Spring 2024

ISSUE No.102

# Insite

Insite is the official magazine of PEIMF+

PEIMF+
The future of fuel and energy services

## In this issue :


- Storage tanks
- Tank services
- Pipework
- PEIMF+ annual event


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# We're in safe hands

## New 'Chair' for PEIMF+

**So we have a new 'Chair'. At the recent PEIMF+ AGM, Siobhan Keogh, from Pumpwatch in Ireland, was elected to the position, after serving two years as Kirk's Deputy.**

After spending ten years on the committee, Siobhan certainly understands the organisation and how we work. I know she is full of enthusiasm and ideas, and I look forward to developing PEIMF+ with her.

Talking of PEIMF+, I'm sometimes asked "What's this plus all about?" For those of you who don't know, we created the new branding to incorporate new fuelling technologies, in addition to our core membership among traditional petroleum suppliers, installers & maintenance specialists. Our regular supplement 'The Green Pages' is a great demonstration of how we achieve this.

In this issue, the main features include storage tanks and tank services and pipework, as our expert members keep us up to speed with developments.

There are also excellent articles covering mental health first aid, an interesting take on 'the green dream,' water ingress and decarbonising heavy transport.

All in all, a very busy issue with loads to read through.

Enjoy.

David Honeyman, Editor

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**All enquiries for membership, editorial and advertising should be made to:**

**David Honeyman • PEIMF+ • PO Box 152**
**Gravesend • Kent • DA12 1ZZ**

**Telephone: 01474 321999**
**Email: info@peimf.com**

**www.peimf.uk**

Front cover illustration
Brian Sage

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**New Fuels Guide**

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PEIMF+

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# Nothing less than impressive all day

## A site visit to Millbrook gives our members the perfect start to the annual PEIMF+ event

**Millbrook Proving Ground in Bedford (part of UTAC) is a fantastically interesting and extremely vital facility, utilised by a complete range of vehicle manufacturers; from F1 racecars to hush hush MoD beasts. They can actually help test pretty much anything – we even saw some fencing getting acclimatised to the elements!**

**UTAC's five proving (testing) grounds worldwide prepare vehicles for the heat in Morocco to -30 degrees in Finland.**

### Meeting up

We met up in an interesting, quirky bar called 'Caffeine & Machine' (see below). The PEIMF+'s own Adam Ruck of Project-A races this beauty and treated the owners of the bar to a lend at their other C&M venue recently. I believe he's promised to take us out in it when he joins the committee ✊.

### The tour

I began scribbling notes on my pad, accurately described by one of our favourite members, Alan Rugg, as seemingly purchased from a stationery shop in the 80s (Rita's maybe?).

It was a great omen that he got extremely excited when he caught sight of the HVS Hydrogen powered truck within 30 seconds of arriving; so we knew a good day lay ahead.

The atmosphere built as our party strolled past the unbranded filling station (ideally utilised for TV and films, as it can be closed down and redressed however needed).

### UTAC

So we kicked off with a company presentation where our host for the day, Peter Stoker, outlined the range of topics that the UTAC group are involved in. Including: conventional and future powertrains, safety, comfort and quality, reliability, durability and connected mobility. This isn't the place for any crash test dummy looking for a long life!

### Engine and battery testing

We were then treated to a behind the scenes look at the engine testing laboratory. As OEMs continually strive for perfection in all areas of their equipment, including fuel consumption and noise reduction, this facility is a priceless commodity.

Attention to detail and data handling is second to none – which is reassuring for all us road users.

*Adam's pride and love*

*Siobhan preparing for business*

### Out on track

Probably, like me, you think the test track is like something out of top gear – crash helmets on and sink the pedal.

Well you'd be wrong.

Yes, the exciting mile straight has hosted the Red Bull F1 team recently – so no slouching. We've also come across a £3 million sports car going through its paces and a shiny red Ferrari, but they test MoD vehicles, bluelights, double deckers and even the odd bicycle; so they're nothing if not flexible.

Millbrook covers over 700 acres (on which they have planted over 300,000 trees). The circuit is two miles round with 5 lanes. The overall road plan incorporates both high and low speed hill routes, over 30-odd miles.

### Not good for shocks

The ride round takes in every element you'll come across on the roads today, including: different shapes and sizes of pothole, cobbles, gravel, hills, valleys, water, kerbs, junctions, twists, turns, forwards, reverse and even the odd pheasant crossing (rather than a pelican).

*Rapt audience!*

*Just like that!*

There's also a skidpan and seatbelts were definitely a requirement throughout – although our drivers, Tony and Nick, were extremely proficient and knowledgeable.

Temperatures, corrosion, parking – nothing's left to chance.

### Loads more

They have hydrogen refuelling, as well as the fastest EV charger in the country, plus plenty more 'unseen' elements to this fascinating trip. An amazing place and thoroughly enjoyed by all.

### FREE members' dinner

The day was topped-off as our now, well-established, FREE members' dinner was again held at Mitchell Hall hotel, Cranfield. Great fun, super food, and we saw the customary jolly scenes plus, of course, 'important networking' in the bar.

### 2024 AGM

We're delighted to announce the election of Siobhan Keogh to the position of 'Chair'. She steps up from her role as Deputy Chair for the last two years, after serving on the committee for some ten years.

Siobhan runs Pumpwatch in Ireland, and we'll be introducing her in greater detail in the next edition of INSITE.

Kirk Main stepped down from the role after the fixed 2-year tenure, to rejoin the committee. A big thanks to Kirk for his work, and look forward to continuing working with him. You can see more of him 'In The Frame' on page 18.

Mark McCleary, Managing Director of Berrys, was elected to join the committee, and I'm sure is looking forward to getting stuck in.

*Graeme opens our eyes to EV H&S*

**Three excellent presentations completed the morning:**

- Steve Rodell, MD of property experts Christie and co, gave an excellent round up of retail developments
- Graeme Warnell from EV-Exbox opened our eyes on H&S issues on EV charging sites
- And finally, Alex Boudry from PFS Fueltec reviewed tank gauging options

### Frank Hare award

We donate £250 each year in memory of our old friend, former INSITE editor, Frank Hare. We draw a name from everyone in attendance, and the recipient chooses which charity we donate the money to.

Steve Harrington from Kidderminster Petroleum Services was selected and has chosen Forest Dog Rescue as our charity this year. I'm sure we can say 'woof!' for Steve on their behalf.

***Here's to next year.***

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# The ‘green dream’ and carbon shift

## Food for thought!

**The last 20 years in our industry have been all about decarbonisation, but are the drivers of this business opportunities or are they saving the planet?**

So the ‘Must go diesel’ revolution for the first 10 years of the millennium, aimed at car drivers, did not take account of the massive increase in particulates driving down air quality in our towns and cities; leading to many environmental health issues. Now government policy points us, ultimately, to electrification of cars and small vans.

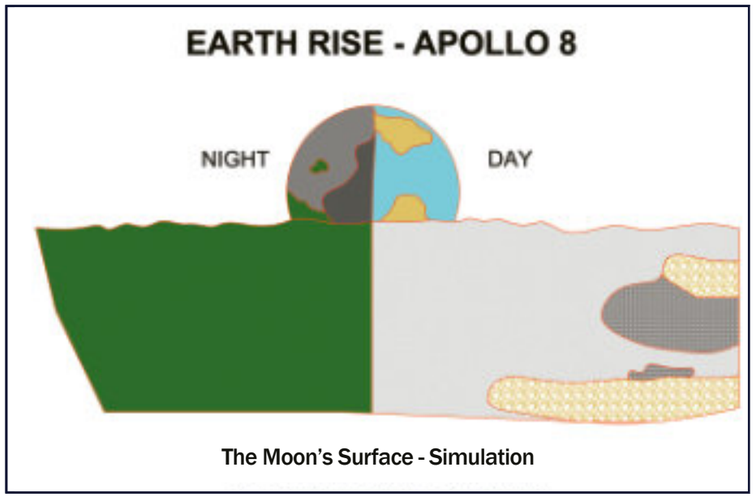
### The green machine?

So we are all very good in the western sphere of ‘greendom‘ with our clean air zones, electric buses and electric passenger vehicles, but is the planet in a better state or are we just deluded and brainwashed by government policy? In the same way they convinced us, that opting for diesel vehicles was the healthier way forward (as opposed to petrol-fuelled vehicles) in the early 2000’s.

### Carbon shift

There may be less carbon emitted in our cities, but somewhere, in a remote, poorer part of the UK, there is still a mucky power station generating the electrical power to drive our clean green cars; pumping tonnes of carbon into our atmosphere. These vehicles have motors, lithium ion batteries, circuit boards and complete vehicles, all made in the third world and China.

They still use coal-fired power stations to provide the power for their industries, emitting tonnes of carbon. All driven by the greed of developed countries to have cheap consumer goods for greener economies.



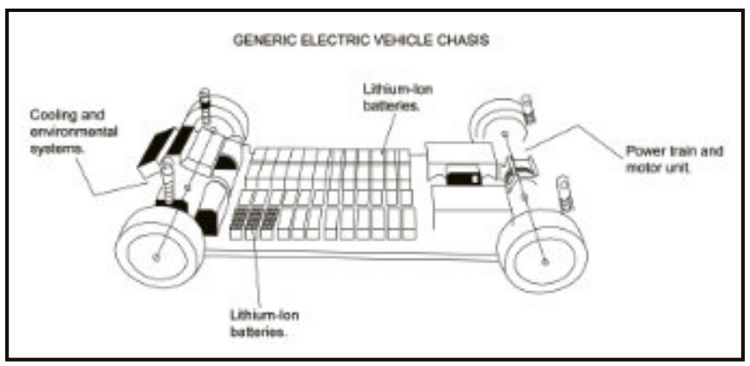
The Moon’s Surface - Simulation

### The carbon silk road!

Many of the cheaper / more affordable electric cars are made in China, which give you a very reliable and well-built vehicle with many options. In a fair world, the carbon tax should be accumulated and added to the price of the vehicle, compared to more locally assembled cars.

When you start winding back the carbon generated on the car’s journey to the purchaser, you should consider road transport, shipping, packaging, handling, assembly, production of materials, motor production, battery charging, battery production, testing and development.

The mining for lithium dissolves landscapes. Mining for rare earth metals such as cobalt, often includes child labour. In reality, not such a clean green option. Instead of managing our own carbon in real time, we have cleverly exported it to poorer areas of our unique planet, and sprinkled carbon across the world like a dirty paper chase; leaving a trail of devastation for future generations to manage.




### Electric powertrains vs combustion

Are motors and batteries within vehicles here to stay? I think so. You hear the term “nothing is new, we just recycle ideas and apply them in a different way”. In 1898 the world’s first land speed record car was surprisingly powered by batteries and electric motors and, after the addition of aerodynamics, achieved a top speed of 57 mph.

Batteries and motors have been around for a long time, but until recently the energy densities, motor efficiencies and battery mass has not been efficient enough for practical long term application.

I don’t think vehicle manufacturers are likely to change their powertrains moving forward. The age of the combustion engine is not over, and is about to enter a new phase of development using a mix of cleaner greener fuels such as renewables and Hydrogen.

So the choice is electrical powertrain, clean combustion engines and hybrid. Like many drivers I prefer the Hybrid option; using a highly developed clean petrol engine burning E10 combined with any electrical power generated during my journey. Don’t get me wrong, I think electric is great for city slickers, but hybrid is definitely the way to go for regular long-distance travellers.

There is never realistically going to be enough infrastructure to power vehicles if everyone suddenly went electric, and the grid cannot support the demands.

*Continued on p10*



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*Continued from p8*

When the power grid was designed, the world was not equipped with so many TV's, home computers, mobile phones, electric heaters and air con, freezers, electric cars etc.

There has to be a diverse mix of vehicle powertrains to suit work-life balances, and people's movement needs; which will balance against economical / available energy production.

## Efficiency

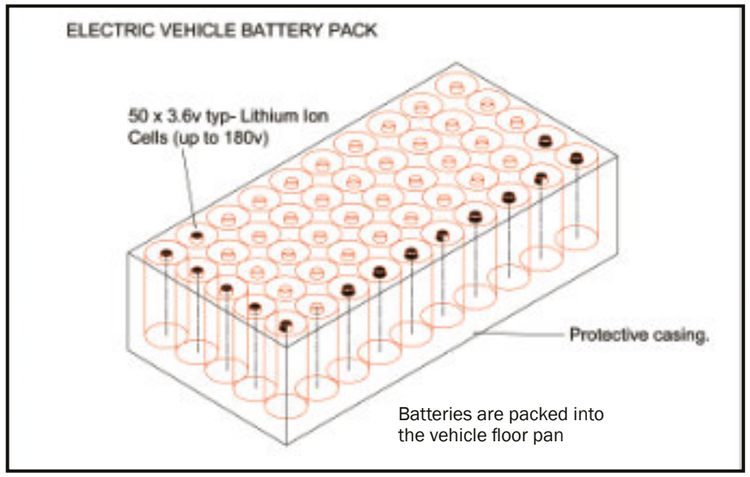
So Formula One have the most lean burning fuel efficient combustion engines in the world, coupled with electrical hybrid power generated by the racing car. This technology will tier down to hybrid cars to make them even better.

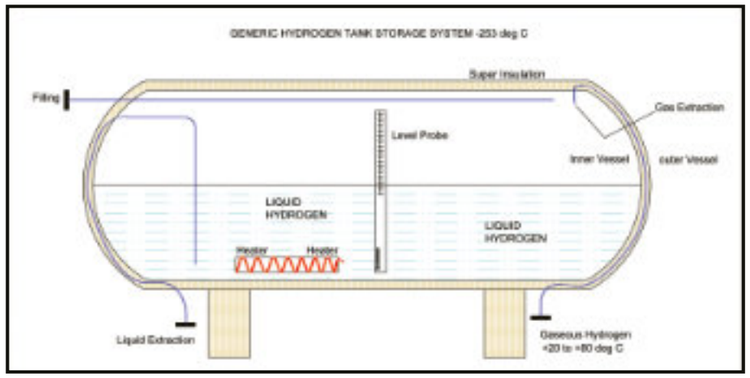
We have a mix of alternative fuels, including the hydrogen revolution, that will keep combustion engines in development. Ships now use hybrid green hydrogen engines to reduce their carbon footprint (the engines will run on green diesels in port for manoeuvring and use the green hydrogen during sailing).

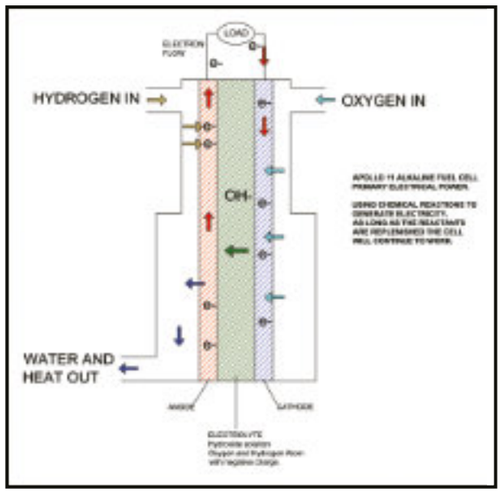
With hybrid vehicles, the combustion engine will eventually be used regularly with liquid green hydrogen. But also having an APOLLO moment we can also have pure electric; which includes hydrogen fuel cell technology which has super reliability (an example of how hydrogen can serve both combustion and pure electric platforms).

