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[www.slacc.org.uk](http://www.slacc.org.uk)

18<sup>th</sup> February 2018

Dear Ms Brophy,

**Re: Application ref 4/17/9007 by West Cumbria Mining Ltd for Development of an existing surface mine entrance for a new underground metallurgical coal mine and associated surface development including: [...] at the former Marchon site (High Road) Whitehaven [...] off Mirehouse Road, Pow Beck valley and area from, Marchon Site to St Bees Coast**

<https://cloud2.atriumsoft.com/ePlanningCMB/loadFullDetails.do?apId=45792>

1. **South Lakes Action on Climate Change *towards transition* (SLACctt)** objects to the above coal mining application because the quantity of greenhouse gases it will release over its projected years of operation would be totally incompatible with the urgent and steep reduction in carbon emissions that climate scientists state we will need to ensure, in order to have any good chance of meeting the temperature goals of the Paris Climate Agreement that the UK and almost all other nations have signed up to.

2. **The temperature goals of The Paris Agreement** are “holding the increase in global average temperature to well below 2°C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels” [1]. To comply with meeting these goals this would mean leaving most of the known resources of fossil fuels in the ground [2], which for coal would mean an even greater proportion in the ground (as it has the highest emissions per unit energy released when burnt – twice that of fossil gas, and for the UK (as a developed country) this would mean as close as possible to zero (to ensure equity).

I will show below, that there is significant scope for reducing the use of coking coal for steel-making (and also carbon emissions) – and steps to implement these reductions are being taken in the UK right now.

3. **On climate urgency** - it must be borne in mind that climate scientists have shown that if our current rate of carbon emissions is maintained we have only (i) around a couple of decades left before the +1.5 degrees global average temperature becomes the damaging reality [3]:

- 24       • At the present rate of greenhouse gas emissions and global warming of 0.17°C (±0.07°C) per  
25       decade, as assessed in the AR5, global mean temperatures would reach 1.5°C in the 2040s  
26       (*high confidence*). (Figure SPM1) (1.2.2, 1.2.3)

(IPCC draft report on 1.5C) [3] <http://www.climatechangenews.com/2018/02/13/leaked-draft-summary-un-special-report-1-5c-climate-goal-full/>

and (ii) that our global carbon budget for +1.5 degrees would be used up in only about 3 years according to IPCC AR5 [4], and in up to around 2 decades according to the most optimistic best-case scenarios of more recent projections, but a co-author states: “if CO<sub>2</sub> emissions were to continue to increase along current trends, even this new budget would be exhausted in less than 20 years 1.5°C” [5].

Some climate scientists have more pessimistic assessments for our carbon budget, for example Anderson and Broderick concluded that the EU countries have just 9 more years of carbon budget at current rate of burning to keep below +2 degrees [6]. (NB: EU/OECD countries have less to ensure equity).

I quote: "... In their latest paper, published in the February issue of *Nature Geoscience*, Dr Philip Goodwin from the University of Southampton and Professor Ric Williams from the University of Liverpool have projected that if immediate action isn't taken, the earth's global average temperature is likely to rise to 1.5°C above the period before the industrial revolution within the next 17-18 years, and to 2.0°C in 35-41 years respectively if the carbon emission rate remains at its present-day value. ..." [7]

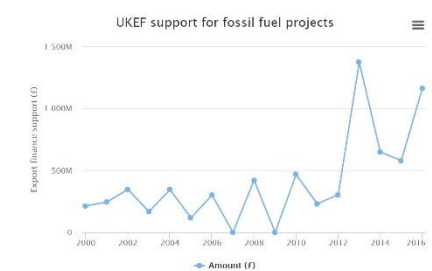
Compare these predictions with WCM's hoped for life-span of the mine (20 to 50 years) – it overlaps after 20 years with decades when UK emissions need to be near to zero. And before that, with a decade or more when our reductions will have to be very steep indeed. What planet are WCM living on? Are they gambling that the UK government (and planning decisions) will continue to diverge from the required carbon reductions path?

