

Proposals for a Scottish Climate Change Bill

1. A small Royal Society of Edinburgh (RSE) expert working group, led by the General Secretary, Professor Geoffrey Boulton, has met to provide a response to the consultation on *Proposals for a Scottish Climate Change Bill*. The RSE welcomes the opportunity to comment on the proposals for a Bill and the seriousness with which the Scottish Government takes this issue. The working group would be pleased to meet with the Ministers and civil servants managing the consultation process, as well as Parliamentarians, if this is thought helpful. We first address broad, contextual issues before addressing some of the detailed questions set out in the consultation document.

Global context

2. It is important firstly to set a rationale for Scottish targets. The climatic consequences of greenhouse gas emissions pose a global problem that needs to be addressed globally. As the Stern Report has demonstrated, the costs of inaction are likely to be far greater than the costs of acting to mitigate climate change. Scottish emissions are an insignificant part of the global total, but it is the per capita consumption of the global atmospheric resource, measured by the impact of emissions on the atmosphere, that is the central ethical issue. Why should we permit ourselves individually to emit large quantities of carbon in comparison with the inhabitants of, say, Botswana, when the impacts of the resultant climate will be much greater on them than on us? The fact that Scotland's emissions are a small part of the global total is beside the point. The ethical imperative is for the burden of change to be borne according to the extent that we individually pollute the global atmospheric resource.
3. Even when considering a specific issue such as emissions and climate change, it is important that Government understands that the impact of human emissions on the global atmospheric resource are only part of a larger problem of the depletion of global resource capital that also includes the depletion of soils and their productivity, of biological capital, of mineral resources and of the changes in the nitrogen cycle. Practical immediate consequences are the intertwined issues of climate, energy, food, and the challenge of sustainable economic and social development. The human economy is part of the environment, and not separate from it. These interrelations need to be understood by politicians and by Government if effective policies are to be developed so that the solution of one problem does not create another. The imperative must also be understood and accepted by citizens if the difficult measures that may need to be introduced are to be publicly acceptable and politically achievable. Emissions must therefore be regarded as part of a set of issues that are cross-cutting over many areas of Government and society.

Scottish context

4. Scottish emission targets cannot therefore be viewed in isolation. An approach that sets out targets and procedures without regard to the economic and social framework within which the targets and procedures are being set is deeply flawed. A policy must be grounded in practical realities. Any Scottish Bill should be conceived against the Government's economic strategy '*to increase sustainable economic growth*' and take account of the underlying themes of: *wealthier and fairer; smarter; healthier; safer and stronger; and greener*. Anything less will leave Scotland with an incoherent policy framework that will work to its detriment.
5. In this regard, a strategy for emissions targets must be intimately related at least to an energy strategy that is realistic about the market impacts of policy and its socio-economic consequences. Scotland currently has a high-risk energy strategy that in practical terms depends upon assumptions about the growth and cost of renewable generation and the tractability of carbon capture and storage as a means of continuing to use fossil fuel as the reliable core of energy generation whilst decreasing its emissions. If this strategy proves fallible, it has the potential to place severe curbs on economic and non-economic growth and competitiveness. Increasing energy costs could, however, be offset if the distinctive component of the Scottish energy strategy, its stress on the potential for innovation and economic benefit in a changing global energy regime, could be stimulated through the development and introduction of novel technologies. A strategy for emissions reductions should therefore also be linked to processes whereby relevant research is supported and companies are encouraged and given freedom to develop and utilise new technologies.
6. The economic and environmental benefits of setting an emissions target that is more stringent than the rest of the UK or Europe are not clear to us. At best, Scotland's emissions are a trivial contribution to the global total. At worst, targets more severe than those of our neighbours, if they are associated with the radical measures needed to achieve them, could bear down very unfavourably on the Scottish economy. Scotland should recognise that its energy and emissions future will to a large extent be conditioned by those of the UK as a whole and of the European Union. It should work in concert with UK and EU bodies in developing its strategies, and concentrate on doing those things where it has both the power and potential to make an impact. If the combination of technological development and market conditions permit it to achieve greater emissions cuts than others, so much the better, but we are highly sceptical of setting a more ambitious target than our neighbours at this stage.
7. The most recent data on global carbon emissions has shown that rather than emissions having been reduced or stabilised, they have almost doubled since 2000, and that atmospheric carbon dioxide levels will almost certainly reach those that have been suggested as thresholds for "dangerous climate change". At the same time, climate impacts (such as the loss of Arctic sea ice and disintegration of Antarctic ice shelves) appear to be happening more quickly than predicted by our models. It is conceivable therefore, that the rate of change in Scotland could be much greater than hitherto anticipated, on a decadal rather than 50 year time