## Liquid fuels

So for the people out there at the rock face of liquid fuels, the bottom line is that liquids are a highly efficient way to store and move energy. The revenue by taxation to government is irresistible and reliable so the politicians, hopefully moving forward, will take more of a helicopter view of how vehicle technologies shift. Having a mix in the market allows for gradual change, research and development and applies a balancing coefficient.




## Localised assembly model

The question is: where will our vehicles be made in the future?

Well it is certainly cheaper, and a reduction to the carbon footprint, if we are assembling vehicles where they are sold (like flat pack furniture).

Consumers like customisation and choice, and they also want instant cars... they don't want to wait... the frustrations of lockdown are still remembered!

Having the 'pick and mix' option is a great selling tool, and it is also easier to store vehicles broken down in a high density format, rather than keeping boxes of fresh air in multi-storey car parks.

Components can still be manufactured worldwide, but the transport and shipping becomes more cost effective as ships are moving greater pay load densities. They and can also be made smaller and more efficient, combining green hydrogen, solar and wind power leaving a much smaller carbon trail.

I will sign off with Earth Rise ... look it up ... when Frank Borman, Jim Lovell and Bill Anders came around the moon in Apollo 8 (1968) they never expected to see that beautiful blue planet - the only colour on their journey so far.

We are the caretakers and we are all stake holders in Earth's future, even by making small differences (Apollo 11 - "moon landing" electrical energy in 1969 came from fuel cells!)

Simon Procter B Eng (Hons), C Eng, MIET, MIMechE, MEI

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# What sort of person makes a good mental health first aider?

**Mental health first aiders are in the front line of the struggle to reduce suicide and undetected mental health problems in the workforce. In theory, most human beings ought to be able to do this, because, essentially, you're offering your humanity, and most of us have some of that.**

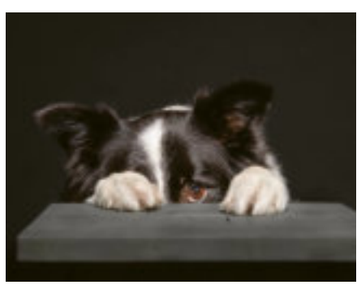
*Becoming a Mental Health First Aider isn't something to do lightly. But if it's for you, it can be incredibly rewarding*

Clearly, however, some people are more suited to it than others. So, if you're considering establishing a Mental health first aid team (and every organisation of any size should have one), or if you're thinking about becoming a Mental health first aider yourself, this would be my take.

1. You must have empathy, the ability to connect with people naturally, on an intuitive level, to understand deep emotions and feel comfortable discussing mental health concerns.

2. You must be a good listener, with the ability to get people to talk because you're listening, when others don't. You'll need to focus, and concentrate on what the client is saying; not just passive silence, but hard listening, which enhances understanding and allows you to contribute meaningfully to a conversation.

3. You'll need cultural sensitivity. A workforce of any size will have people from multiple cultures. If you're working through Cope, you're unlikely to have any idea of a contact's cultural, religious, racial or national background, and it's important that none of these things adversely affect your conduct as a MHFA. Even if you aren't working anonymously, but perhaps face to face or over a phone, when you can detect gender, age, accents, background noises etc, the picture you build-up of the person shouldn't influence the quality or calibre of the support you give.



*Don't be shy. You don't need qualifications to be a Mental Health First Aider - anyone can experience mental health issues, and anyone can help, from the Chief Executive to the Janitor.*

4. You must be non-judgemental, because people facing mental health issues are already vulnerable to stigma and discrimination, and no one will open up to you if they feel that you're judging them.

5. You must have that hard-to-define but easy-to-recognise quality of approachability. People need to be able to get on terms with you quickly, feel welcomed into a conversation, and to detect no signs of hesitancy on your part.

6. You'll need personal resilience. If you're dealing with the mental health issues of others, you must be able to do so without it affecting your own mental health. If you may be overwhelmed by highly charged situations, personal crisis, or emotional trauma, you're probably best providing support in some other way.

7. You must be able to maintain absolute confidentiality (except in extreme circumstances, such as a person about to harm themselves or others). It's essential that people can seek help with absolute confidence that their privacy will be respected.

8. Adaptability, flexibility and tolerance should come naturally to you. You may be contacted by people in crisis who are distanced from you by age, professional or social status, life experience, belief system, politics, sexual orientation, social values or any one of a thousand other issues.

People in distress may not have normal levels of reserves, diplomacy or tact, which may emphasise your differences. How would you feel supporting someone of your age, who lives an economically privileged life, on inherited money and a salary many times yours? Someone of a different religion? Someone who enthusiastically supports a politician you detest? Someone who has disturbing thoughts? Someone who comes from a different part of society and simply doesn't share the values, assumptions and moral code which is embedded in you and those close to you?

These things can all enter into a dialogue with people experiencing mental distress, and if they make you angry, you're unlikely to be able to help them. You must have respect, sensitivity and thoughtfulness, even when the other party puts all these things to the test, and you may have to be extremely broad-minded.

*Continued on p14*

*Continued from p12*

9. You must be a great communicator: level tones of voice, clarity, and the ability to convey calm, reassurance, and practical guidance. It's important that this point is not misunderstood. Having a world-class vocabulary and command of the language isn't a bad thing, but there are many great communicators who have neither, because communication is also made up of tone, attitude, expression, body language, patience, and nebulous things (like 'presence') which won't be communicated via words.

Some of these things will come across even over the phone or a text conversation (it's why sales people are told to smile during phone conversations). To misquote the late, great comedian Eric Morecambe, choosing all the right words, in the right order, is great, but not if you come across as a pompous ass. If you're a genuine empathiser, people will usually detect that accurately and won't be distracted by the fact that your grammar is less than perfect (even if theirs is). Above all else, in this situation, great communicators are simply genuine people.

10. You must be a team player, willing and able to encourage the client, if appropriate, to connect with services, charities, and other sources of support which may be better suited to support them than you are. Sometimes, you'll be little more than a skilled conduit to a more qualified point of help, and the skill you'll bring to bear is the ability to achieve that connection without the client being 'lost' in the transfer.

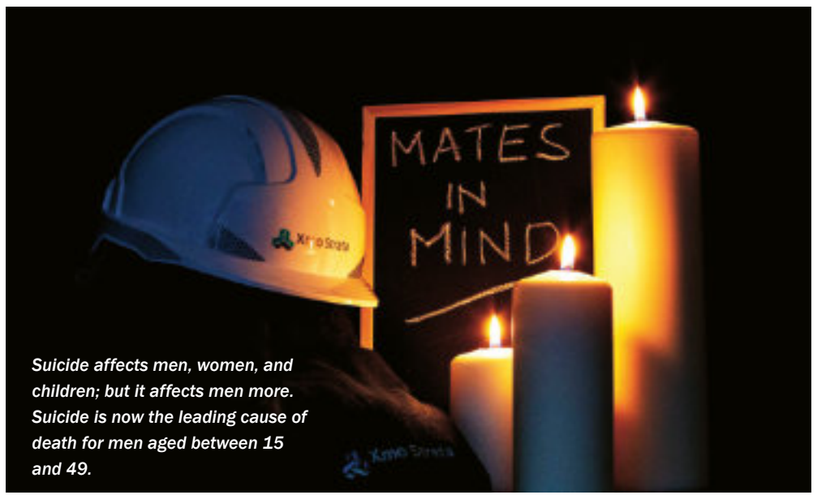
Mental Health First Aid is no place for those with a rampant ego; it calls for humility and a constantly updated understanding

*You might just save someone's life. Imagine that*

of how others (with greater levels of skill, training and experience) can be enlisted to support a client when their needs are beyond your own ability to help. Even though you're unpaid, you must always act like a professional and know your own limits. You may be the client's first point of contact after deciding to reach out, which is critical; you may even save their life; but you won't be the person who provides long-term professional counselling or other specialist clinical support, and who ultimately helps to make them well again. That'll be done by highly qualified folks with letters after their names.

No Mental Health First Aiders are experts, just as few St John Ambulance volunteers will be heart surgeons. You're there to provide the ultimate backstop, to prevent a serious decline at a point of crisis, possibly even to prevent suicide, and to help people access more qualified support. The tools you'll use to do that are your own inherent personality skills and a few days of training.

Many of us can do this, and for those who can, the time commitment may (on some teams) be a small one, and highly flexible. If, at the time of ultimate crisis, you're not able to help, that will be very sad; but at least you tried, and at least that person spoke to a friendly, supportive voice.




***Suicide affects men, women, and children; but it affects men more. Suicide is now the leading cause of death for men aged between 15 and 49.***

But imagine, just imagine the feeling, if you know you were really able to help someone.

Someone you don't know and may never meet or speak to again, but whose life you influenced positively at the most critical possible time.

It's a heavy responsibility and not something to undertake lightly. But if you have the empathy, generosity of spirit, and inner resilience to take on the challenge, then please consider doing so.

You might just save a life and prevent that person's loved ones from experiencing a traumatic loss.

Imagine that.



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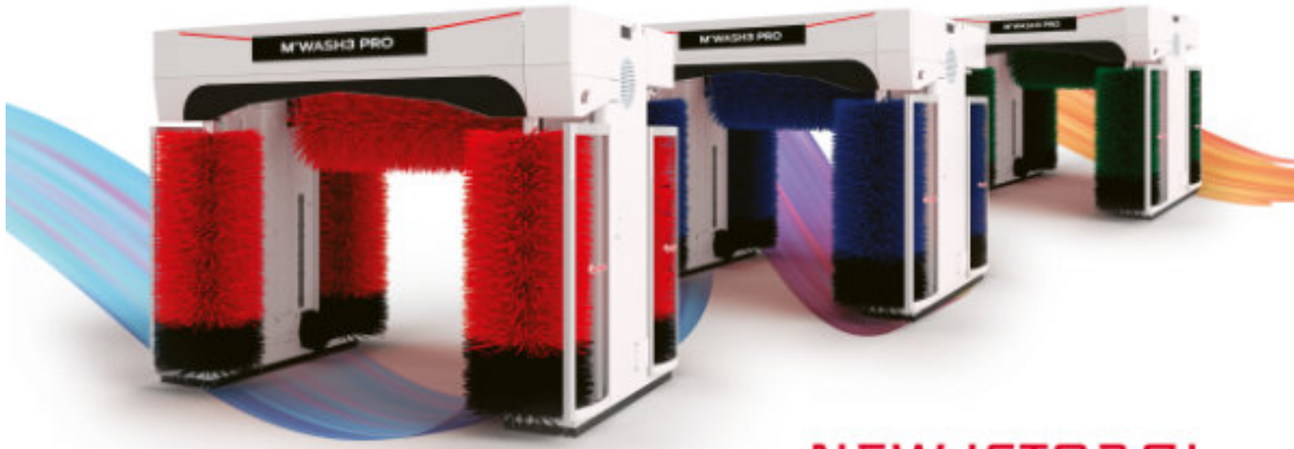


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# How we work in partnership with our customers

## Case study from Hytek & Fast Fuel Services

**At Hytek, we pride ourselves on our ability to seamlessly work with our distributors, to deliver first class products and unparalleled service to their customers. We were delighted to recently complete a project with our friends at Fast Fuel Services, whose customer is one of the UK's largest supermarkets.**

The supermarket had asked Fast Fuel Services to completely overhaul their onsite fuel storage infrastructure, with a view to building an environmentally safe site, maximising the efficiency of their fuelling and ensuring their carbon footprint was as minimal as possible. They also wanted to future proof the site, creating space and the ability to add additional fuel dispensers.

### Replacing the old

Previously, the site had two underground storage tanks, one 68,000-litre capacity tank for diesel and one unused 10,000 litre capacity tank for red diesel. In addition, there was also a 10,000-litre capacity above ground tank for AdBlue®.

### Building the future

Working in partnership we calculated that, given the site had an annual throughout of approximately 3.2 million litres, we would recommend transitioning to larger, above ground tanks. These would provide both cost savings and a better approach to environmental responsibility and sustainability. We would remove ageing underground tanks, reducing the frequency of deliveries and the potential for undetected leaks into the watercourse.

The design encompassed several key elements: replacing and increasing the quantity of fuel dispensers - each paired with an AdBlue® dispenser. Civil works entailed creating a new tank base to accommodate a 115,000-litre tank, excavating a 40m x 6m area from the start of the fuel lane to the fuel island building. We had to re-think the existing traffic routing; to minimise the impact of queued vehicles on the rest of the site, improve health and safety and operational flow. In addition, a second 40m x 6m trench was prepared to future-proof the site for phase two; to accommodate a third set of Pumptronics Alpha Diesel and AdBlue® dispensers.

New above ground tanks were supplied (100,000 litres for Diesel and 10,000 litres for AdBlue®), along with a comprehensive set of ancillaries from Hytek, including new Alpha FC10 pumps. O.L.E. tank gauging for the tanks is linked to the Hytek FC10 fuel management system and live levels of fuel stocks can be accessed instantly anywhere in the world, allowing for the client to manage fuel stocks more efficiently and effectively.

And Fast Fuel Services managed to do all this whilst keeping the site operational. Impressive, to say the very least!

### In summary

The customer now has a site that allows more vehicles to use the area at once, rather than the original restricted set up with queuing and down time. This obviously translates to operational cost savings, including reduced maintenance costs for the fuel system and infrastructure, allowing a more efficient fleet, and lower carbon footprint.

If you have a project that you'd like to work in partnership with us on, then we'd be pleased to speak to you about it.

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# In the frame...

**Our subject this time is PEIMF+ outgoing Chairman, Kirk Main. After 2 years in the hot seat, Kirk's tenure is up – so he can 'spill the beans'.**

## Tell us about your present role

I have recently joined Octane Holding Group Ltd as Technical Contracts Manager

## How long have you been in the industry?

I studied business management and hospitality and moved to London in the early 2000's, originally as a chef! Seems like a long time ago.

In 2004 I moved back to South Africa to join the family business. My father has been involved in the Petrochem industry most of his life and had his own companies in South Africa (Siyakha Pump and Tank).

I started on the tools, installing retail and commercial installations, and worked my way up to Site Co-ordinater, Project and Health & Safety Manager, then on to General Manager. In 2012 I decided to move back to the UK.

## How has your career gone since you came back to the UK?

- **June 2013 – Nov 2014**: Project manager for Adler & Allan
- **Nov 2014 – Feb 2018**: Premier Group as General Manager
- **March 2018 – Feb 2020**: HELK Ltd Managing Director
- **Feb 2020 - July 2021**: returning to A&A as Technical manager
- **July 2021 – Jan 2024**: Senior Technical Manager at LCM

Which leads me to the position of Technical Contracts Manager for Octane

And of course, I've been proud to serve on the PEIMF (+) committee for the past 9 years – the past 2 years as Chairman.

*Preparing for a PEIMF+ committee meeting*

## Which role have you enjoyed most?

I couldn't decide on my most enjoyable role as I love this industry. It is exciting and things are changing all the time with new technology, new fuels and, with that, new regulations.

Every day in this industry is a learning day, and it's a great privilege to be able to pass on my knowledge in whatever role I play within the industry.

