

Claimant
T J E Crosland
First
TJEC/1
8 December 2017

IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION
ADMINISTRATIVE COURT

Claim No: CO/

BETWEEN:

THE QUEEN

on the application of

- (1) PLAN B. EARTH
- (2) CARMEN THERESE CALLIL
- (3) JEFFREY BERNARD NEWMAN
- (4) JO-ANNE PATRICIA VELTMAN
- (5) LILY [REDACTED] JOHNSON
- (6) MAYA YASMIN CAMPBELL
- (7) MAYA DOOLUB
- (8) PARIS ORA PALMANO
- (9) ROSE NAKANDI
- (10) SEBASTIEN JAMES KAYE
- (11) WILLIAM RICHARD HARE
- (12) MHB (A CHILD) BY HIS LITIGATION FRIEND DHB

Claimants

- and -

SECRETARY OF STATE FOR BUSINESS, ENERGY AND INDUSTRIAL STRATEGY

Defendant

- and -

THE COMMITTEE ON CLIMATE CHANGE

Interested Party

FIRST WITNESS STATEMENT OF TIMOTHY JOHN EDWARD CROSLAND

I, TIMOTHY JOHN EDWARD CROSLAND, of Plan B. Earth, 62 Sutherland Square, London SE17 3EL, SHALL SAY AS FOLLOWS:-

I. INTRODUCTION

1. I am the Founder and Director of Plan B. Earth ("**Plan B**"). Plan B is a charitable incorporated organisation, registered and regulated by the Charity Commission.
2. In December 2015 the governments of 195 countries agreed that global warming must be limited to 1.5°C or "well below" 2°C to reduce the risks of catastrophic climate change - ie the Paris Agreement on Climate Change (the "**Paris Agreement**"). At the same time, these governments recognised the substantial gap between trajectory and goal, and the extreme urgency of bridging that gap. They called upon NGOs, civil society and others to support that effort. Plan B was established in response to that call. The process of application for charitable status to the Charity Commission commenced in January 2016. The application was accepted in June 2016.
3. I make this statement in support of the claim for judicial review brought by Plan B and eleven other individual claimants against the defendant Secretary of State for Business, Energy and Industrial Strategy (the "**Secretary of State**") for failing to revise the UK's carbon target (the "**2050 Target**") pursuant to his powers under the Climate Change Act 2008 ("**2008 Act**"). Below I give a brief summary of my own background and work on climate change, before going on to discuss the background to this case, the pre-action correspondence between the parties and, finally, setting out some information to assist the Court on the question of costs.
4. Except where otherwise stated, the facts and matters set out in this witness statement are within my own personal knowledge. Where they are not, I identify the source of my understanding and belief. In the course of making this statement, I shall refer to certain documents, a bundle of which is now shown to me marked "[TJEC/1]". That exhibit is contained at [tab D] of the permission bundle accompanying the claim. References to documents contained within the exhibit take the form "[TJEC/1/x]", where "x" is the page number within the exhibit. Other references are to documents found elsewhere in the permission bundle and take the form "[PB/x/y]" where "x" is the tab number and "y" is the page number.

5. I have read the statement of facts and grounds ("Grounds") that accompanies this claim and agree with their contents.

II. MY BACKGROUND AND MY WORK ON CLIMATE CHANGE

6. I studied *literae humaniores* at Pembroke College, Oxford University (specialising in ancient Greek and Latin literature and philosophy). I then converted to law and was called to the Bar in 1994. I practised for several years from 5 King's Bench Walk (the Chambers of Brian Higgs QC), focussing on criminal and immigration law.
7. Following a spell working *pro bono* for the Center for Equal Justice in New Orleans, assisting with appeals for those on death row, I took a Masters in International Human Rights Law at Utrecht University, the Netherlands (exploring the relationship between human rights and environmental law).
8. From 2001-2015 I worked as a lawyer for various law enforcement and governmental agencies, advising on the application of human rights law to intelligence gathering operations, and managing agency litigation. I was, for example, Head of Legal at the National Criminal Intelligence Service (NCIS) and a Deputy Director of the Serious and Organised Crime Agency (SOCA). From 2012, I led the development of a programme, in collaboration with the Foreign & Commonwealth Office, the World Bank, the UN Office of Drugs and Crime (UNODC) and various others, to support developing countries in strengthening the rule of law, in particular around cyberspace. As part of that role I worked with a number of overseas governments, in particular in East and West Africa, and began to understand the relationship between climate change, human migration and international security.
9. Working in Nigeria, and analysing the security situation there, I learned that the drying out of Lake Chad, largely through climate change, is displacing millions of people into territory held by Boko Haram, the Islamist terrorist group operating in the region. In Kenya, increasing drought, attributable to climate change, is driving subsistence farmers in their masses to leave their homes and head for the cities, exacerbating existing social tensions. Later I read research describing how a similar pattern, arising from the worst drought in Syria's history (between 2007 and 2011) has contributed to the outbreak of civil war in Syria. In turn, the displacement of people

from the Middle East and Africa is contributing to profound political changes across the UK, the rest of Europe and beyond.

10. I left the Government Legal Service in February 2015 on a voluntary early exit package. Having begun to think seriously about the implications of climate change, I felt a responsibility to my children to understand the situation more deeply.
11. I began to research the projections for climate change in detail, reading the reports of the Committee on Climate Change ("CC Committee"), the Intergovernmental Panel on Climate Change ("IPCC") and others. It became clear that there was a scientific consensus that:
 - (a) there was an absolute imperative to keep global warming to less than 2°C if catastrophe was to be avoided (and probably to significantly lower than that); and
 - (b) the world is on course to exceed the 2°C limit by some distance, and to do so within my children's lifetimes (and most probably within mine).
12. The scientists provide unequivocal advice on what needs to be done to reduce those risks to a "tolerable" level. Governments are failing to act on that advice (while claiming to their electorates, in some cases, to be "climate leaders").
13. I felt I could either bury my head in the sand and carry on with "business as usual"; or do what I could for my children (whether or not it would ultimately make any difference). I decided to do something. Fundamentally it seemed to me that such a situation is unlawful, and that the contribution I could make as a lawyer would be to subject it to legal scrutiny, and to pursue a rational, evidence-based response through the courts.

The rationale for Plan B

14. I began building up a network of contacts in the build up to the Paris Agreement. The Legal Response Initiative ("LRI") is a UK-based charity, funded by the Department for International Development and others, which provides legal support to the negotiating teams of developing country Parties to the United Nations Framework Convention on Climate Change ("UNFCCC"). LRI invited me to join its delegation of

lawyers to the 2015 United Nations Climate Change Conference, or “COP21”, in Paris. I attended the conference and contributed to one part of the drafting of the Paris Agreement regarding legal liability (which was ultimately included in the supporting Paris Decision).

15. I believe there were around 40,000 people at COP21. In many respects it resembled a vast trade fair. Its sponsors included car companies, Europe’s largest importer of natural gas, and a company operating major coal-fired power plants.
16. “Plan A” was to align national emission reductions to the global obligation through the international political process. That process, under the UNFCCC, has now been underway for a quarter of a century. Even before the President of the USA stated his intention to withdraw the USA from the Paris Agreement in 2017, it was clear it had its limitations. I can best explain the rationale for “Plan B” by explaining what appears to me the principal weakness of “Plan A” – its “accountability deficit”.
17. It is one thing for 195 countries to agree, through a process of consensus, to a common goal (ie the global temperature limit); another to agree on the division of labour necessary to achieving it. The Paris Agreement adopted a simple formula for overcoming the difficulty: each country would determine its own contribution to the goal on the basis of certain general principles (such as equity). Although the Paris Agreement establishes a review process, there is no detail on how such a process is to be conducted, nor any process to compel parties to raise their ambition.
18. Imagine a number of countries bordering a common fishery. There are fewer and fewer fish every year. Scientists advise that unless the collective annual take is reduced to 100,000 fish, the stock will collapse irreversibly. The countries agree with the scientific advice, but fail to agree on how the 100,000 should be divided between them, each finding reasons to justify a greater than equal *per capita* share for themselves. Rather than walk away without an agreement the countries decide that each of them will determine its own share of the 100,000 independently of the others. Inevitably, the aggregate of “nationally-determined” shares exceeds the 100,000 fish; and equally inevitably the fish stock collapses to the detriment of all of the countries.
19. That, essentially, describes the current state of the international political process for tackling climate change. Every government claims to be doing the best it can in light of

its individual circumstances, and every government finds reasons to compare its contribution favourably to those of others. Inevitably the sum of all party contributions vastly outweighs the global budget for relative safety. The collective outcome is predictable: the world is racing towards the cliff edge of catastrophic climate change.

