EUA
energy&utilities alliance

ISSUE 19 WINTER 18/19

OUTPUT

The new energy consumer

Shifting expectations

Also this issue:

- Events round-up
- Hydrogen for Heat
- The first MEHNA News

www.eua.org.uk

EUA
energy&utilities alliance

Events 2019

March 7	**AMPS Conference**	One Great George Street, London
Mar 21	**HHIC Annual Lunch**	The Brewery, London
May 15	**EUA & IGEM Gas Industry Awards**	Hilton Park Lane, London
June 4	**ICOM Annual Lunch**	Royal Air Force Club, London
June tbc	**Utility Connections**	Midlands
w/c Sep 9	**Smart Metering Update**	Midlands
w/c Nov 4	**Gas 2019**	

For information on attending, speaking, sponsoring or exhibiting at any of the above events, please contact:
Natalie Burrows e:**natalie@eua.org.uk** or t:**01926 513741**

OUTPUT

EUA energy&utilities alliance

HHIC HEATING & HOTWATER INDUSTRY COUNCIL

hot water association DEVELOPING HOT WATER

ICOM Energy Association

MARC ESTABLISHED 1941

MEHNA Manufacturers of Equipment for Heat Networks Association

NGV NETWORK

EUA Utility Networks

EUA President
Elaine Lancaster
(Groupe Atlantic - UK & ROI Division)

EUA Vice President/Treasurer
Helen Bray (SGN)

Chief Executive
Mike Foster

HHIC Director
Stewart Clements

ICOM Director
Ross Anderson

Editor/enquiries
Caroline Haine caroline@eua.org.uk

Energy and Utilities Alliance (EUA)
Camden House, Warwick Road
Kenilworth, Warwickshire CV8 1TH

A company limited by guarantee and registered in England.
Company Number: 10461234

Design and Publishing: www.mhgraphics.net

Welcome

The Department for Business, Energy & Industrial Strategy is exploring low carbon technologies to support heat decarbonisation. This issue we update on the Hy4Heat project which is looking at whether replacing natural gas with hydrogen for domestic heating and cooking is feasible and could provide a plausible pathway to help meet decarbonisation targets. You can also read about EUA's Second Low Carbon Gas Consultative Forum which focused on UK hydrogen projects.

Our Winter seminar, Gas 2018, examined the future of heat, identifying that over the coming years the energy sector will go through a huge period of transition and disruption. However as the event report concludes, it was clear from presentations on the day that gas is expected to play a vital role in the drive towards a decarbonised energy future.

A new division of EUA, Manufacturers of Equipment of Heat Networks Association (MEHNA) has been established, specifically to support and promote best practice in the design and operation of heat networks. The group gives a shared voice for the heat networks sector and the move has been welcomed by BEIS, with the group already working with the Heat Network Delivery Unit and Metering and Billing. We look forward to reporting more on the development of this group in forthcoming issues.

The main feature this issue looks at a series of consumer research being carried out by consultancy Accenture. Their New Energy Consumer research looks at emerging trends with a view to identifying new opportunities and challenges for the marketplace. They suggest that as much as changes in the sector are being driven by rapid energy transition and decarbonisation, consumers experience in other sectors such as retail, travel and media is impacting just as significantly. Consumer attitudes are evolving and their approach to energy is changing because of new tools at their disposal. It is an interesting angle and certainly has long reaching implications for the large energy suppliers and the energy sector as a whole.

Our Leading Voice this issue is Liv Hovem, CEO of DNV GL - Oil & Gas. Their recent Energy Transition Outlook shows major implications for all industries and she shares some of the key emerging trends and how this will impact the gas industry.

Hope you enjoy this issue.

Caroline Haine,
Editor, OUTPUT

Contents

Features

Regulars

Peter Day, NEEG Manager

The NEEG November meeting took place in November and was very kindly hosted by member company ControlPoint at their headquarters in Chesterfield.

Members heard from a variety of key industry speakers on a range of topics and themes of interest to the group:

Tony Nixon, Head of Gas Transmission, Regulation at National Grid provided an interactive session on 'Shaping the Gas Transmission System'.

David Scarth, Project Director – Routewide Logistics Utilities & Transport, Phase 1, HS2 Ltd, discussed the context utilities sit in within the wider HS2 world.

David Gill, NGN Head of Customer Energy Solutions spoke about whole energy systems and working together.

Stephen Wielebski, Home Builders Federation, provided house building policy and utility connections updates.

Caroline Ayres, Director of the British Plastics Federation (BPF) shared her thoughts on product specifications, skills and knowledge.

Les Thomas, Utilities Senior Assessor, Lloyd's Register gave an insight to PAS 128: Specification for underground utility, verification and location.

Future plans

At the February meeting, NEEG members will hear from tRIIO's Director of Operations who will provide an update on tRIIOs delivery of the 8 year contract which it delivers for Cadent, as one of its strategic partners. April 2019 will see tRIIO enter into year seven of the contract - it will be an opportunity to look back as well as forwards. There will also be a sector update from the HSE, briefings from IGEM on 'contributing to standards' and DNV GL on Human Organisation Technology (HOT).

As part of our ongoing dialogue with Ofgem around RIIO-2, NEEG contributed to a number of Ofgem GD-2 workshops on whole systems, innovation and decarbonisation, supported by good member company input. At the time of writing, we are responding to the specific (GD-2) methodology consultation which closes in March. Following this, a decision will be made in May 2019 - leading to a formal submission of GDN's business plans to Ofgem in Q4 2019.

For 2019, we are looking to refresh EUA's Economic Report with content driven by member company input, reflecting the different areas they operate in. If there's anything you would like to see included which may be useful to your business, please let us know.

We will also be looking to develop a technical/standards dimension, particularly representation on IGEM committees and we're identifying member companies who might like to contribute to committees, working groups and panels. If you would like to be involved in some capacity or require further details, please contact Peter@eua.org.uk in the first instance.

Smart update

Terry Jefferson,
Technical Services Manager

It is encouraging to report that the Smart Metering Programme for SMETS2 really is starting to move forward with reasonable volumes of devices being installed across the country (latest figures from BEIS stand at over 250,000). The end date for SMETS1 and Advanced Meter installations has now been confirmed via BEIS. For credit meters this ended on the 5 Dec 2018 and for prepayment it will be the 15 March 2019. The DCC has also uplifted their systems on to Release 2 in preparation for Dual Band Comms hubs (868 GHz).

Over the past couple of months EUA has been working hard to expand the influence and coverage of its Metering Group, by gaining seats within the SEC Panels Testing Advisory Group (TAG) and the DCCs Testing Design and Execution Group (TDEG). With ongoing representation on SEC Mods Groups, IMF, TBDG, GBCS/TSIRS, 868 and SMOG, it is a really busy time for the Group.

In December 2018, the Joint Metering Technical and Metering Services Members Meeting took place. This was an excellent session with agenda items including the usual review and discussion (sharing of experiences) of the current position of the Smart Metering programme, an update on the SMDA (Smart Metering Device Assurance), discussions from a number of programme governance meetings, contribution and representation from Steve Thun, DCC, and developments around Hy4Heat (see note right)

Our meeting calendar at Camden House for 2019 is below:
19 Feb 2019 (Review IMF Plan, SMDA update, Smart Next Steps),
21 May 2019
17 Sept 2019
10 Dec 2019

Terry Jefferson joins the Utility Networks Team

EUA welcomed Terry Jefferson to the team in September. Terry takes on the role of Technical Services Manager for the Metering Technology, Metering Services and Smart Connected Homes Groups.

Terry has been in the energy and utility industry for all of his career, starting life as a Gas Engineer with 'The Gas Board' and continued with many diverse roles including Metering Services, UAT Test Manager to Applications Support Manager, Service Delivery Manager for Gas Distribution and Test Assurance Manager for Gas Distributions Front Office Replacement programme for National Grid. After National Grid, he worked on the Smart Programme for Npower.

