



SUSTAINABILITY TODAY

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energy | water | waste | recycling | sustainability

Flood & Coast Review Top 10

Flood & Coast 2019

Flood & Coast 2019 was a three-day exhibition and programme of workshops, presentations, debates and panel sessions, which looked at flood and coast erosion risk, resilience and response. Taking place on 18–20 June at Telford International Centre, the event was the fourth major annual gathering of UK flood and coastal erosion risk management professionals. Drawing on expertise and experience from different geographies across the world, the event brought together specialists in the supply chain that deliver technology and

solutions to control the increasing risks of flood and rising sea levels around the UK coastline. This helped to spread best practice, discuss new ways of working and to deliver excellence in FCERM.

The programme across the three days was tailored to topics selected by the government and industry panel, accompanied by a trade show and exhibition which allowed stakeholders to benefit from excellent networking opportunities to create valuable business

connections and engage effectively with contractors, consultants and project owners. The event also featured the Project Excellence Awards, which recognised excellent projects developed or supported by local authorities, internal drainage boards & the Environment Agency, as well as community level initiatives.

This is our pick of the best exhibits from this years show, listed here in alphabetical order: ADA, Maltby Services & Wessex Archaeology



For more information, head to the website
www.floodandcoast.com

3D Laser Scanning helping to maintain our Thames Locks

In September 2018, Maltby Surveys were approached by Arcadis Consulting Water Management Division to assist them in a condition survey at Caversham Lock on the River Thames.

Our brief was to provide detailed topographical information for the lock including upstream and downstream approaches. A Faro Focus X330 3D Laser Scanner was used to capture point-cloud information on the lock walls and immediate surrounds. This was supplemented with conventional topographical plans using a Leica TS16 Total Station. All information was connected to the Environment Agency's GNSS Survey Control Database. The 3D information was made available via an online viewing portal, accessible via a web browser for Arcadis to annotate and locate visual reference information. Following the success of the project, a further 26 locks were commissioned along the Thames on behalf of the Environment Agency.

Alex Holt – Associate Technical Director for Arcadis said: "The use of this technology enables us to undertake more effective condition assessments, collecting data of higher

quality in a more accessible format. The capability to digitally review the data afterwards allows us to gain deeper insights than possible on site, and ultimately gives our client increased confidence in the long-term management of their assets."

For Lock Animation go to:
www.maltbysurveys.com/RiverThamesLocks



Wessex Archaeology

With six regional offices and a wide range of in-house specialist teams, Wessex Archaeology is one of the leading independent archaeology and heritage companies in the UK, delivering a full suite of desk-based, fieldwork and high-tech survey services across all terrestrial, intertidal and submerged environments nationwide.

Flood and Coast is a key event for us. Our stand



this year focused on our innovative solutions to managing the often complex archaeological and heritage risk in the dynamic coastal and riverine environments which are often the focus of FCERM schemes. We showcased successful collaborations with clients like the Environment Agency, Team Van Oord and Arup, demonstrating our commitment to safety and our creative combinations of aerial, terrestrial and marine techniques to reduce the amount of person-time required in hazardous foreshore environments and deliver a cost-effective, safe and proportionate solution.

We also talked about sustainability, both in terms of carbon reduction and the social and community aspects of sustainable development, and the additional value which archaeology and heritage can bring with stakeholder engagement, community buy-in, education and outreach strategies and working towards our clients' placemaking and legacy goals.

www.wessexarch.co.uk

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FLOODEX UK

The trade event for the flood risk, sustainable drainage, and water level management sector

26 & 27 FEBRUARY 2020
PETERBOROUGH ARENA
WWW.FLOODEX.CO.UK



Today our changing climate and societal needs are raising a number of challenges for reducing flood risk, conserving our precious water resources, and enhancing wetland environments. For over 85 years ADA has been

at the heart of the debate as the membership organisation for public authorities that manage land drainage, water levels and flood risk throughout the UK: www.ada.org.uk

ADA is working alongside the Association of SuDS Authorities (ASA) and a broad range of organisations and businesses to cement FLOODEX as the premier trade event for flood risk, sustainable drainage, and water level management. Next year's event will take place at the Peterborough Arena on the 26 and 27 February 2020.

Our focus is to bring together public authorities, infrastructure providers and land and property managers from across the UK at FLOODEX, to meet with experts, consultants, and suppliers. You will see the latest equipment, technology, services as well as new innovations that can help your organisation become more resilient in its response to a changing climate. The event offers excellent opportunities to engage in discussion and share best practice and knowledge through a series of free-to-attend seminars, an exhibition drinks reception and a networking dinner.

Contact: Jon Irwin, Event Director
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www.floodex.co.uk

Utility Week Live

Utility Week Live is the UK's leading utilities industry exhibition, brought about by the experts at Faversham House Ltd, who are behind the leading business media brands in the gas, water and electricity industries.

The annual event is attended by over 3,000 senior utilities professionals, including energy retailers, gas and electricity network operators, water and wastewater companies, and water retailers.

Building on the theme of Disruption from 2018's show, Utility Week Live 2019 explored the theme of Transition in all its many forms.

This included the transition to sustainable and flexible energy and water systems, the digital transformation, the IoT and the use of AI, and the numerous business model transitions which are taking place across the industry.

Taking place from 21-22 May 2019 at the NEC, Birmingham, 2019's event welcomed thousands of visitors, hundreds of exhibitors and hosted six simultaneous content programmes, making Utility Week Live 2019 an unmissable exhibition for all



involved in the utilities industries.

