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Rt Hon Philip Dunne MP
Chairman, Environmental Audit Committee
House of Commons
London SW1A 0AA

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Sent by email only

Dear Philip,

RE: Technological Innovations and Climate Change inquiry: Green Steel

Thank you very much for the letter you sent to me on 31 May 2022 and for all the Environmental Audit Committee's work on 'Technological Innovations and Climate Change'.

I would first like to state my wholehearted agreement with the committee's evaluation that decarbonisation provides an opportunity for the UK Steel Industry to compete in the global market. The decarbonisation of UK industry is a core part of our ambitious plan for the green industrial revolution to create sustainable and significant economic development across the UK. In light of this, BEIS continues to work with companies, who are developing their own decarbonisation strategies, to understand the trajectories of their plans and to support them as they make commercial decisions on the optimum route for their sites.

On the issues raised from the committee's evidence, please find attached in Annex A individual responses to each of the 12 issues presented, highlighting my department's commitment to the UK steel sector's green transition.

As ever, the continued work of yourself and the EAC is vital for ensuring that we are moving in the right direction and I look forward to continued engagement with you.

Yours sincerely,

RT HON KWASI KWARTENG MP
Secretary of State for Business, Energy & Industrial Strategy

Annex A

A. The Contribution of a Decarbonised Steel Industry to Net Zero Targets

1. Please set out:

- i. **what consideration the Government has given to creating a specific strategy for the steel industry in addition to relevant strategies such as the Industrial Decarbonisation Strategy and the Hydrogen Strategy, and**
- ii. **the Government's progress in setting mandatory targets for the steel industry in the 14 months to May 2022.**

The Steel Council is the forum for Government, devolved administrations, industry, and trade unions to work in partnership on shared objectives of creating an achievable, long-term plan to support the sector's transition to a competitive, sustainable, and low carbon future. Under the Steel Council I asked UK Steel to work with the sector to prepare a report setting out the sector's vision for how they would propose to decarbonise UK steel production. They are intending to publish this report on 12 July. I welcome this wide-ranging report and its recommendations are being considered, which includes asks that the sector has of Government. In addition, we are continuing to work with individual companies to understand their decarbonisation plans and to support them as they make commercial decisions on the optimum route for their sites.

The Net Zero Strategy¹, published in October 2021, reaffirms our commitment to work in collaboration with the Steel Council to consider the implications of the recommendation of the Climate Change Committee to 'set targets for ore-based steelmaking to reach near-zero emissions by 2035'.

B. Examination of the available technologies

2. **Please provide further details of the Government's consideration of the Port Talbot steelworks as a phase 2 CCUS emitter. Should the steelworks not be selected as a phase 2 emitter, please set out how the Government will support the deployment of alternative green steel technologies at this site.**

The purpose of the Phase-2 process is to receive applications from prospective CO₂ capture projects seeking to connect to the Track-1 clusters (HyNet and the East Coast Cluster), with a view to shortlisting a first phase of projects for further negotiations and due diligence. As part of this process, we have specified that prospective emitters must be capable of reaching commercial operation by 2028. BEIS has not received an application from Tata Steel under Phase-2, and as such it will not be shortlisted for negotiations at this stage.

We continue to work closely with Tata Steel as it shapes its business strategy and to secure a sustainable future for the UK steel business that supports decarbonisation. We are committed to supporting high-quality steelmaking across the UK. More broadly, we continue to engage with both SWIC and the Welsh Government as we shape our future policy in relation to CCUS and industrial decarbonisation more widely. We have been clear that the Track-1 clusters are only the beginning of our ambitions on CCUS and have stated that non-pipeline CO₂ transportation (via ship, road or rail) is likely to become increasingly important as the sector develops.

¹ <https://www.gov.uk/government/publications/net-zero-strategy>

3. Please set out in response to this letter the Government's plans to support the adoption of green steel technologies in dispersed locations.

Energy efficiency and hydrogen (either on-site electrolytic or connection to a hydrogen network) are likely to be key technologies for our dispersed steel sites, which already utilise EAF production.

We are actively exploring a variety of measures to ensure decarbonisation opportunities for dispersed sites are available, including funding through the Industrial Energy Transformation Fund (IETF). The £289 million IETF helps businesses with high energy use to cut their energy bills and carbon emissions through investing in energy efficiency and deep decarbonisation technologies. In the first competition window, at least half of eligible applications came from companies outside of the largest industrial clusters.

