated filter may cause the following:

- Debris to pass through to the fuel supply pipe and associated components, such as fire valves, pumps and nozzles.
- Vaporising appliances to run cool and eventually extinguish the flame due to fuel starvation.
- Air ingress, fuel starvation and oil pump wear on pressure jet appliances.
- Freezing of the filter and/or fuel supply pipe. Water can be present in fuel filters, either sat at the bottom of the filter bowl or associated with microbial growth coating the filter. Some of this water can find its way into fuel supplies if filters are not checked annually. When temperatures drop below freezing this water can freeze and block the fuel supply at a time when heating is needed most.

Interestingly, it has been suggested that fuel drawn through a heavily contaminated filter may increase the char value of fuel leading to premature carboning in vaporising appliances.

Recent changes to BS 5410-1 now mean that a 50µm (microns) filter should be installed at the tank end of a fuel supply, as well as a further filter nearer to the appliance as specified by the appliance manufacturer.

Technical updates reminder

As part of OFTEC's role in keeping technicians up to date with ever-changing industry guidance, their technical team have produced the following updates and technical notices:

- **Technical book updates re: BS 5410-1:2019**
  These are essential updates for all domestic installers and service technicians. The updates to OFTEC technical books 2, 3, 4 and 5 will ensure technicians are working in harmony with the principal code of practice for domestic liquid fuel fired equipment. Minor updates to technical book 7 are also available following a general review.

- **Solid fuel technical book updates**
  These are essential updates for all solid fuel technicians and will ensure that technicians have all the current guidance information they need, in one handy location. These updates include the content of technical notice 024, written earlier in the year to update technicians on new guidance in BS 8303.

- **Technical notice 025 – condensate disposal**
  This provides guidance on the disposal of condensate, including whether it is appropriate to utilise condensate neutralisers and/or connect condensate pipework to a septic tank.

- **Technical notice 026 – redundant solid fuel back boilers**
  This reminds technicians of the importance of fully removing redundant solid-fuel back boilers.

All book updates and technical notices can be accessed in the technicians area of www.oftec.org

Heating system efficiency hangs in the balance

By Joe Bath, OFTEC Technical Officer

As an ex-installer I can sympathise with the Friday afternoon time warp. You've finished installing your appliance at lunchtime, but by the time you've filled the heating system, checked for leaks, bled the system, tidied up, loaded your tools back onto the van, commissioned the appliance, completed your paperwork, and then some more paperwork (!) it's 5pm and you want to be heading home. At this moment, the only 'balancing' you want is a decent work/life balance.

But, as far as the Department for Business, Energy & Industrial Strategy (BEIS) is concerned, hydraulic balancing of heating systems is a must. In October 2017 BEIS published a summary of consultation responses called "Heat in Buildings" and stated, "We would like to put beyond doubt that hydraulic balancing is an expected practice".

More recently, in October 2018, BEIS answered the question "Is hydraulic balancing mandatory?" with clear guidance: "When commissioning fixed building services installers are required to test performance and make adjustments as necessary to ensure that they use no more fuel and power than is reasonable in the circumstances. Although hydraulic balancing is not explicitly mentioned in the Domestic Building Services Compliance Guide, it is clear that a competent engineer should not conclude an installation without ensuring that it is working as intended, including checking that all radiators are heating up at a similar rate."

What is hydraulic balancing and why all the attention?

In simple terms, hydraulic balancing refers to the practice of equalising the distribution of water through the heat emitters (usually radiators). This is done by ensuring that each radiator circuit has an equal pressure drop. Once this is achieved, all radiators on the heating system will heat up at the same rate as they have an equal share of heat.

There are a few reasons why balancing heating systems has attracted so much attention recently. Manufacturers are reaching the limits of energy savings that can be achieved by appliances, but it is recognised that heating systems, as a whole, can be more efficient if correctly designed and commissioned. A poorly balanced heating system will often have to run for longer and hotter to heat the property, reducing energy efficiency.

To overcome poor balancing some ill-informed heating engineers may increase pump speed. This results in increased energy use and excessive noise in the system, especially associated with thermostatic radiator valves (TRVs). Whilst this noise does not affect system efficiency it can be a nuisance to users.

System balancing has become even more important since the advent of condensing appliances. Condensing appliances are more efficient than non-condensing appliances due to the increased size of their heat exchangers (usually two heat exchangers). To be at their most efficient, a condensing boiler must have a relatively cool return water temperature. Most manufacturers wish to see approximately 20°C temperature difference (often referred to as 'Delta T' or 'ΔT') between the flow and return pipework whilst maintaining minimum flow rates through the appliance. Most modern gas boilers can modulate their output to assist maintaining temperature differentials. By contrast, most oil boilers have fixed outputs, apart from a few equipped with multistage burners. This adds a further reason why balancing a heating system is vital to efficiency. Appropriate temperature differences across an appliance will not happen by accident, however well your system is designed.