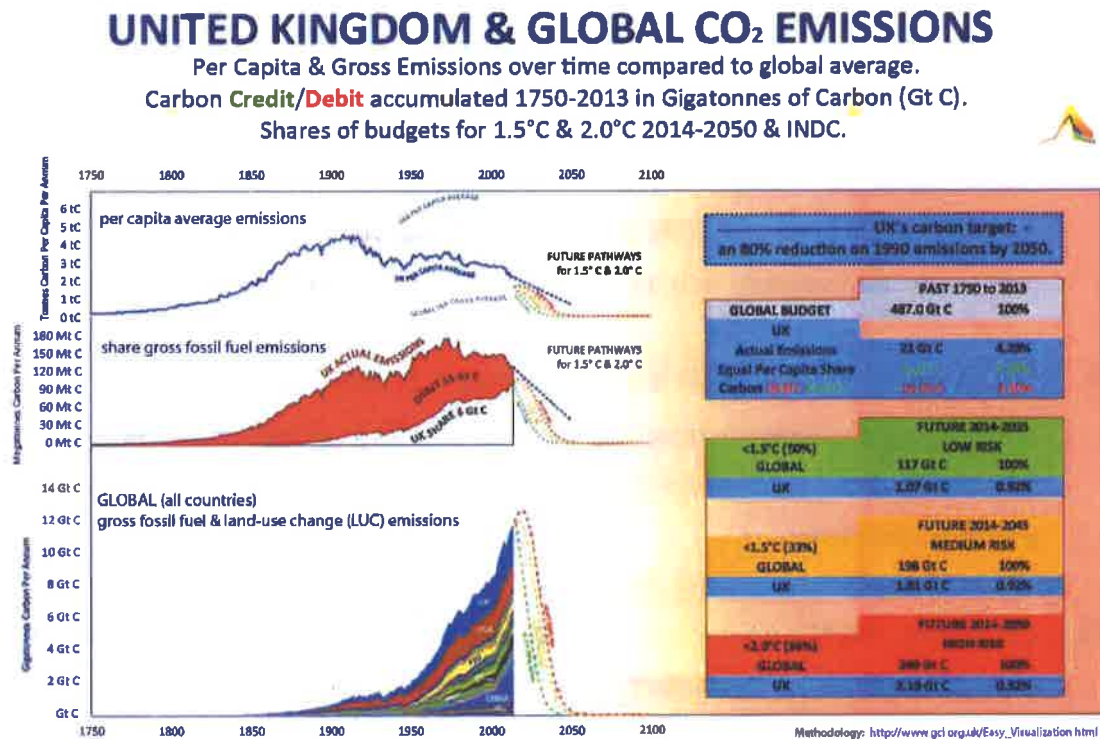
20. Arguably the review and “ratchet-up” processes of the Paris Agreement only make things worse. They foster the false impression that even if things are off track now, they can simply be corrected further down the line.
21. The Parties themselves recognise the overall consequence in the *Preamble* to the Paris Decision [PB/F/113-148]:

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

22. However, few difficult things get done without accountability or responsibility. Under the Paris Agreement everyone agrees on what needs to be done, but not how it should be done, and in the absence of any accountability, few assume their fair and necessary share of the burden.
23. Plan B was developed in response to this problem. If governments were not accountable to each other for implementation of their own targets for avoiding catastrophe, we could make them accountable to their people through the courts. Successful cases in the Netherlands, the US, Pakistan and elsewhere suggested courts were increasingly ready to acknowledge that executive discretion must be limited by the cliff edge of catastrophic climate change.
24. In collaboration with the Global Commons Institute, which developed the “Contraction and Convergence” model on which the 2008 Act is based, Plan B has developed *The Paris Agreement Implementation Blueprint: a practical guide to bridging the*

gap between actions and goal and closing the accountability deficit (the “Blueprint”) [TJEC/1/80-91].¹

25. Instead of talking abstractly about how national contributions relate to the global goal, the Blueprint enables the relationship to be clearly visualised. Charts have been produced for all countries. The UK chart is shown below:



26. The Blueprint applies the Contraction and Convergence model to the IPCC global carbon budget consistent with the Paris Agreement, identifying shares of the budget for all countries on the basis of equal *per capita* emissions.
27. Additionally, by comparing a country's past actual emissions to past equal *per capita* emissions, it derives a past carbon “credit” or “debit”, that may be used to quantify a country's finance obligations and entitlements.
28. The middle section of the UK's chart (above) shows that when the UK's historic emissions between 1750 and 2013 are compared to the global equal *per capita* average,

¹ Environmental Liability: Law, Policy and Practice, Volume 24, 3/4, 2016.

the UK has accrued a global carbon “debit” of 15 gigatons of carbon (ie 15 billion tonnes of carbon).

29. The bottom part of the chart shows the exponential rise in global emissions of carbon since 1950. On the right hand side of the chart, three dotted coloured lines reverse this trend rapidly. The green line describes the IPCC budget for a 50% probability of limiting warming to 1.5°C (which gives an 80% probability of limiting it to 2°C). The amber line is the budget for a 33% probability of limiting warming to 1.5°C. The red line, is the budget for 66% probability of limiting warming to 2°C.
30. Returning to the middle section of the chart, the dotted blue line represents the trajectory of the target for 2050, as set out under the 2008 Act (the “2050 Target”). The scale of the inconsistency with the Paris goal is immediately apparent.
31. The Blueprint is not scientifically contentious. It is simply a presentation of accepted data on past emissions, national populations, and IPCC global carbon budgets, which facilitates a clear visualisation of what otherwise remains the abstract concept of equal *per capita* emissions.
32. Put simply, the Blueprint shows that the 2050 target is failing to support the purpose of the 2008 Act, which is to commit the UK to a fair contribution to the global goal.

III. INITIAL BACKGROUND TO THIS CASE

33. The detailed background to this matter is set out at paragraphs 4 to 74 of the pre-action protocol letter (the “PAP Letter”) sent by Plan B’s solicitors, Bindmans LLP (“Bindmans”), to the Secretary of State on 26 September 2017 [PB/E/1-42] and in the Grounds. It is not necessary for me to repeat that background in any detail. I consider that it would be helpful, however, for me to set out a summary of the most recent events in order to provide some context for what I say below.
34. As set out above, in late 2015, the parties to the UNFCCC agreed the Paris Agreement [PB/E/86-112]. Relevant provisions of the Paris Agreement and associated documents are explained at paragraphs 35 to 41 of the PAP Letter [PB/E/11-13] and in the

Grounds. I have already described some of its weaknesses, which are widely acknowledged. In one respect, however, the Paris Agreement was ground-breaking.

Climate “tipping points” and the Global Climate Obligation (or temperature boundary)

35. For a number of years developing country parties and small island states have argued that a temperature goal of 2°C warming failed to safeguard them from annihilation. They pushed instead for a lower limit of 1.5°C (recent hurricanes highlight the risks even with 1°C warming). Many adopted the slogan “1.5 to stay alive”. In 2011, Christiana Figueres, then Executive Secretary of the UNFCCC, lent her support to this position, saying:

“Two degrees is not enough – we should be thinking of 1.5°C. If we are not headed to 1.5°C we are in big, big trouble.”²

36. In 2012 the Conference of the Parties³ (“COP”) commissioned an expert review the adequacy of the 2°C goal, known as the “Structured Expert Dialogue”, to report back in time for COP21. The final report of this review was published in May 2015: [TJEC/1/73-79]. It stated, *inter alia*:

“The ‘guardrail’ concept, in which up to 2°C of warming is considered safe, is inadequate and would therefore be better seen as an upper limit, a defence line that needs to be stringently defended, while less warming would be preferable ...

The world is not on track to achieve the long-term global goal, but successful mitigation policies are known and must be scaled up urgently ...

Experts emphasized the high likelihood of meaningful differences between 1.5°C and 2°C of warming regarding the level of risk from ocean acidification and of extreme events or tipping points.” [TJEC/1/76]

37. The concept of “tipping points” may be explained with a couple of examples. Essentially a “tipping point” is a consequence of global warming which leads to further, non-linear warming, and potentially to “runaway climate change”. The polar regions are key to climatic stability, functioning as the earth’s “air-conditioning system”, drawing warm air up from the mid-latitudes, cooling it down and

² As reported in the Guardian, 1 June 2011 [TJEC/1/63-64].

³ ie the supreme decision-making body of the UNFCCC.

recirculating it. The Arctic is often described as the “canary in the coal mine” of climate change. Further, ice reflects heat away from the surface of the planet. As sea-ice melts, it is replaced by dark water, which absorbs heat, melting more ice and driving warming upwards in a positive feedback loop.

38. Warming induced by loss of reflectivity (the “albedo effect”) and from methane release from permafrost, may in turn be enough to drive temperatures up to the point that the Amazon rainforest would burn. Mark Lynas, in his book *Six Degrees*, puts it like this [TJEC/1/9-10]:

“The Hadley Centre's Model suggests that the Amazon rainforest would still be doomed unless global warming levels off at two degrees ... Every fire season gives a preview of how this collapse would unfold in reality. Amazonian trees are used to constant humidity and have no resistance to fire ... with no evolutionary experience of burning, [they] continue to die long after the flames have passed ... When the final conflagration takes place, it will be on a different scale from anything witnessed so far.”