The next event will be held from 19-20 May 2020 at Birmingham's NEC, and will focus on the theme of The Utility of the Future. This is our second pick of the best exhibitors from this year's show, listed here in alphabetical order: Ambiental Risk Analytics, Electralink, Impact, Nijhuis, Radiodetection, Sarco Stopper, Streetworks Software, UKSTT & Vac-ex Further details can be found on this page and the next.

www.utilityweeklive.co.uk

Ambiental Risk Analytics

Flood predictions under a changing climate, the ability to analyse the impacts of future climate scenarios is increasingly in demand as utility providers, infrastructure managers and commercial developers seek to understand how risk may vary as climate characteristics change.

Ambiental, a company of Royal HaskoningDHV, has created the first national flood maps which use future climate change prediction models as input data. FloodFutures® is an innovative product providing a global capability to understand flood risk up to 60 years into the future. FloodFutures® was first launched in Great Britain, which is expected to receive future increases in rainfall



frequency and intensity. As a consequence it is predicted that flood hazard will generally increase over time, through severe events occurring more often and through rising sea levels.

The new flood maps reveal how flood hazard (pluvial, fluvial and tidal) is predicted to vary regionally, at different time epochs and under different emissions scenarios. The predictions from FloodFutures® enable detailed analysis of changing risk impacts to property, infrastructure and the environment.

Ambiental is a global risk modelling specialist delivering flood risk analytics data and dashboard systems to governments, NGO's, charities and commercial customers worldwide.

To discover how FloodFutures® can support your long term sustainability objectives and inform your climate risk management adaption activities contact info@ambientalrisk.com and visit www.ambientalrisk.com/floodfutures.

T +44 (0)203 857 8543

Nijhuis Industries

Your single UK partner for all aspects of water management, winner of the 'Most Innovative Technology' Award at Utility Week Live 2019, Nijhuis Industries UK & Ireland has successfully merged with DEBA Ltd (now Nijhuis DEBA) to increase its portfolio of water and wastewater treatment services.

Nijhuis UK and Nijhuis DEBA can now operate together as your single UK partner for all aspects of water management.

Nijhuis DEBA is a proven provider of mechanical and chemical solutions for cooling towers, and wastewater bio-organic catalyst applications. With a proud history of providing engineering services, products and technologies Nijhuis DEBA enables organisations to meet health, safety, and environmental obligations in the areas of Legionella compliance, as well as water and ventilation hygiene.

These services are added to Nijhuis Industries existing potable water and wastewater treatment expertise. With in-house analysis, design, manufacturing, installation, operational capabilities, Nijhuis UK holds a wealth of

treatment experience across an extensive variety of industries.

As an international group, Nijhuis Industries delivers customised installations to enable customers to generate profit out of (waste) water, process water and waste. We meet today's challenges, as well as those of the future, as a response towards a circular economy in a fluid world.

Contact
T 0333 7000 007
info.uk@nijhuisindustries.com
www.nijhuisindustries.com/uk

T 0118 989 2444
sales@debaltd.co.uk
www.debaltd.co.uk



Sarco Stopper



Sarco Stopper is an SME based in Broxburn, Scotland, that design and manufacture flow stopping and bypass systems for distribution mains in gas, water oil and other pipeline applications. Founded in 1877, the company underwent a management buy-out in 2007 and have expanded consistently ever since.

The company target continued product innovation as the key to their long-term objectives and success and are pioneers at the

forefront of innovative designs that allow traditional gas distribution under pressure flow stopping and bypass technology to be utilised in the water sector, by developing Aquastop, Hydrant Wizard and Arctic Driver solutions, utilising water inflated stoppers for under pressure repair and maintenance activities.

Aquastop line stopping and bypass system and Hydrant Wizard, utilise pressure from the water main to inflate the stoppers and avoid knock-on bursts caused by depressurising and repressurising the main, while also maintaining customer supply throughout the operation. Arctic Driver freezes the ferrule supply connection to domestic properties and permits replacement of the service with minimal loss of supply to the property and no interruption to any others in the area. The Aquastop & Wizard systems are widely used by UK water companies and also by those in Australia and South America.

T +44 (0)1506 855824
sales@sarcostopper.com

Radiodetection



Radiodetection is a world leader in the design and development of test equipment, used by utility companies, to help install, protect and maintain their infrastructure networks.

Radiodetection has a worldwide sales, service and support achieved through a network of sales channels across the globe. Our product range includes tools for prevention of damage to buried services and powerful video systems for pipeline inspection.

Damaging buried utilities can be extremely dangerous. It can also be very expensive, in both financial terms and loss of reputation. Utility owners around the world rely on Radiodetection products to keep their assets safe. Radiodetection offers two ranges of cable and pipe locating tools to reflect the range of legislation and best-practice in different countries.

In many countries, excavators need an easy-to-use but powerful tool to avoid cable strikes. Radiodetection pioneered the Cable Avoidance Tools (C.A.T) to prevent accidental damage to underground services when excavating.

The RD7100™ and RD8100™ range of precision locators are designed to accurately locate a broad range of buried utilities in a wide range of situations.

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companies and National Grid to enable more renewable energy on their networks and a better-balanced energy system. National Grid had previously warned of challenges caused by unpredictable renewable growth. This partnership not only allowed National Grid to more accurately gauge demand during peak but also resulted in ElectraLink creating a dataset that identifies 96% of all distributed generation on the system.

Alongside these vital data services, ElectraLink has helped to create the industry 'rule books' or codes and continually works to develop solutions at the heart of industry. ElectraLink already provides essential advisory, support and management to several vital energy market codes and our experience in managing these has provided us with a wealth of code framework knowledge. We have developed business solutions that are adaptable, versatile and equipped to provide lasting, impactful efficiencies. These solutions are supported by the EMDH that means our approach is intelligent and data driven.

