



Article title: Use of evidence and expertise in UK climate governance: The case of the Cumbrian Coal Mine

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Use of evidence and expertise in UK climate governance: The case of the Cumbrian Coal Mine

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Abstract

There is an overall scientific consensus that no new coal mines can be developed, if the Paris Agreement to limit global temperature rises is to be met. Yet in December 2022, following a lengthy Public Inquiry, the UK Government approved the development of Woodhouse Colliery in Cumbria. In doing so, it accepted the claim that the coal mine would be ‘zero carbon’, and could even result in lower global emissions overall. As this paper demonstrates, there is no independent evidence to support these claims, whilst a large body of independent evidence comes to the opposite conclusion. This paper uses the example of Woodhouse Colliery to examine the use of evidence and expertise in climate governance processes. It finds that the nature of expertise and evidence is not properly considered, and that there is ambiguity and confusion surrounding the implementation of the UK’s climate legislation, particularly the Climate Change Act. It also finds that the ways in which the decision-making process solicited and assessed evidence was flawed, promoting a ‘false balance’. This ambiguity and false balance provide scope for developers to argue the case for destructive developments, even while claiming adherence to climate ambitions. The paper concludes by suggesting reforms to governance processes, to provide a more transparent and credible implementation of policies to achieve the UK’s net zero target. Suggested reforms include clearer rules governing fossil fuel phase-out; greater transparency and better handling of conflicts of interest in decision-making; and devolution of climate responsibilities to local areas.

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1. Introduction

In 2022, eight years after it was first formally proposed, the UK government granted planning permission for Woodhouse Colliery, a proposed mine for metallurgical coal used in steelmaking. The route to approval (see table 1) had been tortuous, with the mine approved on three separate occasions by the local authority, Cumbria County Council; a lengthy Public Inquiry; the launch of four legal challenges against the mine; and a great deal of media and political controversy. Much of the controversy has centred around the climate impacts of burning coal, the most carbon-polluting of all fossil fuels, in the UK – a country with comprehensive climate legislation, statutory targets to reach net-zero greenhouse gas emissions (GHG) by 2050, and a strong commitment to the United Nations Framework Convention on Climate Change (UNFCCC) (HM Government, 2022).

2014-2017	West Cumbria Mining (WCM) develop plans and undertake consultation
May 2017	WCM submit application for detailed planning permission
March 2019	Cumbria County Council development control committee vote to approve the development
June 2019	UK Parliament legislates new target of net-zero GHG emissions for the UK; Legal challenge against WCM issued by Keep Cumbrian Coal in the Hole (KCCH)
October 2019	Cumbria County Council development control committee vote to approve the development

Nov 2109- Feb 2020	KCCH request a Judicial Review challenging the decision; this is granted
May 2020	KCCH withdraw their challenge as Cumbria County Council say they will reconsider the application
October 2020	Cumbria County Council development control committee vote to approve the development
December 2020	The Climate Change Committee (CCC) publish the Sixth Carbon Budget; Cumbria County Council say they will once again reconsider the proposal
March 2021	The Secretary of State 'calls in' the decision, ie states that it will be determined by the Government, following a Public Inquiry
September 2021	Public Inquiry takes place; two organisations play a formal role in opposing the mine: South Lakes Action on Climate Change (SLACC) and Friends of the Earth (FoE)
December 2022	Secretary of State issues planning permission for Woodhouse Colliery
January 2023	SLACC and FoE request a Statutory Review of the Secretary of State's decision
May 2023	The request for a Statutory Review is turned down, but then granted on appeal. This Review will take place in the High Court; as of November 2023, a date has not been set.

37

38 **table 1: timeline of decision-making for Woodhouse Colliery**

39

40 This paper reviews the decision-making process for Woodhouse Colliery, and assesses the
41 lessons for climate governance, in the UK and more widely. I begin, in Section 2, with a
42 summary of scientific evidence and international agreements on climate change,
43 greenhouse gas emissions and fossil fuel extraction. In Section 3, I review the UK's system
44 of climate governance, centred around the 2008 Climate Change Act. In section 4, I
45 summarise the arguments put forward by West Cumbria Mining (WCM), in making the case
46 that the mine would not adversely affect climate change; and state how these claims were
47 countered. In Section 5, I then analyse some common threads in the way that evidence was
48 presented and used in the Public Inquiry. Three tendencies are identified: first, imbalances in
49 the status of expertise, in that, whereas WCM relied on commercial consultants, opponents
50 of the mine were professionals with independent standing in academia or public life. Second,
51 the exploitation of the ambiguity contained within UK climate legislation; and third, the
52 tendency to 'false balance', giving equal weight to arguments for and against the mine,
53 rather than assessing the state of evidence. The combination of these tendencies, it is
54 argued, led to a decision in favour of the mine.

55 In Section 6, the case of Woodhouse Colliery is placed in a global context, and is shown to
56 be part of a wider pattern of delay and ambiguity in climate action, in part orchestrated by
57 powerful economic interests. In Section 7, the paper concludes with an assessment of
58 changes needed to legislation and approaches to climate change, in the UK and more
59 widely, if global climate goals are to be met.

60 As this paper is about the use of scientific and expert evidence in governance processes, it
61 is important for myself, as the author, to be transparent about my own position. My expertise
62 lies in the field of climate governance: the process by which societies and polities agree
63 rules and strategies to combat climate change. The decision-making process around
64 Woodhouse Colliery provides an example of this governance in action, and as such

65 highlights many areas that could be improved, and indeed must be improved if the UK is to
66 meet the targets it has enshrined in law.

67 I have been involved in the case directly, in two ways. I have provided media comment,
68 based on the analysis that I set out in this paper. I have also assisted independent expert
69 witnesses in providing evidence to the Public Inquiry, on areas including the link to climate
70 legislation; prospects for steel industry decarbonisation; and international diplomacy issues.
71 These experts have all spoken against the proposed development. This is set out in Section
72 4 below. My involvement is based on my, and others', assessment of the evidence. As an
73 independent academic, my role is to assess evidence and give a clear account of its
74 implications, as well as offering clarity about where uncertainties exist, or where there is
75 limited evidence.

