



# Environmental Audit Committee

House of Commons, London SW1A 0AA

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Rt Hon Alok Sharma MP  
Secretary of State  
Department for Business, Energy and Industrial Strategy  
1 Victoria Street  
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By email

4 August 2020

## Support for developing a Hydrogen Strategy

Dear Alok,

My Committee held an evidence session on Hydrogen on 9 July as part of our inquiry into technological innovation and climate change. We received 99 pieces of written evidence and held an oral session with representatives from Imperial College London, the UK Hydrogen and Fuel Cell Association, Energy Systems Catapult and Cadent. I am writing to raise some of the issues from the session and would be grateful if you could respond in writing.

### International competitiveness

The global hydrogen economy is estimated to be worth \$2.5 trillion by 2050, supporting 30 million jobs. Other nations, such as Australia, Japan, South Korea, Canada, and China have already set ambitious strategies for growing their hydrogen economies. The European Commission has recently created an EU hydrogen strategy, which includes plans for multi-billion euro investment in hydrogen projects, and schemes to boost sales of hydrogen electric vehicles.

The UK Government's Clean Growth Strategy and the UK Committee on Climate Change have identified hydrogen as the most cost-effective option for decarbonising several parts of the UK energy system, alongside increased electrification using low carbon electricity. However, we heard that while the UK is ahead in terms of technology and understanding, it is falling behind other countries as the UK is yet to set out its hydrogen strategy.

### Hydrogen Strategy

In 2018, the Committee on Climate Change noted that progress developing hydrogen has been too slow over the last 10 years and policy needs significant "ramping up". It said the UK does not currently produce significant amounts of low-carbon hydrogen, nor does it have technologies in place that would provide a market for that hydrogen. In its June 2020 progress report to Parliament, the CCC called on the government to "set out a clear vision of the long term policy mechanisms for industrial decarbonisation" and a "cross-cutting vision and strategy for a hydrogen economy". In evidence received by the Committee there was a strong call for the

Government to publish a Hydrogen Strategy to drive extra support, innovation and funding into the right places and realise the economic and job potential of hydrogen.

### **Applications**

The Energy Systems Catapult told us the best opportunities for hydrogen lie in the hard-to-decarbonise sectors—such as industrial processes and transport, including heavy goods vehicles, aviation and shipping. Hydrogen can play a large role in high carbon, energy-intensive industries where existing alternatives may not present a viable economic or cost-effective option to decarbonise. These could involve blending hydrogen with natural gas or converting industrial sites or power plants to run on 100% hydrogen.

We therefore welcome the Government’s announcement of £139 million to cut emissions in heavy industry by supporting the transition from natural gas to clean hydrogen power, and scaling up carbon capture and storage (CCS) technology. Among the competition winners to bid for this funding are the HyNet Carbon Capture Utilisation and Storage and Green Hydrogen for Humber. Hydrogen clusters have the ability to decarbonise a whole range of heavy industrial processes, including chemicals and steel..

We heard that the level of investment needed to exploit the opportunities that the UK potentially has, needs to be much greater. Investments need to be aligned to a strategy to guide investments to ensure that they are co-ordinated, and the value is realised from them. The witnesses stressed that they cannot continue to do projects of the scale that are needed on grant funding. Demand signals from Government in hard to decarbonise areas like aviation, shipping and industry would support the establishment of clear business models for future investment in the sector, allowing the sector to grow beyond grant-funded projects.

Witnesses also told us of the potential for hydrogen to form part of the solution for decarbonising domestic heating and it is important that the strategy provides a clear steer on the role of hydrogen in this sector.

### **Technology-blind sustainable production**

The majority of global hydrogen production (around 95%) uses fossil fuel feedstocks. If we are going to continue to make hydrogen from fossil fuels, it will have to be integrated with very high levels of carbon capture to scale up low-carbon hydrogen production. The March Budget committed “at least £800m” to “establish CCS in at least two UK sites, one by the mid-2020s, a second by 2030”. We welcome that these jobs will be outside of London, creating up to 6,000 jobs in Teesside, Humberside, Merseyside and St Fergus in Scotland. However last year, our colleagues on the BEIS Committee identified five potential CCS clusters and said the Government should “target the development of the first CCS projects in at least three clusters by 2025”.

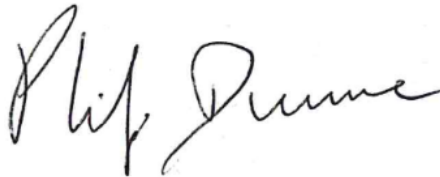
We also heard the Government has focussed on the development of ‘blue hydrogen’ with CCS. Renewable UK told us the opportunity for renewable hydrogen is huge, given the UK’s competitive advantage from Offshore Wind energy, and the Government should look at the opportunity for renewable hydrogen and encourage development through a multi-year roadmap and by demonstration projects.

**Spending Review**

It is clear from the evidence we have heard that to deliver the pace of development and investment needed in the sector a Hydrogen Strategy is urgently needed, particularly if we are to capitalise on the UK's technology base and direct investment towards the most effective uses of hydrogen. The Autumn Budget and Spending Review seems the ideal time to bring forward a strategy, will the Government commit to this and provide a significant boost to this sustainable fuel to help proceed along the critical path to net zero?

I would be grateful for a response by 2 September 2020.

Yours sincerely,

A handwritten signature in black ink, reading "Philip Dunne". The signature is written in a cursive style with a large initial 'P' and 'D'.

**Rt Hon Philip Dunne MP**  
**Chairman of the Environmental Audit Committee**