



Climate bill consultation

Response by the World Development Movement

June 2007

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Introduction

The World Development Movement (WDM) welcomes the fact that the government has drafted a bill to set statutory targets for reducing the UK's contribution to climate change. Taking such steps is an important part of not only mitigating climate change but also demonstrating that concerted action is possible and creating the political conditions that will be conducive to achieving a new post-Kyoto global agreement on greenhouse gas emission reductions.

That said, WDM has a range of concerns relating to whether the proposed content of the bill will achieve such objectives. This document's structure is based on the questions set out in the consultation document. WDM has not attempted to answer all of the questions; instead we have concentrated on providing responses to those questions where the organisation has particular analysis, expertise or views to offer.

WDM hopes that this will contribute to a process leading to a stronger, more effective bill to enable the UK to play an effective part in combating climate change.

Targets and Budgets

Setting statutory targets

1. Is the government right to set unilaterally a long-term legal target for reducing CO₂ emissions through domestic and international action by 60% by 2050 and a further interim legal target for 2020 of 26-32%?

This question has several elements that are worth treating separately.

a) Unilateral action

The government is absolutely right to set unilateral targets. While it is true that climate change cannot be solved by UK action alone and that action by other countries is required, it is also true that the UK has historically been a significant cause of the problem and thus has a moral obligation to take the lead in reducing emissions.

There is a further political imperative for unilateral action which is the need to secure an international agreement on greenhouse gas emissions reductions. Such an accord needs to include more advanced developing countries (eg, China) who will be reluctant to sign-up unless they see those principally responsible for the problem in the industrialised world demonstrating a willingness and ability to take action.

b) Reducing CO₂ emissions...

The focus of the bill solely on CO₂ emissions and not on the UK's overall contribution to climate change could create a major problem for the future (see response to question 2).

c) ...through domestic and international action

WDM is concerned that including 'international action' within the scope of the bill creates a significant loophole that, while allowing the UK to meet the bill's targets in theory, will in practice not result in effective action to reduce greenhouse gas

emissions and thus weakens the UK's contribution to mitigating climate change (see the response to question 7).

d) 60% by 2050 and a further interim legal target for 2020 of 26-32%

The UK Government has rightly stated that its goal must be to prevent what has become known as 'dangerous climate change'; in other words preventing average global temperatures from rising more than 2°C on pre-industrial levels.¹ This 2°C threshold is widely regarded as a point beyond which the impacts of climate change, particularly on the poorest people in the world, will become truly catastrophic.

The objective of staying within the 2°C threshold should be clearly stated and made a central part of the bill. The rest of the bill should be constructed as the framework for making the UK's contribution to achieving this overarching objective. Therefore the size of the cuts needs to be in line with the latest science relating to what action is required from industrialised countries like the UK in order to keep global temperatures from rising more than 2°C.

While supporting the concept of setting both long-term and interim legal targets, WDM is concerned that the actual targets included in the draft bill are already out of date. Beyond political expediency, it is hard to find a justification for the '26-32% by 2020 and 60% by 2050' formula. The May 2007 IPCC summary report on mitigation outlined that for the average global temperature increase to be kept to 2.0°C-2.4°C requires stabilisation at 445-490ppm of CO₂eq in the atmosphere. This in turn requires global yearly emissions to be reduced by between 50 to 85 per cent by 2050, on current levels.² Because the UK emits more than double the worldwide average CO₂ per person, the UK has to reduce emissions by between 80 and 90 per cent by 2050, on current levels. This translates into a 40 per cent cut by 2020.

There is a powerful rationale for ensuring that the bill includes a more realistic science-based target from the outset. We are being warned by scientists that the next decade is a critical period where concerted action must be taken. It is likely that once the bill is passed and the first five-year budget set there will be a high degree of political inertia when it comes to amending it. If the political will then exists to revise the target after the first period, this will create the need for much steeper cuts during the second and third budget periods. For all stakeholders concerned (including political parties) it makes better sense to include a more accurate target in the bill from the beginning.

The problems created by a weak target and five-year budget periods also create a strong rationale for re-thinking the proposed approach to budget periods (see the response to question 3).

2. Is the government right to keep under review the question of moving to a broader system of greenhouse gas targets and budgets, and to maintain the focus at this stage on CO₂?

