



Beyond net-zero:

'Switching to circular' to combat the climate crisis

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In 2016 the Paris Agreement united 182 countries in a landmark pact to keep the increase in average global temperatures well below 2C above pre-industrial levels; and to pursue efforts to limit the increase to 1.5C.

At the time, the deal was seen as a real turning point in the fight against climate change.

It brought real hope to many, hope I have been running on ever since. But I also share real concern that, globally, we are not moving fast or far enough to reduce emissions in order to fulfil the Paris commitment.

Last year (2019) Scotland became one of the first nations to declare a climate emergency, something numerous other places have now done globally, from countries to cities.

Net-zero only targets half of Scotland's carbon emissions

The Scottish Government backed up this welcome declaration with one of the world's most ambitious targets to cut carbon emissions to net-zero, by 2045. This too was soon followed by a host of countries from the UK to Costa Rica, which announced similar targets to hit net-zero by 2050.

Scotland's net-zero target is a fantastic step forward in tackling the climate crisis.

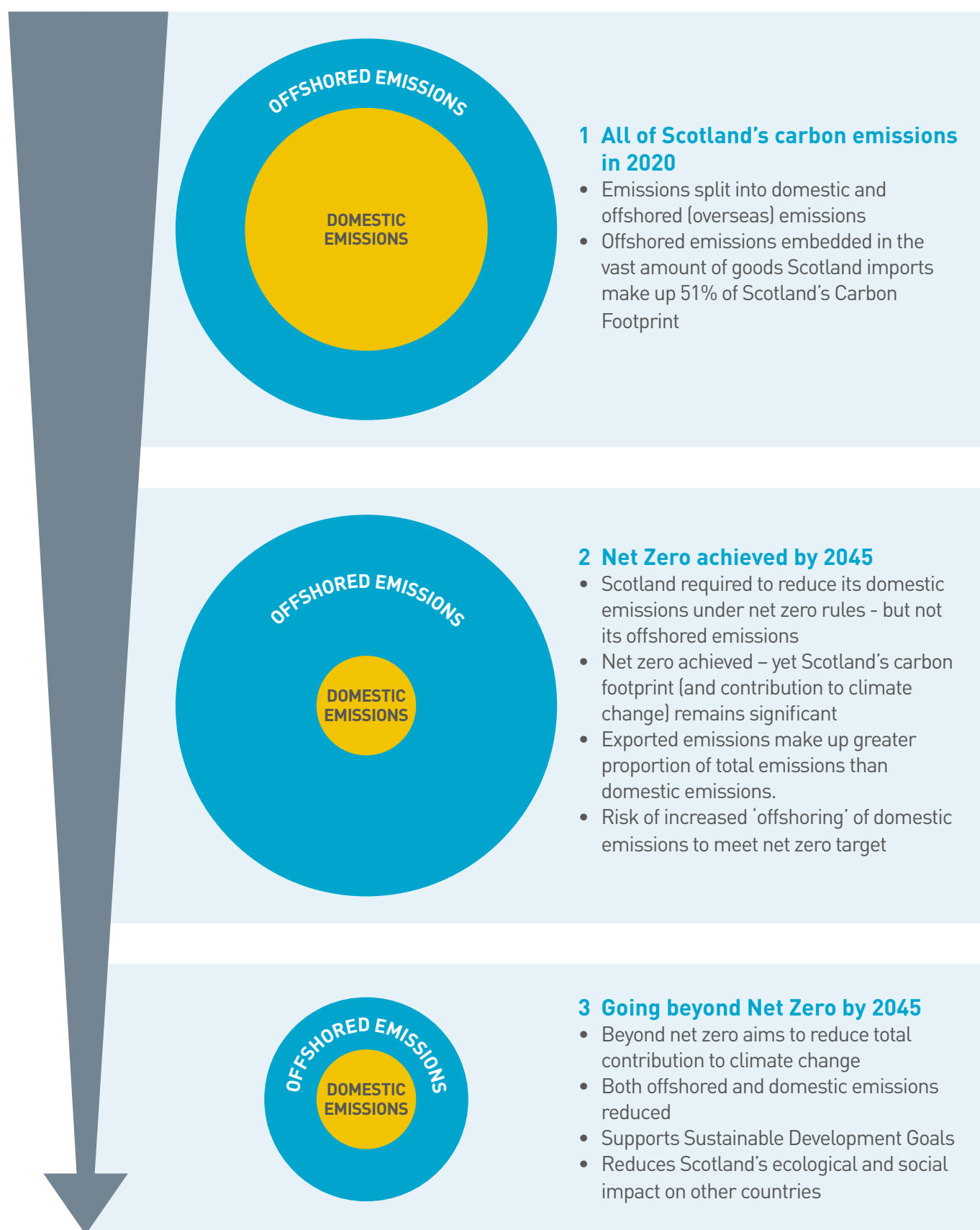
But it only addresses half of Scotland's total carbon footprint because it only requires us to reduce our territorial emissions, i.e. the emissions created within our borders.

