

SUSTAINAB Issue 411 Apri Tel: 0121 550 7510

Issue 411 April

Tel: **0121 550 7510** www.tradexnews.co.uk

energy | water | waste | recycling | sustainability

SAP 10: A small change that hints at big things for decarbonising Britain's heat

Kevin Stickney, managing director of Erda Energy, argues recent building assessment factor updates are an overdue (and incomplete) corrective, offering a glimpse of the UK's electrified future for heating

he Standard Assessment Procedure (SAP) 10 attracted little fanfare outside policy circles and the building and heating professionals when it was released back in July. Little wonder: it is a set of mainly dry assessment criteria for building design hat aren't even legally binding until reflected in updated building regulations, which probably won't happen until 2019 or 2020.

But these assessment criteria – last adjusted in 2014 - have been a handbrake on the urgent need to decarbonise heat in the UK. As policy and fiscal stimulus have turbocharged the engine and investment in renewable electricity has laid out a smooth road, clean heat has been held back. With SAP 10 lifting the handbrake, this could be the start of a fundamental shift in how we decarbonise heat in this country

We should certainly hope so: heating makes up 32% of our total emissions, far ahead of power (21%) and transport (24%).

SAP 10: Long Overdue

The SAP standards list a number of factors used in assessing the environmental performance of buildings. Though not yet legally binding, publishing them now gives the building sector forewarning on adjustments to factor into planning and design decision.

So how have the standards changed? The major talking point has been the carbon factor of grid electricity. Last updated in 2012 (though not effective until 2014), the

current SAP figures stipulate 0.519kgCO₂/kWh. This means that for every kWh of grid electricity used by the building, it is estimated to produce just over half a kilogram of CO₂. This compares to a carbon factor of 0.216kgCO₂/kWh for mains gas, meaning designers have been more likely to opt for gas-powered heating in new buildings to meet emissions targets.

However, in the six years since SAP 2012 was written, the UK's grid has made great strides in decarbonisation. We're used to reading headlines now about record renewable production and coal free days. To catch up, SAP 10 slashes the grid electricity carbon factor used to 0.233kgCO₂/kWh, compared to 0.210kgCO₂/ kWh for gas. Suddenly, on paper, combined heat and power systems and standard gas boilers look much less attractive compared to electric heating systems, such as geo-exchange and ground or air source heat pumps (GSHPs, ASHPs).

Time to Accelerate?

This is a positive step. Once in use, the new figures will bring us much closer to reality. However, nothing is set in stone. Until the new standards are embedded in building regulations, anything can change. Bear in mind that, right now, electric heating such as geo-exchange is still assessed at 0.519kgCO₂/kWh while 2017's grid carbon intensity was estimated at 0.225kgCO2/kWh.

However, there are some pretty hefty caveats. First, note that 2017's grid carbon intensity is already below that used in SAP 10. Then consider that the new factors won't



apply until something like 2020. If grid decarbonisation continues – as current BEIS forecasts indicate – that could mean the carbon factor is significantly outdated by the time it comes into force.

At the time of writing, you need to go back more than three years, to the 8th May 2015 at 10:15pm to find the last five minute period with an average grid power emission rate equal to or higher than 0.519kgCO₂/kWh.

In effect, this means SAP 2012 has been distorting the decisions of building designers for years; artificially skewing environmental assessments. SAP 10 catches us up to today's figures but threatens to do the same again by 2020 if left static.

Hopefully this won't be the case. The BEIS consultation response suggested it would look into updating the carbon factor based on a monthly method (though the target for new buildings wouldn't change monthly)

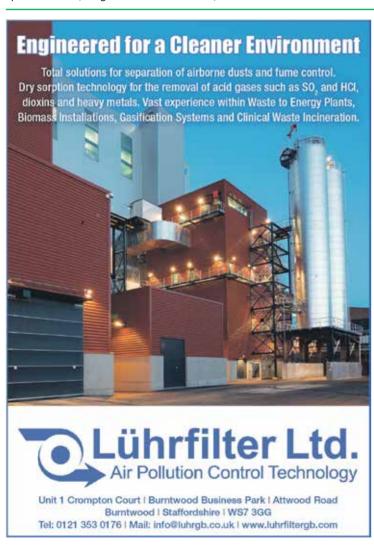
effect it would only be to remove a longstanding artificial disparity, rather than offer particular support to low/zero-carbon heat.

Whole System Thinking

If an updated and upgraded SAP goes some way towards unshackling electric heat sources, there are other trends pushing that way too. Since the Conservatives dropped the zero-carbon homes policy, organisations such as the Green Buildings Council have tirelessly campaigned for it to be reinstated. Now Labour have adopted the policy, increasing the pressure. This matters. Zero-carbon is more stringent than low carbon, and all but precludes solutions based on CHP or the gas network (barring some big leaps of faith about hydrogen).

Recent research from the Energy Systems Catapult and Oxford University also questioned the fairness of the current balance between standing and unit rates for electricity supply. Current arrangements, they argue, favour users of on-site generation such as solar, as by offsetting grid use they pay proportionally less towards transmission and distribution costs despite still relying on the network. Conversely, users of low-carbon electric heat systems pay more than their fair share due to higher electricity usage, despite also making environmentally responsible decisions. They advocate for a rebalancing to remove this distorting influence on heat.

T 020 7236 0883 www.erdaenergy.com





MTK: New facility

M TK Breaker Hire & Sales, founded in 1999 and taking root in Manchester, has expanded its operation after recently opening a new branch near Cannock. Staffordshire to



distribute Kinshofer's Crusher and Screening Buckets along with the NOX Tiltrotators. The new branch, which opened in October, had two chief points of focus: existing customers and sales enquiries for newlyintroduced products. The new operation will increase area demand and support for hire, sales and repairs in the Midlands region.

The opening of the Midlands branch also means the company, which is a leading UK provider of hydraulic excavator-mounted attachments, now have two depots: one covering the North West and the other South Staffordshire and central Birmingham - with a five year expansion plan to open two further depots. As well as covering the Midlands the new depot allows quicker deliveries for spot hires, emergency breakdowns and greater coverage for southern England.

In 2019 MTK will be introducing Kinshofer's new product ranges which include screening and crushing buckets, with the new depot opening up in Cannock they can now provide quicker turnaround to customer demands. MTK also has its own fabrication workshop to repair & maintain customer products as well as its own hire fleet equipment. In addition, the company have just launched a brand-new website, where customers can view all their existing products and services.