In terms of hydrogen, we intend to launch a joint Hydrogen Business Model and Net Zero Hydrogen Fund allocation round for electrolytic hydrogen projects in July 2022, and a further allocation round in 2024 with the aim to have up to 1GW of electrolytic hydrogen production capacity in operation or construction by 2025. We propose that the first allocation round will be open to projects from across the UK. Relating to the development of hydrogen networks, the UK Hydrogen Strategy² sets out a commitment to undertake a review of hydrogen network requirements for hydrogen projects in the 2020s. An update of this review was published in the government response to the Hydrogen Business Model consultation³. Following feedback received at the start of our review, the British Energy Security Strategy⁴ set out the intention to design business models for both transportation and storage infrastructure by 2025. Our review will feed into that design.

4. Please provide an update on progress towards a decision on a sector deal, or an outline of any alternative support towards energy costs which may be under consideration.

In conjunction with the Steel Council, the government is continuing to work in partnership with the industry and trade unions on the shared objectives of creating an achievable, long-term plan to support the sector's transition to a competitive, sustainable, and low carbon future. As part of this work, we are considering the recommendations the sector have set out in their report on their vision for how the sector will decarbonise which they are intending to publish on 12 July.

Ministers and officials also continue to engage with industry to further understand the impacts of high energy prices. Our priority is to ensure costs are managed and supplies of energy are maintained, and we aim to ensure the UK remains an attractive investment destination for EILs, whilst encouraging greater electrification to help cut emissions as part of the green industrial revolution across the country.

In the UK Energy Security Strategy, published on 7 April 2022, the government recognised that UK industrial electricity prices are higher than those of other countries and committed to act to address this. We have committed to extending the EIL Compensation Scheme for a further 3 years, and we are also considering other measures to support business including increasing the renewable obligation exemption to 100%. A consultation on future of this scheme will be published in the coming weeks.

In 2020, relief to EILs for electricity policy costs was worth over £470m. Between 2013 and 2020, total relief to energy intensive industries for electricity policy costs was over £2 billion, to over 230 businesses across the UK.

² <https://www.gov.uk/government/publications/uk-hydrogen-strategy>

³ <https://www.gov.uk/government/consultations/design-of-a-business-model-for-low-carbon-hydrogen>

⁴ <https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>

5. The Committee encourages the Government to adopt a whole-systems approach to increasing secondary production and support operators at each stage in the process. Please outline in response what plans the Government has to support further adoption of electric arc furnaces at steel sites in the UK.

Decarbonisation pathways for specific sites are a commercial decision for individual companies. The appropriate decarbonisation pathway for individual sites will be based on multiple factors and the Government is working closely with companies to support them as they make commercial decisions on the optimum route for their sites.

The Government already has support in place which is of benefit to sites wanting to adopt electric arc furnace technologies:

- Providing over £600 million in relief to the steel industry since 2013 to help reduce the impact of high industrial electricity costs. In the Energy Security Strategy, published on 7 April, we confirmed that compensation for EIs, will be extended for a further three years and we are also considering other measures to support business including increasing the renewable obligation exemption to 100%.
- Launching a £289 million Industrial Energy Transformation Fund to help businesses with high energy use – including the steel industry - cut their bills and emissions.
- Providing up to £66 million as part of the Industrial Strategy Challenge Fund, to help key foundation industries, such as steel, develop innovative technology to reduce energy and resource use.
- Providing over £16 million in funding to the Materials Processing Institute to deliver a transformative R&D programme to help the UK steel and metals sector improve efficiencies, reduce emissions and boost competitiveness.

In addition, through the Steel Council, UK Steel have produced a Net Zero steel report which sets out the sector's vision for how they would propose to decarbonise UK steel production and outlines the asks that the sector has of Government. Officials are working to review the recommendations and we are committed to taking a whole systems approach.

The Net Zero Strategy also outlines the importance of taking a whole system approach to driving resource efficient outcomes across industrial supply chains. Resource efficiency measures reduce emissions from industrial processes by keeping products and materials in circulation for longer by way of reuse, repair, remanufacture and recycling as well as reducing material usage. The Climate Change Committee (CCC) balanced pathway estimates that by 2035 these measures could deliver 9MtCO₂e of potential savings per year. Government aims to support this shift in the 2020s through a range of policy measures, including by improving reporting on embodied carbon of industrial goods and buildings supporting the growth in low carbon and secondary product markets.