76 My media involvement, and my involvement in the Public Inquiry process, shows that I have
77 a clear, publicly-stated position against the mine. This is based on my assessment of the
78 evidence, which I set out in this paper. It is not my role to stay neutral unless such neutrality
79 is justified by the evidence. If evidence on climate science and governance were different,
80 and suggested that the mine could be justified, my account would reflect this. As I show in
81 Section 3, this is not the case.

82 I chose to publish this paper in a journal with an open peer-review process. This allows
83 anyone to scrutinise the evidence I use, and the position I take. I actively sought comment
84 from opponents to the mine, and asked for evidence to substantiate their position. If there
85 are errors of fact or judgement in the case I set out, I pledge to correct them transparently. I
86 hope that this paper, and the peer-review process, will spark a useful debate about the role
87 of evidence in climate governance.

88 **2. The scientific consensus on climate change and fossil fuel extraction**

89 The 2015 Paris Agreement on Climate Change, signed by 195 parties including the UK,
90 commits to stabilising the global climate to “to well below 2°C above pre-industrial levels and
91 pursuing efforts to limit the temperature increase to 1.5°C” (United Nations, 2015), in order
92 to limit dangerous climate change. The 2021 Glasgow Pact reaffirms this goal and develops
93 more detailed plans for its achievement (United Nations, 2022b).

94 The implications of this global agreement for fossil fuel extraction are clear. The
95 Intergovernmental Panel on Climate Change (IPCC) states that there is a linear relationship
96 between GHG emissions and temperature rise, leading them to estimate in 2020 that only a
97 further 500 gigatonnes of carbon dioxide (GtCO₂) could be emitted, to have a 50% chance of
98 limiting warming to 1.5°C (Intergovernmental Panel on Climate Change, 2021). This is the
99 remaining ‘carbon budget’ that can be emitted if we are to have a fair chance of stabilising
100 global temperatures. The total amount of emissions from developed reserves of oil, gas and
101 coal, defined as “the cumulative quantity of oil, gas and coal that companies have already
102 discovered and for which a financial and regulatory commitment to extraction has been
103 made”, is estimated at 936 Gt CO₂, almost double the remaining carbon budget for 1.5°C.
104 Coal accounts for nearly half of this, at 446 Gt CO₂ (Trout *et al.*, 2022). Thus, if the fossil
105 fuels from developed reserves were extracted and burned, this would take us well over the
106 global carbon budget. Existing developed reserves will need to remain unused if we are to
107 keep to global temperature goals. Removing carbon dioxide from the atmosphere cannot
108 happen at a scale significant enough to change this basic predicament (Anderson and
109 Peters, 2016). The International Energy Agency estimates that only 0.004Gt CO₂ is currently
110 removed, predicted to rise to 1.6Gt CO₂ by 2030 and 7.6Gt CO₂ a year by 2050
111 (International Energy Agency, 2021).

112

113 Any new sites of fossil fuel extraction would only add to this problem. A range of studies and
114 reports have concluded, therefore, that new fossil fuel extraction sites are incompatible with
115 the Paris Agreement, although the Agreement itself does not explicitly prohibit such sites.
116 Reports by the United National Environment Programme (2022); the International Energy
117 Agency (International Energy Agency, 2021); as well as academic studies (McGlade and
118 Ekins, 2015; Welsby *et al.*, 2021) show that no new extraction facilities such as oil or gas
119 wells, or coal mines, can open, if we are to stay within the globally agreed carbon budget;
120 and existing sites will have to reduce their production. This is a matter of arithmetic, not
121 opinion. In the words of UN Secretary General Antonio Guterres, “climate activists are
122 sometimes depicted as dangerous radicals. But the truly dangerous radicals are the
123 countries that are increasing production of dangerous fossil fuels. Investing in new fossil fuel
124 infrastructure is moral and economic madness” (United Nations, 2022a).

125

126 **3. UK climate governance: the state of play**

127 The UK was the first country to set statutory (legally binding) targets to guide GHG reduction
128 at a national level. The Climate Change Act (CCA), passed in 2008, initially set a target of
129 80% GHG reduction in GHGs, by 2050, from a 1990 baseline. Under the Act, Parliament
130 must agree five-yearly ‘carbon budgets’, essentially interim targets to ensure progress
131 toward the 2050 target. In setting carbon budgets and developing strategies to meet them,
132 Government and Parliament are advised by the independent advisers, the Climate Change
133 Committee, also established under the 2008 Act. In 2019, the Act was amended, setting a
134 more stringent goal of ‘net zero’ GHG emissions by 2050, with ‘net zero’ meaning that any
135 emissions of GHGs must be matched by equivalent levels of GHG removals, through
136 changes to land use such as increased tree planting, and through mechanical removal, such
137 as carbon capture and storage (CCS).

138 While the CCA is a comprehensive piece of legislation, setting economy-wide targets, it has
139 a number of significant weaknesses and ambiguities. These include: 1) a lack of clarity over
140 the contribution of different sectors of the economy to GHG reduction; 2) ambiguous and
141 unclear links between the CCA and planning policies; 3) statutory targets are set at national
142 level only, with ambiguity over the expected contribution of local administrations; 4) in terms
143 of GHG accounting, the targets relate to GHG emissions from within UK territorial borders,
144 not emissions in other jurisdictions which could reasonably be seen to be resulting from UK-
145 based activities; and 5) there is no clarity over the role or extent of GHG removals in
146 achieving the 2050 target. These weaknesses and ambiguities, which are detailed below,
147 are all illustrated in the example of Woodhouse Colliery, as discussed in Sections 4 and 5
148 below.

149 **3.1 Contribution of different sectors of the economy to GHG reduction**

150 The targets for emissions reduction in the CCA are not broken down by sector of the
151 economy, or by government department. One department, currently the Department for
152 Energy Security and Net Zero, has overall responsibility for leading the UK’s climate strategy
153 and meeting the targets. Achieving these targets requires action by other departments as
154 well, yet there is no set process for managing decarbonisation across different departments
155 and sectors (Willis *et al.*, 2019). The Climate Change Committee does assess evidence and
156 provide advice on the role of different sectors of the economy, in effect offering targets for
157 different sectors. For example, the sector pathway for steel implies that by 2039, unabated
158 coal (burning coal without capturing carbon) must end, as described by Professor John
159 Barrett in his evidence to the Public Inquiry (Climate Change Committee, 2021a; also see
160 Section 4 below). However, these sector pathways are merely advisory. The Climate
161 Change Committee has identified the lack of clarity and responsibility, a ‘governance gap’,

162 as a major risk to delivery of the UK’s net zero target. In their report on the Sixth Carbon
163 Budget they state that there is a lack of clear roles and responsibilities for other
164 departments, and for regulators, devolved and local government (Climate Change
165 Committee, 2021a).