frame. This indicates that adaptation should have at least as great a priority in policy development as the mitigation that is the focus of the consultation. An adaptation strategy linked to a Scottish Climate Change Bill should be developed and published at the earliest opportunity.

8. Moreover, early action is not only required because of the urgency of the problem, but also because the more emission reductions are delayed the greater will be the magnitude and rate of the required reductions. Setting a target for 2050 would be of little value if all the reductions took place in the last decade. It is vital that a trajectory of reduction is set, with intermediate benchmarks at 5-10 year intervals.

Important policy linkages

9. We recognise that the consultation is designed to address a relatively narrow set of administrative and technical issues associated with the Scottish Government's target of reducing greenhouse gas emissions by 80% by 2050 compared with emissions in 1990. It is important, however, to point out that achievement of these targets is likely to depend upon a number of other factors that lie outside the scope of the consultation:
 - **A broader strategic frame.** It is vital that any emissions policy is part of a cross-cutting approach that relates emissions, energy strategy and adaptation to economic and social development. Moreover, many Government decisions have emissions implications (e.g. abolishing bridge tolls, delaying railway connection to Borders etc). Government Ministers and decision-makers need to ask about implications, if any, for climate change almost regardless of the policy issue.
 - **Public engagement.** There is every likelihood that the effects of tight emissions targets will be such that they could arouse considerable popular antagonism (particularly if special interests groups succeed in creating a popular campaign to support their interests) which could have the potential to split any political consensus on emissions or undermine Government policies. Given this potential, there is a strong argument for the use of processes of public engagement and deliberative dialogues that explore the issues with citizens and creates political space within which difficult policies can be implemented. Consultation documents of the type to which we are responding are no substitute for proper engagement processes. Moreover, experience shows that these, to be effective, need to be managed by a body independent of Government.
 - **UK linkages.** Whilst the Bill should focus on matters that the Scottish Government can control, it is important that it ensures optimal linkages with policies and processes outwith Scotland. In terms of emissions, energy systems and cost, it is important to recognise that the linkages into the UK energy transmission system and the European market can be used to optimise efficiency. An a priori concept of energy self-sufficiency or failure to utilise efficiencies of scale could be damaging to the Scottish energy system, to its achievement of emissions targets and to its economy. It is vital therefore that UK level cooperation is exploited in the policy for emissions.
 - **Monitoring and information.** It is currently the case that different political parties in Scotland have conflicted sets of data that purport to reflect patterns of energy production and supply in Scotland. It is important that data on emissions does not become such a political football, by having the job of

accumulating and reporting data in an agreed format undertaken by an independent body. Moreover, notwithstanding the importance of the issue, solutions are long term and complex, and it may prove difficult to maintain political momentum. A body charged with emissions accounting and reporting, could also have the responsibility to be a source of publicly accessible information.

Responses to Specific Questions

1. Should the Scottish target be based on carbon dioxide only or the basket of six greenhouse gases?

It is important that targets are set that are determined by the radiative potential of greenhouse gases. Actions that reduce CO₂ emissions may be completely nullified if they result in an increase in CH₄. Given the current nature of emissions, it would be sensible to have a strong target for CO₂ but with more flexible targets for other greenhouse gases, but ensuring that the radiative impact in CO₂ equivalence followed the desired trajectory. It is also important that there is consistency with the UK Climate Change Bill and the EU Emissions Trading Scheme, that have targets for CO₂ only, whilst being alive to the larger issue of greenhouse gas impacts. A difficulty is that the first major socio-economic impact of climate change is likely to be on world food supply – which is already beginning to show signs of crisis. There may be a pressing need to maintain flexibility between targets for individual greenhouse gases related to food production.