There are two key areas of concern to highlight in response to this question.

a) CO₂ emissions

First, is that the bill does not cover *all* CO₂ emissions. The draft excludes emissions from international aviation and shipping based on the premise that these emissions are not part of the existing Kyoto Protocol and that disagreement exists internationally

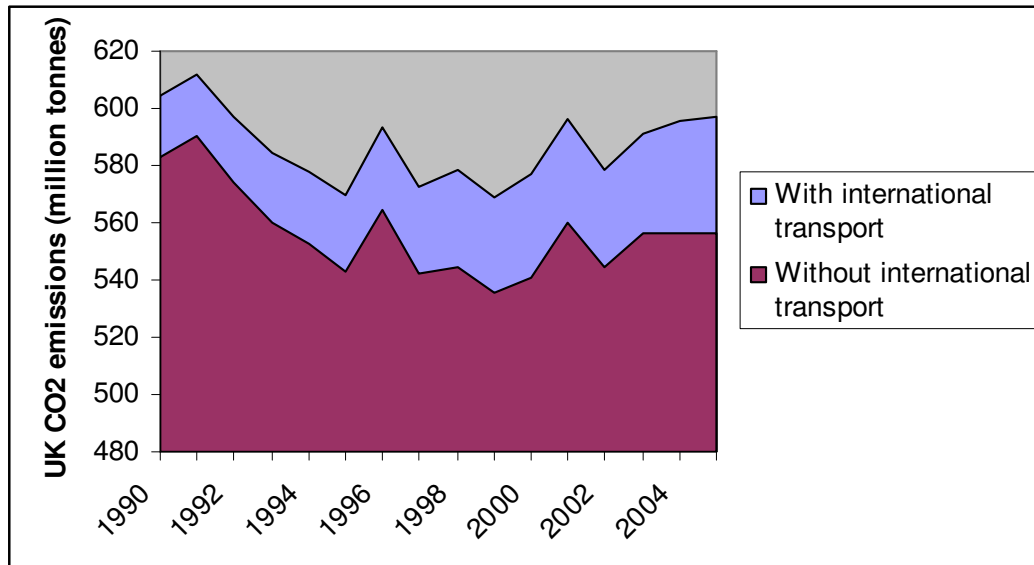
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over whether and how to account for and reduce these emissions. Provision is made in the bill to include these emissions at some future date if such an international deal can be struck.

International aviation and shipping emissions accounted for 6.8 per cent of the UK's CO₂ emissions in 2005.³ Aviation is also the fastest growing source of CO₂ emissions in the UK. Since 1997, UK aviation emissions have increased by more than 50 per cent, and are currently growing at between 5 and 10 per cent each year.⁴

Figure 1: UK CO₂ emissions 1990-2005, with and without international transport⁵



The government is currently planning a major expansion in UK aviation, with an intended doubling of air passengers between 2002 and 2020, and a doubling of air freight between 2002 and 2010. The government's aviation white paper supports new runways at Edinburgh, Birmingham International,ⁱ Stansted and Heathrow airports. In addition, the government's white paper supports other airport expansion measures, such as new terminals or longer runways, at a total of 24 different airports in the UK.ⁱⁱ⁶

The Tyndall Centre for Climate Change has predicted that unless the government's policy changes on aviation expansion, CO₂ emissions from UK aviation will have more than doubled by 2030 and trebled by 2050.⁷ In Tables 1 to 3 below, we predict how UK CO₂ emissions will change in 2020 and 2050. Assuming that the government does meet its targets as set out in the draft climate bill, and that aviation emissions grow as predicted by the Tyndall Centre, then;

- By 2020, reported cuts in CO₂ of 26 per cent will in reality only be 18 per cent.
- By 2050, the government will say it has cut CO₂ by 60 per cent, but it will actually have been cut by 42 per cent.
- By 2020, the UK government will be ignoring 13 per cent of UK CO₂ emissions.

ⁱ Latest indications are that the second runway at Birmingham will be ruled out for at least the next 25 years in the Birmingham Airport Master Plan to be launched in the summer of 2007.

ⁱⁱ Edinburgh, Glasgow International, Glasgow Prestwick, Aberdeen, Inverness, Cardiff International, Belfast International, Manchester, Liverpool John Lennon, Blackpool, Carlisle, Newcastle, Teesside International, Leeds-Bradford International, Birmingham International, East Midlands, Bristol International, Bournemouth International, Exeter International, Stansted, Heathrow, Gatwick, Luton.

- By 2050, the UK government will be ignoring 33 per cent of UK CO₂ emissions.

Table 1: Total UK CO₂ emissions (million tonnes)

	Government targeted CO ₂ emissions	Actual CO ₂ emissions
1990	589.3	611.7
2005	556.2	597.1
2020	436.1	501.0 ⁱⁱⁱ
2050	235.7	351.8 ^{iv}

Table 2: Percentage reduction in UK CO₂ emissions

	Government targeted CO ₂ emission reduction	Actual CO ₂ emission reduction
1990	0	0
2005	- 5.6%	- 2.4%
2020	- 26%	- 18%
2050	- 60%	- 42%

Table 3: Predicted emissions from aviation and international shipping (million tonnes)