166 This ‘governance gap’ means that the contribution of different sectors of the economy to
167 GHG reduction is not clearly delineated. The Climate Change Committee recently judged
168 that there are credible plans in place for only 39% of the emissions reductions needed to
169 meet the sixth Carbon Budget, with significant gaps or uncertainties in crucial areas
170 including transport, industrial decarbonisation, and land use (Climate Change Committee,
171 2021a). This uncertainty directly affects the decision over Woodhouse Colliery, because it is
172 not clear who should take responsibility for the GHG emissions from planning decisions
173 (overseen by the Department for Levelling Up, Housing and Communities) or from the coal
174 or steel industry (overseen by the Department for Business and Trade).

175 **3.2 The role of the planning system in relation to climate targets**

176 Developments in England are governed by the National Planning Policy Framework (NPPF)
177 (Ministry of Housing Communities & Local Government, 2012, revised 2021). The NPPF
178 sets out what the Government’s planning policies are, and how they should be applied. This
179 provides a framework within which local areas develop their own, locally-specific plans. In
180 the case of Woodhouse Colliery, the relevant local plan was the Cumbria Minerals and
181 Waste Local Plan. The NPPF states that “the planning system should support the transition
182 to a low carbon future” (Ministry of Housing Communities & Local Government, 2012, p45).
183 However, there are ambiguities about how this ambition should be realised, and in particular,
184 about whether ‘end use’ emissions (i.e. in this case, emissions from burning the coal mined
185 in Cumbria) should be considered as part of the planning process. As a result, this issue has
186 been argued through numerous legal cases, including over Woodhouse Colliery.

187 The NPPF also contains a presumption against coal extraction, stating that planning
188 permission should not be granted for the extraction of coal, unless the proposal is
189 “environmentally acceptable”, or if it provides “benefits which clearly outweigh its likely
190 impacts” (Ministry of Housing Communities & Local Government, 2012, paragraph 217,
191 p62). However, the NPPF does not state how “environmentally acceptable” should be
192 defined or tested, or how to weigh up the benefits against likely impacts. As a result, again,
193 these questions have been argued through numerous legal cases.

194 The decision on Woodhouse Colliery was taken through the planning system, ultimately
195 through a Public Inquiry led by a Planning Inspector. The Inspector’s task was to rule on
196 whether the proposal was lawful, under England’s current planning laws. The wider question,
197 of whether the proposal is compatible with UK climate legislation or international climate
198 agreements, was not considered directly, but only indirectly, i.e. the extent to which planning
199 policy reflects and implements climate legislation and agreements. Of course, developments
200 must comply not just with planning law, but with all law. However, there is no clarity on the
201 link between planning law and UK climate legislation, and the resulting ambiguity is deeply
202 problematic for individual planning decisions, as examined in Section 4 below.

203 **3.3 Local contributions to GHG reduction**

204 UK local government currently has no specific statutory responsibility for GHG reduction.
205 Responsibility for meeting the statutory net zero target (and interim carbon budgets) of the
206 Climate Change Act lies with the national parliament and government, as well as the
207 devolved nations (Scotland, Wales & Northern Ireland). Implicitly, it is clear from the Act that
208 all local authorities – indeed, all branches of government – must play their part in meeting

209 the overall target, but there are no clear roles, responsibilities or targets assigned to local
210 authorities. Nevertheless, many local areas have set their own targets and plans. For
211 example, Manchester has a target “to become a zero carbon city” by 2038 (Manchester City
212 Council, 2023); London by 2030 (Greater London Authority, 2023); and Cumbria by 2037
213 (note that in April 2023, following local government reorganisation, Cumbria County Council
214 was split into two different authorities: Cumberland Council, and Westmorland and Furness
215 Council) (Cumbria Action for Sustainability, 2023). These local targets are not enshrined in
216 law, and local authorities all measure and manage their climate impacts in different ways.
217 This contributes to the overall complexity of achieving the UK’s climate goals. For example, it
218 is unclear whether or how Cumbria’s target of net-zero emissions by 2037 was taken into
219 consideration in the planning decision for Woodhouse Colliery.

220 **3.4 Accounting for GHG emissions**

221 In line with international conventions in GHG accounting, the statutory targets enshrined in
222 the CCA relate to so-called ‘production’ emissions. GHGs are counted where the gases are
223 actually produced, and enter the atmosphere – these are ‘production’ emissions. It is also
224 possible to account for GHGs at the point of consumption of goods. For example, the GHG
225 emissions associated with manufacturing a laptop in China, but sold in the UK, are
226 conventionally ascribed to China, as the place of manufacture. Yet to the extent that demand
227 for such goods is driven by consumption patterns in the UK, the UK could be said to hold
228 some responsibility for these emissions. The UK does acknowledge this, in that it publishes
229 accounts of consumption-based emissions (Department for Environment, Food and Rural
230 Affairs, 2022), but the Climate Change Act accounts for production emissions only. Another
231 way in which GHGs could be measured is through so-called ‘extraction’ emissions: the point
232 at which fossil fuels are extracted from the ground. Under international conventions,
233 countries that extract coal, oil and gas for export do not account for the emissions that arise
234 when the fuels are burned in a different country.

235 As an example, the emissions resulting from steel used in construction could be accounted
236 for in at least three different places, and quite possibly in three different countries: the mine
237 where the coal was extracted for steelmaking (extraction emissions); the steelworks that
238 burned the coal to make steel (production emissions); or the building site where the steel is
239 used in construction (consumption emissions). Under UNFCCC guidelines, only the
240 production emissions from the steelworks count toward a country’s GHG inventory (Barrett
241 *et al.*, 2013).