T 020 7432 3000
communications@electralink.co.uk
www.electralink.co.uk

ElectraLink manages the Energy Market Data Hub (EMDH), a data infrastructure which underpins several critical industry processes, including energy settlement, changing supplier and metering. The EMDH encompasses the Data Transfer Service (DTS) which supports the exchange of essential energy market data 24/7/365 between over 270 electricity and gas parties in the UK. We are positioned at the heart of the energy industry which allows us to partner with a variety of utility stakeholders to develop innovative data insight and analytic solutions, with in-built governance structures, that are democratising access to energy market data, enabling innovation and competition across the full spectrum of energy market participants.

One example of the positive impact of our data includes our partnerships with network

Dawn Greig takes the Chair at UKSTT



Dawn Greig made history this year because for the first time since its formation in 1993 she has become the first woman to be elected to the role of Chair of the UKSTT (United Kingdom Society for Trenchless Technology).

Dawn is currently Global Creative and Business Director with Picote Solutions.



Commenting on her election to the UKSTT Chair Dawn said: "I am extremely proud to be elected to this role having served as vice chair to Matthew Izzard for the past two years and on the Council Board for several years. The UKSTT has established itself as the 'go to' organisation for the UK trenchless sector, which the Society is supporting with its ever broader range of Masterclasses, Roadshows and events, many of which are organised with our long-term associate Westrade Group. Our new website will be live soon and really highlights the benefits and uses of No-Dig technologies, which we hope will be a valuable

resource for the trenchless community."

Dawn continued: "We still have so much to do and to achieve in terms of getting trenchless technology recognised for the advantages it offers, despite many of the technologies now being seen as the preferred option when it comes to pipe work installation, maintenance and repair. Our aim is to continue growing the industry by bringing these techniques to the attention of current working professionals and educators alike to influence the next generation of engineers."

T 01926 513773
admin@ukstt.org.uk
www.ukstt.org.uk

SWS – sustainability through increased integration

SWS provide and continue to enhance tools that focus on the management of complex, safety critical, time focused, expensive and disruptive streetworks environment. Streetworks activity is key to ensuring the supply of essential power, water, and telecoms to the UK.

Our utility works management systems, SwIMS and CORONA provide effective, integrated tools that support the delivery of continued and enhanced sustainability goals across the sector.

SWS' approach, harnesses innovation, technology and people to create transparency across the environment. We

deliver value for our clients, their teams and our tools enable them to contribute positively to the communities in which they work.

At SWS we are deeply focused on providing works management tools that:

- ▼ Reduce the amount of raw materials consumed by the utilities sector during their essential network repair, maintenance and renewal programmes.
- ▼ Minimise traffic congestion
- ▼ Reduce journeys required
- ▼ Delivers huge gains on "right first time" reinstatement
- ▼ Stores and manages key data to provide for efficient

SWS

maintenance of the network in the future
▼ Ensures the optimisation of materials, reducing waste, increasing efficiency

SWS provides industry leading tools to our clients that help to protect the environment and enable key aspects of the "circular economy" across our key sectors, it makes both societal and business sense.

Contact
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www.streetworksoftware.com

Impact

Market research consultancy IMPACT's strapline, "From insight to influence", neatly sums up the value it creates for its clients. IMPACT's specialist utilities team always makes sure it goes beyond the WHAT which the results of large-scale quantitative surveys provide by uncovering the WHY that really influences decision making.

Two key ways it does this are using advanced analytical methods, and qualitative techniques including immersive research that helps participants to form views about topics to which they don't generally give much thought or which relate to innovations.

Recently, Impact's expertise in facilitating meaningful contact with hard-to-reach customers – including those in vulnerable circumstances and the digitally disenfranchised – has been helping a number of Utility companies to develop their stakeholder engagement for PR19/RIIO-2. DNOs working

with them for ED2 will be able to draw on their deep understanding of stakeholder mapping, triangulation, inclusivity and materiality, and other best practice to ensure they can demonstrate a clear line of sight from customer insight to their business plan outputs.

IMPACT are also at the forefront of research in electric vehicles; the latest results from the tracker they've been running since 2017 are expected to reveal some interesting shifts in customer attitudes.

For more information on how we can help you engage with your stakeholders, please contact Susie Smyth Head of Utilities, at: Susie.smyth@impactmr.com



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The innovative turbine and filtration design ensure there is a high level of vacuum.

The AIR-VAC complete with

trailer weighs 2200kg, light enough to be towed behind a transit van. The AIR-VAC can be tracked through the tightest of locations. Once at the dig site the ground is agitated with compressed air through the VAC-EX, AIR-EX lance, from a vehicle mounted compressor. The ground can now be safely vacuumed into the AIR-VAC



and stored in the 0.2m cubed integrated skip. Air lance and dig pipe are manufactured from HDPE Plastic which will insulate the user from any live underground cable.

This has been tested and certified to 75KV. Once full, the AIR-VAC can be tracked to a suitable location where the skip can be raised and tipped to allow the debris to be deposited into a dumpy bag, machine bucket or low trailer.

Contact Simon on 07964 017188
info@vac-ex.com
www.vac-ex.com

Dunton pioneer landfill regeneration



There are over 500 landfill sites currently operating in the UK. This may sound a lot, but then what if we consider all the former landfill sites that are no longer in use?

Records show that there are almost 20,000 historic landfill sites across England and Wales, most of which predate the mid-1990s, when there were few or no restrictions on the waste being sent to landfill.