## What do you feel have been your biggest achievements? (modesty allowed!)

Well, I would have to say being the Chairman of the PEIMF+ for the last two years is a huge highlight for me in the industry, but being a full-time single dad is also something to be proud of.

## What have been the most significant changes in the fuel industry during your time?

The fuel industry is evolving and changing towards a greener future. So with these changes come new recommendations, compliances and regulations.

From EV installations to Hydrogen projects, I would say the future looks exciting.

## What do you think the future holds for the industry?

Hydrogen has been hyped as the fuel of the future before, but it really might be different this time. Hydrogen is a significant part of the puzzle, together with renewable fuels and electrification.

*With my pride and joy*

Hydrogen is part of the solution to get to net zero - and quite a significant part. That doesn't mean an entirely Hydrogen-based economy, but there is a sensible role for it in many sectors in my opinion.

## And in your spare time?

Quality family time is top of my list. Myself, Holly (14) and Edward (10) are season ticket holders of the Nottingham Panthers ice hockey team. They play every weekend and occasional Wednesday nights.

I also ice skate in my spare time, play golf when the sun is shining and ride my Triumph limited edition Daytona 675

## Where do you see yourself in say, 10 years?

In 10 years I will probably still be in the industry; learning new things and sharing my knowledge with others to make a better, safer fuelling environment for future generations.

Or I could be on Safari in Africa and playing golf in the sun.

*(see you there ✊ – DH)*

## What about a philosophy of life?

Life is what you make it. live it to the full. Work hard play hard. And I will go with my quote on mental health:

*"Its ok not to be OK. Don't be ashamed of your story, it will inspire others. You don't have to struggle in silence. A fuel pump cannot provide fuel if the tank is empty, self-care is the fuel that allows you to work and get through the day."*

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# Storing AdBlue® safely and securely

**AdBlue® is a vital contributor to reducing diesel vehicle exhaust emissions, but how should it be handled and stored safely? And how will the emergence of new energies impact usage?**

For many UK companies, the use of AdBlue® is a legal requirement when running heavy goods vehicles (HGVs), vans or cars powered by diesel fuel. Therefore, it makes perfect sense for fleet operators to invest in practical storage solutions and dispensing equipment on site.

To mitigate the harmful effects of diesel exhaust fumes, the European Commission imposed regulations that stipulated all diesel vehicles built from 2015 onwards must be compliant with the Euro 6 emission standard. The act focuses on restricting the emission of nitrogen oxides (NOx) and particulate matter from diesel exhausts. NOx is a poisonous gas that can damage the respiratory system, reduce lung function and increase allergen exposure, consequently, AdBlue® plays a crucial role in neutralising the toxins and rendering diesel emissions harmless.

## What is AdBlue®?

The term AdBlue® is a worldwide trademark of the German Association of the Automotive Industry (VDA) relating to the production of diesel exhaust fluid (DEF) in line with ISO 22241 specifications.

AdBlue® is a colourless liquid with a pungent odour, comprising one-third aqueous urea solution and two-thirds deionised water. Contrary to popular opinion, the urea in AdBlue® is not a by-product of animal urine but instead is made from ammonium cyanite, a substance that when heated forms crystalline urea that is completely synthetic.

While AdBlue® is non-hazardous, non-toxic and non-flammable, it is mildly corrosive and should always be stored in rust-proof containers out of direct sunlight.

## How does AdBlue® work?

AdBlue® is injected into the catalyst of an advanced active emissions control technology system, known as selective catalytic reduction (SCR). The high temperatures of the exhaust gases cause the AdBlue® to vapourise into its two constituent components; ammonia and carbon dioxide. Inside the SCR, the ammonia is blended with the exhaust fumes, provoking a chemical reaction that converts NOx into nitrogen, water and a small amount of carbon dioxide ($CO_2$). As a result, the gases emitted are less harmful to the environment and our health.

## Storing AdBlue® safely

Typically, AdBlue® storage tanks are constructed out of stainless steel, which has corrosion-resistant qualities, bunded (double-skinned) and predominantly installed above ground. Bunded tanks differ from their single-skinned counterparts because they have a secondary containment tank in the form of an outer skin (the bund). Consequently, any leaks from the main storage tank will be safely contained within the interstitial space created by the bund, preventing the AdBlue® solution from spilling out on site.

That being said, if AdBlue® were to escape, it would not cause any damage to the environment and there are currently no penalties associated with the solution going to ground.

Keeping AdBlue® safe from contaminants will help to maintain its quality, prevent product degradation and avoid any damage to the vehicle's Selective Catalytic Reduction (SCR) system. The SCR system works to improve fuel efficiency and reduce harmful emissions; it is incredibly sensitive, so any impurity that enters the system can cause damage and limit its efficiency.

## AdBlue® spillage advice

If AdBlue® is accidentally discharged, it should cleaned up as soon as possible by mopping up the spill and rinsing the area thoroughly with water to prevent crystallisation of the fluid. Even though AdBlue® isn't hazardous, it is advisable to wear gloves when cleaning up spills to prevent any potential skin irritation.

Since AdBlue®'s urea-based formula contains ammonia, which can be corrosive to a range of metals, it is best practice to avoid pouring AdBlue® directly down the drain.

## The future of AdBlue®

With the advance in natural gas, hydrogen and electric vehicle technologies and the government's sharp focus on net-zero, many speculate that the dependable diesel engine is on the way out. However, given the fact that as yet, these emerging energies are still a relatively new concept for bigger and heavier vehicles, diesel fuel will likely have a vital role to play in modern business fleets for many years to come.

*Continued on p22*

*Continued from p21*

## How can TSG help fleet operators?

TSG UK can support businesses looking to participate in the transformation from traditional fossil fuels to new, greener fuelling solutions including electricity, gas and hydrogen.

However, TSG will continue to sustain the existing fleet fuelling networks, including the supply, installation and maintenance of a wide range of AdBlue® dispensers and container solutions to suit any size of fleet or usage requirements. From plastic intermediate bulk containers (IBCs) to integrated steel tank versions (twin compartments for diesel and AdBlue®) complete with dispensers. All of the TSG AdBlue® dispensing solutions are ISO 22241-compliant

## TSG's AdBlue® tank and pump servicing, maintenance and repairs

TSG UK provides high-quality AdBlue® tank repair and maintenance services. From transfer pump problems and hardware issues to damaged delivery hoses and faulty meters, TSG's highly skilled engineers have a wealth of experience in installing, repairing and servicing all types of AdBlue® storage tanks and pumps.

**For more information on TSG UK, its products and solutions, please visit: https://www.tsg-solutions.com/uk/**

# Strategic partnership between e-power® and Commercial Fuel Solutions®

**A strategic partnership between Commercial Fuel Solutions Ltd and European generator manufacturer e-power® has been announced.**

**The agreement places responsibility on Commercial Fuel Solutions Ltd to operate as the exclusive distributor for the Belgian manufacturer's range of hydrogen electrical power generators within the UK and Ireland.**

Recognised for their industrial electrical power generators for over 30 years, e-power® started trading as Europower in 1990 in Limburg, Belgium. In 1994, the company became the first European manufacturer to achieve ISO accreditation for production and quality. In 2022, they launched Europe's first commercially available generator, using an internal combustion engine fuelled by gaseous hydrogen.

e-power selected CFS to become their exclusive UK distributor for their hydrogen-powered solutions, in recognition of their pioneering efforts to decarbonise construction and heavy transport industries through hydrogen-fuelled technology.

Joe Gavin, Global Director of Sustainability for e-power, stated;

*"Commercial Fuel Solutions Ltd stood out from vying agents due to their intrinsic knowledge of hydrogen safety. Their unique position, as established suppliers of commercial refuelling solutions, made them an obvious choice, and we are excited to be working with them in this emerging sector."*

Robin Futcher, Managing Director of CFS, commented;

*"We are equally excited to have this opportunity to represent a dynamic and forward-thinking company, who are clearly focused on producing innovative products that harness the power of hydrogen".*

**www.commercialfuelsolutions.co.uk**



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# UKIFDA expo 2024

## Liverpool, 10-11th April

**Trade association and EXPO 2024 event organiser, the UK and Ireland Fuel Distributors Association (UKIFDA), has revealed 'Working Together in Changing Times' is the theme for its industry-leading EXPO 2024 event, which will take place on 10-11 April 2024 at the Liverpool Exhibition Centre.**

Bringing together the whole liquid fuel distribution industry supply chain, the two-day event will combine four forums: the Exhibition, the Future Opportunities Conference as well as the popular Awards Dinner and Drinks Reception.

EXPO 2024 promises industry innovation, leading speakers, and plenty of networking. All are supported by the event app WHOVA, which allows delegates to stay up to date before, during and for a limited time after the event. UKIFDA CEO Ken Cronin explains:

*"We want people to walk away from EXPO 2024 feeling empowered by their visit. It's a chance to accelerate supply chain relationships, identify and maximise new business opportunities and help solve the inevitable commercial challenges that come with these changing times. It's rare to be able to access so much industry innovation under one roof."*

The headline sponsor has been confirmed as Phillips 66, and Rupert Turner, Managing Director UK Marketing, commented:

*"UKIFDA EXPO is a celebration of excellence that sits at the heart of the distribution industry and at Phillips 66 Limited we are delighted to once again be the headline sponsor. Each year this unique event provides an opportunity for our community to come together and celebrate an industry we care deeply about.*

*A chance to spend time with colleagues, forge new relationships and connect with customers. We look forward to working with UKIFDA EXPO and welcoming everyone to Liverpool in 2024."*

Building on the broader topic format introduced at the successful one-day 2023 event, the 2024 Future Opportunities Conference Programme will explore the new commercial horizon and offer guidance and insight to help businesses future proof. With a compelling mix of leading experts, the speaker line-up will include the latest in future fuels, transport technology and data developments, as well as industry best practice and legislative updates complemented with market intelligence; welcoming audience participation too.

Working together as an industry is what's delivering progress. EXPO 2024 is the place to stay ahead of the curve, embrace the shift and collaborate for business resilience in these changing times. With a number of exhibitors already confirmed, UKIFDA's event organiser Dawn Shakespeare, advises:

*"This year's flexible exhibition space includes small, medium and large space options to meet different objective and budget needs – we want to make sure everyone's requirements are met."*

Contact UKIFDA Membership and Events Manager Dawn Shakespeare at ds@ukifda.org for more information about the event, conference, award ceremony and dinner.

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# Delivering net zero in a changing world

**A new Council for Net Zero Transport, convened by Zemo Partnership, comprising senior stakeholders will help steer UK transport's decarbonisation transition as it moves into the crucial delivery phase.**

**The Council will be chaired by Lord Deben, formerly UK Environment Secretary and Chair of the Climate Change Committee. It will engage senior figures from government, industry, environment and academic sectors to help focus the Partnership as we work together to forge a clear, strategic direction for road transport decarbonisation.**

Lord Deben said:

*"Our generation faces no greater challenge than that of tackling climate change.*

*"With transport responsible for over a quarter of the UK's greenhouse gas emissions, if we're going to solve this problem we have to effectively decarbonise transport. We must do this for our environment, and we will reap rewards both politically and economically from doing so."*

Zemo's new Executive Director, Claire Haigh, said:

*"Decarbonising transport is a vital, and particularly challenging, element of the UK's legally binding net zero targets.*

*"The policy prescriptions needed to do this are complex, nuanced and cross-sectoral, and achieving a successful outcome will be of huge benefit to the UK's environment, society and economy. This is too vital a task for us to be distracted by over-simplifications and the short-term vagaries of our political system.*

*"We have some world-leading targets but we're at a key moment in the transition and what we need now is a laser-like focus on delivery. To achieve this, we'll need the full participation of government (nationally and locally – to the level of each town and parish council) industry, consumers and operators."*

Zemo Partnership (formerly Low Carbon Vehicle Partnership/LowCVP) is a uniquely broad stakeholder partnership. A not-for-profit organisation, it has been working for over two decades to provide unbiased guidance to government and industry around the policy and initiatives needed to accelerate road transport decarbonisation.

In addition, Zemo Partnership is also running an exciting new project on behalf of the Welsh Government.

The Welsh Commercial Vehicle Decarbonisation programme will deliver a bespoke strategy for Wales covering heavy and light-duty commercial vehicles, with focus on sustainable fuels, electrification and the potential role for hydrogen. Zemo will be working closely with the Government of Wales to develop the strategy and routes to delivery.

Commenting on the project, Lee Waters, Deputy Minister for Climate Change in the Government for Wales said:

*"We're excited by the potential of this project to stimulate and accelerate the decarbonisation of commercial vehicles in Wales which we view as a key challenge on our path to net zero."*

Zemo Partnership's Chair, Philip Sellwood CBE, said:

*"The new Council for Net Zero Transport, along with the invitation to work alongside the Welsh Government come at a key time in transport's decarbonisation transition.*

*"We'll be working even more closely with our wide-ranging membership, to focus on what we need to do together to deliver the targets in the best interests of our environment and the UK's industrial future."*

**www.zemo.org.uk**

# EV charging statistics 2024

## Tracking the growth in charging points across the UK

**The UK's electric vehicle (EV) charging infrastructure is continually growing and changing shape to meet the needs of EV drivers. Through the data collected to drive the Zapmap app, Zapmap tracks these changes to provide the EV charging statistics below. The statistics, which detail how many electric charging points there are in the UK, are updated on a monthly basis.**

The tables and charts shown demonstrate the growth rate of UK charge points, which are the largest networks, and the distribution of UK charging points by geographical area, as well as how many electric charging points in the UK there are at the end of each month. You can also see how many rapid charging points there are across the country.

### HOW MANY PUBLIC CHARGING POINTS ARE THERE IN THE UK?

At the end of February 2024, there were 57,290 electric vehicle charging points across the UK, across 32,575 charging locations. This represents a 47% increase in the total number of charging devices since February 2023.

### HOW MANY PUBLIC CHARGING POINTS WERE ADDED IN FEBRUARY 2024?

In February 2024, 1,989 net new EV charging devices were added to the Zapmap database.

This was made up of 1,268 net new slow devices, 295 fast, 290 rapid and 136 ultra-rapid devices.

These numbers take into account that every month some devices are decommissioned by charge point operators. These net new figures reflect the number of additions to the Zapmap database minus those devices that have been removed from the database.

These figures show how many electric charging points in the UK there are that are part of the country's public EV charging infrastructure. However, they do not include the many charge points installed at home or at workplace locations, which are estimated to be more than 700,000. Some of these EV charging points are available to the public in some form via community or visitor charging.

### HOW IS THE UK CHARGING POINTS NETWORK GROWING OVER TIME?

As the chart above reveals, the past few years have seen a significant increase in the number of public EV charge points in the UK. Since February 2023 a further 18,308 charge points were added to the UK network, a growth of 47%.

