

Environment, Climate Change and Land Reform Committee

Climate Change (Emissions Reduction Targets) (Scotland) Bill

SUBMISSION FROM WWF SCOTLAND

Summary

- The Bill as introduced does not go far enough to deliver on the SNP manifesto commitment to “bring forward a new Climate Change Bill to implement the Paris Climate Change Agreement”¹ and does not realise the 2017 Programme for Government statement that “the Climate Change Bill will send a clear, long-term signal that this is the best place in the world to invest in low carbon business.”²
- Whilst WWF Scotland welcomes some technical improvements to legislation that the Bill as introduced makes, it does not strengthen Scotland’s near-term action, does not introduce new climate change policy, and does not send an iconic long-term signal of intent to global decision makers and markets by setting a deadline to end our contribution to climate change.
- WWF Scotland is a member of the Stop Climate Chaos Scotland (SCCS) coalition, and shares the coalition priorities that the Bill should: set a net-zero target for 2050 at the latest, set a 2030 target of 77%, align finance budgets with climate targets, and progress policy action in energy efficiency and agriculture. We urge MSPs to seek to amend the Bill to deliver these objectives.
- WWF Scotland fully supports the SCCS evidence submission to the ECCLR Committee and would encourage Committee members to read that evidence initially, which sets out our full position. This evidence is supplementary and provides additional material on how climate science has strengthened in the past decade, the impact of climate change on global nature, the role of long-term targets as a market signal, and the international and EU contexts. We will also submit evidence to the Finance and Constitution Committee on the Financial Memorandum to the Bill and wider economics of climate change which we would also encourage members of ECCLR to read.

Climate science has strengthened in the past decade: We urgently need to increase our targets

In nine years since the passing of the Climate Change (Scotland) Act 2009, the case for tougher emissions targets has strengthened immeasurably. The Paris Agreement commits all parties to limit warming to well below 2°C and pursue efforts to limit it to 1.5°C. To fulfil the Paris Agreement, the Scottish Government needs to set targets compatible with the

¹ Page 9 of the 2016 SNP election manifesto: https://www.snp.org/manifesto_2016

² Page 39 of “A Nation with Ambition: 2017 Programme for Government”, <https://www.gov.scot/Resource/0052/00524214.pdf>

1.5°C goal on the basis of the precautionary principle enshrined in the UN climate convention.

The Government has not stated clearly which temperature goal it is aiming to deliver against and what likelihood it anticipates of meeting it. The majority of scientific literature interprets the Paris Agreement as demanding action compatible with a 66% chance of meeting 2°C, and a 50% chance of limiting warming to 1.5°C. This would still pose a risk that neither temperature goal is met.³ We need to take a precautionary approach and maximise efforts to reach 1.5°C.

Climate change is already hitting home

The planet has already warmed by approximately 1°C. The real impacts of this have already been felt in the past twelve months with heatwaves, wildfires, prolonged droughts, an extreme 2017 hurricane season, and the break-up of the Arctic's strongest sea ice. Scientists have shown this year's heatwaves in Northern Europe were made between two and five times more likely by climate change. The science of attributing individual weather events to climate change has developed enormously over the last decade.⁴

What's the difference between 1.5 and 2°C?

Tackling climate change is an exercise in risk management. The differences between 1.5°C and 2°C may sound small, but are actually very meaningful. We have an informed expectation that the forthcoming IPCC Special Report on 1.5°C, due on 8 October, will emphasise that no rise in temperature can be regarded as safe, but that a 1.5°C world poses substantially lower risks for nature than 2°C, and much lower risks of impacts on communities, ecosystems and economies.

- With a rise of 1.5°C we may lose about 70%-90% of tropical coral reefs. But if temperatures rise by 2°C, we could easily lose all of them⁵. Such reefs are home to a quarter of all marine species, meaning this would constitute a mass extinction event. A billion people depend on them to some extent for food and income from fishing.
- Under a 1.5°C scenario the thresholds for around 20% of abrupt climate tipping points (such as changes to ocean currents and ice sheets) which would suddenly accelerate warming are crossed; but under a 2°C scenario that figure rises to 50%.⁶
- And the costs of exceeding 1.5°C could be overwhelming - natural disasters have already contributed to 2017 being a year of record insurance losses, at \$135bn⁷.

³ The temperature goals could be exceeded regardless of future action due to the carbon already emitted and the risks of feedback loops but early action can help mitigate this [10.1073/pnas.1810141115](https://doi.org/10.1073/pnas.1810141115)

⁴ <https://www.bbc.co.uk/news/science-environment-44980363>. See <https://www.metoffice.gov.uk/climate-guide/climate/what-affects-climate/extreme-weather>; <https://www.worldweatherattribution.org/> See a recent report by think tank Bright Blue, Hotting Up, for a good overview of developments in the science over the last decade: <https://brightblue.org.uk/uk-adopt-leading-net-zero-emissions-target/>.