**4. The huge UK emissions gap:** Unfortunately our central government policies and actions on climate, fossil fuels *and planning decisions* – are way out of compliance with the requirements that climate scientists state are essential for meeting the Paris temperature goals. Sadly too – this huge compliance gap has been shown also by local government planning officers in a number of recent cases relating to fossil fuel applications, in which the climate argument has been omitted or down-played, despite NPPF enabling climate as a planning consideration (NPPF section 10 e.g. para.93). [9]

Leaving climate consideration to central government to decide on in planning cases is leaving the decision to a government still *supporting* new investment in fossil fuels – in direct contradiction to the Agreement they've signed up to [10].

This chart shows just one example of many: (the trend should obviously be downwards!); and DIT SoS Liam Fox is currently promoting more UK fossil fuel investments abroad [10 or 11]

The new figures were calculated using a confidential database that was accidentally disclosed to *Private Eye* earlier this year. The database provides the most comprehensive list to date of the deals entered into by UK Export Finance (UKEF).



Also the Committee on Climate Change (CCC) expressed concern that the UK government's policies [e.g. Clean Growth Strategy] are insufficient to result in the carbon emissions reductions required by the Climate Change Act 2008 (to reduce emissions by at least 80% on 1990 levels by 2050) and by the Paris Agreement. 'The CCC said that "even if delivered in full", existing and new policies would fail to meet the interim goals set by the fourth and fifth carbon budgets "by a significant margin".'

[<https://www.desmog.uk/2018/01/16/government-climate-plan-has-significant-gaps-experts-warn>]

Compare the recent trends in the 2 charts to the right:

They are both going in the opposite direction that's required.

Thus it is important that planning officers do **not** do what an SLDC councillor advised at a recent ctte meeting: that the climate

considerations [of a proposed gas power station] should be left to central government. He might as well have said to the gas industry, or Shell and BP. There is no way in which our present central government (or bodies under their control) can be trusted to make planning decisions on fossil fuel investments that comply with the Climate Change Act or the Paris Agreement.

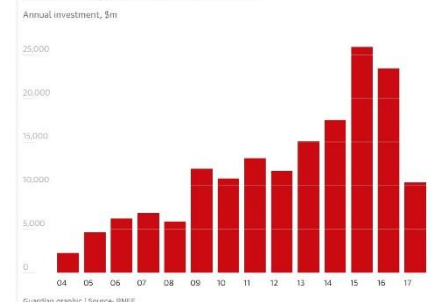
guardian.com/business/2018/jan/16/uk-green-energy-investment-plunges-after-policy-changes

Alan Whitehead, shadow energy minister, said: "The government's green rhetoric is nothing more than empty promises. Their ideologically-driven policy lurches away from clean solar power and onshore wind has spooked investors."

"Whilst saying they have ambitions to be a green government their actions point in the opposite direction with renewables support slashed at the same time that fracking has been given the go ahead."

Caroline Lucas, Green party co-leader, said the UK figures were damning.

**UK clean energy investment fell 56% in 2017**



China led the global charge, with investment tumbling by nearly a quarter to

5. The above climate argument strongly rules out WCM's coal-mining application because of its huge carbon emissions [from FoE figures below], unless it can be shown indisputably that our need to add more coking coal to the global market for *new* steel production (as opposed to recycled steel – which does not need coal) is absolutely essential within the near future, and is tied with an equal reduction of carbon emissions by some means that would otherwise not happen (extremely unlikely!). But there is no case for such an exceptional need, as other consultees have pointed out [ref], and the use of coking coal in steel-making can be significantly reduced. Furthermore, if there was (hypothetically) such a need, the Whitehaven area would be the wrong location for mining coking coal – due to the many negative impacts and risks that other consultees have so strongly indicated. Finally there is no scope for achieving the huge compensatory carbon reduction.

#### **6. Significant reductions in the requirement for coking coal in steel-making can be made**

Appendix 1 explains this more fully with relevant quotes from references, and here we summarize:

- (i) by increasing the recycling rate of steel (from 30% in or before 2013 to a claimed potential 80% in the future), and thus increasing the percentage of steel made using the Electric Arc Furnace (EAF) – which does not need coke, and:
- (ii) decarbonizing the electricity used in the EAF, and thereby reducing the need for new steel from iron ore and carbon, and with regards the latter:
- (iii) increasing the use of waste wood instead of coking coal in countries where the strict rules required for regulating the latter are feasible to achieve.

