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Rt Hon Kwasi Kwarteng MP
Secretary of State at the Department of Business, Energy and Industrial Strategy (BEIS)
1 Victoria Street
Westminster
London
SW1H 0ET

10th May 2021

Dear Rt Hon Kwasi Kwarteng MP,

Re: A green hydrogen approach for jobs, industry, and international leadership

We are writing to encourage the UK to show international leadership using the forthcoming Hydrogen Strategy to advance a vision for a thriving green and globally competitive UK economy. The UK hydrogen strategy can make a difference by focusing on developing a value chain for renewable hydrogen which has the largest cost and emissions reduction potential and that builds on UK strengths, such as its vast offshore wind resources.

Zero emissions, 'green' hydrogen produced from renewable energy is likely to remain a premium commodity over the coming decades. It should therefore be deployed where it adds the greatest value for climate, jobs, and a strong economic recovery. Used wisely, green hydrogen can support the decarbonisation of industrial hubs across the UK, helping tackle some of the greatest climate challenges for sectors where currently there are no readily available pathways to zero emissions.

'Blue' fossil-based hydrogen is not zero emissions and risks a lock-in of high carbon infrastructure and jobs. Instead, the UK's competitive advantage in future hydrogen production lies with producing this fuel by electrolysis by tapping the country's **vast offshore wind potential – in parallel to scaling electrification, efficiency, and circular economy**. Through focusing hydrogen production in industrial hubs located strategically to benefit from North Seas offshore wind, the Government can support the 'levelling up' agenda and a just transition for high-carbon industries such as steel.

Major companies for whom action on climate change is a near-existential threat are seeking to make blue hydrogen a fuel of choice.ⁱ Government needs to send a strong signal that the UK's competitive future lies in a focus on green, as is the clear preference internationally. **We strongly encourage the Government to focus public support and priorities on green hydrogen, which is the most sustainable solution in the long run; avoiding the risks associated with a 'twin track' approach of both green and blue.** Currently, the public

funding appears to be primarily supporting the development of blue hydrogen - with a recent parliamentary question revealing that around 75% of the £171 million for hydrogen projects in the Industrial Decarbonisation Strategy is allocated for blue hydrogen projects.

A strategic hydrogen vision must be mission based and help distinguish where hydrogen does and does not present the optimal pathway for decarbonisation. For instance, where alternative solutions are already readily available for roll-out, are more efficient and cost-effective, existing strategies for efficiency and electrification should not be delayed. A clear example is hydrogen for heating. Hydrogen for heating is likely to come at a higher cost, with research in Europe showing that hydrogen-only technologies could cost twice as much as heat pumps in 2050.ⁱⁱ Blue hydrogen is also not net-zero compatible and cannot be used at scale across the UK without undermining carbon budgets and the UK's net-zero target. For green hydrogen, it is estimated to require around 30 times more offshore wind farm capacity than currently available to produce enough hydrogen to replace all gas boilers, as well as adding costs for consumers - creating additional challenges for addressing fuel poverty.

We therefore urge the Government to avoid a nationwide roll-out of hydrogen-ready boilers, or 'blending' of fossil gas and hydrogen into national networks. We are concerned that these ideas are being promoted by the fossil fuel industry to lock the UK into fossil fuel infrastructure and fossil fuel supply and that there is an attempt underway to capture the UK Government behind a fossil based hydrogen future, using blending and hydrogen ready boilers as a Trojan Horse. This would not be in the best interests of the UK.

Building on the research and analysis of independent climate change think tank E3G in a new report, [*Between hope and hype: a hydrogen vision for the UK*](#), we support the following recommendations:

- **Focus on green hydrogen** to make gains in the international innovation race. Blue hydrogen is not zero emissions and should not be classed as 'low carbon'. The UK can show leadership through introducing targets and standards which support green hydrogen and ensuring that public funding is only used to develop zero emissions fuel and technologies.
- **Scale growth in renewable energy – particularly offshore wind – as well as electrification, efficiency and circular economy to increase supply of green hydrogen.** The strategy should set out how offshore wind and hydrogen can be co-optimised.
- **Clarify focus in terms of production and end-use of hydrogen**, to ensure a cost-effective use of public funding. Priority should be on replacing grey hydrogen, on high temperature heat in industry, shipping and aviation and on long-duration storage in the power sector.
- **Introduce governance mechanisms to avoid a 'lock in' of fossil fuel derived energy sources.** These should ensure a switch away from fossil-based fuels, and could include clear timelines and targets, transparency and accountability mechanisms, and regulations and standards which ensure hydrogen supports a phase-out of fossil fuels.
- **Hydrogen pipelines should be built around secure hydrogen demand and supply;** not around the question of how existing gas assets can best be kept functioning. Nationwide 'blending' of fossil gas and hydrogen would risk diluting a precious resource and increasing consumer cost.

- **Maintain focus on making rapid gains on energy efficiency, heat pumps and renewable heat networks.** A growing body of evidence suggests that hydrogen for heating is likely to only play a small role in industrial clusters where there is a surplus.
- **A large focus on jobs, skills and supply chains is required to ensure a just transition and support the “levelling up” agenda to reduce regional inequalities.** Support training through a Skills Package focused on green hydrogen development and deployment, as well as areas that need parallel growth - such as offshore wind. Support those employed along the gas supply chain retrain to support heat solutions of the future like heat pumps.
- **Promote evidence-based and society-wide decision making.** This requires including all sectors of society in decision-making and advisory bodies, including vulnerable workers and households and independent science.
- **Take an international lead on green hydrogen in the global conversation in aiding deep decarbonisation and the phase out of fossil fuels as part of the UK’s COP 26 and G7 presidency.**

Ahead of COP 26, it is time for the Government to provide the clarity of direction required to ensure that the UK’s hydrogen economy is zero emissions, supporting productivity gains and competitiveness. The UK risks undermining its climate leadership status through a focus on blue hydrogen, and deployment of hydrogen in certain sectors – such as domestic heating – presents a cost ineffective pathway which could result in increased costs for consumers and fossil fuel lock-in. The Hydrogen Strategy must be a strategic vision for jobs, climate, and an inclusive economic recovery.

We would be pleased to discuss these recommendations further at a meeting. Please contact Juliet.phillips@e3g.org to arrange a time.

Yours sincerely,

Nick Mabey
Chief Executive Officer
E3G

On behalf of:



MCS Foundation



Possible



Friends of the Earth



Architects Climate Action Network



ⁱ For example, see <https://www.cnbc.com/2021/03/18/bp-is-working-on-a-huge-blue-hydrogen-facility-in-the-uk.html>

ⁱⁱ See <https://theicct.org/publications/hydrogen-heating-eu-feb2021>