

# Carbon Management Plan (CM Plan) 2015-19

Scottish Qualifications Authority



Growth that doesn't cost the earth



April 2018

A programme from



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SCOTTISH GOVERNMENT

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## 1 Executive summary

In our first Carbon Management Plan (CM Plan) published in 2010, SQA stated its aspiration to achieve a reduction target of 20%, based on the 2009 carbon footprint baseline, by 2014. A number of factors have made this a challenging target including: a changing legislative and policy framework; and the changing business and financial environment. These changes have led to increased pressures and demands on financial resources and the necessity to develop new markets overseas. Consequently, a full review of the original CM Plan, including reduction targets, will help SQA move forward constructively.

This CM Plan sets out our ambitions for SQA, and a roadmap for progress. Reducing carbon emissions is not just about our commitment to the environment. The same processes we use to identify carbon emissions reduction will also identify and realise financial savings through improved efficiency in the operation of our buildings and transport. The actions outlined within this Plan form part of our efficiency plan to reduce consumption and provide value for money.

The 2013/14 carbon footprint is the latest available for a full financial year and was calculated to be 1,643 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). This covered electricity, gas consumption, transport (fleet), business travel (excluding flights), water and wastewater consumption, and waste disposal.

SQA achieved some big savings over the period of the first CM Plan; including moving to a new, energy-efficient building. These savings are now embedded into our carbon footprint and we are operating from a static baseline. This period will be about stability; maintaining and building on the work that has previously been done. Targets, accordingly, are more achievable than the aspirational targets set in our first CM Plan.

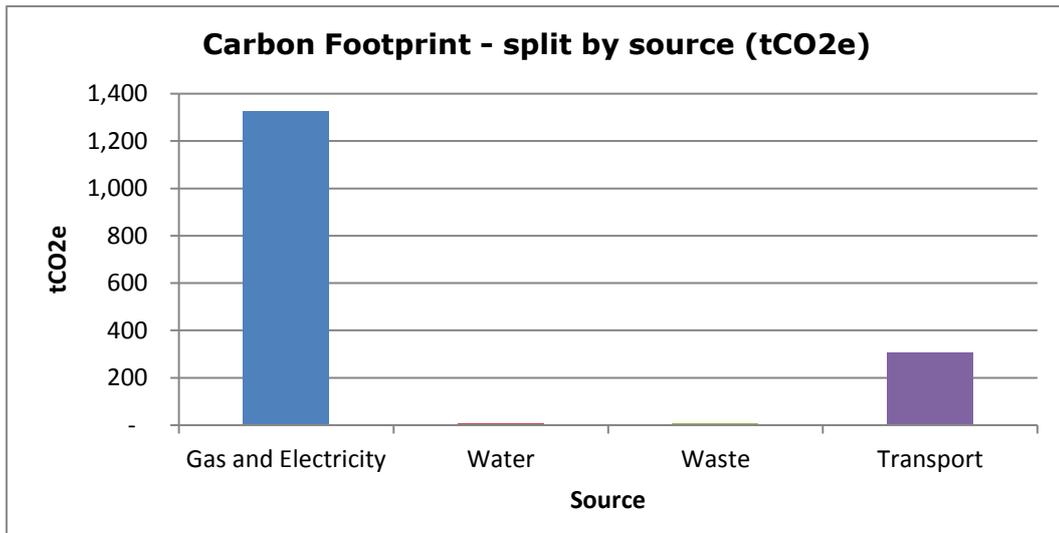
The area that we are not able to effect reductions without significantly impacting on our international activities is our overseas flights. We are, however, committed to exploring offsetting flight related emissions and this will be taken forward during 2015. Flights have not been included in our carbon footprint and will be reported on separately in our annual environmental report.

SQA has therefore decided to set a target to maintain its total annual carbon footprint at or below 1,643 tCO<sub>2</sub>e by the end of financial year 2018/19; this maintains SQA's carbon footprint at the 2013/14 level until 2018/19.