Hy4Heat Work Package 10 – Hydrogen Meters

Terry attended the launch meeting of Hy4Heat WP10 in December 2018.

Hy4heat is a programme being carried out by the Department for Business, Energy & Industrial Strategy (BEIS) to explore whether replacing natural gas (methane) with hydrogen for domestic heating and cooking is feasible and could be part of a plausible potential pathway to help meet heat decarbonisation targets. Work Package 10 requires safe and functional hydrogen meters to be designed and delivered, providing a solution for the safe and accurate measurement and billing of hydrogen gas delivery. See more on Hy4Heat overleaf.

BEIS want to develop innovation partnerships with Meter Manufactures which will allow the hydrogen capable meter development to progress. The programme issued ITT's in January 2019 with a date of March/April 2020 to utilise the meter in initial trials and subsequently move across to community trials in 2021. The development of the meter will most likely follow a 2 phased approach - a solution design followed by development of the meter. EUA will monitor all activity of this work package and report back to the group.

Select Committee inquiry into gas storage

In October 2018, Government held a Select Committee Inquiry into gas storage. Roddy Monroe, Independent Chair, joined the panel representing the Gas Storage Operators Group (GSOG), one of four key witnesses in attendance. EUA along with GSOG members have been lobbying for over a year for this inquiry to take place and it was an excellent result for all concerned. Roddy has had follow up meetings with members of the Committee since the inquiry took place and it is hoped that a report will come out of this which the GSOG group will have an input into it.

HHIC News

Hydrogen for Heat...

The viability of hydrogen as a fuel for the future has become a hot topic for the plumbing and heating industry.

Steve Sutton, Technical Manager, looks at the work being carried out by the Department for Business, Energy & Industrial Strategy (BEIS) who are exploring whether replacing natural gas (methane) with hydrogen for domestic heating and cooking is feasible and could be part of a plausible potential pathway to help meet heat decarbonisation targets.

As outlined in the Government's Clean Growth Strategy, there are a range of low carbon heating technologies with potential to support heat decarbonisation. BEIS is working with industry and other stakeholders to build understanding of the different approaches, to prepare for decisions in the first half of the next decade about the long-term future of heat.

Hydrogen gas as a replacement for methane is just one of several routes that BEIS is considering to decarbonise heat. The main advantage of hydrogen is that it does not release carbon dioxide during combustion, unlike methane and all hydrocarbons.

To support this exploration, Government has allocated £25 million to a study called Hy4Heat – a range of inter-related 'work-packages' that will form a feasibility study to establish the parameters of employing hydrogen as a replacement for natural gas in heating our homes, commercial buildings and for use in appliances.

Hy4Heat

The Hy4Heat programme will seek to provide the technical, performance, usability and safety evidence for hydrogen use.

BEIS has appointed Arup as the programme manager who will oversee the entire programme (Work Package 1) and will also be undertaking the work to prepare and plan for a community trial (Work Package 9), if BEIS decides to do this. Arup is working with technical and industry specialists: Kiwa Gastec, Progressive Energy, Embers and Yo Energy.

BEIS will appoint contractors to deliver the other work packages that all together make up the whole programme. The Hy4Heat team will oversee and manage all of these as part of their main programme management role and the programme will run to March 2021.

The programme is initially addressing two key challenges with hydrogen; firstly, demonstrating the safety case associated with using hydrogen in buildings and secondly, the need to have appliances that can burn hydrogen rather than methane. Hydrogen has very different combustion characteristics to methane and so current appliances are unsuitable for use with hydrogen.

> "Decarbonising heat is arguably the greatest challenge in meeting UK climate change targets"

Work Package 2

The Institution of Gas Engineers & Managers (IGEM) has been appointed by BEIS to develop WP2.

Working in close collaboration with leading industry partners such as HHIC, IGEM will look to develop functional gas standards for hydrogen for use within the 'Hy4Heat' demonstration programme. IGEM will introduce three working groups that will review areas such as DSEAR, materials, leakage rate, and ventilation; appliance location, fluing, installation and air supply. The work will be peer reviewed by the Hy4Heat project board, industry experts from the Health & Safety Laboratory, DNV GL, and the IGEM Technical Coordinating and Gas Utilisation committees.

> "Clean fuels such as hydrogen and bioenergy could be used for transport, industry, and to heat our homes and businesses.
>
> We need to test how they work in the existing gas network, whether they can fire industrial processes, and how they could be used in domestic appliances."
>
> **Clean Growth Innovation Challenges - Clean Growth Strategy**

Work Package 3

WP3 focuses on certification for domestic hydrogen appliances. In 2018, a survey of Notified Bodies and Test Laboratories reported that hydrogen appliances could be certified under the existing Gas Appliance Regulation (GAR). In August 2018, the HHIC attended a stakeholder event that explored the development of test standards for the certification of appliances fuelled by hydrogen. These are independent standards that appliances must meet to receive a "CE mark". Additionally, the group discussed the potential to establish an appliance testing and certification committee to provide guidance on hydrogen standards. In other words: the industry is readying for change.

Work Package 4

The development of domestic hydrogen appliances is the core focus of WP4, as it looks to demonstrate the safe use of hydrogen as a fuel to provide heat and hot water in our homes. WP4, more formally known as the 'Domestic Hydrogen Appliance Development Innovation SBRI Competition', is being carried out with the ultimate aim of providing critical evidence of safety, emissions and functionality of hydrogen-fuelled products within domestic housing. Worth up to £9 million, the competition seeks to encourage appliance manufacturers to push forward the development of boilers (combi and regular/system), cookers (stand-alone hobs, ovens with grills and integrated freestanding cookers) and fires. BEIS is also urging competitors to use development funds to produce innovative domestic hydrogen appliances.

Work Packages 5 and 6

Tenders have already been received for WP5 and WP6 which will see BEIS appoint contractors to deliver comprehensive research reports on the feasibility of converting commercial sector appliances and industrial heat generation from natural gas to hydrogen.

Work Packages 7 to 9

With the safety of consumers and installers a priority, a co-ordination group will enable gas distribution network operators to agree an approach for WP7 (safety testing) and aligning 'Hy4Heat' with other hydrogen programmes and initiatives. WP8 will see the demonstration of the prototype domestic hydrogen appliances which have been developed in WP4. WP9 is the planning and preparation for a potential community trial.

Work Package 10

WP10 requires safe and functional hydrogen meters to be designed and delivered, providing a solution for the safe and accurate measurement and billing of hydrogen gas delivery. The meters procured in WP10 will be used for the WP8 trial.

Where next?

Hydrogen presents many opportunities to decarbonise heat and to the wider energy network.

Innovative developments aside, the progression of hydrogen as a fuel of the future rests on the success of the research and development conducted in the industry.

A separate, Ofgem funded, programme researching the possibility of re-purposing the gas network 'upstream of the gas meter' is currently underway. Ofgem has commissioned the Gas Distribution Network Operators (GDNOs) to research the technical and safety challenges of using hydrogen in the gas distribution system which could ultimately result in a UK hydrogen conversion strategy, making a significant contribution towards the UK's decarbonisation agenda.

Hydrogen use in vehicles is a major focus of research and development too. There are many examples of hydrogen already being successfully employed in cars, buses and vans with much interest in hydrogen as an alternative transportation fuel.

HHIC News

ECO3 Consultation

A step in the right direction

There are many positives to be taken from the recent ECO3 consultation, and it is encouraging that the ideas, reservations and recommendations put forward by the heating industry have been considered and incorporated into parts of these plans. Stewart Clements, Director of the HHIC, comments on the latest review.

HHIC's foremost concern was that amends to the ECO scheme would result in greater red tape for installers sitting alongside harsh cuts to funding. There was much included in the forty-two-question consultation, but encouragingly industry's views and reasoning fed into the changes that will take the scheme through to 2022.

