Fuel Oil News

MARCH 2021

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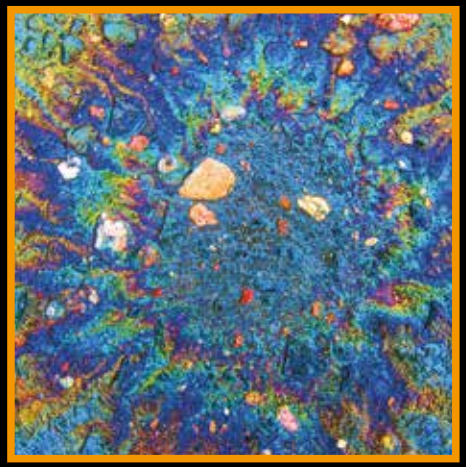

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Accept the things you cannot change

But change the things you can.

As a child I was instilled with an attitude that has served me well through life – If you don't like the way something is then do all you can to change it.

If you cannot change it then you have to make the decision whether to walk away from it or to decide to put up with it and work with is as it is.

The one thing that was never acceptable was to waste precious time and energy moaning about whatever it was that wasn't right.

In the time I have worked within this industry I have come to understand that it is full of people demonstrating that approach daily.

Whether the industry is blessed with an unusually high proportion of those prepared to take on challenges with a determined yet pragmatic approach or whether it is the result of an industry in a constant state of evolution is impossible to determine, but it certainly serves the sector well.

The last few years have seen the industry continually frustrated by a government with a seemingly blinkered approach to the pressing issue of decarbonisation. Appearing ready to throw its policy and financial support wholeheartedly behind new tech solutions to the home-heating emissions challenge it appeared to leave no place at the table for a liquid fuel future.

Fuelled by genuine concern for the potential negative impacts on both members and their customers, the industry trade associations have been unrelenting in their bid to keep a broader array of solutions on the table.

And, it seems, the tide may finally be turning.

In this issue we hear the latest views on the future for home-heating fuel which suggest a growing acceptance that some form of liquid renewable fuel will be needed in the mix of solutions.

This shift of stance, coupled with the exciting liquid renewable fuel trials initiated by the industry that we also cover in detail, suggest that this was one battle which those fighting for this sector were right not to walk away from.

Of course it is good to accept the things you cannot change but how much more satisfying is it to change the things you can?

Fuel Oil News

The independent voice for the fuel distribution, storage and marketing industry in the UK and Ireland.

On the cover

The property pictured receiving a fuel delivery in Redruth, Cornwall, is the first to participate in an exciting, UK-first, HVO trial. You can read all about it in 'Industry Knowledge' on pages 14 &15. Pictured are John Weedon, director and Robert Weedon, managing director of fuel suppliers Mitchell and Webber with Zoe Milward the homeowner.

In this issue

In 'Industry Analysis' and 'Industry View' on pages 16 & 17 we catch up with the latest thoughts of UKPIA and UKIFDA on the future for liquid fuel in home-heating while, on pages 20 & 21, we are 'In Conversation' with Joby Clark of Cobo Tankers and Services.

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Annual subscription for the UK & Republic of Ireland is priced at £98 or €113 inc. p&p. Overseas: £115 or €134.
Back issues: £8 per copy.

01565 653283
www.fueloilnews.co.uk

Founded in 1977 by James Smith
Published by
Ashley & Dumville Publishing,
Caledonian House, Tatton Street,
Knutsford, Cheshire
WA16 6AG
www.ashleyanddumville.co.uk

Volume 44 No 3
ISSN 1757-1057

Bio-refinery set for take-off at Stanlow

A new facility which will convert non-recyclable household waste into sustainable aviation fuel (SAF) for use by airlines operating at UK airports has been created in a joint venture between Essar Oil (UK) Limited (Essar), Fulcrum BioEnergy Limited (Fulcrum) and Essar's subsidiary company Stanlow Terminals Limited.

This innovative bio-refinery will convert several hundred thousand tonnes of pre-processed waste, which would have otherwise been destined for incineration or landfill, into approximately 100 million litres of low carbon SAF annually.

The project, which will see an investment of approximately £600m, will use Fulcrum's proven waste-to-fuel process, which is already being deployed at its pioneering facility outside of Reno, Nevada in the United States, where operations are due to begin later this year.

Fulcrum will construct, own and operate the plant within Essar's Stanlow manufacturing complex in the North West of England and Essar will assist with the blending and supply the new SAF to airlines, with Stanlow Terminals Limited providing product storage and logistics solutions for the project under a long-term agreement.

UKPIA director-general, Stephen Marcos Jones, commented:

"Today's announcement demonstrates how critical Essar's Stanlow Refinery is to the success of these efforts to decarbonise the economy of the North West, as well as showing more broadly how the downstream oil sector is an ally in the UK's ambitions to reach 'Net Zero' emissions by 2050, as outlined in UKPIA's Transition, Transformation and Innovation report.

"Aviation is going to be one of the hardest sectors to decarbonise, so this investment by Essar and Fulcrum to build a biorefinery in the UK is paramount to meeting the Net-Zero commitment."

The project, named Fulcrum NorthPoint, will create 800 direct and indirect jobs during the design, build and commissioning process and over 100 permanent jobs during its operation. Plans for Fulcrum NorthPoint are expected to be complete at the end of this year and subject to planning consent, will be operational in late 2025.

Rix Group's office acquisition is 'vote of confidence'

One of Hull's most modern office developments is to become home to one of the city's oldest and best-known companies.

J.R. Rix & Sons Ltd has acquired Two Humber Quays, a five storey, grade A office building on the city's waterfront, for an undisclosed sum.

The company, whose roots in Hull date back to the early 1880s, will move from its current base in Spyvee Street to Two Humber Quays later this year, taking over the ground floor and parts of the second and third floors.

Rory Clarke, managing director of J.R. Rix & Sons, said:

"Although COVID has facilitated effective home working, we believe things will eventually return to a more normal way of doing business. For us, a well-designed office space is central to that.

"The office is the heart of a company and the culture, its soul. Culture, which is very important to the Rix Group, is created and strengthened by having people working together in teams, which is very difficult to replicate when everyone works remotely.

"Home working also makes it very difficult for new members of staff to become engrained in our culture, which we feel is essential.

Two Humber Quays

"Because of this, we see this acquisition as an investment in our business, an investment in our people and a vote of confidence in the future of our great city, Hull."

Mr Clarke added that, with Rix's origins as a shipping business, the location near the Humber estuary and the city's picturesque marina ties the building to the company's maritime heritage.

"The business has expanded significantly over recent years and we have outgrown our base in Spyvee Street," he said. "The biggest attraction is being on the water's edge and adjacent to the marina where we will have the best views in the city."

Lenham Storage agrees contract with Europump Maintenance Ltd

Kent-based logistics company Lenham Storage has signed a new 12-month fully comprehensive support contract with Europump Maintenance Ltd for all the fuel island equipment at its two main depots.

Speaking about the deal, Lenham Storage's fleet manager, Steve Emsley, said:

"We are delighted to have signed the deal with Europump Maintenance Ltd. We knew some of their personnel and knew they had a reputation for good service so it made sense to switch to them. We are very happy with how our relationship is progressing."

Martyn Gent, business development manager, Europump Maintenance Ltd, added:

"It's great to have been chosen by such a long-established logistics expert. We are very pleased to be working together."

21-point net zero plan for transport and logistics includes push for sustainable fuels

The Chartered Institute of Logistics and Transport (CILT) believes that "we can achieve net-zero by 2050" through a range of measures recommended to government and others in its latest report, Routes to Net-Zero 2050: 2020 Year End Summary
The report includes 21 recommendations for action covering all transport modes and activities.

At the end of a year of study, debate and events, CILT has published its year-end report summarising its work on 'Routes to Net Zero 2050' and looking ahead to the work to be done in 2021.

Kevin Richardson, chief executive, CILT(UK), says:

"Transport accounts for 28 % of UK carbon emissions and, despite the downturn caused by the coronavirus pandemic, transport emissions will grow with recovery unless action is taken. Government is clearly the key player, but industry, organisations and individuals are also urged to take action, and we believe there is plenty to be achieved, starting today."

Recommendations

For Government:

- Taking an international leadership role in 2021 United Nations Climate Change Conference (COP26) and the G7
- Setting carbon budgets for the transport sector
- Mandating the use of sustainable fuel
- Continuing to incentivise the take-up of electric vehicles through grants and incentives
- Setting a clear, long-term policy that taxation will be aligned to decarbonisation, resource efficiency and levelling up, including the replacement of fuel duty and vehicle tax by road pricing, and a review of Air Passenger Duty

For local government – to play its part by implementing policies in ways that suit circumstances:

- Rolling out schemes for electric bikes
- Ensuring new developments include vehicle charging points
- Preparing active travel plans

For transport providers – to implement decarbonisation schemes, some of which will require either direct government funding, support, or collaboration with industry, such as:

- Home delivery providers move to all-electric fleets
- A rolling programme of rail electrification
- A trial of electric aircraft
- Campaigning on the benefits of public transport

For industry and academics:

- Continue to develop innovative transport decarbonisation technologies, ranging from apps to massive industrial projects to produce hydrogen and sustainable fuels, and to remove greenhouse gases
- Ensuring that sufficient, affordable green electricity is available when and where it is needed

Paul Le Blond, chair, Aviation Policy Group, CILT(UK) and editor of CILT's Route to Net-Zero 2050 Year-End Report, says:

"The government and many others published some key documents in 2020 indicating the way forward, notably the Prime Minister's Ten Point Plan for a Green Industrial Revolution, and this is expected to continue in 2021.

