The Scottish Report on Progress Towards Meeting the Interim Target

Report laid in The Scottish Parliament in accordance with Section 39 of the Climate Change (Scotland) Act 2009 (SG2015/193)

October 2015

The Scottish Government
Riaghaltas na h-Alba

Contents

Summary

This is the report on progress towards the interim target as required under Section 39 of the Climate Change (Scotland) Act 2009. The interim target is a 42% reduction in 2020 from a 1990 Baseline and the 2050 target is an 80% reduction from the 1990 Baseline.

In summary the percentage reductions achieved in Scotland's Net Scottish Emissions Account (NSEA) for the years 2010 to 2013 have been greater than the percentage reductions initially envisaged for those years under the Climate Change Act.

Based on current progress, Scotland is therefore clearly on track to meet its Interim 42% Reduction Target in 2020 and the 2050 Target. It requires a further reduction in emissions of 6% over the remaining 7 years to achieve the Interim Target.

Introduction

Section 39 of the Climate Change (Scotland) Act 2009 requires that Scottish Ministers must, no later than 31 December 2015, lay before the Scottish Parliament a report on meeting progress towards the Interim Target.

The report must, in particular:

- State the progress that has been made in reducing net Scottish emissions
- Indicate whether this progress is consistent with a reduction over the period 2010-2020 of net Scottish emissions accounts which would allow the interim target and the 2050 target to be met.

The Interim Target

The Interim Target is defined under Section 2(1) of the Climate Change (Scotland) Act 2009, which states that "the Scottish Ministers must ensure that the net Scottish emissions account for the year 2020 is at least 42% lower than the baseline".

The 2050 target

Section 1(1) of the Act defines the 2050 target as 'the net Scottish emissions account for the year 2050 is at least 80% lower than the baseline'.

The Net Scottish Emissions Account

The Net Scottish Emissions Account (NSEA) is used for reporting against Scotland's Climate Change Targets. The NSEA for a given year is calculated by taking net Scottish emissions for that year, with an adjustment made to reflect the amount of units to be credited to, and debited from, the NSEA for that year. This adjustment is made as the NSEA is designed to take account of emissions trading through the European Union Emissions Trading System (EU ETS) as well as through any other purchasing or holding of carbon units.

The Baseline

The Baseline is 1990 for carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) and 1995 for hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulphur hexafluoride (SF_6) and nitrogen trifluoride (NF_3).

Setting of Annual Targets and the Interim Target and 2050 Target

Section 3(2) of the Climate Change (Scotland) Act 2009 states that

(2) The target—

(a) for 2010, must be set at an amount that is less than the estimated net Scottish emissions account for 2009;

(b) for each year in the period 2011–2019, must be set at an amount that is consistent with a reduction over that period of net Scottish emissions accounts which would allow the interim target and the 2050 target to be met;

(c) for each year in the period 2020–2050, must be set at an amount that is—

(i) consistent with a reduction over that period of net Scottish emissions accounts which would allow the 2050 target to be met; and

(ii) at least 3% less than the target for the preceding year.

Part 1 - Progress made in reducing net Scottish emissions

Table 1 states the progress made in reducing the Net Scottish Emissions Account (NSEA). Scotland's NSEA has fallen by 38.4 per cent from the 1990 Baseline to 2013 and by 17.8 per cent from 2010 to 2013.

Table 1: Net Scottish Emissions Account for each target year (tCO_2e)	
Baseline emissions	**80,786,164**
Target Year 2010	**60,493,603**
Target Year 2011	**57,809,448**
Target Year 2012	**57,793,491**
Target Year 2013	**49,724,807**
Change in NSEA between 2010 and 2013	**-10,768,796**
% reduction in NSEA between 2010 and 2013	**-17.8%**
% reduction in NSEA since 1990 Baseline	**-38.4%**

Part 2 - Progress towards the 2020 Target

Scotland is on track to meet its target of 42% emissions reductions by 2020.

To assess the progress in reducing Net Scottish Emissions Accounts over the period 2010-2020, the trajectory which meets the 42% reduction target in 2020 and 80% reduction target in 2050 must be calculated.