⁵ <https://www.earth-syst-dynam.net/7/327/2016/>

⁶ <http://www.pnas.org/content/112/43/E5777>

⁷ <https://www.economist.com/finance-and-economics/2018/01/11/natural-disasters-made-2017-a-year-of-record-insurance-losses>

Avoiding overshoot of 1.5°C is critical, as overshooting and then returning to 1.5°C can have irreversible impacts (including extinction) for some of our most precious species. We expect the IPCC report to show some new scenarios that do not overshoot, by keeping temperature changes permanently below 1.5°C – this marks a key difference from the Committee on Climate Change’s current advice on the Bill⁸ which used only ‘overshoot and return to 1.5°C’ assumptions (then the best available science). Overshooting could also mean a higher reliance on carbon removal in later decades to reduce overall cumulative emissions, which could mean more negative trade-offs (e.g. bioenergy with CCS impacting on nature or food security). But avoiding overshoot means scaling up action urgently.

How do we increase our chances of limiting warming to 1.5°C?

Staying below 1.5°C is still possible, but the chances of doing so are shrinking. Estimates of the remaining carbon budget for 1.5°C vary widely, depending on the methodology used. By some calculations we have already used up available budgets, and by others we have up to 15 years left at current global emissions rates.⁹ All models agree that a scale up of early action is needed. However, the Scottish Government’s current Bill proposes no additional action over the next 15 years. This is clearly an inadequate response to Paris.

The IPCC special report on 1.5°C is widely expected to say that we need to reach net zero *carbon* emissions globally by 2050, yet the Scottish Government has said that its 90% target is equivalent to net zero *carbon* emissions in Scotland by 2050. Any basic reading of equity, respective capabilities, and leadership concepts suggests Scotland should go faster than the global average and reach net zero carbon emissions sooner than the 2050 date. The current Bill is therefore clearly inadequate. With the Paris commitment to limit overall greenhouse gases to net zero globally in the second half of the century, there is also a clear argument for Scotland to reach this goal sooner than developing nations.

It will be important that the ECCLR Committee has the chance to adequately reflect on the evidence from the IPCC and the subsequent updated advice that is expected from the Committee on Climate Change in spring 2019 before the Bill is passed, as both the top-down science and the boundaries of feasibility are likely to have significantly shifted.

The impact of climate change on global nature: Climate change will impact on our most precious species and places

In 2018 WWF published an international review of the effect of climate change on the world’s most important biodiversity hotspots. It found up to 50% of species could be lost from the planet’s most precious places, like the Amazon and Galapagos, if we don’t step up action on climate change.¹⁰ Even if temperature change is limited to 2°C, these places could still lose 25% of their species, showing what the Paris target of working to limiting global average temperature change to 1.5 °C means in practice.

⁸ <https://www.theccc.org.uk/publication/advice-on-the-new-scottish-climate-change-bill/>

⁹ For a full description of various models and their conclusions see here; <https://www.carbonbrief.org/analysis-how-much-carbon-budget-is-left-to-limit-global-warming-to-1-5c>

¹⁰ <https://www.wwf.org.uk/wildlife-warming-world>

The report also highlights the threat to particular species from climate change, including:

- Elephants need to drink 150-300 litres of water per day, so face pressure as climate change makes rainfall more erratic.
- Tigers live in highly fragmented habitats. Amur tigers are likely to become extinct this century if the size and quality of their habitat is reduced by climate change.
- Turtles and tortoises have temperature-dependent sex determination and produce more female offspring in warmer waters. Their reproduction becomes more challenging as climate changes causes temperatures to rise.

Market signals

The clear market signal that a net-zero target would provide could help exercise an innovation pull factor and ensure that all sectors across Scotland are driven to become more efficient. Analysis has shown that good environmental regulation can have positive economic effects and drive innovation.¹¹

Scotland has research strengths in several of the key areas where continued innovation is needed to achieve global climate neutrality – areas like Carbon Capture and Storage, land management, offshore renewables and peat restoration¹² – we should be backing this expertise to play a unique global role in solving climate change. By doing so, and by leading rather than following technological development, we would be creating important economic export opportunities, from the skills, technology and intellectual property we have developed, whilst exerting an innovation pull factor for clean inward investment.

International Political Context: A Global conversation on net-zero

Since the 2015 Paris Agreement, there has been a growing international momentum to the fight against climate change and particularly towards net zero emissions. Each country, region or business that aims to end its contribution to climate change sends a powerful message to the global community.

