



**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 a clear 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.*

**Keywords:** climate, evidence, expertise, coal, steel, Climate Change Act, planning, Cumbria, UK

## 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, in making the case that the  
46 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.

94 The implications of this global agreement for fossil fuel extraction are clear. The  
95 Intergovernmental Panel on Climate Change (IPPC) 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 (GtCO<sub>2</sub>) 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 CO<sub>2</sub>, almost double the remaining carbon budget for 1.5°C.  
104 Coal accounts for nearly half of this, at 446 Gt CO<sub>2</sub> (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 CO<sub>2</sub> is currently  
110 removed, predicted to rise to 1.6Gt CO<sub>2</sub> by 2030 and 7.6Gt CO<sub>2</sub> 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  
114 have concluded, therefore, that new fossil fuel extraction sites are incompatible with the  
115 Paris Agreement, although the Agreement itself does not explicitly prohibit such sites.  
116 Reports by the United National Environment Programme (United Nations, 2022a); the  
117 International Energy Agency (International Energy Agency, 2021); and many academic  
118 studies (McGlade and Ekins, 2015; Welsby *et al.*, 2021) show that no new extraction  
119 facilities such as oil or gas wells, or coal mines, can open, if we are to stay within the globally  
120 agreed carbon budget; and existing sites will have to reduce their production. This is a  
121 matter of arithmetic, not opinion. In the words of UN Secretary General Antonio Guterres,  
122 “climate activists are sometimes depicted as dangerous radicals. But the truly dangerous  
123 radicals are the countries that are increasing production of dangerous fossil fuels. Investing  
124 in new fossil fuel infrastructure is moral and economic madness” (United Nations, 2022).

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. They state that there is a lack of clear  
163 roles and responsibilities for other departments, and for regulators, devolved and local  
164 government (Climate Change Committee, 2021a).

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

### 174 **3.2 The role of the planning system in relation to climate targets**

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

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

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

### 202 **3.3 Local contributions to GHG reduction**

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

209 authorities. Nevertheless, many local areas have set their own targets and plans. For  
210 example, Manchester has a target “to become a zero carbon city” by 2038 (Manchester City  
211 Council, 2023); London by 2030 (Greater London Authority, 2023); and Cumbria by 2037  
212 (note that in April 2023, following local government reorganisation, Cumbria County Council  
213 was split into two different authorities: Cumberland Council, and Westmorland and Furness  
214 Council) (Cumbria Action for Sustainability, 2023). These local targets are not enshrined in  
215 law, and local authorities all measure and manage their climate impacts in different ways.  
216 This contributes to the overall complexity of achieving the UK’s climate goals. For example, it  
217 is unclear whether or how Cumbria’s target of net-zero emissions by 2037 was taken into  
218 consideration in the planning decision for Woodhouse Colliery.

### 219 **3.4 Accounting for GHG emissions**

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

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

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

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

### 254 **3.5 The role of greenhouse gas removals**

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

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

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

#### 283 **4. Woodhouse colliery: Climate claims and counter-claims**

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

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

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



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

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

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

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

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

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

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

347 **4.1 Only emissions from the mine site should be considered:** In its Statement of Case,  
348 WCM states that “it is not appropriate to have regard to GHG emissions caused by the end  
349 use of the coal extracted from the proposed development at other facilities.” (West Cumbria  
350 Mining, 2022, p40). In other words, WCM state that they should not be responsible for the  
351 emissions caused by burning the coal, and should only have responsibility for the emissions  
352 from the mine site itself. As discussed (Section 3.3) this claim is based on the convention  
353 that GHGs are counted where they are emitted into the atmosphere, i.e. where the coal is  
354 burned, not where it is extracted.

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

361 **4.2 Fewer imports; efficient facilities:** Second, WCM’s statement of case says that “the  
362 proposed development will help support the transition to a low carbon future [...] by  
363 removing reliance upon imported coking coal with a higher carbon footprint” (West Cumbria  
364 Mining, 2022, p40). Specifically, it states that the development will “reduce transportation  
365 emissions” and “provide the opportunity to create a state-of-the-art mining facility with lower  
366 GHG emissions than other existing mining operations” (West Cumbria Mining, 2022, p41).