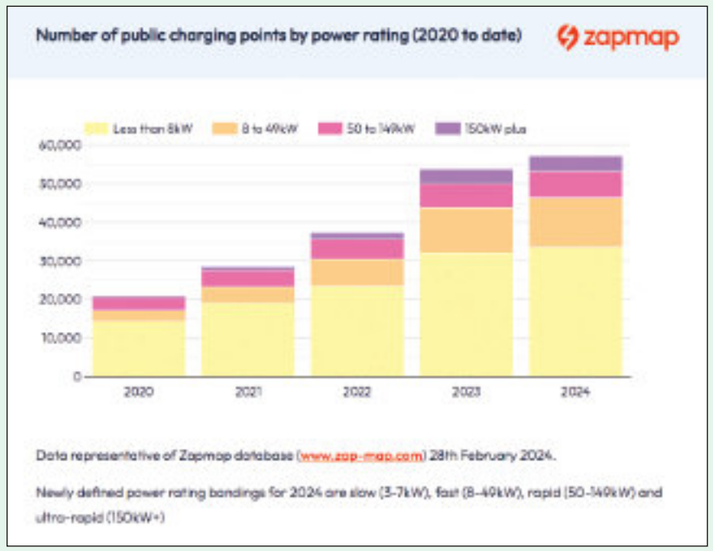
### HOW POWERFUL ARE THE CHARGING DEVICES AVAILABLE IN THE UK?

The four speeds or power ratings that are tracked are defined as slow (3-7kW), fast (8-49kW), rapid (50-149kW) and ultra-rapid (150kW+). These new bandings reflect those referenced in the government's new Public Charge Point Regulations.

The graph above focuses on the number of charging devices, rather than the capacity to deliver electricity. This masks the fact that devices with different power ratings provide a significant difference in capacity. For instance, while rapid and ultra-rapid chargers only make up around 20% of total devices, they account for around 60% of the total capacity.

### WHICH NETWORK HAS THE LARGEST NUMBER OF EV CHARGERS?

The charging network with the most charge points is Shell Recharge Ubitricity, with its network of lamppost chargers. Next up is Pod Point, a network of destination chargers found mainly in retail car parks, particularly supermarkets.




In third place is Connected Kerb, which has an extensive network of on-street chargers across the UK.

This data combines devices across all the different power ratings, and the data shows the network with the most charge points but not the highest amount of charging capacity.

### WHICH AREAS HAVE THE MOST CHARGE POINTS ACROSS THE UK?

The geographical area that has the most EV charging points is Greater London with 18,927, followed by the South East with 6,661 and Scotland with 4,880.

Again, this aggregates all the different types of charge devices, so caution should be used when making comparisons.

### HOW MANY ELECTRIC CHARGING POINTS IN THE UK ARE RAPID AND ULTRA-RAPID?

As of February 2024, there are 10,967 rapid or ultra-rapid charging devices, across 5,113 charging locations in the UK.

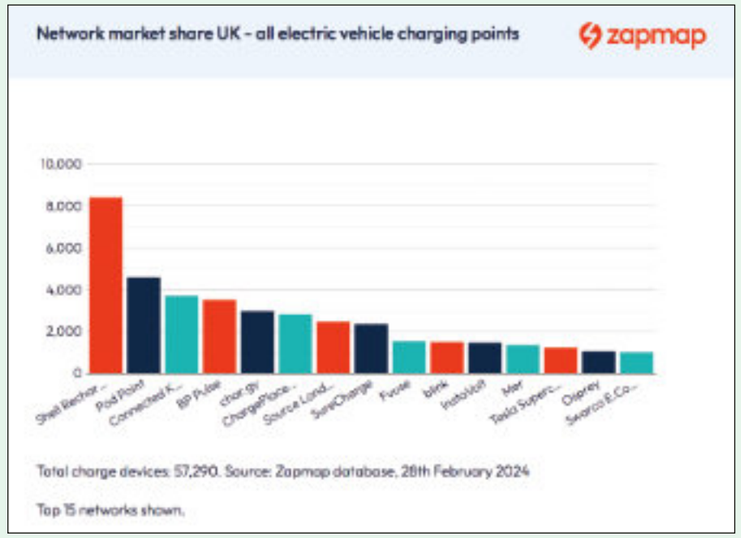
Last month, 426 net new rapid or ultra-rapid charging devices were added to the Zapmap database.

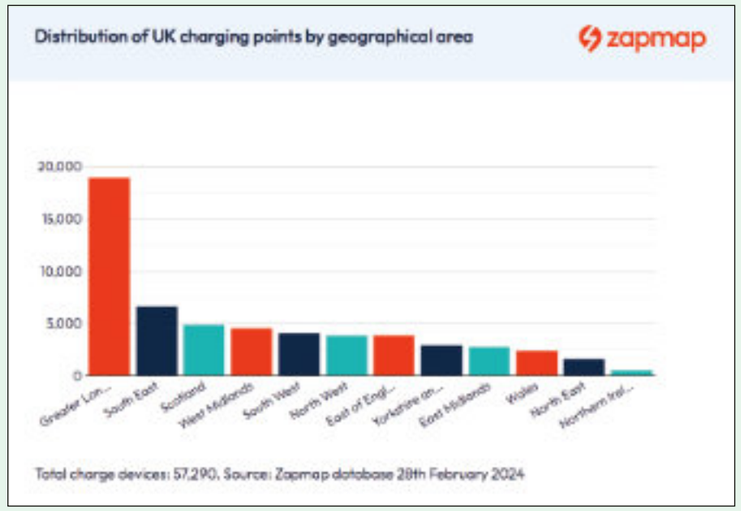
### WHICH CHARGE POINT OPERATOR HAS THE MOST RAPID AND ULTRA RAPID DEVICES?

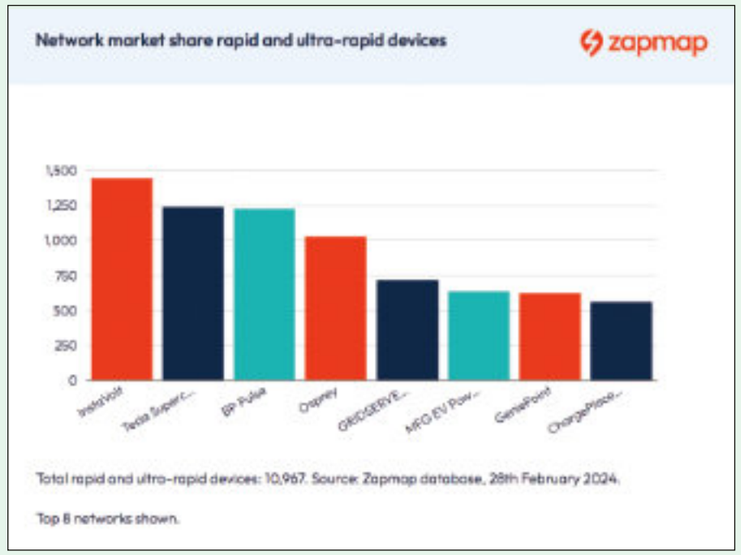
The network with the most rapid and ultra-rapid electric vehicle charging points is InstaVolt, which had 1,445 charge points at the end of February 2024.

After InstaVolt, Tesla operates the most rapid and ultra-rapid charging points in the UK, with 1,240, followed by bp pulse with 1,225.

zapmap



# Glossary of terms used for renewable and low carbon road fuels

**This useful table was produced in partnership by RTFA, SMMT, Fuels Industry UK and Zemo Partnership.**
Please contact PEIMF+ if you disagree with a definition, feel it could be improved or if you spot any omissions.

## LIQUID FUELS

| Term (& acronym) | Meaning |
|---|---|
| **1G (First generation)** | Term describing biofuels that are produced from crops that can be used as food or feed e.g. sugar, starch or oil crops |
| **2G (Second generation)** | Biofuels that are manufactured from non-food biomass |
| **B10** | A blend of up to 10% biodiesel / FAME (meeting BS EN 14214) with the remainder petroleum diesel (meeting BS EN 590) which when combined typically meet BS EN 16734 |
| **B100** | Pure biodiesel/FAME, typically meeting the requirements of BS EN 14214 |
| **B20** | A blend of up to 20% biodiesel / FAME (meeting BS EN 14214) with the remainder petroleum diesel (meeting BS EN 590) which when combined typically meet BS EN 16709 |
| **B30** | A blend of up to 30% biodiesel / FAME (meeting BS EN 14214) with the remainder petroleum diesel (meeting BS EN 590) which when combined typically meet BS EN 16709 |
| **B7** | A blend of up to 7% biodiesel / FAME with the remainder petroleum diesel. This is the diesel fuel sold at retail outlets (filling stations used by the public to fill their diesel cars) and typically meets BS EN 590 |
| **BtL (Biomass to Liquid)** | See GtL |
| **Bio petrol / biogasoline** | A hydrocarbon made entirely from biomass sources which is functionally equivalent to gasoline |
| **Bioblend** | No longer a commonly used term, but defined in the Hydrocarbon Oil Duties Act as "Any mixture that is produced by mixing both: biodiesel and heavy oil that has not been charged with the excise duty on hydrocarbon oil" |
| **Biodiesel** | A renewable liquid fuel consisting predominantly of Fatty Acid Methyl Ester (FAME) and meeting the requirements of BS EN 14214 |
| **Bioethanol** | Ethanol made from biomass and meeting the requirements of EN 15376 |
| **Bioethanol blend** | A blend of bioethanol that meets the requirements of EN 15376 and gasoline |
| **Bio-LPG** | Another term for either biopropane or biobutane |
| **Biomethanol** | A renewable liquid fuel consisting methanol made from biomass feedstocks (CH3-OH). It can be blended in with gasoline |
| **Blend wall** | The maximum percentage of a particular renewable fuel that can be blended into retail fuels while meeting conventional fuel standards |
| **Development fuel** | A fuel meeting the RTFO eligibility criteria for the development fuels sub target, i.e. a fuel made from a waste or a RFNBO, but not made from segregated oils or fats. And which is one of the following fuel types:<br>• Hydrogen, biosynthetic natural gas (BioSNG),<br>• Sustainable Aviation Fuel or<br>• a fuel able to be blended at levels over 25% by volume and still meet the EN 228 or EN590 fuel specifications |
| **DME (Dimethyl ether)** | Dimethyl ether (CH3-O-CH3) can be liquified under low pressure and used as an alternative to diesel.<br>Can be synthesised from renewables (see rDME) |
| **Drop-in fuel** | Drop-in fuels are alternatives to fossil fuels that can be blended at any level into standard fuels without requiring changes to vehicles or infrastructure. (Some fuels commonly described as “drop-in” may not meet current technical fuel standards (EN590 / 228) in all respects, but are warranted by OEMs to be used in certain vehicles at any blend level (up to 100%) |
| **E10** | A blend of up to 10% bioethanol (meeting BS EN 15376) with the remainder gasoline which when combined typically meet BS EN 228 |
| **E5** | A blend of up to 5% bioethanol (meeting BS EN 15376) with the remainder gasoline which when combined typically meet BS EN 228 |
| **E85** | A blend of up to 85% bioethanol (meeting BS EN 15376) with the remainder gasoline |
| **e-fuel** | A specific subset of synthetic fuels that use hydrogen produced by renewable electricity |
| **ETBE (Ethyl tertiary butyl ether)** | A common additive to gasoline. It is produced by reacting isobutene with ethanol. It can be produced from renewable resources. Chemical formula (CH3)3C-O-C2CH3 |
| **ETG or E2G (Ethanol-to-Gasoline)** | The process that converts ethanol (or bioethanol) to gasoline via dehydration and oligomerization usually over a zeolite catalyst |
| **FAME (Fatty Acid Methyl Esters)** | Pure biodiesel, typically meeting the requirements of BS EN 14214 |
| **FT (Fischer Tropsch reaction)** | A collection of chemical reactions that converts a mixture of carbon monoxide and hydrogen (or "syngas") into liquid hydrocarbons |
| **GtL (Gas-to-liquid)** | These are all synthetic fuels, made from methane or syngas (from gasification) converted to a liquid hydrocarbon through the FT process.<br>• Renewable sources of gas include:<br>a) Syngas (from the gasification of pure biomass)<br>b) Biogas<br>c) BioSNG (i.e. derived from syngas from the gasification of pure biomass) (a-c could also be termed BtL biomass to liquid)<br>d) RFNBO methane, i.e. methane made from reacting renewable hydrogen with CO2 (in which case it could be referred to as an e-fuel)<br>• Fossil fuel sources include:<br>a) natural gas / gasified coal (could be CtL – coal to liquid)<br>b) Recycled carbon fuel<br>Or it could be a combination of the above. E.g. syngas from gasification of a mixed waste containing biogenic and recycled carbon feedstock (in which case the resulting fuel would be a part renewable and part RCF fuel) |



## LIQUID FUELS CONTINUED

| Term (& acronym) | Meaning |
|---|---|
| **HBBF (High blend biofuel)** | A term often used for fuels with a renewable content that is greater than that of the retail equivalent. E.g. B20, B30 and B100 are all fuels with high blend of biodiesel compared to B7, plus E15, E20 and above (in countries where E10 is the retail grade). (Biomethane could also be supplied in a blend with natural gas (at any proportion)) |
| **HVO (Hydrotreated Vegetable Oil)** | A paraffinic diesel very similar to petroleum diesel but made by the hydrotreatment of vegetable oils or other lipids, typically meeting the requirements of BS EN 15940 |
| **LCF (Low Carbon Fuel)** | Fuels that can provide GHG savings compared to fossil fuels on a life-cycle basis |
| **LPG (Liquefied Petroleum Gas)** | Gases derived from petroleum sources in liquid form; can be any mixture of propane and butane |
| **MTBE (Methyl tertiary butyl ether)** | A common additive to petrol. It is produced by reacting isobutene with methanol. It can also be produced from renewable resources. Chemical formula (CH3)3C-O-CH3 |
| **MTG or M2G (Methanol-to-Gasoline)** | The process that converts methanol (or biomethanol) to gasoline. Methanol is first converted to dimethyl ether by being passed over a gamma-alumina catalyst. The methyl ether is then passed over a zeolite catalyst to oligomerize into longer chain hydrocarbons to gasoline |
| **Paraffinic diesel** | A fuel comprising predominantly alkanes that is functionally equivalent to diesel. It can be made by hydrotreating lipids or via the gas to liquid or power to liquid routes. It typically meets the requirements of BS EN 15940 |
| **Petroleum** | Petroleum is a naturally occurring liquid found beneath the earth's surface that can be refined into fuel. Petroleum is a fossil fuel, meaning that it has been created by the decomposition of organic matter over millions of years |
| **PtL (Power-to-Liquid)** | A fuel produced using renewable electricity and sources of carbon to produce fuels through synthesis |
| **Pure bio oil** | A fuel type classification used by RTFO Unit which includes fuels referred to as "Pure vegetable oil" in previous years' RTFO statistical reports |
| **RCF (Recycled Carbon Fuel)** | Recycled carbon fuels (RCFs) are fuels produced from fossil wastes that cannot be avoided, reused or recycled and have the potential to reduce GHG emissions relative to conventional transport fuels. Feedstocks include industrial waste gases and the fossil-derived fraction of municipal solid waste (e.g. non-recyclable plastic). Some feedstocks can be considered part renewable and part RCF when combined with biogenic material such as food waste |
| **rDME (Dimethyl ether)** | DME synthesised from renewable feedstocks. For the potential renewable sources, see definition of GtL.<br>Chemical formula C2H6O |
| **Renewable diesel** | A common term for various forms of non-fossil derived diesel fuel, including FAME, HVO or paraffinic diesel (when made from renewable sources). Sometimes this term is used for HVO or paraffinic diesel exclusively (to distinguish from FAME/biodiesel) |
| **RFNBO (Renewable Fuel of Non-Biological Origin)** | Rather than from biomass, the energy content of a RFNBO typically comes from renewable energy such as wind or solar |
| **RME (Rapeseed oil Methyl Ester)** | Biodiesel produced from rapeseed oil |
| **Synthetic Fuel** | A fuel which is produced from a mix of hydrogen and a carbon source (e.g. carbon monoxide or carbon dioxide).<br>A synthetic fuel can also be classed as a renewable fuel if the hydrogen is produced from a renewable source and any carbon source used is from a renewable or unavoidable carbon stream, for example an industrial process where carbon dioxide would otherwise be vented into the atmosphere, in which case it would be a RFNBO |
| **TME (Tallow Methyl Ester)** | Biodiesel produced from tallow |
| **UCOME (Used Cooking Oil Methyl Ester)** | Biodiesel produced from used cooking oil |