T 0161 225 9740 www.mtk-breakers.co.uk

Water, wastewater and environmental monitoring

WWEM 2018, the 8th in the Series of International Water and Wastewater Monitoring events took place at The International Centre, Telford from 21-22 November 2018.

WWEM comprised a two day conference run with industry partners including SWIG (Sensors for Water Interest Group), and The Royal Society of Chemistry.

It's an exhibition of over 150 companies who provide instruments, equipment and services to monitor, test and analyse water and wastewater,



plus over 80 free technical seminar sessions on applications and case studies. Visitors to WWEM were able to source the latest products from laboratory analysis to process monitoring to testing out in the field as well as information on working in hazardous areas and gas detection.

In 2018 WWEM once again ran side by side with AQE 2020 (The 11th International Conference and Exhibition on Air Quality and Emissions Monitoring). Visitors to WWEM and AQE were able to enter both these complementary events free of charge and benefited from attending two industry

shows at one time under one roof showing a full range of products and services for environmental monitoring.

The biennial event returns to Telford's International Centre from 11-12 November 2020. This is our second pick of the best exhibitors from 2018's event, listed here in alphabetical order: Detectronic, Photonic Measurements, Pulsar Process Measurement, TCS Biosciences & Van Walt Ltd. Further details can be found below.

www.ilmexhibitions.com/wwem

Detectronic: Monitoring specialists with multiple solutions

As leading monitoring specialists, we manufacture, install and maintain a range of flow, level and water analysis instrumentation used across a wide range of sectors and applications.

We were proud to showcase our new MSFM MCERTS flow meter recently at WWEM. A battery powered AV flow meter providing guaranteed flow, velocity, depth and temperature measurement accuracy for sites which require MCERTS equipment, it is perfect for use in part-filled pipes and open-channels. Extremely versatile, the MSFM MCERTS can be located almost anywhere in the existing sewer channel or pipe and is suitable for wastewater applications including



Pass Forward Flow (PFF) monitoring and final effluent monitoring.

At Detectronic we provide full service solutions with a bespoke approach to every project. Our dedicated teams can provide flow surveys, asset performance investigations, flow and load surveys, flow meter hire, trade effluent monitoring, CSO monitoring, data screening and analysis, sewer monitoring and alarm management programmes.

Whatever your monitoring requirements, we have a costeffective and highly accurate solution!

Contact T 01282 449124 sales@detectronic.org www.detectronic.org

Interchangeable technology transducers, a new velocity sensor and a WRC IUG award!

A t WWEM, Pulsar demonstrated interchangeable RADAR and ultrasonic sensors. Both types perform initial signal processing within the transducer, while a common controller family provides control functionality. RADAR and ultrasonic are now completely interchangeable and retrofittable, so users can switch easily between RADAR and ultrasonic simply by replacing a transducer.

Also on show was Pulsar's recent development Microflow-i is a low power non-contacting microwave velocity measurement device that allows flow volumes to be calculated. Low unit cost means that measurement can be more widely deployed to give clarity of network flow profiles.

The WRC Instrument User Group presented two awards at the recent WWEM exhibition, one of which was won by Pulsar Process Measurement for Best After Sales Service. The award was introduced by IUG to recognise the instrument supplier that, through prompt aftersales support, goes the extra mile to ensure that their



technology meets the needs and expectations of the water companies.

Commenting on the award, IUG Chair, Dr Leo Carswell, said, "Pulsar stood out from the other suppliers, with the IUG members impressed with strong account management and willingness to meet regularly, resulting in speedy response and resolution to technical issues."

T +44 (0)1684 891371 info@pulsar-pm.com www.pulsar-pm.com

The future is data – data delivered by Van Walt Ltd

Van Walt Ltd, the specialist supplier of environmental research equipment, recently launched their brandnew Data Collection Systems.

Developed in-house, the systems address the growing demand for accurate site data, cost-effectively retrieved. "A customer can save money by reducing time and resources spent visiting site," says Vincent van Walt, Owner, Van Walt Ltd. "Telemetry takes away the need to go to site as data is streamed directly to your desktop, tablet or mobile. You know immediately if there has been any interruption to collected data."

Telemetry is not new but Van Walt found there was no one fit solution that would 'talk' to a range of sensors and instruments. "Our customers often have deployed sensors and they want to retrospectively connect these instruments and perhaps add other monitoring equipment; different brands and/or different functions. Traditionally, this is when problems occur," says Vincent.

If you need to incorporate different monitoring elements like water level monitoring; water quality; soil moisture; flow gauging or switching instruments on/off; you need a system that talks several languages: Modbus; SD12; Pulse, Analog etc. A system that will output data via GPRS, satellite and radio, so data from difficult to access, remote locations becomes feasible with Van Walt's Data Collection options.



This powerful and flexible range of data loggers and telemetry is packed with features like multiple, simultaneous inputs and outputs; connection of up to 300 different environmental sensors to one data logger. A system that instructs, powers, interrogates and collects data from onsite sensors, organises it for distribution or sharing through on-board memory, industrial SD card, radio frequency, GPRS or satellite portals – is truly unique.

T 01428 661660 sales@vanwalt.com www.vanwalt.com

TCS Biosciences, UK distributor for TECTA-PDS

TECTA-PDS is proud to offer the only US EPA approved automated microbial detection system for water quality monitoring. The Tecta solution fully automates the entire monitoring, interpretation and reporting process, helping to reduce manpower, eliminate human error and user bias, and shorten the overall time from sample-to-result. The Tecta method is capable of testing any sample from throughout the entire water cycle, from drinking water to bathing water to waste water (and even non-water matrices), without the need for dilutions. It offers laboratory-grade results but with the ease-of-use and portability that allows for on-site use if desired.

The solution is 'built for operators' and can be used as an on-site operational tool for micro testing, for compliance testing in the lab, or for any number of applications in between. The operator simply adds a sample to the test cartridge, places it in the instrument, and presses 'play' to initiate the test. Everything is fully automated from there, including results interpretation and immediate email notification of results. The Tecta system is available in both 4 and 16 chamber



instruments, together with test cartridges for specific parameters including E.coli, total coliforms, fecal coliforms, and enterococcus.

With Tecta's rapid, automated, Θ approved microbial detection system, users can run any micro sample, anywhere, any time.