	International aviation CO ₂ emissions	International shipping CO ₂ emissions ^v	Domestic aviation CO ₂ emissions
1990	15.7	6.7	1.3
2005	35.0	5.9	2.4
2020	59.0	5.9	3.8
2050	110.2	5.9	7.0

The above analysis demonstrates that, even when looking solely at CO₂ emissions, excluding international aviation from the climate bill will significantly reduce its effectiveness. WDM is surprised and disappointed that this consultation does not include a specific question relating to this issue given its importance.

b) non-CO₂ emissions

The second problem in relation to question 2 is that focusing solely on CO₂ emissions also misses a range of other important greenhouse gases. It is true that emissions of some other greenhouse gases (eg, nitrous oxide and methane) were almost halved between 1990 and 2004 and there is no reason to expect these to increase, so in that context the focus on CO₂ emissions seems reasonable. However, emissions of nitric oxide, nitrogen dioxide and water vapour by aviation at altitude also contribute to global warming and these aviation related non-CO₂ emissions have not only been increasing, they increase the climate change impact of aviation.

Calculations of the extent of the extra warming generated by these gases vary. In 1999, the Intergovernmental Panel on Climate Change estimated that up until 1992,

ⁱⁱⁱ 436.1 + 5.9 million tonnes of CO₂ from international shipping + 59 million tonnes of CO₂ from international aviation.

^{iv} 235.7 + 5.9 million tonnes of CO₂ from international shipping + 110.2 million tonnes of CO₂ from international aviation.

^v In recent years, there has been no discernable trend in CO₂ emissions from international shipping. We have therefore assumed that this figure will be constant.

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the warming caused by aviation was 2.7 times that of the warming of its CO₂ emissions alone. They went on to predict that between 1992 and 2050, the warming caused by aviation would be 2 to 4 times larger than aviation's CO₂ emissions alone.⁸

The government has accepted that aviation makes a greater contribution to climate change than CO₂ emissions alone. The Treasury's pre-budget report in 2006 stated that aviation makes a contribution to climate change 2 to 4 times greater than CO₂ emissions alone.⁹ The Department for Transport uses a figure of 2.5 times more warming from UK aviation than CO₂ alone.¹⁰

The government reports that in 2005, the latest year for which full figures are available, the UK's contribution to climate change was the equivalent of emitting 656.2 million tonnes of CO₂ (normally expressed as CO₂eq).¹¹ However, this figure does not include CO₂ emissions from the UK's share of international aviation and shipping, or the non-CO₂ emissions of domestic and international aviation. These emissions totaled 97 million tonnes of CO₂eq in 2005.¹² By not including these emissions in the bill at the outset, the government is ignoring 12.9 per cent of the UK's contribution to climate change (see Table 4).

Table 4: Official and actual UK contribution to climate change in 2005¹³

	UK CO₂eq emissions in 2005
Official UK government figure	656.2 million tonnes
CO ₂ emissions from international aviation and shipping	40.9 million tonnes
Extra warming from domestic and international aviation emissions	56.1 million tonnes
Total UK CO₂eq emissions	753.2 million tonnes

UK aviation already makes a greater contribution to climate change than UK cars; UK manufacturing and construction; or emissions direct from UK residential buildings^{vi} (see Table 5). The only sector which makes a greater contribution to climate change than UK aviation is public electricity and heat.

^{vi} Does not include electricity consumption from the national grid.

Table 5: UK's contribution to climate change by sector^{14,vii}

Emissions source	Emissions (CO ₂ eq million tonnes)	Per cent of UK's contribution to climate change
Public electricity and heat	172.3	22.9
Civil aviation ^{viii}	93.5	12.4
Manufacturing and construction	85.1	11.3
Residential	83.3	11.1
Passenger cars	73.1	9.3
Other road transport	52.3	7.4
Agriculture	49.6	6.6
Energy production	42.1	5.6
Commercial and institutional buildings	23.4	3.1
Waste treatment	20.2	2.7
Industrial processes	13.5	1.8
Civil shipping ^{ix}	10.1	1.4
Military aviation and shipping	2.8	0.4
Railways ^x	2.0	0.3
Other	29.9	4.0
Total	753.2 million tonnes	100

Excluding international aviation and shipping related CO₂ and non-CO₂ emissions from the bill means that other sectors in the UK economy will have to shoulder the responsibility for emissions reductions. Much obviously depends on how emission reductions are achieved but it is worth considering the potential social justice implications of excluding aviation (at least in the short- to medium-term) while requiring emissions reductions in other sectors. The government should bear in mind that the richest 18 per cent of the UK population are responsible for 54 per cent of flights, whilst the poorest 18 per cent are responsible for just 5 per cent.¹⁵

The growth in flying over the past few years has been due to richer people flying more, whilst those on the lowest incomes are actually flying *less*. In 2000, over 8 million leisure trips were taken from UK airports by passengers earning less than £14,374 a year. In 2004, the same group of people flew less, with just over 7 million trips. In contrast, people earning over £28,750 a year made 28.8 million leisure trips in 2000, and this rose to 36.5 million in 2004.¹⁶ Compared to greenhouse gas emissions reduction in other sectors, it may be that curbing growth in aviation emissions is one of the more socially progressive actions the government could take.