But methods (i) and (ii) are by far the most climate-appropriate and feasible for the UK, and this month for example – an EAF was re-started in Rotherham by a company that is at least aware of the need to reduce burning of fossil-carbon in steel-making.

**7. Summary conclusions from the above:** SLACCtt maintains that the over-riding climate argument is more than sufficient *in its own right*, i.e. without any other reason being needed, to rule out approving the application. The many other strong reasons against approving the application also include those that in our view look sufficient individually, but SLACC's main expertise and remit of relevance here is climate change, so we focus on that.

**8. Friends of the Earth** in their objections to WCM's proposals have thoroughly assessed the carbon emissions and climate impacts, and have concisely compared them with the requirements of the Paris Climate Agreement (2015) and the Climate Change Act (2008) - with associated statements by the Commission on Climate Change. SLACCtt strongly endorses FoE's arguments for objection and have copied their climate section "Matter 1" below - partly because it is so well put across, and also so that we could focus on complementing it with additional contextual background:

For instance some readers may not realize just how large is the gap between what climate scientists strongly advise, and what our government policy and actions try to achieve (often the opposite!). Also there are those who may not realize the urgency and rapidity (over a short time frame) with which we must reduce emissions to have a 66% chance of avoiding exceeding +1.5 degrees.

Climate change impacts of WCM's proposals is one of four of a subset of FoE's "key concerns" that FoE list and describe in their letter of 3<sup>rd</sup> July 2017. FoE "... objects in principle to the above application for deep surface coal mining at the former Marchon Site ..."

Links:

Friends of the Earth 170710 (No PI) 4179007.pdf – dated 3<sup>rd</sup> July 2017

Friends of the Earth response to further information 171009 (NO PI).pdf – dated 9th October 2017

- Downloadable from <https://cloud2.atriumsoft.com/ePlanningCMB/tabPage3.jsp?aplId=45792>

Here we quote the section on climate change impacts from FoE's letter of 9th October 2017 to CumbriaCC:

### **Matter 1 – The need to consider the impact of the proposal on climate change**

1. Despite being an application for coking/ metallurgical coal, the projected timeframe and quantity of extraction is at odds with the expectations of overarching climate change legislation – namely the Climate Change Act (2008) – which introduced legally binding targets to reduce the UK's greenhouse gas emissions by at least 80% by 2050 from 1990 levels, and the Paris Agreement.

2. Paragraph 93 of the National Planning Policy Framework (NPPF) reflects this legislative approach, stating that:

*“Planning plays a key role in helping to shape places to secure radical reductions in greenhouse gas emissions, minimising vulnerability and providing resilience to the impacts of climate change and supporting the delivery of renewable and low carbon energy and associated infrastructure. This is central to the economic, social and environmental dimensions of sustainable development”*

3. Coal is described by the Committee on Climate Change as one of the fuels with the highest carbon intensity<sup>1</sup> and so its extraction and combustion must be minimised on a national and global scale in order to comply with current and future climate budgets<sup>2</sup>. The application will not only drastically increase UK extraction (up to 2.1 million tonnes per annum at its expected peak), but is inextricably linked to the emissions impact of the burning of coal. Despite the intention to extract ore from the coal for steel making, rather than burning for energy generation, the development would conflict with the above legislative and national planning policy objectives to reduce greenhouse gas emissions.

1 Onshore Petroleum - The compatibility of UK onshore petroleum with meeting the UK's carbon budgets (Committee on Climate Change – March 2016)

4. It is clear that this is a very large mine, with a very long life span indeed. The application talks of a production life-span of 20-50 years, and a peak of 2.8 million tonnes a year. Assuming a 40 year life (following construction), and an average of 2 million tonnes a year, that is total production of 80 million tonnes, which will emit around 175 million tonnes of carbon dioxide. The level of emissions and proposed life-time of the mine is of major concern.