T +44 (0)1296 714222 F +44 (0)1296 714806 sales@tcsgroup.co.uk www.tcsbiosciences.co.uk

Photonic Measurements UV254 GO!

Photonic Measurements goes from strength to strength

Due to outstanding success at WWEM 2018, Photonic Measurements Ltd has attracted a range of new customers throughout the United States, Asia and Europe.

Photonic Measurements, supplier of UV254 measurement equipment, showcased its products including the UV254 GO! – a portable, hand-held analyser equipped with an icon-based interface that is easy to navigate.

The versatility of the Go! means it can be used in applications from drinking and waste water to industry and environmental monitoring. The Go! can collect multiple results simultaneously with the ability to store tens of thousands of data points. Graphs can be created on the analyser to visually represent the results. Data can be transferred via the USB port for review in Excel.

Photonic Measurements also provides a range of UV254 Probes, useful for continuous measurement of organic material in water, including surrogate measurement of COD, BOD, TOC & DOC. Effective management of organic load can be used to reduce harmful disinfection



by-products.

Photonic Measurements will be exhibiting at Aquatech in Amsterdam from the 5th-8th November.
To learn more about Photonic Measurement, visit: www.photonicmeasurements.com or to discover more about our products, call +44 (0)28 9210 6263 or contact: sales@photonicmeasurements.com



For more information about these portable units or our range of continuous measurement probes email us at sales@photonicmeasurements.com or give us a call +44 (0)28 9210 6263

The Air Quality and Emissions Show

With air quality
experiencing extremely
high levels of global political
and media interest, and with
Brexit looming at a time
when the UK Government has
suffered repeated losses in
Court, the timing of AQE 2018
could not have been better.
Debate is intensifying around
the measures that must be
taken to address air pollution, and
monitoring has a key role to play.

The content of the AQE 2018
Conference was therefore
developed in association with the
STA (Source testing Association),
EPUK (Environmental Protection
UK), the REA (Renewable Energy
Association), the CEA (Combustion
Engineering Association) and IAPSC
(Investigation of Air Pollution
Standing Conference).

Held alongside the WWEM (Water Wastewater & Environmental Monitoring) event at Telford's International Centre from 21-22 November 2018, the exhibitions featured over 230 companies representing more than 400 manufacturers, and there were a total of over 140 free technical



workshops to choose from.

In addition to the updates on regulations that were provided by many of the conference speakers, each exhibition featured a 'Regulators Stand' providing help and advice from the regulators of England, Wales, Scotland, Northern and Southern Ireland.

AQE 2020, co-located again with WWEM, returns to Telford's International Centre in two years' time from 11-12 November 2020. This is our pick of the best exhibitors from last year's show, listed here in alphabetical order: Thermo Fisher Scientific & Vaisala. Further details can be found on this page.

Contact www.ilmexhibitions.com/aqeshow

Power duo for air quality and weather measurements from

Vaisala

Vaisala, a global leader in environmental and industrial measurements, offers a state-of-the-art air quality transmitter series AQT400 and weather transmitter series WXT530 that represent the cutting edge in compact atmospheric sensing. Ideally suited for small and large environmental sensing networks, both instruments provide up to six most essential air quality and weather monitoring parameters. The products are manufactured and calibrated at the Vaisala factory in Vantaa, Finland.

The instruments can be complemented with a wireless communication module for remote data connectivity, and a cloud platform for data access and management. The instruments are also fully compatible with Vaisala Observation Network Manager NM10 software for management of



large observation networks

This versatile duo can be used in a wide range of applications including smart city networks, industrial air quality monitoring, hot spot and community monitoring, and decision support for traffic management. The data from the sensors is also well suited to support (hyper)local air quality modelling.

Contact
weathersales.uk@vaisala.com
www.vaisala.com/en/industriesinnovation/air-qualitymonitoring-and-prediction

Thermo Fisher Scientific

n over a decade of continuously monitoring mercury, passing hundreds of annual EPA certification tests and thousands of daily span checks, Thermo Fisher continues to innovate with the newest system for European regulations – the Watson Mercury Speciation System (MSS). The Thermo Scientific Watson MSS is a Continuous **Emissions Monitoring System** that offers high measurement sensitivity and robust operation in harsh environments. The system measures Total Mercury, HgT for compliance, as well as reports Mercury Speciation, as parts HgO and Hg2+, for process control and optimisation.

By utilising Cold Vapour Atomic Florescence (CVAF), there is no interference from other stack gases, as proven by the large install base of over 600+ systems worldwide by Thermo Fisher. The Watson MSS provides power producers, waste incinerators, and cement manufacturers with a complete integrated solution for meeting tightening regulations. Thermo



Fisher has a dedicated team of application and service specialists to help you with the coming regulations and become compliant. Reach them, and learn more about the Watson MSS by following the link below

Learn more on the website at: www.thermofisher.com/ eumercury

Water Management **News**

Transport fleet accreditation success boosts road safety

anes Group plc has passed five rigorous audits to retain national accreditation for transport fleet management and safe driving standards. The drainage specialist has achieved, through re-auditing, the Bronze accreditation for its UK transport fleet under the Fleet Operator Recognition Scheme (FORS). FORS is used by companies operating across the UK to benchmark standards in fleet management and safety.

Paul McParland, Health, Safety Quality and Environment Manager for Lanes Group, said, "Our FORS Bronze accreditation covers the management of hundreds of vehicles, many of them HGVs, and more than 600 drivers. Road transport is one of our biggest health and safety risks, so we're delighted to confirm, through this FORS auditing process, that we are maintaining nationally-recognised standards, though there is no room for complacency."

During February 2019, five different independent assessors audited five Lanes depots – selected at random as part of the annual accreditation renewal process. All five achieved the required standard. All Lanes drivers covered by the scheme have also completed three online e-learning courses over the last 12 months – a new requirement, in line with moves to make FORS more rigorous year-on-year.

Robin Carrington, Lanes Southern Transport

Manager, said, "Lanes has held FORS Bronze accreditation since 2013. I have no doubt it has contributed to our determined efforts to continuously improve driving standards and transport compliance across the group."

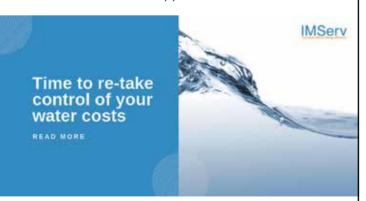
During 2018, the Lanes HSQE team has worked with transport managers to use vehicle tracking data to encourage safe driving by teams based at 22 depots and its Severn Trent Water and Anglian Water utility hubs. This resulted in a 70% reduction in occasions where the tracking system recorded speeds exceeding road speed limits by 10% or more.