So, what are we doing about these landfill sites, besides adding more of them to accommodate the 111 million tonnes of

controlled waste sent to landfill each year?

The answer is landfill regeneration. The process of excavating old landfill waste from the ground for reprocessing, then replacing it with clean soil. Landfill remediation is most often carried out to allow for building projects, ensuring the foundation is made both structurally solid and environmentally friendly before construction work can commence.

One of the UK's largest landfill regeneration projects, currently being handled by Dunton Environmental, is a 60 hectare site, which involves the processing and re-engineering of over 1.2 million m³ of waste soils for a new housing development.

Located in Faygate, West Sussex, the development known as Kilnwood Vale is now in its third year and already has over 800 new homes completed.

Neil Roe, Owner of Dunton Environmental writes: "Landfill remediation always has its challenges and the Kilnwood Vale project was no exception. With considerable settlement issues and ground gases to resolve, there were very few contractors with the capability to deliver a solution. At Dunton, we take pride in offering clients peace of mind in our abilities to complete a project on time, within budget and to the highest possible quality."

Another recent landfill regeneration project of Duntons was a development for Wilmott Dixon, which involved the excavation and processing of over 200,000 m³ of landfill waste to produce a platform for a new sports centre.

Dunton have quickly become one of the UK's leading land

remediation contractors, having invested heavily into its purpose-built waste treatment facilities and the most advanced mobile machinery on the market.



Last month saw Dunton take delivery of their latest addition to their fleet of heavy machinery, with a brand new BOMAG RS650 Soil Stabiliser. The 28 tonne machine is the most powerful in the BOMAG range and the first of its kind to be sold in the UK. Dunton's £500,000 investment provides them with a machine capable of a 600mm soil penetration depth and will enable the processing of up to 8000m³ of soil per day. It will also allow for more of the waste soil to be effectively processed for reuse on site, saving thousands in both time and off-site processing costs.

Tony Miscandlon of BOMAG UK said: "Dunton are a great client to work with. Their prime objective is very clear and that is to offer their clients the quickest, most cost-efficient service possible. The BOMAG RS650 will certainly play a key role in improving speed of delivery and ensuring those all-important cost benefits for developers."

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www.duntonenvironmental.com

Lanes Group plc

Drainage teams from Lanes Group plc have cleaned downpipe stacks at one of the UK's largest office complexes. They were supporting commercial fit-out specialists Beacon Business Interiors who have been refurbishing toilet blocks at MoD Abbey Wood.

The site, at Filton, near Bristol, is home to Defence, Equipment and Support (DE&S), the Ministry of Defence's procurement organisation.

Drainage engineers from the Lanes Bristol depot worked for 12 weekends to clean 29 downpipe stacks in the award-winning building. Lanes Bristol Area Development Manager Matt Banks

said: "The toilet refurbishment project was the ideal moment to clean the stacks.

"It ensured the internal drainage system was fit for purpose and would be operating at full capacity when the new facilities had been installed. "Regular cleaning of downpipes is essential as they can become clogged with scale, hair, and residues from sanitation gels and detergents.

"Pipes in downpipe stacks can also be compromised by items wrongly flushed down toilets, such as wipes and sanitary products."

The MoD Abbey Wood offices were

opened by The Queen in 1996. It has 1.63m² of building space on a 402-acre site.

More than 9,000 people work on the site which, in 1997, won a RICS award for ecological design.

Contact
T 0800 526488
sales@lanesgroup.co.uk



Retran® Reaches 100%

With the huge success of Retran® packaging, Bell have been working with their raw material manufacturers to achieve an even higher percentage of post-consumer waste within this product.

New for 2020 Bell are delighted to announce that they can now supply Retran® packaging made from 100% Post-Consumer Waste. The material is particularly exciting as it has been approved by the European Food Standards Agency for direct contact with food.

Traditionally the surfaces of Retran® have required a virgin layer of film for food applications however the new formulation means that virgin film layer is no longer necessary.

The new material contains 100% recycled polymer which is derived from home waste i.e. plastic rubbish that has been thrown out, collected, sorted

and turned back into material that can be used again.

Critical to the product is the source of the waste which is essential to ensure continuity of supply and maintain little or no difference in the colour of the film from batch to batch.

Retailers require certainty about the origin of their packaging therefore the new material supplied by Bell is fully certified.

If anybody requires samples please contact our sales office on +44 (0)1582 459292 or email k.potts@bellpackaging.com



Versatile liquid management

At PlantWorx 2019, EnduraMaxx revealed its evolutionary new corporate identity, which

has been created to help further strengthen the company's British brand values and support its innovative range of fluid-management products.

Alongside the brand reveal, the EnduraMaxx team also demonstrated the latest and most popular liquid-vessels for the construction industry from its trusted Enduratan and Enduraclean product ranges.

As specialists in the design and manufacture of quality polyethylene tanks, with capacities ranging from 150 to 30,000 litres, EnduraMaxx was showing its 10,000 litre vertical slim-line tank at PlantWorx. With their individually proven design, EnduraMaxx's slim-line water tanks offer the widest possible range of uses in rainwater harvesting and management, and are WRAS approved for the storage of portable water.

Also on show was the company's site tow trailer mounted dust suppression bowsers. For construction sites, where dust is a problem, EnduraMaxx's bowsers provide a quick and cost-effective on-site solution. Powered by a petrol engine pump, they are available in capacities up to 10,000 litres, and mounted on a galvanised road legal chassis with several pump and hose reel options, as well as a dribble bar or deflector plates.