A further implication of wide-spread adoption of EAFs is increased demand for high-quality scrap. The UK has a very strong domestic supply market for scrap, but the increased demand for the highest quality grades would likely present a challenge for the incumbent scrap yards. Government is in the process of facilitating a scrap working group, working closely with the steel and scrap sectors, plus innovation groups and machinery manufacturers, to consider these challenges and develop a range of options.

6. Please set out what steps the Government plans to take:

- (i) **to encourage the immediate adoption of DRI technologies in UK steelmaking, and**

(ii) to ensure the availability and affordability of blue and green hydrogen supplies to steelmakers.

Low carbon hydrogen is a leading option for decarbonising industrial processes that are hard or expensive to electrify and hydrogen-based steelmaking is one of the technological approaches being examined as part of the Steel Council process.

The UK steel sector is eligible for the Industrial Fuel Switching 2 innovation programme under the £1 billion Net Zero Innovation Portfolio (NZIP)⁵ while the £289m Industrial Energy Transformation Fund (IETF)⁶ and £34m Scottish IETF⁷ are increasing readiness for the hydrogen economy by supporting companies to invest in fuel switching technologies.

Government is committed to hydrogen at the highest level. In the Energy Security strategy (April) we doubled UK's ambition; we are now aiming to achieve up to 10GW of hydrogen capacity installed in the UK by 2030. At least half of this will come from electrolytic hydrogen, drawing on the scale-up of UK offshore wind, other renewables, and nuclear energy. The UK Hydrogen Strategy sets out the government's 'twin-track' approach to supporting multiple production technologies including both electrolytic 'green' and carbon capture (CCUS)-enabled 'blue' hydrogen production. This will enable the rapid growth of the sector while bringing down costs.

We recently published a Hydrogen Investment Package⁸, which set out the key policy detail that industry has been waiting for and paved the way for the launch of two significant funding mechanisms. Firstly, the Net Zero Hydrogen Fund will provide up to £240 million to support the development and construction of new low carbon hydrogen production plants. Our hydrogen business model will also provide ongoing revenue support to projects and unlock significant private sector investment.

7. Please explain whether the Government plans to take steps to secure a sustainable biomass supply chain for the steel industry, given evidence of likely future demand.

The government made a commitment to publish a new Biomass Strategy in late 2022. This will review what amount of sustainable biomass that could be available to the UK, and how this resource could be best utilised across the economy to help achieve our net zero greenhouse gas emissions target by 2050. It will also establish the role which bioenergy with carbon capture and storage (BECCS) can play in reducing carbon emissions across the economy and set out how the technology could be deployed. This will include an assessment of the potential for biomass to reduce emissions across manufacturing industry, including the steel sector.

8. Please set out the Government's policy on measures to reduce the requirement for coking coal in domestic steel production.

Decarbonisation pathways for specific sites are a commercial decision for individual companies. The appropriate decarbonisation pathway for individual sites will be based on multiple factors and the Government is working closely with companies to support them as they make commercial decisions on the optimum route for their sites.

C. Examination of Government policy and funding

⁵ <https://www.gov.uk/government/collections/net-zero-innovation-portfolio>

⁶ <https://www.gov.uk/government/collections/industrial-energy-transformation-fund>

⁷ <https://www.gov.scot/policies/energy-efficiency/scottish-industrial-energy-transformation-fund/>

⁸ <https://www.gov.uk/government/publications/hydrogen-investor-roadmap-leading-the-way-to-net-zero>

9. Please indicate the Government's policy on promoting the use of green steel in public procurement. Please also indicate whether the Government plans to use existing bodies, such as the UK Steel Council, to promote its policies on the decarbonisation of steel production, or whether it plans to establish a new body.

The government is a significant buyer of industrial products for construction infrastructure and can directly increase demand for low carbon products. We will use our buying power to drive decarbonisation, including the decarbonisation of steel production, and help achieve net zero. Last year three distinct policies came into effect to leverage public procurement to that end. These all kick in at different stages of the commercial cycle, complementing each other in terms of their scope and their reach.