T 0800 525 488 www.lanesfordrains.co.uk



Figures recently published by CCWater show that the number of non-household complaints in the deregulated water market shows no sign of abating. While revealing a marginal improvement from the previous quarter, complaints received by the customer watchdog for Q3 were up by more than 20% from the same period last year. Of these more than 70% related to billing and charges.

Eddie Spencer, Head of Water Services for Schneider Electric, commented, "The introduction of competition and creation of specialist retailers were intended to improve metering, billing and customer services. However, approaching the market's second anniversary, some suppliers are simply being overwhelmed by queries and complaints. Billing errors are rife, communication lines between wholesalers and retailers wholly ineffective, and overall the expected customer experience advancements simply haven't materialised."



"CCWater's findings are only the tip of the iceberg, with their numbers dwarfed by the volume of grievances held up in the retailers' internal complaints processes. Ofwat's vision was for competition to represent the catalyst for widespread water efficiencies by the end user, but if retailers aren't even capable of raising an accurate bill, how can customers have any faith in their added value service proposition?

"Having corrected millions of pounds worth of overcharging, Schneider Electric would strongly recommend that businesses check they are being billed correctly before considering service enhancements such as AMR and water efficiency schemes. Water management is the long-term vision, but for many organisations there are more pressing hurdles that first need to be overcome."

Eddie.Spencer@imserv.com

NEW FROM



Mega_Bridge adds flexible and fully featured internet protocol (IP) connectivity to the well-established Mega_Link family of Telemetry & Control units used to pass two-way instrumentation, measurement and control data between sensors, equipment and industrial plant.

- Telemetry & Control
 Point to Point
 Point to Multi-Point
 loT Architecture
- Flexible Communications
 UHF License Free Radio
 ETHERNET, Wi-Fi
 3G/4G mobile networks
- Sensor & Data Interfaces
 Volt-Free Digital I/O
 4 20 mA Analogue I/O
 RS232/RS485 Serial
- Built-In Security VPN with AES25
- Use with ADSL modem for leased line replacement

Communications via Cloud Services

Mega_Bridge can communicate on a closed LAN or across networks and sites via Amazon Web Services, fully administered by Churchill Controls. This enables important security features using TLSv1.2 for authenticated and encrypted communications channels.

> Contact us: 01344 750233 sales@churchill-controls.co.uk www.churchill-controls.co.uk

Transvac innovates with Carbon Dosing

Transvac's
Carbon
Dosing Solution
'TransPAC'
has been
successfully
installed across
many of the UK's
water treatment
sites to tackle
taste, odour and



pesticide issues. In several cases, the system has helped treatment sites avoid non-compliance and avert fines.

Powdered activated carbon (PAC) can be used to adsorb most pesticides, including metaldehyde, without the operational issues associated with GAC. Transvac's TransPAC system is a fully automated, containerised PAC dosing system that can be taken from site to site to treat water quality issues as they arise, often without the need to involve M&E contractors.

The system, which is custom-designed to meet specific site requirements, comes with bulk-bag and silo feed options as standard and also features a HMI control panel so that the PAC dosing system can be adjusted to match the works flow.

It has been designed for hassle-free and low-maintenance operation, its once-through inline dosing means there are no batch mixing tanks and lines are flushed clean on shut-down.

T +44 (0)1773 831100 sales@transvac.co.uk www.transvac.co.uk

Energy Efficient Lighting News

Lighting up new Scottish museum

Dundee's newly opened Victoria & Albert Museum hosts a selection of permanent Scottish design exhibitions and a temporary international programme of events dedicated to emerging design talents. The design essence intrinsic to the Scottish Design Galleries, which are accessible to the public free of charge, is based on the reconstruction of Charles Rennie Mackintosh's Ingram Street Tearoom.

The Scottish Design Galleries exhibit 300 items from the V&A collections as well as from private collections. To illuminate these areas, Arup, the M&E consultant, developed a solution that combines more than 600 of iGuzzini's Palco projectors with IN30 luminaires and Underscore linear lighting. All of the luminaires are DALI-controlled and the system allows management through Bluetooth, implicitly through smartphones, following the example of the installation developed by Arup for the royal Academy of Arts in London, which promotes the use of technology to achieve extreme simplicity and flexibility. Thus, the type of equipment and the straightforward management allow for different levels of integration between general lighting and accent lighting, according to the different exposure requirements.

iGuzzini's contribution also included the manufacturing of a series of double-diming Palco projectors. The client's brief requested a device that was both directly dimmable during the commissioning phase, as well as subsequently manageable remotely, preferably via



mobile devices.

Designed by famous Japanese architect Kengo Kuma and set on the banks of River Tay, this extraordinary building looks like a ship about to sail into the Firth of Tay. However, from different perspectives, it brings to mind alternative imagery; sails, a shell, or the typical Scottish rock formations which were the original source of inspiration for Kuma's design.

Contact T 01483 468000 www.iguzzini.com

Tridonic announces launch of companionSUITE

Tridonic is assisting luminaire manufacturers in the configuration, transmission and control of driver settings. companionSUITE is a dynamic set of various software tools developed by Tridonic for long-term process optimisation, minimising production errors and enabling simple analysis of faulty devices. The range of software has now been expanded to include an analysis tool.

LED drivers have a wide range of properties and functions, enabling lighting to be tailored to individual user requirements. Both the configuration of luminaires during the production process and the adaptation of settings for the respective application can involve the definition of numerous parameters.

The challenge here lies in the large number of settings to be configured. More often than not, this requires someone to pore over the datasheets. Tridonic companionSUITE takes on this intensive task and provides luminaire manufacturers with all the information they need on the relevant driver at a glance – from power functions such as the Constant Lumen Output (CLO) through to



application-related settings such as automatic control of luminous intensity via motion sensor using corriderFUNCTION. The customer is provided with a comprehensive on-screen overview of the properties and settings, can change these as required and can reprogram the devices via an interface.

T 01256 374300 enquiries.uk@tridonic.com www.tridonic.com

Energy & Rural Business Show Review Top 10

Farmers flock to agri event seeking diversification advice

Thousands of farmers flocked to Energy and Rural Business Show, held at the Telford International Centre from 6-7 February 2019, to explore diversification options to keep their businesses viable, and 'future-proof' against rising uncertainty. The new event comes from the creators of 'Energy Now Expo' and for the first time showcased the latest renewable energy, farm diversification and low emission vehicle opportunities under one roof.

