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Dear Philip,

Thank you for your letter of 4 August 2020 regarding Government's support for the development of a Hydrogen Strategy. There is a growing interest and momentum behind hydrogen across the UK and globally.

### **International competitiveness**

The UK is already seen as a world leader on hydrogen, with significant international interest in our approach. This is a result of:

- the breadth of our hydrogen innovation programme;
- our approach to understanding safety in the gas network (HyDeploy and Hy4Heat);
- the ambition of the CCUS and Hydrogen projects in Industrial Clusters, with potential to deliver significant globally leading emissions reductions in our industrial sector;
- the potential for hydrogen production to complement further deployment of offshore wind capacity, providing a route to market for curtailed renewable generation;
- and the way we are developing sustainable business models to unlock investment, learning from the success of deploying other low carbon technologies where we can.

BEIS is closely monitoring international hydrogen developments and participates in a range of international fora, including the International Partnership for Hydrogen for Fuel Cells in the Economy, Mission Innovation, and the Clean Energy Ministerial. These fora offer opportunities to discuss international activity on hydrogen, including strategies put forward by Germany, the Netherlands, Australia and the European Commission, which is helping to inform our own strategic approach to the development of hydrogen in the UK context, including opportunities for partnership and economic benefit.

## Hydrogen Strategy

I recognise the importance of setting out the government's strategic approach to hydrogen. We are developing new policy, in partnership with industry, to bring forward the technologies and supply chain we will need to grow the UK hydrogen economy. This includes business models to support the deployment of, and investment in, low carbon hydrogen production.

The strategy will set out an action plan for decarbonisation and expansion in the 2020s, most notably how we will continue to support the scale up of low carbon hydrogen production and stimulate demand. Initial end-use demand is expected to come from the industrial sector, alongside depot-based transport, with further end-uses across heat including blending into the gas grid power, and energy storage.

We have established the Hydrogen Advisory Council, co-chaired by Minister Kwarteng and Sinead Lynch (UK Country Chair, Shell), which will help to inform our strategy development and will run quarterly for two years. The Council is focusing on hydrogen production in the first 6 months, looking at deployment pathways, enabling standards and regulation, development of UK jobs, skills, and the supply chain, and hydrogen business models.

## Investment

Government is investing up to £121m between 2015 and 2021 in hydrogen innovation, covering the full hydrogen value chain from production to end use. The Chancellor announced the doubling of the BEIS Energy Innovation Programme to £1billion in the 2020 budget. Though no decisions have yet been taken on allocation of that funding, there is scope for further innovation in hydrogen across the value chain, driving efficiencies and cost reduction in current technologies progressing low carbon hydrogen for different end uses from concept to demonstration stage, as well as exploring future routes to hydrogen production, such as biomass gasification and advanced nuclear. The Hydrogen Advisory Council will consider innovation priorities and views will be passed on to potential funders across government and in industry.

In August 2019, BEIS committed to capital investment of £100m through the Low Carbon Hydrogen Production Fund to stimulate private investment and support deployment. This will sit alongside other decarbonisation funds, such as the Carbon Capture and Storage Infrastructure Fund, Industrial Energy Transformation Fund, and the Hydrogen Supply and Industrial Fuel Switching innovation competitions, which are all supporting development of low carbon hydrogen.

We are also engaging closely with industry stakeholders, who have indicated to Ministers and officials that private businesses stand ready to invest £1.5bn into hydrogen projects in the UK today<sup>1</sup>.

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<sup>1</sup> Public statement as part of Hydrogen Strategy Now campaign, <https://hydrogenstrategynow.co.uk/>.

## Hydrogen production methods

We are taking a technology-neutral approach to the development of low carbon hydrogen production, and will support both main methods, through capital investment and business models:

- CCUS-enabled hydrogen from natural gas ('blue hydrogen'), located in major industrial clusters, to produce quantities of hydrogen at scale for mass deployment, developing the supply chain across the 2020s;
- Electrolytic hydrogen from renewable electricity ('green hydrogen'), scaling UK renewable hydrogen capability to allow for greening of hydrogen supply over time (providing greater carbon savings in the long run), supporting system flexibility and integration of renewables in providing another route to market for renewable energy developers when supply exceeds demand, as well as positioning the UK as a leading player in the growing global market.

BEIS has also shown a commitment to hydrogen innovation across production technologies through the Energy Innovation Programme, driving efficiencies and cost reduction in current technologies and we would look to support future routes to hydrogen production such as biomass gasification and advanced nuclear in coming years.

## Spending Review

We are committed to the development of low carbon hydrogen as a strategic decarbonised energy carrier for the UK and are currently considering funding options with HMT.

Yours sincerely,

A handwritten signature in black ink, appearing to be 'Alok Sharma', written in a cursive style.

**THE RT HON ALOK SHARMA MP**  
Secretary of State for Business, Energy & Industrial Strategy