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

374 **4.3 Coal will still be needed to make steel, with CCS:** Third, WCM states that “coking coal  
375 is likely to continue to form part of a net zero compliant option for steel production” (p41 para  
376 109). This was disputed by Professor Lars Nilsson, Professor Paul Ekins and Professor  
377 Stuart Haszeldine, who stated that steel companies were increasingly using hydrogen-based  
378 steelmaking, which did not require coal; and that more steel could be recycled using electric  
379 arc furnaces.

380 **4.4 Use of offsetting:** WCM states that “where it is not possible to remove operational GHG  
381 emissions entirely, WCM will commit to ensuring that these residual emissions are offset”  
382 (West Cumbria Mining, 2022, p41). As described in Section 3.5 above, the use of GHG  
383 removals to ‘offset’ GHG emissions that could be otherwise reduced or avoided, is not in line  
384 with climate science. WCM stated that it would use Gold Standard certified credits; however  
385 the Gold Standard Foundation, which oversees the use of these credits, provided a letter to  
386 the Public Inquiry stating that it is “strongly against the further extraction of fossil fuels” and  
387 that new coal mines are to be avoided (Kirby, 2021).

388 **4.5 Coal will substitute for coal mined elsewhere:** The WCM statement of case states  
389 that, though the end-use emissions (ie from burning the coal) should not be taken into  
390 account, even if they are taken into account, “there is a strong economic case for  
391 substitution”, i.e. that Cumbrian coal would substitute for coal mined elsewhere. In other  
392 words, every tonne of coal extracted in Cumbria would result in a tonne of coal **not** being

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

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

403 **4.6 Impact on international diplomacy:** The WCM Statement of Case makes no mention  
404 of an argument used by opponents of the mine, that the UK's permitting of the mine would  
405 send unhelpful political and diplomatic signals, making other countries less ambitious on  
406 climate. This argument was put forward by opponents to the mine, including Professor  
407 Grubb; Professor Sir Robert Watson; Lord Deben, chair of the Climate Change Committee;  
408 and John Ashton, former UK Government Special Representative for Climate Change.

## 409 **5 How evidence was presented and used in the Public Inquiry**

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

### 413 **5.1 The status of expertise**

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

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

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

436

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

437

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

439 **5.2 Exploiting legislative ambiguity**

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

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

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

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

### 469 **5.3 False balance**

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

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

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

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

501 by the evidence, serve to provide the impression that there are two, evenly-balanced ‘sides’  
502 to the debate.

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

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

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

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

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

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

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

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

## 558 **7. Conclusion**

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

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

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

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

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

## 597 **7.1 Removing ambiguities in climate legislation**

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

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

## 621 **7.2 The quality of evidence used in decision-making**

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

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



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

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

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

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

662

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665

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677

## 678 **References**

679 Anderson, K. and Peters, G. (2016) 'The trouble with negative emissions',  
680 *Insights/Perspectives*, 182. doi: 10.1007/s10484-016-1770-6.

681 Barrett, J. *et al.* (2013) 'Consumption-based GHG emission accounting: a UK case study',  
682 *Climate Policy*, 13(4), pp. 451–470. doi: 10.1080/14693062.2013.788858.

683 Climate Change Committee (2021a) 'The Sixth Carbon Budget: The UK's Path to Net Zero'.

684 Available at: <http://files/4596/The-Sixth-Carbon-Budget-The-UKs-path-to-Net-Zero-1.pdf>.

685 Climate Change Committee (2021b) Deep Coal Mining in the UK: Letter from Lord Deben to  
686 Rt Hon Robert Jenrick MP, Secretary of State. Available at:  
687 <https://www.theccc.org.uk/publication/letter-deep-coal-mining-in-the-uk/>

688 Environmental Audit Committee (2022) *Accelerating the transition from fossil fuels and*  
689 *securing energy supplies*.

690 Cumbria Action for Sustainability (2023) 'Zero Carbon Cumbria Programme'. Available at:  
691 <https://cafs.org.uk/our-projects/zero-carbon-cumbria-programme/>.