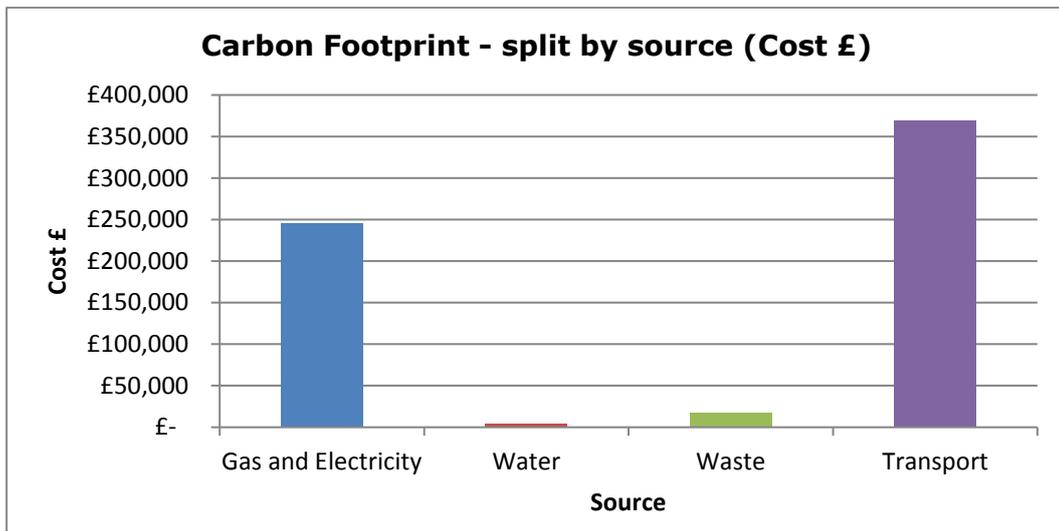
**By 2018/19, SQA will have maintained its carbon emissions at or below the level in the baseline year of 2013/14. This equates to a figure of 1,643 tonnes CO<sub>2</sub>e in 2018/19**

## SQA's Carbon Management Plan (CM Plan) 2015-19

The graphs below detail SQA's 2013/14 baseline carbon footprint and related expenditure.



Graph showing 2013/14 baseline carbon footprint



Graph showing 2013/14 baseline carbon footprint cost

Carbon savings will be achieved through a range of projects including energy use, vehicle fleet use and awareness-raising initiatives.

If all identified carbon-saving projects were to be implemented, the potential cumulative **financial savings** to the organisation are in the region of **£69,000** over the period 2015 to 2019.

The Project Sponsor for this CM Plan is the Director of Corporate Services, who will be assisted in its delivery by the Health, Safety and Environmental Officer. SQA has introduced an Environmental Working Group to enhance communication and awareness-raising by actively promoting and monitoring environmental projects with stakeholders both locally and more widely.

This CM Plan is viewed as a 'live' document and it is envisaged that there may be changes on an annual basis as SQA's estate changes. To ensure that it remains 'fit for purpose' to deliver targeted carbon savings, this document will be reviewed on an annual basis. This process will be co-ordinated by the Health, Safety and Environmental Officer.

## **2 Foreword from the Project Sponsor**

At SQA we place a very high value on the natural environment and are keen to minimise the impact of our activities. Any actions we can take that will help control our carbon emissions without impacting on the first-class service our customers expect will be considered.

The work that is put into monitoring, reporting and mitigating SQA's carbon emissions is extremely valuable and contributes to our corporate objectives.

In this CM Plan we have set a challenging yet achievable target. It is more important to be realistic with our targets and to be able to hit them than to be over ambitious and fall short.

An annual review of progress and any organisational developments will allow the targets to be refreshed so they remain demanding yet within grasp.

We look forward to the challenge and to continuing to do our best for our customers and the environment.

## **3 Foreword from Resource Efficient Scotland**

On behalf of Zero Waste Scotland, which delivers the Resource Efficient Scotland programme for the Scottish Government, I commend the commitment of SQA to improving their resource efficiency throughout their operations demonstrated in this Carbon Management Plan.

There are clear business benefits of using fewer resources and reducing emissions and we look forward to supporting the organisation in the implementation of the planned resource efficiency measures.

This updated Carbon Management Plan details how SQA will maintain their carbon footprint at the 2013/14 level until 2018/19. By implementing the projects in this plan it is anticipated that cumulative financial savings of at least £69,000 can be achieved.

Iain Gulland, Chief Executive of Zero Waste Scotland

## 4 Introduction

### 4.1 Background to the organisation

The Scottish Qualifications Authority (SQA) is the national accreditation and awarding body in Scotland. SQA helps people to realise their potential and to achieve their ambitions by providing a wide range of high quality, internationally recognised qualifications and associated services.

Based in Scotland, we have two main premises: a purpose-built office in Dalkeith, to the south of Edinburgh at which around 280 staff are based, and a multi-tenanted office building in the centre of Glasgow at which around 550 staff are based, plus a storage facility in Newtongrange, Midlothian.

There is much inter-site travel between offices and a great deal of business-related travel to other locations. In addition, SQA employs a number of home-based field workers who incur considerable business miles.