- *The National Procurement Policy Statement* (NPPS)⁹, published in June 2021, sets out the clear principles of tackling climate change and achieving net zero that public contracting authorities should be following. These should then be woven through individual procurements (for qualifying procurements).
- The Procurement Policy Note on *Taking account of carbon reduction plans in the procurement of major government contracts*¹⁰ requires suppliers who are bidding on central government contracts (over £5 million p/a in value) to commit to achieving net zero by 2050 and to detail their organisation's UK greenhouse gas emissions via the publication of a Carbon Reduction Plan. Failure to do so may mean exclusion at supplier selection stage.
- The Social Value Model¹¹ requires government to expressly evaluate environmental, social and economic benefits, with these factors comprising a minimum of 10% of the evaluation score for qualifying procurements.

The government is also developing policy proposals, including in public procurement, that will aim to create demand for low emissions industrial products, such as steel. A recent call for evidence asked for views to inform policy development, and the government announced last month its intention to consult later in the year.

We are also working with international partners to take coordinated action on public procurement to increase demand pull for green industrial products, helping achieve economies of scale and drive down costs for all, as well as reducing the risk of carbon leakage and allowing a broader market to develop.

In June 2021, a coalition of governments and organisations, led by the UK and India, launched the new Industrial Deep Decarbonisation Initiative (IDDI) under the Clean Energy Ministerial. This initiative is working on the harmonisation of embodied emissions reporting, green procurement practices and standard setting through working groups launched at COP26.

Also, at COP26 the UK launched the Breakthrough Agenda, supported by over 40 world leaders representing more than 70% of the world's economy. The Prime Minister set out the first five goals targeting the most challenging sectors, which included steel, with the aim of bringing together global initiatives to accelerate the transition to near Zero emission steel production. These initiatives include the IDDI, as well as the US-led First Movers Coalition, which exists to increase private demand for low emissions steel and other products.

⁹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/990289/National_Procurement_Policy_Statement.pdf

¹⁰https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1054374/PPN-0621-Taking-account-of-Carbon-Reduction-Plans-Jan22_1_.pdf

¹¹https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/940827/Guide-to-using-the-Social-Value-Model-Edn-1.1-3-Dec-20.pdf

The Steel Council offers the forum for Government, industry, and trade unions to work in partnership on shared objectives of creating an achievable, long-term plan to support the sector's transition to a competitive, sustainable, and low carbon future.

10. Please set out the Government's policy on

- i. the implementation of product standards to encourage the adoption of low carbon steel and**
- ii. any changes to the UK ETS that will support the transition to green steel production.**

(i) In the Industrial Decarbonisation Strategy, the Government committed to developing proposals for product standards and product labelling to enable manufacturers of industrial products to differentiate products in the market and enable buyers to make green choices. As set out by the Financial Secretary to the Treasury in her Written Ministerial Statement to Parliament on the 16th of May¹², BEIS and HMT intend to consult on a range of carbon leakage mitigation options later in the year, including on whether measures such as product standards and a carbon border adjustment mechanism (CBAM) could be appropriate tools in the UK's policy mix.

The consultation follows the BEIS Call for Evidence 'Towards a market for low emissions industrial products'¹³. This looked at the technical foundations for product standards, such as how a green product should be defined and verified. We will publish the summary of responses shortly. The carbon leakage consultation will also build on BEIS' current consultation on the review of the Emissions Trading Scheme.

The Government is clear that any policy or suite of policies would need to carefully balance a range of priorities for the UK, both domestically and internationally, including the needs of different industrial sectors, compliance with WTO rules and our staunch commitment to free and open trade, alongside carefully considering the needs of developing countries.

(ii) As you will be aware, at the beginning of last year the UK established the UK Emissions Trading Scheme (UK ETS) to replace participation in the EU ETS. Emissions Trading can deliver targeted emissions reductions at a lower cost to businesses than alternative interventions. UK ETS participants, such as those in the steel sector, can choose the most economical route to reduce their emissions. Innovation and investment in green steel production incentivised by the UK ETS can make participants more productive in the long run, thereby reducing costs.