692 Department for Environment, F. and R. A. (2022) *Carbon footprint for the UK and England to*  
693 *2019*. Available at: [https://www.gov.uk/government/statistics/uks-carbon-footprint/carbon-](https://www.gov.uk/government/statistics/uks-carbon-footprint/carbon-footprint-for-the-uk-and-england-to-2019)  
694 [footprint-for-the-uk-and-england-to-2019](https://www.gov.uk/government/statistics/uks-carbon-footprint/carbon-footprint-for-the-uk-and-england-to-2019).

695 Dunlap, R. E., McCright, A. M. and Yarosh, J. H. (2016) 'The Political Divide on Climate  
696 Change: Partisan Polarization Widens in the U.S.', *Environment*, 58(5), pp. 4–23. doi:  
697 10.1080/00139157.2016.1208995.

698 Erickson, P., Lazarus, M. and Piggot, G. (2018) 'Limiting fossil fuel production as the next  
699 big step in climate policy', *Nature Climate Change*. Nature Publishing Group, 8(12), pp.  
700 1037–1043. doi: 10.1038/s41558-018-0337-0.

701 Fahy, D. (2017) 'Objectivity, False Balance, and Advocacy in News Coverage of Climate  
702 Change', *Oxford Research Encyclopedia of Climate Science*.

703 Fiorino, D. (2022) 'Climate change and right-wing populism in the United States',  
704 *Environmental Politics* 31(5), 801-819.

705 Greater London Authority (2023) 'Zero Carbon London'. Available at:  
706 [https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/climate-](https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/climate-change/zero-carbon-london)  
707 [change/zero-carbon-london](https://www.london.gov.uk/programmes-strategies/environment-and-climate-change/climate-change/zero-carbon-london).

708 Hickman, L. (2018) 'BBC issues internal guidance on how to report climate change', *Carbon*  
709 *Brief*, 7 September. Available at: [https://www.carbonbrief.org/exclusive-bbc-issues-internal-](https://www.carbonbrief.org/exclusive-bbc-issues-internal-guidance-on-how-to-report-climate-change/#:~:text=What's the BBC's position%3F,denier' to balance the debate)  
710 [guidance-on-how-to-report-climate-change/#:~:text=What's the BBC's position%3F,denier'](https://www.carbonbrief.org/exclusive-bbc-issues-internal-guidance-on-how-to-report-climate-change/#:~:text=What's the BBC's position%3F,denier' to balance the debate)  
711 [to balance the debate](https://www.carbonbrief.org/exclusive-bbc-issues-internal-guidance-on-how-to-report-climate-change/#:~:text=What's the BBC's position%3F,denier' to balance the debate).

712 HM Government (2022) 'United Kingdom of Great Britain and Northern Ireland's Nationally  
713 Determined Contribution', in. doi: 10.1007/978-3-211-72882-6\_56.

714 IATA (2021) *Our Commitment to Fly Net Zero by 2050*. Available at:  
715 <https://www.iata.org/en/programs/environment/flynetzero/>.

716 Intergovernmental Panel on Climate Change (2021) 'IPCC Sixth Assessment Report,  
717 Working Group 1, Physical Science Basis', pp. 673–816.

718 Intergovernmental Panel on Climate Change (2023) *Synthesis Report of the IPCC Sixth*  
719 *Assessment Report (AR6)*.

720 International Energy Agency (2021) 'Net Zero by 2050: A Roadmap for the Global Energy  
721 Sector', *International Energy Agency*, p. 224. Available at: [www.iea.org/t&c/](http://www.iea.org/t&c/).

722 Kirby, D. (2021) "'World's first net-zero coal mine" planned for Cumbria is condemned by the  
723 carbon offsetters it hopes to use', *the I Newspaper*, 10 September. Available at:  
724 [https://inews.co.uk/news/environment/net-zero-coal-mine-cumbria-gold-standard-](https://inews.co.uk/news/environment/net-zero-coal-mine-cumbria-gold-standard-condemned-carbon-climate-chan-1191140)  
725 [condemned-carbon-climate-chan-1191140](https://inews.co.uk/news/environment/net-zero-coal-mine-cumbria-gold-standard-condemned-carbon-climate-chan-1191140).

726 Koehler, D. (2016) 'Can journalistic "false balance" distort public perception of consensus in  
727 expert opinion?', *Journal of Experimental Psychology: Applied*, 22(1), pp. 24–38. doi:

728 <https://doi.org/10.1037/xap0000073>.