### 4.2 SQA's performance on carbon management to date

Although we began our carbon management programme in 2009, we have been implementing energy-saving measures since the early 2000s. So there is already a reasonably well established process for measuring and monitoring carbon emissions.

The key issues facing the organisation include changes to the built estate, the need to open up and develop new markets, and increased staff head count during a period of business transition — all of which will have significant impacts on future carbon emissions.

In the previous CM Plan published in 2010, the organisation set a reduction target of 20% based on a 2009 carbon footprint baseline of 2,270 tCO<sub>2</sub>e; this equated to a target footprint of 1,816 tCO<sub>2</sub>e and an overall cumulative reduction of 454 tCO<sub>2</sub>e across the five year period to 2014. The 2009 footprint included emissions from: electricity, gas consumption, transport (fleet and business, including air travel); waste to landfill; and water consumption.

A number of factors have made this a challenging target. In common with many other public sector organisations at that time, the complexities associated with delivering a comprehensive carbon management programme were new and not fully understood.

Furthermore, the changing legislative and policy framework has meant that the drive to meet the stated CM Plan carbon-reduction target has often been overshadowed. Finally, energy intensiveness within buildings has increased, estate is changing and there has been a constant drive to increase service delivery.

These challenges combined to suggest that a full review of the original CM Plan, including targets, would help the organisation move forward constructively.

## 5 Carbon management strategy

### 5.1 Context and drivers for carbon management

The organisation faces a complex set of drivers which set the context for carbon management. These drivers combine to give impetus towards the goal to minimise SQA's impact on the environment while maximising its contribution to society and the economy.

Ultimately, a strong performance with respect to carbon emission reduction should deliver financial benefits to SQA by mitigating the risks associated with, for example, increases in energy tariffs and levies.

The following are the key carbon drivers for SQA:

- Scottish Government targets
- UK and European targets
- Rising energy costs
- The principle that investments in carbon reduction are generally associated with commensurate reductions in future expenditure
- The need to eliminate waste of resources and to increase efficiency
- The organisation's own carbon management targets
- Depletion of the world's finite resources
- It's the right thing to do

#### Legislative drivers for carbon management

Legislative drivers for carbon management can take the form of targets (eg from UK or Scottish Government), incentive systems, charging schemes, or regulatory compliance requirements.

Over the past 20 years there have been many pieces of legislation enacted at an increasing rate in the UK and Scottish Parliaments that aim to address the issue of climate change, carbon dioxide and greenhouse gas emissions, and sustainability. Many of these stem from European Union Directives, which in turn were developed in order to meet the obligations of the Kyoto Protocol, adopted in December 1997 and enforced in 2005. Under Kyoto, ratifying countries agreed to commit to reductions in their carbon emissions by, on average, 5.2% below 1990 levels by 2008–12.

The Climate Change (Scotland) Act 2009 pledges to reduce Scotland's greenhouse gas (GHG) emissions by 42% by the year 2020 and by 80% by the year 2050. Scottish Ministers are also committed to the promotion of renewable energy in Scotland. They set a target that 80% of the electricity generated in Scotland (as a proportion of gross consumption) should come from renewable sources by 2020, with an interim target of 31% by 2011.

The public sector will be critical to the achievement of the Government's climate change objectives and so the UK Government has placed an emphasis on the public sector setting a leading example. SQA's CM Plan will help achieve the objectives by delivering key sustainability and estate management programmes in a carbon efficient and sustainable manner.

#### Other drivers for carbon management

While reducing the financial and legal risks posed by various legislative requirements is a significant driver behind the SQA's carbon management programme, there are other factors supporting the need for improving energy efficiency and reducing carbon emissions.

## SQA's Carbon Management Plan (CM Plan) 2015-19

- **Cost saving:** The case for carbon reduction is strengthened by current financial constraints requiring reduced operating costs while maintaining effective service delivery. This provides a strong incentive to cut resource consumption to release this money for frontline services.
- **Reputational benefit:** By delivering sustained carbon reductions, SQA will be viewed as a positive example enhancing the organisation's broader sustainability credentials.
- **Improved staff satisfaction:** Studies have identified a correlation between an organisation with strong environmental performance and high staff satisfaction.
- **Improved engagement with key stakeholders:** Key stakeholders of SQA, including the local community, are increasingly focusing on sustainability. SQA's continued commitment to environmental improvements will enhance our relationship with these stakeholders.

## 6 Emissions baseline and projections

### 6.1 Carbon footprint baseline, cost and projections

This section covers the establishment of SQA’s carbon footprint, associated cost and ‘business as usual’ (BAU) cost projections.