2. Should the Bill contain provisions to alter which gases are included, for example if the reliability of data for a particular gas improves or if science changes in the future about which gases cause climate change?

This is a detail, but flexibility would be useful as the science remains uncertain. It would be sufficient for the Bill to have a clause that would allow its details to be modified by statutory or regulatory instruments if later modifications are found to be necessary or desirable. However, we recommend that any significant changes be fully debated by Parliament.

3. The Scottish Government wishes to ensure that the Bill gives sufficient incentives to invest in energy efficiency and renewable electricity. Should targets be based on source emissions; end user inventory; or on individual targets for energy efficiency and renewable electricity. Do you have other suggestions?

The most appropriate targets will vary with the aims of the particular policy strand being pursued. It is therefore simplistic to assume that one set of targets will meet all needs. The process of target setting needs to recognise this and be coupled with a ‘foresight’ approach to the introduction of particular policies and a monitoring and appraisal approach to their actual impact. Target setting alone is too simplistic to be successful. However, the Bill should focus on sources from Scotland. Supplementary reporting could deal with end-users.

4. **Do you agree that the Bill should allow the means of measuring the target to be changed through secondary legislation to reflect international developments or unforeseen consequences of the Bill?**

It is important that target changing is not made too easy, otherwise the Bill will not have the desired effect of sending long-term signals to industry, public and business. However, as the world is uncertain the Bill needs flexibility to adapt (see answer 2).

5. **Should the emissions reduction target take account of the abatement effort made by companies under emissions trading schemes? If so how?**

Emissions trading should be taken fully into account but should be indicated as a clear line in the record of emissions change accounting.

6. **Do you agree that international credits should be counted towards Scottish targets? Should there be limits on credits counted towards Scottish targets?**

Yes to the first part of this question. Credits should be reported, as resources have been spent in reducing emissions, although there are issues of verification. The second question is not a major issue, but there should be limits. Scotland should continue to adhere to Kyoto and post-Kyoto agreements.

7. **Should the Bill allow the level of the 2050 target to be changed through secondary legislation? If so, should this only be allowed on the basis of independent expert advice, to reflect international developments or unforeseen consequences of the Bill? Should any changes to the target be limited to an increase in the target?**

See answers 2 and 4 above. Changes should be permissible in either direction if they can be justified. The purpose of legislation is to serve the best interests of the people and those best interests could shift over time as knowledge and the underlying science changes. However, changes should not be able to be made too easily, otherwise the purpose of the Bill could be undermined without adequate Parliamentary debate. It is possible that an independent, technically proficient body could be charged with assessing such changes.

8. **What factors should be taken into account when setting the level of budgets?**

The eight most relevant factors are given in the consultation text. The need to meet the end-point target along a trajectory that gives prominence to early emissions reduction, should be the overriding constraint.

9. **How long should the interim budget periods be?**

It is always easier for reporting if the budgets can fit with international requirements (including UK and EU ETS phasing). At the present time, most of these relate to a five-year period, and that time period might be most appropriate, but with annual reporting (statistical analysis and modelling of annual returns could be made to create annual data as a basis for corrections). If a period that is non-synchronous with international requirements is selected, then more work will be required for budgeting and reporting, leading to less efficiency and greater uncertainty.

10. How many years in advance should emissions budget periods be set in order to develop infrastructure?

Budgets probably need to be in place some years before the period in question. They are the ramp down needed to get to the final 2050 target. The Bill might contain indicative targets and set them 5 years ahead of time, which would give everyone 5-10 years to carry out actions. Setting out intentions and signals in good time will be crucial in creating the lead times that, for example, industry will need to respond. There should be a 5-year framework with long-term planning being based on multiples of 5-years.

11. What should be the limit (in terms of absolute quantity or as a percentage of the budget period) on the amount of emissions which Government can borrow from the following budget period?

Banking is good, but borrowing should carry a cost – otherwise emissions cuts could forever be delayed. A limit of 10-20% of the budget reduction or about 1.5-2% of the total emissions seems about right. (It must not be too small, so that it allows some flexibility, but not so large that it causes increased emissions of CO₂). However, decisions should be based on analysis of underlying statistical variability in period-to-period trends.