39. Assuming the Hadley Centre's Model is right, beyond 2°C warming, the incineration of the planet’s largest land-based carbon sink (the Amazon rainforest) would suddenly release what is an unimaginably vast store of carbon-based life into the atmosphere. Aside from the tragedy of all that loss of life and biodiversity, the result would be to drive temperatures rapidly further upwards, triggering yet further feedback effects (both climatic and political).
40. Once these sorts of feedback effects interact with each other, humans and all other life on earth face disaster. That is why the Paris Agreement obligation, designed to minimise the risks of crossing such tipping points, must be regarded as the “cliff edge”, to be avoided at all costs.
41. Despite the practical and political challenge even of limiting warming to 2°C, 195 governments agreed in Paris that it was nevertheless necessary to limit warming to “well below” 2°C, while attempting to limit it to 1.5°C. It was this recognition of the absolute imperative to avoid 2°C warming, and the recognition of the 1.5°C goal, that helped to ensure the Paris Agreement was generally regarded at least as a partial success.

The UK's role in the Paris Agreement

42. The UK Government was instrumental in achieving this outcome. The UK Government's "Special Representative for Climate Change", Sir David King, led the UK's diplomatic effort, supported by 165 full-time equivalent Climate Attachés in UK embassies around the world. It was in fact the UK Government that helped convince the international community that a more ambitious temperature goal was both necessary and feasible.
43. That made it even more important that the UK backed up its international diplomacy with domestic action. If the country that had done so much to secure the Paris Agreement no longer considered its core objective to be "feasible", that would be an additional question-mark over the credibility of the Paris Agreement (even without the withdrawal of the US).

The CC Committee's agenda item (and subsequent report) on the implications of the Paris Agreement for domestic policy

44. On 16 September 2016, the CC Committee held a meeting between 9.30am and 2.30pm covering a wide agenda including items such as "New Nuclear Update" and "Heat and Energy Efficiency Project". The CC Committee is the Interested Party in these proceedings, having been established under the 2008 Act to advise the Secretary of State on certain matters in respect of that Act.
45. As explained in the PAP Letter (paragraphs 42 to 43: [PB/E/12-14]), the meeting on 16 September also included an agenda item, scheduled for 75 minutes, described as "UK Long-term ambition after the Paris Agreement – presentation by CCC Secretariat". The minutes of this meeting record [TJEC/1/92-95] as follows:

"It was clear that the aims of the Paris Agreement, to limit warming to well below 2°C and to pursue efforts to limit it to 1.5°C, went further than the basis of the UK's current long-term target to reduce emissions in 2050 by at least 80% on 1990 levels (which was based on a UK contribution to global emissions reductions keeping global average temperature rise to around 2°C).

The Committee therefore agreed that whilst a new long-term target would be needed to be consistent with Paris, and setting such a target now would provide a useful signal of support, the evidence was not sufficient to specify that target now.

There would be opportunities to re-visit the setting of a new target as more information becomes available about potential global paths to well below 2°C and 1.5°C."

46. On 13 October 2016, shortly before the entry into force of the Paris Agreement (in November 2016), the CC Committee published a paper entitled "UK climate action following the Paris Agreement" (the "2016 Committee Recommendation") elaborating on the decision taken by the CC Committee on 16 September 2016 not to recommend the revision of the 2050 target: [TJEC/1/96-150]. In essence, the CC Committee had prioritised technical feasibility based on current knowledge over all other considerations, including both the scientific and international political consensus of what was required.

CC Committee's "coach and horses" through 2008 Act and the Paris Agreement

47. Plan B was deeply concerned by the 2016 Committee Recommendation. The CC Committee had, in 75 minutes, undermined both a vital piece of domestic legislation that had been eight years in the making and subject to lengthy process of public consultation and pre-legislative scrutiny, and an international agreement of iconic global status even longer in the making. Effectively, it was replacing an equity- and science-based approach to the setting of national targets, with one based on a subjective assessment of feasibility and prospective technical innovation: a coach and horses through the purpose of the 2008 Act and the Paris Agreement. In so doing, it was steering the world closer to the brink of disaster.
48. In 2008, Parliament could have ignored international law and passed legislation setting a carbon 2050 Target on the basis of the Government's assessment of what was politically and technically feasible at that time. That, however, was not what it did. It is only necessary to consider the letter sent by Lord Adair Turner (the Chair of the CC Committee in 2008) to Ed Miliband (then Secretary of State for what was Department for Energy and Climate Change) to understand the approach adopted (see further paragraph 56 below) [TJEC/1/45-50]:

"To determine a UK emissions reduction target, we first considered what a global target should be and then the UK's appropriate contribution. The global emissions target needs to be based on an analysis of the climate science. The crucial issue is what level of global temperature should the world seek to avoid, and what emissions path will keep us below this temperature."

49. Lord Turner's recommendation was accepted by the Minister and endorsed by Parliament.

The equity based framework underpinning the 2008 Act (Contraction and Convergence); and the raising of the 2050 Target from a 60% to 80% reduction.

50. Initially, the Climate Change Bill had proposed a target of 60% reductions by 2050 (compared to a 1990 baseline). The rationale for the target was explained by Lord Deben (now Chair of the CC Committee) in his 2007 report to the Shadow Cabinet [TJEC/1/25-32]:⁴

"The British Government took a welcome lead in adopting on a unilateral basis the 2050 goal to reduce emissions by 60%. That aspiration was rooted in the soundest science available at the time, which suggested that this level of cuts was necessary to contain temperature increases below a 2°C threshold (above pre-industrial levels) beyond which risks were considered to be unacceptable."

51. The target, in other words, was based on doing what was necessary to avoid a level of unacceptable risk.
52. More specifically, the 60% target derived from a Royal Commission Report of 2000, that was itself based on the model of Contraction and Convergence:⁵

"The most promising, and just, basis for securing long-term agreement is to allocate emission rights to nations on a per capita basis – enshrining the idea that every human is entitled to release into the atmosphere the same quantity of greenhouse gases ...

... we have applied the contraction and convergence approach to carbon dioxide emissions, and calculated what the UK's emissions quotas would be in 2050 ... If 550

⁴ September 2007, Blueprint for a Green Economy, Submission to the Shadow Cabinet, Chair, John Gummer [TJEC/1/25-32].

⁵ The Royal Commission on Environmental Pollution's 22nd Report, *Energy – the Changing Climate*, 2000 [TJEC/1/1-8].

ppmv is selected as the upper limit, UK carbon dioxide emissions would have to be reduced by almost 60% from their current level by mid-century.” (see Summary, paragraph 7: [TJEC/1/4])

53. The model of Contraction and Convergence, cited by the Royal Commission, is a framework which, if applied consistently by all countries, would ensure the world remains within a given carbon budget, providing a rational approach to avoiding catastrophe. In terms of data, it depends for its application only on:

- (a) an estimate of the “global carbon budget” for a particular temperature limit; and
- (b) population statistics, so that a figure for equal *per capita* emissions may be derived.

54. The purpose of the Climate Change Bill was to set an example for others to follow, as confirmed in the Government’s response to the process of pre-legislative scrutiny:⁶

“The Bill also sets an international precedent, reinforcing the UK’s position as a consistent leader in the field of climate change and energy policy.” [TJEC/1/37-38]

55. The process of pre-legislative scrutiny highlighted that given developments in the science since 2000, the 60% target was no longer consistent with the 2°C limit. The Joint Committee stated as follows:⁷

“The 60% target which the RCEP recommended was based on the adoption of the ‘contraction and convergence’ approach first advocated in 1990 by the Global Commons Institute. Contraction and Convergence involves calculating the maximum global level of emissions which could be regarded as ‘safe’, and apportioning these emissions to countries on an equal per capita basis ...

Since the RCEP made this recommendation in 2000, understanding of climate change has increased significantly. Research carried out in recent years, most notably, as far as many of those submitting evidence are concerned, the Tyndall Centre, has indicated that the risks of climate change are greater than previously assumed, and that the ‘safe’ level of carbon dioxide in the atmosphere is lower than previously thought ...

⁶ October 2007, Taking Forward the UK Climate Change Bill: The Government Response to Pre-Legislative Scrutiny and Public Consultation, Executive Summary [TJEC/1/33-40].

⁷ 2007, Joint Committee on the Draft Climate Change Bill, First Report [TJEC/1/11-24].