"All those within the profession have a key role to play in transport decarbonisation. We must spread the message that transport can achieve net zero by 2050 by a range of measures, some technological, some societal and some through policies."

Trade association drives up industry standards with new remote training centre

UKIFDA, one of the largest training providers for tanker drivers in the UK, has now been approved as a remote training centre by all the appropriate driver training bodies. This new centre will allow UKIFDA to continue to provide its complete 'one stop shop' tanker driver training in a remote environment.

UKIFDA chief executive Ken Cronin comments:

"The DfT/DVSA has recently announced that, due to the current pandemic, driver training should take place remotely whenever possible. The speedy action taken by UKIFDA to implement remote training means this will not impact our members training requirements.

"Through the new remote training, delivered via Zoom, UKIFDA is now able to offer UKIFDA members ADR – initial and refresher courses, CPC – all modules and PDP – annual refresher classroom driver training courses. The courses are all industry specific and tailored to the individual's needs.

Tony Brown: UKIFDA technical director

"Examinations cannot be conducted remotely but arrangements can be made for these to take place at UKIFDA members' approved sites in adherence to COVID-19 restrictions and UKIFDA will assist members in organising this."

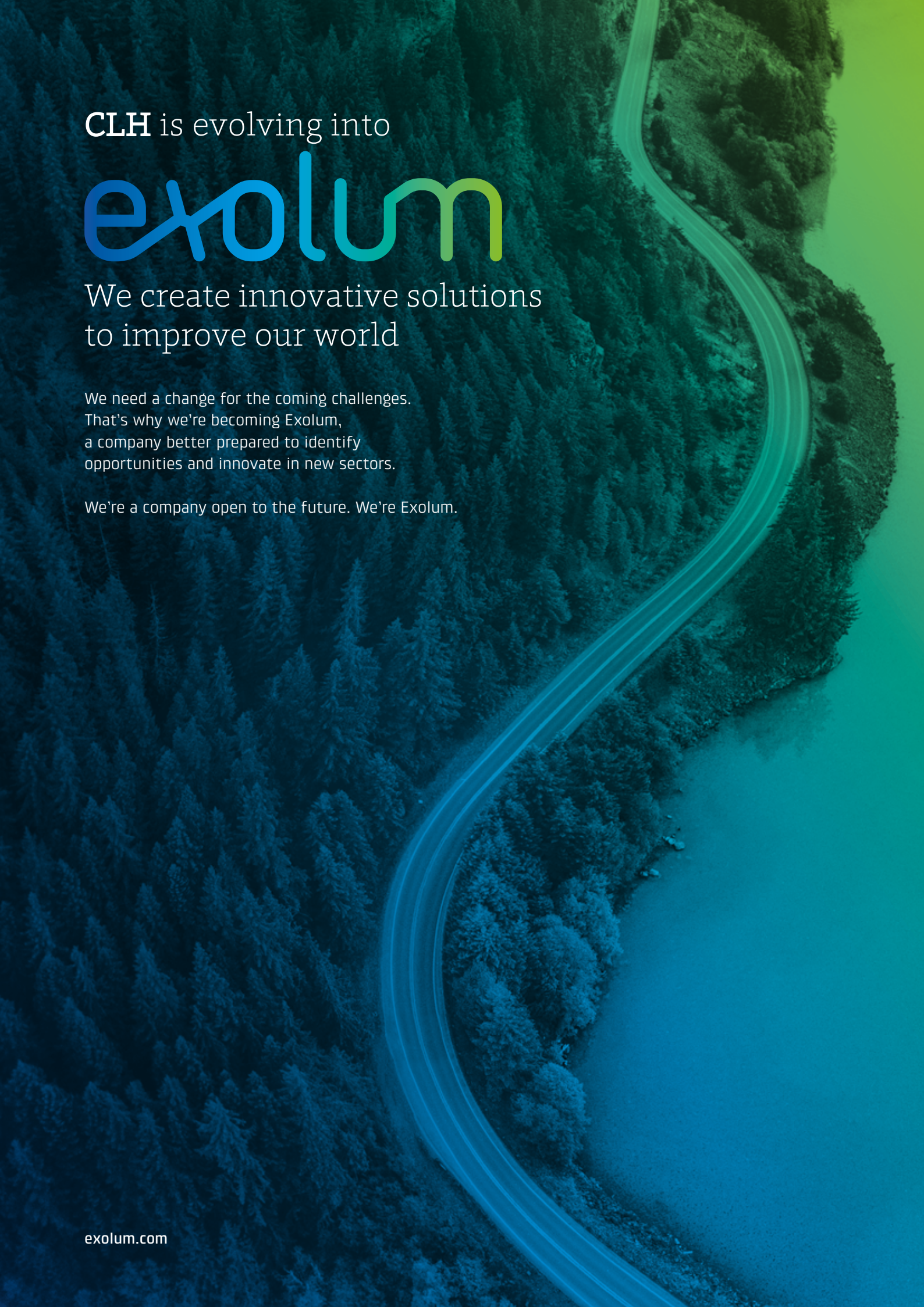
Low costs – high standards

UKIFDA technical manager Tony Brown adds:

"Companies can choose what training course is best for their drivers, which means keeping costs low while maintaining high standards.

"Staying safe and competent on the roads is now far easier and more affordable too, with the addition of remote training meaning that there are various ways drivers can complete their training – this ensures liquid fuel distribution companies are not only up-to-date but they can do this in a way that works best for them and their drivers.

"All our training courses are delivered to the highest industry standard and are flexible to meet each driver's needs."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Crown Oil 'so pleased' to be crowned winner

After the announcement in our last issue of Crown Oil as the winner of our 2020 Tanker of the Year competition, with its DAF CF85 Euro 6 carrying Crown HVO fuel, we hear from Crown Oil director, Mark Andrews:

"We are so pleased to have our brand new HVO tanker announced as winner of tanker of the year! We're investing in renewable and sustainable fuels to help reduce GHG gas emissions produced by business and it's wonderful to have this celebrated and recognised."

Fuel Oil News now looks forward to receiving your entries for the 2021 tanker of the year award.

With entries accepted until 31st October 2021, there is plenty of opportunity to enter a new tanker which you believe offers something extra to your business. Please send details of the tanker with a photograph to: stephanie@fueloilnews.co.uk.

EG Group agrees £750m deal with ASDA

Euro Garages' parent company EG Group has agreed a deal to acquire Asda's petrol filling stations, car washes and ancillary land for £750m. The shareholders in EG Group, the Issa brothers and TDR Capital, made a deal to take over the Asda Group on 2nd October 2020.

EG's acquisition of the forecourt business is subject to the same CMA regulatory clearance being received by the group's shareholders for their acquisition of Asda. Subject to these approvals, the transaction is expected to close in the second quarter of 2021. If the deal is approved, EG Group would have around 700 forecourts in the UK, only behind MFG, with more than 900 sites.

Announcing the deal, EG Group said:

"A detailed integration plan will ensure a seamless transition into EG Group's UK operations, which have successfully integrated four significant acquisitions since 2015.

"The forecourts, which will remain an integral part of the broader retail locations where they are situated, will continue to be Asda branded and will remain a price leader in the fuel market."

Zuber Issa CBE and Mohsin Issa CBE, co-founders and co-CEOs of EG Group, in a joint statement, commented:

"We are excited to have the opportunity to further strengthen our network in the UK through the proposed acquisition of Asda's forecourt business, which will enhance our position as a major independent forecourt operator and provide a platform for future growth of the combined network."

JET network expands with new UK sites

JET has announced that ten new Ascona-owned sites will be joining its growing network of JET branded dealer sites – a move that further strengthens its relationship with the roadside retailer.

JET currently supplies Ascona Group, one of the fastest growing independent forecourt operators in the UK, at three sites in Marlborough, Stoke-on-Trent and Deepcar near Sheffield. The ten new sites, mainly located in Bedfordshire, Buckinghamshire and Warwickshire, boost JET's total portfolio of UK JET dealer sites to more than 300. Now with 13 sites and the potential for more in the future, Ascona is fast becoming one of JET's largest retail customers.

Commenting on the decision to move to JET, Darren Briggs, MD Ascona Group, says:

"JET provides an industry-leading fuel supply package and, together with their new JET brand image, is recognised in the industry for great value and service. They are the perfect partner for Ascona as we continue to expand our operations in the UK via both organic and acquisitive growth and focus on building best-in-class retail roadside destinations that cater to changing customer needs."

Oliver Mueller, retail business manager, Phillips 66 Limited commented:

"We are delighted to welcome these new sites to our JET dealer network and to be introducing the JET brand to a number of new communities. With a reputation driven by good service and good value, we are committed to building business relationships with dealers across the UK and are looking forward to helping these new sites flourish over the coming months – further strengthening the JET brand."

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Peter Turner

It is with great sadness that Fuel Oil News reports the passing of Peter Turner, former managing director of Rix Petroleum, on the evening of Friday 22nd January 2021.