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V2G: The journey to commercialisation

Alexander Lewis-Jones, head of electric vehicles research at Delta-EE, gives a snapshot of vehicle-to-grid developments.

Vehicle-to-Grid is the technology that enables bidirectional charging – where an electric vehicle can both charge from and discharge onto the grid. With V2G, EVs can play the same role as static batteries in managing local loads and participating in energy market value streams.



The technology could become a powerful disruptor to European electricity markets, but is not yet commercially available. Apart from some isolated instances, all V2G has been

deployed in the form of trials and pilots over the past five years.

So, what can be observed from current developments? What is happening, where and involving whom?

Where is V2G happening?

There is interest in V2G technology across Europe but certain countries are emerging as frontrunners in terms of the number and maturity of projects.

In 2013, Denmark hosted one of the first demonstration projects for V2G. The success of this research project opened up interest in developing V2G further. Subsequently Denmark hosted what we recognise as the first commercialised V2G project in Europe. Nuvve's V2G project is delivered for a business fleet of 10 electric vans for electricity retailer Frederiksberg Forsyning. The predictability of fleet vehicle use can make the opportunities for V2G services more reliable for the market.

Another country leading on V2G is the Netherlands. From the very start of the current EV market, the Dutch government have had a strong focus on smart and connected infrastructure. Many Dutch cities have innovation-focused programmes typically influenced by research institutions, such as TU Delft and Hogeschool van Amsterdam, with Horizon 2020 or similar European innovation backing. Local DSOs have considerable interest in the control of EV charging because it pairs with the growth of intermittent renewables.

The UK government has been a major driver for the development

and deployment of V2G on a global scale. Not only is V2G seen as a technology that provides grid benefits but it is seen as a part of the industrial strategy that will enhance the country's automotive and electrical manufacturing sector. For this reason, Innovate UK (the UK government's innovation body) launched a £30m competition for V2G projects.

Twenty-one projects shared the funding, with eight "real world" demonstration projects taking most of the money. While these are now live, 2019 will only see the recruitment phase. It will be in 2020 and 2021 before results are announced.



Who are the leading players?

Nissan's LEAF and eNV200 vehicles are already commercially successful and V2G-enabled – something most vehicles cannot claim. So, they are being supplied to many of the ongoing V2G demonstration projects, even without having Nissan in the project team.

In 2017, the Italian utility Enel acquired US-based eMotorWerks, a charging and platform developer and has gone on to explore V2G under the new brand: Enel X.



Nuvve is a California-based technology developer with a decade of V2G experience. It provides software and can act as the aggregator. The firm, in which EDF Energy has invested, already has a commercial client via the Denmark project

outlined above. Its proposition is designed to lower the cost of the infrastructure, overcoming a potential barrier to V2G technology.

Will Nissan stay dominant?

Nissan has been the car maker of choice for use in V2G projects but other vehicle manufacturers are gearing up. Renault is trialling V2G; Volkswagen's newly launched energy business, Elli, is talking about it; Honda is investing in it. However, there is still some work to be done before these manufacturers have established a V2G

DELTA-EE

charging standard that can seriously challenge CHAdeMO (the charging standard preferred by Nissan which can accommodate V2G).

Though VW remains behind the pack on V2G deployment, its high level of investment in EV solutions and publicly stated ambition to lead the sector could see it leapfrog competitors such as Nissan and establish a leading position in the years to come.

Four factors need to be considered for V2G to become fully commercial across Europe:

1. The duty cycle of the EV – when is the EV available for V2G and how predictable is this? Fleet applications may be fruitful early markets
2. The volumes available – what is the potential when the EV batteries are stacked up? How many will be available simultaneously?
3. The customer – how many customers are there and how willing are they to contribute?
4. The value streams of V2G – will V2G find its feet best providing grid level flexibility services, or at a more localised level such as for cities or homes? This will vary country by country.

On this basis, buses and large vehicle fleets operated by individual clients are likely to offer the earliest market opportunities. Pools of privately owned cars and vans plugged into distributed networks of domestic chargers could ultimately offer greater stacked value but the stack will take longer to develop. By this point, static storage solutions may be too economically powerful to compete against.

With Innovate UK's 2018 demonstrators due to complete in 2021/22, the next few years are critical for the future of V2G technology in Europe.

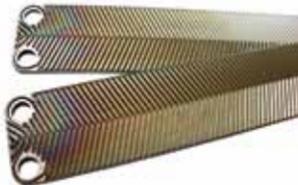
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Air Quality, Clean Air & Ventilation News

Extra corrosion resistance for range of BPHEs

SWEP has launched a new range of brazed plate heat exchangers (BPHE) that keep tap water applications running efficiently for longer.



This is achieved with SWEP Sealix coating, a SiO based thin-film technology that increases BPHE corrosion resistance, protect against corrosion, fouling and scaling and increases durability.

The protective Sealix layer is applied to all inner surfaces of the heat exchangers in most of the HIUs and substations that encounter drinking water, to increase the lifetime and the operational safety of the entire system. This in turn reduces maintenance costs and unplanned downtime. The innovative self-cleaning coating minimises deposit formation and prevents contamination while protecting the surface.

SiO based coating is recognised worldwide and approved by the United States Food and Drug administration, the European Food Safety Authority and the Japan Inspection Association of Food and Industry Environment.

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edie Live 2019

edie Live is the UK's number one event for energy, sustainability and resource professionals, and 2019's show was better than ever, drawing together the topics of energy, resources, the built environment, mobility and business leadership.

Taking place on 21-22 May at NEC, Birmingham, edie Live offered the chance to be inspired by sustainability superstars, coached by industry experts, encouraged by peers and shown the way by hundreds of innovative suppliers.