WDM is also concerned that not requiring emissions reductions in aviation is potentially storing up a major problem for the future. As already mentioned, to get a

^{vii} Non-CO₂ emissions in this table are assigned as follows:

Aviation: 37.4 million tonnes of CO₂ x 2.5 = 93.5 million tonnes of CO₂eq.

Methane: 49.3 million tonnes of CO₂eq. Split 40 per cent to waste treatment (landfill) (19.7 million tonnes), 37 per cent agriculture (18.2 million tonnes), and 23 per cent other (11.3 million tonnes).

Nitrous oxide: 39.6 million tonnes of CO₂eq. Split 68 per cent agriculture (26.9 million tonnes), 14 per cent road transport (5.5 million tonnes), 18 per cent other (7.1 million tonnes).

Hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride: 10.7 million tonnes CO₂eq placed in 'other'.

^{viii} Domestic and international.

^{ix} Domestic and international.

^x Only diesel – emissions from electric trains are counted under public electricity.

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more accurate picture of the UK's contribution to climate change, analysis should include the 'radiative forcing' on aviation emissions, which the Department of Transport estimates as 2.5 times the impact of CO₂ alone.

The following analysis assumes that:

- There are no further cuts in methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride beyond those which have occurred from 1990 to 2005.^{xi}
- CO₂ emissions reported by the UK government are cut as targeted.
- Aviation emissions grow as outlined above, and international shipping emissions remain constant.

Table 6: A more accurate prediction of the UK's contribution to climate change

	Government targeted CO ₂ eq emissions	Actual CO ₂ eq emissions
1990	775.2	823.2 ^{xii}
2005	656.2	753.2 ^{xiii}
2020	535.7 ^{xiv}	694.8 ^{xv}
2050	335.3 ^{xvi}	627.2 ^{xvii}

The UK government is only recognising a portion of the UK's contribution to climate change in its targets for a 26 per cent cut in CO₂ emissions by 2020 and 60 per cent cut by 2050. The estimate above is that even if the government achieves these targets for reducing CO₂ from some sources, the UK's actual contribution to climate change will have fallen by 16 per cent by 2020 on 1990 levels and by 24 per cent by 2050. On 2005 levels, there will be cuts of just 8 per cent by 2020 and 17 per cent by 2050.

By 2050, if the Bill's proposed targets are achieved, the government will be reporting a 60 per cent reduction in CO₂ emissions, with CO₂eq emissions reported as down to 335.7 million tonnes. In reality, there will be an additional 291.9 million tonnes of emissions from international aviation and shipping, and extra warming from non-CO₂ emissions from domestic aviation. The government will be ignoring *almost half* of the UK's contribution to climate change. Aviation will account for 46.7 per cent of the UK's contribution to climate change in 2050.

The climate bill is an important step forward but excluding aviation will undermine its effectiveness in addressing the UK's contribution to climate change. WDM thinks the reasons given by the government for excluding aviation (ie, aviation is not in the Kyoto protocol, there is no international agreement on how to attribute aviation emissions by

^{xi} This may be a slightly harsh prediction. Over 2002 to 2005, CO₂eq emissions from the basket of five greenhouse gases fell by 10.3 per cent. However, the government does not include targets for the basket of five greenhouse gases in its draft climate change bill, and so no evaluation can be made of future falls under the terms of the bill.

^{xii} 775.2 + 6.7 million tonnes of CO₂ from international shipping, 39.3 million tonnes of CO₂eq from international aviation and 2 million tonnes of CO₂eq from radiative forcing of domestic aviation.

^{xiii} 656.2 + 5.9 million tonnes of CO₂ from international shipping, 87.5 million tonnes of CO₂eq from international aviation and 3.6 million tonnes of CO₂eq from radiative forcing of domestic aviation.

^{xiv} 436.1 + 99.6 million tonnes of CO₂eq from basket of five greenhouse gases

^{xv} 535.7 + 5.9 million tonnes of CO₂ from international shipping, 147.5 million tonnes of CO₂eq from international aviation and 5.7 million tonnes of CO₂eq from radiative forcing of domestic aviation.

^{xvi} 235.7 + 99.6 million tonnes of CO₂eq from basket of five greenhouse gases

^{xvii} 335.3 + 5.9 million tonnes of CO₂ from international shipping, 275.5 million tonnes of CO₂eq from international aviation and 10.5 million tonnes of CO₂eq from radiative forcing of domestic aviation.

country, and aviation can be included in the EU emissions trading scheme) deserve some further scrutiny.