International leadership is important, but the fight against climate change isn't a competition; it requires greater international collaboration. We believe Scotland can best contribute to that by being part of the club that is setting climate-neutral deadlines. With no short-term increase in action, no deadline for ending our contribution to climate change, and

¹¹ See the Buro Happold report 'Help or Hindrance? Environmental Regulations and Competitiveness', <http://www.aldersgategroup.org.uk/blog/more-than-red-tape-environmental-regulations-can-drive-growth> . See also an assessment of environmental regulation and carbon leakage by the World Bank which shows that "environmental policies have even been found to induce innovation that offsets part of the cost of compliance with the environmental policy": documents.worldbank.org/curated/en/138781468001151104/pdf/100369-NWP-PUBLIC-ADD-SERIES-Partnership-for-Market-Readiness-technical-papers-Box393231B.pdf

¹² E.g. the Scottish Carbon Capture and Storage <http://www.sccs.org.uk/> , the SRUC <http://www.sccs.org.uk/> , the Offshore Renewable Energy Catapult <https://ore.catapult.org.uk/> , and the IUCN UK Peatland Programme <http://www.iucn-uk-peatlandprogramme.org/>

no policy to deliver against targets included, we do not feel the Bill sends out as clear a signal as it needs to, in order to demonstrate the leadership we need to see.

Sweden has recently passed a new Climate Law, set a net-zero greenhouse gases target for 2045, established a new Independent Climate Policy Council, and is developing sector-by-sector action plans with stakeholders¹³. In New Zealand, the government is committed to delivering a zero target for 2050 as a driver of innovation and the basis for a planned transition, has commissioned extensive and rounded economic analysis and technical modelling¹⁴, and is making a positive case for action on climate change¹⁵.

A number of sub-national states, regions and cities have set net-zero targets, even though they do not possess all the necessary legal powers to achieve these targets on their own, including Catalonia¹⁶, the Balearic Islands¹⁷, the state of Victoria¹⁸, Greater London¹⁹ and the city of Manchester. California will host a summit of sub-national and non-state actors in September to showcase climate action. There is also a flourishing network of businesses setting ambitious targets. The We Mean Business coalition brings together over 1,200 climate commitments from almost 800 different businesses with a combined \$17 Trillion market cap, and as a coalition supports a global net-zero greenhouse gas target for 2050²⁰.

The EU context

The EU is now in the process of preparing a new long-term climate strategy, in line with the Paris Agreement. The Commission is currently supervising modelling work, and the outcomes of negotiations between member states, the Commission and European Parliament in June required the Commission to model net-zero greenhouse gas emissions by 2050. The EU Green Growth Group, which includes 13 countries alongside the UK, has stated their support for the analysis to look at net-zero emissions by 2050 and take account of the IPCC 1.5°C report.²¹ The UK also recently signed a Declaration of Ambition with the Marshall Islands and 22 other countries, which pledges to support a net-zero target in line with the Paris Agreement²².

The EU public consultation is currently open²³ (July to October 2018). A vision document will be presented in November ahead of COP24 in Poland, and the Commission must

¹³ A fuller analysis of the strengths and weaknesses of Sweden's climate framework is available on request from WWF Scotland.

¹⁴ We believe many of these are relevant for Scotland and act as a model of good practice. E.g. : "Zero Carbon Bill economic analysis: A synthesis of economic impacts" <http://www.mfe.govt.nz/node/24280>

¹⁵ See for example the Climate Minister speaking here about the economic benefits to the agriculture sector of a zero target: <https://www.stuff.co.nz/business/farming/104788826/new-zealand-to-become-the-worlds-first-zero-emission-food-producer--jame-shaw>

¹⁶ <https://www.theclimategroup.org/news/catalonia-passes-climate-change-law-reduce-emissions-100-2050>

¹⁷ <https://www.theguardian.com/environment/2018/feb/15/balearics-launch-pioneering-plan-to-phase-out-emissions>

¹⁸ <https://www.climatechange.vic.gov.au/reducing-emissions/emissions-targets>

¹⁹ <https://www.london.gov.uk/press-releases/mayoral/london-environment-strategy-sets-out-vision>

²⁰ <https://www.wemeanbusinesscoalition.org/blog/mean-business-b-team-urge-net-zero-2050-vision/>

²¹ https://www.ecologique-solidaire.gouv.fr/sites/default/files/2018.06.25_statement_ggg_climat.pdf

²² <http://sdg.iisd.org/news/23-countries-issue-a-call-for-increased-ambition-on-climate-change/>

²³ https://ec.europa.eu/clima/consultations/strategy-long-term-eu-greenhouse-gas-emissions-reductions_en

present a fully-fledged strategy by March 2019, ahead of European Parliament elections and, we anticipate, during Stage 2 of this Scottish Climate Bill. After the Parliamentary elections the strategy will need to be agreed amongst the Parliament and Heads of Member States. The Committee ought to be conscious of this timeline, given the Scottish Parliament's decisions during the passage of the Continuity Bill in relation to 'keeping pace' with EU legislation and maintaining shared environmental minimum standards with the EU.

About WWF Scotland and contact details

With a global network, WWF Scotland is dedicated to finding positive solutions to today's most pressing environmental challenges.