This can be considered in terms of the percentage reductions from the 1990 Baseline which have been achieved for the NSEAs in each of the years from 2010 to 2013.

The latest published Scotland greenhouse gas inventory (currently 1990-2013 [1]) represents the best available data at the time and these supersede any previous data, which should be disregarded.

Based on the latest data (the 1990-2013 greenhouse gas inventory for Scotland):

- The percentage reduction from the 1990 Baseline to the 2010 NSEA was 25.1%. This exceeds the 23.6% reduction required on the trajectory to meet the 42% reduction target in 2020 and 80% target in 2050
- The percentage reduction from the 1990 Baseline to the 2011 NSEA was 28.4%. This exceeds the 23.9% reduction required on the trajectory to meet the 42% reduction target in 2020 and 80% target in 2050
- The percentage reduction from the 1990 Baseline to the 2012 NSEA was 28.5%. This exceeds the 24.2% reduction required on the trajectory to meet the 42% reduction target in 2020 and 80% target in 2050
- The percentage reduction from the 1990 Baseline to the 2013 NSEA was 38.4%. This exceeds the 31.7% reduction required on the trajectory to meet the 42% reduction target in 2020 and 80% target in 2050

The percentage reduction from the Baseline to meet the NSEA has therefore exceeded that intended by the 42% reduction trajectory in each of the years from 2010 to 2013.

This confirms that Scotland is on track to meet the 42% reduction target as the percentages reductions have been greater than initially required to meet the 2010, 2011, 2012 and 2013 targets at the time at which they were set. This means that a further reduction in emissions of 6% is required over the remaining 7 years to achieve this target.

Comparison of progress towards the Interim Target and Fixed Annual Targets

The fixed annual targets are now inconsistent with the trajectory required to meet the 42% reduction target in 2020 and 80% reduction target in 2050.

The fixed annual targets were set on the basis of the 1990-2008 inventory and were based on a trajectory to meet a 42% reduction target in 2020 from the 1990 baseline. This trajectory remains unchanged in percentage terms. However, there have been

[1] http://www.gov.scot/Publications/2015/06/1939

upwards revisions to the Baseline which this trajectory is based on; the Baseline is now 10.6 $MtCO_2e$ (15.1%) higher than originally estimated.

Chart 1 shows the effect of the upwards revisions to the Baseline on the 42% reduction trajectory for each of the years from 2010 to 2013, and how this compares with the NSEAs and Fixed Annual Targets in each of these years.

Chart 1. NSEAs for the years 2010 to 2013, Fixed Annual Targets and Trajectory towards meeting 42% reduction target by 2020. All Values in $MtCO_2e$