Given the importance of system balancing you would think that most heating engineers would be familiar with this practice, know how to undertake it and would include it as a standard part of an installation, right? Wrong. Worryingly, when BEIS asked respondents to the same consultation whether heating engineers share a common understanding of what hydraulic balancing involves and whether it is undertaken regularly when a boiler is replaced, most respondents answered 'No'. In fact, only 18% of respondents claimed to undertake it as standard practice.

So, how is hydraulic balancing done?

As an apprentice I was taught to use my hand to gauge the temperature of all radiators on the system and compare the speed at which they warmed up. By closing down the lock shield valves of the radiators that were hottest, an even distribution of heat to all radiators circuits was achieved.

It was simple, and in the days before condensing appliances, reasonably effective.

Today there are more accurate ways to balance heating systems and achieve an appropriate temperature difference at the boiler using inexpensive technology.

In a domestic scenario, using lock shield valves to equalise the pressure drop across the system is still the commonly used approach. As well as checking the surface temperature of the radiators for the speed of warmup, it is also practical to check the temperature difference across the radiator pipework connections. By achieving a temperature difference at each radiator similar to that required across the appliance flow and return pipes, heating system efficiency will be improved. Temperature checks can be made with inexpensive infrared thermometers, temperature straps or clip on thermometers.

In a digital world it is unsurprising to find digital tools to calculate and set pressure drops on radiator circuits. Some TRV manufacturers have produced apps that enable a pressure setting to be selected on a TRV. Similarly, some pump manufacturers offer apps that calculate recommended flow rates for each radiator circuit and can read pump data to achieve accurate balancing. Clever stuff indeed!

Whichever method you use, balancing heating systems is an important part of an appliance installation which you need to familiarise yourself with. Is that really the case? I will leave you with some straightforward words from BEIS in the same consultation response document: "It is likely that we may seek to enforce hydraulic balancing at a future date and installers who are not currently familiar with this practice are advised to take appropriate action to address this skills gap."

Happy learning everybody!

Tanks, tanks and more troublesome tanks!

Troublesome tanks have taken over the Gallery pages in this edition of *Oil Installer*! Readers have sent in some worrying shots taken during their routine work schedules. It makes you wonder just what is lurking out there!

OFTEC registered technicians who have their photographs featured in this section will win a special seasonal prize – courtesy of OFTEC Direct! So for a chance to win, send in your snaps now showing the good, the bad and the ugly sides of oil-related installations. Don't forget to include your name, address, OFTEC registration number – and, if published, you will be a lucky winner of an OFTEC Direct special prize! (www.oftecdirect.com)

Send your pictures, together with a brief description of your business and where you came across the subject of your snaps, to: jane@oilinstaller.co.uk

"I always go to the back pages first when *Oil Installer* comes through the door – keep up the good work!" This was the opening paragraph from **Anthony Ryan** who runs his own plumbing and heating business in Mullingar, Co. Westmeath, Ireland, when he sent in a batch of photographs for the Gallery pages...

His company – Anthony Ryan Plumbing Ltd – was established in 2007, providing a wide range of plumbing and heating services to the midland areas of Ireland. It has been OFTEC registered from the very beginning.

"OFTEC registration has opened many new doors for us – one such, we are contracting for one of Ireland's largest and well-respected environmental remediation companies, for whom we mainly deal with the oil spillage works end of things.

"While carrying out these works is very rewarding, it sometimes can be frustrating as these oil spills are shining a negative light on the oil industry. One example of OFTEC guidelines for oil tank installation not being adhered to and the consequences of such – albeit an extreme example – is shown here.

"The first photograph shows the tank stand and a puddle of plastic tank remnants. The suspected start of the fire was from a faulty socket and light wiring in the roof space of the boiler house. The tank was clearly not the required 1.8m clearance from combustible eaves.

"Another photograph shows the impact of a kerosene fuel spillage from the melted and leaking tank, as the fuel spilled and ignited running down the garden, creating an inferno and narrowly missing the house in the background. Had this happened in the dry hot summer, a vegetation fire may have made it a whole lot worse. Notice the remote fire valve, correctly fitted external to the boiler house. The fire valve did 'shut off' activate – I checked!"

Many thanks Anthony for the photographs – and kind words about OFTEC and Oil Installer!

"I have a photo I'd like to share for the *Oil Installer* Gallery. It was taken when we went out to do a quote for a new boiler!" wrote OFTEC registered installer, **Lincoln Smith** of Custom Heat Ltd in Warwickshire, recently.

"It was rather an experience to see the tank perched up in the air like that," he told *Oil Installer*.

"The tank is located near our office in Rugby. We were quoting for a new boiler but said we needed to carry out work to the tank installation before we could fit a new boiler. Unfortunately the homeowner didn't want us to touch the tank, so we had to decline the job as we were not prepared to fit a boiler to the existing tank installation!"

Perhaps if the homeowner is ever faced with the cost of an environmental clean-up, he might regret his decision...

