

Promoting technical and operational excellence throughout the European Gas Industry



We've got 2023 in our sights. Save the Dates!



Hydrogen Webinar 20 April 2023 Online **More Details**

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CCUS Webinar 22 June 2023 Online More Details



Annual Conference 9-11 October 2023 BASF SE, Ludwigshafen, Germany More Details



Young Professional Training Day 9 October 2023 BASF SE, Ludwigshafen, Germany More Details



Annual General Meeting 23 November 2023 London

Annual Conference Discover New Horizons in 2023

2023 will be our **40th Birthday** and we will be celebrating at our Annual Conference at BASF SE in Germany and hope to see many of you there!

We are finalising plans and will communicate these soon. In the meantime, here is a snapshot of what to expect:

Monday 9 October



Call for Papers

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.

Do you have a story to tell? All we need is a 100-200-word abstract. 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.

Each year we present an award at our AGM for the best paper. The Best Paper Award is selected by our conference attendees and is based on the feedback scores received.

The Aungier Award is for the best paper presented by one of our Young Professionals at our conferences. The winner is decided by our Technical Committee. Alongside the award, the winner will get £1,000!

Could this be you?

As further details become available for our 2023 Events, we bring you essential updates and what else to look out for in 2023.

Stay involved with us in 2023, membership renewals for 2023 have all been sent out and we look forward to seeing you at one of our virtual events, and hopefully conference, this year!



In Brief

Our November 2022 Issue of In Brief is out on the streets - <u>Check it</u> out!

This issue reports on the GPA Europe Technical Conference held in London in May 2022 as well as our Webinars.

We have our regular 'View from the Top' by our Chairperson Gary Bowerbank, discussing 'Getting back to 'Normal'".

The lead article has been contributed by David Simmonds. The article is titled 'The Industry's Case for the Renationalisation of Consumer Energy Markets'. We would love to hear your thoughts and any comments you may have.

Please contact the GPAE Team if you would like to contribute towards our May issue - <u>admin@gpaeurope.com</u>

Get Involved

Paper of the Month

This month we are looking back to a paper from Filip Cejka, Bryan Research & Engineering, LLC. Presented at our Annual Conference November 2023.

"Comparison of Process Options for Sustainable Ammonia Production"

"Ammonia is one of the most produced chemicals in the world, with a production of about 150 million metric tons a year. It is critical for improved yields in modern agriculture as well as a chemical feedstock to various other processes. Today, Steam Methane Reforming (SMR), which uses fossil based natural gas as its feedstock, is the most widely used method for ammonia production. In this process, the natural gas is used to produce hydrogen, which is then reacted with nitrogen from the air to form ammonia. This technology generates a significant amount of greenhouse gases (GHGs), which has led to proposals for new processes that lower the carbon intensity of ammonia production while still maintaining process efficiency.

One approach for reducing GHGs from the conventional SMR process is either sequestration of vented CO2, carbon capture from process flue gas, or a combination of the two. These methods have sometimes been dubbed "Blue Ammonia". Another approach, sometimes called "Green Ammonia", utilizes water electrolysis as its source of hydrogen. The use of water electrolysis allows water and renewable sources of electricity, such as wind and solar, to supplant natural gas as the feedstock for the required hydrogen production. Two categories of electrolysis units include alkaline water electrolysis (AWE) and polymer electrolyte membrane electrolysis (PEM). While the SMR process can use air as its source of nitrogen, the AWE and PEM based technologies require pure nitrogen to be available. A third category of electrolysis, solid oxide electrolysis (SOE), can also generate pure

hydrogen from renewable electricity, but unlike AWE and PEM, does not require pure nitrogen. SOE also provides additional avenues of heat integration between hydrogen production and ammonia synthesis that is lacking from the other electrolysis technologies.

A comparison is made between the various newer technologies to a conventional SMR system using a steadystate simulator. This comparison includes the configuration and requirements of each system, as well as each system's carbon intensity and power requirements per ton of ammonia produced."

Download the Paper

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