Indeed, much of the evidence we received from experts consequently indicated that the target of 60% was insufficient, and that a target of up to 80% would now be more appropriate. Amongst witnesses, with the solitary exception of Lord Lawson of Blaby, there was a remarkable degree of consensus on this point across environmental NGOs, scientific institutions, and even the Government itself.” (see paragraphs 39-40: [TJEC/1/19])

56. Consequently the Government asked the CC Committee to review the target prior to the 2008 Act's implementation. As alluded to above (paragraph 48) Lord Adair Turner communicated the outcome of this review in a letter to Ed Miliband dated 7 October 2008 [TJEC/1/45-50]:

“The Committee looked at whether the UK's current target for a 60% reduction in CO₂ emissions by 2050 was likely to be sufficient given what we know about the latest developments in climate science. This target was recommended in the report by the Royal Commission on Environmental Pollution (RCEP) published in 2000. Since the report, however, new information has become available. This suggests that the dangers of significant climate change are greater than previously assessed which argues for larger global, and thus UK, reductions. In particular the Committee has considered six changes:

- Firstly, we know more about how rising temperatures will reduce the effectiveness of carbon sinks: the science now tells us that for any given level of emissions, concentrations of greenhouse gases (GHGs) and temperatures will increase by more than the RCEP report anticipated.*
- Secondly, unlike the authors of the RCEP report we had the benefit of models that included the warming effects of gases other than CO₂. The Intergovernmental Panel on Climate Change Fourth Assessment Report (IPCC AR4) shows that, for the stabilisation level outlined by RCEP, non-CO₂ gases will increase the equivalent CO₂ concentration in the atmosphere by approximately 100ppm.*
- Thirdly, the reduction in the summer Arctic sea ice in recent years has been greater than predicted by any of the models. Also the summer melt of the Greenland ice sheet has accelerated. These observations have led to new concerns about the pace of global warming, particularly as it affects the Arctic and possible rates of sea level rise.*

- *Fourthly, it is now realised that atmospheric pollution has probably masked some of the greenhouse gas warming that would have occurred. As air quality improvements continue to be achieved, so even more warming can be expected.*
- *Fifthly, there is now a greater understanding of the range of potential climate change impacts, their regional variation and the possibility of abrupt or irreversible changes. These analyses also suggest greater damages once temperature increases become significant.*
- *Finally, latest global emission trends are higher than those anticipated in most IPCC scenarios, largely because of higher economic growth and a shift towards more carbon intensive sources of energy.*

We therefore believe that there is a very strong case for setting a significantly higher reduction target than the 60% proposed by RCEP in 2000

To determine a UK emissions reduction target, we first considered what a global target should be and then the UK's appropriate contribution. The global emissions target needs to be based on an analysis of the climate science. The crucial issue is what level of global temperature should the world seek to avoid, and what emissions path will keep us below this temperature ...

... we believe that it is difficult to imagine a global deal which allows the developed countries to have emissions per capita in 2050 which are significantly above a sustainable global average."

57. I understand that it was on the basis of this letter that the Secretary of State adopted a carbon target for 2050 of 80%.
58. The CC Committee's Report of 2008 - *Building a low-carbon economy - the UK's contribution to tackling climate change* [TJEC/1/51-58] - contains further explanation of the methodology used to derive the UK target from the global. It describes the "ultimate aim of climate policy" as being:

"to avoid harmful impacts on human welfare which could arise from an increase in global mean temperature and associated changes in regional climates around the world."

[TJEC/1/56]

59. Summarising developments since the Royal Commission Report in 2000, necessitating revision to the proposed 2050 Target, it said as follows:

"Since the Commission's report, however, developments in climate science suggest the need for a significantly tighter global objective, whilst trends in emissions and concentrations suggest the need for earlier and more radical action by the developed world in particular." [TJEC/1/55A]

60. The CC Committee noted that what really mattered were cumulative emissions (ie the carbon budget), rather than the precise level of emissions at any given point in time:

"It is important to note, however, that while discussion of a global deal tends to focus on emissions in 2050, two other considerations are also important:

- The climate impact of our preferred trajectories depends primarily upon the cumulative emissions profile. Cumulative emissions between 1990 and 2050 for the trajectories recommended here are 2,420 GtCO_{2e} to 2,540 GtCO_{2e}, of which we estimate around 780 GtCO_{2e} has been used already.*
- In addition, the climate impact of our preferred trajectories depends upon further emission reduction beyond 2050: emissions should fall to between 8 GtCO_{2e} and 10 GtCO_{2e} by 2100, with a cumulative budget between 2051 and 2100 of 590 GtCO_{2e} to 760 GtCO_{2e}. Should emissions not fall further beyond 2050 then the climate outcomes set out in this section will not be achieved." [TJEC/1/57]*

61. Crucially, the CC Committee explained its approach to deriving the UK target from the global goal:

"Equal per capita emissions: The simplest approach is to assume that in the long-term every person on the planet is entitled to an equal share of GHG emissions. If the world in total is to reduce emissions to a range of 20 GtCO_{2e} to 24 GtCO_{2e} by 2050, this would imply a per capita allowance of between 2.1 to 2.6 tonnes CO₂-equivalent (assuming a global population in 2050 of about 9.2 billion³⁰). A global deal on this basis would require that the UK reduces emissions to something like 146 MtCO_{2e} to 180 MtCO_{2e}³¹ ...This implies cuts of between 78% and 82% versus the 1990 baseline." [emphasis added]. [TJEC/1/58]

62. It is evident from the above that not only did the Royal Commission base its original recommendation on the Contraction and Convergence model in 2000, but so did the CC Committee in 2008.

63. When questioned about basis of the 2050 Target by the Environmental Audit Commission in 2009, Lord Turner explained as follows:

"When we proceed from the global target to the UK target we are suggesting something which is reasonably pragmatically close to Contract and Converge ... It's very difficult to imagine a long-term path for the world which isn't somewhat related to a Contract and Converge approach." [TJEC/1/59-62]

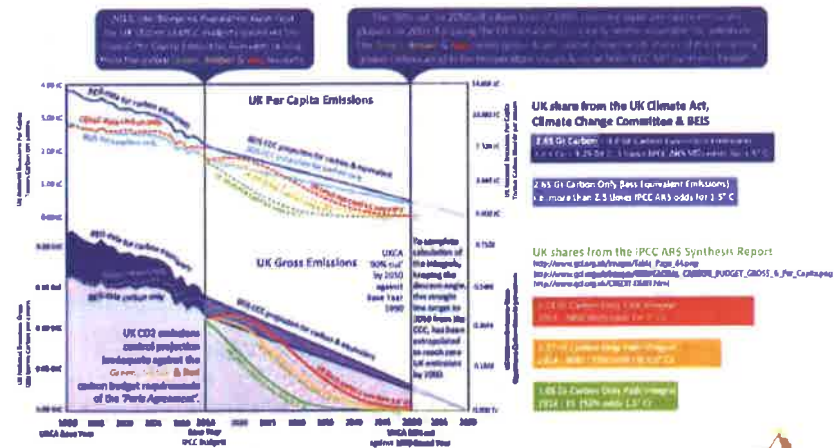
64. It is clear from the above that the purpose of the 2008 Act was to commit the UK to making a fair contribution to the global target, assessed on the basis of climate science, and using the standard of equal per capita emissions to determine an appropriate share.

The divergence between the current 2050 Target and equity – the current target commits the UK, "international climate leader", to three times its equitable share of the global carbon budget

65. The 2016 CC Committee Recommendation is plainly inconsistent with that purpose. As things stand, the divergence between the current target and its original purpose can be visualised in the graphic below (prepared by the Global Commons Institute, the organisation that developed the Contraction and Convergence Model) [TJEC/1/x/y]:⁸

⁸ Accessible via http://www.gci.org.uk/Judicial_Review.html (accessed on 7 December 2017).

As shown, the UK Climate Change Act & BEIS carbon target at 'Equal Per Capita emissions shares globally by 2050', is roughly three times the UK's share of the IPCC carbon budget for an even chance of 1.5°C that is consistent with the 'Paris Agreement'.



66. Looking at the bottom part of the chart, the area beneath the green line marks the UK's share of the global carbon budget with a 50% probability of limiting warming to 1.5°C and 80% probability of limiting it to 2°C, based on equal *per capita* emissions. Even that means a 1 in 5 chance of disaster. The area beneath the blue line represents the cumulative emissions implied by the current 2050 Target. That area is three times greater than the areas representing the UK's fair share of the budget.
67. It is clear that Parliament passed the 2008 Act to commit the UK to consuming no more than its fair share of the global carbon budget (the very minimum requirement for demonstrating leadership). Given that current target implies the UK consuming approximately *three times* that share, it is clear that the purpose of the 2008 Act is now being grossly traversed, with very few people (either in Parliament or across the public) being aware of that fact. Given the implications of failed UK climate leadership, that is a very serious matter.

CC Committee's specious justifications for its recommendation

68. Plan B had a number of additional concerns as set out below.
69. First, the CC Committee suggests three reasons for not revising the 2050 Target despite its inconsistency with the Paris Agreement:
 - (a) technical infeasibility;

(b) raising the ambition of the 2050 Target to align with the Paris Agreement may be postponed to a later date; and

(c) lack of available research on the applicable global pathways.

70. Not only are these three reasons mutually inconsistent and contradictory; none of them withstands individual scrutiny.

