

European gas in a more import-dependent future

By Gary Bowerbank, Adrian Finn, Gauthier Perdu & Myrian Schenk of the GPA Europe Management Committee

To support the Paris Climate Agreement and to decarbonise the energy mix the gas demand will continue to grow within Europe in the next few decades, even with the rapid increase in renewable energy. With production within Europe in decline, there will be a need for greater imports – this is likely to be a combination of LNG cargos and natural gas from Russia/CIS region.

Society today faces its biggest and most urgent challenge: how to meet the increasing energy needs of a growing global population, while reducing greenhouse gas emissions and improving air quality. While renewable energy from sources such as wind and solar will continue to grow, in the next few decades natural gas (the cleanest-burning hydrocarbon) will remain a dominant element in the global energy mix (gas is expected to meet 43% of the additional energy demand up to 2040¹). The community is working in decarbonising along with efficiency improvement in natural gas processing.

A few factors allow this:

a) Gas has advantages when used to produce electricity alongside renewable sources of energy, such as wind and solar. Gas plants can start up and shut down quickly, which makes them ideal to quickly respond to dips in solar or wind and demand surges. Over the coming years, in a move to decarbonise energy supply, an increasing share of electricity generated from renewables will drive greater use of electricity across industry, in cities and transport. As this share keeps growing, the flexibility of gas will make it more competitive against



other thermal power sources, such as coal. Within Europe the growth in renewables² and a well-developed electrical infrastructure may mean the gas contribution to the energy mix could be lower than in other regions. However, considering in parallel the decline, or removal of the nuclear based power production in many European countries, it will still be significant portion of the energy mix.

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4-10 VIRTUAL CONFERENCE Highlights from the two-day online event on the Future of Gas



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INSIDE



- b) Natural gas systems are also designed to store energy over time, for example between winters and summers. The International Gas Union estimates that over 4,700TWh of gas can be stored seasonally, the energy equivalent of the total US electricity demand or seven times annual generation from solar (or double total generation from wind and solar).
- c) Gas can also be vital in parts of the economy that are hard to electrify, such as industrial processes and freight transport. One example is the consortium BioLNG EuroNet, which announced in 2018 the commitment to build 39 LNG fuelling stations for trucks across Belgium, France, Germany, the Netherlands, Poland and Spain. The first LNG stations in Herstal, Belgium and Hamburg, Germany were opened in 2018.
- d) The quick decline of coal is mandatory to accelerate the reduction of emissions, its share in power production and heavy industries (for example steel) in Europe is still high in 2021. Despite the impressive growth of renewable power production in Europe, gas can substitute coal when infrastructure must be decarbonised swiftly. For steel, the DRI-EAF (Direct Reduced Iron- Electrical Arc Furnace) production route using natural gas already halves the carbon footprint of a blast furnace operated with coal³. It can be considered as a step to carbon-free DRI route based on green hydrogen, pending green hydrogen production is available at the scale the industrial emitters of CO₂ are awaiting for.

While gas demand remains high in Europe in particular, but also in the rest of the world, many of the existing European natural gas reserves are in decline and only a few new developments are expected due to high costs, government policies and society pressure to meet a net zero ambition. Domestic production of biomethane is expected to grow in many countries like France ⁴, but the net result of which is that Europe will continue to be a net importer of natural gas (be that via pipeline from Russia/CIS Region or increased global LNG imports).

What is clear, is that while the region continues to require gas to sustain the quality of life we have all come to expect, much of the gas will need to be used in processes supporting the net zero ambitions of the European Union and other European nations. This will require a wide range of solutions, not only the expansion of renewable electricity, but blue hydrogen, CCS, bio-gas, bio-LNG, etc.

Within GPA Europe (www.GPAEurope.com) we have recognised the need for our industry to be ready for the future. We aim to support the European gas industry through the transition towards a decarbonised energy economy by promoting technical and operational excellence and exchanging ideas and information via conferences, publications and webcasts.

References

¹ Wood Mackenzie, H1 2019

² World Energy Outlook 2019, International Energy Agency (IEA), 2019
³ Institute for Industrial Productivity, based on IEA (2007) and McKinsey
⁴ Ademe – "A 100% renewable gas mix in 2050? "study for France", 2018





The authors of this article, left to right: Gary Bowerbank, Adrian Finn, Gauthier Perdu and Myrian Schenk



Gas processing industry makes the big headlines!