Now the UK ETS is up and running we are focussing on how we can develop the scheme to ensure it is at the heart of delivering on our net zero commitments and that it is providing appropriate support to businesses in the transition. The UK is committed to protecting industrial sectors, including our steel industry, from carbon leakage as the sector transitions to green steel production. That is why a proportion of allowances under the UK ETS are allocated for free to businesses at risk of carbon leakage. As part of our recent consultation¹⁴ to develop the UK ETS we have committed to maintain current levels of free allocations until at least 2026, and to improve the approach to distributing free allowances to ensure it is better targeted at sectors most at risk of carbon leakage. We are working across government to ensure that any future changes to free allocation policy considers the timings for availability of essential decarbonisation technology and roll out of support programmes. We will also ensure alignment with the

¹² <https://questions-statements.parliament.uk/written-statements/detail/2022-05-16/hcws26>

¹³ <https://www.gov.uk/government/consultations/towards-a-market-for-low-emissions-industrial-products-call-for-evidence>

¹⁴ <https://www.gov.uk/government/consultations/developing-the-uk-emissions-trading-scheme-uk-ets>

development of other carbon leakage mitigation policies such as CBAMs or product standards to ensure businesses do not face a cliff edge in support.

11. Please clarify what proportion of each of the funds established to support industrial transition will be made available for *direct* support to the steel industry for its (i) operational and (ii) capital costs during the transition.

As set out in our original response, the sector has access to a number of government funds, including the following key ones, to support its decarbonisation. With the exception of the funding allocated to MPI, these funds are competitive so it is not possible to say in advance what proportion will be made directly available to the steel sector. However, to date the sector has been successful in bidding into these pots, including the following examples:

- The *£289 million Industrial Energy Transformation Fund* which provides capital support to help businesses with high energy use – including the steel industry – cut their bills and emissions.
 - Multiple steel bids have been successful including Celsa's recent £8.6m project to improve the efficiency of EAF production and Sheffield Forgemasters' £170,000 project to decarbonise the production of large-scale forging and castings
- The up to *£66 million Transforming Foundation Industries Challenge Fund*, which provides capital funding to help key foundation industries, such as steel, develop innovative technology to reduce energy and resource use.
 - Funded has been awarded for multiple steel projects including on superalloy atomisation, heat recovered in gas fired continuous furnaces and novel EAF composite feedstocks.
- Over *£16 million for the Materials Processing Institute (MPI)* to deliver a transformative R&D programme to help the UK steel and metals sector improve efficiencies, reduce emissions and boost competitiveness.
- *£55m Industrial Fuel Switching Programme Fund* under the £1 billion Net Zero Innovation Portfolio (NZIP), which provides capital funding to promote switching away from more carbon-intensive fuel sources.
 - Two steel projects were awarded funding recently for feasibility studies on using hydrogen – to MPI for a DRI pilot and British Steel for switching manufacturing processes to green hydrogen.
- The *Industrial Decarbonisation Research and Innovation Centre (IDRIC)* which provides capital funding to projects which support fuel switching to hydrogen on in industrial sites.
 - The first wave of over 40 research and innovation projects was launched in 2021 and steel companies are listed as collaborators on several of these research projects, for example. In addition, steel companies will be members of industrial clusters which are collaborating in a wide range of IDRIC projects.

In addition, the Hydrogen Business Model will provide revenue support to low carbon hydrogen producers and the £240 million Net Zero Hydrogen Fund will co-fund the capital costs of building hydrogen plants in the UK – together, these will kickstart the UK's supply of affordable low carbon hydrogen which could benefit the steel sector.

12. Please set out in response

- i. **the Government's rationale for the decision to withhold the Clean Steel Fund until 2023, when industry players are prepared to set out their decarbonisation plans now, and**
- ii. **what plans the Government has to review the ambition of the Clean Steel Fund.**

The Government announced its intention to create a Clean Steel Fund (CSF) in 2019 and several options have been explored since, together with ongoing feedback from industry. A funding decision on the CSF was not taken during the 2021 Spending Review as the Government continues to work with the sector to understand its decarbonisation investment plans - whether it is electric arc, industrial carbon capture equipment attached to existing blast furnaces, or other emerging technologies such as hydrogen.

In its response to the Call for Evidence on the Clean Steel Fund¹⁵, the steel industry indicated a preference for the fund to start in 2023.

¹⁵ <https://www.gov.uk/government/consultations/creating-a-clean-steel-fund-call-for-evidence>