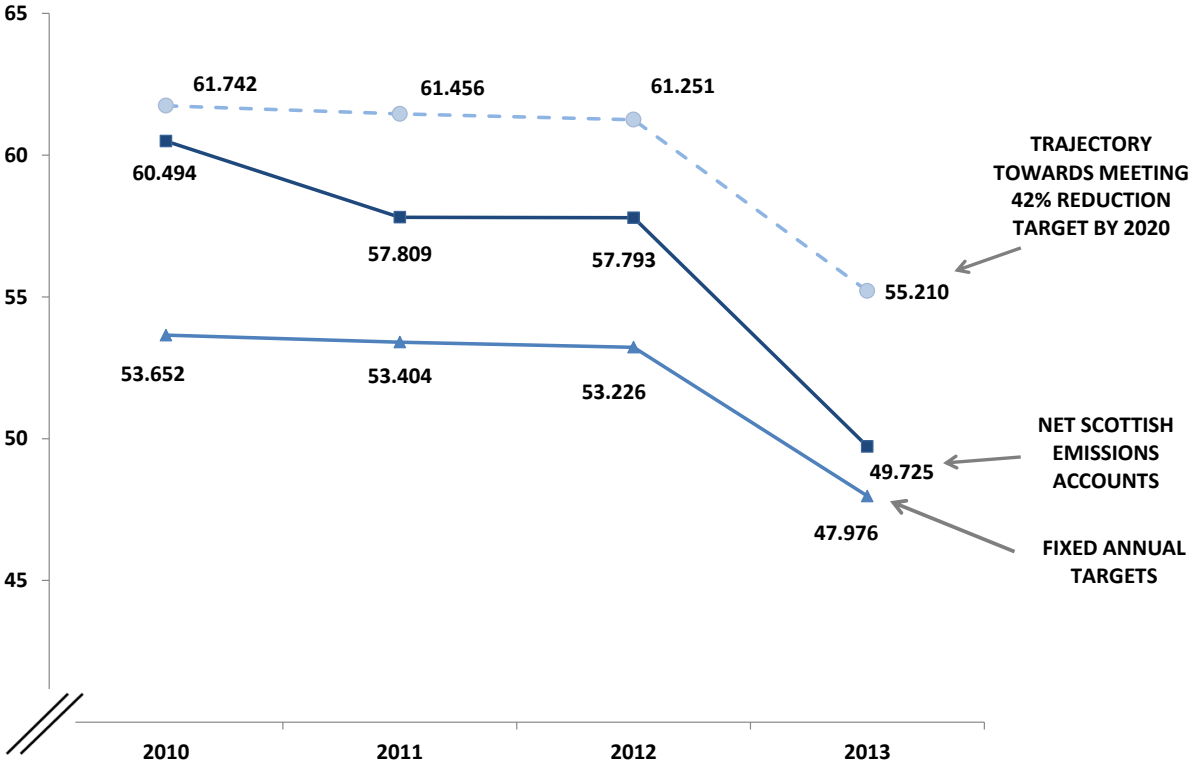


Chart 1 shows that the value of the NSEA in each year from 2010 to 2013 (solid line with squares) is lower for each of the years than the trajectory required to meet the interim target in 2020 (dashed line). This means that the percentage reductions achieved for the NSEA in each of these years has been greater than initially required to meet the 2010, 2011, 2012 and 2013 targets at the time at which they were set, and thus the percentage reductions along the trajectory to meet the 42% and 80% reduction targets.

This is shown in Table 2, which demonstrates that the percentage reductions from the Baseline to achieve the NSEA (based on the current Greenhouse Gas Inventory) have been greater than that initially required to meet the 2010, 2011, 2012 and 2013 targets at the time they were set.