By Gary Bowerbank, Chairperson - GPA Europe

It is not often our industry make the headlines, but in the second half of this year it has been a regular occurrence; with record high gas prices and resulting CO₂ shortages, lawsuits and shareholder interventions against oil majors, and of course COP26. I can imagine this increased press coverage leads to more conversations with friends and family about the industry we work in and whether it is a force for good or bad.

As with most things it is not as binary as that, no matter how much mainstream and social media want it to be. Within GPA Europe there is a broad consensus that the industry needs to adapt towards a net zero future, but also an acceptance that it will take time and until we get there, fossil fuels will still be needed.

Natural gas being the cleanest of the fossil fuels, as well as one of the most suitable to be paired with carbon capture, means gas processing is key to the energy transition and something we all need to advocate for in our communities.

To support our members, we have continued to focus on the Future Energies Key Strategic Initiative, with a webinar on biogas in October, where many aspects of the growing biogas sector were discussed. These events will continue into 2022 with dedicated sessions on Carbon Capture, Utilisation and Storage, Hydrogen, and Biogas (www.gpaeurope.com/events). As I write this there remains a level of uncertainty as to how the COVID pandemic will evolve over the winter, although we all hope that the small elements of normality that have returned in the last few months such as travel opening up and conferences taking place face-to-face across 2022, and that perhaps we can move on.

As I have mentioned in my monthly blog (check out on LinkedIn) I do hope that when we return to 'normal' we keep the positive learnings from the last 18 months. Things like more virtual working and spending more time with family and less time commuting.

With the move to virtual working for so much of our sector (of course excluding some of the critical roles at the operating sites) there was a great opportunity to collaborate across borders, something GPA Europe has long supported. On this note we are reconnecting with other GPA chapters to see how we can best work together.

In 2022 we hope to be able to offer a range of face-to-face events – Workshop and Conference in London as well as a Young Professional Training Day and Annual Conference in Paris. It will be great to see you there, in the meantime do check the monthly newsletter and connect with us on LinkedIn, follow us on Twitter or join us on Facebook.

Stay safe, have fun and hope to see you all at a future event (even if virtual) very soon.

GPA EUROPE VIRTUAL CONFERENCE 25 - 26 MAY 2021

KEYNOTE SPEAKER

The topic of our first two-day virtual conference, Future of Gas, could not have been more relevant with the recent announcements involving many of the major IOCs that clearly show a desire and need to embrace the energy transition and lower society's net CO₂ footprint. In the conference we touched on some of the main levers at our disposal; hydrogen (blue, green and a few new colours), CCSU (the need to lower costs and demonstrate it is sustainable) and Biogas (a perhaps under-utilised resource).

With a special thank you to our Gold Sponsors Comprimo, Parker Hannifin, Petrofac Engineering Ltd and Shell Global Solutions.









An inspirational insight

The future of gas is quite a challenge, the world's population is continuing to grow, and we are already seeing a rise in energy demands. Companies within the Gas Processing Industry are having to adapt to this, their business models, products, and services. We had two days of in-depth discussion with a focus on Hydrogen, Carbon Capture, Utilisation and Storage, and Biogas.

David Simmonds, Former GPA Europe Chairperson Future Energy - Challenges for the Regulator

GPA Europe does not get involved directly with regulations, especially as these vary by country. However, as we move forward with decarbonisation, there are a number of counteracting drivers which make decision taking on future energy (renewable energy wind/solar, nuclear, continued fossil fuel utilisation under controlled conditions, biomass and intermediates such as hydrogen) more complex and challenging. Scientists, economists, business managers and environmentalists often bring their own specialist knowledge to the table without having a wider appreciation of these challenges.

The presentation first briefly looked at the existing energy market, then it explored some of the new technologies which are being developed and reviewed aspects such as customer acceptance, safety, delivery flexibility

and resilience. It concluded with an assessment of some of the factors which are required to be in place actually to deliver our Future Energy Transition Plan, such as the availability of trained resources to deploy it and the ability to finance it!