HHIC had expressed concern about quality mark requirements and the proposed inclusion within this consultation and ECO more generally. By bringing in additional red tape it was felt that installers - who are already highly accredited through other schemes - may be dissuaded from working under the ECO; something which would slow down the process of homeowners having measures installed under ECO.

Government listened to the views of the HHIC, and other key industry players, that it is too early to insist all new installations carried out under the ECO3 header should be accredited by the Each Home Counts review, especially since it is not yet up and running; nor have the requirements been agreed. HHIC is relieved that the ECO3 scheme will not require Each Home Counts compliance until further clarification is put in place. It is certainly prudent of Government to consult the industry further on how the Each Home Counts plan should look, as far greater inclusion will be needed before it can even begin to be seen as an industry-led scheme.

The minimising of red tape, more flexible eligibility, recognition of oil usage in rural areas and changes to supplier obligations, should make a clear difference to delivering the ECO scheme where it is needed most.

What is ECO3?

The Energy Company Obligation scheme (ECO) is a programme that delivers energy efficiency measures to low income and vulnerable households across Great Britain. Since the scheme was launched in January 2013, 2.3 million energy efficiency measures have been installed in approximately 1.8 million homes, helping to reduce energy bills and making homes more energy efficient. The latest consultation on the scheme concluded last year and recommendations were taken forward in the Autumn.

The current ECO3 scheme runs until March 2022 and the Department for Business, Energy Industrial Strategy (BEIS) received 239 responses to the consultation last year from a variety of stakeholders ranging from large energy suppliers and trade associations to individuals with an interest in energy efficiency and fuel poverty.

HWA News

In tune, up to date, let the hot topics flow

HWA is constantly striving to provide quality, topical advice and information to support businesses and consumers of hot water products. Let's take a look at some of the resources available.

Website www.hotwater.org.uk

As well as the usual 'about us' and news sections, the website has a dedicated 'Resource' section with over 40 different resources available. From engineer guides to product bulletins on topics such as:

- Guidance on the selection and installation of storage cylinders for solar thermal hot water systems.
- Using unvented cylinders with solid fuels
- Meeting current legislation
- Heat pumps and hot water storage
- Stored Hot Water Solutions in Heat Networks 2018

For customers there is information available to help with decisions on hot water storage solutions. From dispelling cylinder jargon to sizing a cylinder for individual household needs, this area of the website is constantly being reviewed to ensure there is the right information to make an informed choice.

Within the 'homeowner hub' there is also a frequently asked questions area, containing questions and answers to things like; "Does a new cylinder have to be fitted in the same place as the old one?" and "I am thinking of installing solar thermal panels at some point, but not straight away. Do I need a twin-coil cylinder?

Media

Over the past two years the HWA has been turning up the heat with a consumer campaign, aimed at educating consumers on the advantages and abilities of the modern day hot water cylinder. Despite the UK's long standing love of storing towels and drying clothes in an airing cupboard, many have been enticed away by the lure of the cylinder free system.

The consumer campaign is designed to raise awareness of the options available. The idea is to give homeowners the tools to talk knowledgeably to their installers and to enable them to enjoy the benefits of hot water storage.

The campaign, running both on and offline reaffirmed the position that hot water storage is a modern choice for UK home-owners, while highlighting the many plus points of opting for a new cylinder, such as, instant hot water from multiple outlets simultaneously. This is especially key when people are in the market to upgrade or replace their existing hot water system, or are in the process of opting for a new build or renovation project.

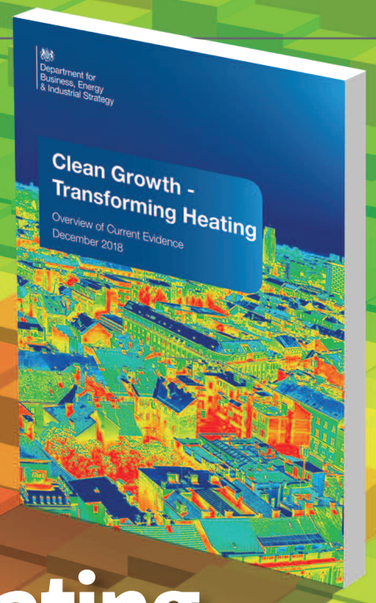
YouTube

Part of the consumer campaign included the creation of a series of useful videos which are hosted on the HWA YouTube channel

- Hot water storage in action: four bedroom property case study
- How do I choose the right hot water storage system?
- Do I need to connect hot water storage to renewable energy sources?
- Why should I consider a hot water storage system?

When you take into consideration how much the average household depends on their hot water system, keeping homeowners and engineers up to speed is essential. With HWA's suite of information homeowners can make educated choices with the support of well-informed engineers.

ICOM News



Priorities for transforming heating

Ross Anderson, Director ICOM

A recent document from the Department for Business, Energy and Industrial Strategy (BEIS) provides an insight into the Government's thinking with regard to energy and carbon, and a useful reference for ICOM and other EUA members. Ross Anderson, Director of ICOM, provides an overview

Entitled 'Clean Growth – Transforming Heating', the document reinforces the focus on decarbonisation of the UK's energy infrastructure, noting that heating remains the largest source of greenhouse gas emissions. It also identifies gas as the predominant source of heating. "Whichever approaches are taken, the way heating is supplied to nearly 24 million homes, businesses and industrial users connected to the gas grid will need to change," it notes.

To that end, there is a predictable emphasis on promoting low carbon heat technologies such as heat pumps, biomass, biomethane and solar thermal, along with wider use of heat networks for the distribution of heat. The focus on heat pumps is a concern, as most heat pumps are currently driven by electricity generated from highly inefficient gas and coal fired power stations.

However, as capacity from renewable sources such as wind and solar increases, this will become less of a concern – at least when the wind is blowing and the sun is shining.

Because of a reduction in the average carbon content of the power grid, electric heating is receiving a lot of attention from BEIS so ICOM members must be aware of this situation. This trend is reflected in the latest version of the Standard Assessment Procedure (SAP 10) and is also anticipated for the next version of the Simplified Building Energy Model (SBEM). However, BEIS notes that widespread use of electric heating is dependent on the development of new, and reinforcement of existing infrastructure to generate, store and distribute low carbon electricity.

Alongside these aspirations is a desire to make wider use of hydrogen and bioenergy. In relation to hydrogen there is still work to be done on the safety aspects of converting the gas grid, a task that will be comparable to the change from coal gas to natural gas in the 1960s and 70s.

Clearly ICOM members have a key role to play in helping the Government's commitments to reducing greenhouse gas emissions. We can expect to see wider use of smaller heat networks serving local buildings, so there will be a growing demand for heat interface units (HIUs) and metering systems.

In all cases, other than standalone domestic installations we will also see space heating and hot water systems served by a wider variety of heat sources and this needs to be paralleled by more sophisticated control than has historically been the case.

For example, there is great potential for hybrid systems combining heat pumps with gas-fired condensing boilers. However, these will only deliver the required efficiencies if the control system is able to manage the performance of each of these technologies to optimise overall performance.

At 136 pages long, the BEIS document covers these issues in much more detail than is possible here, but the clear message is that there will be significant investment in areas such as heat networks, hydrogen and bioenergy. The document is available on the ICOM website and members affected by this need to ensure they are well positioned to contribute to this transition.

NGV Network News

Household brands proving the gas concept

In 2018 household brands such as Sainsbury's, Hermes, TK Maxx and Ocado led the way in committing to running substantial numbers of their HGVs on natural gas. The John Lewis Partnership thrust themselves to the forefront of the movement, purchasing a 50-strong gas fleet and committing, along with their sister company, Waitrose, to going diesel-free by 2028. The move is set to save more than 49,000 tonnes of CO2 annually, equivalent to the carbon footprint of more than 6,000 UK households. Many other companies concerned about the public perception of diesel and wishing to benefit from lower transport costs are trialling gas vehicles with a view to replacing their diesel fleet.