5. As stated above, the UK already has legally binding climate change targets under the Climate Change Act 2008 to reduce emissions by at least 80% on 1990 levels by 2050 – with 2050 within the lifetime of this mine. We note that the wording is “*at least*” – it is the intention of the Paris Agreement that all nations ratchet up their ambition over time, and the UK Government has said it will “*continue to take a lead in global action on climate change*”<sup>i</sup>. Post- Paris, the CCC has said that an equal distribution of the remaining Global Carbon Budget implies the UK “*reaching net zero CO<sub>2</sub> emissions by 2033-55 for 2°C and 2026-28 for 1.5°C*”<sup>ii</sup>. In this context, the UK can be expected to be not emitting carbon dioxide well within the lifetime of this mine, and in which case the proposal to dig for coal so far into the future is not compatible with the UK's climate change aims.

6. We would argue that the lifetime of the mine is therefore far too long and at the very least should be substantially reduced in order to ensure UK carbon budgets are met. We feel operational timescales being put forward are excessive and will prolong the climatic impacts linked to the mining, export and use of the coal. There has also been little to no consideration of methane release within the documentation, which, as well as CO<sub>2</sub>, is very large contributor to climate change and which (as a result of the mine's expected output and lifespan) requires further consideration.

===== END of quote from FoE's letter to CumbriaCC dated 9th October 2017 =====

Yours sincerely,



**Chris Rowley**

Dr Henry Adams on behalf of SLACcTt

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## **APPENDICES**      *(references for above are below the appendices)*

### **APPENDIX 1**

#### **Coking coal - how much is it “needed” for steel-making? Are there lower-carbon-intensity alternative methods that don’t require coking coal, or much less of it?**

Here I quote relevant information from useful references:

CAT [Climate Action Tracker] Decarbonisation Series - [climateactiontracker.org](http://climateactiontracker.org) - October 2017:

#### **MANUFACTURING A LOW-CARBON SOCIETY: HOW CAN WE REDUCE EMISSIONS FROM CEMENT AND STEEL?**

[http://climateactiontracker.org/assets/publications/DecarbSeries/Memo\\_Decarb\\_Industry\\_Final.pdf](http://climateactiontracker.org/assets/publications/DecarbSeries/Memo_Decarb_Industry_Final.pdf)

... “Steel-related CO<sub>2</sub> emissions differ, depending on the production route used. There are two main manufacturing routes: the blast furnace basic oxygen furnace (BF-BOF) route and the electric arc furnace (EAF) route. Currently, the BF-BOF route is the dominant process, responsible for roughly 70% of steel production (World Steel Association 2015). This process mainly uses raw materials such as coal, iron ore and limestone. The raw material is converted to pig iron in the BF and subsequently made into steel in the BOF. The EAF route uses electricity to manufacture steel from predominantly scrap metal feedstock. Currently steel manufacturing using the EAF route represents close to a third of global steel production (World Steel Association 2016b). There is a substantial difference between the final energy intensity of these routes—the intensity of the EAF route is one-third of that of the BF-BOF route (WWF & Ecofys 2011). Of this intensity, about 95% comes from direct energy consumption (the use of primary energy in the production process without prior conversion or transformation) in the BF-BOF route, compared to about 50% for the EAF route (see Annex B).” ...

“Why is it so difficult to get emissions to near zero levels? In steelmaking, the most common method—the BF/BOF route—requires high carbon coke as fuel. Recycling of scrap steel through the EAF route avoids large amounts of emissions associated with fossil fuel combustion, but scrap availability is limited, which will constrain the shift towards a circular steel sector. ...”

Refers to e.g.: WWF & Ecofys, 2011. The Energy Report **THE ENERGY REPORT - 100% RENEWABLE ENERGY BY**

**2050** <https://www.ecofys.com/files/files/ecofys-wwf-2011-the-energy-report.pdf>

[https://www.ecofys.com/files/files/wwf\\_ecofys\\_2011\\_theenergyreport\\_part1.pdf](https://www.ecofys.com/files/files/wwf_ecofys_2011_theenergyreport_part1.pdf)

1jan11 <https://www.worldwildlife.org/publications/the-energy-report>

**CAN WE MAKE STEEL WITHOUT COAL?** - Posted by [tjonescan](https://www.tjonescan.com) | 24 Apr 2013 | [Jeanette Fitzsimons](https://www.jeanettefitzsimons.com),  
<http://coalaction.org.nz/carbon-emissions/can-we-make-steel-without-coal>