Peter was a well-known figure in the industry, having worked at Rix for many years before retiring as MD of Rix Petroleum 15 years ago. As Rory Clarke, MD J. R. Rix & Sons told us:

"Whilst that is some time ago there will still be many in the industry who would have known Peter. He greatly enjoyed the industry social events and was held in high regard. At work Peter didn't shrink from making difficult decisions and thrived in a crisis."

After he retired from Rix, Peter was elected as a Councillor for Burstwick on the East Riding Council. In 2016, his final year with the council, Peter was Chairman – East Riding's equivalent of Mayor.

Rory added:

"Peter will be sadly missed by all of us that knew him."

The photo shows Peter visiting the Rix Petroleum stand at the Driffield Show in 2012 after his retirement in 2006. Rory Clarke, MD of J. R. Rix & Sons, is on the left with Duncan Lambert (current MD of Rix Petroleum) in the middle.

Anthony Hoctor

Fuel Oil News also reports with deep sadness the passing of Anthony Hoctor (known to most as Terry), proprietor and founder of Speed Oil Services and former director of what was the Federation of Petroleum Suppliers (FPS).

Anthony and his wife Yvonne have most recently spent several years residing in Spain, after retiring.

An avid reader of Fuel Oil News, Anthony kept up with the latest news in the industry with his son Sab frequently sending issues to Spain.

Our thoughts are with Yvonne, Sab, Nick, Greg and Terry's friends and family at this time.

Gary Hickey

Gary Hickey, who many Fuel Oil News readers will know from his 40 years of working in the fuel oil industry, sadly passed away at the end of December 2020.

Starting his career with a 'paraffin round', Gary sold paraffin from Hammond bottles from the back of a Thames van before joining Hickey Petroleum and later Meridian Petroleum.

Meridian Petroleum was acquired by Adler & Allan shortly after being supported with the Buncefield incident, and Gary has been a manager, followed by director of Adler & Allan's fuel division for the last 15 years.

Remembered as a well-known, larger than life character, Gary is survived by his wife and children and is very much missed by all of his team at Adler & Allan.

The thoughts of all those at Fuel Oil News are with his family, friends and colleagues.

Fairfax3D cost-cutting 'fully recyclable' PV-80-E breather valve

The government has stated that it wishes to achieve net zero carbon levels by 2050 and, with industry responsible for a quarter of UK emissions, how can the downstream oil industry make a contribution? Where can fleet managers make an easy change to contribute to these targets?

We spoke with Michael Foord, managing director of Fairfax3d Design, whose pressure / vacuum breather valve may be one way forward for fleet managers. The PV-80-E, launched in 2017 with over 6000 units already sold and in operation, is the first 'fully recyclable' breather valve to hit the market and Michael explains:

"With guaranteed re-certification and an end to the costly and environmentally harmful practice of dumping used valves after every failed tank test, the PV-80-E can transform fleet managers' green credentials – while also bringing significant cost cuts in fleet maintenance.

"This is a straightforward win for responsible operators looking to slash their fleet's carbon footprint and cut costs". Michael declared. "It's very simple: We are offering guaranteed recertification of used breather valves for vehicles undergoing their biennial vapour tests.

"Our guarantee is backed up with an unprecedented two-year manufacture warranty providing fleet managers peace of mind that the valve will operate as designed and not only on the day of the test.

"The valve guarantee means we work with tank inspectors to ensure used valves are quickly returned, re-certified and sent back to the field ready for installation with zero vehicle downtime. This eliminates harmful waste while saving priceless time and cutting costs."

The PV-80-E prioritises environmental standards and performance in the valve's game-changing design – with just one dynamic seal delivering triple security in pressure, vacuum and roll over containment. It is the only valve with a 450 micron air filter plus a dirt trap ensuring the filter stays clean which protects the dynamic seal, rejecting all foreign objects guaranteeing complete performance. In addition, all the lightweight materials used in the PV-80-E are non-corrosive and fully recyclable, meaning no waste and that all-important big green 'tick' for responsible fleet operators.

The valve is also now available in 2" and 1 ¼" BSP form to cater for all configurations of fuel tanker.

Asked what is unique about the breather valve Michael answered:

"The PV-80-E is the only pilot operated breather valve on the market which enables considerably higher flow rates compared to competitor units. As a result, managers specifying the PV80 can achieve significant cost savings by switching and they will also be making a huge positive impact on their company's green credentials."

Find out more at www.fairfax3d.design

PEOPLE MOVES

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Essar Oil UK has announced the appointment of **Stephen McCaffrey** as chief financial officer.

Mike Adcock, previously an account manager for **NWF Fuels** for over five years, has been appointed as business development manager at the company.

Bob Taylor has announced that he will be retiring as managing director of **World Fuel Service**s in May this year. **Claire Bishop,** who joined the company in 2016 has been promoted to the role of Vice President, UK Land and will take the helm in May.

INEOS Energy will be headed by **Brian Gilvary** as executive chairman. Brian joins INEOS after 34 years in BP where he was CFO from 2012 until his retirement in June 2020.

Ken Cronin

Ken Cronin is the new chief executive of **UKIFDA** replacing Guy Pulham who left early February. Ken has worked across a number of energy sectors including nuclear, renewables and oil and gas and will be joining from the representative body for the UK onshore oil and gas industry, UKOOG where he was chief executive for over seven years.

Helen Thurtle has been appointed as head of fuel & machinery at **The AF Group**. Speaking about the role, Helen praised the efforts of Emma Lees, from A&D Publishing's sister company – Eleven Recruitment, for finding "a role that is a perfect fit".

As it completes a major rebrand as part of the renewal of the business, strategy and corporate vision, **Wellube**, a Unique Group company, has announced the appointment of **Garry Kidd** as managing director.

Arne Gürtner, Senior Vice President UK & Ireland Offshore at **Equinor** has been named co-chair of OGUK board. Bringing with him a wealth of industry experience, Arne will work with contractor co-chair, Phil Simons, VP North Sea & Canada, Subsea 7.

UK based company **Wildcat Petroleum plc**, which is planning to transform the way things are done within the petroleum industry with the implementation of blockchain technology, has appointed **Michael Edelson** as a senior business adviser with immediate effect.

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MABANAFT

As the future for kerosene dims could biofuel heating ignite?

WITH THE DRIVE TO REDUCE THE USE OF FOSSIL FUELS IN HOME-HEATING TO MEET AMBITIOUS UK EMISSIONS TARGETS WE HEAR FROM **ANDREW DOBSON**, DIGITAL MARKETING CO-ORDINATOR OF TUFFA UK, WHO SHARES WITH US THE COMPANY'S BELIEF THAT HVO IS A VIABLE AND SUSTAINABLE ALTERNATIVE TO KEROSENE GIVEN THAT ITS EMISSION LEVELS RIVAL THE EMISSIONS OF MODERN RENEWABLE HEATING TECHNOLOGIES.

Kerosene is used to heat around 1.5 million UK homes but, with the UK's aim to achieve net-zero emissions by 2050, the future of heating oil as we know it seems dim. The government's 'Clean Growth Strategy' (2017) outlined plans to phase out the installation of high carbon fossil fuel heating in new and existing homes currently off the gas grid. Subsequently, the 'Future Homes Standard' (2019) proposed that all new buildings from 2025 will need to be future-proofed with low carbon heating and world-leading levels of energy efficiency. These homes are expected to produce 75-80% lower carbon emissions compared to current levels. While this doesn't exclude liquid fuels altogether, the oil would need considerable mitigating measures to reach parity with modern low-emission alternatives. The next 15 years will see a gradual move away from fossil fuel burners as outlined in the 'Ten Point Plan for a Green Industrial Revolution' (2020).

The case for HVO

As a biofuel with CO2 levels on-par with modern heating technologies, Hydrotreated Vegetable Oil (HVO) should be seen as a "considerable mitigating measure". HVO is also a fossil-free, sustainably produced, renewable paraffin deriving from used cooking oil and vegetable oil processing waste and acts as a direct 'drop-in' replacement to kerosene in oil burners. Critically, carbon emissions from using HVO shows nearly 90% reduction in CO2 emissions compared to kerosene. If all 1.5 million households switched to 100% HVO then UK oil burners' CO2 emissions would drop from 10 million tonnes to 1.17 million tonnes annually.

Currently, HVO is largely being used and marketed in the UK as a biodiesel. However, a variety of feasible biofuels and heavy investment into Electrical Vehicle (EV) technology means numerous eco-friendly technologies could compete within the industry. The sheer quantity of HVO required to fuel road transport begs the question as to whether supply will meet demand within the sector. In the UK alone the transport sector typically

Tuffa oil tank installed in one of 1.5 million homes heated by kerosene

consumes over 36 million tonnes of oil annually. Current global production of HVO is over 5 million tonnes although the International Energy Agency forecasts an increase to around 13 million tonnes by 2024 – still less than 10% of the total predicted quantity of biofuel produced. The aviation industry could also contend for a share of available HVO. Aviation is severely limited in what is physically possible and safe to be used commercially in time for net-zero 2050. Reportedly, there is no possibility of passenger planes flying without liquid fuel in the near future and HVO is one of very few biofuels suitable for aviation. In 2017 the International Civil Aviation Organization announced the vision of using a 50% blend of biofuel from 2050 – a feat that would require more than 3.5 times the amount of all biofuels then produced worldwide. Comparatively, very little HVO is required to provide the basic necessity of heating UK homes with a 100% HVO fuel requiring around 3 million tonnes.