Tighter regulations on diesel vehicles which produce toxic gases, harmful particulate matter and carbon emissions in much larger volumes than cleaner natural gas, has buoyed interest in natural gas vehicles. The technology represents a significant proportion of new HGV registrations (10 per cent of the 4×2 market) and is expected to continue to eat up diesel's long-held market share, particularly following the introduction of 6×2 units at the back end of last year.

Government recognises that they must act and incentivise the take up of low carbon gas HGVs. In November's Budget the Chancellor announced an 8-year extension of its policy of lower fuel duties on cleaner fuels. This fixes the tax differential between natural gas and diesel and extends the commitment to 2032. It provides investment certainty and enables truck manufacturers to build scale and reduce the costs of gas vehicle production.

Natural gas is a genuine alternative for haulage companies particularly now that major truck manufacturers such as Iveco, Scania and Volvo are manufacturing trucks with gas engines.

Transport strategies aim to achieve zero emissions but often the technologies aren't available or are impractical in day to day operation. HGV's are the hardest vehicles to decarbonise because of weight and space limitations, a fact recognised in the DFT's "Road to Zero". Electric or hydrogen HGV's are impractical and likely to remain so for the foreseeable future. The only viable low carbon alternative to diesel is natural gas and when used alongside zero-carbon biomethane, the environmental advantages really stack up. HGV drivers have previously commented on gas engines having less power than diesel. Feedback from recent trials is that the latest engines have overcome this issue. Drivers also comment on the engines being much quieter and driving a gas engine vehicle is much less tiring. Something rarely commented on but reported widely is that truck drivers are exposed to high levels of vehicle air pollution and gas provides a cleaner and safer environment for their work. Trials are demonstrating cost savings from gas of at least £6,000 per vehicle per year after deduction of the higher lease cost. Applied across the HGV vehicle park this would save the industry £1bn per year!

The pace of change in the transport industry is expected to continue in 2019, with more suppliers seeking to make the move to natural gas and biomethane.

President's Column

A year in numbers

EUA President, Dr. Elaine Lancaster looks at how EUA's activities add up to help shape future policy direction within the energy sector.

As 2019 gets well underway, I thought it would be a good opportunity to reflect on the varied and excellent work EUA undertook in 2018.

How much do you know about EUA as an organisation and its workstreams? Are you aware of its size and breadth of representation over a wide range of policy areas? Do you know who your fellow members are and what they do? Why not flick to the back page to see the full list. It's nice to know you are in good company!

EUA works to shape future policy direction on behalf of members and the wider community. The longer term vision of EUA is that by 2025 we will have shaped the UK's heat and transport decarbonisation policy, paying due regard to affordability and security of supply whilst continually acting on members' behalf.

As President of EUA, I have the privilege of presiding over 325 member companies across eight organisational divisions:- Utility Networks (UN), Heating and Hotwater Industry Council (HHIC), Industrial and Commercial Energy Association (ICOM), Hot Water Association (HWA), Manufacturers' Association of Radiators and Convectors (MARC) British Energy Efficiency Federation (BEEF) and Manufacturers of Equipment in Heat Networks Association (MEHNA). The current divisions all work side by side supported by a common strategy but have quite different areas of focus. Across these divisions we have a wide range of members, from those involved in fuel supply to the end user, covering all sectors of the economy, including world class manufacturing, research and development and leading services industries.

EUA's commitment to bringing member companies together to solve industry issues and provide an enviable information source is a major driving force behind our outputs. Last year we ran 121 member group meetings and EUA staff attended 189 technical committee meetings and other panels (such as APPG's, Boards, Working Groups, and Stakeholder groups) on behalf of members, as well as holding over 200 meetings with BEIS, other Government departments, senior civil servants, MPs and policy makers.

These outputs saw success in:

- Securing the fuel duty differential rate for natural gas as a vehicle fuel to help decarbonise UK HGV's.
- Directly influencing new Boiler Plus legislation.
- Contributing to Government's Smart meter programme, around standards, testing and codes of practice.
- Helping Government recognise the importance of gas as part of the energy mix.
- Raising the profile of the work being undertaken in the energy industry into hydrogen as a future fuel.
- Helping Government understand the significance and implications of low carbon gas - biogas, synthetic natural gas and hydrogen – as a means to decarbonise UK heating and transport.
- Raising business and consumer awareness through publication of a series of guides and other industry resources.

Did you know that our member companies employ approximately 252,200 people, and if you include those indirectly employed, our sector accounts for one in every 40 people in the UK today. A key part of our strategy is helping to realise the industry requirements for a qualified, capable and diverse workforce to meet the challenges of the coming decades. In my role as EUA President I will be focussing on skills issues, talking to members and asking them to share ideas relating to their own recruitment practices and the specific challenges they are facing. It is crucial we widen the talent pool in our industry through gender and diversity and I hope to be able to share the results of my findings with you soon.

Finally, we all know the energy sector is facing a period of massive disruption. New technologies and demand-side response, combined with new market structures and user platforms, are impacting the energy sector as we know it. While this transition is opening up exciting possibilities, it won't be without its challenges and there is a significant amount of uncertainty in the strategic role envisioned for the future of gas. However, EUA firmly believes that gas will play a vital role in the drive towards decarbonisation and that it can support plausible pathways to a low carbon energy system.

MEHNA News

A single voice for suppliers of **heat network** products


Leeds District Scheme

MEHNA
Manufacturers of Equipment for Heat Networks Associaton

A new division of the EUA, Manufacturers of Equipment of Heat Networks Association (MEHNA) has been established specifically to support and promote best practice in the design and operation of heat networks. Ross Anderson explains.

It is now well accepted that heat networks will play a key role in the UK's carbon reduction strategy. Indeed, in 2017 the Department for Business, Energy and Industrial Strategy (BEIS) noted: "Heat networks form an important part of our plan to reduce carbon and cut heating bills for customers (domestic and commercial). More recently BEIS has launched a £320 million Heat Networks Investment Project (HNIP) which will offer grants and loans to both the public and private sectors in England and Wales, for networks serving two or more buildings.


Gateshead District Energy Scheme

One challenge, however, is that heat networks use a number of different products to create the overall system, including heating plant, pipework, valves, heat interface units (HIUs) and metering. Many of these products are supplied through members of divisions within the EUA, such as ICOM, HHIC, HWA and UN.

For that reason it was decided last year, at the request of EUA members, to create a new division that would give a shared voice for heat networks - the Manufacturers of Equipment of Heat Networks Association (MEHNA). This move has been welcomed by BEIS and MEHNA is already working with the Heat Network Delivery Unit and the metering and billing departments of BEIS.

The role of MEHNA is to represent the product manufacturers in discussions on regulations and standards with a view to ensuring heat networks are designed to operate as efficiently as possible. As well as addressing product design and operation, MEHNA is working closely with the Chartered Institution of Building Services Engineers (CIBSE) and the Association for Decentralised Energy (ADE).

For example, CIBSE is reviewing its Code of Practice for heat network design (CP1) and MEHNA is involved in the review process by compiling members' comments and ensuring that necessary changes are made to the document.

Another early success for MEHNA has been productive dialogue with the Building Engineering Services Association (BESA), which publishes a test regime for HIUs. Following input from MEHNA the test regime has been modified to more closely reflect the market and we hope to have future involvement in BESA's steering group and technical committee.

Also challenging is the lack of standards in some areas of the heat network system and MEHNA is working with the British Standards Institution (BSI) to remedy this shortfall. As part of this, we have been instrumental in resurrecting a dormant BSI committee on heat exchangers and will be involved in writing a new standard for HIUs that will bring a major change in the design, manufacture and operation of HIUs.