The show boasted an impressive range of features, including the Sustainability Keynote Theatre, Packaging Zone, Workshops, EV Showroom, Innovation Centre, Advice Clinics, Sustainability Games, Theatres for Energy,

Innovation and Circular Economy, and hundreds of exhibitors.

Indeed, edie Live 2019 was all about harnessing new innovations, forging new collaborations and evolving business strategies to achieve a sustainable future, today. The event actively encouraged its visitors to pay close attention to the solutions on offer, and turn their ambition into action.

Next year, edie will be hosting Net-Zero Live, an evolution of edie Live, on 19-20 May 2020. This is our second pick of the best exhibitors from this year's show, listed here in alphabetical order: Clean Growth UK, Convene, Eco cooling PyroCore and Robert Scott. Further details can be found on this page and the next.

www.edie.net



The new greener way to clean



of the solution so it also acts as a mild cleaning agent.

It's great for busy environments which demand a quick, effective cleaning regime and saves money on chemical products. And it can be used on hard surfaces and fabrics, and can be sprayed, wiped and mopped as part of your normal cleaning regime – the main difference is that once you've run out you can simply make more.

The solution is 99.999% effective against all forms of microorganisms with a very fast contact time and virtually no regrowth. And, as the cleaning disinfectant is non-toxic and non-hazardous, it's an effective, safe and eco-friendly way to clean.

The Toucan Eco system is available in a range of unit sizes to suit small, medium or large facilities.

For more information please visit www.robert-scott.co.uk/know-how/is-chemical-free-cleaning-possible/

Toucan Eco bio-cleaning system is a revolutionary way to make a multipurpose disinfectant cleaner on-site, which replaces 80% of chemical cleaners and puts an end to the single use plastic bottles they are supplied in.

The system requires only two ingredients – table salt and tap water – which are electrochemically activated by applying a small electrical current using a specialised electrolysis cell. This produces a powerful disinfectant, while gently raising the pH

Convene, fully committed to a paperless mode

At Convene, we are fully committed to a paperless mode for your board, senior executive and management meetings. Our ecological ethos defines the paperless meeting solution we provide and goes hand in hand with a proven delivery of business beneficial initiatives for our clients.

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Much has been made of Convene's ability to increase efficiency, remove pressure from administration functions, and to promote transparency via encouraging more effective

communication between boards of directors, senior management and employees.

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Toucan Eco is a revolutionary way to produce a multipurpose disinfectant cleaner on-site, which replaces 80% of chemical cleaners and puts an end to the single use plastic bottles they are supplied in.

The system requires only salt, water and an electrochemical reaction to make an powerful, safe and eco-friendly disinfectant and gentle cleaner which kills 99.999% of bacteria.

Welcome to eco-friendly cleaning from Robert Scott.

Kills 99.999% of bacteria

Environmentally friendly

Non-toxic & non-hazardous

Robert Scott

Toucan Eco Active
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robert-scott.co.uk/toucan-eco



Sailors on the Royal Navy's HMS Prince of Wales' are testing state-of-the-art pyrolysis units during the latest phase of the Queen Elizabeth-class aircraft carriers' sea trials in the North Sea. This is just one of the many military-based units that the PyroCore team have been involved with and continue to support.

"I am hoping to gain more knowledge on such equipment which will be extremely useful to me over my career in the RN," said Marine Engineering Technician Niall Kelleher, one of the carrier's junior sailors responsible for operating the rubbish machines.

"The plants' waste reduction ratio will benefit the ship's company with us having far less waste to dispose of during 'out all gash' - and enable us to store the waste far easier."

PyroCore are a global leader in small scale future-ready pyrolysis solutions, and can help eliminate the need for landfill, reduce carbon emissions relating to transportation costs of waste as well as by reducing the use of incineration across the UK and globally, cutting the amount of waste, raw material and energy costs as well as making a significant contribution towards sustainability.

The growing drive for more sustainable business and the move towards a circular economy is one backed by PyroCore which can really help elevate the CSR of an organisation.

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Landfill stores waste. Incineration burns waste. PyroCore transforms it, into energy, product, and value.

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Chris Spanias, Solution Architect at Tesco PLC

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Clean Growth UK

Clean Growth UK is a university-led business accelerator that catalyses clean and green business innovation and growth.

Action on climate change today is imperative for a prosperous and clean economy tomorrow, and businesses have a massive role to play. Developing cleaner and greener products, services and processes will help secure a bright future for generations to come.

Clean Growth UK is here to give ambitious, responsible businesses access to university R&D expertise and facilities, and the tools and resources needed to develop ideas into commercialised products and services. Whatever stage your mission is at – from early concept to market launch – we can help get you there.

Member businesses have access to bespoke support packages that can include a personal business coach,

university-business R&D partnerships, a peer-to-peer business support programme, business masterclasses and investment-readiness support.

Clean Growth UK is delivered across the UK through its three regional hubs: the University of Brighton's Green Growth Platform, the University of Portsmouth's Greentech South and Liverpool John Moores University.

www.clean-growth.uk



Eco Cooling

A low-cost cooling option for your facility that will keep workers processes and products cool even on the hottest day of the year.

EcoCooling provides an effective large space cooling alternative to refrigeration, at just 10% of the operating costs and 60% of the capital spend. The eco-friendly direct evaporative cooling and ventilation solutions enable you to maintain internal temperatures below 25°C all year round. Whether you're looking for blanket cooling or spot cooling for workstations and production lines, EcoCooling's systems are versatile and can be tailored to meet your specific

requirements.