242 As with all accounting, conventions are necessary, to avoid double- or triple-counting of
243 emissions. However, there is a danger that this hinders potential routes to GHG reduction. If
244 extraction emissions were considered, and discouraged – through a carbon price, for
245 example – this could influence steel manufacturers to look at alternatives such as hydrogen-
246 based production methods. If consumption emissions were considered, this could influence
247 the construction industry to source recycled steel, or use less steel.

248 An over-reliance on production-based emissions accounting therefore risks discounting a
249 number of feasible GHG reduction routes. It places an artificial boundary around an activity,
250 such as coal mining, or the import of consumer goods, meaning that emissions from those
251 activities can be ignored, even if there are steps that could have been taken to reduce
252 emissions. In an acknowledgement of this, some countries and local areas have instigated
253 particular policies and laws focussed directly on limiting extraction of fossil fuels, including
254 France, US states, and Wales (Erickson, Lazarus and Piggot, 2018).

255 **3.5 The role of greenhouse gas removals**

256 The emergence of the concept of ‘net zero’ emissions has put the spotlight on the ‘net’ in net
257 zero – in other words, the use of GHG removal technologies to compensate for GHG
258 emissions. GHG removal options involve capturing and storing GHGs, either using ‘natural’
259 processes such as land-use changes – tree planting and soil management, for example – or
260 ‘engineered’ processes, such as capturing and storing carbon dioxide from industrial
261 processes. Nearly all scenarios outlining credible paths to net zero, including those
262 developed by the International Energy Agency, the Intergovernmental Panel on Climate
263 Change, and the UK’s Climate Change Committee, include a certain level of GHG removal
264 Agency (Climate Change Committee, 2021a; International Energy Agency, 2021;
265 Intergovernmental Panel on Climate Change, 2023).

266 There is a strong consensus that the total technical and economic potential for GHG removal
267 is limited, and therefore it cannot be a substitute for GHG reduction. For the UK, the Climate
268 Change Committee’s advice is that GHG removal should be used to compensate for so-
269 called ‘residual emissions’ that are very difficult to eliminate, particularly from land use,
270 agriculture and aviation (Climate Change Committee, 2021a; see also Anderson and Peters,
271 2016).

272 In summary, the role played by GHG removals is limited, and should be seen as an addition
273 to, rather than an alternative to, reductions in GHG emissions. However, the very conception
274 of ‘net zero’ subsumes GHG removals and reductions in GHG emissions into one single
275 metric, with the sense that one can be traded off against another (McLaren *et al.*, 2019). This
276 is the logic behind so-called ‘offsetting’ schemes offered to individuals and companies to
277 ‘compensate’ for GHG emissions from aviation or buying vehicle fuel, for example. There is
278 evidence that this approach to GHG removal actually hinders or discourages reductions in
279 GHG emissions (Markusson *et al.*, 2022). There is a strong case for separating out targets
280 for GHG removals from reductions in GHG emissions to ensure that GHG removals are
281 additional, not an alternative approach (McLaren *et al.*, 2019). In the UK, this could be done
282 through specifying targets for each, as part of the CCA budget-setting process. However, at
283 present, there is no such clarity.

284 **4. Woodhouse colliery: Climate claims and counter-claims**

285 It is clear from basic scientific evidence (see section 2) that any new fossil fuel developments
286 would result in emissions increases incompatible with the goals of the Paris Agreement. The
287 UK is a signatory to the Paris Agreement, yet its government approved Woodhouse Colliery.
288 How can this have happened? This section surveys the main claims, and evidence, put
289 before the Public Inquiry into the coal mine, held in September 2021.

290 The Public Inquiry is explicitly tied to the planning system. The role of the Planning
291 Inspector, who conducted the Inquiry, was assess the development against planning
292 legislation and guidance. Thus it would not be enough to say, as demonstrated in Section 2
293 above, that the mine is incompatible with the UK’s climate commitments. Instead, the case
294 must be made with reference to the complex relationship between planning law and climate
295 commitments.

296 In presenting its case, West Cumbria Mining (WCM) never stated opposition to the Climate
297 Change Act, or the Paris Agreement. Instead, it made the case that the development was
298 compatible with the UK’s responsibilities on climate (West Cumbria Mining, 2022). This can
299 be seen as an argument in three stages. First, they sought to show that the proposed
300 development was permissible within planning law and guidance, as set out in the NPPF (see
301 Section 3.2 above). Second, they implied that, because it was (as they claimed) permissible
302 within planning law, logically it must be compatible with UK climate legislation more

303 generally, including the Climate Change Act. Third, they claimed that because it was
304 permissible within planning law, and that this implied it must be compatible with UK climate
305 legislation, it must therefore follow that it has a neutral, or even positive, effect on climate
306 change.

307 This argument would make sense if there were specified, transparent and undisputed links
308 between planning legislation, climate legislation and overall climate impacts – in other words,
309 if the ambiguities in legislation were minimal. However, as described in Section 3 above, this
310 is not the case. The links between the Climate Change Act and the NPPF are disputed;
311 there are also ambiguities about how GHG emissions should be accounted for.

312 Despite this situation, WCM's arguments were largely accepted by the Secretary of State,
313 Michael Gove, who stated in his decision letter approving the mine that the proposed
314 development "would to some extent support the transition to a low carbon future" and "would
315 have an overall neutral effect on climate change and is thus consistent with Government
316 policies for meeting the challenge of climate change" (decision letter p6 paragraph 38).

317 For the Secretary of State's conclusion to be correct, all of the following claims put forward
318 by the mine must be correct:

- 319 • WCM can only be held responsible for emissions from the mine site, not from
320 emissions from burning coal;
- 321 • The mine will result in reduced transportation of coal, and lower greenhouse gas
322 emissions due to more efficient facilities;
- 323 • Coal will still be needed to make steel, and coal burning will be offset either through
324 offsetting schemes or through emissions reductions elsewhere in the economy;
- 325 • Offset schemes can be used to compensate for any residual emissions;
- 326 • Coal from Cumbria will substitute for coal mined elsewhere, with other mines
327 reducing production in line with increases from the new mine;
- 328 • Consenting a coal mine will have no effect on international diplomacy or other
329 countries' commitment to climate action.