71. **“Technical infeasibility”**: There is no good reason to suppose the CC Committee is in a better position than anyone else to predict the technical innovation that may arise around the world between now and 2050. Government can create favourable conditions for innovation, or support it with direct investment, but not predict it decades ahead. When the carbon target for 2050 was agreed by Parliament in 2008, that was not on the basis of Parliament’s predictions of what technical innovation would occur; it was squarely on the basis of what was needed to avoid catastrophe. The point was neatly made by the CC Committee itself in 2008:⁹

“The challenge is not the technical feasibility of a low-carbon economy but making it happen. Ensuring action will require strong leadership from government and a concerted response from individuals and businesses.”

72. A similar point was made by Lord Deben himself in his report to the Shadow Cabinet in 2007:¹⁰

“We should consider what is necessary to be what is practical ... We must not encourage the view that if the target proves too hard, we just move it. The climate won’t wait.”

73. Further, the CC Committee itself acknowledges at page 21 of the 2016 Committee Recommendation the potential viability of pathways with a 50% probability of keeping warming to 1.5°C, considering it to be, in practice, the “upper limit of Paris Ambition” [TJEC/1/111].

⁹ December 2008, Committee on Climate Change’s First Report, Building a low-carbon economy – the UK’s contribution to tackling climate change, page xiii [TJEC/1/54].

¹⁰ September 2007, Blueprint for a Green Economy, Submission to the Shadow Cabinet, Chair, John Gummer at page 380 [TJEC/1/28].

74. **“Raising the ambition of the 2050 target to align with the Paris Agreement may be postponed to a later date”:** There is an overwhelming consensus that delay is a false economy. Again, the point was made powerfully by Lord Deben himself in his 2007 report [TJEC/1/26]:

“But why act now? Why not wait until the scientists can give us more conclusive information on the risks and the economists can give us a more reliable cost benefit analysis? The reality is simple. We know that every molecule of CO₂ that we add to the atmosphere will stay there for at least 100 years. Therefore with every year that passes we may be locking ourselves into a potentially bigger and more expensive problem even it were not to become utterly disastrous ...

9.3.3.4. We cannot afford to wait

Some argue that the most cost-effective approach is to focus our limited resources on ‘adapting’ to climate change. We strongly support the view that adaptation must rise up the international and domestic agenda but not at the price of failing to reduce emissions. The science is clear. The problem is only going to get bigger and more expensive.

There are some who argue that we should wait before taking action to cut emissions vigorously, because the cost of the technology that will make a difference will fall. But for costs to fall, technology needs to be developed and deployed. Given the long timescales involved, our innovators and financiers need the policy framework and incentives to get to work now.”

75. A similar point was also made by Lord Stern in 2014:¹¹

“There are some who try to argue that they recognise the basic science but that we cannot go as fast as a 2°C target requires and that it should be relaxed. Such arguments usually, deliberately or otherwise, embody three assumptions: that the dangers of delay are modest; that learning processes are slow; and that policy can or should proceed gradually. In my view all three are mistaken. I have explained the dangers of delay above. The story of discovery, learning and growth is set out in section. The argument that policy can proceed gradually not only overlooks the dangers of delay but also risks giving

¹¹ Growth, climate and collaboration: towards agreement in Paris 2015, Nicholas Stern, December 2014 [TJEC/1/71-72].

mixed signals about the strength of policy commitment, creating additional uncertainty and reducing investment.

The window to limit temperature increases to 2°C is still open, but is closing rapidly. Urgent and strong action in the next two decades, with global, deep and economy-wide progress this decade, is necessary if the risks of dangerous climate change are to be radically reduced. Indeed strong, clear policies are likely to lead to strong investment and innovation and rapid learning and discovery. Until now, the overall pace of emissions reductions has been dangerously slow.” [TJEC/1/72]

76. Likewise the 2015 Report of the UNFCCC Structured Expert Dialogue [TJEC/1/73-79] highlights that delay only compounds the problem and creates additional risks:

“The longer we wait to bend the curve of currently increasing global emissions of GHGs, the steeper we will have to bend it down later, even with negative emissions towards the end of the century ...

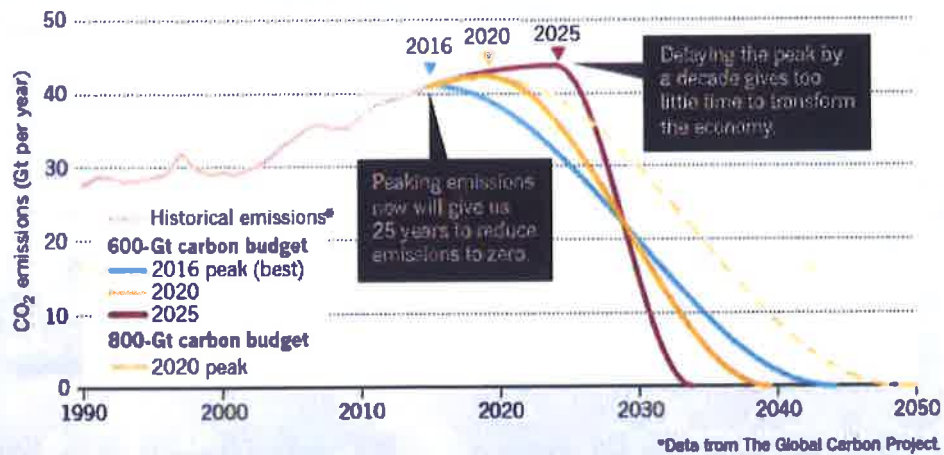
Risk related to scaling up low-carbon technologies increases when mitigation is delayed, and overshooting is a typical feature of low-stabilization scenarios, which all have risks.”

[TJEC/1/75]

77. It is unclear to what extent (if at all) the above positions were taken into account by the CC Committee or the Secretary of State.
78. The self-defeating nature of delaying a necessary change of trajectory is perfectly illustrated by the graphic below, accompanying the recent “Comment piece” in the leading scientific Journal, *Nature* [TJEC/1/211-213]:

CARBON CRUNCH

There is a mean budget of around 600 gigatonnes (Gt) of carbon dioxide left to emit before the planet warms dangerously, by more than 1.5–2°C. Stretching the budget to 800 Gt buys another 10 years, but at a greater risk of exceeding the temperature limit.



79. The longer the Secretary of State delays revision of the 2050 Target, the less feasible it becomes to align it to the Paris Agreement. It should be apparent that the first two reasons cited by the CC Committee for not recommending revision, are directly contradictory and therefore irrational.
80. **"Lack of available research":** The CC Committee claims there is insufficient research to set a new target. That is a puzzling claim given the vast amount of climate change research and modelling in existence.
81. It is even more puzzling given the CC Committee's report, which specifically refers to the global carbon budgets for 1.5°C (as developed by the IPCC) on page 24 of the 2016 Committee Recommendation [TJEC/1/114]:

"Global CO₂ budgets consistent with different temperature limits are available from the IPCC, based on the current best understanding of the sensitivity of the climate to emissions and assumptions over future emissions for other gases:

- *Table 2.1 shows the global CO₂ budgets provided by the IPCC, consistent with a 50% likelihood of staying below 1.5°C and 66% likelihood of staying below 2°C (the range of temperature ambition in the Paris Agreement). The budget from 2015 for at*

least a 66% likelihood of 2°C is 590-1240 billion tonnes of CO₂ (GtCO₂) and for at least a 50% likelihood of 1.5°C is 390-440 GtCO₂.

- The range within each CO₂ budget reflects uncertainty in scenarios of non-CO₂ emissions which also cause climate change. Non-CO₂ emissions do not fall to zero in these scenarios, but reducing them plays a critical role. Deeper reductions allow a higher carbon budget."*

82. With the global budget for 1.5°C and for 2°C, the CC Committee have all that they need to apply precisely the same principles they applied in 2008 to determining the UK's share. Indeed, the Global Commons Institute has conducted precisely that exercise as can be seen in the graphic referred to at paragraph 25 above.
83. The chart shows the UK shares of the IPCC carbon budgets on the basis of equal *per capita* emissions, the key concept for the determination of the UK share in 2008.
84. It is simply incorrect to claim there is insufficient research to set a new target. For obvious reasons, there is more research now than there was in 2008.

Wrong example set for other countries

85. In addition to the issues of principle and rationality set out above, Plan B was also concerned about the 2016 CC Committee Recommendation for more pragmatic reasons. If the UK, a self-proclaimed "climate leader" and architect of the Paris Agreement, was not going to act on *its own call* to close the gap between action and goal and increase ambition as a matter of urgency, we were all in "*big, big trouble*".
86. Others take the UK's claims to "climate leadership" at face value. Few countries around the world have the same depth of resources either in terms of climate science or climate diplomacy. As Parliament recognised in 2008, the 2008 Act serves as a model internationally. I can highlight one practical example of this from my personal experience.
87. In November 2016, I attended a joint meeting of the Commonwealth Secretariat, the UNFCCC Secretariat and UN Environment to develop a "tool-kit" to support developing countries in implementing the Paris Agreement. I was asked to present specifically on the Paris Agreement "Blueprint" (a model for assessing country fair

shares of the global carbon budget, based on the same principles of Contraction and Convergence that underpin the 2008 Act itself) and to participate in the meeting more generally. In the draft tool-kit under consideration the 2008 Act and the 2050 Target were cited as examples of good practice. I had to explain that the UK's carbon target was actually inconsistent with the Paris Agreement (a fact acknowledged by the CC Committee), and consequently not a good example to be promoting globally.