Lincoln and his colleagues at Custom Heat Ltd have worked on oil fired appliances for nearly 40 years, fitting around 400 boilers each year – mainly from Worcester Bosch and Grant UK. All the company's engineers are OFTEC registered.

When OFTEC registered technician **Ken O'Connel** from County Cork, Ireland, was undertaking a routine power-flushing job at the offices of a sand and cement company near Cork, he spotted a very unusual oil tank base at the rear of the office building... an ancient railway cart, complete with wheels, which had obviously been used by the company in days gone by! Although Ken considers the use of such a device as "very interesting" and probably fire-rated, he is not convinced that it would pass all other safety standards!

Ken's father, John O'Connel, started the business more than 45 years ago, and Ken has been involved for around 15 years, covering all domestic and commercial jobs including servicing, repair and new oil installations.

When **Graeme Waters** of Northern Tank Services in the north east of England, went to replace an old oil tank, he came across something that he had never seen before in all his long career. The old tank had to be cut in half to enable removal, but at the bottom Graeme discovered a two-inch-thick buildup of ice!

"Although it was the first week in February, it had not even been frosty for a week or two," Graeme told *Oil Installer*. "I think it was a combination of many years of condensation and the odd leak – and I think it must have been there for at least 20 years! Had it got into the boiler itself, it certainly wouldn't have done it a lot of good!

"It just goes to show how important an annual tank service can be!"

Fuel price commentary

The good news for oil heating users in Great Britain is that the cost of kerosene is again lower than a year ago. The average annual cost of heating a typical three bedroomed semi has fallen by around 3% (about £35). Wood pellets have also seen a small price fall, while mains gas, LPG and electricity have increased slightly. The pattern is similar in Northern Ireland and in the Republic, but the oil price has been static rather than lower in the RoI.

The news is not quite so good when the current oil price is compared to the four-year average. In all countries the price now is significantly higher, mainly due to the fluctuating price of crude oil on the global markets. However, the price of heating oil has been much higher than it is now. For example, between 2011 and 2014 the price was sometimes over 30% higher than now, so the current price remains very competitive against other off-gas fuels.

Fuel prices and Brexit

A decision over the UK's departure from the EU may well come to a head in the early autumn, just as we enter the new heating season. Markets don't like uncertainty and, given the difficulty of making any firm predictions over what is likely to happen, we probably aren't straying too far from reality if we predict that any threat of interruptions to supplies could lead to significant price rises for imported goods, including fuel. Whether this would just be short term is impossible to predict, so the advice to your customers should probably be to buy early to avoid any potential problems over both availability and cost.

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

GREAT BRITAIN

	Average: Jul 15-Jul19	July 18	July 19	Price change	% difference
Anthracite Grains	1141	1148	**1154**	6	0.52%
Electricity (Economy 7)	1813	1992	**2131**	139	6.98%
Gas (British Gas – condensing)	1000	1006	**1049**	43	4.27%
LPG	1857	1886	**1944**	58	3.08%
LPG (condensing)	1530	1551	**1599**	48	3.09%
Oil	1156	1384	**1341**	-43	-3.11%
Oil (condensing)	948	1133	**1098**	-35	-3.09%
Wood Pellets	1393	1533	**1457**	-76	-4.96%
Air source heat pump radiators	1619	1751	**1888**	137	7.82%
Air source heat pump underfloor			**1443**		

NORTHERN IRELAND

	Average: Jul 15-Jul19	July 18	July 19	Price change	% difference
Anthracite Grains	987	973	**1027**	54	5.55%
Electricity (Economy 7)	1579	1518	**1870**	352	23.19%
Gas (Phoenix – condensing)	926	951	**1050**	99	10.41%
LPG	2385	2589	**2708**	119	4.60%
LPG (condensing)	1957	2123	**2219**	96	4.52%
Oil	1113	1359	**1287**	-72	-5.30%
Oil (condensing)	913	1113	**1054**	-59	-5.30%
Wood Pellets	1116	1144	**1118**	-26	-2.27%
Air source heat pump radiators	1488	1459	**1654**	195	13.37%
Air source heat pump underfloor			**1246**		

REPUBLIC OF IRELAND

	Average: Jul 15-Jul19	July 18	July 19	Price change	% difference
Anthracite Peas	1543	1628	**1628**	0	0.00%
Electricity (Urban Night Saver)	2043	2052	**2197**	145	7.07%
Gas (Bord Gais condensing)	1340	1337	**1431**	94	7.03%
LPG	2676	2792	**3021**	229	8.20%
LPG (condensing)	2202	2296	**2482**	186	8.10%
Oil	1573	1858	**1863**	5	0.27%
Oil (condensing)	1288	1519	**1523**	4	0.26%
Wood Pellets	1347	1387	**1398**	11	0.79%
Air source heat pump radiators	1794	1806	**1921**	115	6.37%
Air source heat pump underfloor			**1512**		

Notes. 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.

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Model shown Greenstar 8000 Style
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