330 These claims, and the responses to them from those opposing the scheme, are described
331 below. Each was the subject of lengthy documentation, and considerable debate during the
332 Public Inquiry. As I discuss in Section 5, if UK climate legislation were clearer, these
333 complex claims and counter-claims would not have needed to be played out in the Inquiry.
334 For instance, the role of GHG removals (see 3.5 above) would not need to be discussed at
335 length if the principles were set out explicitly in climate legislation. The lack of clarity created
336 what I describe (Section 5.3) as 'false balance' in which complex arguments for and against
337 the mine, and claims about compatibility with ambiguous legislation, distracted from the
338 fundamental point that further coal extraction is incompatible with aims of the Paris
339 Agreement.

340 In describing the claims and counter-claims set out in the Public Inquiry, my aim is not to set
341 out the issues in full, but to present an indication of the issues that were considered as part
342 of the decision-making process. I only examine arguments relating to climate issues in this
343 paper. The Public Inquiry also covered other issues, such as the future of the steel industry;
344 employment considerations; other environmental issues; and other land use planning
345 matters. These issues are undoubtedly important. However, if the mine contravenes the
346 UK's climate commitments, in the form of the Climate Change Act and the goals of the Paris
347 Agreement, then logically it cannot go ahead. A breach of law cannot be justified through an
348 appeal to other benefits.

349 **4.1 Only emissions from the mine site should be considered:** In its Statement of Case,
350 WCM states that “it is not appropriate to have regard to GHG emissions caused by the end
351 use of the coal extracted from the proposed development at other facilities.” (West Cumbria
352 Mining, 2022, p40). In other words, WCM state that they should not be responsible for the
353 emissions caused by burning the coal, and should only have responsibility for the emissions
354 from the mine site itself. As discussed (Section 3.3) this claim is based on the convention
355 that GHGs are counted where they are emitted into the atmosphere, i.e. where the coal is
356 burned, not where it is extracted.

357 Respondents, including Professors Michael Grubb and John Barrett, disputed this, stating
358 that these end-use emissions were a material consideration, given the need to take account
359 of UK climate legislation in planning policy. The question of how end-use emissions should
360 be taken into account in planning law is also the subject of a separate legal dispute, the
361 ‘Finch’ case, which, as of November 2023, is being considered by the Supreme Court
362 (Supreme Court 2023).

363 **4.2 Fewer imports; efficient facilities:** Second, WCM’s statement of case says that “the
364 proposed development will help support the transition to a low carbon future [...] by
365 removing reliance upon imported coking coal with a higher carbon footprint” (West Cumbria
366 Mining, 2022, p40). Specifically, it states that the development will “reduce transportation
367 emissions” and “provide the opportunity to create a state-of-the-art mining facility with lower
368 GHG emissions than other existing mining operations” (West Cumbria Mining, 2022, p41).

369 These claims were disputed by respondents, including Professor Michael Grubb, Professor
370 John Barrett, and Professor Paul Ekins. They stated that the emissions from the mine site,
371 and from coal transportation, were a tiny fraction of the emissions from burning the coal.
372 There was also conflicting evidence about whether the coal would be used within the UK
373 (thereby reducing imports) or whether it would be shipped elsewhere. Aspects of the mine’s
374 own operations were critiqued, particularly the issue of methane emissions from the mine
375 site.

376 **4.3 Coal will still be needed to make steel, with carbon capture and storage (CCS):**
377 Third, WCM states that “coking coal is likely to continue to form part of a net zero compliant
378 option for steel production” (p41 para 109). This was disputed by Professor Lars Nilsson,
379 Professor Paul Ekins and Professor Stuart Haszeldine, who stated that steel companies
380 were increasingly using hydrogen-based steelmaking, which did not require coal; and that
381 more steel could be recycled using electric arc furnaces.

382 **4.4 Use of offsetting:** WCM states that “where it is not possible to remove operational GHG
383 emissions entirely, WCM will commit to ensuring that these residual emissions are offset”
384 (West Cumbria Mining, 2022, p41). As described in Section 3.5 above, it is not credible to
385 claim that GHG removals can be used to ‘offset’ GHG emissions that could be otherwise
386 reduced or avoided. WCM stated that it would use Gold Standard certified credits; however
387 the Gold Standard Foundation, which oversees the use of these credits, provided a letter to
388 the Public Inquiry stating that it is “strongly against the further extraction of fossil fuels” and
389 that new coal mines are to be avoided (Kirby, 2021).

390 **4.5 Coal will substitute for coal mined elsewhere:** The WCM statement of case states
391 that, though the end-use emissions (ie from burning the coal) should not be taken into
392 account, even if they are taken into account, “there is a strong economic case for
393 substitution”, i.e. that Cumbrian coal would substitute for coal mined elsewhere. In other
394 words, every tonne of coal extracted in Cumbria would result in a tonne of coal **not** being

395 extracted elsewhere, thus not increasing the total amount of coal burned or GHGs emitted.
396 WCM's argument was supplemented by a report from consultants Ecolyse.

397 Professor Michael Grubb and other respondents disputed this case. Professor Grubb stated
398 that it was highly unlikely that the opening of the Cumbria mine would result in reduced
399 production in other mines, thus disputing the 'substitution' argument. He calculated that even
400 if just 1% of the coal mined in Cumbria was additional, this would more than double the total
401 emissions of the mine as estimated in the Ecolyse report. Similar arguments were put
402 forward by Professor Paul Ekins, who presented peer-reviewed research on the price
403 elasticity of coal, stating that WCM coal would decrease prices for metallurgical coal and
404 therefore increase demand.

405 **4.6 Impact on international diplomacy:** The WCM Statement of Case makes no mention
406 of an argument used by opponents of the mine, that the UK's permitting of the mine would
407 send unhelpful political and diplomatic signals, making other countries less ambitious on
408 climate. This argument was put forward by opponents to the mine, including Professor
409 Grubb; Professor Sir Robert Watson; Lord Deben, chair of the Climate Change Committee;
410 and John Ashton, former UK Government Special Representative for Climate Change.

411 **5 How evidence was presented and used in the Public Inquiry**

412 In this section, I draw out some patterns in the way that evidence was presented and used in
413 the Public Inquiry, namely the status of expertise; the exploitation of ambiguity; and the
414 creation of 'false balance'.