88. I do not know how this was reflected in the final version of the tool-kit (or even whether the tool-kit has now been published). The general point is that international organisations and other countries look to the UK as an example of good practice. Had the Secretary of State revised the 2050 Target to align with the Paris Agreement, that increased ambition would already be influencing others around the world (as the targets of Sweden, Norway and others are already doing). It is impossible to quantify the consequences of the missed opportunity to date.

A decision taken "behind closed doors"

89. Third, aside from the substance of the 2016 Committee Recommendation, there was a striking incongruity between its momentous implications and the cursory nature of the CC Committee's analysis (as recorded in the minutes of the meeting of 16 September). It seemed surprising that an issue of such global and historic significance merited no more than 75 minutes of the CC Committee's time, and that it was relegated to a single item on the CC Committee's busy agenda for the day. No consideration appeared to have been given to:

- (a) the grave consequences that would flow from the UK sending a message to the world that there was no need to put the Paris Agreement's raised ambition into practice;
- (b) the UK's legal obligations under the UNFCCC and the Paris Agreement;
- (c) the CC Committee's own legal obligations under the Human Rights Act 1998;
- (d) the dangers of delay and the demand for urgency;
- (e) the obligation to set targets according to equity and the precautionary principle;

- (f) the CC Committee's own criteria for revising the carbon budget as set out in its 2008 report; and
 - (g) Parliament's clear intention that the UK's carbon target should align to the global climate obligation and serve as an example to others.
90. In light of the above, Plan B does not consider that the CC Committee's reasoning withstands scrutiny.

Events leading up to Plan B's legal action

91. On 9 November 2016, the day of President Trump's election, Plan B hosted an open meeting to discuss potential legal options for bridging the gap between science and political action. A diverse range of people attended the meeting, including representatives from the RSPB and the Global Commons Institute. The consensus from that meeting was that the UK Government's failure to align its carbon target to the Paris Agreement should be challenged.
92. In January 2017, Plan B circulated a "Legal Options Paper" to relevant agencies in the UK and beyond, outlining the possibility of bringing judicial review proceedings in respect of the UK Government's failure to bring the carbon target into line with the Paris Agreement. This paper led to a number of discussions with other organisations and interested individuals regarding the appropriate way to proceed.
93. In March 2017, the current Secretary of State made his first appointment to the CC Committee, Dr Rebecca Heaton, Head of Sustainability and Policy at Drax Group. Drax Group operates Drax Power Station, a power station in North Yorkshire fired by a combination of coal and biomass. In 2008, 29 climate change campaigners had blocked a train delivering coal to Drax Power Station. They were convicted at Leeds Crown Court of obstructing a railway. In 2014 the then Director of Public Prosecutions, Keir Starmer, invited the defendants to appeal their convictions, following revelations of the non-disclosure of the role of an undercover officer, Mark Kennedy. Their convictions were subsequently quashed.

94. *The Telegraph* subsequently published an article about Drax in September 2017 in its Business Section, “*Drax powers ahead with plan to cut down on coal*” [TJEC/1/215]. Below are some quotes from the article:

“Koss [the CEO of Drax Power] is hoping to win a contract to supply power in the Government’s next capacity auction in 2019. This would allow the coal-to-gas conversion to take place by 2023 – just ahead of the Government’s 2025 ban on coal-fired power.

Drax is no stranger to lobbying Government or fighting for its place in Britain’s future energy mix. Coal may be dead but Drax is ready to rise from its ashes.”

95. Given that the intention for the CC Committee is to provide the Government with independent advice on its carbon emissions, the appointment of a senior officer from Drax to the CC Committee did not bode well for the future. Already there were a number of members of the CC Committee with links to the fossil fuel industry.

Preliminary correspondence with the Defendant

96. On 13 April 2017, I wrote on behalf of Plan B to the Secretary of State urging him to exercise his power under the 2008 Act to revise the 2050 Target, and to take reasonable steps to safeguard the right to life: [TJEC/1/181-188]. That letter went unanswered (see further below).
97. Also on 13 April 2017, I wrote to the CC Committee urging it to revise the 2016 Committee Recommendation: [TJEC/1/189-194]. The CC Committee responded on 2 May 2017 asking Plan B to provide some further analysis: [TJEC/1/195]. Plan B responded to that request on 19 May 2017: [TJEC/1/196-201].
98. In light of the Secretary of State’s failure to respond to my 13 April 2017 letter, I chased a response and received a brief acknowledgement dated 28 June 2017 [TJEC/1/208] apologising for the delay and indicating that a substantive reply would come “shortly”. I responded the same day to draw attention to the urgency of the matter: [TJEC/1/209-210]. No further correspondence was received from the Secretary of State until its formal response to the PAP Letter (as to which, see below).

99. I received a further letter dated 7 August 2017 from the CC Committee: [TJEC/1/214]. In that letter, the CC Committee acknowledged that:

“...the Paris Agreement describes a higher level of ambition than the one that formed the basis of the UK’s existing legislated emission reduction targets.”

100. Given what I considered to be a failure by the Secretary of State to engage with the substance of Plan B’s concerns, I instructed Bindmans to send the PAP Letter. By this stage, a year had passed since the CC Committee had decided to recommend against a revision to the 2050 Target. We could find no record of the Secretary of State responding to the CC Committee’s recommendation and it was unclear whether or not he planned to do so. In any event, much had changed since September 2016.

Developments since October 2016

101. Critically, President Trump had been elected and indicated his intention to withdraw the US from the Paris Agreement. In September 2016, there would still have been people who believed the UNFCCC process could be relied upon to address the gap between action and goal. By September 2017, it was clear to everyone that a very substantial hole had been blown in that process.
102. In particular, in November 2016, United Nations Environment Programme published its “Emissions Gap Report” comparing the global emissions trajectory post Paris with the actions required. This concluded:

“This report estimates we are actually on track for global warming of up to 3.4 degrees Celsius. Current commitments will reduce emissions by no more than a third of the levels required by 2030 to avert disaster. So, we must take urgent action.” [TJEC/1/157]

103. Real-world events have since heightened the sense of urgency, with temperatures from the Arctic recorded at 20°C above the seasonal norm, and melt-rates substantially exceeding the modelled predictions. Hurricanes, powered by climate change, had caused devastation across the US and the Caribbean.
104. A Comment published in the respected journal *Nature* (referred to at paragraph 78 above) signed by numerous eminent scientists, lawyers and diplomats had shown that if the Paris Agreement were to be implemented and catastrophe avoided, global

greenhouse gas emissions would need to peak by 2020 and reach zero by 2040: [TJEC/1/211-213].

105. Further countries, including Sweden and the 48 Countries of the Climate Vulnerable Forum had committed to net zero emissions by or before 2050.
106. The argument for revising the 2050 Target was already overwhelming in September 2016. By September 2017 it was even more so.

IV. PRE-ACTION CORRESPONDENCE

107. The PAP Letter set out the reasons why Plan B considered the failure of the Secretary of State to review the 2050 Target to be unlawful. It accordingly asked the Secretary of State to review the 2050 Target and determine an appropriate amended target, taking into account the principles set out in the PAP Letter (see, in particular, paragraph 123 of the PAP Letter at [PB/E/35]).
108. The PAP Letter also sought disclosure of certain documents from the Secretary of State, and requested confirmation as to whether the Secretary of State had had a role in commissioning the 2016 Committee Recommendation [PB/E/35-36].
109. The parties agreed to an extension of time for the Secretary of State's pre-action response (the "PAP Response"), which was provided on 24 October 2017: [PB/E/43-53].
110. By way of the PAP Response, the Secretary of State denied that he was under any obligation to amend the 2050 Target, including by reference to the 2016 Committee Recommendation.
111. At paragraphs 57 to 58 of the PAP Response [PB/E/52], the Secretary of State refused Plan B's request for information and documents, but referred to two documents, one published in January 2017 – the "UK Climate Change Risk Assessment" [TJEC/1/158-180] – and one published on 12 October 2017 (ie in between the PAP Letter and PAP Response) – the "Clean Growth Strategy" [PB/B]. I understood from that letter, and from a review of the documents, that the Secretary of State's decision not to change the Target to have been made and communicated in the Clean Growth Strategy. There

was no other indication in the letter of when the decision had been made, let alone communicated.

112. As I explain below, I understand the Secretary of State's position now to be that his decision not to review or amend the 2050 Target was taken on or around the date of the publication of the CC Committee's Report in October 2016. It is unclear how this decision was made or communicated. It does not appear to have been made public.

V. PLAN B'S RESPONSE TO THE PAP RESPONSE

113. Plan B's full response to the PAP Response is set out in the Grounds. I nevertheless consider it appropriate to respond briefly here to certain factual matters raised by the Secretary of State. In particular, the Secretary of State appears to have misunderstood Plan B's argument in a number of important respects.