It doesn't address the other half of the emissions which we are responsible for, which are created overseas and embedded in the vast amounts of goods and services which we now buy in to feed our huge and wasteful consumption habit - known as our consumption, or offshored, emissions¹. With world temperatures set to rise by up to 3.2C² under current policy commitments, we urgently need to reduce these consumption emissions too if we are to succeed in combating the climate crisis.

If we fail to reduce our consumption emissions whilst reducing our territorial emissions - we will end up reaching the net zero target, yet only marginally reducing our total emissions (See Fig. 1).

1 Scotland's Carbon Footprint 1998 - 2016. 2 Emissions Gap Report 2019.

Figure 1: Achieving net-zero will only reduce half Scotland's total carbon footprint. Going beyond net-zero addresses Scotland's total contribution to climate change by targeting all our carbon emissions, domestic and overseas (Source: Lenaghan and Barrie).



Combination of both circles = total carbon emissions produced by Scotland.

The shift in nations like Scotland from a manufacturing economy to a modern service economy not only means that we import most of the products we consume, and often waste. It also transfers the burden of our mass consumption by exporting our production and therefore half our emissions to the mainly developing countries which we buy from.

In addition, it exports other environmental and social damage associated with the unfettered consumption of cheap goods, from biodiversity loss to water shortages. These problems are much worse in poorer countries with weaker environmental laws and less capacity to reduce their territorial emissions. We consume far more resources than the people living in these countries, and by exporting our production to them we cause far greater environmental and social problems for them than their own lifestyles create.

Failing to address this imbalance and these devastating consequences risks flouting our commitment to the United Nations Sustainable Development Goals for eradicating extreme poverty and fighting inequality and injustice to 'leave no one behind'.

The need to move beyond net-zero is clear

As a stand-alone policy, the net-zero approach to cutting emissions also runs the risk of creating a perverse incentive for moving more carbon intensive production out of Scotland - dubbed offshoring - to more easily meet the net-zero target. That raises the risk that in trying to meet the net-zero target on time by eliminating all emissions within our borders we cause worse emissions abroad, where factories are typically more polluting due to lack of strict environmental legislation and enforcement.

The need to move beyond net-zero is clear: both economically in terms of recognising the risk of offshoring domestic industry; and in terms of the impact of our consumption on vulnerable societies and ecosystems.

And the Scottish Government has already recognised that need. Unlike other countries, Scotland's net-zero target includes our international transport emissions from flights and shipping. When our government

announced its net-zero target, it also publicly pledged to end Scotland's total contribution to the climate crisis by 2045.

That means reducing all our emissions to zero, including consumption emissions overseas. How we do that is also clear.

Switching to a circular economy is key to cutting all emissions

We need to switch to a circular economy which places value on the wellbeing of people and planet alike by focusing on human prosperity over mass consumption and eliminating waste and the harmful emissions it creates.

Our traditional economy is linear, following a simple but wasteful line of 'make, take and throw' which is totally unsustainable, particularly all the needless single-use products we've grown accustomed to buying and binning daily.

A circular economy follows the cycle of the natural world, where waste does not exist. Plants, animals and habitats survive and thrive through self-sustaining ecosystems.



Keeping our limited resources in a similar 'loop' of use maximises value and minimises waste and emissions to significantly reduce our demand for new material and products, including carbon-intensive imports.

Businesses and consumers are already familiar with recycling, but this is the least valuable part of the loop. A truly circular economy means first reducing, then reusing, repairing, remaking and only then, finally recycling.

Again, the Scottish Government has publicly committed to a carbon zero, wellbeing economy. And the 2045 pledge provides real incentives and opportunities to grow a new, green manufacturing economy in Scotland to take us beyond net-zero to a sustainable future.

Thanks to Scotland's pioneering renewables policy we are also already well placed to do this as we now have the world's third greenest electricity supply.

Working in this policy area day-in day-out, I regularly reflect on what we need to do to kickstart this national 'switch to circular'.

One key action is to identify which imported products and materials most of our consumption emissions

come from – so we can find ways to reduce our demand for those goods or replace them with lower carbon alternatives ideally from our own low carbon grid.

Zero Waste Scotland is working on a system known as material flow accounting to do just that. We are also conducting world-leading research into how Scotland can reduce its carbon footprint and separate economic growth from environmental harm.

As for when we need to act, tackling all our emissions instead of just our domestic emissions doubles the scale of the challenge. Taking this approach also gives us just five years before we're set to exceed our entire carbon budget – so we must act now.

Zero Waste Scotland is already working with diverse firms pioneering the circular economy here, and the opportunities to scale up are within reach.

As the world's attention moves from the Paris agreement of the past to the Glasgow deal of the future when we host COP26 this year, going beyond net-zero would bring not just real hope this time, but real change.





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