



## Stop Climate Chaos Scotland

Briefing on the Tyndall Centre and Uppsala University report: *“Quantifying the implications of the Paris Agreement: What role for Scotland?”*

### Summary

Climate scientists have carried out the first detailed calculation of how Scotland needs to reduce greenhouse gas emissions to make a fair contribution to tackling climate change, as enshrined in the ‘Paris Agreement’ of 2015. They conclude that Scotland needs to deliver much faster reductions than those proposed in the draft new Scottish Climate Bill, and that net-zero greenhouse gas emissions by 2050 at the latest is both possible and necessary.

A new study by scientists from the Tyndall Centre for Climate Change Research at the University of Manchester and Uppsala University has, for the first time, **calculated Scotland’s fair share of greenhouse gas emissions** allowed under the 2015 Paris Climate Agreement. They conclude that Scotland needs to aim for **much higher emissions reductions in the short and long term** than currently proposed, in order to play its fair part in international efforts and deliver on the promises in the Paris Agreement. The scientists also show that managing the land of Scotland better in the long term could ensure that as much carbon is absorbed as is emitted.

The study was commissioned by Stop Climate Chaos Scotland and Friends of the Earth Scotland as a contribution to the debate on the level of ambition needed in the new Scottish Climate Bill, which will be debated at Holyrood this autumn and finalised in the spring of 2019. Other reports from international scientists will be published in the autumn and are expected to add to the groundswell of opinion for urgent action to meet the Paris Agreement obligations.

The **Paris Agreement** was reached in 2015 and obliges all nations to keep the global temperature rise due to climate change “well below 2°C” and to “pursue efforts” to keep it below 1.5°C. To protect vulnerable people and whole island nations, as well as preventing critical impacts on species around the world, SCCS believes every nation needs to aim for the 1.5°C goal.

Scotland has made good progress in the last decade, mostly through the transition of the electricity sector from fossil fuels to renewables. Scotland’s emissions in 2016 were 49% lower than 1990 levels. The Scottish Government’s draft Climate Bill proposes a 66% reduction by 2030 and a 90% reduction by 2050. Stop Climate Chaos Scotland has called for a target of net-zero emissions by 2050 at the latest and a target of a 77% reduction by 2030, as well as the necessary strong policies to deliver on these targets. The Scottish Labour Party recently backed these tougher targets<sup>1</sup> and the Scottish Green Party back tougher targets still.

The new report confirms that much more urgent action than proposed in the draft Climate Bill is needed and that net greenhouse gas emissions need to drop to zero by 2050 at the

<sup>1</sup> <http://www.stopclimatechaos.org/news/2018/08/13/scottish-labour-announces-backing-net-zero-emissions-target>

latest.<sup>2</sup>

There are many possible ways to reduce emissions to deliver on the promises of the Paris Agreement, and more research is currently underway to understand how different sectors can reduce emissions in line with net zero. In this new report the scientists made the following key assumptions:

- the aim is a good chance of staying below 2°C temperature rise.
- Scotland must deliver its fair share of global greenhouse gas emissions reductions.
- non-CO<sub>2</sub> emissions from land use, including farming and forestry, cannot be reduced to zero as there is a minimum floor for food production but better land management can absorb carbon dioxide, balancing out emissions to let Scotland reach net zero greenhouse gas emissions.
- no use of carbon capture and storage (CCS) for the power sector or heating, although it may be important for manufacturing industries in future decades.
- no '**negative emission technologies**' like burning trees and other biomass and capturing the CO<sub>2</sub>, which is included in most international climate scenarios.<sup>3</sup> It does include 'natural' negative solutions such as peatland restoration and tree planting.

Scientists from the Tyndall Centre estimated the amount of carbon dioxide Scotland can emit for a good chance of staying below 2°C of climate change, known as the carbon budget. They recommended a mean future budget of 300 MtCO<sub>2</sub> as Scotland's fair share of the global budget using a number of methodologies. If we keep going at the current rate Scotland would use up this budget in less than 10 years.

The scientists' report also makes a number of suggestions about the types of changes that they think might be necessary to achieve these stronger targets:

- begin a rapid acceleration of peat restoration, reforestation and afforestation and using more wood in the construction industry to lock away carbon for the long-term. Large uncertainties in the amount of emissions due to the way we manage the land of Scotland should not prevent action to reduce emissions and absorb more carbon.
- eliminate all industrial process-CO<sub>2</sub> emissions before 2050 (e.g. from cement making).
- reduce non-CO<sub>2</sub> emissions by 3% per year, particularly from the agriculture and land use sectors, starting immediately.
- plan for the phasing out of the oil and gas industry while ensuring a just transition for the workers in the sector<sup>4</sup>.

SCCS welcomes the report and its recommendations that Scotland needs to deliver much faster reductions than those proposed in the draft Climate Bill, and that net-zero greenhouse gas emissions by 2050 at the latest is both possible and necessary. SCCS also welcomes the findings that increased ambition will **urgently require tougher policies for industry,**

---

<sup>2</sup> Net-zero emissions is when emissions have reduced to the absolute minimum and where carbon is absorbed by trees, peatlands etc balances out any residual emissions.

<sup>3</sup> For another view of the potential scope see the recent paper "The potential for implementation of Negative Emission Technologies in Scotland"  
[http://aura.abdn.ac.uk/bitstream/handle/2164/10700/The\\_potential\\_for\\_implementation\\_of\\_Negative\\_Emission\\_Technologies\\_in\\_Scotland.pdf;jsessionid=D376E63C9DBF7FD021CC33D178F8DD13?sequence=1](http://aura.abdn.ac.uk/bitstream/handle/2164/10700/The_potential_for_implementation_of_Negative_Emission_Technologies_in_Scotland.pdf;jsessionid=D376E63C9DBF7FD021CC33D178F8DD13?sequence=1)

<sup>4</sup> The Climate Change (Scotland) Act 2009 counts production-based emissions against targets, so the majority of emissions from Scotland's oil and gas sector are accounted where they are burned (outside Scotland). However, this is included as a recommendation as the scientists see this as an important lever of influence that Scotland exerts in the context of global emissions.

**agriculture, transport and homes.** SCCS would like to see the final Climate Change Bill deliver:

1. Targets to reach net-zero greenhouse gas emissions by 2050 at the latest and cut emissions by 77% (on 1990 levels) by 2030;
2. Measures in the Bill to ensure future finance budgets are consistent with climate targets; and
3. Policies to cut emissions from buildings and agriculture:
  - ensure all homes have at least Energy Performance Certificate rating 'C' by 2025;
  - create a Nitrogen Balance Sheet for Scotland with nitrogen reduction targets introduced by 2020.

The full report is here:

<http://www.stopclimatechaos.org/sites/www.stopclimatechaos.org/files/TyndallReport.pdf>

*All views contained with the report are attributable solely to the authors and do not necessarily reflect those of researchers within the wider Tyndall Centre.*

Stop Climate Chaos Scotland is a diverse coalition of over 40 civil society organisations in Scotland campaigning together on climate change. Our members include environment, faith and international development organisations, trade and student unions and community groups.

August 2018