Clean heat at a lower cost

In 2015 domestic and commercial heating accounted for a considerable proportion of UK greenhouse gas emissions at 32% and is a top priority on the path to net-zero. Recent initiatives to incentivise low carbon heating technologies, such as air source heat pumps and biomass boilers, have shown a poor uptake across the UK with some of the heating solutions backed by the government simply not suited to all off-grid homes or homeowners' budgets. Costs to replace oil burners with heat pumps or biomass usually exceed £10,000. Even with a £4,000 grant, a large proportion of off-grid homeowners are on low to medium income and don't have access to the requisite £6,000 capital, never mind approximately £15,000 needed to bring more than half of oil-heated homes up to EPC 'C' – the minimum required energy efficiency rating for these low-temperature technologies to work effectively. Interestingly the 'Ten Point Plan' identifies the need to "avoid the need for costly retrofit" in new homes but fails to constructively address the expense of retrofitting existing homes.

Comparatively, adaptations to make existing boilers compatible with HVO are expected to cost around £300-600 and existing oil tanks are already compatible with the fuel. Additionally, with a heat output matching kerosene, poorly insulated homes won't require expensive retrofitting to work effectively, although any additional insulation will reduce the quantity of HVO required. The liquid fuel sector is now planning on making a 100% HVO biofuel available by 2025 with proposals to move to an HVO-kerosene blend (likely between 10-30% HVO) within the next year.

What is now needed to drive innovation and investment in this sector is support from the government in acknowledging and incentivising HVO as a pragmatic low-carbon heating solution, passing the savings of what should be a tax-efficient fossil-free fuel to the end-user. The liquid fuel market has the potential to expand across the UK, safeguarding and increasing sustainable job opportunity within the sector by better competing with other well advocated renewable heating technologies, giving off-grid homeowners greater choice and a more realistic solution to change their fuel source without the need for disruptive and costly installs.

An industry creating its own new dawn – liquid biofuel trials in the UK

Accepting the inevitability of an end date for the use of fossil fuels in home-heating, industry bodies UKIFDA and OFTEC, as well as tank manufacturers, distributors and many more are coming together to ensure there is a future for liquid biofuels in our industry. The first UK trials of alternative liquid fuels in home-heating were rolled out late last year and our content editor, Stephanie Samuel, caught up with UKIFDA chief executive Ken Cronin, OFTEC CEO Paul Rose and John and Robert Weedon, directors of South West based distributor Mitchell and Webber, to find out more about this forward-thinking approach that could make industry history.

"I have been hugely impressed by the work the industry has done on the winter trials," said Ken Cronin, president of UKIFDA. "Both the Climate Change Committee (CCC) and the National Grid Future Energy Scenarios (FES) predict a significant proportion of our customers will require some form of biofuel by 2050 to help meet the UK's net zero commitment. We support these assertions as these homes tend to be rural and therefore difficult to reach for grid purposes and/or of an age and construction that make retrofitting for other technologies difficult technically or economically."

Enthusiastically embraced

Operating out of Cornwall, distributor Mitchell and Webber was the first company to deliver new, low carbon heating fuel for the UK trials in a partnership with OFTEC and UKIFDA. Commenting on the trials, which have seen a number of customers who previously relied on heating oil trialling HVO since December last year, John Weedon said:

"We pushed hard to be the ones to trial this first because we have thousands of customers who will have difficulty in changing heating technologies. Talking about alternative fuels can only get you so far, you've got to get up and make it happen.

"We've been in this industry for over 120 years and, even as the end date for fossil fuels gets ever closer, there are still 38,000 homes running on oil in Cornwall. As ever, we are determined to get the best alternative fuel for our customers."

Speaking about the attitudes of their customers, Robert Weedon confirmed their enthusiastic interest:

"We are getting lots of enquiries from those who would be happy to participate in the trial, and we've had feedback that customers are delighted that we are looking towards the future for fuel, especially as so many are still using oil here."

It is pleasing to see an early confidence in HVO already in Cornwall, as John explained:

"This positive attitude is great news for Mitchell and Webber customers, as the greater the demand for HVO, we very much hope the more affordable it will become. The positive response so far may be largely down to the fact that the cost of conversion to HVO, or other alternative fuels, is very minimal compared to the cost of heat pump installation, for example."

A huge opportunity for a cost-effective solution

Ken Cronin commented:

"We believe very much in finding the right solution at the right cost with the least amount of disruption for each home. We know that customers are concerned about climate change but equally concerned about cost. What these trials are doing is showing that there is a very simple technical solution and I am delighted at the level of interest being shown."

Robert Weedon said:

"We have to be practical about what is and isn't a possibility for our customers. There is fuel poverty here in Cornwall. Not everyone can afford heat pumps which cost over £10k. The government grants will dry up by March this year and questions remain over the capabilities of the grid – especially with electric charging points for vehicles also a key topic here."

OFTEC CEO, Paul Rose, also expressed confidence in both the fuel and the trials:

"We are extremely confident that HVO

will be compatible with virtually all existing oil heating systems. However, undertaking rigorous trials is essential to provide the level of confidence in the new fuel that consumers and government will demand, so this is a key step in the process of bringing the fuel to market. It also enables industry to learn about the characteristics of the new fuel and to prepare the guidance information that heating technicians and fuel suppliers will require.

"The trial is in its early stages, but we have plans to make it much bigger. To do this, we are applying for government innovation funding and are hopeful this will be successful.

"There is increasing recognition by policy makers that many off-gas-grid households will not be able to convert to other types of renewable heating in a cost-effective way, due to the high cost of both the appliance and energy efficiency improvements that will be needed. Consequently, there is a huge opportunity for a renewable liquid fuel such as HVO to heat these hard-to- treat homes.

"Conversion to HVO from kerosene will lower the carbon emissions of the average home by around 88 % – a huge reduction and greater than both heat pumps and biomass systems. If our industry can provide governments with the evidence that HVO offers a low cost, reliable and disruption-free solution, then we should be able to retain a significant market share and play a vital role in meeting the net zero target."

Expansion of the trials

The trial is now expanding, with other distributors trialling HVO with their own customer base. Mitchell and Webber has also expanded the appliances that they are testing HVO with as John confirms:

"It's working better than expected at the moment, but we are rigorously testing this over an extended period of time and also for 5 different appliances, not just boilers."

So far, the biofuel has also been used to fuel a customer's Aga cooker, with a pot burner conversion, and initial results show that more heat is produced with less fuel used.

Financial and policy support will be key to success

Commenting on the expansion of these trials in the UK, Paul Rose said:

"Up to now, the trials have been funded by industry itself, whether by trade associations such as OFTEC and UKIFDA, or by individual companies such as Mitchell and Webber, who are passionate about the potential that HVO offers. The fact that we have done this underlines how serious our industry is, and the good news is that this work is being coordinated by a steering committee covering both fuel distributors and OFTEC. This will enable us to capture the learning outcomes and maximise the PR and policy value of this work."

Looking ahead to the next stages of the trials, Ken Cronin said:

"The next stage for us will be to expand the trial geographically and across the range of possible appliances and talk to government about making this a reality."

Paul Rose also highlighted how expanding the trials will be expensive, hence the industry bodies bidding for government funding:

"The government has already supported other heating sectors – for example a massive heat pump trial is underway – so given the comparatively modest funding we will be looking for, there's every reason to be hopeful. The aim will be to have a much-expanded trial underway for the next heating season.

Paul continues:

"This year will be important in terms of determining future heat policy and the role HVO will play. To achieve policy support for HVO, we will need to progress the field trial and overcome outstanding concerns about availability and sustainability. The latter issue should be straightforward – HVO produced in Europe already satisfies very strict sustainability regulations.

"Availability is more of a challenge because other sectors such as transportation also need the fuel. However, HVO production is ramping up rapidly and we are in direct contact with producers who are keen to supply our market. So, we are increasingly confident that supply will be available if HVO is supported in heating by government policy.

"This is essential because, at least initially, some form of subsidy may be necessary to cushion consumers from an increase in cost. However, the need to find a credible solution for hard-to-treat rural homes means that government support should be forthcoming, and this is something that everyone in our industry should be pushing for."

In Cornwall, Mitchell and Webber continue to see successes with the trial and look ahead to welcoming the G7 leaders, who will be meeting at Carbis Bay in Cornwall, in just over two months.

Commenting on why Cornwall was chosen to host this meeting to promote a better, green world, Boris Johnson was quoted in a local paper saying:

"Both these ambitions are summed up in Cornwall where the UK`s renewable energy industry and conservation projects point the way to a green industrial future."

The visitors will include the new US President as well as the leaders of Canada, France, Germany, Italy, Japan, Australia, South Korea and the President of the EU.

John Weedon commented:

"With the UK also hosting COP26 in Glasgow this November, the UK is very much under the spotlight!"

We look forward to seeing how the trials progress and expand over the next year and to covering more history-in-the-making moves from the fuel oil industry in the UK.