The progress made already is a clear indication of the need for a single voice that supports the products in this growing market and MEHNA has already attracted three new members that were not formerly involved with the EUA. There is still much to do and we will continue our work to represent member's views in this area.

MARC News

Quality assurance is key for MARC

The UK's radiator industry is making a unified call for zero tolerance on companies who mislead customers on the power of their products.

The Manufacturers Association of Radiators and Convectors (MARC), is committed to product satisfaction and consumer assurance and members have pledged to raise standards and compliance, through a series of initiatives.

MARC's pledge has been created to ensure industry wide compliance with the Construction Products Regulations, which apply to all products sold into the construction industry including those purchased online.

MARC will be working across the whole industry to ensure that all companies' marketing materials and product performance data are correct. Tests conducted by MARC members on imported products have shown stated outputs up to 68% higher than actual output.

Radiators sold in the UK have to conform and have outputs verified to BS-EN442 the European standard for radiators. All radiator literature needs to display BS-EN442 compliance, which enables specifiers to show compliance with the European construction products directive.

BS-EN442 shows that the stated output levels have been independently verified, but some products are getting into the country without undergoing this process. Therefore, anybody buying a radiator should look out for the British Standard BS-EN442 accreditation on packaging or on the product. If substandard radiators are installed, customers lose out on warmth and efficiency and end up disappointed, having generally paid over the odds, based upon the stated outputs. That cannot be acceptable in our industry.

MARC will be launching a series of initiatives to support the pledge later on this year.

We are extremely grateful to our event speakers, sponsors, DNV GL, Northern Gas Networks, Wales & West Utilities and Uniper and our exhibitors, ALH Systems, Bell Apparel, Pipeline Industries Guild.

Gas 2018... there's space for gas in the decarbonisation drive

EUA's flagship seminar, Gas 2018, examined the future of gas in the UK, for heat, transport, and industry. The day was spent looking at a varied view of the next 50 years of gas and speakers came from across the industry.

To highlight the sheer rate of change, delegates were reminded of what was new 50 years ago:

- preparations for decimalisation were being made and the new 5p & 10p coins were issued
- the North Sea gas conversion programme started in Burton on Trent
- Concorde was preparing for its first flight

Looking ahead to where the industry will be in 50 years was much harder. One thing was clear, energy is undergoing a revolution. The way we use it, the way we control it, and the way we access it are all changing.

Speakers highlighted that over the coming years, the energy sector will go through a period of massive disruption.

New technologies, like battery storage, electric vehicles, and demand-side response, combined with new market structures and user platforms, could change the face of the energy sector as we know it.

There are changes already taking place in the energy market:- Decarbonisation: Government needs to reduce Green House Gas emissions by 80 per cent by 2050. Decentralisation: Energy generation is moving closer to the point of use. Digitalisation: New technology, devices connected to the Internet and IoT driven smart home technology is a key driver of change, transforming how customers interact with energy. Sector convergence: Fundamental changes in the market and new collaborations i.e. electric vehicles (EVs) are bringing partnerships between car manufacturers and electricity suppliers.

The scale of the challenge facing the energy industry requires a shift in approach. Many speakers emphasised that there are no silver bullets and no one route is the answer, that there will be a combination of answers, which are likely to continue to evolve.

Other information presented included:
The latest on Energy regulation. Ofgem's innovation incentive under RIIO-1 has led to cost savings but things are going to get tougher and the next phase, RIIO-2, will be more consumer focused when it comes into effect in June 2021.

Cuadrilla produced the first sample of Shale gas in the UK on 2nd November.

Issues around changing the natural gas specification in the GSMR could give the gas industry problems due to the speed of change of the specification, the range of the new specification and the problems of metering.

Of concern for industry is the existing housing stock. Government will have to help support and incentivise households to help UK reduce emissions.

For the consumer it's all about managing affordability. It is inevitable that costs will trickle down to the consumer for all these changes.

The Cadent HyDeploy project to determine the percentage of hydrogen that can be injected into the grid, has obtained the required exemption from HSE.

Bio-LPG will help protect the off-grid industry and the consumers who rely on oil or LPG to heat their homes.

The use of hydrogen, both 100 per cent and blended, bio-methane, bio-SNG, bio-LPG, wind, solar, hybrid heat pumps incorporating a gas boiler and many other small solutions will all add up to the final result.

In transport, buses and HGV vehicles are looking towards bio-methane and hydrogen, as electric does not provide a solution currently. Hydrogen powered trains are also part of the mix.

While energy transition is opening up exciting possibilities, it won't be without its challenges. There is a significant amount of uncertainty in the strategic role envisioned for the future of gas and high levels of uncertainty present a great challenge to policy makers. However, this seminar cemented the view that gas will play a vital role in the drive towards decarbonisation and can support plausible pathways to a low carbon energy system.

Over 100 delegates joined EUA for Gas 2018 at the National Space Centre in Leicester and the day concluded with a private show in the digital planetarium of 'We Are Astronomers', a 360° virtual trip into space, narrated by David Tennant.

The new energy consumer

Shifting expectations

Energy is one of life's essentials. But the way it is produced, distributed and consumed is undergoing fundamental change. There's already been a significant reduction in the carbon content of the energy produced and consumed, but according to the latest report from the Intergovernmental Panel on Climate Change (IPCC) published late last year, we face a stark future unless we redouble our efforts to decarbonise.

Decarbonising energy is not the only answer. Giving consumers more control over their energy is also required. Technology can help by bringing the source of energy production closer to the consumer, enabling self-generation and storage of their own energy and creating smarter homes and businesses.

The shifting energy ecosystem

Technology is now eclipsing competition as the biggest single transformational force affecting the consumer's relationship with energy. It is shifting customer expectations of what to expect from companies. The online experiences customers are becoming used to in areas such as retailing, travel and media are setting a new norm.

And from this, a more complex energy ecosystem is emerging with the relationship between the consumer and the way they manage their energy now more fluid and far-reaching. Customers have choices around generating, storing and trading their own electricity as well as about energy management, efficiency, automation, monitoring and control.

The battle is already on to own the 'connected home', with companies from the technology, entertainment and telecoms sectors seeking to gain customer traction. Google, Apple and Samsung have all made moves in this space. And while the connected home market remains fragmented, opportunities are emerging in home energy management. For example, British Gas acquired AlertMe, a developer of platforms for running smart home devices which runs the Hive product, allowing consumers to control their heating and hot water remotely.

The acquisition allows British Gas to launch a family of smart home products to bring consumers innovative ways to help them reimagine how they live in their homes.

Customer attitudes are evolving and their approach to energy is changing because of these new tools at their disposal and changing customer behaviour is a huge challenge for energy companies. In the past, customers were relatively disengaged, only seeking to interact with their energy company when there was a problem. But not anymore.

The rise of innovative and disruptive business models

A growing number of consumers are filling their homes with connected devices. Kitchen appliances, thermostats, lights, locks, phones and televisions are becoming smarter and more interconnected. In fact, almost all energy consumers now use some type of connected device in their day-to-day lives. With smart devices, consumers can choose between being highly informed and influential or adopting a simple, effortless set-and-forget mindset. All the while, the digitisation of everything is becoming a normal part of everyday life.

This hyper-connectedness is creating a world in which companies, consumers and everyday objects can digitally interact with each other. Connected everything has raised the bar with consumers who now expect choice, control and convenience. The characteristics of these innovative new business models adopted by companies such as Uber, Airbnb and Amazon are heavily technology driven. They tend to be asset light, have high scalability, attract a lot of free publicity and use the shared economy (share goods and services facilitated by an online platform).

airbnb

amazon

UBER

Case study: The digital transformation by ENGIE

ENGIE (previously GDF Suez) has an ambition of being a leader in energy transition. Facing significant market transformation, ENGIE sought to review its retail operations and transform the digital experience for its business and residential customers. Its transformation includes reimagining the delivery of traditional commodity services, such as selling gas and electricity.

