

BRINGING THE PUBLIC WITH US: HYDROGEN, THE CONSUMER EXPERIENCE AND PUBLIC CONFIDENCE

Speaker Briefing



All Party Parliamentary Group on
Hydrogen

Date	Monday 27 th February
Time	16:00-17:00
Venue	Macmillan Room, Portcullis House
Contact on the day	Luca Ingrassia: 07961 710475 Claudia Toma: 07909 224227
Chair	Alexander Stafford MP , Chairman of the APPG on Hydrogen
Speakers	<ul style="list-style-type: none">• Jaymes Mackay, Director of Energy & Mobility Deal Strategy, KPMG• Mark Crowther, Associate Director Hydrogen, Kiwa Ltd• Jenny Kavanagh, Chief Strategy Officer, Cranfield Aerospace Solutions Ltd• Celia Greaves, Founder and CEO, UK Hydrogen and Fuel Cell Association
Theme/ Background information	<p>This session will focus on how we best communicate the value of hydrogen to the UK's decarbonisation strategies and net-zero targets.</p> <p>Consumers show increasing concern towards hydrogen, namely its cost, safety and the changes hydrogen appliances will mean to their day to day lives. Yet with hydrogen's potential to change home heating, transport and many others areas of our daily lives, it is important that we focus on how best to ease concerns and communicate the benefits of hydrogen effectively.</p>
Background Information for the Chair	<p>The APPG on Hydrogen is chaired by Alexander Stafford, MP for Rother Valley. The APPG has a total of 18 parliamentary members. It provides a forum for MPs and Peers to engage with leading businesses and organisations to work to enable the UK to meet its decarbonisation targets through the implementation of hydrogen projects and discuss policy options to support these.</p> <p>The APPG's sponsors are Baxi, Bosch, Cadent, EDF, Energy and Utilities Alliance, Equinor, Johnson Matthey, National Grid, Northern Gas Networks, SGN and Shell.</p> <p>The Hydrogen APPG believes that the UK has the potential to become a global leader in low-carbon hydrogen technology, but that the UK must move fast to grasp this opportunity and achieve the maximum economic benefits. The APPG</p>

also favours a twin-track approach between blue and green hydrogen, as they believe blue will help in the transition.

Alexander Stafford MP formally opened the meeting and introduced the topic of the 'hydrogen experience' and its importance for the legacy and progression of the hydrogen economy. He introduced **Jaymes Mackay, Director of Energy & Mobility Deal Strategy, KPMG**.

Jaymes Mackay introduced himself as the lead for 45 decarbonisation enthusiasts. All members are looking to upskill one another and share expertise. The type of work they do is macro policy, advisory, strategy and execution. Typically when you take a macro theme like hydrogen, you advise clients around the complex policy climates. Once you've helped them navigate the policy framework, you help them navigate their strategies. Once they've done that, they can begin to implement execution. His role revolves around leading that process to its completion.

Jaymes also introduced himself as the Chair of the Hydrogen Network within KPMG, including 40 member firms. Hydrogen UK wanted a global view – so KPMG thought it would be best to bring together a forum to provide this for their clients. Currently exploring the opportunity for external people to come along.

For consumers, hydrogen is niche. Within the domestic setting, the UK is exploring its use. Jaymes believes execution is critical – so if people cannot see that the end justifies the means, then we are in trouble for progressing the hydrogen agenda. We are bound to enter a world where we instruct people what to eat, yet when it comes to one's home and their infrastructure, serious alarm bells go off. Once they know about decarbonisation and the impact on their bills, they will come on side. But until people can see that the end result justifies the process of switching, they will continue to have a negative perception of the hydrogen industry.

Alexander Stafford MP thanked Jaymes and introduced **Mark Crowther, Associate Director Hydrogen, Kiwa Ltd**.

Mark Crowther introduced himself. He was one of the people in 2012 that went to the Department for Energy to try and convince them that natural gas networks could be used to deploy hydrogen. The lesson he learned then remains the same: the way to take this forward has to be holistic. The principles are simple: with the UK importing 120 million tonnes of fossil fuels, that can be replaced with 35 million tonnes of hydrogen for heat, commerce and transport. We can do that domestically through transforming an area the size of the Sahara to a solar farm, for the energy to then be used for green hydrogen production. We could also bring that through 2 Nord Stream pipelines, using increased offshore wind capacity. The principles of bringing the energy from wind farms in the North Sea shows that this is possible and deliverable. The fact that this can all be done domestically should signal to us the power to change the hydrogen economy in the UK, helping consumers come on board with the idea.