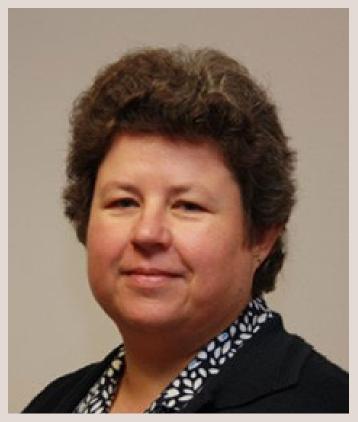
The intention was to provide a broader picture for transition experts to consider before they inform regulators and policy makers. It ultimately concluded that there is no silver bullet for the energy transition and, if we are to achieve net zero, we will likely have to furrow multiple pathways, which will extend well beyond 2050, and we will need to maximise synergies between technologies. Frankly, regulators and policy makers should not be looking at 'either/or', but 'all'! Further, given the global reach of energy demands, many of these considerations must be addressed through international collaboration and standardisation.



David Simmonds

GPA EUROPE VIRTUAL EVENT SERIES **25 MAY 2021**

MORNING SESSION "HYDROGEN"



Nicola Chodorowska

Our first presentation was by Nicola Chodorowska of Wood.

Hydrogen value chain analysis comparing different transport vectors: Using Liquid Hydrogen, LNG, Ammonia and Methylcyclohexane as energy carriers between Qatar and the UK

Meeting the anticipated ten-fold increase in hydrogen requirements by 2050 has led to many studies evaluating the most technoeconomic means to achieve this target. Whilst fully green large scale value chains are still some way off there is adequate hydrocarbon infrastructure in place where blue hydrogen could be produced.

This presentation assessed the options to convert a portion of the LNG supply chain already in place between Qatar and the UK into blue hydrogen and the different transport vectors to convey the hydrogen. Transporting the hydrogen as liquid or in the form of ammonia or other Liquid Organic Hydrogen Carriers (LOHC) such as methylcyclohexane are common comparisons, however retaining LNG as the energy carrier should also be considered.

It is shown with currently available technology that LNG as the transport vector is economic compared to ammonia and LOHC with liquid hydrogen still somewhat more expensive.



Roland van Uffelen

Our second presentation was by Roland van Uffelen of Technip Energies.

Technologies to Decarbonise Hydrogen Production

The challenges of the energy transition require addressing long-term solutions for reduction of carbon emissions to the atmosphere by addressing the needs for generation, storage and utilisation of future energy sources.

Blue hydrogen is expected to pave the way for the future low-carbon energy solutions. Cost-effective, deeply decarbonised blue hydrogen production is available and proven today at the desired scale for both new plants and retrofits, and provides immediate solutions for carbon capture, handling and utilisation. In projects converting grey to blue hydrogen plants, flue gas capture may be an attractive option for deep carbon capture and is expected to be more cost effective compared to traditional CCS applications where CO₂ content in the flue gas is lower.

The presentation addressed the carbon intensity of various hydrogen production methods, from traditional grey hydrogen through blue hydrogen, at various capture rates, as well as the production of hydrogen in electrolysers.

GPA EUROPE VIRTUAL EVENT SERIES **25 MAY 2021**

MORNING SESSION "HYDROGEN"

After the break, our third presentation of the morning session was by Dr Laura Torrente of University of Cambridge.

Green Ammonia Synthesis and its use as an Energy Vector

When Fritz Haber and Carl Bosch developed an artificial nitrogen fixation process (the so-called Haber-Bosch process), they put ammonia in the centre of the first chemical global revolution, enabling the expansion of the population with its use as fertilisers and setting the current geo-political borders with its use in explosives.

This presentation looked at the technological, environmental and political challenges to enable a second ammonia revolution as portable long-term (days to months) energy storage vector versus the short-term storage (seconds to hours) offered by electrochemical storage (i.e. batteries).

Indeed, the future of a carbon-free society relies on the alignment of the intermittent production of renewable energy (solar, wind, tidal, geothermal) with our continuous and increasing energy demands. In this context, ammonia offers unique opportunities due its high hydrogen content, known handling and existing infrastructure. If/when realised, green ammonia can reshape the current energy landscape by directly replacing fossil fuels in transportation, heating, electricity, etc. In addition, new economic opportunities will arise as many countries will inevitably become net-energy importers/ exporters with the outlook of a renewable energy market similar to the current one based on fossil fuels.