12. Should the Bill include an interim point target? If so, what year (or years) should it be? How should the level be chosen?

The Bill must include interim targets – the perception may be that the 2050 target is so far away that nothing needs to be done for a while. We suggest that the Bill contain some indicative budgets and a 2020 target (which would fit with EU targets). The 2020 target needs to send a signal that reductions in CO₂ emissions will happen.

13. Should Scottish Ministers be required to report on any other issues related to climate change in addition to the requirements already set out? If so, what and how often?

In the spirit of public openness, Scottish Ministers should report on any matters that are germane to climate change. However, there seems to be little point in trying to specify what those might be – it is a function of Parliament not legislation to ensure that Ministers are properly held to account.

14. Is a process of Parliamentary scrutiny the appropriate way of holding the Scottish Government to account if targets or budgets are not met?

Yes, that is the role of Parliament. However, this is a domain where there is ample scope for statistical massaging. We are sceptical that Government should be the statistical custodians, but that an independent body should publish them. It is important that the statistics do not become a political football in Parliament. Its role is to debate policy and values. An independent group should publish emissions figures using agreed and peer-reviewed methods.

15. What should be the primary source of advice to the Scottish Government for setting emissions targets or budgets and why?

There is a need for a Scottish body since it may well be that the appropriate policy in Scotland will need to vary in detail from the more general policy across the UK. It would be important however that such a body is formally linked to the UK Committee on Climate Change. There are arguments for and against the different models that have been put forward for Scotland – and in some cases Ministers will already receive advice from existing public bodies. For example, SNH is already advising on the impact on wildlife, SEPA is advising on flooding etc. However, there is a case for advice that genuinely emanates from an entirely independent source.

16. If there is an existing public body, which body is most suited to carrying out this task and why?

We are sceptical that any of the current agencies of Government could effectively carry out this role. A credible, independent body such as the Royal Society of Edinburgh could provide the frame within which an independent body could operate.

17. Which organisation should be tasked with monitoring the progress of the Scottish Government on reducing emissions and why?

The Scottish Government has an obvious need and role in monitoring its own progress – otherwise it would be deficient in the management of its policies. This monitoring will be scrutinised by Parliament. What is also being sought is an additional assurance and endorsement that the monitoring is not being unfairly undertaken or inaccurately presented. This requires a monitor which the public might regard as having scientific credibility and political independence. The RSE would appear to meet such a requirement.

18. If it were to be an existing public body, which body is most suited to carry out the task and why?

See answer 17 above.

19. Should additional independent mechanisms for scrutinising the effectiveness of the Scottish Government's policies in reducing emissions be created by the Bill?

No, the provisions do not need to be included in the Bill.

20. If so, which organisation is best placed to carry out this function and why?

See answers 15 - 19 above.

21. If it were to be an existing public body, which body is most suited to carrying out the task and why?

See answers 15 - 20 above.

22. Are there any other functions related to climate change, existing or new, which should be carried out at arms length from Government and why?

Given the difficult choices that will almost inevitably face Scotland if its measures are to be effective, there is a vital need for public understanding

about the issues. Otherwise, the political will to act appropriately could be undermined by popular resistance. This is not an issue for consultation in the form taken by the present consultation, nor of lectures by scientists and others about what should be done. Genuine, deliberative public engagement is required that reaches the different parts of the Scottish community, and elicits informed views and choices. Experience has shown that neither Government nor its agencies have sufficient public credibility to undertake such a task. This could be a task to be undertaken by a body such as that referred to in paragraphs 16-21. However, these are not matters which need be included in the proposed Bill.

23. Should the Bill contain enabling powers to introduce a duty on certain parts of the public sector (i.e. local authorities and large public bodies) to take specific actions on climate change or other specified environmental issues? Why?

No, such additional enabling powers are not required to be included in the Bill. The Scottish Government already has the powers required to produce change by advice and direction. It does not need to further centralise power and control.

24. What should such a duty (or duties) include?

See answer 23.