The future for kerosene – delivering heat in a decarbonised world

THE 2019 UKPIA 'FUTURE VISION' MADE TWO FAIRLY UNEQUIVOCAL STATEMENTS ABOUT CESSATION OF SUPPLY OF HEATING OIL FOR PROPERTIES OFF THE GAS GRID IN 'THE 2020S'. WITH THE RELEASE OF THE LATEST REPORT, 'TRANSITION, TRANSFORMATION, AND INNOVATION: OUR ROLE IN THE NET-ZERO CHALLENGE', AT THE END OF 2020, WE SPEAK WITH **STEPHEN MARCOS JONES**, DIRECTOR GENERAL, UKPIA, TO GET AN UPDATED PERSPECTIVE ON THE IMPLICATIONS OF THE REPORTS FOR HEATING OIL AS WELL AS THE IMPACT OF GOVERNMENT LEGISLATION ON THE USE OF, AND DEMAND FOR, KEROSENE.

A consideration of scenarios

"The "Future Vision" report, published by the UK Petroleum Industry Association (UKPIA) in July 2019, outlined a range of ways the downstream oil sector could contribute to the UK's low-carbon agenda.

Since then, the UK Government's ambition has accelerated towards faster decarbonisation, with the UK announcing a net zero target as well as the recent "Energy White Paper" alongside the "Ten Point Plan for a Green Industrial Revolution" which have set out more details on how to reach the challenge of meeting net zero by 2050.

"The "Future Vision" considered scenario assessments from the Committee on Climate Change and others, which had meeting the Paris goals (an 80% carbon reduction) as their outcome. In order to achieve that goal, the UK Government's own Clean Growth Strategy expected the need to "phase-out high-carbon fossil fuel heating for new and existing buildings…during the 2020s" with all the scenarios we looked at concurring that use of "liquid fuels for space heating [would fall] to very low levels in the 2020s".

While those scenarios are not UKPIA's own, they are important as they have informed government policy such as the Future Homes Standard and Future Buildings Standard.

Liquid fuels can be low-carbon

"Since 2019, the targets for decarbonisation have become even more ambitious, which might beg the question as to whether there is a role at all for downstream oil companies in the home heating sector. Of course, the answer is that there can and will be, if fuels are also given the opportunity and incentive to decarbonise.

"The 'phasing out of high-carbon fossil fuel heating' in the Clean Growth Strategy is something we can agree with, but it is important not to conflate liquid fuels with high-carbon fuels, as liquids can be low-carbon. UKPIA believes that meeting net zero targets will only be possible if we employ a range of technologies that are available to us, right across the economy.

"Decarbonisation of off-grid heating can be viewed through a similar lens to the decarbonisation of cars.

Both sectors are almost entirely reliant on fossil-derived oils today, but both can be served by electrification technologies that offer significant decarbonisation potential in future (whether that be electric vehicles or electric heat pumps). Given that proven, and increasingly affordable, technologies exist, we can understand why governments are turning to them.

The Energy White Paper strongly supports the role for heat pumps in particular, however it is worth remembering the many other technologies that can also offer genuine carbon reductions for heating, as well as the big role that the downstream sector could play in their development:

- **Low carbon fuels** – the most obvious replacement for fossil-derived fuels in off-grid heating is to replace them with non-fossil equivalents. The great advantage of low carbon liquid fuels is that they neither require expensive nor difficult upgrades of existing boilers and heaters, but they could offer very similar lifecycle emissions reductions to the lowest-carbon technologies.Whether increasing blends of biofuels, a long-term change to synthetic fuels or those from wastes, there are also many different ways that those fuels can be produced (as we show more in our latest publication the "Transition, Transformation, and Innovation" report).
- **District heating with waste heat recovery** – major industries like refineries can channel their unused heat into local networks without the need for 'new' heat generation, offering a better way to use energy that is already being produced in industries and feed it into local communities. There is government support for this new way of thinking that links up different parts of the country better and refineries also have the advantage of being able to find a market for what is otherwise wasted heat.
- **Clean Hydrogen** – which government hopes will be able to displace Natural Gas in the gas grid, and where the downstream oil sector, as the biggest producer and user of hydrogen in the UK, might have a large role to play in development of the UK's future hydrogen market. Our sector is very experienced in handling hydrogen and can help share safety insights as well as potentially being the centre of hydrogen towns, which some have predicted.

"These are just a few examples of technologies in the downstream oil sector that could deliver heat in a decarbonised world. Delivering decarbonisation 'system-wide' also means that we can efficiently use resources. For example, the fuel producer cannot produce only sustainable aviation fuels (which all scenarios forecast strong demand for in 2050) so will need to find uses for the other low-carbon products that are also formed in that process. The decarbonisation of aviation can provide low carbon fuel solutions in heating and other areas and continue using existing infrastructure.

"Today's fuels benefit society by being so flexible; we can produce them, transport and store them in so many different ways which is why they have become the dominant fuel source in modern society. Now that government has set the carbon emissions target for 2050, the downstream sector can contribute in many ways to deliver future fuels that can meet those goals as well as helping the whole UK energy ecosystem decarbonise and grow too – we just need a policy framework that will help support this."

UKIFDA spring update – is there a future for liquid fuels?

WE ARE DELIGHTED TO TAKE THE OPPORTUNITY TO INTRODUCE HERE ENERGY INDUSTRY PROFESSIONAL **KEN CRONIN** WHO, AS THE NEW CHIEF EXECUTIVE OF UKIFDA, WILL BE SHARING HIS THOUGHTS WITH US IN A QUARTERLY COLUMN.

In this, his first Fuel Oil News 'Industry View', Ken considers the heating fuel issue

The biggest issue on the lips of most people working in energy is net zero. The way we create, deliver and use energy is going to change over the next 30 years.

Change is not that unusual for the energy sector – we have seen the switch from town gas to natural North Sea gas, the move from coin meters through to credit meters and now smart meters and the move from coal to renewable power. The one key thing though is that it takes time and good policy.

What has not changed is the expectation of our customers – they simply want energy delivered to their home reliably, cost effectively and without disruption.

They also want hot water and heat when they want it and they want to have the ability to choose how they get it. None of that seems unreasonable to me.

A need for fairness and transparency

There are also other considerations. We are living in a global pandemic, with most people working from home and, for now, times will be tough. We must not forget that one in nine households are in fuel poverty and cold homes are a major contributor to health issues.

I was pleased to see, in the recently published energy white paper, that the first government commitment centred around fairness and transparency. A one size fit all solution which is imposed on customers will not work because it will not be fair, it will also cause unintended consequences.

Finding the right solution

Both the Climate Change Committee (CCC) and the National Grid Future Energy Scenarios (FES) predict c900,000 of our customers will require some form of biofuel by 2050 to help meet the UK's net zero commitment.

This make sense as these homes tend to be rural and therefore difficult to reach for grid purposes and/or of an age and construction that make retrofitting for heat pump compliance difficult technically or economically.

The Government mantra has to be finding the right solution at the right cost with the least amount of disruption for each home and we should be under no illusion that some homes currently heated by kerosene will be able to be converted to other solutions.

But, for the majority of our customers, replacing kerosene with a low carbon liquid heating fuel will provide them and the government with a decarbonisation solution which is relatively painless. In addition, the use of new efficient condensing boilers, if encouraged, will also play an additional important role.

I was very impressed when I entered the industry to see that, through UKIFDA, OFTEC and the TSA, the industry had taken a stand and started the winter fuel trials using a low carbon liquid fuel which has been substantiated on a CO_2e per kWh basis as having a near 90% reduction compared to kerosene, is certified as being fully sustainable and has a very favourable cost per tonne of carbon saved compared to other technologies.

There is more technical work to do and there is an ambition to extend those trials. Cost to the consumer and the security of supply will need to be addressed and that can only come based on the industry engaging with government on good policy. There is however one big advantage – the immediate cost of change is much lower for the consumer than other solutions.

None of these issues are insurmountable and many are common with other heating technologies. The demand needs to be built and the incentives put in place.

I started this piece talking about customers and ultimately they are the ones that will decide. They will be the ones that indicate to government that they want their heat when they want it, with a lower impact on the environment at a cost that is fair and affordable, with limited disruption making decisions based on transparent information.

I was therefore delighted at the initial customer responses to the trials and the enthusiasm to take part, it shows that we are working on a solution that they want and the industry is trusted to provide. That provides a much stronger message to Government.

So does liquid fuel have a future? Yes, but is has to sit within the expectations of our customers and that is worth fighting for.

TOP 10 FUEL OIL DISTRIBUTORS IRELAND

Republic of Ireland

COMPANY	NUMBER OF TANKERS
East Cork Oil	179
Corrib Oil	110*
Jones Oil	45
Valero Marketing	39
EMO ROI	37
Campus Oil	27
M&J Kelleher	21
Glen Fuel Services	20
Sweeney Oil	19
Ultima Oil	18

Glen Fuels

Fuel Oil News respects the wishes of some fuel oil distributors who chose not to disclose figures.

*Based on 2020 figures

Northern Ireland

COMPANY	NUMBER OF TANKERS
LCC Oil4	94
Bangor Fuels	33
Carlisle Fuels	28
Patterson Oil	25
AH Fuel Oils	25*
Thompson Fuels	16
Morrow Fuels	16
WR Kennedy & Sons	13
P Ferguson & Sons	11

A Patterson Oil tanker in challenging conditions

Based on 2020 figures Nicholl Fuels also remains a key player in the Northern Ireland market.