Laura Torrente



Our fourth presentation was by John Royall of Gulf Energy Information.

Gulf Energy Information Global Data Trends

Through Gulf's data service, global energy infrastructure, LNG and hydrogen projects are tracked on a global basis, revealing trends in investment. The presentation covered LNG projects:

- Under Construction Import and Export
- Planned and Proposed
- Suspended

The presentation showed where the global centres for regional development will be for the next 5–10 years.

Hydrogen projects are proliferating, with the greatest numbers in Europe and the United States. The presentation covered both planned and proposed Hydrogen projects.

Additionally, there are many small hydrogen projects underway, though few large ones. We explored the larger hydrogen projects and hydrogen infrastructure that is being developed.

GPA EUROPE VIRTUAL EVENT SERIES **25 MAY 2021**

ENERGY TRANSITION WORKSHOP

Moderated by Adrienne Blume, Gulf Energy Information

Our workshop opened with grounding presentations on an Overview of the European Gas Industry by Adrienne Blume from Gulf Energy Information and a look at the Shell Energy Transition Scenario by Ren Xianfang from Shell.

There was a clear take away from these presentations that we all understand there is a need to reduce CO₂ emissions. How quickly we get there and what level we get to is up for debate and all these scenarios and projections will take us in different directions. For our industry, it is clear that in the short to medium term there is a strong demand for natural gas.

We then split the group into 4 Think Tank teams, where each team was given a problem scenario:

- 1. Solutions for affordable CCS
- 2. Hydrogen in the energy mix
- 3. Did we miss the biogas revolution?
- 4. Carbon-neutral LNG

We came up with more questions than answers...

What is carbon neutral LNG?

Are the public ready for CCS? Covered by some aspects of the keynote speech by Jean-Francois CAM

How do we balance food crops vs biogas, or green electrons for H2 or electricity?



Adrienne Blume

Some common themes from all teams:

Collaboration across sectors, suppliers/ contractors, regulators etc.

Public perceptions/awareness (CCS, H_2 , CO_2 , neutral LNG)

- Requires education & clear communication
- What role can GPA Europe play?
- Recognise we have gaps in our own knowledge
- Participation in workshops, conferences, talk to each other

GPA EUROPE VIRTUAL EVENT SERIES **26 MAY 2021**

KEYNOTE SPEAKER

Jean-Francois Cam, Integration and Stakeholder Manager, Equinor ASA

Northern Lights - developing the world's first open-source CO2 transport and storage infrastructure

This presentation provided an insight into Equinor's Northern Lights Project. Northern Lights is developing the world's first open-source CO_2 transport and storage infrastructure. We deliver carbon dioxide storage as a service. Our aim is to help industrial emitters manage emissions that cannot be avoided in other ways from reaching the atmosphere and to provide a safe and permanent storage option for CO_2 that is removed from the air.

We are part of a growing movement to actively manage the carbon cycle and get it back in balance. As we develop our business, we will share, listen and encourage innovation and technology development. Northern Lights is a first – and we want to make it easy for others to follow.



Jean-Francois Cam

GPA EUROPE VIRTUAL EVENT SERIES 26 MAY 2021

MORNING SESSION "CARBON CAPTURE, UTILISATION AND STORAGE"

Moderated by Martin Mayer, McDermott

Our first presentation was by Dr Chet Biliyok of Petrofac Engineering Ltd.

The Role of Carbon Capture, Utilisation and Storage (CCUS) i n Decarbonisation

Renewables are now cost-effective, enjoying wide deployment, and commanding a large share of global energy investment. In light of this, is CCUS still required for decarbonisation, or is it simply a license for the oil industry to continue to operate?



Chet Biliyok

In this presentation, the role of CCUS in a zero-emissions future were explored, and its contribution to decarbonisation was clarified. This was achieved by looking at:

- How a global market for CCUS will evolve;
- How CCUS technology is applied and what it will cost;
- What promising technology breakthroughs are in the pipeline; and
- What to expect for CCUS in the next decade and beyond

Finally, the role that industrial entities like the GPA and its members can play in CCUS deployment was addressed.

Our third presentation was by Brad Healey of Oil & Gas Corrosion.