When it comes to what's going to happen in domestic settings, the Isle of Man Government moved from towns gas to natural gas at scale and made it affordable. The boiler is a white box on the wall – but you can't exactly tell the difference between a natural gas boiler and a hydrogen boiler. People complain about the inconvenience. If a boilerman came at 9am, you could be burning full hydrogen by 5pm. We can be that organised – but only if the government really want it to be. Hydrogen doesn't require a new network – we can use the same pipelines. During much of the year, pipes are working at well below capacity. So we need to some how just get on with it.

Alexander Stafford MP thanked Mark Crowther and introduced **Jenny Kavanagh, Chief Strategy Officer, Cranfield Aerospace Solutions Ltd**.

Jenny introduced herself and Cranfield – a UK SME. For the past 30 years, they have been researching modifications to aircrafts and have been delivering aerospace projects. They hold whole aircraft design and manufacturing capacity. 4 years ago, they decided to use their capabilities for net-zero flight. Their ultimate mission is to create net-zero aircrafts. They are starting with a 9 seater flight, converting it from fossil fuel to hydrogen by 2026. These small aircrafts won't decarbonise all of transport, but they will become commercially available and change the aviation landscape. It will help airport and airlines to understand how to bring hydrogen into their own business plans. It will help people to understand the safety of hydrogen flights and be more willing to enter a large scale hydrogen aircraft. The safety concern for consumers is somewhat elementary – everything has pros and cons. We currently drive around in highly explosive fuels but no one thinks twice. Hydrogen is no less safe than kerosene. Exposure to the safety of hydrogen will help our cause. Jenny introduced the case of her niece and how hydrogen is being taught in a more proactive and balanced way in her A-Level Physics – writing out the pros and cons and exploring technological advances being made to improve the science and safety of hydrogen for the consumer. She is hoping that this pipeline of young pupils will then feed into a more pro-hydrogen, educated workforce on the utility of the gas.

Alexander Stafford MP thanked Jenny and introduced **Celia Greaves, Founder and CEO, UK Hydrogen and Fuel Cell Association.**

Celia introduced herself and the work of UKHFCA. They currently have 100+ members, representing revenues of £400m+ and 20,000 workers. Communications is going to be vital for hydrogen. We have lots of opportunities to learn so that we can get this right going forward. One of the key elements of that is trust – consumers need to trust the safety messaging so that they can support government agenda moving forward. That means we need a wider communications message beyond the public itself. Communications is also multi-faceted and mutually re-enforced. If we give politicians the agency and know-how to move this forward, they can argue our case to their constituents and in Parliament. We are on the start of a journey with hydrogen comms, but we have seen some great examples. The Hydrogen Strategy Now Campaign – launched in the summer of 2020, and at the end the Government launched their Hydrogen Strategy. They had a clear strategy, embedded in the title. They had a broad range of representation, and it was successful in engaging champions in its target audience. One of the things that was particularly valuable was how accessible their messaging really was. So much so that it engaged with young people across social media. Young people are very strongly committed to net-zero and can be real campaigners moving forward. They can be our champions, but only if they have the right skills.

Alexander Stafford MP thanked Celia. He then asked Mark Crowther about towns gas and what the lesson is from the communications of that convergence and how we can take forward with hydrogen?

Mark Crowther said that it was driven by the Gas Council and was executed by the GNA. The pushback occurred fairly soon due to the explosions – so the government had to set up a King Enquiry to show that natural gas is no more dangerous than hydrogen. We're seeing a turnaround now where people are scared of moving to hydrogen 50 years later. Rebranding it to 'natural gas' was a comms twist that made people think it's cleaner and safer. So maybe naming could be part of the answer? The safety record of towns gas was very similar to natural gas – there are extraordinary charts that showed cost per incident that showed natural gas was just as safe. In the Isle of Man, they just announced the conversion and proved that it was possible. They went to great lengths to make it as householder friendly as they could.

Lord Naseby mentioned that of what he remembered on this topic, unions were totally in favour of the move to natural gas. Both party conferences in 1986 were in support. If we are going to do this successfully, we need them in favour.

An attendee from the audience said that her clients are moving into hydrogen because they are concerned for energy security. Hydrogen can be produced in the UK – that's the key seller. Someone can't turn our pipeline off if it's made domestically – that's a key line that needs to be marketed. We also see a lot of money going into hydrogen in the USA, but the UK isn't doing the same. How can we be better at marketing ourselves and showing that the UK is worth investing in?

An attendee from the audience asked if someone could share market research on the public's perception on hydrogen.

Jaymes Mackay said that one of the challenges to accept here is that there are big challenges to overcome in the sector. The work that is happening in hydrogen villages at the moment shows that acceptance is higher than you might expect, especially given the negative press that might suggest otherwise.