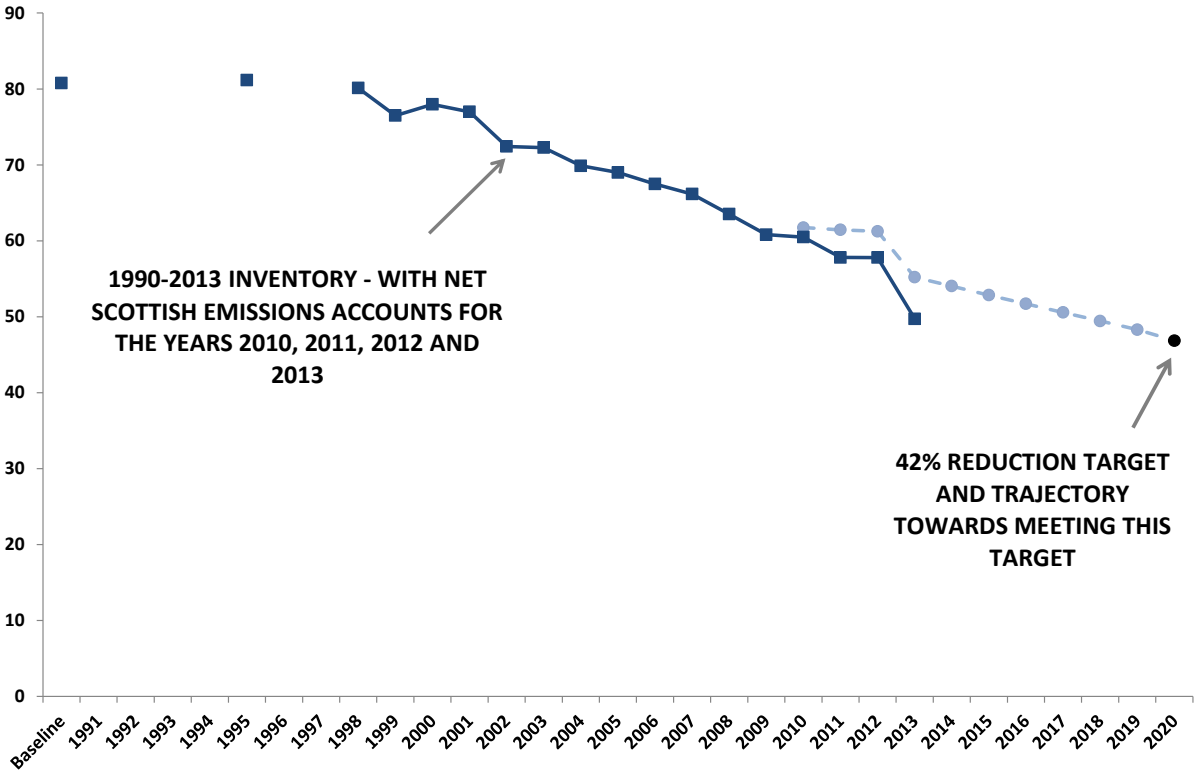
Table 2. Percentage reductions required from the Baseline to meet the fixed annual targets and the 42% and 80% reduction trajectory in each year from 2010 to 2013, and the percentage reductions achieved for the NSEA in each of the years							
	Baseline Period	**2010**	**2011**	**2012**	**2013**	**2020 Target**	**2050 Target**
Percentage reduction from Baseline required to meet 42% reduction target in 2020		-23.6%	-23.9%	-24.2%	-31.7%	-42.0%	-80.0%
Percentage reduction to the Fixed Annual Targets when they were originally set		-23.6%	-23.9%	-24.2%	-31.7%	-42.0%	-80.0%
Value of NSEA (tonnes CO_2e) (1990-2013 inventory)	80,786,164	60,493,603	57,809,448	57,793,491	49,724,807	46,855,975	16,157,233
Percentage reduction from Baseline to meet NSEA (1990-2013 inventory)		-25.1%	-28.4%	-28.5%	-38.4%		
Has percentage reduction achieved in NSEA exceeded that on trajectory to meet 42% reduction target in 2020 and 80% reduction target in 2050?		Yes	Yes	Yes	Yes		

Table 2 shows that the percentage reduction from the Baseline to meet the NSEA has exceeded that intended by the 42% reduction trajectory in each of the years from 2010 to 2013.

This confirms that Scotland is on track to meet the 42% reduction target as the percentages reductions have been greater than initially required to meet the 2010, 2011, 2012 and 2013 targets at the time at which they were set.

For context, Chart 2 shows the values of the NSEA in each year from 2010 to 2013 relative to the 42% reduction target in 2020. There is only a 5.8% reduction required to meet the 42% target in 2020 from the 2013 NSEA, or the equivalent of a 0.85% reduction required in each successive year from 2013 to 2020. In comparison, the average year-on-year reduction in emissions in successive years from the Baseline to the 2013 NSEA has been 2.1%.

Chart 2. NSEA in each year from 2010 to 2013 and trajectory towards 42% reduction target. Values in $MtCO_2e$



Part 3 - Progress towards the 2050 Target

The NSEAs for each of the years from 2010 and 2013 demonstrate that Scotland is outperforming the rates of reduction required by the Act for these years.

Section 3(2) of the Act indicates that the Climate Change targets are not set to allow consistent annual percentage reductions in each year. Instead, there are differences in the growth rates over time.

This is demonstrated in Chart 3, which shows that the annual average percentage reductions required to meet the 42% reduction target in 2020 are less than those required to achieve the 80% Reduction Target in each year from 2020 to 2050 and this is implied within the Act. This will require greater percentage reductions in later years to meet the 2050 Target.

However, the progress in reducing the NSEA so far demonstrates that Scotland has, to date, exceeded the percentage reductions required at this point to be on the extrapolated trajectory required to deliver the 2050 target. This is shown in Chart 4.