25. Should the Bill contain enabling powers to introduce statutory guidance for certain public sector bodies (i.e. local authorities and large public sector bodies) on specified environmental change and climate measures? Why? Are there any gaps in any existing guidance?

See answer 23.

26. What should this guidance include?

See answer 23.

27. Should the Bill contain enabling powers to create a requirement for certain public bodies (i.e. local authorities and large public bodies) to make regular reports on specific measures they are taking to tackle climate change (whether mitigation or adaptation) or other environmental issues? Why? What should be included?

The powers already available to the Scottish Government in this respect seem to be wholly adequate to the need. Where joint activity is needed it should be achieved through partnership and there should be every encouragement for local innovation which subsequently might be spread more widely through transferable best practice.

28. As a potential non-legislative measure, should current Best Value guidance be amended to take specific account of climate change mitigation and adaptation? If so, how should Best Value guidance be amended?

The answer to the first part of this question is probably yes. However, the answer to the second part will require a separate review exercise. At present the Best Value guidance is mainly set in economic terms and the new

requirement would be for the guidance to be broadened to take fuller account of the areas where there might be conflicts between a simple economic appraisal and one having longer-term aims in respect of climate change. In practice many policies will have parallel benefits in economics and climate change, particularly if evaluations are conducted taking account of the 'lifetime cycle' of the decisions being made. In relation to energy in particular, the trade-offs between emissions reduction, economic development, security of supply and price will be particularly crucial.

29. Are there any amendments to existing legislation or any enabling powers needed to allow for variable charging (for example by local authorities) to incentivise action or eliminate perverse incentives?

Although emissions may be a localised phenomenon, climate is not. There should be a presumption against variable charging unless it can be shown to be broadly beneficial without offending principles of equity.

30. Are there any provisions to help Scotland adapt to the impacts of climate change which should be included in the Bill?

There are various measures that could help Scotland to adapt to climate change but these do not need to be included in the Climate Change Bill. However, the preamble to the Bill should identify the trade-offs that will be required (see answer to Q.28) and the importance of public engagement (see answer to Q.22).

31. Should the provisions of the Environmental Assessment (Scotland) Act 2005, be amended in order to provide clearer links with emissions reduction? If so, how should this be done?

The Environmental Assessment (Scotland) Act 2005 appears presently to be fit for purpose. It would be better to leave any amendments to the Act to a later time.

32. What are the equalities implications of the measures in the proposals for the Scottish Climate Change Bill?

This is a crucial issue, and one that needs to be related to the issues raised in our responses to questions 22 and 28, and the broader issues referred to in our preamble.

33. Is there any existing legislation within the competence of the Scottish Parliament (devolved) which needs to be amended so that appropriate action on climate change can be taken by sectors in society?

Not as far as we are aware.

Additional comments on consultation document

- 1) Targets and annual reporting. Is it worth trying to increase the speed at which the emissions data is gathered? For fuel it should be relatively straightforward. The difficult part would be the carbon storage in forestry but that is highly

uncertain and for a preliminary announcement an estimate from an earlier year could be used.

- 2) The emissions data can be quite uncertain – more direct and timely verification of these is necessary.
- 3) The concern in the consultation document about export of power and if the CO₂ generated would count against Scottish limits is misplaced: 1) As the power exported brings revenue into Scotland and so could be used to purchase credits; 2) As not counting it would differ from international norms as the CO₂ emitted would not be included in any national inventory; and 3) It would be covered by the EU ETS in any case.
- 4) The document, when discussing reduction targets, sometimes forgets the reason for the target – to keep the risk of warming above pre-industrial levels to 2 degrees. This requires emissions to peak very soon and reduce by approximately 3% per year from then on. If this is to happen then for 5-year budgets the first period should have an average budget of about 92% of Year 0 emissions. The 2nd five year period should have a budget of 85% of the first period. Each subsequent budget should be 15% less than, or 85% of, its predecessor.

Additional Information and References

Copies of this response can be requested from the RSE's Consultations Officer, Mr. William Hardie (email: evidenceadvice@royalsoced.org.uk). Responses are also published on the RSE website (www.royalsoced.org.uk).

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