"We're responding to a time of great ambiguity and transition in agriculture and have introduced three elements of the show which are defining farms of the future. The Energy Now Expo, celebrating



ten years of success this year, was joined by Rural Business Expo and Low Emission Vehicles Expo," says event director, David Jacobmeyer.

According to the NFU Mutual 'Diversification report' issued in November 2018, the most popular diversification opportunities are renewable energy, which makes up 29% of activity, property letting, at 15%, closely followed by holiday

lets, glamping, etc, which makes up 12%. Other types of popular enterprises include livery stables, outdoor leisure activities and farm shops, all of which were heavily featured at the show.

The Energy and Rural Business Show will return in February 2020. This is our pick of the best exhibitors from this year's show, listed here in alphabetical order: ADBA, Berthold Technologies, Carbon Zero Consulting, Easy Crypto Hunter, Lycetts, Moorgate Agricultural Finance & NNFCC. Further details can be found on this page and the next.

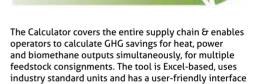
www.energyandruralbusiness.

Maximising and securing support with NNFCC The Bioeconomy Consultants

NFCC, the Bioeconomy Consultant, offers support and guidance to project developers to ensure they are able to develop and deliver robust business plans. Support is provided from concept through to commercialisation. The team has a wealth of experience in development of policies, regulations and sustainability criteria in the energy and fuels sectors.

NNFCC is available to secure financial support on behalf of developers and give investors confidence in financial models by undertaking independent degression analysis, for example. The team have a strong track record in this area; a client recently commented, "NNFCC has been a lifeline for my project... without them involved we wouldn't be half the business we are today."

NNFCC's Biogas and Biomethane Carbon Calculator is a bespoke tool to help AD plant managers remain compliant with sustainability criteria, allowing them to earn maximum possible support from schemes such as RHI. FIT and RO.



Direct support is available with NNFCC also acting in an advisory capacity; guiding and troubleshooting projects which face regulatory challenges. This service is also proving popular in the biofuel industry, for which a separate tool has also been developed.

to make the process as simple as possible.

T +44 (0)1904 435182 enquiries@nnfcc.co.uk www.nnfcc.co.uk

Farmers plug into new revenue opportunities

Faced with burgeoning economic pressures, farmers are increasingly

Lycetts
Insurance Brokers

diversification to bolster their income streams and futureproof their businesses. According to the government's latest Farm Business Survey, 66% of farm businesses in England had some diversified activity in 2017/18. Of these diversified farms, 21% generated solar energy in 2017/18 and 10 per cent generated other sources of renewable energy. Those farms generating renewable energy (excluding solar power) generated 10% of their total income – £50 million of £440 million – from these activities. These stats attest to the fact that renewable energy can help improve economic viability of rural businesses – but gaps in knowledge and experience are to be expected Specialist insurers or intermediaries can provide advice from a risk management perspective and help farmers divert from costly, and in some cases, business-critical liabilities. Lycetts has vast experience within the renewable energy sector and understands the complex insurance needs of this increasingly diverse market. From anaerobic digestion and hydroelectric schemes to wind, solar, Battery Storage and biomass projects, Lycetts can arrange comprehensive renewable energy insurance cover and provide bespoke, specialist advice on what cover is necessary, including contract works, delay in start-up, environmental liability, and machinery breakdown with resultant loss of revenue.

For more information on renewable energy insurance, contact Dorothy Pigg on 0191 232 1151 or email: dorothy.pigg@lycetts.co.uk



Renewable energy is a complex business. Insuring it shouldn't be.

Lycetts truly understands the unique elements of running a business like yours. From anaerobic digestion and hydroelectric schemes to wind, solar and biomass projects, we'll ensure your plant is fully covered from construction through to being fully operational.



0191 232 1151 dorothy.pigg@lycetts.co.uk www.lycetts.co.uk

Lycetts is a trading name of Lycett, Browne-Swinburne & Douglass Limited which is authorised and regulated by the Financial Conduct Authority. Lycetts is a trading name of Lycetts Financial Services Limited which is authorised and regulated by the Financial Conduct Authority.

Proud to protect your business

Energy & Rural Business Show Review Top 10



The UK AD and World Biogas Expo 2019

oin us at the largest international trade show dedicated to anaerobic digestion and

The UK AD and World Biogas Expo 2019 offers a unique combination of industry insight, innovation and investment opportunities for both the UK and international markets.

Along with 200+ exhibitors, this year's event will feature five themed theatres:

- Circular Cities Theatre
- Future Farming Theatre
- Food Waste and Water Theatre
- Innovation Hub
- ▼ The Engine Room

Find out more about the programme & expert

speakers at: www.biogastradeshow.com

At this free-to-attend event, you will learn the latest in market news, including policy and regulations, as well as discover global trends, developments and success stories

Register your free tickets today at: www.biogastradeshow.com

NEW in 2019!

Now co-located with the World Biogas Summit, the global thought leadership forum on anaerobic digestion and biogas.

Discussions with leading figures in sustainable development will centre around the industry's contribution to tackling climate 3rd - 4th July NEC, Birmingham, Ul FREE-TO-ATTEND REGISTER NOW

change and meeting the United Nations Sustainable Development Goals

Register today for your free delegate ticket at: www.world-biogas-summit.com

Events are organised by the Anaerobic Digestion and Bioresources Association (ADBA) and World Biogas Association (WBA).

Moorgate Agricultural Finance

oorgate Agricultural Finance is an industry specialist which understands the agricultural industry, its complexities and knows how to ease the burden of obtaining

Our experts can fund anything from tractors, bailers and trailers, to livestock purchases, feed, fertiliser and they have recently secured pullet finance for landowners operating in the poultry industry. Our team also work heavily in all areas of the renewables sector, including funding for solar PV, biomass CHP and voltage optimisation.

Moorgate Agricultural is currently working on projects for the construction of biogas plants through using asset finance or secured funding. It has also had lots of experience



with anaerobic digesters which involves the process of turning bi-products into a methane gas. Many poultry farmers or those working within the pig sector are choosing to put their waste products and materials back into their own anaerobic digester system, which Moorgate Agricultural can help to

Another product the team specialise in is renewable lighting. LED lighting systems for poultry houses is a very popular product which many farmers choose to take a finance

Moorgate has also worked with large companies and landed estates to help them fund wind turbines and help with the construction phase

Our agricultural team ensure they tailor finance packages to suit every individual farmer's needs and understand the difference between breeding livestock. growing crops and planting bricks.