## GASEOUS FUELS

| Term (& acronym) | Meaning |
|---|---|
| **Biobutane** | Butane derived from renewable sources. Chemical formula C4H10 |
| **BioCNG** | A term used for compressed biomethane. This can also be referred to as CBM – compressed biomethane (not to be confused with Coal Bed Methane) |
| **BioLNG** | A term used for liquefied biomethane. This can also be referred to as LBM – liquified biomethane |
| **BioLPG** | Another term for either biopropane or biobutane. (Is liquid when under pressure) |
| **Biomethane** | Methane (CH4) derived from biomass, either via a biological route – anaerobic digestion – (in a dedicated AD plant, sewage treatment works or landfill), or thermal route via gasification and methanation of the syngas |
| **Biopropane** | Propane (C3H8) made from biomass. Most commonly derived as a by-product of the HVO production process |
| **BioSNG (bio Substitute Natural Gas)** | Term used for renewable methane via the thermal route (unspecified as to whether it is compressed or liquified). This qualifies as a development fuel (if made from waste) under the RTFO |
| **CBM (Compressed Biomethane)** | Compressed Biomethane. (NB not to be confused with Coal Bed Methane) |
| **LBM (Liquified Biomethane)** | Biomethane (in liquified form). Liquified Bio Methane |
| **RFNBO (Renewable Fuel of Non-Biological Origin)** | Rather than from biomass, the energy content of a RFNBO typically comes from renewable energy |
| **SNG (Synthetic / Substitute Natural Gas)** | Gas (mainly methane) which can be produced by a number of routes which may be more commonly referred to by more specific terminology. E.g. if produced by anaerobic digestion and CO2 removal = biomethane; gasification and gas clean up of biomass = bioSNG. It can also be produced by the gasification of coal |



SPRING 2024 • ISSUE 17 • THE GREEN PAGES - NEW FUELS GUIDE

# The public charge point regulations 2023

**The Government has published new regulations, relating to the operation of public electric vehicle charge points. Here is an abridged version, or you can see the complete document at www.legislation.gov.uk**

**These Regulations extend to the whole of the UK.**

### WHAT ARE PUBLIC CHARGE POINTS?

A public charge point includes a charge point that:

- May only be accessed during specific hours; or
- Is situated in a public car park

A public charge point does not include:

- A workplace charge point, intended solely for the use of employees and contractors at their workplace, or visitors
- A charge point restricted for the exclusive use by; a vehicle produced by a specific manufacturer, a person engaged in a specific occupation or an occupier of, or visitor to, residential premises.

### PAYMENT REQUIREMENTS (TO BE IN PLACE WITHIN 1 YEAR OF THESE REGULATIONS)

**Contactless payment**

For a new public charge point with a power of 8 kilowatts or above, contactless payment must be available.

For a rapid charge point, in operation before the regulations come into force, contactless payment must be available.

Where an existing charge point (8kW and above) becomes a public charge point after the coming into force of these regulations, contactless payment musts be available.

**Payment roaming**

A charge point operator must, within two years from the date on which these regulations come into force, ensure that a person using any of its charge points is able to pay to charge an electric vehicle using a payment service provided by a third-party roaming provider.

### PERFORMANCE REQUIREMENTS

**Reliability**

A charge point operator must, from one year from the date on which these regulations come into force, ensure that its network of rapid charge points complies with the reliability requirement of being (on average) reliable for 99% of the time during each calendar year.

A rapid charge point is considered to meet compliance with the reliability requirement, where it is either: working, available, charging; or reserved.

Or is ineligible for measurement, if unknown or blocked.

A rapid charge point is not considered to be reliable, if it is inoperative or out of order.

Where a rapid charge point can be accessed only during specific hours, reliability is to be assessed only by reference to those hours.

The charge point operator must publish information on its compliance with the reliability requirement on its website.

### REGULAR REPORTING

A charge point operator must submit a report to the Secretary of State for its network of rapid charge points for each calendar year, stating the total number, and reliability of each charge point operated during this period.

### HELPLINE

A charge point operator must provide a staffed telephone helpline available free of charge for 24 hours per day for each day of the year to allow persons using or intending to use one of its charge points to seek assistance regarding the functionality of the charge point.

This must then be reported quarterly, with the total number of calls received, with a breakdown of assistance sought, length of calls, success or otherwise

### OPEN PUBLIC CHARGE POINT DATA

**Data**

A charge point operator must ensure that data held is accurate; and is available to the Secretary of State and to any Electricity Systems Operator that supplies energy to its public charge points.

### PRICING TRANSPARENCY

The total price for charging an electric vehicle through a public charge point must be clearly displayed in pence per kilowatt hour. This cannot increase once charging has started.

# Good news for green hydrogen

## bp's green hydrogen project on Teesside progresses to next stage of Government negotiations

**HyGreen Teesside has been selected to progress to the negotiation stage for the Government's first electrolytic hydrogen allocation round. The project aims to generate around 660 jobs through the construction phase and create over 100 jobs during operation, supporting Teesside's low carbon transformation.**

This follows the UK Government's announcement in March, that HyGreen was shortlisted for DESNZ's Hydrogen Business Model (HBM) and Net Zero Hydrogen Fund (NZHF) programmes.

These are intended to support commercial deployment of hydrogen projects, and kickstart the low carbon hydrogen economy across the UK.

### LARGEST GREEN HYDROGEN FACILITIES

Green hydrogen is produced by the electrolysis of water, powered by renewable energy.

Aiming to start production in 2026, HyGreen Teesside is planned to be one of the UK's biggest 'green' hydrogen facilities.

It is initially targeting 80MW of green hydrogen production, with potential further growth to up to 500 MW by 2030, up to 5% of the UK government's hydrogen target of 10GW.

The project aims to help fuel the development of Teesside, leading the way for large-scale decarbonisation of heavy transport, airports, ports, and rail in the UK. It will also help carbon intensive sectors in the region, such as chemical and process industries, to decarbonise.

Matt Williamson, UK Head of Hydrogen, bp, said:

*"We're excited to have passed another important milestone towards the development of this ground-breaking project. HyGreen Teesside has the potential to help transform energy use, the economy and skills in the region. At bp, we're backing hydrogen to help Teesside and the UK decarbonise its industry and mobility."*

bp has recently completed a six-week community consultation on HyGreen Teesside, ensuring that local people, businesses and other stakeholders can have their say on the project. As part of the consultation, bp shared its initial design with the public and organised multiple public information events. Having taken on board community views, bp will now submit a finalised planning application to Redcar and Cleveland Borough Council.



SPRING 2024 • ISSUE 17 • THE GREEN PAGES - NEW FUELS GUIDE

# First Bio-CNG station in the South East

**This site is a joint venture between ReFuels and the Foresight Group. It is being built to expand Waitrose's fleet of biomethane-powered heavy goods vehicles.**

**ReFuels has commenced construction of a new public access Bio-CNG refuelling station at Aylesford in Kent, to be operated under the CNG Fuels brand. The facility is set to open additional transport routes for South East England, a region with a population of approximately 9.3 million.**

**OVER 500 TRUCKS**

Owned by a joint venture with Foresight Group, the new site will feature 12 fuel pump islands, which will allow over 500 trucks to be refuelled per day. Construction has begun on land acquired from the John Lewis Partnership, adjacent to Waitrose's South East distribution centre.

This will enable the retail giant to rapidly grow its fleet of biomethane-powered heavy goods vehicles (HGVs), which is already the largest such fleet in the UK.

Philip Fjeld, CEO of ReFuels, said:

*"Well over one hundred fleets across the UK are now adopting the fuel en masse. Our new site in Aylesford, built on land acquired from one of the UK's biggest retail HGV fleets, is a testament to this growing demand and the value fleet operators place on Bio-CNG refuelling infrastructure."*

**6,000 HGV'S DAILY**

The current CNG Fuels network in the UK can refuel more than 6,000 HGVs daily. This equals an annual dispensing capacity of more than 264,000 tonnes of biomethane annually. A potential saving of more than 750,000 tonnes of CO2 emissions annually when compared to diesel.

Refuels' year-end 2026 target of 30-40 stations in operation equals a total capacity of up to 15,000 HGVs per day, and more than 600 million kg of biomethane annually.

**DRIVING HEAVY GOODS TRANSPORT IN EUROPE TOWARDS A LOW CARBON FUTURE**

By bringing together the industry-leading renewable biomethane supplier, RTFS, and the UK's leading alternative refuelling infrastructure provider, CNG Fuels, ReFuels will be Europe's first fully integrated, end-to-end renewable fuel supplier for commercial transport.

CNG Fuels was founded in 2014 and operates the UK's largest CNG refuelling network, RTFS was founded in 2017 and is Europe's largest supplier of unsupported biomethane to the transport sector. The two businesses have combined in 2023 to make ReFuels, forming a fully integrated energy supplier dedicated to decarbonising Europe's commercial fleet.

Sites are already being secured with space for additional fuels, including hydrogen, and fast charging to support consumers to transition away from fossil fuels into a multi-fuel, zero-carbon future.

**www.refuels.com**



# Offering clients and their customers peace of mind

## STA Technical launches new tank access system

**With an increasing need to have fuel in tip-top condition, and tanks cleaned to mitigate perennial issues such diesel bugs and contaminated fuel loads, STA Technical's new tank access system is ticking all the boxes for clients.**

Warren Peters, managing director of innovative engineering company STA Technical says:

*"These days, commercial and industrial organisations with above ground fuel storage tanks are finding they are needing to access the tanks much more regularly. With this in mind, and in line with many of our other products, our new system mitigates the inherent hassle factors involved in such an operation, and provides a simple and safe solution for engineers.*

*"Requiring an access hole to be cut in the top of the tank, the engineer then needs to drill holes to enable the frame to be fitted to the tank.*

*"Once the internal works have been undertaken, the new cover needs to be fitted onto the frame to ensure a water-tight seal, and both the frame and cover come with Nitrile gaskets to ensure easy subsequent access."*

With STA customer Eurotank already reaping the benefits of the system, Eddie Fataciune, head of operations at Eurotank says:

*"A transformative piece of kit for installers needing to access tanks for cleaning, STA's system not only speeds up the whole process, but gives us and our customers huge peace of mind."*

STA Technical's standard tank access system offers a 600 mm x 600mm entry hole, but the company also offers bespoke sizing options.

**www.statechnical.com**

# Storage tank services

**Ancorra thrive on keeping their customers happy, which is why they do their upmost to maintain the services of storage tanks and ancillary equipment on site. Whether this be a retail or commercial site, Ancorra always have their customers' best interests at heart; which is why we go above and beyond to ensure sites are kept fully operational for our clients.**

To sustain a storage tank that operates well, there are several services Ancorra Environmental offers to ensure the tanks are working accordingly. These are as follows:

- Tank testing
- Tank cleaning (remotely & man entry)
- Tank painting

## Tank testing

As storage tanks are often used to store hazardous or flammable materials, it is important that they undertake tank testing as part of their statutory compliance checks. This is to help identify potential problems before they become a serious safety hazard, and potentially cause severe environmental contamination.

Ancorra can provide outstanding knowledge, and many decades of experience, to carry out essential tank inspections; helping to prevent any issues with storage tanks.

## Tank cleaning

To keep storage tanks working efficiently, Ancorra are able to carry out remote cleaning of USTs. This consists of uplifting the product inside the tank, an internal camera inspection, cleaning the tank remotely, reinspecting the tank with the camera to see how clean the tank is, dry the tank as practically as possible and then bring the tank back into service.

We are also able to provide a confined space crew to carry out a full man entry tank clean inside the tank. If required, this service offers a viable option when the tank is not able to be cleaned remotely.

## Tank painting

As well as being aesthetically pleasing, storage tanks also need painting in order to prevent the tanks from corroding, which will help preserve their structural integrity. Tank painting helps protect the tank, as well as the product inside.

In order to carry out these works successfully, Ancorra makes certain that the tank is cleaned and prepared for painting. Our experienced engineers then treat the tanks with a rust inhibitor to prevent rusting on the tank, and then apply the primer. After careful preparation the tank can then be painted, using either a roller method or spraying.