The evaporative cooler is coupled with ventilation so on days where additional cooling isn't required you can take advantage of the system's free cooling, which helps to make it so cost and energy efficient. Even on the days when evaporative cooling is enabled the EcoCooling standard unit can cool a 250 sqm space for less than 14p per hour.

With over 3000 installations worldwide, EcoCooling is an experienced UK manufacturer with solutions for a range of applications including



warehouses, factories, gyms and large retail units. Our complimentary in-house design consultancy service ensures that the most effective, sustainable system possible is designed for your building.

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Letsrecycle Live Review Top 20

Get recycling at Letsrecycle Live

Letsrecycle Live is the UK's leading trade show for all things recycling, held this year at Stoneleigh, Coventry, from 22-23 May 2019. With some of the largest recycling, materials and machinery companies in business coming together to discuss new ideas, the show did not disappoint. Talks, seminars, demonstrations and much more were on offer, with exhibitors showcasing some of the most innovative and futuristic products the recycling industry has to offer.

The show hosted both indoor and outdoor events, a plant and machinery zone, collection and transport zone, energy and alternative fuels zone,



materials village, fire and safety zone, waste and professional services, live demo area, conference theatres, ride and drive area, trucks in action, networking events, and the inn

on the green, perfect for light refreshment after a day spent meeting and greeting.

Letsrecycle Live is an unmissable event for those that work within the recycling industry, and presents an opportunity to expand your business, and learn more about your market like no other.

The show will return in two years' time from 12-13 May 2021 at Stoneleigh, Coventry. This is our second pick of the best exhibitors from this year's show, listed here in alphabetical order: Recoup. Further details can be found on the right.

www.letsrecycle.live

Have you joined RECOUP yet?

National plastics recycling charity, RECOUP, are a member-based organisation. Active across all sectors of the plastic supply and recovery chain focusing on recycling project development and delivery, data collection, research and strategy.

RECOUP represent the plastics recycling value chain in the UK and Europe. RECOUP provide their members with information on legislative, strategic and practical developments in plastic packaging recovery & recycling, develop research and information in house.

Annually RECOUP bring together up to 500 delegates at a Conference, to discuss and debate the future of recycle plastics. In 2019 the Conference highlighted the issue of plastics within the agricultural and construction industries alongside consumer perceptions and technological advances in plastic packaging sorting and recycling.

"The world is facing a climate and environment crisis, and how we do business really matters. If we are to ensure we have a healthy, sustainable natural environment to pass on to future generations co-operation is imperative, and RECOUP brings all sectors

of the waste management value chain together." – Iain Ferguson, Co-operative Environment Manager

RECOUP support educate and advise citizens on plastics recycling issues through their Pledge2Recycle Plastics initiatives, including events, roadshows and schools education across the country.

RECOUP also produce the only independent national research on UK Household Plastics Collections and have developed a series of Recyclability of Design brochures available from the download centre on their website.

For more information about RECOUP contact
ENQUIRY@RECOUP.ORG
WWW.RECOUP.ORG
[@RECOUP_UK](https://www.facebook.com/RECOUP_UK)



UK AD and World Biogas Expo Review Top 20

UK AD and World Biogas Expo

Offering everything you need to know about anaerobic digestion (AD) and biogas, 2019's UK AD and World Biogas Expo, held at Birmingham's NEC from 3-4 July 2019, was a huge success, featuring the inaugural World Biogas summit alongside the traditional Expo and Awards. Attendance was up 8% on 2018's event, and it featured five new dedicated theatres and an opened-up show floor. This allowed for even greater interaction between visitors, speakers and exhibitors, who all gave exceptional feedback.

The show's popular seminars, engaging displays, business deals and great networking opportunities all combined to create an excellent experience for all who attended.

The Engine Room was constantly full, offering valuable insights into the intricacies of operating an AD Plant. What's more,

the Future Farming theatre proved to be highly popular, offering advice on diversifying income and the best on-farm AD practice. There were also great sessions available at the Circular Cities and Food Waste & Water theatres.

The show will return next year from 1-2 July 2020 at the NEC, Birmingham, so be sure to book your slot. This is our second pick of the best exhibitors from this year's show, listed here in alphabetical order: Hidrostal and National Oilwell Varco (NOV). Further details can be found on this page and the next.

www.biogastradeshows.com



Hidrostal mixers mitigate site downtime

Hidrostal has provided a catchment of 46,850 people with years of maintenance free waste water treatment by replacing the previously installed in-tank propeller mixers at the Waste Water Treatment Works with their HidroMix external mixing pumpsets.

An important stage in the waste water treatment process is to keep the solids in suspension in the sludge holding tanks, a process which is often managed using in-tank propeller mixers. The downside to this method of mixing is that solids can build up in the tanks. This had been the case for the WwTW which had resulted in a periodic shut down of the site in order to dig out the accumulated solids.

Hidrostal supplied two of their E08R standard mixers with bearing frame pumps on mounted baseplates to replace the propeller mixers. The HidroMix system supersedes the traditional method of mixing with an external mixing capability which employs a very simple system of pumped recirculation. Unlike other mixing systems the Hidrostal concept does not require structural steelwork within the tank. The system is mounted at ground level and fixed to

the outside of the chamber. Large diameter nozzles are installed externally through the tank walls resulting in minimal friction losses with maximum energy imparted to the fluid.

The beauty of the HidroMix concept is that maintenance problems are vastly reduced due to the complete elimination of static and moving parts within the tank. Good compliance with CDM regulations reduces Health & Safety risk and mounting the pump outside the tank at ground level ensures it is easily accessible for installation, inspection and maintenance.