An Integrated Approach for Europe's Industrial CCUS Projects

CO₂ has been transported via pipelines for 50 years. The oil and gas industry has a wealth of experience in this area. CO2associated with hydrocarbon production has an exceptional level of purity. The engineering of industrial carbon capture utilisation and storage



Brad Healey

(CCUS) projects requires a different approach. CCUS for CO2 of industrial origin has limited industry standards and documents of reference, and a large number of unknowns.

Naturally, industrial CCUS presents a greater challenge than pure CO_2 capture due to the level of impurities found in the systems. The impurities present have an effect on the fluid behaviour and increases the demands for thermodynamic modelling to take into account cross associating components to accurately predict phase behaviour.

Without accurate modelling, it is not possible to quantify the risks of corrosion. Due to their complexity, these projects require a multidiscipline, integrated, and cyclical approach in order to ensure successful and effective project completion. This session presented our multidisciplinary approach and the various challenges faced on the most advanced projects for industrial CCUS. Our second presentation was by Adya Deshmukh of Fluor Ltd.

Carbon Capture, The First Step Towards Net Zero

The First Step Towards net zero The UK Government's Energy White Paper released in December 2020 acknowledged the importance of natural gas to the UK's energy mix while emphasising the need to decarbonise



Adya Deshmukh

the power, oil and gas industries. This presentation briefly explored the concept of Net Zero, capture processes and demonstrates the potential for carbon capture to provide a viable solution for the reduction of industrial greenhouse gas emissions.

Carbon capture is an established, commercially proven technology that can be scaled up and rapidly deployed in both existing and new gas processing facilities to lower net greenhouse gases emissions. This was demonstrated by analysing exemplary projects executed globally.

Pre-combustion carbon capture can be used in the production of blue hydrogen. Post-combustion carbon capture units can be included in new designs and retrofitted to existing gas processing facilities allowing them to continue operating for the remainder of their operational lifetime with net zero carbon emissions.

Our fourth presentation was by Cyrille Dechiron and Morvan Favennec of Technip Energies. Offshore C-HubTM, a floating storage and injection facility for CO2 sequestration

Technip Energies has developed in the frame of several developments aiming at improving the attractivity of CO_2 capture and sequestration, a new offshore concept allowing permanent CO_2 sequestration from multiple CO_2 emitters: the Offshore C-HubTM, a floating storage and injection facility. The Offshore C-HubTM concept is built on Technip Energies' long experience in offshore facilities concepts, offloading technologies



Cyrille Dechiron



Morvan Favennec

and $\rm CO_2$ management system from downstream the capture up to its injection, including topside process and temporary storage.

The presentation highlighted key challenges related to the transport, storage and injection of CO_2 , and detailed the screening performed along with the solution proposed to allow a continuous, safe, adaptable and standard injection of CO_2 for its permanent sequestration.

GPA EUROPE VIRTUAL EVENT SERIES **26 MAY 2021**

AFTERNOON SESSION "BIOGAS"

Moderated by Gerald Vorberg, BASF SE

Our first presentation was by Oliver Carter of Fluor Ltd.

Scale-Up Options for Decarbonisation of the Gas Grid - Can Biogas be Part of the Answer?

Currently UK annual production of biogas based on anaerobic digestion (AD) approaches 12 TWh, supplied by nearly 700 different plants, mostly for heat and power. The potential for biogas production has been estimated as 36 TWh based on current AD technology. This compares to UK natural gas annual demand of approximately 900 TWh.

While AD plays a key role in the agricultural, food and water industries and shows some promise for expansion, scaleup for gas applications is hindered by the diffuse availability of feedstocks, large reactor residence times and digestate volumes, and the economics of gas upgrading and injection. In order to significantly defossilise the natural gas grid, thermal processes offer larger scale feasible plant capacity and feedstock flexibility. Synthesis gas routes to renewable natural gas also offer the ability to achieve net negative CO₂ emissions by use of CCS and/or green hydrogen.

Oliver Carter

Gasification of biomass and wastes presents challenges which can be addressed by careful selection of gasifier type. Commercial processes developed for methanation are also discussed along with overall plant configurations and advantages and disadvantages of different optimisation options. Demonstration projects and related processes currently in operation for thermal conversion of biomass to renewable natural gas were presented.