For more information, contact Josh Letten on 01908 926262 or email: j.letten@moorgatefinance.co.uk

There has never been a better time to install a ground source heat pump (GSHP)

With the ongoing reduction of carbon intensity of the UK's power supply, a GSHP is now more carbon efficient than a gas-fired boiler, providing 40% reduction in CO₂ equivalent emissions. The Renewable Heat Incentive (RHI) remains available for new registrations for 2 more years; a great financial opportunity, not to be missed.

In terms of longevity, GSHP systems also have the upper hand. The renewable 'fuel' source for a GSHP is the sun, via heat storage in the ground. The heat can be collected in many ways: from boreholes, water wells and surface water bodies such as rivers, lakes, canals or the sea. These 'collectors' are long-term assets with a life expectancy of over 100 years, much like gas, water and electricity infrastructure

GSHP systems can serve projects of any size.



Buildings, greenhouses and polytunnels might share a network of uninsulated pipes with fluid circulating at ambient temperature. This avoids the need for expensive insulated pipework in conventional high temperature district heat networks. A high degree of control is provided by using GSHPs in individual buildings for both heating and cooling.

Contact: John Findlay CEng, FGS, MCIWEM, **Director, Carbon Zero Consulting Ltd** T 01572 729510 john@carbonzeroco.com

M 07976 263441 www.carbonzeroco.com

Berthold's MicroPolar online microwave analysers

he MicroPolar range of moisture analysers from Berthold Technologies is ideal for the moisture measurement of Biofuels. **Based on Microwave** Transmission technology, the MicroPolar has some technical features that are very important when measuring natural products like wood chips or pellets, sugar beet, straw bales and other bio fuels.

Due to the multi-frequency technology, the system ensures a very stable and reliable measurement, unaffected by reflexes or resonances of the measured product. An integrated reference line eliminates any environmental influences, making it ideal in industrial environments. However the unique advantage of the Berthold system is the possibility to compensate for varying loading heights or bulk densities. This ensures accurate



and representative results. A measurement you can rely on.

The real-time measurement results provided by an online moisture meter are most beneficial in terms of safety and production costs, especially the Berthold system that is unaffected by the colour of the product. From the different technologies available on the market, the Microwave Transmission has proven to be the most representative

and reliable technology. These analysers can be easily installed on existing conveyors and are not subject to frequent recalibrations or maintenance.

Contact: Graeme Webb T+44(0)1582761477 graeme.webb@berthold.com www.berthold.com

Independent Sustainable Water and Energy Solutions

- GSHC viability assessment and design
- · Borehole and soil thermal conductivity testing
- Building heat loss assessment and M&E services
- Water resource development and management



carbonzero)-

Carbon Zero Consulting Ltd, 2B Gaol Street, Oakham, Rutland LEI5 6AQ The Workbox, Wharf Road, Penzance TR18 4FG www.carbonzeroco.com

T 07976 263441 ohn@carbonzeroco.com association







Environmental Products & Services News

Earthborn's brand new colour card



arthborn has launched its new classic colour card Overstated colour is trending and with Earthborn's 7 new hues, each imbued with fresh, fluid energy, you can carry your space to a new, contemporary realm

The new colours are:

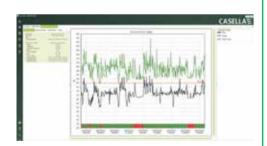
- ▼ Bobble Hat With its roots firmly in nature, Bobble Hat is a majestic blue
- ▼ Hippo Hooray An honest, well balanced grey Hobgoblin - An easy-going green with a subtle hint
- ▼ **Delilah** This delightfully flattering coral hue sits between orange and pink
- ▼ Flutterby Nearly white but not quite, Flutterby is inherently versatile
- ▼ Lady Bug A richly toned burgundy, both classy and considered
- ▼ Tick-Tock A timeless shade offering warmth, freshness, light and shade

Earthborn has also renamed Claypaint 'White' to 'White Clay' to reflect its uniquely soft, creamy look, and made Eggshell No.17 available in 'White Clay' to match it.

The 7 new colours are added to the classic range of 72 colours, available in Claypaint, Lifestyle, Eco Chic & classic Eggshell finishes. Our high performing, breathable paints are naturally beautiful. No oils or acrylics mean no nasty emissions and high breathability The Earthborn range of distinctive designer paints is available in a variety of colour palettes and a range of finishes, which are better for you, your home and the environment

T 01928 734171 sales@earthbornpaints.co.uk www.earthbornpaints.co.uk

Casella's NoiseSafe



asella, air sampling, noise and vibration specialist, has launched an advanced and reliable software package for its personal dosimeter (the dBadge2), NoiseSafe. When used alongside Casella's dBadge2, it is the ideal tool for fast and efficient reporting and analysis of noise exposure levels. In the UK, over one million employees are exposed to levels of noise at work, which puts them at risk of noise induced hearing loss (NIHL). In fact, last year 23,000 workers in the UK reported work-related hearing problems, with workers in the manufacturing, food and construction sectors most at risk due to noisy working conditions.

Casella's NoiseSafe software saves the user time with its instantaneous reporting on an employee's noise exposure levels. Linked to the dBadge2, the software downloads a typical eight-hour workplace recording in just a few seconds. Audio and motion can be analysed to determine if any of the data is erroneous, which can be quickly and easily removed from exposure data, giving confidence in the results.

Casella's NoiseSafe software is available with any purchase of the dBadge2 from April 2019. Casella is dedicated to reducing occupational health and environmental risks and supporting businesses with their monitoring and analysis needs.

For more information about Casella's advanced NoiseSafe software, visit: www.casellasolutions.com or follow @CasellaHQ on Twitter or @Casella on

Workplace recycling redesigned

Method is the maker of visible, flexible & beautiful recycling bins, found globally in spaces such as: world-renowned British architecture firm Foster + Partners, the Sydney Cricket Ground, Wellington Airport, the Design Council, Qantas, and many more.

Co-founders, Steven and India Korner, spent three years mastering Method's award-winning products and recyclable packaging – holding focus groups, preparing prototypes, and even assisting cleaners on night-shifts. All of this hard work paid off. Resulting in the colour-coded and ultimately behaviour-changing Method 60L Office Recycling Bins that connect together to form flexible recycling stations.