It also includes designing new services to disrupt the market, challenge competitors and new entrants and, ultimately, position ENGIE to move into new markets and regions. Among the possibilities: servicing the new era of electric and self-driving vehicles, connecting the coming wave of home solutions in ways that delight customers, and helping customers in their energy transition projects.

> "As part of our ambitious three-year transformation plan to become a forerunner of the future energy world, we are making a big investment to digitise our company, redefine the customer experience and set new rules of engagement in the industry.
>
> Digital is central to the products and services we offer, a key driver of competitiveness, and a powerful lever for changing our operating methods."
>
> **Isabelle Kocher,**
> Chief Executive Officer, ENGIE.

ENGIE plans to invest €1.5 billion in new businesses and digital technology. The Group has set up its ENGIE Digital skills centre to support its operational entities and created ENGIE Tech as a development platform for an ecosystem of partners and a facility for developing the business software to deliver its products and services. In customer relations ENGIE has developed a comprehensive package of online services for its domestic customers, ranging from energy self-management to information, online sales and digital billing. More than 30 per cent of customers are using the ENGIE website to manage their own accounts.

Case Study taken from Accenture report 'The New Energy Consumer 2017 - New Paths to Operating Agility'

The New Energy Consumer Shifting expectations

Time for change

The current energy system was built to deliver reliability and low cost above all else, and energy providers have typically done well in meeting those objectives. Historically, most have emphasized the supply side of their business–offering standard customer service options and basic "fringe programs" for energy efficiency.

Energy providers have not historically been designed to provide differentiated customer service or to support innovative energy-efficiency programs at scale to the mass residential market. But this well-reasoned structure fails to work in a digitalised and decentralised world.

On the demand side, consumers also have been passive in their interaction with energy providers. Viewing energy as a basic service, they maintain a "low-value" relationship with their energy providers. Typical consumers interact with their providers just a few times each year. Research shows that the fundamental relationship between the consumer and energy provider has evolved at a very slow pace.

Helping consumers manage and optimise their energy usage requires a new kind of relationship between the energy provider and consumer. Take the UK smart metering programme. This depends on significant levels of consumer participation and success hinges on scalable consumer adoption. This presents several unique challenges. Simply installing smart metering devices and in-home displays will not drive lasting consumer adoption. Energy providers must develop a more comprehensive competence in consumer energy support to tailor products and service channels accordingly. Successful energy providers that understand and leverage consumers' perceptions, behaviours and values are the ones that will ultimately generate the most value and achieve high performance in the new energy era.

Energy policy and regulation has also been built around the historical structure of the energy sector - gas or electricity, supply or demand, efficiency or low carbon, renewables or fossil fuels. However, customers think differently. They think in term of warmth, mobility and power. A warm home or workplace is a result of both building efficiency and the heating system, and the customer simply wants affordable warmth when it is needed. A new policy and regulatory landscape will be required for the new energy consumer, built around enabling them to benefit from the transition and ensuring they are at the heart of the system and its policy framework. Lack of consumer action could become a central barrier to achieving a decentralised, decarbonised energy system.
While consumers will continue to evolve, these new characteristics will remain at the core of the preferences and behaviours of next-generation consumers. Successful energy providers will be those that understand how and why the new energy consumer requires much more than the traditional utility service model. They will also recognise that strategies for interaction, new products and services, or in-home technologies should be integrated. Incorporating characteristics of the new energy consumer into next-generation strategies will influence how a provider identifies and approaches new market opportunities and, ultimately, determines its business model.

With thanks to Accenture in the compilation of this article. Accenture's multiyear New Energy Consumer research looks at emerging trends in energy and identifies new challenges and opportunities for the evolving energy marketplace.

To find out more visit their website www.accenture.com/gb-en/insight-utilities-new-energy-consumer-2017

Low carbon gas examined at EUA forum

Hydrogen for a low carbon future was the focus of EUA's second Low Carbon Consultative Forum in December 2018.

Exclusive to members, the Forum provided an opportunity for the industry to engage with stakeholders across heating and energy, discussing current and future developments, facilitating a unified and co-ordinated approach to discussions.

Mike Foster,Chief Executive, EUA said:

> "There are a number of projects being undertaken across the industry all aimed at reducing the carbon emissions of gas – from biomethane injection to full scale hydrogen conversion. Our members are leading the way through innovation, and recognition that in order to decarbonise heat affordably and without the need for homeowners to change their heating systems, the UK must green the gas in the grid."

Members heard from a number of influential speakers including;

Mark Wheeldon, SGN, who gave more details on their H100 project, which is developing a hydrogen grid from first principals rather than re-purposing the existing natural gas grid. This work is progressing well and will give the networks a better insight to the challenges of transporting and distributing hydrogen.

Dr Charlie Dunnill, Swansea University gave a presentation on using hydrogen to generate electricity as well as producing hydrogen from electricity, both using types of electrolysers. As a simple demonstration they brought along a bicycle which had a generator on the back wheel that produced electricity and then using an electrolyser, produced hydrogen. Some members had a go at producing hydrogen bubbles.

Andy Lewis, Cadent gave an update on HyNet, a hydrogen energy and Carbon Capture, Usage and Storage (CCUS) project in the North West of England. The goal of HyNet is to reduce carbon emissions from industry, homes and transport and support economic growth in the North West of England. This project is ongoing. He also spoke about HyDeploy, which has gained exemption by the HSE from the GSMR to enable them to blend up to 20 per cent hydrogen into the Keele University network. Cadent are busy obtaining the electrolyser and blending equipment to be ready for the third stage of the project which is the live operation of a large section of the network, starting next summer.

Oujen Hodjati-Pugh from The University of Birmingham presented on the work they are doing on solid oxide fuel cells and the difference between low temperature and high temperature versions. Fuel cells are a realistic option going forward and the use of materials other than expensive platinum seems to be increasing, which should help in reducing costs.

The final presentation was from Martin Sperrink, Northern Gas Networks on the H21 project which is gathering pace and more detailed planning is underway.

Keep a look out for details of the next Forum which will be communicated soon.

In this issue we talk to **Liv Hovem** CEO of DNV GL – Oil & Gas

Liv Hovem is CEO of DNV GL – Oil & Gas, which is a global technical advisor working in partnership with operators, suppliers, governments and industry associations to support progress across the entire gas value chain.

Career to date/working in this sector

I studied Civil Engineering at NTNU, and then went to the University of California, Berkeley for an MSc in naval architecture and offshore engineering.

Prior to becoming CEO of DNV GL – Oil & Gas, I was head of Continental Europe, the Middle East and India at DNV GL – Oil & Gas, headquartered in Milan. I have also worked in the Maritime sector for many years.

It was never the plan to stay at DNV GL for 30 years, but I have been given so many opportunities.

There are so many fascinating things going on in the industry right now: digitalisation, automation, energy efficiency, electrification and carbon capture - these technologies are causing rapid changes for oil and gas companies and their suppliers, so there's always something new and interesting.

An important part of my role now is to help customers navigate the energy transition and to help the industry collaborate and build the trust needed to adapt to digital advances.

What's been the most important lesson learned?

We cannot work in separate silos anymore. The technological leaps mean industries that were previously separate have to work more closely together and learn from each other. We have to think differently about collaboration and system integration; it is critical to achieve our (climate) goals.

DNV GL's 2018 Energy Transition Outlook shows major implications for all industries. Can you share some of the key trends emerging for our readers and outline how this will impact the gas industry

Our Energy Transition Outlook (ETO) forecasts that natural gas will rapidly overtake oil to become the world's primary energy source in 2026. It will then remain in pole position in the lead-up to mid-century.

Oil and gas operations will become faster, leaner and cleaner towards mid-century, as gas fuels the energy transition.