The weight of recent evidence on climate change suggests that the Kyoto Protocol, which after all is ten years old, has to be seen as a minimum on which to build rather than as defining the maximum limits of action. Governments often see international treaties as setting a baseline rather than a top line for policy and there is no reason to view Kyoto as any different. A comprehensive approach to addressing climate change requires the UK's share of aviation emissions to be identified, monitored and reduced. Including these emissions in the proposed climate bill is an important first step. Even though no international scheme currently exists, the UK could demonstrate how aviation emissions can be monitored, attributed and their growth curbed.

Logical approaches to attributing aviation emissions to particular countries do exist and WDM argues it makes sense to use one of them now and take the necessary action to curb emissions growth. The exact approach could of course be modified to fit any future post-Kyoto agreement that included aviation, but waiting until 2012 or beyond for such an international deal to be done is a high risk strategy given the continuing growth of the aviation sector.

On the EU emissions trading scheme, the fact that aviation can be included within it is not an argument for excluding aviation emissions from the bill. Other sectors of the economy are part of both the emissions trading scheme and are also part of the bill so it is hard to see why aviation should receive this kind of special treatment given the sector's current, and potential future contribution to UK emissions.

There can be no doubt that we cannot hope to tackle climate change without addressing emissions from aviation. Right now, the government has the choice to curb the growth in the aviation industry. Delaying action on aviation will only make it more difficult both politically and practically as the UK will be in the position of needing to reduce emissions from an expanded and even more economically (and politically) significant aviation industry. Proposing measures now that will mean jobs are created in other sectors but few in aviation is surely better, and politically more palatable, than having to propose measures in future that will require potential job losses in aviation.

WDM urges the government to include UK aviation's CO₂ and non-CO₂ greenhouse gas emissions within the scope of the bill from the outset and take action to curb the *growth* in these emissions rather than postponing full inclusion of aviation until some future date when a possible international accord might have been reached and UK aviation emissions are much larger and need to be significantly *cut*.

Carbon budgeting

3. Should the UK move to a system of carbon management based upon statutory five-year carbon budgets set in secondary legislation?

WDM supports creating a degree of certainty relating to government action on climate change. However, we are concerned that the proposal for a five-year carbon budget cycle has several flaws.

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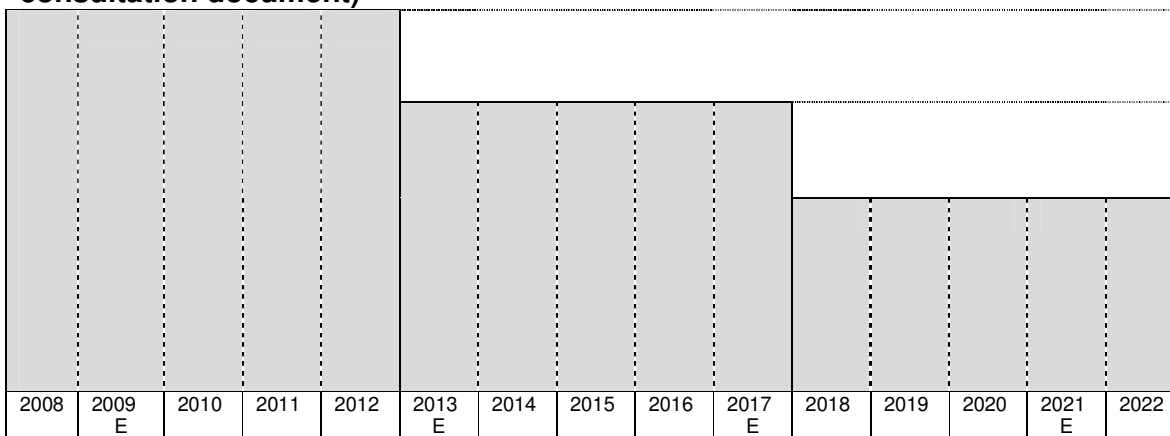
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The first is that the UK's mitigation effort is more likely to be effective if public interest and political momentum can be maintained. WDM is concerned that five-year budget periods could result in difficult decisions being postponed. With the budget period spanning the electoral cycle there is some potential for buck-passing from one administration to another. Also, in terms of accountability, changes of Minister, Secretary of State or even Prime Minister can be important and five-year budget periods increase the likelihood of what could effectively be buck-passing between individuals within government.

A second flaw is that five-year budget periods make it more difficult to quickly incorporate the evolving science of climate change into decision-making. Although the bill rightly creates a review mechanism, once a five-year budget has been set there is likely to be a degree of political inertia in changing it. This would probably mean that responses to enhanced scientific evidence (if that evidence points to the need for deeper emissions cuts) are delayed until the next five-year budget period.