Method pioneered the philosophy of Open Plan Recycling, bringing recycling stations out into the open plan design of modern spaces where they are most effective.

The Method system benefits every person in the waste process of a space. Cleaners save time servicing communal recycling stations rather than individual desk bins, management assert their sustainability goals visibly and effectively, and waste service providers will receive waste that has been accurately sorted at source. A patented Bag Retainer System holds liners in place and hides them from sight for a beautiful finish. This makes the bins easy and hygienic to service. Further, as employees separate their waste more effectively in the office, they are united by a common cause and recycle more at home.

Method value working with cleaners for an effective



outcome, believing they are key to the sustainability journey of a business - able to track the rates of success, monitor and report back on areas of improvement.

M +44 (0)7763 525668 hello@methodrecycling.com www.methodrecvcling.com

Waterless Wheel Cleaning



The DriveOn V-Tech Dry Wheel Cleaning System from Ecogreen Plant Hire Ltd

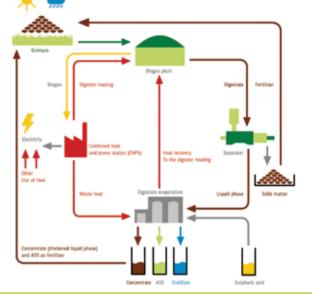
- No water to provide, waste or dispose of
- No water course contamination, or freezing or icing
- No power required and no emissions
- No ancillary equipment to hire pumps, generators, bowsers, lances
- No supervision required, and no breakdowns
- Reduces reliance on road sweepers
- Up to 60% less surface area than other dry types

0800 1303437

www.ecogreenplanthire.co.uk info@ecogreenplanthire.co.uk



Energy-efficient, novel digestate reduction with nitrogen recovery BIOGASTECHNIK Vapogant Digestate **Evaporator**



For more information, visit: www.biogastechnik-sued.de

Cecospi Be spill prepared not ill prepared www.ecospill.org.uk

(Decospil ECO1

HOW WELL PREPARED IS YOUR BUSINESS TO DEAL WITH A SPILLAGE?



CONTACT ECOSPILL TO ARRANGE A FREE ASSESSMENT OF YOUR SITES CURRENT PREPAREDNESS TO DEAL WITH A SPILL!

Carried out by one of our experienced assessors,

Assessment generates a written report detailing our observations and presenting practical cost effective recommendations where necessary.

WE CAN ALSO PROVIDE PILL RESPONSE TRAINING FROM SIMPLE TOOLBOX TRAINING COURSES TO CERTIFICATED AND ACCREDITED TRAINING FOR FIRST RESPONDERS.

The UK's no.1 manufacturer and supplier of spill

prevention, and control products

and services

Delivered by experienced trainers

All demonstration material included

For a quote please contact us at sales@ecospill.org.uk

We only sell our products via approved distributors and resellers. Contact us at sales@ecospill.org.uk to find your nearest stockist or to download our latest catalogue.

Kobus Services: Revolutionising excavations through innovation

ustainability Today is pleased to select Kobus Services as our Utility Services Company of the Month; ground-breaking and innovative, Kobus is set to revolutionise what can be a very costly and dangerous operation in the field of excavations and pipe replacement.

Excavating pipes used to supply utilities such as water or gas, either to replace or service them, is rather a problematic operation which poses a great many risks. Firstly, there are the costs involved - digging trenches to excavate utility service pipes is a costly endeavour - there are the high

costs of labour due to the laborious nature of the job, and the costs of repairing roads or expensive driveways if the pipe in question runs under either of these is considerable. Pipes don't always run under easy to dig soil and earth. Digging up a pipe under a road involves costly equipment and takes time.





Secondly, and more importantly, excavating service pipes can be highly dangerous due to the occurrence of what is called 'utility strikes'. These strikes occur when a worker digs a trench in order to access pipes and accidentally strikes a pipe carrying gas or electricity. Striking one of these pipes can cause electric shocks and explosions and can result in serious injury and

> even fatalities. It is estimated that tens of thousands of these instances occur every year, thus rendering it a serious problem. Aside from the risk of injury and fatalities, there is the added cost of repairing this damage and the cost of the loss of utilities caused by the strikes.

Lastly, there is the obvious disruption caused to the surrounding environment and inhabitants by lengthy and messy excavations; traffic disruption, noise pollution and damage to property are all adverse effects of digging excavations to access service utility pipes.



This is where Kobus comes in; the Kobus Pipe Puller is an ingenious solution to the above mentioned problems. The Kobus Pipe Puller works by extracting the desired pipe whilst





pulling through the newly inserted pipe in the same operation. Rather than digging a trench the length of the pipe, the Kobus Pipe Puller requires only two small excavations on either side of the length of pipe to be replaced or removed. This makes the Pipe Puller an ideal solution for all pipe maintenance work, but especially so for that which requires roads or driveways to be dug up. Lengths of 20-25 metres can be removed, while lead, copper, galvanised steel, and PE can

> all be replaced using the Kobus Pipe Puller, up to diameters of 1-1/4". What's more, the entire process can take between just

> Kobus supply basic machines, components, consumables, and accessories, offering a fully comprehensive service to the customer. With a second model in the pipeline, the future of Kobus is very exciting indeed.

T 01827 338855 info@kobusservices.com www.kobuspipepuller.com

Air Pollution Control



Water Management



Water Boreholes



 Water Boreholes Earn cash via RHI payments with a Ground Source Heating System existing Water Boreholes and All Existing Boreholes doesn't charge Maintenance and Servicing for feasibility Water Treatments studies and estimates Visit our on-line shop

WE WILL BEAT ANY LIKE FOR GENE LIKE WRITTEN QUOTATION'

today 01824 707 777 or visit our website on www.dragondrilling.co.uk

Transfer Systems

COMBUSTION &

HEAT TRANSFER SYSTEMS Waste to Energy

- Systems Thermal Oxidisers
- Control Systems
- Skid Systems -Pumps, Valves, **Pipework**



+44 (0)1423 879944 mail@process-combustion.co.uk www.process-combustion.com

Electronic Repair



Energy Saving Solutions

Classifieds

Operational solve complex production problems, helping you to save energy, control costs and reduce

- your impact on the environment. • Manufacturing Optimisation • Heat Recovery
- Energy Reduction Environmental Impact Solutions • Odour and VOC Abatement Service and Maintenance Contracts



engineered around you Website: www.operationalgroup.com

Email: uk@operational.net Tel: 01928 579473

Finance

asset finance for your energy needs

Cash neutral For over 30 years AFM Solutions has been offering long and medium term finance for all your sustainable energy needs.