415 **5.1 The status of expertise**

416 As can be seen from table 2, there was a notable imbalance in expertise on climate issues at
417 the Public Inquiry. WCM relied on commercial consultants that they themselves had
418 commissioned, including reports by consultancies Ecolyse and AECOM, and appearances in
419 front of the Inquiry by Ms Caroline Leatherdale, a consultant focussing on environmental
420 impact assessments; and Mr William Tonks, a mining ventilation specialist. By comparison,
421 many of those expressing opposition to the mine had climate specialisms – these included
422 Prof Michael Grubb, Prof Paul Ekins, Prof Sir Robert Watson, Professor John Barrett, John
423 Ashton CBE and Lord Deben (see table 2 for affiliations) and spoke in an independent
424 capacity, not as paid consultants, using evidence from peer-reviewed or independent
425 sources.

426 An assessment of both written and verbal evidence heard during the Public Inquiry thus
427 suggests that the weight of evidence strongly supported the position that the climate impacts
428 of the mine are negative, and indeed contrary to the UK's climate objectives. This 'weight of
429 evidence' can be judged by levels of expertise of witnesses; quality of evidence as judged by
430 use of peer-reviewed data, for example; and independence, i.e. professionals with
431 independent standing in academia or public service, who had not been commissioned or
432 paid as consultants to give evidence.

433 This is not to question the expertise or integrity of the consultants employed by WCM. I am
434 not claiming that the consultants purposefully misled the Inspector, but that, by the nature of
435 their commission, they provided specific, limited answers to the specific, limited questions
436 they were given. Preparing a consultancy report in response to a specific brief is a different
437 process to preparing an independent statement based on peer-reviewed evidence.

438

Witnesses appearing for West Cumbria Mining	Witnesses appearing for South Lakes Action on Climate Change and Friends of the Earth UK
<ul style="list-style-type: none"> • Ms Caroline Leatherdale, environmental adviser employed by West Cumbria Mining • Mr William Tonks, specialist in mine ventilation, director of Bill Tonks Ventilation Services Ltd 	<ul style="list-style-type: none"> • Professor Sir Robert Watson, former Chair of the Intergovernmental Panel on Climate Change, former Chief Scientific Adviser to the Department for Environment, Food & Rural Affairs, former Chief Scientific Adviser to the World Bank, former Associate Director for Environment in the Clinton White House • Professor Paul Ekins, professor of resources and environmental policy at the UCL Institute for Sustainable Resources, former adviser to the UK Parliament and the Climate Change Committee • Professor Michael Grubb, professor of Energy & Climate Change at UCL, former member of the Climate Change Committee, former adviser to the UK Office of Gas and Electricity Markets • Professor John Barrett, Professor of Energy & Climate Policy, University of Leeds; adviser to the UK Department for Business, Energy & Industrial Strategy; lead author for the Intergovernmental Panel on Climate Change working group III 'mitigation of climate change'

439

440 **table 2: Witnesses on the issue of climate change called before the Public Inquiry**

441 **5.2 Exploiting legislative ambiguity**

442 As set out in Section 3 above, there are clear limitations and ambiguities contained within
443 UK climate legislation, as well as within the planning system. These limitations and
444 ambiguities allow developers to claim that their projects are allowable under the legislation.
445 With reference to each of the weaknesses and ambiguities described in Section 3:

- 446 • Ambiguities surrounding **the contribution of different sectors of the economy** (3.1
447 above) provides room for West Cumbria Mining to claim that the emissions from their
448 development should be allowed, with the required national GHG reductions coming
449 from unspecified actions elsewhere.
- 450 • The ambiguities in **the planning system** (3.2 above) and specifically the National
451 Planning Policy Framework, create confusion about whether the full climate impacts
452 of any given development should be considered in a specific planning decision.
- 453 • Since there is no clear legislation or policy on **local contributions to GHG**
454 **reduction** (3.3 above), Cumbria County Council is not required to account for the
455 emissions from the mine in its own climate strategy.

- 456 • In terms of **accounting for GHG emissions** (3.4 above), the lack of targets or policy
457 covering extraction of fossil fuels allows West Cumbria Mining to claim that they
458 should only shoulder responsibility from the mine site itself, not from the end use of
459 the coal.
- 460 • In terms of **greenhouse gas removals** (3.5 above), the lack of clarity on the
461 contribution of removals to the overall target allows West Cumbria Mining to make
462 the claim that its emissions can be 'offset' through removals.

463 These arguments can be seen throughout WCM's documents and argumentation in the
464 Public Inquiry. In summary, WCM say that "the overall responsibility for the economy-wide
465 transition to a low carbon society and the policies that are required to support that transition
466 is the responsibility of the UK Government", and that "these matters must be considered
467 holistically, rather than on a case-by-case basis, through the determination of planning
468 applications" (West Cumbria Mining, 2022, p29). Where there is so much ambiguity and
469 complexity, it becomes possible to claim that one specific development cannot be held to
470 account.

471 **5.3 False balance**

472 In making its central claim that the climate impact of Woodhouse Colliery is neutral, WCM's
473 strategy can be seen as promoting so-called 'false balance'. False balance can be defined
474 as "presenting two sides of a debate as more equal than is justified by the evidence"
475 (Rietdijk and Archer, 2021,p64). False balance has been much discussed in regard to media
476 coverage of climate science, when media outlets give equal airtime to scientists supporting
477 and opposing the scientific consensus on climate change, despite the presence of an
478 overwhelming consensus overall (Koehler, 2016; Fahy, 2017). Thus, in a debate about
479 climate impacts, a climate scientist representing the consensus position is paired with
480 someone who does not accept this consensus, even though this position is at odds with the
481 weight of scientific evidence. False balance sometimes comes about because media
482 producers believe that it is important to represent 'both sides' of a debate; it may also come
483 about because of a particular agenda that the media outlet is pursuing.