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In Conversation with Cobo Tankers and Services

COBO TANKERS AND SERVICES WAS BORN OF A DETERMINATION TO ENSURE CONTINUITY OF SERVICE FOR UK CUSTOMERS AFTER COBO UK AND HDE WENT INTO ADMINISTRATION IN JULY 2018. TALLERES COBO OF SPAIN, WITH ITS MISSION TO BE A SERVICE PROVIDER OF HIGHEST QUALITY, SET UP INDEPENDENTLY IN THE UK AND THE NEW BUSINESS WAS BORN. AGAINST A BACKDROP OF THE CHALLENGING CLIMATE OF LAST YEAR, FUEL OIL NEWS CAUGHT UP WITH **JOBY CLARK**, SALES MANAGER, TO HEAR HOW COBO TANKERS AND SERVICES HAS DEVELOPED.

Telling us more about his experience in the industry, Joby said:

"I've worked within the industry for 20 plus years, previously working in hydraulics and compressors but always with an association with Cobo. I sold my first rigid way back in 2004, which was a Cobo tank assembled in the UK.

"I'd always wanted to get more involved in the supply of rigid tankers, which suits my background and knowledge of working with truck specifications, so I was pleased when Talleres Cobo brought me on board."

Progression and development

With the changing name and face of Cobo UK, there were mixed reactions from UK customers, as Joby explained:

"For some there has been uncertainty, but this has been the bigger finance houses. For the actual end users, it means that there is a direct link into the main factory which many see as a benefit. It also means that we have been able to progress and develop the rigid tanker business as there is only one profit centre.

"We no longer have our own facility for repairs in the UK but, with a network of businesses performing these on our behalf, it seems to suit many as they have a local company to work on them rather than having to bring them back to a centralised workshop."

Approaching customers, Brexit and COVID

Nowhere near as easy as 'ABC', last year brought challenges to all sectors of the industry, as Cobo Tankers and Services highlighted in our February issue of Fuel Oil News. However, the company overcame this and had a successful year:

"We brought on more new rigid tanker customers and 2020 was also a good year for semi-trailer builds as well. Our customers in the home-heating oil business have generally had a good year and this will probably be reflected in new truck orders for this year."

Commenting on the ways in which Cobo overcame the challenges presented by the pandemic, Joby explained:

"We have had to be a little different in our sales approach and have been sending out presentations on memory sticks along with sales literature. This has enabled us to keep up the growth in sales. It has been disappointing not to have been able to get to Ireland for the last year. The Irish market is a good market for us, especially as product is shipped directly from Spain, avoiding customs issues that some are facing."

Speaking about some areas of concern, Joby commented:

"It has not just been COVID – the uncertainty around Brexit has also been challenging and many businesses have held off capital investment, waiting to see the outcome and now that a deal has been done, we are hearing of discussions of investments taking place. As a foreign manufacturer, we are pleased to see the deal as there are no tariffs on some of our products. The paperwork for importing is a little more complicated, however, with agents, this is in hand and there will be no significant increases in prices for our customers due to this.

"We will need some more interaction with the truck manufacturers and utilising their duty deferment accounts for the truck chassis, but this is only as they will be doing for vehicles imported at present. There is still plenty to learn about the customs processes and we will strive to streamline this in order to facilitate a smooth movement through the border."

Alternative liquid fuels

The increasing volumes of alternative liquid fuels being transported in, and being used to fuel, tankers became apparent in the submissions for the recently announced Fuel Oil News' Tanker of the Year, with HVO a popular option. When asked whether Cobo has plans to look into alternative fuelling options for its tankers, Joby replied:

"We have just completed two remount LPG barrels with the plan to start manufacturing these in another facility we have. We have manufactured these in the past for the Moroccan and Cuban markets and can see the potential in the UK. By completing these in the separate facility, we are using different rollers and welding equipment to avoid contamination issues with the aluminium product line. We will also be in control of the full manufacturing process rather than using other manufacturers' barrels.

"As well as the LPG, Cobo has designed and manufactured its first LNG barrel. This is to be tested in its own fleet, servicing some of the group's petrol stations with LNG. This will give us the capability to fully test the unit before taking it to market.

"The other trend we are seeing is the move to HVO, with many of our customers branding new builds as their advertisement. Whilst this is a great product to offer as a green alternative, I do not believe that it is the full solution to becoming carbon neutral. With many corporations looking to improve and communicate their green credentials, I do see a rise in the volumes and number of tankers advertising this over the next few years.

"I think we will also see the rise of power-to-gas energy, and although this is expensive, it does give the option of saving excess energy, for example, excess solar energy in the summer months can be stored and used in the winter months. I don't believe there is one magic fix to decarbonisation, but that we will need to use a number of technologies to achieve this."

Cobo's current projects

Speaking about projects currently in the pipeline, Joby told us:

"We have been developing our relationships with a good number of customers and are building up a good customer base within the rigid tanker market. We have received our 3rd and 4th orders from some of these. I would clarify though that, with my remit for the business to focus on building up our market share of the rigid tanker business, we are still very much active in the semi-trailer market and although we envisage this being a little quieter this year we have some good orders going through."

What's next?

Looking ahead, Joby conveyed positivity for 2021, believing it will be a great year for all involved in the industry and also expressed optimism for further success and expansion for Cobo Tankers and Services:

"The LPG market is something we would like to get involved in and in the next 12-18 months we will be showing our first Cobo produced barrel in the UK. The company has the engineering capability to develop these and likes to do this in a controlled manner.

"We also hope with the movement of the UKIFDA Expo we will be able to meet our colleagues and friends in person in July and that, later on in the year, we will be able to restart visits to the factory to show off new product lines and show customers, who are operating tankers built by us, where they are built."

We, at Fuel Oil News, remain equally hopeful for the Expo and look forward to catching up with Joby and Cobo again there, as well as many more of you.

In the meantime, do keep in touch with your updates – stephanie@fueloilnews.co.uk.

PORTLAND MARKET REPORT

FEBRUARY IN VIEW

THE INCREASING ECONOMIC PRESSURE ON REFINERIES

Ask most people about the oil industry and they will talk about the black stuff that comes out of the ground. When analysts are asked to talk about pricing, they invariably talk about the crude price. But what about the refining sector and refined petroleum prices? As everyone should know, crude is actually a useless product in its raw state because it cannot be utilised for anything. Its value is only realised when it is turned into a refined product such as petroleum, diesel, bitumen and so on. Furthermore, the fascination of refined oil is that every single product (propane, gasoline, jet fuel, bitumen, lubricants, etc., etc., etc.… etc.!) has its own traded market which, quite often, can be out of kilter with the underlying crude price.

"WHAT IS THE POINT OF CHEAP CRUDE IF THE PRODUCTS YOU TURN IT INTO HAVE NEXT TO NO VALUE?"

Last month we detailed the recent problems that have beset crude producers, and the upstream / exploration industry did indeed experience an annus horribilis in 2020. In many ways however, refinery operators had an even worse time. Superficially, one would think that with plummeting crude costs, refiners would have been pleased (because input costs dramatically fell). Then again, what is the point of buying cheap crude if the products you turn it into have zero demand and next to no value? "Gasoline anyone?" "No thanks, nobody was driving much in 2020" (demand in Q2 2020 actually dropped by 80%!). "How about some nice jet fuel sir?" "Urm…most planes were grounded in 2020 and, even now, whole parts of the world remain virtually flight-free". "OK then, what about some premium base oils?" "Well, as you know Mr Refiner, base oils keep the machines of heavy manufacturing going and to be frank, we still aren't making very much at the moment." And so on – you get the picture.

To try and simplify the economics of refining, analysts consider the "crack spread". This is the difference between the source costs (ie, the price of crude oil) and the "offload" price (ie, the sale price for refined products). To get to one overall sale price, all the values of the different refined grades are pooled to produce one average "basket" price. This difference between the buying price and the sale price is (obviously) the refinery's gross margin. In 2018 and 2019, the average crack spread (gross margin) was around $12 per barrel (ie, crude might be bought at $50 per barrel and refined products were on average sold at $62 per barrel). If you consider that the cost of manufacturing sits around the $5 per barrel mark (obviously this varies around the world according to wage levels, energy costs etc.), this meant that, in the 2 years before 2020, refineries were making very healthy profits indeed. Fast forward to 2020 and the average crack spread sat at $4 / barrel, meaning that for every barrel produced, some refineries were losing around $1 / barrel (after manufacturing costs). Want that in real values? The average daily production of a European Refinery is about 200,000 barrels per day, so that's a loss of circa $200,000 per day. And do remember that refineries never (ever) stop – so over 365 days, you end up with a total loss for one refinery in excess of $70m. Yup…$70m…you read that correctly!