What matters is cumulative emissions not a date for "net zero"

114. "Net zero emissions": At paragraph 6 of the PAP Response [PB/E/43], the Secretary of State says:

"the thrust of [the PAP Letter] appears to indicate that you consider that a net zero emissions target is required to be set, and you contend that the Secretary of State is under an obligation in law to amend the 2050 Target now."

115. The thrust of Plan B's case is precisely *not* that a net zero emissions target is required to be set. Plan B agrees with the CC Committee's position when it gave its original advice in 2008: it is the level of *cumulative* emissions that effects global warming, not the level of emissions on any given date. See the CC Committee's comment:

"It is important to note, however, that while discussion of a global deal tends to focus on emissions in 2050 ...[t]he climate impact of our preferred trajectories depends primarily upon the cumulative emissions profile". [emphasis added]

116. Nowhere do we say that "a zero emission date" is the remedy sought (either in the early correspondence or in the PAP letter itself). We simply want the Secretary of State to ensure that the UK consumes no more than its fair share of the global carbon budget. As it is, the Secretary of State commits the greater part of his PAP Response to disputing a case that Plan B is not in fact arguing.

117. More generally, Plan B has not prescribed what it considers to be the appropriate level for the revised 2050 Target. Plan B's argument focuses on the purpose of the 2008 Act and the principles to be applied to the setting of the 2050 Target (as detailed in correspondence with the Secretary of State, including the PAP Letter). I will repeat the point, in the hope of dispelling the apparent confusion. The model underpinning the 2008 Act is one that commits the UK to no more than its fair share of the global carbon budget. Given events since 2008, and the ongoing failure to update the target in light of those events, the UK's current 2050 Target puts it on course to consume three times its share of the remaining global carbon budget. We simply ask the Secretary of State to revise the target in line with the Act's purpose on the basis of the equity model on which it was originally designed.

118. Indeed, the Secretary of State confirms, in paragraph 42 his PAP Response [PB/E/50-51], that the original 2050 target was based on working out the UK's contribution to the global target:

"The UK's current 2050 Target was based on the IPCC's 4th Assessment Report, and was designed to keep the UK on a path consistent with a global 2°C pathway."

119. The position of the IPCC's 4th Assessment Report [TJEC/1/41-44] on the issue is set out in the table below:

Box 13.7 The range of the difference between emissions in 1990 and emission allowances in 2020/2050 for various GHG concentration levels for Annex I and non-Annex I countries as a group^a

Scenario category	Region	2020	2050
A-450 ppm CO ₂ -eq ^b	Annex I	-25% to -40%	-80% to -95%
	Non-Annex I	Substantial deviation from baseline in Latin America, Middle East, East Asia and Centrally-Planned Asia	Substantial deviation from baseline in all regions
B-550 ppm CO ₂ -eq	Annex I	-10% to -30%	-40% to -90%
	Non-Annex I	Deviation from baseline in Latin America and Middle East, East Asia	Deviation from baseline in most regions, especially in Latin America and Middle East
C-650 ppm CO ₂ -eq	Annex I	0% to -25%	-30% to -80%
	Non-Annex I	Baseline	Deviation from baseline in Latin America and Middle East, East Asia

Notes:

^a The aggregate range is based on multiple approaches to apportion emissions between regions (contraction and convergence, multistage, Triptych and intensity targets, among others). Each approach makes different assumptions about the pathway, specific national efforts and other variables. Additional extreme cases – in which Annex I undertakes all reductions, or non-Annex I undertakes all reductions – are not included. The ranges presented here do not imply political feasibility, nor do the results reflect cost variances.

^b Only the studies aiming at stabilization at 450 ppm CO₂-eq assume a (temporary) overshoot of about 50 ppm (See Den Elzen and Meinshausen, 2006).

Source: See references listed in first paragraph of Section 13.3.3.3

120. The UK is an “Annex 1” country. The IPCC’s 4th Assessment Report recommended even in 2007 that Annex 1 countries reduce their emissions by 80-95% by 2050 to stabilize emission concentrations at 450 ppm CO₂ - eq (the level considered to be consistent with a 2°C limit). The UK’s 2050 Target was at the very bottom of the IPCC’s proposed range of ambition even then.
121. Further “note a” in the table above shows that the IPCC’s recommendations were based on the principles of Contraction and Convergence, the model on which the UK 2008 Act was also premised, and the model which now shows that the UK’s current carbon target would consume *three times* the UK’s fair share of the remaining global carbon budget consistent with the Paris Agreement.
122. The Secretary of State also referred in the PAP Response to the *Clean Growth Strategy* “for further details of the Government’s published position”. Page 139 of this document [PB/B/141] states as follows:

“The UK’s current target is to reduce its greenhouse gas emissions by at least 80 per cent by the year 2050, relative to 1990 levels. This 2050 target was set to be consistent with

keeping the global average temperature to around 2°C above pre-industrial levels with a 50 per cent likelihood."

123. The Secretary of the State effectively concedes that the purpose of the 2050 Target is to align UK emissions to the global climate obligation (rather than to conform to his personal assessment of what is achievable by 2050).
124. Likewise, the importance of setting the 2050 Target on the basis of transparent, replicable principles was emphasised by Lord Deben himself (now Chair of the CC Committee) in his report to the Shadow Cabinet in 2007 [TJEC/1/29]:

"The Climate Change Committee should also be asked to give an early opinion on the adequacy of the 2020 and 2050 statutory targets. This should flow from judgments formed on the appropriate stabilisation target for concentration of greenhouse gases that is compatible with 2°C and transparent assumptions on an equitable share for the UK and other developed economies."

125. The Secretary of State has fundamentally misrepresented Plan B's argument in reducing it to setting a particular target by a given date. It appears that the Secretary of State is simply inferring that the application of the principles on which the 2008 Act is based imply a net zero target by 2050. This only serves to highlight the fact that the Secretary of State is aware that the current 2050 target is inconsistent with such principles.

The Secretary of State's claim that the UK target remains "world leading" is not correct

126. At paragraph 8(a) of the PAP Response [PB/E/44], the Secretary of State asserts:

"Both the adoption of the Climate Change Act 2008 and of the existing target of at least 80% reductions by 2050 against a 1990 baseline remain world leading."

127. This is quite simply incorrect. Following the Paris Agreement, a substantial number of countries have committed to complete decarbonisation of their economies by or before 2050. In June 2016, Norway's Parliament approved a goal of carbon neutrality by 2030.¹² In November 2017, the 48 countries of the Climate Vulnerable Forum

¹² See Reuters Report, 7 June 2016: "Norway brings forward carbon neutrality goal to 2030" [TJEC/1/202-204].

committed to 100% renewable energy production by 2030-2050.¹³ In June 2017, Sweden passed a law committing to carbon neutrality by 2045.¹⁴ In October 2017, New Zealand's Prime Minister committed to carbon neutrality by 2050.¹⁵ As set out in our PAP Letter at paragraph 71, the Scottish Government is currently proposing to increase the ambition of its 2050 target beyond an 80% reduction, in recognition of the increased ambition of the Paris Agreement. It is therefore surprising that the Secretary of State asserts that the UK target for 2050 remains "world leading". One must assume he is unaware of the developments set out above.

International law obligations on Secretary of State

128. At paragraph 16 of the PAP Response, the Secretary of State says [PB/E/45]:

"The argument that you set out in your Letter Before Claim is premised to a significant extent upon an assertion that the current 2050 Target is "inconsistent with international law", by which you mean with the Paris Agreement."

129. Again, the Secretary of State is just mistaken in asserting that our reference to "international law" can be reduced to the Paris Agreement. As clearly set out in our PAP Letter, the Paris Agreement is no more than a supplement to a pre-existing international legal framework. At paragraph 5 (and following) [PB/E/2] we refer, for example, to the UNFCCC, ratified by the UK, and the obligation it imposes on parties to "regularly update" their mitigation measures. At paragraph 95(e) [PB/E/29] we refer to the general duty under international law to prevent harm to other countries (an obligation, which the UNFCCC recognises as applicable to measures in relation to climate change). The Secretary of State's position is inconsistent with all such sources of international law, including the Paris Agreement.

¹³ The Independent, 18 November 2016: "Nearly 50 countries vow to use 100% renewable energy by 2050" [TJEC/1/151-153].

¹⁴ The Independent, 17 June 2017: "Sweden pledges to reach net-zero carbon emissions by 2045" [TJEC/1/2050207].

¹⁵ Climate Change News, 20 October 2017: "Jacinda Arden commits New Zealand to zero carbon by 2020" [TJEC/1/216-219].

130. At paragraph 17 of the PAP Response, the Secretary of State states [PB/E/45]:

"Your argument misstates the legal effect of the Paris Agreement. In particular, it misrepresents the aims and objectives of the Agreement as amounting to legally binding targets in their own right."

