

Sustainability Report

The Climate Change (Scotland) Act 2009

In 2009 the Scottish Government set what remains, one of the most ambitious pieces of climate change legislation anywhere in the world, namely:

The Climate Change (Scotland) Act 2009 commits Scotland to reduce its emissions by at least 80% from 1990 levels by 2050; with an interim emissions reduction target of at least 34% by 2020, increasing to 42% if the EU increases its 2020 target to 30% in the event of a global deal on climate change.

Section 44 of Act places duties on Scottish public bodies in relation to climate change. From 1 January 2011 any public body, has, in exercising its functions, to act:

- in the way best calculated to contribute to the delivery of the Act's emission reduction targets;
- in the way best calculated to help deliver any statutory programme for adapting to the impacts of climate change; and
- in a way that it considers most sustainable.

In meeting these duties RBGE will report separately to Scottish Government and publish the results on its website.

Carbon Emissions 2017/18

Category			Volume of Carbon emitted (tCO ₂) 2016/17	Percentage of total Carbon emitted (%)	Cost of Carbon emitted (£)
Buildings	Edinburgh		1797	85	479,546
	Benmore		29		
	Dawyck		36		
	Logan		73		
Transport	Fleet		18	13	258,989
	Business		277		
Further Sources	Waste	Landfill	51	2	45,183
		Recycled	6		
	Water		Consumption not supplied	0	46,817
Renewable energy	Generated		23	N/A	7,498
Total including subtraction 23 tonnes renewable electricity generated			2264	100	

RBGE carbon footprint is 2,264 tonnes of CO₂ emitted. This figure is an increase of 6% from last year's emissions. The most significant change from last year is the proportional increase in emissions attributed to business travel. This could be because last year there was a change of contract and the provision of mileage data. This contract is now well established,

and data provision is comprehensive. It is likely that travel data is more accurate for this year than last year.

Use of Finite Resources

Two events, in particular, contributed to an increase in buildings emissions: 1) The main boiler house was shut down for some weeks for the essential removal of asbestos. Portable and less efficient heaters fueled by heating oil provided supplemental heating at this time. 2) A burst heating pipe to the glasshouses required the commission of portable heaters. These need large quantities of heating oil to maintain tropical temperatures in the glasshouses. Winter was also colder-than-average (and colder than 2016/17) lasted for longer than usual. For example, there were unusually low temperatures throughout April and early May.

Dawyck hydropower turbine generated 59,212 kWh in 2017/18. This energy is exported to the grid as electricity: a considerable contribution to a reduction in the use of finite resources at this site. The turbine was improved further in FY 16/17, and this has facilitated improved generation in FY 17/18. The Edinburgh garden has recently installed two sets of solar PVs on two buildings. One of these is the Botanics Cottage, a centre for education and visitor activities. The solar PVs have generated over 1000kWh since commissioning, meaning an annual harvest of 400kWh per year. These will contribute to the reduction in the use of finite resources to power these buildings in the future.

In FY 2017/18 ICT storage was improved with the installation of a new cooling system which relies on forced air from outside to provide 'free' cooling on most days of the year by circulating more cooling air drawn from outside. The air conditioning only operates on warmer days, thereby reducing the requirement for finite resources.

Recycling for all waste streams is in place across all four sites.

Procurement

Sustainability is considered in the procurement of supplies and services. In three areas improvements can be identified:

- A new electronic point of sale (EPOS) system for the Botanics Trading Company shop has been installed. The terminals are designed with energy efficiency in mind, in the choice of internal components and with energy efficient LED screens.
- The memorial benches contract was re-let in 2017, and the supplier confirmed that he uses locally sourced wood where possible. He is located in the North East of Scotland and is near to timber suppliers.
- The catering contract at Logan Botanic Garden was also awarded to a supplier which has committed to purchase local produce where possible.

Biodiversity Group

All four Gardens of RBGE have hosted a BioBlitz whereby the animal and plant life of the site has been measured and recorded over a 24 or 48 hour period. We now have a sound basis for each from which to continue measuring and monitoring biodiversity. At Edinburgh, members of staff are extremely active, making daily records of birds, insects, butterflies and moths. They provide information to the visitors, for visitor engagement, and horticultural staff, to inform management plans so that the garden can be managed to enhance wildlife. 999 species of animals and plants (not intentionally planted) have now been recorded at Edinburgh, including many rare species or species which were previously unknown for Scotland. Monthly reports are posted on the RBGE blog here: <https://stories.rbge.org.uk/archives/category/garden-wildlife>