Our second presentation was by Ruby Ray of Wood.

Is Waste as a Feedstock an Attractive Opportunity for Downstream Producers?



Ruby Ray

Can waste processing be integrated with existing downstream fuel and petrochemical technologies to assist with both waste management and climate change goals? A strategic shift to use clean technologies to reduce emissions is required to meet IPCC's pledge to reach net zero GHG targets by 2050, to keep global warming below 1.5°C. Various types of waste pose a risk on climate change as well as health, pollution of land, air and water.

Despite policies enforced by many countries worldwide to reduce waste generation, the total waste quantity generated is still growing at an unprecedented rate. In 2018, the World Bank estimated that waste generation will increase as much as 70% from 2.01 billion tonnes to 3.40 billion by 2050. Approximately 40% of waste generated worldwide is not managed properly and instead dumped or openly burned. Gasification, an advanced thermal treatment process (ATT), converts the carbonaceous fractions of various feedstocks into a valuable gaseous product known as synthesis gas which has lower emissions and higher efficiencies than incineration technologies.

The ability of gasification to produce a syngas from a wide range of waste feedstocks provides the opportunity to divert biodegradable waste from landfill and convert it to valuable renewable products, including power, synthetic natural gas (SNG), chemicals, liquid transport fuels and H2. These high value product routes can also be carbon negative while

integrated with carbon capture providing opportunity to meet climate goals. In many countries, the economic incentives for any form of wasteto energy plant have not been attractive compared to landfilling or mass burning.

Government regulations and policy interventions combined with strict emission regulations are urgently required to decrease disposal of waste directly to landfill and to promote recycling and thermal treatment to valuable end use. Several other factors such as landfill tax, waste tipping fees and incentives associated with renewable products play critical role to make such waste to renewable product projects economically viable and attractive to investors. This presentation porvided a case study of waste processing options for integration into existing refinery/ petrochemicals facilities and discussed the key challenges that need to be addressed to make this processing route and an attractive opportunity.

GPA EUROPE VIRTUAL EVENT SERIES **26 MAY 2021**

AFTERNOON SESSION "BIOGAS"

Our third presentation was by Cristina Ferreira of Total.

Biogas & Upgrading - Challenges to come

As part of its net zero ambition and strategy to become a global energy company, Total has set strong targets in biomethane production in the coming years. To reach such goals biogas production needs to become cost competitive and so, along with the construction and operation of biogas production units, we have developed a technology roadmap on all steps of its value chain, including biogas upgrading. Technical solutions are available or under development, but they are often not fully optimized to the scale, quality and use of the biomethane.

During the presentation Christina gave Total's view on the challenges to come in this industry, where it seems no technology will be the answer for every use case and the optimum will be fully project specific.



Cristina Ferreira



Reetta Kaila

Our fourth presentation was by Reetta Kaila of Biogas Solutions - Wärtsilä Gas Solutions.

Biogas and bioLNG solutions by Wärtsilä

All human activity creates waste. This waste can also be a valuable resource of renewable energy: excess agricultural products, manure, waste-water sludge, household and restaurant waste are perfect raw materials for biogas production.

Raw biogas can be upgraded to pure biomethane, which is compressed or liquified and used as a low carbon vehicle fuel (bioCNG/LNG) or injected into the gas grid providing renewable energy to both households and industry.

The product portfolio of Wärtsilä Biogas Solutions consists today upgrading of raw biogas to biomethane and liquefaction of biomethane to bioLNG. Recent development in the biogas markets is reflected in the market segmentation into local and centralised units. Green Gas Certificate schemes open the possibility for larger centralised grid gas liquefaction plants near the off takers, whereas biogas upgrading is often located near the raw biogas producers. Such centralised bioLNG plants take advantage of the scale of economy and an existing infrastructure, which allows biogas collections from various point sources.

Wärtsilä Biogas Solutions has 20 years' experience in the biogas sector and supports over 40 biogas upgrading plants operational in Europe today. The bioLNG plant in Norway owned by Biokraft AS is showing a great example of circular economy by turning local fish industry and paper mill wastewater into bioLNG that is utilised by the local city buses and the maritime industry. Indeed, the maritime industry is seen as a key player among the consumers of renewable, gaseous fuels in future having CO₂ emission reduction targets of -50% (from 2008 levels by 2050) set by the International Maritime Organisation (IMO). Long-term offtake contracts with ship owners or other end consumers will drive the biogas market development and more of centralised bioLNG plants will be seen in coming years.