Significant investment will be needed in gas over the coming decades to increase capacity, transform assets and transport a decarbonised mix of energies.

There are some regulatory challenges to the market position of gas – such as carbon pricing, emission caps, and pollution regulation – which could pose risks to the future share of gas in the global power generation mix.

How is DNV GL responding to the energy transition and the pace of change that is being experienced?

Not long ago, the industry regarded the energy transition as a transformation on the horizon, however it has become clear that this significant change is already upon us and it is influencing the entire oil and gas value chain. DNV GL serves both the renewables and oil and gas industries. For us, and for many of our customers, the energy transition itself is the greatest source of risk – and opportunity.

Our role is to help our customers prepare for the transition and to remove technical obstacles to the growth of gas.

What should companies do to begin their own transition and plan?

The attention of boardrooms and cabinets should be fixed on the dramatic energy transition that is unfolding. In 2017, more gigawatts of renewable energy were added than those from fossil fuels and this is reflected in where lenders are putting their money.

DNV GL's recently published research 'A test of resilience: the outlook for the oil & gas industry', based on a survey of nearly 800 senior oil and gas professionals showed that half (51 per cent) of senior industry professionals will focus on actively adapting to a less carbon-intensive energy mix in 2019, up from 44 per cent last year. While momentum for long-term decarbonisation is building, DNV GL's research indicates that companies today are more likely to be doing so because they are told to, rather than because they want to.

Regulation topped the list of factors most likely to drive oil and gas companies to decarbonise their operations in 2019. The energy transition and 'doing the right thing for society' came in ninth and tenth place, respectively.

DNV·GL

About **DNV GL**

DNV GL is a global quality assurance and risk management company providing classification, technical assurance, software and independent expert advisory services to the maritime, oil and gas, power and renewables industries, as well as within management system certification services, digital assurance and digital solutions across industries. We have operations in more than 100 countries.

DNV GL Group AS is 100 per cent owned by a free-standing, independent Norwegian foundation whose long-lasting purpose is to safeguard life, property and the environment.

Around 5 per cent of DNV GL's annual revenue is invested into research and development. 60 per cent of the research and innovation activities are dedicated to digitalisation. We also **drive more than 100 joint industry projects (JIPs) in our industries annually, more than any other organisation,** adding to our openly-accessible library of more than 170 industry standards, recommended practices and technologies to advance safety and efficiency in a broad range of technologies.

The company operates **14 laboratories across three continents,** combining advanced testing with technical expertise and industry standards to help customers apply technology safely, efficiently and cost effectively.

In the oil and gas industry DNV GL has been involved in **developing game-changing technologies** such as the intelligent pig, polyethylene piping and the condensing boiler.

We welcome into membership...

Hy-Ram Engineering Co. Ltd has established itself as a leading designer and manufacturer of specialist equipment and tooling for both plastic and metallic distribution pipelines worldwide. Principally working across Gas, Water and industrial sectors, Hy-Ram provide a range of products essential for the provision, installation and maintenance of distribution pipelines. **www.hy-ram.co.uk**

CEVA Logistics is a global logistics and supply chain company in both freight management and contract logistics.
www.cevalogistics.com

Global Water Solutions Ltd (GWS) manufactures pressure tanks and water treatment products. GWS aspires to become a leading solutions provider for the worldwide need of accessing, processing and delivering potable, clean water to improve lives, and products are available in over 100 countries worldwide. GWS is part of the Swan Group, which owns a number of businesses engaged in the manufacturing and distribution of heating, plumbing and water products.
www.globalwatersolutions.com

Founded in 1906, the Chartered Institute of Plumbing and Heating Engineering (CIPHE) is the professional body for the UK plumbing and heating industry. Membership is made up of practitioners, consultants, specifiers, designers, public health engineers, lecturers, trainers and trainees. The CIPHE has 7,500 members, including over 150 manufacturers and distributors. **www.ciphe.org.uk**

BOXT is a new concept offering home owners the opportunity to buy their replacement boiler online. BOXT operates in a similar way to the taxi service Uber, connecting installers with customers through a centralised booking facility. The company's website steers consumers through the decision making process, allowing them to select their boiler brand, delivery date and installation time. Orders are dispatched via the supply chain directly from established brands, including Worcester Bosch, Baxi and Vokera with everything the installer will need boxed in one self-contained package. **www.boxt.co.uk**

R A Tech Ltd manufacture the patented hotun range of dry trap tundishes. They allow a conspicuous, visible & safe means of discharge from a sealed system boiler or unvented water heater's relief valve, to be compliantly connected to an internal waste or soil pipe without allowing foul odours or gasses back into a building. **www.hotun.co.uk**

Engie Urban Energy Limited are part of the Engie group, an energy and services business with UK turnover of circa £4bn. Their primary businesses are Energy Infrastructure, Renewable energy production, district heating schemes, wholesale and retail supply of gas and electricity, facilities management services, Regeneration services and Green mobility. Within Green Mobility Engie has interested in electric vehicle recharging, natural gas/biogas for transport and hydrogen mobility.
www.business.engie.co.uk

Intatec Ltd offer heat interface units, plant room equipment, magnetic filtration and water conditioners for heat networks.
www.intatec.co.uk

Herz Valves UK Ltd are manufacturers and distributors of heat interface units and valves used in Heat Network projects.
www.herzvalves.com

Albion Water Management have been manufacturing and supplying heat interface units since the 1990's. They are a division of Albion 4C Limited.
www.albion-water.co.uk

hot water association — DEVELOPING HOT WATER

ACV UK Ltd
Advance Appliances
Altecnic Ltd
Ariston Thermo Group
Bosch Thermotechnology Ltd
Cotherm Ltd
Danfoss Ltd
Dimplex UK Limited
Gledhill Building Products Ltd
Heatrod Elements Limited
HETAS Ltd
Honeywell, ACS Control Products
Joule UK Ltd
Kingspan Hot Water Storage
McDonald Engineers
OSO Hotwater (UK) Ltd
Reliance Worldwide Corporation (UK) Ltd
RM Cylinders
Telford Copper Cylinders Ltd
Vaillant Group UK Ltd
Viessmann Ltd

ICOM Energy Association

A O Smith Water Products Company BV
ACV UK Ltd
Adey Professional Heating Solutions
Alpha Heating Innovation
Baxi Heating
Boilermag
Bosch Commercial and Industrial Heating
Calor Gas Ltd
Cochran Ltd
Combat Heating Solutions
Deep Water Blue Limited
Dravo
Ecoflam UK
ELCO UK
Energy Technology & Control Ltd
EOGB Energy Products Ltd
Fernox
Ferroli Ltd
G P Burners (CIB) Ltd
Hamworthy Heating Ltd
Hoval Ltd
Ideal Boilers Ltd
Johnson & Starley Ltd
Karl Dungs Ltd
Lochinvar Ltd
Mikrofill Systems Ltd
Nortek Global HVAC (UK) Ltd
Nu-Way (Enertech Ltd)
Powrmatic Limited
Remeha Commercial
Riello Ltd
Rinnai UK Ltd
Schwank Ltd
Sentinel Performance Solutions Ltd
Space-Ray Ltd
Spirotech UK Ltd
Stelrad Ltd
Stokvis Industrial Boilers (Intl) Ltd
Strebel Ltd
Vaillant Group UK Ltd
Viessmann Ltd
Vital Energi
Weishaupt (UK) Ltd