484 The use of false balance in the legal case over Woodhouse Colliery is similar. In the case,
485 mine supporters made claims about the supposedly 'positive' climate impacts, opening up a
486 debate between two opposing views, even when this debate is not justified by the weight or
487 quality of evidence. Instances of false balance include, first, the statement that offset
488 schemes can be used to 'compensate' for any residual emissions, when there is a clear
489 scientific consensus that this is an inappropriate use of GHG removals (see sections 2, 3.5
490 and 4.4 above). Second, the statement that the mine would result in GHG savings because
491 of reduced transport costs, and because coal from Cumbria will substitute for coal mined
492 elsewhere, was not substantiated by evidence (see section 4.2 above). Lastly, the idea
493 promoted by WCM that the coal mine would be a 'zero carbon coal mine' is not supported by
494 convincing evidence, and relies on offsetting which, as described above, is discredited.

495 These statements, even if badly served by underlying evidence, must be considered and
496 debated. Each must be examined and rebutted. In the media coverage on the coal mine,
497 these claims were, indeed, discussed at length. Debates often involved two contributors,
498 one speaking in favour of the mine, and one against.

499 Added together, this contributes to an overall false balance - the assertion that there is a
500 debate to be had about whether a new coal mine can be opened. Thus the simple evidence
501 set out in Section 2, that any new coal mine is not compatible with the aims of the Paris
502 Agreement, is replaced by a complex series of claims which, even if not supported by the

503 evidence, serve to provide the impression that there are two, evenly-balanced ‘sides’ to the
504 debate.

505 **6. Doubt and delay: strategies to question and limit climate action**

506 In Section 4, I set out the way in which WCM could put forward their argument that this mine
507 has an overall positive effect on climate change, despite overwhelming evidence to the
508 contrary. I now place this case in a wider context of the strategies employed by high-carbon
509 economic interests, to make a case for continued exploitation of fossil fuels.

510 There is a well-documented history of companies involved in fossil fuel extraction opposing
511 the scientific consensus on climate change, through funding and cultivating links with think-
512 tanks, policy institutes and commentators who oppose the consensus (Oreskes & Conway
513 2011). The strategy, for many years, was to raise questions and promote debate about the
514 science, thereby obscuring the clear scientific consensus on anthropogenic global warming.
515 These tactics had been learned from the tobacco industry, who had, for many years, sought
516 to promote doubt about the links between smoking and serious harms to health.

517 The strategy worked. The Intergovernmental Panel on Climate Change published its first
518 report documenting the scientific consensus on climate change in 1990. It took nearly thirty
519 years for the BBC to tell its editors that it was not necessary to include outright deniers of
520 climate science in order to achieve ‘balance’ (Hickman, 2018). In the intervening decades,
521 the ‘false balance’ arguments about whether climate change was happening or not,
522 squeezed out the very necessary debates of how to respond to climate change and reduce
523 GHG emissions.

524 More recently, the science of climate change has largely been accepted, even by companies
525 involved in fossil fuel extraction (it is, however, worth noting that doubt about climate science
526 still has a strong foothold in media and politics, particularly in the US, where many
527 Republican politicians openly express doubts (Dunlap, McCright and Yarosh, 2016; Fiorino
528 2022). Tactics have shifted from denying the science outright, to opening up a range of often
529 spurious debates about what the responses should be. This new approach has been dubbed
530 ‘Discourses of Delay’ (Lamb *et al.*, 2020). Such discourses include shifting responsibility for
531 action - ‘emissions reductions can come from elsewhere’; comparisons – ‘our carbon
532 footprint is trivial compared to others’; technological optimism, including a faith in GHG
533 removals; and ‘fossil fuel solutionism’ in which fossil fuels are seen as a bridge to a zero
534 carbon future. It is important to note that these arguments are not always entirely wrong, or
535 used intentionally to slow climate action. As Lamb *et al* make clear, “discourses of delay
536 often contain partial truths and may be put forward in good faith” (Lamb *et al.*, 2020 p2-3).
537 However, “in the absence of high-quality public deliberation, and in the hands of interest
538 groups fighting against regulation, our concern is that discourses of delay will disorientate
539 and discourage ambitious climate action” (Lamb *et al.*, 2020 p3).

540 This is exactly the approach taken by West Cumbria Mining, and the mine’s supporters more
541 generally. WCM did not question the science of climate change, nor the UK’s specific net
542 zero target, the Climate Change Act, or its international obligations under the Paris
543 Agreement. Instead, their approach was to say that they agreed with the need for climate
544 action, but that their own project was legal, and would not have a negative effect. A whole
545 set of complex arguments (summarised in section 4) were deployed, introducing complexity
546 and confusion. When combined with the ambiguities of UK climate legislation (section 3),
547 this meant that the mine’s opponents had to engage in detailed debate about each of these
548 arguments – a much more difficult and complex job than simply stating that the mine is
549 incompatible with the aims of the Paris Agreement (section 2). Overall, as set out in 5.3

550 above, this contributes to a false balance – the idea that there is any debate to be had over
551 whether a new coal mine should go ahead.

552 Having been closely involved in the mine debate over several years, I saw this pattern of
553 complexity, doubt, delay and false balance – enabled by the ambiguities and inconsistencies
554 of UK climate legislation – play out many times over, in the protracted legal process and in
555 media debates. When asked for media comment on the mine, I tried to put forward two
556 points: first, that the mine was incompatible with the aims of the Paris Agreement; and,
557 second, highlighting the tactics of doubt and delay used by mine supporters. However, the
558 questions I was asked were never about these general points, but about the detail of specific
559 issues – complexity instead of simplicity.

560 **7. Conclusion**

561 This paper set out to answer the question of how a coal mine could be consented in a
562 country with world-leading climate legislation, in the face of clear evidence that the opening
563 of further fossil fuel extraction sites is not compatible with the aims of the Paris Agreement,
564 and at a time of rapidly worsening climate impacts. It found that the case for the mine was
565 made through exploiting ambiguities in the UK’s climate legislation, in particular the unclear
566 links between planning policy and the Climate Change Act; and through the introduction of
567 complex, under-evidenced arguments which combined to create a false balance – the
568 impression that there is a debate to be had about whether or not the mine contravenes
569 climate ambitions.