- LED Lighting & Controls Solar Photovoltaic
- Solar Thermal
- Voltage Optimisation
- SOLUTIONS FOR TECHNOLOGY FINANCE
 - Biomass Boilers
 - Wind Turbines (small) Heat Pumps Building Management Systems

Call or email Mike Baker on 01268 572587 mbaker@afmgroup-solutions.co.uk

Environmental Leading Consultancy of the Month

Leading the way to an environmentally positive future

ustainability Today is pleased to feature
Way to Eco Ltd as our Environmental
Leading Consultancy of the Month.

Way to Eco Ltd is an innovative environmental consultancy focusing on waste prevention with the ambition of encouraging/enhancing recycling and fostering the circular economy.

Way to Eco was established in 2017 by Donata Magrin. Originally from Italy, Donata is a geologist by training with more than 20 years of experience in waste management and remediation of contaminated sites. She is extremely passionate about environmental issues and founded Way to Eco after she experienced London's lack of efficient waste management/recycling initiative.

I spoke to Donata about how the business idea was formed. "Arriving in London," Donata explained, "I was surprised to see how in this great, cosmopolitan and technologically advanced city, the recycling process is convoluted and inefficient, mainly due to the multiplicity of collection schemes across the 33



London Councils causing residents confusion and lack of trust."

Way to Eco initial mission was to help reduce citizens' confusion and apathy about recycling. Now the company goals have broadened and include: prevention of recycling contamination, littering and fly



tipping; reduce waste and promote resources conservation; provide advice and services to consumers and businesses to change individual perceptions about the importance of recycling and help them maintain an sustainable approach to life/business in a cost-efficient way.

Donata explained to me the bigger picture of the business and its overall goals, "The vision is to make a social, environmental and economic impact by enhancing citizen's education and inclusion in the waste management and recycling process fostering the circular economy."

Based in London, Donata created Way to Eco as an Environmental Consultancy to advise customers that adopting sustainable approaches can generate a wide range of positive social,

economic and environmental benefits. The company's service focuses within two different areas.

"As a consultancy, it offers a broad base of services such as waste audits, tailored waste prevention/



recycling plans or advice on campaigns to drive engagement and behaviour changes. In addition to this, the company also promotes an educational recycling app (for smartphones) that helps end-users, recycle better and more often. "

The ground-breaking app WasteGuru is the perfect combination of informative waste management in an easily accessible format. The app provides end-users with tailored answers making easier to manage their waste effectively and responsibly. Diverse and adaptable, the app is already in use in other countries and is a beneficial tool designed specifically to support local

authorities, waste management companies and businesses to meet their recycling targets.

A great feature of the app is its ability to educate end-users with clarity on the recycling process. Education is the key to make sure citizens know what to recycle, when to recycle, where to recycle and, most importantly, how to recycle. Making

the right choice can lead to excellent results including environmental and financial benefits for the community, while the wrong choice can lead to problems such as low recycling rates, contamination at the material recovery facility (MRF), rejected





loads and excessive operating costs.

The apps database contains 1.5 million different products, and by simply scanning a barcode, the app provides exact info on how to sort each packaging material at a given location reducing the confusion due to different recycling schemes in different areas. The app also features 10 different languages.

Speaking to Donata on the future plans for Way to Eco, she stated that, "Being a new consultancy, the priority is to gain brand exposure and to build brand recognition and reputation. To date, we are talking to many Councils, but we are struggling to find an ambitious Council willing to run a pilot with the UK version of our App. This is our next goal. We are very confident that the successes seen elsewhere with rising recycling rates could be replicated here in the UK."

M 07375 863033 www.waytoeco.com

Spill Management Company of the Month

Market leaders in spill prevention, containment and control

ustainability Today is proud to announce that Ecospill has been selected as our Spill Management Company of the Month, for their manufacture and supply of a wide range of spill prevention, containment and control products.

As a true market leader, they have developed a reputation as the first choice for companies who require sensible, practical and cost effective solutions for spill related issues. Ecospill was established in 2010 by Mark Sanderson and Mark Hutchinson who had both been in the industry for many years. Since then, the business has grown exponentially; and they are now one of the largest manufacturers and suppliers of spill products.

Ecospill are both an ISO 9001 and ISO 14001 registered company, and all of their products are sold through approved distributors nationwide. With an unrivalled product range, including their own absorbents, spill pallets, external safety stores and wipes, they are constantly striving to improve upon the quality, performance and reliability of their services. They are continuously working with companies to identify and develop new absorbent products and technologies for sectors including oil and gas, utilities, food and beverages, medical, construction, civil engineering, and aerospace.

Where they supply their products is heavily dictated by



legislation, looking at the health and safety and environmental impacts for any company that uses liquids. Furthermore, all of their

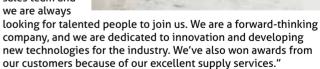


absorbents meet BSI standards on colour coding of sorbent materials, and they are routinely tested in accordance with the determination for water repellence or buoyancy for oil sorbent materials, and the determination of sorbency in order to validate their performance claims.

Due to Ecospill's huge growth over the past nine years, they are about to move to a new 40,000ft² premises which will include manufacturing, warehousing, offices, and training facilities. They currently manufacture around 90% of the products they supply, and this takes place predominantly in the UK. Indeed, this is a clear strategic advantage, and they are looking to invest in even more UK-based manufacturing in order to safeguard against any future developments as a result of Brexit.

"We are constantly expanding and looking to the future," says

Sales Director, Mark Neale. "In terms of staff, we have recently taken on new members in our sales team and we are always



Certainly, due to working closely with an array of different companies, they have developed an intimate understanding of what clients require, and can provide practical, sensible and cost effective solutions for spill prevention, containment and response issues. On top of their manufacturing and supply services, they can also deliver spill response training to the industry.

With their supreme range of products and unparalleled experience, Ecospill is a true pioneer in the development of spill

prevention, containment and control products. If you would like to find out more information on how they can meet your requirements, head to their website or use the contact details below.

T 01709 542259 sales@ecospill.org.uk www.ecospill.org.uk

