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To whom it may concern

BY EMAIL

The economics of coal and steel, as relating to the proposal for an extension to the \hat{i} " $f \dagger \check{Z} \dagger \hat{I}$ " " $\dagger \bullet \dots f \bullet - \dots f \bullet f$ " $f \check{Z} \bullet \bullet \bullet \dagger \acute{A}$ Lánd to the West Soff Bradley Surface Mine Leadgate Consett \hat{I} a $f \check{A}$ $f \check{A}$

I have been asked to offer my expert opinion on the bove planning application for an

sustainable economy. I hold a Ph.D. in economics from the University windon and I am currently Professor of Resources and Environmental Policy at University College London. I am Director of the UCL Institute for Sustainable Resources. Until May 2019 I was also Deputy Director of the UK Energy Research Centre. My areas ofectispe include energy-environment-economy (E3) interactions and environmental policy,

claim implicitly relies on therebeing decreases in production overseasuch that the total amount of coal produced globally remains the same.

While this assumption is not spelled ou, Banks has lsewhere explicitly explained the basis for their position that they need not assess the GHG emissions from the enduse of coal from their mines. For instance, in a submission to Secretary of State for Housing, Communities and Local Government, Robert Jenrich 26 April 2019¹, Banks stated:

ò å[™] ‡ "‡ −Š ‡ • ‡ ... — • − ' • ‡ " • • ' − " ‡ 〈 • ‰ • ‡ " ~ ‡ † " › ... ' f Ž ^ " ' • operating sites in the north east, including Bradley, they would inevitably have to look to meet their need for coal from alternative sources. As highlighted below, the most likely alternative see these customers will look to is from imports. The GHG emissions arising from $f \bullet \bullet \bullet \ddot{\imath} \dots - \bullet - ' \bullet \ddagger " \bullet \ddot{\imath} - \bullet \ddagger ` ^ - \breve{S} \ddagger \dots ' f \breve{Z} \bullet - \underline{i}\underline{s} \, ' \breve{Z} \, \langle \ddagger \dagger \, ^ " ` \bullet \, \langle - \bullet \, \bullet \, ` " - \underbrace{therefore a substitute for emissions which would occur in any evént (emphasis added)}$

The claim that

This claim is againcontrary to basiceconomic theory. There is no reason why the demand for steel cement and bricks would not be responsive to the price of the inputs to their production. Cheaper coking coal will, in the absence of policy incentives sult in more steelbeing produced through the traditional blast furnace method, and discourageinvestment in alternatives, even though, as I discuss below, such alternatives exist. Likewise, additional industrial coal will incentivise high-carbon cement production and discourage the development and deployment of loweGHG alternatives. Thus additional industrial coal production is almost certain to result in additional carbon emissions. And, contrary to the extraordinary assertion above, these emissions

Although the processes are different, many of the same arguments apply to cement production, which is also a highly energy-intensive process. As with steel, increasing coal extraction is also likely to depress investment inalternative methods of cement production and discourage a switch to lowe-carbon fuels to meet the energy requirements of the cement industry.

As the UK progresses toward its statutory target of nextero emissions by 2050, UK steel and cementproduction will be required to shift to the low-carbon alternatives described above. From the arguments above it is clear that the coal produced by the West Bradley extension is likely both to increase emissions and to hamper the development and deployment of low-carbon technologies in this industry, thereby supporting the continuance of high-carbon steeland cementproduction and contributing to dangerous climate change.

Conclusion

I conclude that the claims made by anks, that the combustion of coal from the West Bradley mine extension would not result in additional carbon emissions, are entirely unfounded. On the contrary, I would expect the minextension to result in considerable additional carbon emissions.

Yours sincerely,

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