“...coal (as coke) is a reducing agent, a source of energy to drive the process and a source of carbon to incorporate in the steel. Alternative processes need to meet all three functions. This is why you have to do more than just substitute a different energy source.” ... “The current global rate of steel recycling is 30%, helping keep carbon emissions from pushing ever higher. Obviously there are limits to what can be collected for reuse but it should be possible to raise it to 80%, and would be if there was a sufficient price on carbon. Failure to price environmental damage leads to massive waste because collecting material for reuse is “just not worth it”.” [The alternative to coal for making **new** steel (as cf recycled steel) that the article recommends is wood-waste. This source requires adhering to strict rules of e.g. of forestry management, land-use etc]. Thank you Marianne Birkby and others for this link. E.g. it’s in: <https://sciscomedia.co.uk/keep-cumbrian-coal-in-the-hole/>

## **NB: The shift towards lower-carbon steel-recycling methods is already happening NOW in the UK:**

16feb18 HRH The Prince of Wales reignites furnace - Liberty House Group

<http://www.libertyhousegroup.com/news/hrh-the-prince-of-wales-reignites-furnace/> “His Royal Highness, The Prince of Wales, will today (February 16<sup>th</sup>) mark a major milestone in the revival of Britain’s steel industry when he formally reignites the iconic N-Furnace at Liberty Speciality Steels in Rotherham, South Yorkshire. ... the Alliance’s vision for an industrial revival based on renewable energy, metal recycling and integration of the supply chain.”

<http://www.libertyhousegroup.com/company/vision/> “GREENSTEEL” strategy:

“... **2. Invest in green energy, not green taxes.**

**We have committed investment in generation of low-cost, low carbon power for use in steel recycling.**

We will strive to reduce the impact of carbon taxes imposed on coal and gas based electricity to the manufacture steel (but not on coal for blast furnaces). We already hold investments in low cost power from hydro to bio fuel, and we are working to convert coal power plants to biomass and waste-to-energy stations. We will seek to grow our renewable energy portfolio to the advantage of our steel and engineering capabilities. ...”

## **REFERENCES**

[1] pdf: <http://unfccc.int/resource/docs/2015/cop21/eng/l09.pdf> see near top of page 2:

“Emphasizing with serious concern the urgent need to address the significant gap between the aggregate effect of Parties’ mitigation pledges in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with holding the increase in the global average temperature to well below 2 °C above preindustrial levels and pursuing efforts to limit the temperature increase to 1.5 °C”

Explanatory text (example): <https://theconversation.com/the-paris-climate-agreement-at-a-glance-50465>

[2] **Carbon Tracker** produced the report **Unburnable Carbon** with its “**carbon bubble**” concept back in July 2011, which stated “Only 20% of the total reserves can be burned unabated, leaving up to 80% of assets technically unburnable”: <https://www.carbontracker.org/reports/carbon-bubble/>

But this report related to keeping below +2 degrees, whereas it is now accepted that we need to keep below 1.5 degrees if possible.

Budgets for 1.5 degrees are much smaller, and much harder to calculate with accuracy for scientific reasons – e.g. we are now around +1 degrees as a global average – but regions of the world vary in this respect – especially the arctic which has warmed up twice as fast as the global average, yet has a lower density of temperature recorders despite its wider climate influence.

[3] (IPCC draft report on 1.5C) <http://www.climatechangenews.com/2018/02/13/leaked-draft-summary-un-special-report-1-5c-climate-goal-full/>

[4] **Analysis: Just four years left of the 1.5C carbon budget [at start of 2017]** – Carbon Brief 5apr17

<https://www.carbonbrief.org/analysis-four-years-left-one-point-five-carbon-budget> - based on IPCC 2014 synthesis report AR5 <http://www.ipcc.ch/report/ar5/syr/> with update for 2016 from Global Carbon Project on world budget: <http://cdiac.ess-dive.lbl.gov/GCP/> or, if this US link gets Trumped off-line, here is the pdf of Global Carbon Budget 2016: <https://www.earth-syst-sci-data.net/8/605/2016/essd-8-605-2016.pdf>