This also relates to the third flaw (see Figure 2). The proposed five year budget period, with a target to achieve lower average emissions over that period, results in an odd emissions reduction trajectory. After every five years a sudden and significant emissions cut is needed. Creating a system that requires such large steps in emission reduction seems unnecessary and unrealistic.

Figure 2: Typology of five-year carbon budget periods (based on the consultation document)^{xviii}

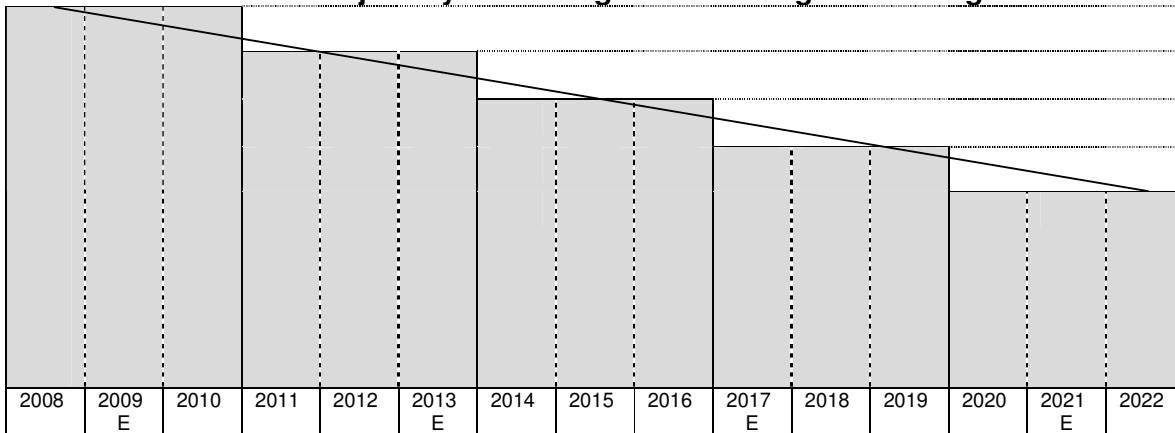


As a way to ameliorate these three flaws, WDM argues that the most effective way to plan for emissions reduction would be to set binding annual targets. Annual targets would create greater transparency over whether or not the government is on track with emissions reduction and therefore generate swifter corrective action if reductions fall behind schedule. These targets could be modified depending on performance or in response to new scientific evidence.

That said, WDM is aware that there has been very strong resistance within government for binding annual targets so an alternative system, which we think would still be superior to the five-year budget proposal, could involve three-year budget periods and a requirement to set non-binding annual targets that produce a trajectory of emissions reduction (see Figure 3).

^{xviii} The 'E' under the date refers to a likely election year.

Figure 3: Typology of a proposed three year carbon budget periods with an emissions reduction trajectory set through non-binding annual targets



The type of budget system suggested above would be more likely than a five year budget system to mean that:

- The same government will see through at least one full budget period
- Within a government, the same individuals (Minister, Secretary of State, Chancellor, Prime Minister) see through one or two budget periods
- The emissions reduction trajectory and future budgets can be more easily modified to suit the evolving science
- The emissions reduction trajectory is smoother

4. Do you agree there should be at least three budget periods in statute at any one time?

As outlined above, WDM argues that there should be more than three budget periods in statute at any one time.

Reviewing targets and budgets

5. Do you agree there should be a power to review targets through secondary legislation, to ensure there is sufficient flexibility in the system?

On reviewing *targets*, WDM agrees with the limited criteria set out in the consultation document; ie, targets can be reviewed in response to evolving scientific understanding on climate change or any international agreements on climate change that compel the UK to act differently. However, WDM is concerned that the consultation does not define a process for such reviews.

WDM argues that reviewing the science of climate change and reviewing the targets should be an explicit part of the Committee on Climate Change’s remit. The consultation document seems to suggest that the Committee is only proposed to advise on the carbon budgets and ‘emissions reduction trajectory’ once new targets have been set.

On carbon *budgets*, WDM agrees that changes in the medium- and long-term targets need to be reflected in corresponding alterations to the trajectory of emissions reductions as set out in the carbon budgets. As already mentioned this provides an

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additional argument in favour of shorter budget periods as these will be easier to change in light of new scientific evidence and altered emissions reduction targets.

6. Are there any factors in addition to, or instead of, those already set out that should enable a review of targets and budgets?

As already mentioned, the guiding objective of the bill should be to ensure that the UK is making its contribution to achieving the target of keeping average global temperature increase below the 2°C threshold. Unless scientific consensus were to change on this broader 2°C target, whatever the external factors that might prompt a review of the climate bill targets and budgets, any amendment must still be in line with achieving the overall objective.