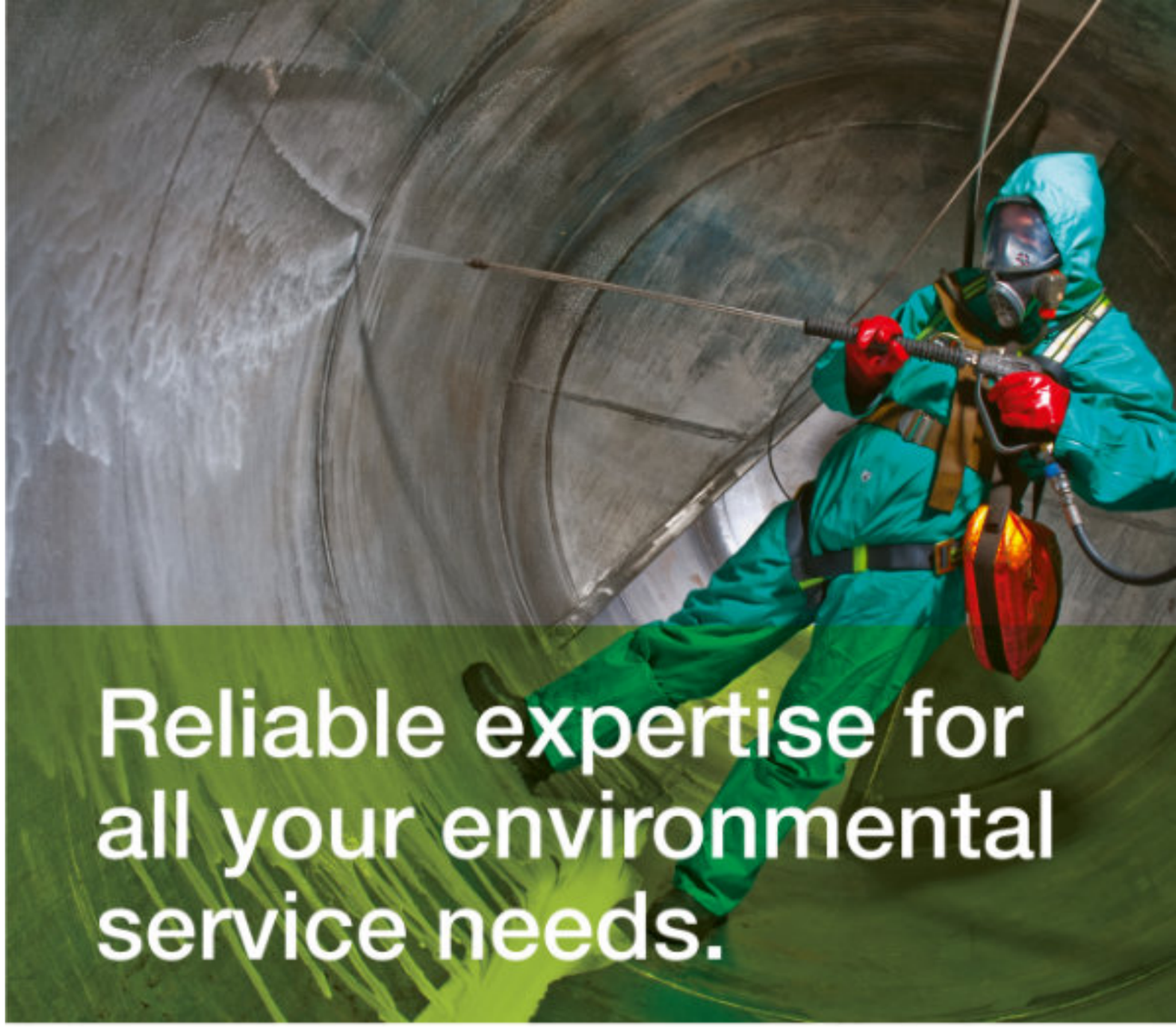
## Other services

Ancorra are also able to provide numerous other services, in order to maintain the well working of storage tanks such as:

- Fuel sampling
- Dipping tanks for water
- Pipework repairs (steel or plastic)
- Gasket replacements

**If you require any further information or assistance please contact: john@ancorraenvironmental.co.uk**




- Tank and vessel cleaning
- Interceptor cleaning
- 24 hour emergency spill response
- Fuel uplift & transfers
- Grade changes
- Fuel recycling
- High pressure jetting
- Foam filling
- Tank decommissioning and removal
- Water filling and dewatering
- Waste management
- Forecourt maintenance

For more information about Ancorra Environmental Services

ancorra environmental services

ancorraenvironmental.co.uk 0151 546 3012

# Mobile fuel storage
# Storage tanks & tank services

## The Petrol Tank Company

**Fuel storage tanks serve as the backbone of any operation reliant on consistent fuel supply, be it for industrial, commercial, or agricultural purposes. The Petrol Tank Company specialises in providing high-quality storage tanks, designed to meet diverse requirements. From small-scale tanks for small machine use to large industrial solutions, our offerings are built to withstand harsh conditions, while maintaining optimal fuel quality and convenience.**

Beyond the tanks themselves, there is the installation. We offer comprehensive tank services, aimed at maximising efficiency and ensuring regulatory compliance. These services encompass installation, maintenance, and inspection, conducted by experienced professionals well-versed in industry standards and best practices.

Remote monitoring, pipework and full compex electrical installations are a few of the services offered to sites and distributors. The minimum delivery for petrol is now 1,000 litres. Sites that don't have the need for this quantity, or the space for tanker deliveries, can benefit from a mobile petrol or diesel solution.

### Mobile petrol tanks and UK highway regulations

In the UK, the transportation of petrol on public highways is subject to stringent regulations to safeguard public safety and environmental protection. The provisions are laid out in the ADR (European Agreement Concerning the International Carriage of Dangerous Goods by Road).

Under these regulations, individuals are permitted to transport small quantities of petrol on public highways using approved

containers. This exemption makes it convenient for motorists and individuals to carry petrol for various purposes, such as refuelling lawnmowers, generators, or other equipment requiring fuel.

Approved UN containers for transporting petrol on public highways typically include portable fuel cans that meet specific safety standards. For larger quantities, mobile petrol 'tanks' provided by The Petrol Tank Company adhere to strict regulations governing the carriage of hazardous substances, including petrol, on public roads. These tanks are equipped with safety features such as secure closures, spill containment mechanisms, and robust construction to prevent leaks or accidents during transit; ranging in capacities from 50 Litres up to 330 Litres.

The caddies can be used on private land and the public highway without the requirement for full ADR training by the operator.

### Awareness of ADR

The Petrol Tank Company offers this guidance and support to clients, regarding legal requirements and best practices concerning the carriage of petrol. This includes ensuring proper labelling, documentation, and adherence to route restrictions, security risks and minimising the risk of incidents; ensuring compliance with relevant regulations.

By offering mobile petrol tanks designed with safety and compliance in mind, we enable businesses to transport fuel efficiently, while adhering to regulatory requirements. Whether for temporary fuel supply needs, or emergency response situations, our mobile tanks provide a reliable solution for fuel transport on UK highways.

### Comprehensive services

In the realm of fuel storage solutions, we stand out as a reliable partner, offering high-quality storage tanks and comprehensive services tailored to clients' needs. With a focus on safety, compliance, and efficiency, we ensure seamless operations and peace of mind for businesses across various industries. Whether it's stationary storage tanks or mobile solutions for on-the-go fuel transport, The Petrol Tank Company remains committed to delivering excellence in fuel storage and management.

**www.thepetroltankcompany.co.uk**

# Double-skin tank lining Q&A

**Operators who have installed a double-skin tank liner in their storage tanks are aware of the benefits this lining system provides. However, for those who have not yet considered this system for safeguarding their tanks and stored products, Abfad has compiled a list of common questions based on their extensive experience in the industry.**

Tank lining is a crucial factor for operators to consider. Over the years, Abfad has encountered numerous storage tanks that are severely damaged and corroded due to inadequate protection.

*Double skin materials installed in underground storage tank*

## What is tank lining?

In short, tank lining is a process to protect the inside of your storage tank. This process involves applying a specially formulated coating to the interior of your tank, which acts as a barrier against harmful effects such as corrosion and degradation.

The purpose of lining your tank in this way is to create a membrane or barrier that protects the integrity of the tank structure, and ensures that the contents inside remain uncontaminated.

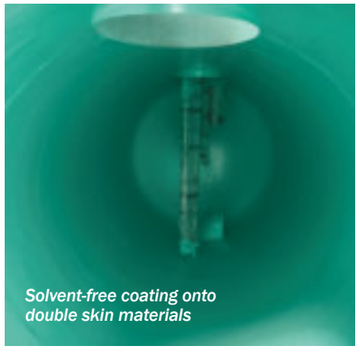
The goal is to create a resistant barrier that seals the internal tank steel and protects against corrosion.

Tank lining is an effective way to safeguard your storage tank from damage and contamination.

## Why is tank lining important?

The top priority for operators should always be preventing corrosion and contamination. One effective way to achieve this is by using tank linings; these can safeguard your tank and stored product from corrosion and harm.

Protective coatings are the key to managing and controlling internal corrosion. These linings create an impenetrable barrier between the stored product and the steel tank, effectively halting the corrosion process and shielding the steel from any microbes, preventing micro-biologically influenced corrosion.



*Solvent-free coating onto double skin materials*

Without proper protection, tanks can fail and cause environmental damage, loss of stored product and potential fines. An unplanned shutdown may also be necessary, potentially costing large amounts of money every day operations are stopped.

Selecting a coatings/lining that safeguards the tank and its contents is essential for maintaining safe and optimal operations.

## How does a double skin liner differ from a normal liner?

The double-skin liner is the ultimate solution for maintaining storage tanks. An excellent solution for safeguarding and monitoring damaged and corroded storage tanks.

Many clients opt to install a double-skin lining system, like Abfad's Fuelvac® double-skin system, for enhanced protection and monitoring.

Double-skin lining provides multiple layers of protection, including a corrosion-resistant coating and a vacuum that encases the original tank steel. This vacuum eliminates conditions that lead to corrosion and enables 24/7 monitoring of the tank's integrity.

The Fuelvac® double-skin liner includes a Class 1 vacuum pressure leak detection system, that continuously monitors the tank day and night.

Fuelvac® is a fully monitored system that contains an interstice (space) between the two layers of protective solvent-free resin. Through this interstice, a vacuum is pulled and held. This vacuum alerts the client if there is a breach (either internally or externally) as any breach will cause the vacuum to drop, triggering the system to alarm.

*Fuelvac solvent-free double skin lining application*

If there is a breach in the lining system an alarm sounds, immediately notifying the operator. This monitoring alarm helps operators plan preventive measures before any tank integrity is lost and a leak occurs.

## Is this just for underground tanks?

Due to the installation process and non-hazardous materials used, Fuelvac® double skin leak detection system can be installed in both above and below-ground tanks of any size. It enables the safe and successful storage of hazardous liquids and petroleum products, with the potential to store most liquids safely and securely.

## Having installed a double-skin liner in a storage tank, how does an operator check the status of its steel?

The tank's integrity is constantly monitored by the double-skin lining system.

A Fuelvac® double-skinned tank is connected to a vacuum monitoring device that checks the integrity of the installation every second of every day, ensuring peace of mind and a professional approach to tank storage maintenance.

## How does an operator know a double-skin lined tank is operating correctly?

If the integrity of the double-skin lining is compromised, an alarm will alert the operator immediately. If a breach occurs in the tank, the operator can plan an inspection with the knowledge the stored product is safe.

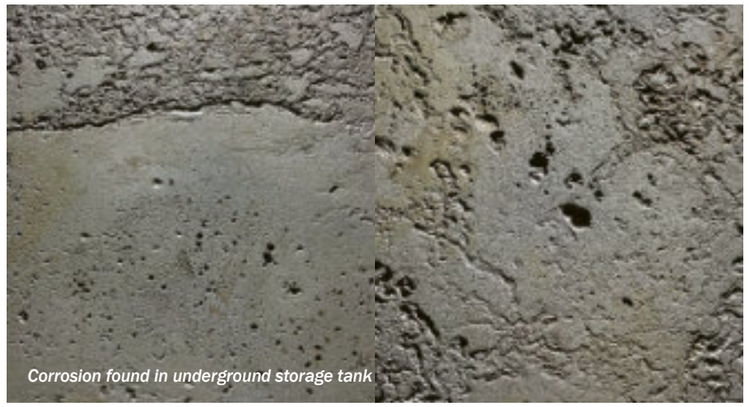
## Has the lining failed if the alarm sounds?

In essence, the lining system has effectively served its purpose by precisely detecting the loss of vacuum; doing the job it was installed to do. This serves as an alert to the operator regarding any potential concerns, while also guaranteeing the safety of the tank's contents. In case of any issues, this also allows sufficient time to plan for inspection and determine the cause of the alarm.

## Can a new storage tank have a double skin liner?

Absolutely, it's always better to prevent problems before they occur.

When a liner is installed in a tank, its steel surface is protected from corrosion thanks to the resistant coating. There is no worry of further corrosion. The tank steel will not be at risk from its contents.



*Corrosion found in underground storage tank*

Taking a proactive approach to tank maintenance is always the wisest choice. Not only does it give you more control and the ability to plan, but it also makes more financial sense in the long run.

## Tell me more about Fuelvac®

Fuelvac® solvent-free double-skin lining system provides 24/7 leak detection for above and below-ground storage tanks of any size, utilising Class 1 vacuum pressure monitoring. The world's only double-skin liner that uses solvent-free coatings throughout the system, alongside non-hazardous materials.

The system has been independently tested and certified to EN13160-7:2016 by TUV NORD.

Fuelvac® double-skin liner is designed to conform to the 2015 COMAH Regulations to prevent major accidents involving dangerous substances, limiting the consequences to people and the environment.

Fuelvac® provides an extra level of safety for clients for pollution management control.

**www.abfad.co.uk**

# OTS expands service with cylindrical tanks: just 8 week delivery

**Discover how OTS enhances its fuel storage solutions with the new addition of cylindrical tanks. These tanks are versatile, efficient and come with a swift 8 week delivery timeline.**

**In a dynamic move to further solidify its standing in the fuel storage sector, OTS is thrilled to announce the expansion of its product range to include cylindrical tanks; in addition to the existing portfolio of standard rectangular Above Ground Storage Tanks (ASTs).**

The introduction of cylindrical tanks comes in response to increased factory capacity, thereby ensuring a swift turnaround of just 8 weeks from design sign-off to delivery, a rate that is twice as fast as our rectangular tank options. This addition marks a significant milestone for fuel distribution depots which traditionally employ cylindrical tanks, enabling OTS to offer like-for-like replacements.

These versatile cylindrical tanks are applicable across a broad spectrum of environments. They are particularly suitable for landfill/leachate, haulage, fuel distribution, logistics, marine environments, construction & plant, and agriculture. Furthermore, these tanks can seamlessly interface with all our fuel distribution equipment, including Gilbarco Veeder Root distribution cabinets and Multiserv™ or Container Fuel Stations.

## Swift turnaround times for enhanced operations

As we expand our portfolio with cylindrical tanks, OTS remains dedicated to meeting the demanding timelines of our clients' projects. We understand that swift delivery and installation times can significantly impact the operations and productivity of our clients. With the introduction of cylindrical tanks, we have leveraged our enhanced factory capacity to ensure an impressively swift turnaround time.

From design sign-off to delivery, our cylindrical tanks are ready within a mere 8-week timeframe. This expedited delivery schedule sets a new benchmark for efficiency in the fuel storage sector, allowing our clients to fast-track their operations; without compromising on quality or safety. It's worth noting that this speedy delivery is exclusive to our cylindrical tanks.

By providing an efficient, reliable solution in a brief timeframe, OTS enables businesses to stay ahead of the curve, ensuring minimal disruption to operations. We remain committed to providing tailored fuel storage solutions that adhere to stringent industry standards and regulations, within a timescale that supports your operational needs.

## Compliance & environmental responsibility

As staunch advocates of ASTs, the preferred choice of the Environment Agency, OTS continues to emphasise the value of flexibility and environmental responsibility, attributes inherently present in these above ground storage tanks. Acknowledged by the Environment Agency, ASTs offer significant advantages over underground storage tanks (USTs), such as the potential for relocation and longer lifespan, ensuring capital preservation and minimised environmental impact.

OTS's commitment to delivering top-quality ASTs, including the new cylindrical tanks, positions it as a one-stop-shop for all your fuel storage needs. With our adherence to industry best practices, we're redefining fuel storage, one tank at a time.

**www.otsgroup.co.uk**

# The NEW CTS multi-channel fuel tank alarm box

## Redesigned with the installer in mind

**The CTS fuel tank alarm range has been on the market for over 20 years. As a trusted supplier of fuel tank equipment since 1987, it's no surprise that our alarms have become the leading choice for tank manufacturers and engineers across the globe. The multi-channel tank alarm is especially recognised on refuelling tanks in a number of industries including haulage, construction and agriculture, as well as on generator diesel tanks. It works by accurately detecting and alerting tank owners of a high or low fuel level in their fuel tanks, or to warn them of presence of fluid in the bund.**

This year, the CTS Fuel Tank Level Alarm box has been redesigned by our inhouse team, to make it even easier for tank manufacturers and engineers to install. It benefits from the same functionality that the market knows and loves, but now has external mounting lugs for easier installation without the need to open up the box until it is being wired on site; as well as incorporating captive screws on the enclosure lid to prevent installers from accidentally dropping and losing them inside the bund.