131. Again, the Secretary of State has misunderstood our position. We do not say that the Paris Agreement imposes on parties "legally binding targets" – quite clearly it does not. Rather, we say that international law (including the UNFCCC and the Paris Agreement) require national targets to be set on the basis of certain principles, including in particular the principles of equity and the precautionary principle. Further, we say that the purpose of the 2008 Act is to ensure the UK aligns its emissions reductions to the global goal – and that when the goal changes, the UK carbon target must follow suit.

The 2050 Target can not be revised on the basis of changes in technology

132. In a footnote to paragraph 20 of the PAP Response [PB/E/46], the Secretary of State incorrectly implies that section 10(2) of the 2008 Act requires "*technology relevant to climate change*" to be taken into account in setting the 2050 Target. It is quite clear that it does not do so (in fact it implies the opposite). Section 10(2) relates to "*Matters to be taken into account in connection with carbon budgets*", the five yearly UK "*carbon budgets*" which are subordinate to the 2050 Target. Alongside "*technology relevant to climate change*", matters such as "*economic circumstances*" and "*social circumstances*" are also listed as "*matters to be taken into account*".

133. By contrast, section 2 of the 2008 Act is categorical that the 2050 Target may "*only*" be revised where:

"there have been significant developments in:

- i) scientific knowledge about climate change, or*
- ii) European or international law or policy ..."*

134. There is no mention of technology or economic circumstances in respect of changing the 2050 Target, a stark contrast with the provisions on the carbon budgets. This is not surprising given the different purposes of the target and the budgets. It is clearly

impossible for the Secretary of State to predict what technology may or may not be available by 2050, and there is nothing in the 2008 Act to suggest he should attempt to do so. In contrast, it is clearly sensible to take into account existing technology when setting a five-year budget.

Both domestic and international law require climate targets to be set and kept up to date

135. At paragraph 22 of the PAP Response, the Secretary of State says:

"As appears from the above, the Government does not agree that it is legally obliged by the Paris Agreement to fix a target."

136. This is a puzzling assertion. It is clear that international law generally, and the Paris Agreement in particular, does require states to fix targets, and to do so on the basis of certain principles. See for example, Articles 3 and 4 of the Paris Agreement [PB/F/90-93]:

"Article 3: As nationally determined contributions to the global response to climate change, all Parties are to undertake and communicate ambitious efforts as defined in Articles 4, [and others]... with the view to achieving the purpose of this Agreement as set out in Article 2 ...

Article 4(1): In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible ... on the basis of equity ..."

Delay is a false economy

137. At paragraph 23 of the PAP Response, the Secretary of State asserts that it is his intention to set a net zero emissions goal "*in due course*". Leaving aside for one moment the fact that Plan B is not actually proposing the setting of a net zero emissions goal, the phrase "*in due course*" is revealing. It implies that the Secretary of State believes that time is on our side (in contrast to the Paris Agreement, which highlights the urgency of raising ambition). It implies that the Secretary of State does not recognise that every moment of delay in plotting the trajectory towards the necessary target only puts that target further out of reach. If the necessary target is "unfeasible" now, it will not become more feasible through delay (see the "carbon crunch" graphic at paragraph 78 above).

138. In paragraph 24 of the PAP Response [PB/E/47], the Secretary of State asserts:

"we need first to understand more about the global path to net zero emissions".

139. As set out at above, both the CC Committee and the IPCC (see the *Synthesis Report* at [TJEC/1/67-70] already provide carbon budgets consistent with limiting warming to 1.5°C and 2°C, providing a clear basis for assessing the requisite global trajectory. That is all the information required to set a global path to zero emissions (as it was in 2008). In the circumstances it is further action not further research that is required (as recognised in the Paris Decision).

140. By the time the Government decides to align the 2050 Target to the Paris Agreement, in practice it will be too late to do so. If too ambitious a target is set, that may be corrected "in due course". By contrast, the longer an insufficiently ambitious trajectory is maintained, the steeper the descent of emissions that is ultimately required, and the goal rapidly becomes unattainable.

The carbon target should drive technological innovation (and not vice versa)

141. Plan B does not claim that "emissions targets should be set without regard to the availability of the actual or anticipated practical means of achieving it." What we say is that, in order to fulfill the purpose of the 2008 Act, the Government must do whatever it takes to avoid catastrophe, and that if the technology to achieve what is necessary by 2050 is currently lacking, the appropriate signals should be set to encourage the requisite investment and technical innovation. We do not believe that either the CC Committee or the Secretary of State can predict what innovation may occur between now and 2050. That is why we contend that the only rational basis for setting the 2050 Target is to align it to science and international law (in accordance with section 2 of the 2008 Act).

Failure to consider the consequences of breaching the climate boundary condition

142. I also note the most striking feature of the Secretary of State's position in the PAP Response. Nowhere does he refer to the extraordinarily grave consequences of failing to limit warming in line with the Paris Agreement. He does not deny that such a failure would run intolerable risks of catastrophe for the people of the UK and beyond (in light of the scientific consensus, it would be difficult for him to do that); but, as

with the CC Committee's analysis, he fails to take these risks into account, and the consequent need to take a precautionary approach to avoiding them. Specifically, he does not refer to the CC Committee's "rule", established in 2008, that the 2050 Target should aim to reduce to a very low probability (of less than 1%) the risks of "extreme danger". Nor does he refer to the disproportionate burden imposed on the young generation, in clear breach of the Equality Act 2010.

"Do we want to play Russian roulette with two bullets or one?"

143. Finally I should place in context the modesty of Plan B's submissions. Our argument is that the Paris Agreement requires the Secretary of State to base the UK carbon target on a global trajectory with at least a 50% probability of limiting warming to 1.5°C. Such a target would mean no more than an 80% probability of limiting warming to 2°C. In other words, even if our submissions were to be accepted, the UK would still be accepting somewhere between a 20% and 50% probability of catastrophe (depending on whether the "cliff edge" is 1.5°C or 2°C). We do not for a moment suggest that that is safe or sensible position to adopt. We simply say that to adopt a greater level of risk than that is clearly irrational and inconsistent with:

- (a) the purpose of the 2008 Act;
- (b) the UK Government's obligations under international law; and
- (c) the UK Government's obligations under the Human Rights Act 1998.

144. The words of Lord Stern to the World Economic Forum in 2013 are appropriate in this context:¹⁶

"Looking back, I underestimated the risks. The planet and the atmosphere seem to be absorbing less carbon than we expected, and emissions are rising pretty strongly. Some of the effects are coming through more quickly than we thought then ...

This is potentially so dangerous that we have to act strongly. Do we want to play Russian roulette with two bullets or one? These risks for many people are existential."

¹⁶ Reported in The Guardian: Nicholas Stern: 'I got it wrong on climate change – it's far, far worse' [TJEC/1/65-66].

145. I remain of the view that the Secretary of State is under a legal obligation to take appropriate action to review the 2050 Target, and to revise it on the basis of principles that are consistent with the purpose of the 2008 Act and the UK Government's obligations under international law and the Human Rights Act 1998. In light of the Secretary of State's stated position, it has, however, been necessary to file these proceedings for judicial review. For the reasons given in the Grounds, I respectfully ask that the Court grant the Claimants' application.
146. I also welcome the Secretary of State's recognition at paragraph 26 of the PAP Response of the significance of the UN Facilitative Dialogue in 2018, and the importance of the UK entering that process in a position to lead by example. We trust, therefore, that the Secretary of State will co-operate to ensure this judicial review is concluded well in advance of that process, ensuring the UK Government enters the process from a position of strength.

VI. COSTS

Costs capping under the Aarhus regime

147. The parties have agreed that the present claim falls within the scope of the Aarhus Convention (see, in particular, paragraph 59 of the PAP Response: [PB/E/52]).
148. The parties have also agreed that the usual costs caps under the Aarhus regime should apply and they will not seek to vary those amounts, absent a change in circumstances: see [PB/E/58-62] and the Grounds at section M.
149. I understand that the Claimants are required to provide certain financial information to the Court. Accordingly, a schedule of Plan B's financial resources, which includes financial support that others have or are likely to provide, is provided in the annex to this statement. The Claimants request that this information be marked confidential on the Court file and not be disclosed to third parties without further Court order.

Other Claimants

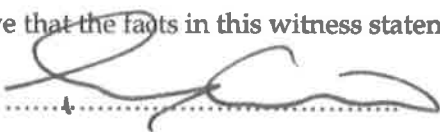
150. I understand that the other Claimants in the proceedings have similarly provided confidential schedules of financial information with their witness statements.

151. It is my understanding that the other Claimants have agreed to bring this claim as co-claimants on the basis that their notional individual costs liability will be no greater than £5,000 and on the expectation that Plan B will raise such funds via crowdfunding on the CrowdJustice website. To the extent that any of the other Claimants choose to withdraw from the proceedings, Plan B has agreed to indemnify them in respect of any costs for which they would notionally be liable up until the point of withdrawal if such funds are not raised through crowdfunding.

STATEMENT OF TRUTH

I believe that the facts in this witness statement are true.

Signed



Timothy John Edward Crosland

Dated

8/12/17