Chart 3. Progress required to meet 42% and 80% reduction targets, as prescribed in the Climate Change (Scotland) Act 2009. Values in $MtCO_2e$

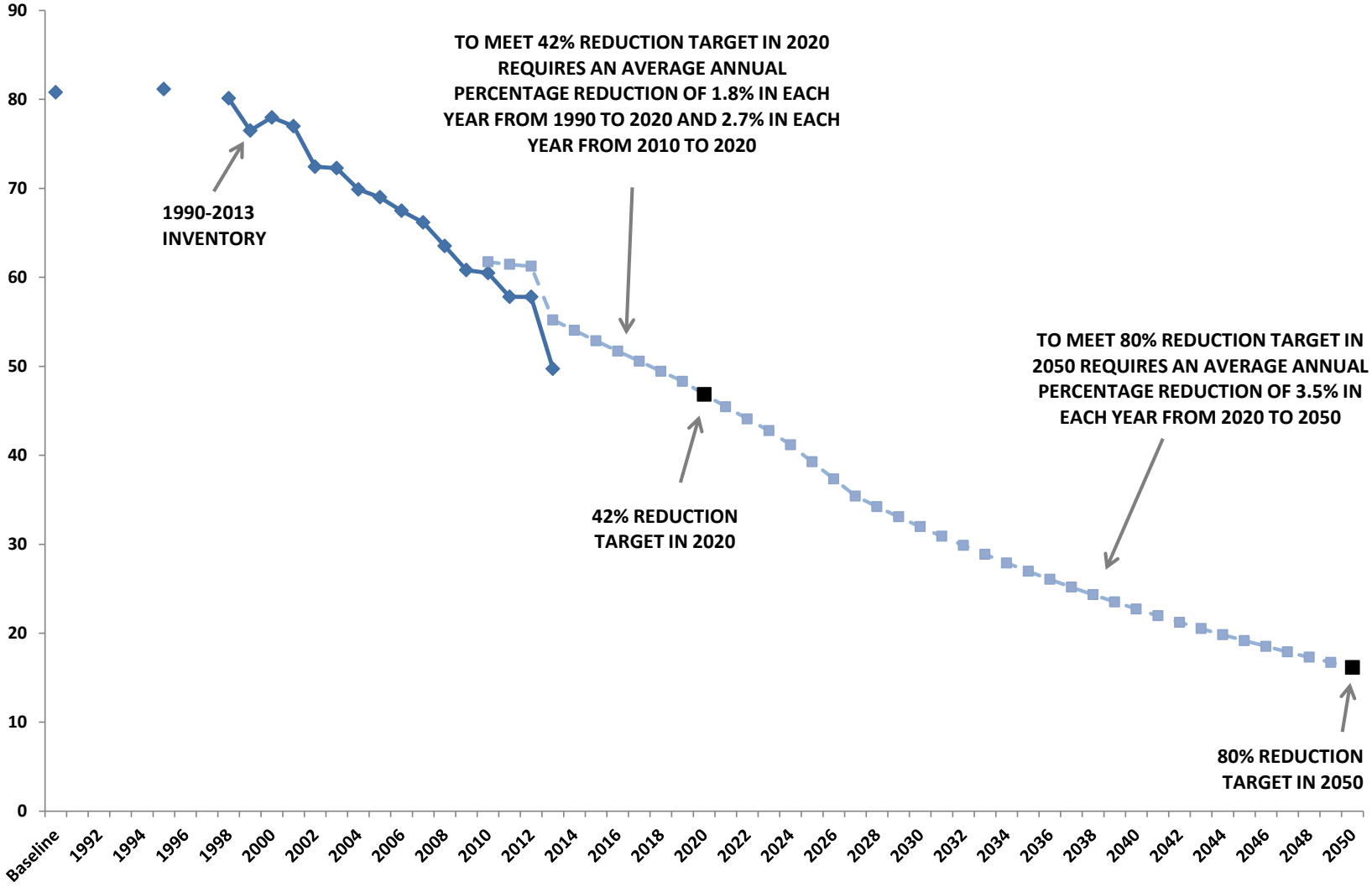
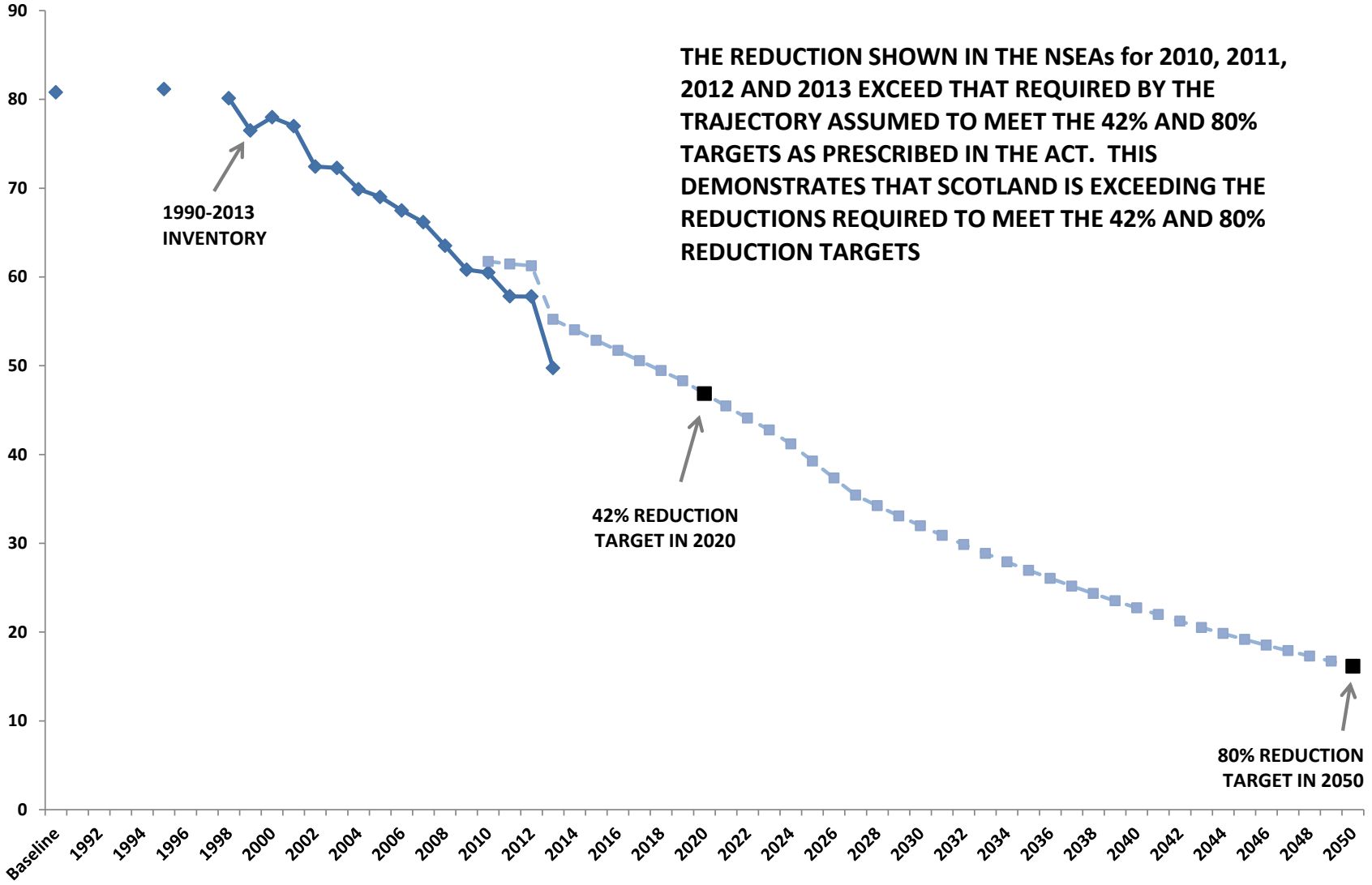


Chart 4. Progress required to meet 42% and 80% reduction targets, as prescribed in the Climate Change (Scotland) Act 2009. Values in $MtCO_2e$



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