Future budgets should only be reviewed and changed if either the targets are changed or if current budgets are not being achieved thus requiring greater emissions reductions in future budgets in order to stay on track with what should be the overall objective of the Bill (staying within the 2°C threshold).

Counting overseas credits towards the budgets and targets

7. Do you agree that, in line with the analysis in the Stern Review and with the operation of the Kyoto Protocol and EU ETS, effort purchased by the UK from other countries should be eligible in contributing towards UK emissions reductions, within the limits set under international law?

The 'limits' set out under international law are that the UK could 'purchase' up to 50 per cent of its greenhouse gas reduction effort from overseas. Therefore, within the proposed framework of the bill (which we argue needs to change) the UK should reduce its CO₂ emissions from 556.2 million tonnes to 235.7 million tonnes by 2050 but up to half of this effort (160.25 million tonnes) could be purchased from abroad.

The argument that it is cheaper, easier and thus more efficient to buy CO₂ emissions reductions in developing countries and that this is legitimate because it makes no difference *where* emissions reductions are made sounds fine in theory but in practice is riddled with problems.

It is notoriously difficult to monitor and verify emissions reductions in the developing world. Under the Kyoto protocol's Clean Development Mechanism (CDM) the largest number of carbon credits have been generated by projects claiming to reduce the gas HFC-23, rather than CO₂. One study has found that the value of credits given to HFC-23 projects at current carbon prices is €4.7 billion. However, an estimate of the cost of technology needed to capture and destroy the same amount of HFC-23 is €100 million.¹⁷ Around €4.6 billion has been generated in profit by HFC-23 generating plants, which could then further expand their operations with the reinvestment of this profit.¹⁸

One Indian chemical company, SRF, made €87 million from the sale of carbon credits in 2006/07. Ashish Bharat Ram, managing director of SRF, claimed: "Strong income from carbon trading strengthened us financially, and now we are expanding into areas related to our core strength of chemical and technical textiles business."¹⁹

Mandatory regulations should exist stating that companies have to capture and destroy HFC-23, especially given the relatively low cost of doing so. However, if such regulations exist in a country, then a company cannot claim carbon credits as they would not be viewed as 'additional'. The existence of the carbon market creates a perverse incentive for governments *not* to regulate HFC-23, so that companies can make a windfall profit by selling credits.

The same process is now likely to happen for plants producing N₂O. N₂O projects are now expected to account for 11 per cent of projects under the Clean Development Mechanism. Again, the price of carbon credits is far higher than the cost of cutting N₂O. This will allow industrial producers of N₂O to reinvest profits, expand their operations and so ultimately expand the quantities of greenhouse gases they produce.²⁰

Such problems mean that incorporating 'purchasing overseas effort' within the bill is creating a major loophole that could render the bill ineffective in addressing the UK's contribution to climate change.

WDM is also concerned that, if towards the end of a budget period, the government is off-track, this loophole will enable it to divert a portion of the aid budget into schemes overseas. This creates a political 'get out' clause that enables Ministers to delay or even avoid completely the decisions necessary for the UK's transition to a low-carbon economy.

WDM argues that the UK needs to make reductions in UK emissions of up to 90 per cent. The UK's historical contribution to climate change means that this country has a moral responsibility to reduce its *own* emissions. On top of, rather than instead of, this emissions reduction it is vital that the UK plays its part in creating the conditions for low carbon development in developing countries, including through technology and financial transfers.

Compliance with carbon budgets and targets

10. Is it right that the Government should have a legal duty to stay within the limits of its carbon budgets?

WDM supports creating legal duties within the bill. This creates a greater incentive for action and provides more certainty.

The Committee on Climate Change

The need for an independent analytical organisation

11. Do you agree that establishing an independent body will improve the institutional framework for managing carbon in the economy?

Yes. While it is not possible, and perhaps not desirable, to make the mechanisms for achieving emissions reduction apolitical, it makes sense to ensure a strong degree of independence when it comes to setting targets and budgets for a transition towards a low carbon economy.

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Functions of the Committee on Climate Change

12. Do you agree that the Committee on Climate Change should have an advisory function regarding the pathway to 2050?

As already mentioned, WDM is concerned that the Committee is not proposed to be involved in reviewing the latest evidence on climate change and then subsequently tasked with reviewing the medium and long term targets. WDM urges the government to make reviewing climate science and targets a central part of the Committee's function. On top of this function it then makes sense for the Committee to be involved in reviewing, and then advising the government on, the carbon budgets and the emissions reduction pathway.

13. Do you agree with the proposal that the Committee on Climate Change should have a strongly analytical role?

The Committee's role should be analytical and, based on analysis, advisory. If the government were to choose to deviate from the Committee's advice, it should be required by the Bill to provide a detailed justification.