570 As argued in section 5, the case of Woodhouse Colliery is an example of a wider tendency
571 to foster complexity, doubt and delay in climate decision-making. As such, it should not be
572 seen as a one-off aberration, but an indication of a deeper problem. Similar arguments are
573 being played out in other domains. These include arguments for opening new oil and gas
574 extraction sites in the North Sea, which are claimed to be ‘net zero’ in operation, and
575 required to ‘fuel the transition’ (see for example Offshore Energy UK, 2022); airport
576 expansion, in which airlines and airports claim that aviation demand should not be restricted,
577 because emissions can be reduced elsewhere in the economy, and/or technological
578 alternatives to fossil-fuelled aviation will soon be available, and/or flights can be ‘offset’(see
579 for example IATA, 2021); the use of hydrogen for home heating, in which gas companies
580 aggressively promote hydrogen-based solutions for home heating, and associated policies
581 (such as blending of hydrogen and methane; mandating ‘hydrogen ready’ boilers) despite a
582 strong expert consensus that hydrogen is not best suited to home heating, and should be
583 used for different applications such as industrial uses, with electric heat pumps offering a
584 better alternative (Rosenow, 2022); and reliance on GHG removals as ‘offsets’ to
585 compensate for GHG emissions which could have been avoided through other means (see
586 section 3.5 above).

587 In each of these cases, the evidence points strongly to one conclusion. Yet in each, a false
588 balance is promulgated, ensuring a lively debate in media and policy circles and through
589 legal battles, as happened with the Cumbria mine. Some involved in such debates will be
590 acting in good faith, trying to grapple with a confusing picture. Others will be purposefully
591 introducing complex and conflicting evidence and argumentation, in order to further
592 commercial aims. Whatever the motivation, the overall situation created is one of confusion
593 and uncertainty, slowing the speed of the transition to net zero, creating lengthy legal battles,
594 and putting climate targets in jeopardy.

595 There are two ways in which these situations could be avoided. First, UK climate legislation
596 could be changed to remove ambiguity and complexity. Second, greater weight could be

597 placed on the quality of evidence used in decision-making. These are discussed in turn
598 below.

599 **7.1 Removing ambiguities in climate legislation**

600 As described above (Section 3) UK climate legislation contains many ambiguities. While the
601 Climate Change Act sets an admirably clear trajectory for GHG emissions over time, the
602 targets and carbon budgets are economy-wide, with little clarity on the relative
603 responsibilities of different government departments, sectors of the economy, or balance
604 between GHG reductions and GHG removals. The following changes would contribute:

- 605 • Setting a Net-Zero ‘test’ for all major developments – this was a recommendation in
606 the recent independent Skidmore Review (Skidmore, 2023)
- 607 • Legislation to prevent the opening of new fossil fuel extraction sites, following the
608 example of Wales, who have stated they will not issue permits for new coal mines
609 (Erickson, Lazarus and Piggot, 2018) and in line with the recommendations of the
610 Environmental Audit Committee (2022)
- 611 • Specific climate targets, responsibilities and powers for local areas on climate
612 change, as recommended by the Climate Change Committee, Skidmore Review and
613 many independent commentators (Kuriakose *et al.*, 2022).
- 614 • Clear responsibilities on climate, linked directly to the CCA budget-setting process,
615 for all government departments and agencies, as recommended by the Climate
616 Change Committee (2021a)
- 617 • A review of the National Planning Policy Framework, to make clear the links between
618 the NPPF and the Climate Change Act, and to specify how all classes of GHG
619 emissions (see Section 3.4) should be taken into account when making planning
620 decisions
- 621 • Separate targets for GHG reductions and removals, enshrined in the CCA budget-
622 setting process (McLaren *et al.*, 2019).

623 **7.2 The quality of evidence used in decision-making**

624 The problem of false balance could be lessened through greater attention being placed on
625 the quality of evidence used in decision-making. There are already-established markers of
626 evidential quality. These include academic peer-review, and publication in quality academic
627 journals; judgements of the standing, independence and expertise of individual specialists;
628 and evidence produced by reputable national and international bodies, such as publicly-
629 funded agencies, international organisations such as international organisations, such as the
630 European Union’s Copernicus Climate Change Service (C3S), the United Nations
631 Environment Programme, the World Meteorological Organization or the Intergovernmental
632 Panel on Climate Change. These are not failsafe indicators of quality. Problems with
633 academic peer-review are well-rehearsed; publicly-funded agencies differ in their
634 independence from government or political groupings; some experts with high standing are
635 wrong. Notwithstanding these problems, the quality of the evidence presented should be a
636 material consideration in decision-making processes. For example, in the Public Inquiry on
637 Woodhouse Colliery, an array of credible experts on climate change, presenting evidence
638 from peer-reviewed or independent sources, should not have been dismissed in favour of
639 the accounts given by the mining company and its consultants who were not climate
640 specialists.

641 I am not arguing that high-quality ‘expert’ evidence should not be the only type of evidence
642 used or valued in decision making. For example, it is a longstanding principle that local
643 communities should have a say in decisions that affect them, and there should be no

644 expectation that these representations are peer-reviewed or meet similar evidential
645 standards. However, representations which claim technical or evidential rigour should show
646 transparently how they meet such standards.

647 A further issue to take into account is the independence of witnesses and evidence provided
648 to policymakers and legal processes such as the Public Inquiry. This is not to say that paid
649 consultants, authoring reports and/or appearing as expert witnesses, are automatically less
650 reliable or less independent. Consultancy can be a useful and necessary way of
651 supplementing in-house expertise. However, there should be greater transparency about
652 financial links and other interests. At the very least, such links should be declared routinely,
653 and taken into account in decision-making. In planning decisions, this would apply both to
654 developers and to other interested parties, such as groups opposing the decision.

655 There is also a need for organisations making planning decisions, including local authorities
656 and the Planning Inspectorate, to have in-house expertise on climate issues. This would
657 allow them to consider and assess competing claims. The Climate Change Committee has
658 called for guidance for local authorities, on this point (Climate Change Committee 2021b).

659 Reducing the ambiguities in current climate legislation, and paying closer attention to the
660 quality of evidence used in climate decision-making, would result in quicker and more
661 predictable decisions, and less recourse to lengthy legal battles. This is essential, given the
662 rapid GHG reduction required to meet the net zero goal, and to provide businesses with the
663 certainty and predictability that they require in order to invest in that transition.

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679

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