Gary Bowerbank - Conference Close

I would like to round off with a massive "thank you" to all those who supported us with the event; our sponsors, the technical committee, our Executive Administrator (Helen), the speakers and of course the delegates.

A special thank you to our Gold Sponsors. And a special mention to Fluor who have hosted Helen during our Virtual Conference to ensure the internet connection was reliable!

This conference has given us insight into interesting areas which are not the traditional gas processing focus. We have seen how Europe is leading the way in hydrogen – cutting edge of the energy transition. Something we can hopefully take back to our GPA Chapters. We also saw big learning curves within the Biogas session with technical challenges in terms of scale up, processing sections which needs to be required and treating. An area we can really develop going forward.



Gary Bowerbank

GPA Europe Key Strategic Initiative Groups

Our Key Strategic Initiative Groups are working hard behind the scenes to support with actioning out our Key Strategic Initiatives:

- 1. Develop a value proposition tool adaptable to all members
- 2. Develop targeted marketing strategy and support with relevant tools
- 3. Develop a plan to address future energy/gas markets
- 4. Develop a training strategy to address members' development needs

Meet the Teams Future Energy



David Simmonds (retired)



BP Boris Ertl



Fluor

Advisian Group Stephen Lamport



Amine Experts Philip Le Grange



Fluor Samantha Nicholson



McDermott Philip Walsh





Kelvion UK Paul Hopkinson Team Lead



Dow Europe GmbH Adriano Gentilucci



Shell Global Solutions Gary Bowerbank



Petrogenium Alex Woldhuis

Meet the Teams Training



Worley Fiona George



Amine Experts Philip Le Grange



Kelvion UK Paul Hopkinson, Team Lead



Sigbjørn Svenes

In each future edition of InBrief we will provide you with an update from one KSI team. For regular updates please see our website where we will be creating a new area for all details on the KSI teams' work. We will post details on LinkedIn and our newsletter over the coming months.

KSI Team Update: Marketing

We are delighted to announce that we are live with our Company Specialist Directory, https://gpaeurope.com/specialist-directory

The purpose of this area is for our GPA Europe Corporate Member Companies to list themselves and key specialist areas. All GPA Europe Members can access this area and search/filter on specialist areas and be able to contact the relevant company representative via email or phone.

If you are interested in being listed within this directory, please contact us at **admin@gpaeurope.com** or on **+44 (0) 1252 625 542**.

Be part of the discussion

We will be continuing the work started by our Key Strategic Initiatives Groups. If you are interested in being part of a group, or would like more information, please let us know at **admin@gpaeurope.com**.



FORTHCOMING EVENTS

GPA Europe in 2022

Be part of our conferences promoting a new energy future and the transition of our industry towards that future. We are looking for stories about the development of technology and best practices affecting natural gas processing. As well as a look at Hydrogen, Biogas, Ammonia, Carbon Capture and Storage, and LNG amongst others, to inspire the gas processing community.

Virtual Webinar – Carbon Capture, Utilisation and Storage February 2022

February 2022

Virtual Webinar - Hydrogen April 2022

Spring Conference & Workshop May 2022

London, United Kingdom

A one-day conference with optional half day Workshop under the theme of "Roadmap for the Transition"

Virtual Webinar – Biogas September 2022

Annual Conference, Young Professional Training Day & AGM

November 2022

Paris, France

A conference and networking event organised by GPA Europe.

What's on?

- Free Young Professional Training Day
- Technical Conference
- Workshop
- Keynote Address
- Executive Panel
- Social Activities
- Our company's AGM

Call for Papers

Our Call for Papers is now open.

Do you have a story to tell?

All we need is a 100-200-word abstract. Tell us what your idea is and why you think it is special. Send your abstract - Title, Author to admin@gpaeurope.com

It will be reviewed by our Technical Committee and, if accepted, we can help you to develop it into a technical paper and presentation.

All speakers have the chance of winning our Best Paper Award.

CORPORATE MEMBERS

This listing of current Corporate Members represents the status as at 1st December 2021.

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