Celia Greaves said that one Welsh university has shown similarly positive results. The message for the consumer is that their experience won't really change their normal routines – whether on a hydrogen bus or a hydrogen boiler in your home. We need to showcase how you will experience hydrogen in the day to day, keeping it simple. There are lots of lessons we can learn from other sectors.

An attendee from the audience said that his team are running one of the neighbourhood projects, testing hydrogen on 300 consumers in Scotland, which will hopefully be commissioned at the end of next year. The mindset here needs to be shifted. When you are shifting people from their fossil fuel appliances, we need to focus on what's important to consumers. You've got to explain to them that the heating system that they have can still be just as positive with hydrogen. The research we've got shows that people don't care about the technology they necessarily have, whether that's a boiler or a heat pump. But the understanding of hydrogen is relatively low. However, it's rare that they actually want to self-educate or be taught about all the differences. Relatively speaking, people just want certainty of the system, reliability and the knowledge that it will run safely in the background. Change is needed – so we need to move the dial to engage with customers and show them the need to change their appliances, whilst assuring them that they will be completely safe. What we have seen in Fife is the need to educate on climate change and net zero to help them see the need for decarbonisation, before they will even consider swapping out their own appliances and boilers.

An attendee from the audience said that his team oversee hydrogen buses in London. Over 9 years, no passengers ever brought up the safety of the buses. As long as it's on the road, people don't mind. The demographic was mostly commuters. They didn't care what fuel was being used. Tourists that spend a bit more time thinking about their mode of transport also really like them. Sometimes, we're overconcerned by public reaction and project what we think their reaction might be.

Jaymes Mackay said that he could come back to the audience with data. His understanding is the objection against hydrogen is less than 10%. One point on village trials – if you look at what Europe's managed to achieve through understanding that ends justify the means, you will see that progress can be done far faster. Until countries understand the points of climate change and energy security, they won't be on board.

Justin Madders MP objected to this point, saying that the panellist was underestimating the level of objection – there are always a number of houses with posters saying 'no' to hydrogen. It hasn't been the easy ride that is painted out. The differences between now and the 1970s is the access to information. He asked if the panel had reflected on that information change.

Mark Crowther agreed, but also pointed to the problem of the rise of disinformation.

A member from the audience said that consumers don't mind the use of an appliance unless it's more expensive. He asked if consumers were willing to pick up that cost.

Jaymes Mackay acknowledged that it's an interesting debate. Technology efficiency is better from heat pumps than hydrogen boilers. The thing that doesn't get talked about is resilience. You have to design a system that works at peak – so there's no panacea to this home heat problem. It's not hydrogen and it's not heat pumps. It has to be locally based – you have to bring consumers with you.

An attendee from the audience agreed, then reminded attendees that we are in a cost of living and energy crisis. The hydrogen levy in the Energy Bill has led him to believe no one will buy into the hydrogen dream.

Alexander Stafford MP acknowledged the attendee's point, but returned to Jenny and asked about what we can learn from the homes debate to get people feeling more confident about going on a hydrogen plane?

Jenny Kavanagh said that there are lots of examples on the ground to be seen that can show how the technology has been made safe. Their aircraft will come to market a lot sooner than people might know. The education isn't there – so why don't we take these examples to schools, workplaces, Parliament, what have you. We start with the why – climate change. After that, they can get closer to it, learn, and engage with how the technology really is changing.

An attendee from the audience said that there's a desperate leadership need in this space. You can do that through education or shaping what they are or aren't consenting to. With hydrogen – we need to understand that they might not be saying no to hydrogen, but rather saying no to change. The question isn't do we want to decarbonise or not – there's no choice. The only choice you have is between decarbonisation and fuel switching.

Lord Naseby agreed. He asked if the conversation could return back to the housing market. Heat pumps cannot work in certain housing stock – especially flats. We need to be talking to the biggest 6 housing developers – how can we be talking to them about installing hydrogen into all their new homes. If they aren't built with hydrogen boilers – could they be in the near future? If not, why not?

Alexander Stafford MP acknowledged that heat pumps seem to be better for new builds. But it seems that hydrogen boilers are far better as retrograde developments.

Celia Greaves said that we're in danger of saying a lot of nay sayings – but that doesn't help anyone. We need to be able to engage in debate and be clear about the alternatives. All of those things will be key. For us to share positive stories from the space will really promote this problem.

Alexander Stafford MP said we all have a job to do to move this forward. There is going to be protests about it – people will want change in some areas and not in others, but this conversation must continue if we are to reach net zero. He thanked attendees for coming and formally closed the meeting.