HHIC HEATING & HOTWATER INDUSTRY COUNCIL

A C Wilgar Ltd
Adey Professional Heating Solutions
Aga Rangemaster Ltd
Alpha Heating Innovation
Altecnic Ltd
Anton Industrial Services
Ariston Thermo Group
Association of Gas Safety Managers (AGSM)
ATAG Heating Technology UK Ltd
Baxi
Be Modern Group
BEAMA Heating Controls
BEAMA Water Treatment
BFM Europe Limited
Biasi UK Ltd
Bosch Thermotechnology Ltd
Bowbros Limited
BOXT
British Gas
BSI Assurance UK Ltd
Builders Merchant Federation
Burley Appliances Limited
Calor Gas Limited
Charlton & Jenrick Ltd
CIPHE (THE CHARTERED INSTITUTE OF PLUMBING & HEATING ENGINEERING)
Crosslee Plc
Crystal Fires Limited
Danfoss Ltd
Delta Energy & Environment Ltd
Dimplex UK Limited
Domestic & General Group plc
ebm-papst UK Ltd
Ecuity Consulting LLP
Endo Enterprises UK Ltd
Enertek International Ltd
Fernox
Ferroli Limited
Fondital Helpline UK
Gas Contract Services Ltd
Gas Tag Ltd
GAZCO Limited
Global Water Solutions Ltd
Grafton Merchanting GB
Grant Engineering (UK) Ltd
Ground Source Heat Pump Association
Grundfos Pumps A/S
Harvey Water Softeners Ltd
Hearth Products Ltd
Heatrae Sadia
HETAS Ltd
HomeServe Membership Ltd
Honeywell, ACS Control Products
Ideal Boilers Ltd
IDHEE (Institute of Domestic Heating and Environmental Engineers)
IMI Hydronic Engineering Ltd
InstaGroup Limited
Intergas Heating Limited
Johnson & Starley Ltd
Kamco Limited
Kane International Ltd
Kiwa Gastec
Legend Fires
Lettergold Water Treatment Solutions LLP
Logic Certification Ltd
McAlpine & Co Ltd
Monarch Water Ltd
Morgan Lambert Ltd
NAPIT
Navien UK Ltd
Northern Gas Heating Ltd
NSF International
Nu-Flame Ltd
OFTEC
Orkli S Coop
Panasonic Manufacturing UK Ltd
Pump House Pumps
Ravenheat
R A Tech UK Ltd
Recoup Energy Solutions Ltd
Rinnai UK Ltd
Salus Controls Plc
Samad Power Limited
Sime Ltd
Solar Trade Association
Spirit Fires Ltd
Spirotech UK Ltd
SSE Home Services Ltd
Stuart Turner Ltd
Switchee UK Ltd
Teddington Bemasan Ltd
Test Products International Europe Ltd
The Electric Heating Company Ltd
Travis Perkins Group
UKLPG
Vaillant Group Ltd
Viessmann Ltd
Vokera Limited
Warmhaus Heating Ltd
Widney Leisure Limited
Wolseley UK Ltd
Worgas Burners Ltd

MARC ESTABLISHED 1941

IRSAP UK Limited
Kudox Ltd
Myson Radiators
QRL Radiator Group
Stelrad Ltd
Zehnder Group UK Ltd

EUA Utility Networks

ALH Systems Ltd
AVK UK Limited
Baker Hughes (a GE Company)
BJIC Consulting
Browne Jacobson LLP
Burdens Utilities
Cadent
Calvin Capital Ltd
Cerro EMS
Ceva Logistics Ltd
CNG Services Ltd
ControlPoint
Crane Building Services & Utilities
Develop Training Ltd
DNV GL
EDF Energy Customers Ltd
EDF Energy (Gas Storage Hole House) Ltd
EDMI Europe Ltd
Energy Assets Group
Engage Consulting
Enzen Global Ltd
Fastflow Group Ltd
Fiorentini UK Limited
Fulcrum
Fusion Group Ltd
Fusion Provida Ltd
Future Energy Group
Gallagher
Gas Measurement Instruments Ltd
Gateway Storage Company Ltd
Generis Technology Ltd
Geo Environmental
George Fischer Sales Limited
George Wilson Industries Limited
GPS PE Pipe Systems
GTC
Halite Energy Group
Harlaxton Engineering Services Ltd
Holford Gas Storage Ltd
Honeywell Home & Building Technologies
Humbly Grove Energy Ltd
Hy-Ram Engineering Co Ltd
INEOS Enterprises Group Ltd
Islandmagee Energy
ITM Power Plc
Itron Metering Solutions UK Ltd
J Murphy & Sons Limited
Landis+Gyr
Lightsout Computer Services Ltd
Lomax Training Services
Meter Provida Ltd
MeteRSit SRL
Mike Stratton & Associates Ltd
Morland Utilities Ltd
Morrison Utility Services
Natural Gas Solutions (UK) Ltd
Northern Gas Networks Ltd
P N Daly Ltd
PSS Hire
Radius Systems Ltd
Sarco Stopper Ltd
ScottishPower
Secure Meters (UK) Ltd
SGN
Siemens
Smarter Metering Services
SMS Meter Assets Ltd
SSE Hornsea Ltd
Storengy UK Ltd
Tuffentech Services Ltd
Utilities Academy Ltd
Utility Power Systems
UTL
Wales & West Utilities Ltd
Wolseley UK Ltd
WRc plc

NGV NETWORK

ADBA
Air Liquide
BOC Limited
Cadent
Calor Gas Ltd
Centrica plc
CNG Fuels Ltd
CNG Services Ltd
Element Energy
Engie Urban Energy Group
Gas Networks Ireland
Gasrec
Iveco Ltd
National Grid Gas (Transmission) plc
National Grid Grain LNG Ltd
Northern Gas Networks
Sainsburys Supermarkets Ltd
SGN
UKOOG
Wales & West Utilities

MEHNA Manufacturers of Equipment for Heat Networks Association

ACV UK Ltd
Adey Professional Heating Solutions
Advance Appliances
Albion Water Management
Alpha Heating Innovation
Altecnic Ltd
Ariston Thermo Group
Association of Gas Safety Managers (AGSM)
AVK UK LIMITED
Baxi
Baxi Heating
Boilermag
Bosch Commercial & Industrial Heating
Bosch Thermotechnology Ltd
Cadent
Calor Gas Limited
Cochran Ltd
Cotherm Ltd
Danfoss Ltd
Dimplex UK Limited
Ecoflam UK
EDF Energy
Energy Assets Group
Enertek International Ltd
EOGB Energy Products Ltd
Ferroli Limited
Fulcrum
Fusion Provida Ltd
George Fischer Sales Ltd
Gledhill Building Products Ltd
GP Burners (CIB) Ltd
GTC
Heatrae Sadia
Heatrod Elements Limited
Herz Valves UK Ltd
HETAS Ltd
Honeywell, ACS Control Products
Hoval
Ideal Boilers Ltd
Intatec Limited
Johnson & Starley Ltd
Joule UK Ltd
Kingspan Hot Water Storage
Lochinvar Ltd
McDonald Water Storage Ltd
Meter Provida
Morrison Utility
OSO Hotwater (UK) Ltd
Radius Systems Ltd
Redring Xpelair
Reliance Worldwide Corporation (UK) Ltd
Remeha Commercial
Riello Ltd
Rinnai UK Ltd
RM Cylinders
Secure Meters (UK) Ltd
Sentinel Performance Solutions Ltd
Stelrad Ltd
Stokvis Industrial Boilers International Ltd
Strebel Ltd
Telford Copper Cylinders Ltd
Vaillant Group Ltd
Viessmann Ltd
Vital Energi
Weishaupt (UK) Ltd

GAS INDUSTRY AWARDS 2019

WEDNESDAY 15th MAY 2019

LONDON HILTON HOTEL, PARK LANE.

ORGANISED BY

EUA energy&utilities alliance

IGEM Institution of Gas Engineers & Managers

2019 Award Categories

Manager of the Year
Company of the Year
Engineer of the Year
Product of the Year
Project of the Year
New for 2019: Innovation Award
Leadership Award
Safety Award
Young Person's Award
Customer Service Award

For booking options please call Natalie Burrows on 01926 513741 or email: natalie@eua.org.uk