For further information please contact Lucy Ogden, Marketing Manager for Hidrostal Ltd.

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lucy.ogden@hidrostal.co.uk
www.hidrostal.co.uk



National Oilwell Varco



National Oilwell Varco (NOV) introduced the Chopper Hopper™ to its line of industrial pumping solutions. Designed for food processing, and rework or recovery of product, the Chopper Hopper is a powerful, aggressive grinder pump that brings together solids reduction and transfer pumping into one efficient unit. The biogas production process requires that products of various types and sizes are efficiently reduced to a homogeneous particle size.

This unique packaged system helps to improve digestion efficiency and gas yield and homogenizes items like whole fruits and vegetables, turning them into a pumpable puree. Drastic size reduction occurs in the first stage of solids reduction, where cutting blades grab, tear, and shred solids down to a particle size of approximately 50 mm in a

single pass. The second and third stages offer greater reduction, providing the desired solid size and texture needed.



The Chopper Hopper incorporates a combination of the proven EZstrip™ progressing cavity pump and EZstrip TR Muncher, making processing easier and faster than ever before. The Chopper Hopper's overall design, which includes a large surge capacity hopper and high flow rates, leads to less wear, better performance, and less downtime than similar units.

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Pollywood: The Natural Choice

Sustainability Today is proud to announce that Pollywood Ltd has been selected as our Construction Materials Company of the Month, for the development of its innovative and eco-friendly wooden tube which is set to

we've identified over 180 potential uses for Pollywood in 13 sectors of the economy, including producing strong and quickly erected buildings. Currently, we are focusing on creating Pollywood Utility Poles to replace harmful creosoted

line poles, which are critical to the robustness of the UK electricity network," explained Quentin Kopp, Chairman.

The company is currently based at the Materials Processing Institute, Teesside, which provides research support for a wide variety of technologies and SMEs, such as Pollywood Ltd.



Steve Crighton at the LCNI October 2019



"Creosoted poles will soon be banned. While creosote is a very effective wood preservative when the treatment is applied effectively, it is highly toxic and carcinogenic. Our attention is focused on this development. We were approached by the Energy Innovation Centre, who work with the electricity, gas and water distribution companies to identify and develop innovations to solve any operational problems they have. We presented to their innovation panel and have been supported by Northern Powergrid, a Distribution Network Operator, to develop a replacement for the creosoted pole."

Indeed, creosoted and chemically treated poles leach thousands of tonnes of carcinogenic materials into the environment each year. Pollywood's method of manufacture protects the poles against water, fungus and insects without leaching harmful chemicals into the environment. What's more, at 1/4 of the weight of the current heaviest poles, it can be easily carried by two men. This will save damage to the environment in rural locations caused by heavy lifting machinery and disruption to traffic in urban areas.

revolutionise the construction world. Established in 2011 by Steve Crighton, who boasts a wealth of experience in the wood industry, Pollywood is an eco-friendly material which will have an extensive range of structural and non-structural applications, boasting a better strength to weight ratio than steel.

"Our aim is to develop, patent and commercialise Steve's invention, and

"If all power poles were made from Pollywood, we could save 90,000 trees

every year, because each tree can produce a number of poles where current methods produce one pole per tree," Quentin explained.

"It also takes a lot less power to transport our materials. Based on an analysis of the CO2 and NOx



produced to ship poles from Baltic area forests, it is almost 12 times more harmful to the atmosphere than shipping Pollywood's raw material from the same ports. This is a huge benefit to the environment, as well as offering savings in production costs."

The Pollywood process enables orders to be made and delivered within



seven days, eliminating the need for Distribution Network Operators to store poles meaning that major weather events can be responded to effectively with replacement poles in line with any demand. What's more, current poles are stored and require bunds to prevent leaching from the storage depots. This is both hazardous and an expensive use of money and space, both of which could be put to more productive use.

"The Pollywood process will also allow poles to be produced to an exact agreed specification. No two trees are the same, so while creosote has done an excellent job, replacement treatments have been nowhere near as effective. The regularity of the Pollywood process means the poles will have a predictable and long-lasting life.

"There are currently over 100 types of pole used by each Distribution Network Operator. Northern Powergrid estimates that the range could be reduced to just four specifications of pole using Pollywood. All Pollywood Utility Poles will have the same outside diameter,



Typical problem with pressure treated poles



which will enable savings to be made by standardising the fittings used to support the poles and any additional items such as transformers.

"As well as this, Pollywood boasts a number of advantages over other products which are competing to replace creosoted poles, including those made from Glass Reinforced Plastic (GRP) and steel. These are produced on high carbon routes which require large amounts of water. Pollywood uses wood very efficiently, coming from FSC approved sources where at least two trees replace each tree used. Our process also uses very little electricity and minimal quantities of water. We will have the process formally assessed when it is ready to become operational, but we believe it will be very low carbon." Currently, Pollywood Ltd is working with the Energy Innovation Centre to prepare a full business plan to move towards full



Steve Crighton, Quentin Kopp and Richard Brough

commercialisation, and regularly attends events throughout the year to raise awareness of its pioneering technology. The company attends Utilities Weekly Live, the EAT Overhead Line Conference and most recently the Low Carbon Networks & Innovation Conference, which took place on 30-31 October.

The Pollywood team were delighted with the response of the electricity distribution companies and many other relevant visitors to our stand, which stood out, because it clearly presented a route to assist the process of achieving the Government's Zero Carbon targets. There are many potential applications where Pollywood is a low carbon alternative including construction, street furniture and railways. If you would like to find out more information on Pollywood's full range of benefits, head to the website or get in touch using the contact details below.

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