Good times, bad times, prices up, prices down. We know the drill by now. Most refineries will have saved enough in the good times of 2018 – 19 to see them through this current tough period of trading. However, even if we account for deep pockets (and significantly increased maintenance levels during the "dead" periods of 2020), refineries are still facing a very challenging underlying market structure. Historically, crude prices have always recovered much more rapidly than refined prices, as traders react quickly to shifting market dynamics in a way that refiners cannot match (relying as they do, on the vagaries of consumer demand). In 2021 so far, we have seen this trend very clearly. As we predicted last month, crude prices have rallied strongly because of supply constraints, meaning that the base (sourcing) costs of refining are going up. On the other side of this equation however, product demand remains extremely sluggish, meaning that the crack spread is stubbornly sticking at the $5 per barrel level.

Should this situation continue throughout the year, it will pose big risks to a refining sector still licking its wounds from the commercial brutality of 2020. With the ongoing impacts of covid still completely unknown, it does not feel a bold claim at all to say that this year could easily be marked by several full or partial refinery closures. Newly built "super-refineries" in the Middle East and Asia will of course be immune to this, but the ageing infrastructure of European and US refineries faces a very different outlook. Already battered by huge environmental and consumer pressures, survival may only be possible by ruthless process efficiency and / or a reinvention along the lines of biofuels production, renewable energy or the manufacture of hydrogen.

"THIS YEAR COULD EASILY BE MARKED BY SEVERAL FULL OR PARTIAL REFINERY CLOSURES."

These are remarkable times both in terms of short-term economic volatility and the longer-term energy transition to a low carbon world. The refining sector finds itself at the exposed face of both these grand global trends and we predict that only the fittest and most innovative will have a comfortable 2021.

For more pricing information, see page 26

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Renewable fuels in the future energy mix

A CLOSER LOOK AT LIQUID AND TRANSPORT RENEWABLE FUELS AND WHERE THEY MAY PROVE THEIR VALUE IN THE DECARBONISATION CHALLENGE

Definitions/Scope:

A simple definition of renewable fuels can be framed as: 'Fuels which are made from sources that are constantly regenerating and therefore will not be depleted within the foreseeable future, the most common being renewable diesel, biogas and ethanol. Renewable fuels are part of a closed cycle and do not create a net surplus of carbon dioxide greenhouse gases when used'.

In this exercise, we will be limiting the scope to (a) liquid fuels and (b) those used in the transport sector which, for the UK, is the largest single source of GHG emissions (34% in 2019) and the most challenging to find near-term substitute energy sources for. The focus will therefore be on:

- Ethanol
- Renewable diesel
- Biojet

We will also take a brief look at the closely-related topic of the development of, and issues with, e-fuels.

Ethanol:

Brazil pioneered the blending of ethanol into petrol back in the 1930s, in a 5% ratio, availing of its extensive sugar cane crop as the production feedstock source. The real impetus, prompted by soaring oil prices, came in the 1970s at a time when the country imported circa 80% of its requirements. In a programme called Proalcool, ethanol blending targets were set, initially at 4.5% in 1977, rising to 15% in 1980 and 27.5% in 2018. Mandatory min/max levels of 20%/25% were set in 2003, the former being temporarily cut to 18% in 2011. A mandatory 27% blend level was introduced in 2015 and is still in place. The country produced 33 bln litres in 2019, representing 30% of the global total (of 110 bln litres) which was second only to the USA (60 bln litres and 54% of the world's total). In comparison, total EU production amounted to 5.5 bln litres (5% of the total).

In the **USA**, the blending of ethanol (produced from corn) into petrol was instigated by the introduction of reformulated gasoline (RFG), blended to burn more cleanly than conventional gasoline and to reduce smog-forming and toxic pollutants in the air, particularly during the summer months. The RFG programme was mandated by Congress in the 1990 Clean Air Act amendments. The first phase of the RFG programme began in 1995 and the second (current) phase began in 2000. RFG is required in cities with high smog levels and is optional elsewhere and is currently used in 17 states and the District of Columbia. About 30% of petrol sold in the U.S. is reformulated. RFG is required to have an oxygen content of just over 2 percent to help it burn cleaner and Ethanol is the oxygenate most widely used in RFG, generally blended at the 10% volume level to take maximum advantage of available tax credits.

The requirement to use oxygen in RFG was replaced by the Renewable Fuels Standard (RFS) in the Energy Policy Act of 2005. The RFS requires an increasing amount of renewable transportation fuel use, beginning with 15.0 billion litres per year usage requirement in 2006. The current (to end 2022) ethanol mandate is set at 57 billion litres (equivalent to circa 12% of projected 2020 US petrol demand and 10% of the actual 2019 out-turn).

In the UK, legislation was enacted in the form of the Renewable Transport Fuel Obligation (RTFO) Order in 2007, providing the mechanism by which mandated targets for the biofuel content of transport fuels was established. The requirement to comply applied to all those supplying over 450,000 litres per year of these fuels with the current mandate being at 9.75%, rising to 12.4% in 2032. Ethanol volumes have remained relatively stable, generally in the 700-800million litres / year range for the past 10 or so years, and the two main production plants, each with an annual capacity of around 400 million litres / year, were both temporarily mothballed, pending resolution of the so-called 'blend wall' issue which effectively limited the blend ratio in petrol to 5%. This has now been addressed and the raised level of 10% will be introduced this year and bring the country in line with the wider EU position.

Renewable Diesel:

This product, also known as hydrotreated vegetable oil (HVO) or advanced biofuel or second generation biofuel, is made primarily from waste or residues e.g. waste vegetable

oils and animal fats, greases etc. which are then hydrotreated at a high temperature. The outcome is a colourless and odourless fuel of an even quality that has an identical chemical composition to fossil diesel.

This differs from FAME-based biodiesel, which is produced by esterifying vegetable oils or fats.

As renewable diesel is processed in a similar way to petroleum diesel, it is chemically the same, meaning:

1. Because it's hydrogenated, renewable diesel doesn't contain oxygen and, as a result, does not present the same issues that FAME biodiesel does with regard to freezing temperatures (CFPP @ -40 °C) and storage stability (due to oxidation)
2. The hydrogenation process results in renewable diesel burning cleaner than biodiesel (Cetane No. @70+ cf. 51-65).
3. Because it has the same chemical structure as petroleum diesel, renewable diesel can be used in engines that are designed to run on conventional diesel fuel, with no blending required, and is, therefore, an ideal drop-in fuel.

Neste (Finland) is the world's largest producer of renewable diesel (HVO), from waste and residues – around 3 million mt / year from four plants – two in Finland (one located at its Poorvo oil refinery), one in Rotterdam and one in Singapore. The production process also makes available quantities of biojet and renewable petrol.

Preem (Sweden) is also a major producer, with its 'Evolution' product, based on tall oil as a feedstock.

Bio-refineries, converted from former oil refineries, in **France** and **Italy** are also large HVO producers.

In **France, Total** has converted its former La Mede (in Provence) oil refinery in to a bio-refinery with a capacity (commenced production last year) to produce 500,000 tonnes / year of HVO, using as feedstocks 60-70% sustainable vegetable oils and 30-40% treated waste (UCO, residues, etc.). The company plans to convert its Grandpuits (near Paris) oil refinery to a bio-refinery, producing 400,000 mt / year of renewable fuels, including 170,000 mt / year of HVO, commencing in 2024.

In **Italy, ENI** has converted two former oil refineries, at Port Maghera (Venice) and Gela (Sicily) into bio-refineries. The former started production, of 350,000 tonnes / year of HVO, in 2014, which will be expanded to 600,000 tonnes this year. The Gela plant started production in 2019 and can process up to 720,000 tonnes annually of used vegetable oil,

frying oil, fats, algae and waste by-products.

There are a number of planned conversions of oil refineries in to bio-refineries in the USA, the largest of which is the **Phillips 66** Rodeo, California plant, which, when commissioned in 2024, will be the world's largest bio-refinery, with an annual capacity of 2 million mt, of which 70% will comprise renewable diesel, 20% renewable jet fuel and 10% renewable petrol.

Co-processing is another potential supply source; the **Phillips 66** Humber refinery has been producing circa 50,000 mt / year since 2018, using waste oil and a new UCO module is being added to the plant enabling expansion to 150,000 mt / year this year, with further expansion plans to 250,000 mt / year in 2024.

Biojet:

The Scandinavian refiners, **Neste** and **Preem**, are also in the vanguard for the production and sale of biojet or sustainable aviation fuel (SAF).

Neste currently produces 100,000 mt / year of renewable jet fuel, which will be expanded to 1 million mt in 2022 and 1.5 million mt in 2023. The fuel is already sold through partnership with Air BP to deliver SAF to customers in Sweden and France. In addition, Lufthansa and KLM use the renewable product, blended 50/50 with Jet A-1, continuously on flights departing from Frankfurt and Schiphol Airport. The company recently announced entering into a strategic partnership with Avfuel Corporation to create an efficient, continuous supply of SAF in the United States.

Preem and SAS have signed a letter of intent to produce renewable aviation fuel. SAS is seeking to replace current Jet A-1 volumes for domestic routes with biojet by 2030.

The production unit at the company's Gothenburg oil refinery is expected to start up by end 2022, with an annual biojet capacity of circa 250,000 mt.

Perhaps the biggest impetus to more widespread adoption of biojet will result from countries introducing mandates. For example, **Spain** has already done so – at 2% in 2025. The UK intends to include an, as yet unspecified, requirement. A major challenge, however, will be around the feasibility of 'scaling up' production of the product. The global Jet A-1 market requires circa 350 million mt / year of fuel (2019 out-turn – with 2020 expected to be 25-30% lower).