[5] Frame & Matthews (2017) <https://theconversation.com/keeping-global-warming-to-1-5-degrees-really-hard-but-not-impossible-84203> by 2 co-authors of Millar et al. 2017 <https://www.nature.com/articles/ngeo3031>

[6] via [www.foeeurope.org/NoRoomForGas](http://www.foeeurope.org/NoRoomForGas) - 'Natural gas and climate change' (pdf) 17oct17, released 7nov17, by Prof Kevin Anderson, University of Manchester & Uppsala University & Dr John Broderick, University of Manchester & Teesside University - commissioned by Friends of the Earth Europe. Quote from FoEE press release: "A new study, commissioned by Friends of the Earth Europe from the Tyndall Centre for Climate Change Research and the Teesside University, shows that EU countries can afford just nine more years of burning gas and other fossil fuels at the current rate before they will have exhausted their share of the earth's remaining carbon budget for maximum temperature rises of 2°C. Even with a managed phase-out, fossil fuels including natural gas, can have no substantial role beyond 2035 in an EU energy system compatible with 2°C. The findings are a stark reminder of the urgency with which Europe, as a region historically responsible for climate change, needs to shift to an energy system free from fossil fuels. Under the terms of the Paris climate agreement, the EU has committed to limit global warming to 'well below 2°C' and to 'pursue efforts to limit the temperature increase to 1.5°C'. [2] For 1.5°C, gas and other fossil fuels would need to be phased-out even faster." Professor Kevin Anderson, Tyndall Centre for Climate Change Research and the Teesside University said: "If the EU is to transform its energy system to align with the Paris temperature and equity commitments, it cannot continue with business as usual and must instead initiate a rapid phase out of all fossil fuels including natural gas. This needs to begin now and be complete within the coming two decades." There are several associated pdf documents linked to from the FoEE web-page.

[7] 22jan18 Global temperature targets will be missed within decades unless carbon emissions reversed [https://www.eurekalert.org/pub\\_releases/2018-01/uos-gtt012218.php](https://www.eurekalert.org/pub_releases/2018-01/uos-gtt012218.php)

[8] Peter Cox et al on Equilibrium Climate Sensitivity (ECS). I omitted this complex reference as it may confuse the reader if I try to summarize its implications! Ask Henry Adams if you want more information on this or other climate change science papers. My start on text summarizing this: 'Another study – by Peter Cox et al on Equilibrium Climate Sensitivity (ECS), shows that if we reach a point where we have doubled ..., which is likely to happen around .... if current emissions trajectory is continued, then chances of meeting 1.5 are ... [REF].'

[9] NPPF

[10] Why we can't trust central government on planning decisions re fossil fuels and climate:  
Examples – a few of many (enough to fill a book!):

19apr17 **Revealed: UK provides billions in credit to fossil fuel industry despite clean energy pledge** – Lawrence Carter, Greenpeace Unearthed <https://unearthed.greenpeace.org/2017/04/19/uk-trade-billions-export-finance-fossil/>

11feb18 **A Huge New Oil Refinery in Oman is About to Get a Big Loan with Help From the UK Government**  
By [Chloe Farand](https://www.desmog.uk/2018/02/09/huge-new-oil-refinery-oman-about-get-big-loan-through-uk-government) <https://www.desmog.uk/2018/02/09/huge-new-oil-refinery-oman-about-get-big-loan-through-uk-government>

"David Powell, environment lead for the think tank New Economics Foundation, denounced the inconsistency between the government's global climate commitments and its underwriting of finance for dirty energy projects abroad. "**Cognitive dissonance is at the heart of how the UK thinks about climate change,**" he told DeSmog UK.

Andrew Scott, senior research fellow at the Overseas Development Institute (ODI), said the UK's potential new line of credit to the refinery would "effectively be a form of subsidy" to the fossil fuel industry. ..."

11jan18 "before the election, **oil bosses gave the Conservative party £390,000 in political donations.** ." - George Monbiot in response to May's 25 year environment plan [my emphasis] – quoted from: <https://www.theguardian.com/commentisfree/2018/jan/11/theresa-may-plastic-plan-economy-consume>