### Increased sound

The tank alarm box now has a raised sounder on the front of the alarm for an increased sound range and to prevent water ingress.

A rain drip guard now protects the decal for added protection from wet weather, allowing water to run off easily; improving visibility of the light up panel.

Cable gland positioning has been improved, with 7 cable glands on the bottom of the box with a larger gland for easy fitting of a 1.5mm2 mains cable. Our alarms are now also supplied with gland plugs for any unused cable glands to stop water from entering the enclosure.

The CTS Fuel Tank Alarm still has three functions; to detect and warn of a tank overfill, to alert of a high or low level of fuel, and to warn tank owners if there is a leak inside the bund. Each can be customised, based upon the user's requirements and fuel tank needs.

Aside from the new features, the top mounted flashing orange strobe, weatherproof IP55 rating, test and mute functions and automatic reversed float logic for low channels, remain as features of this industry recognised alarm.

There are a number of different variations you can choose from depending upon your requirements: from alarm box only, to options with relay/s for connecting external equipment such as gauges or building management systems, or for using as a pump on/off control.

### Inhouse design

All of our tank alarm range is designed with inhouse expertise and supplied directly from our Midlands based warehouse in Sutton Coldfield.

If you would like more information on our alarm range, contact the sales team on 0121 351 4445, go to the website www.centretank.com or scan the QR code to watch our video on the newest features of this well-loved alarm!

CTS CENTRE TANK SERVICES



WEFCO (GAINSBOROUGH) LTD
Forecourt storage and solutions

The UK's leading manufacturer of
**Underground double skinned fuel storage tanks**

Trusted supplier to the industries oil companies, supermarket retailers, independant / dealer operated and motorway petrol filling stations.

Wefco tanks are constructed to the highest quality by utilising sophisticated semi-automated production line technology

Professional painting and coating facilities and factory fitting of components are all expertly controlled in-house.

**Wefco (Gainsborough) Ltd**
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# Merkland Tank continue investment with latest addition to the fleet

**Merkland Tank, a leading UK-wide provider of tank and specialist industrial cleaning services, continue to invest in their modern fleet; and increase operational capacity with the delivery of a brand new, super-efficient Müller F160 Recycler unit.**

The new Müller Recycler is a state-of-the-art water recycling and jetting vehicle. It applies innovative technologies, to allow Merkland Tank to undertake a range of operations, from drainage maintenance to complex tank cleaning, faster and more efficiently than ever before.

## In constant demand

Since its arrival, the high-performance unit has been in constant demand on a number of key tank cleaning and waste removal projects. It's proved invaluable during a recent anaerobic digestion (AD Plant) tank clean; phase one of a planned maintenance schedule at a renewable energy site on the west coast of Scotland.

On site, waste by-product from the nearby distillery is processed through ten digesters to generate renewable energy for the AD plant, distillery and back to the national grid. Any residual waste that can't be digested is removed to avoid build-up of unwanted materials, which can severely reduce biogas yield.

As specialists in AD plant cleaning, Merkland Tank's Müller Recycler removed over 200 tonnes of residual waste before their team carried out a full internal clean of the digestor space. Fully trained confined space emergency rescue teams used the latest in breathing apparatus technology, to ensure safe working at all times.

The Recycler has also been in action to remove excess silt from a housing development SuDS to ensure the long-term effectiveness of the surface water drainage system, as well as being used alongside Merkland's Artic Vacuum Tanker fleet for planned maintenance on a critical main sewer line in Glasgow.

## Latest significant investment

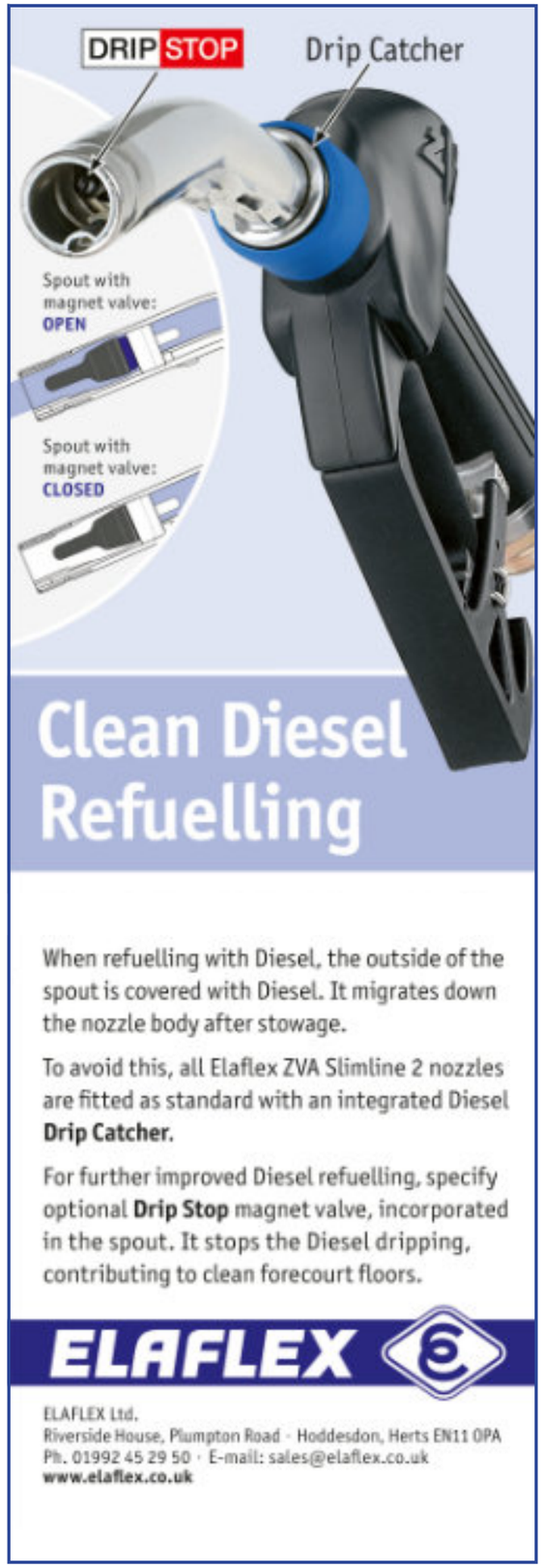
The new Müller Recycler unit is the latest in a number of significant investments in Merkland's fleet over the last 12 months. In 2023 alone, the company added a Volvo FH500 ADR tractor unit and Crossland 30,000 litre stainless steel ADR vacuum tanker, Artic WhaleVac ADR vacuum tanker, two brand new support vans and a drop-side to the fleet to increase operational capacity.

With over 100 years' experience, Merkland Tank are experts in tank and vessel cleaning, bespoke industrial cleaning, waste disposal, fuel tank maintenance and fuel tank decommissioning. They serve customers operating across: the defence, refinery, distillery, food and beverage, marine, wastewater and oil and gas industries.

**www.merklandtank.co.uk**

MERKLAND TANK



# OPW Products provide safe easy-install solution for new diesel ethanol reunion island power plant

## Project overview

Reunion Island's thermal power plant used a combination of KPS and Fibrelite products to overcome many issues including a tight installation schedule, the complexity of a narrow site and harsh weather conditions.

## Problem

The thermal power plant generator turbine uses Diesel and Ethanol, the switch between these two fuels is quite complex and the process must be followed carefully. The challenge was to use pipes that have low head losses and are compatible with both fuels. Due to Ethanol's potential to generate charge, it requires the highest possible level of safety.

The site is quite narrow (narrow plot stretching lengthwise) and the different contractors: civil construction, piping, turbine installers, and similar needed to work as quickly as possible to avoid blocking the site and slowing the build schedule. Réunion Island is also prone to hurricane and tropical heavy rains, meaning the sumps needed to be completely liquid tight.

*The thermal power plant was on a narrow plot stretching lengthwise*

*Multiple contractors were working at once on the Reunion Island site*

## Solution

KPS piping ensured a compact solution, allowing an excellent ratio between effective diameter of fuel passage and compact external diameter, limiting the required size of the trenches. KPS' electrostatically safe conductive piping was used to provide the highest possible level of safety for the Ethanol's potential to generate charge.

The installer friendly fittings (KPS double wall fittings require less welds than any other system) saved a substantial amount of time during installation, whilst Fibrelite's vacuum tested sumps proved the perfect solution as the only truly liquid- tight solutions available. A full training session was performed on site by a KPS / Fibrelite certified trainer in order to ensure a high quality installation.

*KPS Piping and Fibrelite sumps and chambers were installed*

## Results

OPW provided a compact solution combining KPS piping and Fibrelite sumps, which fit perfectly in the narrow site configuration within a tight timeframe, including a full certified onsite training session ensuring a high-quality installation.

*PW provided a compact solution combining KPS piping and Fibrelite sumps*

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Thanks to an ongoing research and development program, and in conjunction with the major oil companies, the SMARTFLEX piping system has become the leading design system on the market today.

## Electrofusion welding

The electrofusion welding system allows for greater protection and leak-tightness. The welding process is carried out at minimum voltages, in compliance with accident prevention standards.

The use of barcodes that contain important information about the products allows for initial checks and records as well as for monitoring during the product lifetime ensuring complete traceability and a higher degree of reliability.

1972-2022 50 YEARS OF nupi

SMARTFLEX is brand name of Nupi Industrie Italiane S.p.A. one of the largest manufacturers of this type of fuel pipework.

Nupi was founded in Italy over 50 years ago and now is a global company with 7 factories worldwide, and many local warehouses, including a UK base in the Midlands. This allows Nupi customers to get the material at a day's notice, and at competitive prices.

Global and national oil companies, as well as many privately owned networks, in approximately 150 countries around the world have been using SMARTFLEX for almost 30 years.

Nupi offers local support and training in all the markets it operates.

**To find out more contact:**

**Maja Nedic,**
**European Sales Manager,**
**Nupi Industrie Italiane S.p.A.,**

**maja.nedic@nupinet.com**
**www.nupiindustrieitaliane.com**

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# Red Guide: summary

**"Petrol filling stations: Guidance on managing the risks of fire and explosion" (the Red Guide) has been jointly developed by industry, regulators and petroleum enforcement authorities through the Petroleum Enforcement and Liaison Group (PELG).**

The purpose of the Red Guide is to assist site operators (employers) in complying with their obligations under the Dangerous Substances and Explosive Atmospheres Regulations 2002 (DSEAR) and to take appropriate measures to control the risks of fire and explosion arising from the storage and dispensing of petrol.

The Red Guide is also of value to Petroleum Enforcement Authority (PEA) Inspectors to assist them in understanding the requirements placed on employers, and to ensure a consistent and proportionate approach to enforcement.

The Red Guide covers:

a) The most common fire and explosion hazards associated with the unloading of road tankers, the storage and dispensing of petrol, the commissioning of new and redeveloped filling stations and taking of storage tanks and equipment out of use (decommissioning)

b) How to assess, identify and deal with the risks that these activities present, and provides information, advice and examples of good practice on how to manage and control the risks of fires and explosions occurring.

This executive summary acts as an introduction to the full requirements set out in the Red Guide, and the responsibilities placed on employers in complying with the referenced regulations.

**www.energyinst.org**

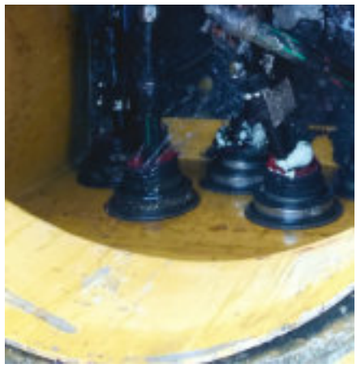
# Combatting groundwater ingress in underground fuel systems: A technical overview

## Introduction

Groundwater ingress into underground chambers and sumps is a prevalent and critical issue in fuel installations, especially at petrol stations.
This phenomenon not only threatens environmental safety but also compromises the integrity of fuel systems. The essence of addressing groundwater ingress lies not only in understanding its implications, but also in adopting innovative solutions that ensure both environmental protection and the longevity of fuel infrastructure.

## Understanding the problem

Underground chambers and sumps are integral to the fuel systems at petrol stations, designed to house connections, valves, and pipes that facilitate fuel storage and distribution. However, the majority of these structures are vulnerable to leaks, primarily at entry seal positions where fuel pipes and ducts penetrate the sumps. This vulnerability presents a twofold risk: the escape of fuel into the environment and the entry of groundwater into the fuel system.



## Implications of leaking chambers and sumps

The ingress of groundwater into sumps is not a benign occurrence; it can lead to several detrimental outcomes:

- Environmental contamination: If groundwater can infiltrate a sump, the reverse is equally true; fuel can escape into the surrounding environment, leading to contamination.
- Fuel contamination: Water infiltrating underground manhole chambers can mix with stored fuel, leading to contamination. This contamination is not just a matter of diluted fuel; it becomes a breeding ground for microbial growth. Acetobacters, which thrive in ethanol/water mixtures, produce acetic acid, accelerating the corrosion of tank lid furniture and compromising the system's integrity.
- Hazardous waste generation: Groundwater contaminated with fuel due to leakage must be treated as hazardous waste, necessitating complex and costly disposal processes in compliance with environmental regulations.

## Regulatory considerations

The regulatory landscape in the UK, in comparison to the US, reveals a gap in the requirements for petrol station infrastructure integrity. The absence of mandates for integrity testing in the UK points to a critical area for policy development, aiming to elevate the standards of fuel system maintenance and environmental protection.

## Stopping the issue with good design

Despite the availability of advanced sealing technologies, the majority of sumps and seals currently in use, or being installed, rely on rubber boots. These materials are prone to degradation and failure, particularly in the presence of fuel vapours/liquids, underscoring the need for a transition to more reliable solutions.

Addressing the problem of groundwater ingress requires a shift from traditional sealing methods to more advanced and

reliable technologies such as Electrofusion and Bonded Entry-Seal Technology. Utilising this technology can significantly reduce the likelihood of leaks. These technologies offer a more robust and durable seal compared to traditional methods, effectively preventing groundwater ingress and fuel egress.

## Innovative repair technologies

Addressing groundwater ingress into underground fuel systems necessitates not only a comprehensive understanding of the issue but also the implementation of advanced repair and sealing technologies. PFS Fueltec has introduced a range of cutting-edge products specifically designed to tackle water ingress at fuel installations effectively. These products represent a leap forward in both the methodology and materials used for repairs, ensuring longevity, environmental safety, and operational efficiency.

## Icon FastFoam: A quick-fix solution to enable longer-term repairs

Icon FastFoam is a revolutionary two-part urethane expanding foam that activates instantly. It can be injected from the inside towards the outside of sumps at the point of water ingress, creating a temporary seal within seconds. This rapid action allows for more permanent repair and treatment of active water leaks without the need for large pumps to lower the surrounding water table; a process that not only is cumbersome but also incurs significant costs.

FastFoam represents a practical, cost-effective solution to immediately address leaks, facilitating a smoother transition to long-term repair measures.