729 Kuriakose, J. *et al.* (2022) 'What does the Paris climate change agreement mean for local  
730 policy? Downscaling the remaining global carbon budget to sub-national areas', *Renewable  
731 and Sustainable Energy Transition*. Elsevier Ltd, 2(July), p. 100030. doi:  
732 10.1016/j.rset.2022.100030.

733 Lamb, W. F. *et al.* (2020) 'Discourses of climate delay', *Global Sustainability*. Cambridge  
734 University Press, 3. doi: 10.1017/SUS.2020.13.

735 Manchester City Council (2023) *Zero Carbon Manchester*. Available at:  
736 [https://www.manchester.gov.uk/info/500002/council\\_policies\\_and\\_strategies/3833/zero\\_carbon\\_manchester](https://www.manchester.gov.uk/info/500002/council_policies_and_strategies/3833/zero_carbon_manchester).  
737

738 Markusson, N. *et al.* (2022) 'Life in the hole: practices and emotions in the cultural political  
739 economy of mitigation deterrence', *European Journal of Futures Research*. Springer Science  
740 and Business Media Deutschland GmbH, 10(1). doi: 10.1186/s40309-021-00186-z.

741 McGlade, C. and Ekins, P. (2015) 'The geographical distribution of fossil fuels unused when  
742 limiting global warming to 2 °C', *Nature*, 517(7533), pp. 187–190. doi: 10.1038/nature14016.

743 McLaren, D. P. *et al.* (2019) 'Beyond "Net-Zero": A Case for Separate Targets for Emissions  
744 Reduction and Negative Emissions', *Frontiers in Climate*, 1. doi: 10.3389/fclim.2019.00004.

745 Ministry of Housing Communities & Local Government (2012, revised 2021) *National  
746 Planning Policy Framework*. Available at:  
747 <https://www.gov.uk/government/publications/national-planning-policy-framework--2>.

748 Offshore Energy UK (2022) *Exploration Insight 2022*.

749 Rietdijk, N. and Archer, A. (2021) 'Post-Truth, False Balance and Virtuous Gatekeeping', in  
750 Snow, N. and Vaccarezza, M. S. (eds) *Virtues, Democracy and Online Media: Ethical and  
751 Epistemic Issues*.

752 Rosenow, J. (2022) 'Is heating homes with hydrogen all but a pipe dream? An evidence  
753 review', *Joule*, 6(10), pp. 2225–2228.

754 Supreme Court (2023), R (on the application of Finch on behalf of the Weald Action Group)  
755 (Appellant) v Surrey County Council and others (Respondents). Case ID: 2022/0064  
756 <https://www.supremecourt.uk/cases/uksc-2022-0064.html>

757 Skidmore, C. (2023) *Mission Zero - Independent Review of Net Zero*.

758 Trout, K. *et al.* (2022) 'Existing fossil fuel extraction would warm the world beyond 1.5 °C',  
759 *Environmental Research Letters*. IOP Publishing, 17(6), p. 064010. doi: 10.1088/1748-  
760 9326/AC6228.

761 United Nations (2015) 'Paris Agreement'. Available at:  
762 [https://unfccc.int/sites/default/files/english\\_paris\\_agreement.pdf](https://unfccc.int/sites/default/files/english_paris_agreement.pdf).

763 United Nations (2022a), *The Emissions Gap Report 2022*. Available at:  
764 <https://www.unep.org/resources/emissions-gap-report-2022>.

765 United Nations (2022b) *Secretary-General Warns of Climate Emergency, Calling  
766 Intergovernmental Panel's Report 'a File of Shame', While Saying Leaders 'Are Lying',  
767 Fuelling Flames*. Available at: <https://press.un.org/en/2022/sgsm21228.doc.htm>.

768 Welsby, D. *et al.* (2021) 'Unextractable fossil fuels in a 1.5 °C world', *Nature*. Nature  
769 Research, 597(7875), pp. 230–234. doi: 10.1038/s41586-021-03821-8.

770 West Cumbria Mining (2022) 'WCM Statement of Case'.

771 Willis, R. *et al.* (2019) 'Getting energy governance right: Lessons from IGov'. Available at:  
772 <http://files/3732/Willis et al. - Getting energy governance right.pdf>.

773