

currently limits the use of the coal.” And TATA Port Talbot can only use it as part of its blend. And there is no world shortage of coking coal. Thus UK’s steel industry has no “need” for WCM’s coal.

Secondly, because steel-making contributes about 7% of the world’s energy-related CO2 emissions due mainly to its use of coal, Europe’s steel-making industry is shifting away from coal to lower carbon alternatives this decade onwards, & UK’s remaining 2 sites that use coking coal & blast furnaces must change too or face closure. Mine objectors are keen for these changes to happen with urgency not just to reduce the huge CO2e emissions but also to save steel jobs and [reduce harm to people and environment from coal mines in countries from which the UK imports](#).

Lord Deben, Chair of UK’s **Climate Change Committee**, [wrote to government](#)’s Robert Jenrick (SoS MHCLG) that “Coking coal use in steelmaking could be displaced completely by 2035, using a combination of hydrogen direct reduction [H-DR] and electric arc furnace [EAF] technology to meet our recommendation that UK ore-based steelmaking be near-zero emissions by 2035.” [Hydrogen can remove the oxygen from the iron oxide in iron ore to result in H2O instead of the CO2 from using coal].

Steel firms in Europe and beyond have committed to significant reductions in carbon emissions this decade in Europe typically by 25 to 30%, and to be carbon neutral by 2050. Sweden is setting an impressive example, with the new **H2GS** consortium planning to produce 5 million tons per year of ‘green steel’ using H-DR by 2030 starting production in 2024, and **SSAB** 1 million tons per year from 2025/6 using H-DR, and also replacing 2 blast furnaces with EAFs. For these and other examples see bit.ly/steelnews

[The UK exports around 80% of its scrap steel abroad](#) (9Mtpa 2018). (This is more than the amount of crude steel UK produces (7Mtpa 2018) of which [c.34% is from scrap](#)). If UK builds more EAFs it could recycle that scrap into steel here using our lower carbon intensity electricity, and if government improved our recycling methods to reduce ‘tramp’ impurities such as copper this would provide jobs as well as higher quality recycled steel. Allwood et al.(2019) state: “UK consumers currently demand around 15 million tonnes per year of steel in final goods.” To put simply: 9+7=16Mtpa and = ~15Mtpa, and thus UK is not far from being potentially self-sufficient in steel with EAFs supplemented with a few H-DRI plants (bear in mind making steel into final goods results in scrap offcuts).

The Materials Processing Institute (MPI) is the steel industry’s research and training body in the UK. **MPI’s CEO Chris McDonald** [states that](#) “In this vital year of COP26, [this paper](#)’s ambitious but practical proposal for a DRI-hydrogen, electric arc furnace-based solution would take a decade and help Britain meet all decarbonisation milestones whilst delivering a smooth and just transition for the workforce.” Thus the CCCuk’s “by 2035” target is technically viable. [*This paragraph is an update*]

In summary – it is both viable and achievable for the UK to save its two sites with blast furnaces by replacing the latter with EAFs and with better recycling, and adding if need-be H-DR plants for the minority of UK’s steel grades for which steel from ore would be better.

So the best method to reduce emissions from shipping coal is to [use less coal, not to mine coal here](#). And anyhow any “savings” in shipping emissions from shorter distances though not small, [would only be about 1 to 2% of the size of the huge end-use emissions](#), thus would be dwarfed by the latter.

The proposed Cumbria mine would at full production add **9 million tonnes CO2e per year** to global emissions from its end-use in mills with blast furnaces. That is more than double the emissions per year of Cumbria’s half-million population. These emissions figures are of international importance, and Jenrick’s failure to call in the proposal has already resulted in international criticism. This is [damaging](#)

[UK's credibility as COP26 President and host](#), and could lead to weaker commitments to reduce emissions by other nations.

We are currently heading to cross +1.5C roundabout 2030. The UK can and must reduce most of its emissions by 2030, and this can be done with appropriate political will (sadly now lacking).

[Since writing this, on 11th March – the final day of notice from SLACC's legal team before SLACC would start legal proceedings against him, [Jenrick called in the coal mine application](#) for a public inquiry (to start on 7th September)]

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(contributor of steel decarb and climate info to SLACC, XRSL, XR Cumbria, FoE, CAN and other objectors to the coalmine)

Recommended further reading:

18mar21 The **Materials Processing Institute** [UK steel industry could expand in transition to Zero Carbon future, report reveals – \(mpiuk.com\)](#) links to pdf: March 2021 MPI report: [SI-Series-Paper-05-Decarbonisation-of-the-Steel-Industry-in-the-UK.pdf \(mpiuk.com\)](#) I must admit I'm very pleased to see this report goes against the the CCS-BF route for the UK and instead favours the H-DR + EAF route (with a transition period of overlap with existing BF's & H-DRI feeding into BF-BOF: I hope that means less coal input into the BF's).