## Icon SplitRepair: Innovative entry boot repair fittings

The Icon SplitRepair system introduces a range of repair entry seals designed to replace existing fittings that have failed due to age, degradation, or damage. These innovative fittings can be installed without disconnecting pipes, breaking concrete, or replacing the sump container, offering a hassle-free alternative to traditional repair methods. Benefits of the SplitRepair system include:

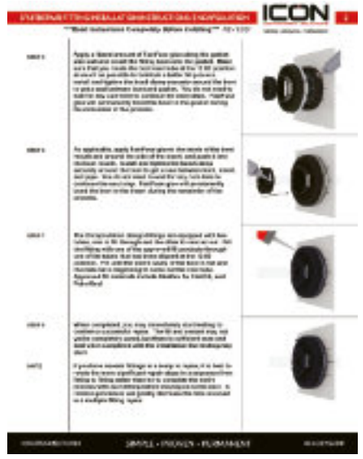
- No need for pipe disconnection or excavation
- Accommodation for angled pipe entry
- Compatibility with all fuel types, exceeding industry standards
- Lifetime Warranty

## Icon FastFix: Versatile and efficient sump wall repair patch

The Icon FastFix system offers a UV-cured fiberglass repair patch suitable for a variety of surfaces including concrete, steel, fiberglass, and polyethylene.
It shines in aggressive environments like aboveground and underground fuel storage systems, curing in as little as 15 minutes under natural light or with a UV flashlight. This peel-and-stick application can withstand pressures over 2,200 psi once fully cured, making it an all-fuels and all-blends compatible solution for structural and protective repairs.

## PolyFuse: Advanced structural bonder for polyethylene

PolyFuse is a two-part, acrylic-based structural bonder designed for the repair of minor damages in petroleum containment sumps and chambers made of "low energy" Polyethylene plastic. With the right surface preparation and application, PolyFuse




offers a permanent fix to leakage issues, sidestepping the immediate need for costly sump replacement. Compatible with all fuel types and blends, it exemplifies the industry's move towards versatile, durable repair solutions.

## iBond: Multi-purpose structural bonder

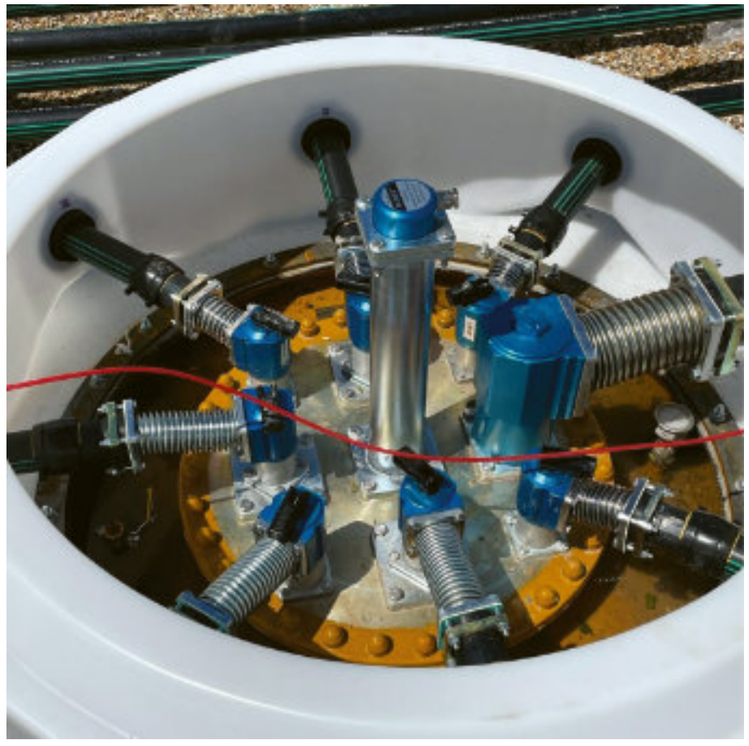
iBond stands out as a two-part, fast-curing, multi-purpose structural bonder for repairing chambers and sumps made of fiberglass, concrete, and steel. It ensures that, with proper application and surface preparation, the repairs are permanent, thereby avoiding the expense and hassle of sump replacement. Having passed 3rd Party Testing for compatibility with all fuel types and blends, iBond underscores the industry's commitment to reliable, long-lasting repair solutions.

## Conclusion

The challenge of groundwater ingress into underground fuel systems is a complex issue that encompasses environmental, technical, and regulatory dimensions. The introduction of advanced repair technologies by PFS Fueltec represents a significant leap forward in addressing these challenges.

By combining innovative sealing technologies with these new repair solutions, the fuel industry is better equipped to mitigate the risks associated with groundwater ingress efficiently and effectively. These efforts are crucial not only for safeguarding environmental and public health but also for enhancing the operational reliability and sustainability of fuel infrastructure.

**For guidance on dealing with leaking chambers and sumps, contact**
**Alex Boudry at PFS Fueltec Ltd.**
**alex.boudry@pfsfueltec.com**
**or on 01376 535260**



# Future fleets: Are you keeping up with the trends?

**With CO2 emissions increasing every year since 2014 (with the exception of 2020) decarbonising heavy-duty transport is going to be key to accelerating the road to net zero.**

Fortunately, the green fleet transport revolution continues apace.

With a steady increase in year-on-year demand, it's fair to say heavy-duty transport has superseded the passenger car in terms of cleaner fuel adoption.

What more can we glean from this? Well, the technology industry tops the charts as the sector with Europe's 'most sustainable' fleets. But how do other industries compare?

Dover Fueling Solutions® (DFS) examines the data to help fleet managers establish whether they're keeping up with the competition and shares what you can do to help future-proof your transportation.

So, how futuristic is your fleet?

## The sustainability standings

Spanning 22 European countries, the fleet sustainability rankings determined the industries with the lowest overall CO2 emissions. The results were as follows:

1. Technology
2. Financial Services
3. Energy & Chemicals
4. Industrial
5. Automotive
6. Consumer Goods
7. Construction
8. Healthcare & Pharma

With the lowest overall average CO2 emissions combined with the second highest Battery Electric Vehicle (BEV) share, the technology industry blazes a trail for sustainable fleets and sets a shining example to other sectors.

Thankfully, prevailing trends are positive, with the number of alternatively fuelled vans, trucks and buses growing steadily. Vans make up the majority of this, with an upswing in trucks and buses too.

## The most carbon neutral countries

It's also useful to drill down into the data to determine the countries with the most clean-fuelled trucks on the road.

Despite being the European leader in terms of EV passenger car adoption, Germany ranks fourth in terms of commercial vehicles powered by all alternative fuels including Hydrogen, LNG and CNG. See below the countries with the most alternatively-fueled light commercial vehicles in Europe:

1. Poland – 165,014 units
2. Italy – 160,291 units
3. France – 90,929 units
4. Germany – 67,276 units
5. Netherlands – 34,349 units

In terms of heavy goods vehicles (HGVs), adoption remains slower with the sector still heavily reliant on diesel fuel. Switzerland leads the way with 77 electric-powered trucks, followed by Norway with 56 and Sweden with 47. In fourth and fifth place were the Netherlands and Germany, with 42 and 37, respectively.

In comparison, over 45,000 hydrogen-powered trucks are expected on European roads by 2030.

Its simple dispensation method is similar to Compressed Natural Gas (CNG) and will soon be able to deliver around 10kg of hydrogen per minute. This may be a better choice for HGV drivers on long-haul drives.

Liquefied Natural Gas (LNG) is another viable option and is quickly becoming one of the preferred clean fuels on the European market. A reported 8,608 LNG-powered trucks are already on EU roads with 1,202 registered in 2022 alone.

## Alternative fuelling by organisation

It's fair to say that clean-fuelled fleets have grown significantly in the B2C sector too. This has been underpinned by delivery companies such as Amazon, FedEx and DHL alongside retail brands like IKEA and Best Buy, who are also committing to EV.

For example, as part of its climate pledge, Amazon plans to purchase 100,000 electric vans by 2030, with 50% of shipments said to be in line with net-zero principles. DHL meanwhile intends to operate 70% of its first and last-mile delivery services with clean transport modes by 2025.

Alternative fuelling by organisations would appear to span EV, natural gas (LNG and CNG), and hydrogen, proving there's no one-size-fits-all fix for every business.

FedEx, for instance, has pledged to have an all-electric fleet by 2030, demonstrating that EV is an ideal choice of vehicle for local courier deliveries. German supermarket chain EDEKA, meanwhile, is set to convert its 700-strong vehicle fleet to LNG. In addition to this, an estimated 17% of new trucks will run off hydrogen across the EU by 2030.

## What infrastructure is needed for business fleets to make the transition to clean fuels?

Businesses transitioning to clean fuels require a robust infrastructure to support adoption. Lise-Lotte Nordholm, VP & GM Clean Energy and Global Platforms at DFS advises:

*"First and foremost, a comprehensive charging or refueling network is vital for electric and hydrogen-powered vehicles. Establishing charging stations in strategic locations, including workplaces, commercial hubs and along major transportation routes, ensures convenience for all fleet vehicles.*

*"For electric fleets, investing in a scalable charging infrastructure with various charging levels, including fast-charging stations, is essential. Businesses can collaborate with local governments and energy providers to develop a cohesive network that caters to the diverse needs of their fleets.*

*"Additionally, smart charging solutions, incorporating renewable energy sources, can optimise energy use and reduce the overall carbon footprint of the charging process.*

*"In the case of hydrogen-powered vehicles, developing a hydrogen refueling infrastructure is critical. This involves establishing hydrogen refuelling stations strategically, particularly in countries and regions with high fleet activity.*

*"Collaborative efforts with energy companies and government incentives can expedite the deployment of these stations, ensuring a seamless transition for businesses embracing hydrogen fuel cell technology."*

## How can your fleet make the transition?

Whether you're looking to switch to hydrogen, EV, CNG, LNG or another alternative fuelling option, there are some important things to bear in mind. Lise-Lotte continued:

*"**Assess your fleet:** Take the time to analyse your fleet. Your average fuel consumption and their general purpose. This may help you identify areas where alternative fuels could be adopted.*

*"**Decide on your alternative fuel:** There are a number of alternative fuels available. Evaluate which is most appropriate to your specific needs based on factors such as cost, range and fuelling infrastructure.*

*"**Financial incentives:** Be sure to cash in on any financial incentives. These may include grants or tax credits governments offer to encourage alternative fuel adoption.*

*"**Stakeholder engagement:** Make sure to engage with your employees, clients and suppliers to communicate the benefits of your alternatively fuelled fleet. This can help publicise your sustainability efforts and potentially attract environmentally conscious customers."*

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## Membership code of ethics

**In addition to our complete review of the PEIMF+ constitution, we have also had a team dedicated to reviewing and updating our members' code of ethics.**

All membership renewals will be accompanied by this document, as all member companies are expected to agree with, and adhere to, these principles:

### OUR AIMS AT ALL TIMES ARE:

- To provide the best possible service to our clients and customers.
- To observe superior standards of conduct in our dealings with clients, customers and peers regarding integrity, fairness and honesty.
- To maintain a strict duty of confidentiality of our clients' affairs.
- To acknowledge that contracts should be fair to all parties and, where appropriate, to settle disputes by voluntary agreement or impartial arbitration.
- To continually strive to achieve best practices and methods relevant to our industry.
- To provide superior quality leadership, materials and workmanship to the best of our ability.
- To undertake to share best practices and learnings with other members thus promoting our 'Working Together' philosophy.
- To show that, by virtue of membership of PEIMF+, the members have and do signify their commitment to the above principles.



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Supply, maintenance & installation of tanks, pipes. Tank cleaning & decommissioning

**IMF Solutions**
07825 703936
www.imfsolutions.co.uk
Tanks, pipeworks (plastic welded, steel, mapress), SGB Class 1 monitoring systems, tank lining, coating, inspection and repair, tank, gauge installation and maintenance

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www.fuelworking.co.uk
Fuel equipment supply service and maintenance

**Istobal UK Ltd**
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**Jackaman Ins Services Ltd**
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Specialist insurance services to the petroleum industry

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www.blakegroup.co.uk
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www.judviacs.com
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**J W Hinchliffe (Tanks) Ltd**
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www.jwhtanks.co.uk
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**Kidderminster Petroleum Services Ltd**
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www.kidderminsterpetroleumservices.com
Petrol forecourt Installation, maintenance and service

**Ledbury Welding & Engineering Ltd**
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**www.lweltd.co.uk**
**Bunded tank manufacturers, SuperVault modular filling station**

**Lees Industrial Services Ltd**
01942 722244
www.leesindustrialservices.co.uk
Tank and Pipeline decommissioning using BritFoam, a resin based hardfoam

**Leighton O'Brien**
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www.leightonobrien.com
Wetstock management services, tank testing /cleaning & fuel polishing

**LCM Environmental**
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www.lcmenvironmental.co.uk
Fuel testing, polishing & uplifts; tank cleaning, installation

**LS Forecourts Ltd**
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www.lsforecourts.co.uk
Pumps, pipes, tanks, gauges, sales, service, installation and repair

**Madic UK**
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02830 878259
Installation of diesel generators, remote fuel tanks and pipe work, DC control systems. Commissioning generator and fuel control systems

**Makeen Energy**
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www.makeenenergy.com
LPG installation & maintenance, inspections, calibrations, training and decommissioning on forecourts throughout the UK

**MDM Services (Cardiff) Ltd**
01633 277277
www.mdmservices.co.uk
Installation and maintenance of forecourt and commercial fuel products

**ME Group**
07710 693204
www.me-group.com
Vending, Revolution Launderette, photo booths & speed labs

**Merridale Ltd**
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www.merridale.co.uk
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www.mitwebservices.co.uk
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**Nupi Industrie Italien S.p.A**
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www.nupiindustrieitaliane.com
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**OAMPS Hazardous Industries**
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Specialist insurers for the petroleum industry

**O'Connell Site Services**
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**Octane Holding Group**
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**www.octane.uk.com**
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Fuel storage systems including hire and industrial tanks

**On The Level**
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**OPW**
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www.opwglobal.com
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**Panks Engineers (Castle Hill) Ltd**
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**Pennine Pump & Tank Company**
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www.penninepump.co.uk
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**Petroassist**
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**Petrol Sign UK Ltd**
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www.petrol-signuk.com
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**The Petrol Tank Company Ltd**
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**PFS Fueltec Ltd**
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www.pfsfueltec.com
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**Premier Forecourts & Construction**
01792 310600
www.premierforecourtsandconstruction.com
Specialists in PFS fuel systems, construction & maintenance

**Project-A International Ltd**
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www.project-a.uk
AdBlue consultancy, project management, compliance auditing, process engineering and environmental management

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www.propelfinance.co.uk
Specialist asset finance in the forecourt and convenience market

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www.protego.com
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**www.pumpwatch.ie**
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www.risbridger.com
Forecourt products to protect the environment and make forecourts safer.

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www.safefill.co.uk
Suppliers of refillable LPG cylinders

**Scotia Forecourt Services Ltd**
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www.scotiaforecourt.com
Manufacturing, refurbishing, and servicing forecourt valeting equipment

**SDM Fuel Solutions**
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www.sdm-fuelsolutions.com
Engineering services, fuel sampling, cleaning, uplifts, emergency response

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www.srelectrical.com
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www.fassuk.com
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www.united-pipework-specialists.co.uk
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Forecourt protection and parking solution

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A comprehensive & professional fuel system installation & maintenance service

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