Factors for the Committee on Climate Change to consider

14. Are these the right factors for the Committee on Climate Change to take into account in assessing the emissions reduction pathway? Do you consider there are further factors that the Committee should take into account?

It is worthwhile separating the process for determining and reviewing the budget from the process for determining and reviewing the emissions reduction pathway.

On the budget, as already mentioned, budgets should only be reviewed and changed if either the targets are changed or if current budgets are not being achieved thus requiring greater emissions reductions in future budgets in order to stay on track with what should be the overall objective of the bill (staying within the 2°C threshold). It does not seem necessary for other factors to be considered in this process

On the emissions reduction pathway, WDM has already explained its concerns relating to the inclusion of 'purchasing emissions reduction overseas' within the bill so does not support the consideration of this being part of the Committee's remit. It does make sense for the Committee to analyse the potential relative contribution to meeting the budget of different sectors (including international aviation – see above) and providing advice on how UK emissions reductions might best be achieved. Within this remit, it would be useful if the Committee could provide analysis and advice on whether emissions trading is contributing effectively to the goals of the bill and, if not, provide proposals on other measures (taxes, subsidies and/or regulations) that might make a better contribution.

Membership and composition

15. Do you agree the Committee on Climate Change should be comprised of technical experts rather than representatives of stakeholder groups?

WDM believes that the Committee should comprise experts from different fields and that no particular area of expertise, especially those unrelated to the science of climate change (eg, economics), should be over-represented. The key to a successfully functioning committee will be achieving the right balance of expertise to achieve the objective of advising the government on emissions reductions targets, budgets and pathways based on the science of climate change.

WDM thinks it would be unwise to go down the route of creating seats on the committee for representatives of particular interest groups (eg, business representatives, unions or NGOs). This would potentially detract from the focus of the Committee. It is up to government to weigh up different points of view and then act in the broader public interest when it comes to implementing policies to achieve the necessary emissions reductions.

16. Are these the appropriate areas of expertise which should be considered? Do you consider there are further areas that should be considered or any areas that are less important?

As already mentioned, WDM argues that the Committee should be involved in reviewing the latest scientific evidence and advising on any changes to the medium and long term targets. Such a role would require a greater representation of climate scientists than currently seems to be proposed.

Climate change is a global issue and, while people in the UK and other European countries will certainly be affected, the imperative for mitigating climate change is much greater and more urgent when considering the potential impacts on poor people in developing countries.

WDM suggests that the Committee on Climate Change should include an expert on the impacts of climate change on poor people in developing countries. We believe this would go some way to ensuring that the latest evidence on climate change impacts in the global south would be reflected in the Committee's deliberations and conclusions.

Also, WDM is concerned that the focus of the consultation document leans heavily towards the use of emissions trading schemes. Not only could this make reporting on actual emissions reductions very complex and confusing (due to the inclusion of credits purchased overseas in some emissions trading schemes), it could undermine the achievement of the bill's targets given the poor performance of emissions trading in delivering greenhouse gas reductions to date.

This focus on emissions trading is reflected in the fact that an emissions trading expert is proposed for inclusion on the Committee while experts in other areas of climate mitigation policy are not. In addition to an expert on emissions trading, WDM would like to see included on the Committee an expert on environmental taxation, an expert on environmental regulation and an expert on the use of subsidies/incentives.

Climate bill consultation

Response by the World Development Movement

Enabling Powers

Extending the suite of domestic trading schemes

17. Do you agree with the principle of taking enabling powers to introduce new trading schemes?

As already mentioned, WDM's principal concern is that the government does not become overly reliant on emissions trading schemes whether domestic, pan-European or international. Current experience suggests that, while seemingly attractive in theory, the European emissions trading scheme has to date been spectacularly ineffective at actually reducing emissions.

It is important to recognise up-front that the 'market' as it is currently constructed will not deliver the greenhouse gas reductions needed to avert dangerous climate change. The government therefore needs to use all potential mechanisms available – including taxation, subsidies and regulation – to correct what the Stern report rightly called the world's biggest market failure.²¹ Critically, the government needs to be responsive to measures that are not working or inadvertently create perverse incentives. If a policy is not achieving greenhouse gas emissions reductions that help the UK contribute to the 2°C target it should be changed or scrapped. Becoming too attached to single solutions or perceived 'silver bullets' is potentially risky considering the urgent need to mitigate climate change.

Reporting

The need for regular, independent monitoring of the UK's progress

19. Do you agree that the Committee on Climate Change should be responsible for an independent annual report on the UK's progress towards its targets which would incorporate reporting on a completed budget period every five years?

As mentioned earlier, WDM argues for binding annual targets or a system of three year budget periods with annual milestones to set out a year by year emissions reduction trajectory. This should be supported by an independent annual report by the Committee on the annual targets as well as more in-depth reviews of the three year budget periods.

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