[Why Europe doesn't need Cumbria's coking coal | Inside track \(greenallianceblog.org.uk\)](#) by Valentin Vogl who has been studying the decarbonisation of steelmaking for several years at Lund University, Sweden.

[Cumbria mine: is there a technical need for new coal mines in the UK? – CREDS](#) – thank you Valentin for tweeting that.

[Steel-making news 2020 onwards, focusing on its decarbonisation | henryadamsblog \(wordpress.com\) bit.ly/steelnews](#)

SLACC's hub page on [Cumbria Coal Mine Campaign – SLACC http://slacc.org.uk/campaigns/cumbria-coal-mine/](#)

References and links ordered as they appear in the text:

[Analysis: When might the world exceed 1.5C and 2C of global warming? | Carbon Brief](#)

[UN: New national climate pledges will only cut emissions 'by 2%' over next decade | Carbon Brief](#)

BEIS Minister Trevelyan blatantly lies in support of the coal mine (video on Tory MP Mark Jenkinson's Facebook page): www.facebook.com/markianjenkinson/videos/803923733494170

[Cumbria coal mine plan 'damaging PM's reputation' – BBC News](#) – Roger Harrabin.

The sulphur issue: See statements (as pdf's) from British Steel Scunthorpe and TATA Port Talbot on CumbriaCC's website under tab "Committee Documents": <https://planning.cumbria.gov.uk/Planning/Display/4/17/9007>

On saving UK's steel jobs and UK's steel industry: [A test of mettle: Securing a future for a green UK steel industry \(common-wealth.co.uk\)](#) Note that although this report makes some good points on the need for urgent change and investment in UK's steel industry for it to survive and thrive, nonetheless I strongly disagree with the way this report pushes strongly for CCS – which would prolong the use of coal-fed Blast Furnaces (though CCCuk advises fewer coal-fed BF's towards and beyond 2035 than at present). This report thus argues against the advice in the reports by Professor Allwood and the Materials Processing Institute (MPI), and against the “tailwinds” pathway for UK's steel industry advised by Committee Climate Change as being the pathway for greater emissions reduction than its very compromised ‘balanced pathway’ (for ‘balanced’ read ‘compromised’ – as regards any likelihood of meeting the Paris Agreements temperature goals). [Link to my criticism in full.](#)

On local impacts of coal mining on people and environment (including wildlife).

In context: [Young activists fight Cumbrian mine \(theecologist.org\)](#) – Anne Harris of Coal Action Network.
In more detail: [End Coal | Coal Mining](#)

Letter: Deep Coal Mining in the UK – Climate Change Committee (theccc.org.uk) links to pdf: [Lord-Deben-to-Robert-Jenrick-MP-Deep-coal-mining-in-the-UK_290121.pdf \(theccc.org.uk\)](#)

[bit.ly/steelnews](#) = [Steel-making news 2020 onwards, focusing on its decarbonisation | henryadamsblog \(wordpress.com\)](#) Summarizes and links to statements by for example H2GS and SSAB.

Professor Allwood et al. (2019) report [Steel arising pdf](#) p.14: “The UK is a mature steel economy, so has the necessary resources of annual scrap arisings which will soon be of comparable volume to total final demand for steel in goods.”

A good summary here of ‘Steel Arising’, with other useful comments:

[Transition to green steelmaking vital to UK industry’s long-term future, says report | Envirotec \(envirotecmagazine.com\)](#) 27may19 ... “The UK currently demands approximately 15m tonnes per year of steel to supply strategically vital sectors such as construction, car manufacturing and aerospace – and produces approximately 7m tonnes per year domestically. In addition, the country generates more than 10m tonnes of steel scrap every year – **but less than 20% is recycled in the UK**, with the rest exported mainly to Turkey, India, Spain and Pakistan for processing into relatively low-grade goods.” ... “Edwina Hart MBE, Chair of the GREENSTEEL Council which commissioned the report, said: **“It’s absurd that we send almost 80% of its scrap steel abroad for recycling** when it is a huge – and largely untapped – national resource. The UK steel sector can create thousands of green-collar jobs in parts of the country that need them most, helping the UK to re-establish itself as a leading steelmaking nation, known for our innovation and advanced engineering skills rather than for mass production. ...” ...”.

Note (by Henry) that UK's lower carbon intensity electricity than in other nations such as Turkey means that EAF's in the UK will have lower associated upstream CO2e emissions.

“Instead of transporting coal thousands of kilometres across the ocean or building new coal mines, the UK could take a more forward-thinking approach to steel production, by increasing reuse and recycling and investing in new low carbon steelmaking technologies.” [Cumbria mine: is there a technical need for new coal mines in the UK? – CREDS](#)

On WCM emissions: [WCM’s half-truth diversionary tactic re shorter shipping distances meaning savings in emissions | henryadamsblog \(wordpress.com\)](#)