E-Fuels:

E-fuels or synthetic fuels are manufactured from renewable energy. Hydrogen is produced using renewable electricity and then combined with carbon dioxide, e.g. from industrial exhaust gases or from the air, to form a hydrocarbon with zero net greenhouse gas emissions. The resultant products are not, technically, different from their fossil fuel counterparts, so can be used as 'drop-in' fuels.

Repsol is planning to develop one of the world's largest synthetic fuel plants in **Spain** using, as feedstocks, CO2 from its Bilbao refinery and green hydrogen from a new plant powered entirely by renewables, to produce a range of e-fuels that can be used in cars, trucks, aviation, etc. The facility is expected to be fully operational sometime in 2024.

The major obstacles to widespread adoption are production costs and availability of sufficient renewable energy on a cost-effective basis. It is estimated that unit production costs need to be reduced by circa 75-80% to compete with fossil fuels.

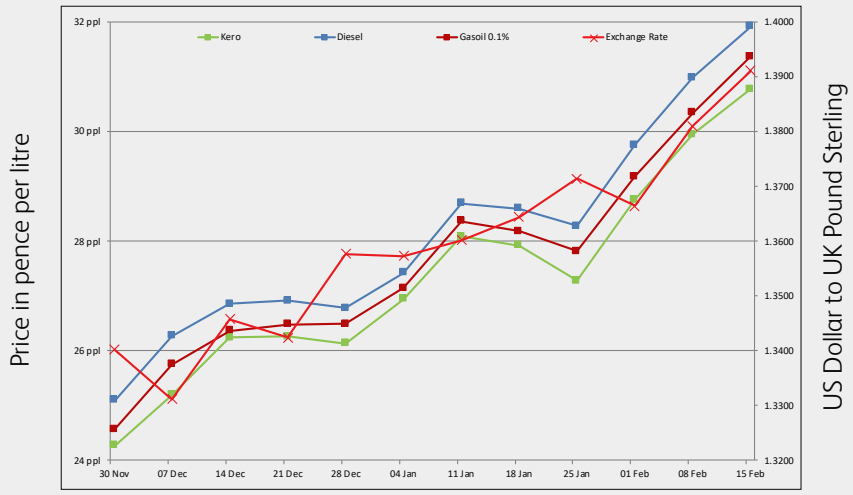
The future 'trajectory' of the adoption of renewable liquid fuels in the transport sector is inextricably linked to the pace of the transition away from the internal combustion engine in surface transport and from jet propulsion in aviation (the latter being a much longer transition). This, in turn, will determine the measure of the incentive and attendant urgency to pursue the required 'scaling up' of bio-refining and co-processing. One way or another, these fuels constitute one of numerous components of the suite of solutions that must be pursued to address the wider de-carbonisation challenge.

As a well-known slogan reminds us, 'every little helps'!

Wholesale Price Movements: 19th January 2021 – 18th February 2021

	Kerosene	Diesel	Gasoil 0.1%
Average price	28.86	29.82	29.29
Average daily change	0.30	0.29	0.29
Current duty	0.00	57.95	11.14
Total	28.86	87.77	40.43

All prices in pence per litre



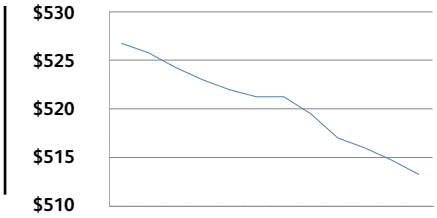
Portland

Kerosene	
Highest price: 30.93 ppl, Thu 18 Feb 21	Biggest up day: +1.04 ppl, Tue 02 Feb 21
Lowest price: 27.11 ppl, Tue 26 Jan 21	Biggest down day: -0.59 ppl, Thu 21 Jan 21

Diesel	
Highest price: 32.24 ppl, Thu 18 Feb 21	Biggest up day: +1.16 ppl, Tue 02 Feb 21
Lowest price: 28.16 ppl, Tue 26 Jan 21	Biggest down day: -0.41 ppl, Thu 21 Jan 21

Gasoil 0.1%	
Highest price: 31.71 ppl, Thu 18 Feb 21	Biggest up day: +1.08 ppl, Tue 02 Feb 21
Lowest price: 27.70 ppl, Fri 29 Jan 21	Biggest down day: -0.47 ppl, Thu 21 Jan 21

Gasoil forward price in US$ per tonne



March 2021 – February 2022

The Fuel Oil News Price Totem

	Trade average buying prices			Average selling prices		
	Kerosene	Gasoil	ULSD	Kerosene	Gasoil	ULSD
Scotland	31.74	43.96	91.80	36.18	46.97	95.39
North East	30.69	42.59	90.88	36.79	45.37	93.52
North West	32.26	45.19	93.27	36.56	47.83	95.64
Midlands	30.76	43.12	91.34	34.89	45.87	94.21
South East	30.86	43.08	91.32	39.38	47.87	93.81
South West	31.21	42.92	91.16	36.73	45.65	93.43
Northern Ireland	31.32	44.29	n/a	35.41	47.68	n/a
Republic of Ireland	45.08	49.72	92.74	49.28	52.66	95.68
Portland	29.07	40.64	88.03			

The price totem figures are indicative figures compiled from the Portland base rate using calculated regional variances.
Buying prices are ex-rack. Selling prices are for 1000 litres of kero, 2500 litres of gas oil and 5000 litres of ULSD (Derv in ROI). Prices in ROI are in €.

Wholesale prices are supplied by Portland Analytics Ltd, dedicated providers of fuel price information from refinery to pump.
For more information and access to prices, visit www.portlandpricing.co.uk

WELCOME TO MARCH'S EDITION OF OUR SPECIAL MONTHLY FEATURE WHICH GIVES YOU THE OPPORTUNITY TO 'MEET' AN INDUSTRY FIGURE AND, HOPEFULLY, TO DISCOVER ANOTHER SIDE TO THEM BEYOND THE WELL-KNOWN FACTS.

WITH APRIL MARKING THE FIRST ANNIVERSARY OF HER RETIREMENT, WE CATCH UP WITH **JANE RAPHAEL**, WELL KNOWN TO YOU ALL AS THE FORMER EDITOR OF FUEL OIL NEWS, AND FIND OUT A LITTLE MORE ABOUT THE PERSON RESPONSIBLE FOR BRINGING YOU ALL THE NEWS FROM THE INDUSTRY FOR OVER 21 YEARS.

Jane confesses food and drink have always played a big part and finds it a shame we can't share it with more people. Given the size of that cake we can see why!

"BELIEVE IN YOURSELF"

JANE RAPHAEL

Give your career history in 25 words or less
Marketing/Communications – industrial safety equipment followed by fashion and household goods. Did a PGCE and taught for 7 years before joining Fuel Oil News in May 1999.

Describe yourself in 3 words.
Focused, Measured, Gregarious

What were your childhood / early ambitions?
Initially teaching then retail, chose marketing

Describe your dream job.
Any role that would enable me to travel extensively, meet people, write, photograph and report back.

What's the best business advice you've ever received?
Believe in yourself

Share your top tips for business success.
Research, listen, learn, look after, and know, your staff and be open to new ideas.

What's your most recent business achievement of note?
Retiring last April after 21 years as the well-respected editor of Fuel Oil News and Oil Installer.

Tell us your greatest fear.
A debilitating illness.

Which is most important – ambition or talent?
Ambition

What was the best thing about your job?
I always very much enjoyed meeting all those working in the fuel oil distribution industry. Travelling across the UK and Ireland to learn more about the industry and telling its stories was a pleasure.

Which is the quality that you most admire?
Honesty

What are you most likely to say?
Can I come and talk to you?

What are you least likely to say?
Anything negative!

Oil was never going to be a distant memory for Jane who now walks by a major oil pipeline on many days.

Walking Nutmeg and Treacle now plays a big part in everyday life

What's your pet hate or biggest irritant?
People who disrespect the countryside with litter, fly tipping and poo bags!

If you were elected to government what would be the first law you'd press for?
Stopping HS2 and its total disregard for the countryside

Describe your perfect day.
Exploring any new place here in the UK or further afield. Add warm sunshine, good company and excellent food and wine – perfect.

Do you have a favourite sports team?
Absolutely not! With my father being a medal winning sprinter and my mother a gifted tennis player, having a not so sporty daughter came as a shock!

What's the biggest challenge of our time?
Addressing climate change

Cheese or chocolate?
Cheese

Share your greatest personal achievement.
In May 1987 George Davies, then head of the Next fashion chain, offered me the job of launching the brand-new Next Directory.

If your 20-year-old self saw you now what would they think?
Like most people you've had your highs and lows over the years but you've enjoyed the ride with no regrets.

What is number 1 on your bucket list?
To travel round India.

What 3 things would you take to a desert island?
Suntan lotion, my mobile phone and my husband Rob who is far more practical than me.

Tell us something about you that people would be very surprised by.
Back in 1974 I accepted a dare at the height of the 'streak' phase. Suffice to say I have only run round one university campus in that fashion.

Who would you most like to ask these questions of?
My husband's former shipmate on HMS Jupiter, HRH, the Prince of Wales.

Products & Services Directory