### 6.2 Scope and boundaries of the carbon footprint

The resources to be included in a carbon footprint are defined in relation to two boundaries: organisational and operational.

These are determined by the extent of the estate, goods and services over which SQA has operational control, and the availability of good quality data.

### 6.3 Organisational boundary

The organisation boundary sets out which assets are to be included in the footprint and is shown in the ‘category’ column in Table 1 below.

### 6.4 Operational boundary

The operational boundary essentially sets out the emissions sources included in the footprint and is shown in the ‘emissions source’ column in Table 1 below.

In keeping with the Greenhouse Gas Protocol<sup>1</sup> (WRI 2004), the operational boundary includes all Scope 1 and Scope 2 emissions (eg on-site fuel combustion, company-owned vehicles and purchased electricity consumption). Scope 3 emissions (eg waste, water, commuting and business travel) are considered discretionary but are included where data is available. Train and car miles have been included within business travel, but flights and commuting are not included.

**Table 1: SQA carbon footprint boundaries**

Category	Emissions source
Offices	Electricity, gas, water, waste
Storage facility	Electricity, gas, water, waste
Travel	Fuel, train and business miles

Excluded emission sources include:

- Hazardous waste
- Specialist waste
- Air mileage
- Home-to-office mileage

<sup>1</sup> The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard Revised Edition, World Resources Institute; World Business Council for Sustainable Development, 2004.

### 6.5 Data sources

The data sources used in our CM Plan are robust and include both internal and external partners. The main streams of data (consumption and costs) input are as follows:

- i) Stationary sources
  - Electricity — utility provider billing
  - Gas — utility provider billing
- ii) Water
  - Water supplier reports
- iii) Waste
  - Waste contractor reports
- iv) Transport
  - Vehicle fleet journey logs
  - Travel pattern figures from Procurement
  - Expenses claims from Payroll

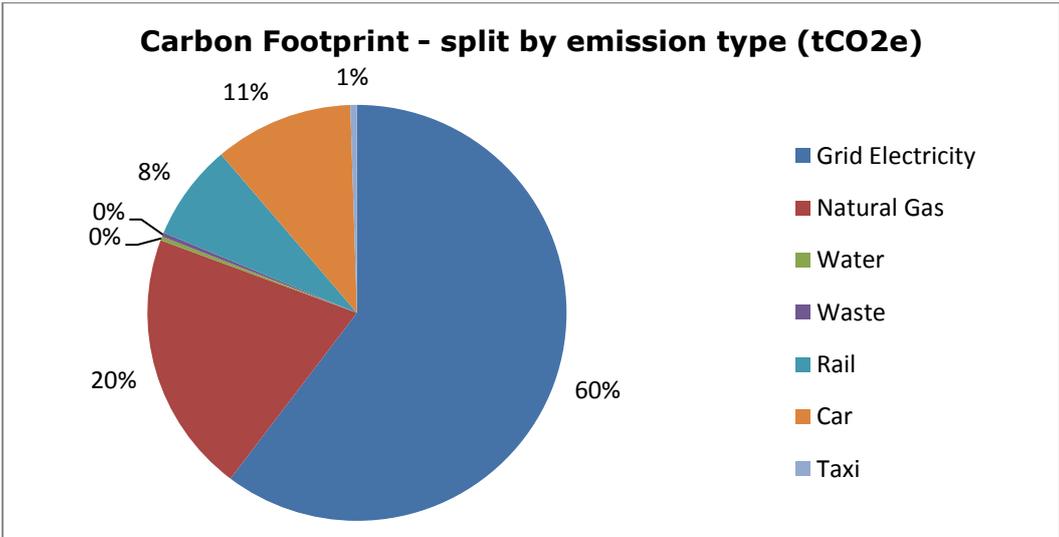
Data was then collated and converted to a CO<sub>2</sub>e tonnage equivalent using Department for Environment, Food and Rural Affairs (DEFRA) factors for Company Reporting<sup>2</sup>. The chosen reporting year was 2013, which constitutes most of fiscal year 2013/14.

Conversion factors were taken for Scopes 1, 2 and 3 that relate to total direct emissions and are therefore in keeping with the methodology employed to determine previous carbon footprints.

### 6.6 Carbon footprint baseline and cost

SQA’s overall carbon footprint for the baseline year of 2013/14 was 1,643 tonnes CO<sub>2</sub>e.

Graph 1 below shows that electricity constitutes 60% of the 2013/14 carbon footprint with gas (20%) and car travel (11%) representing the two next largest contributors.



<sup>2</sup><http://www.ukconversionfactorscarbonsmart.co.uk/>

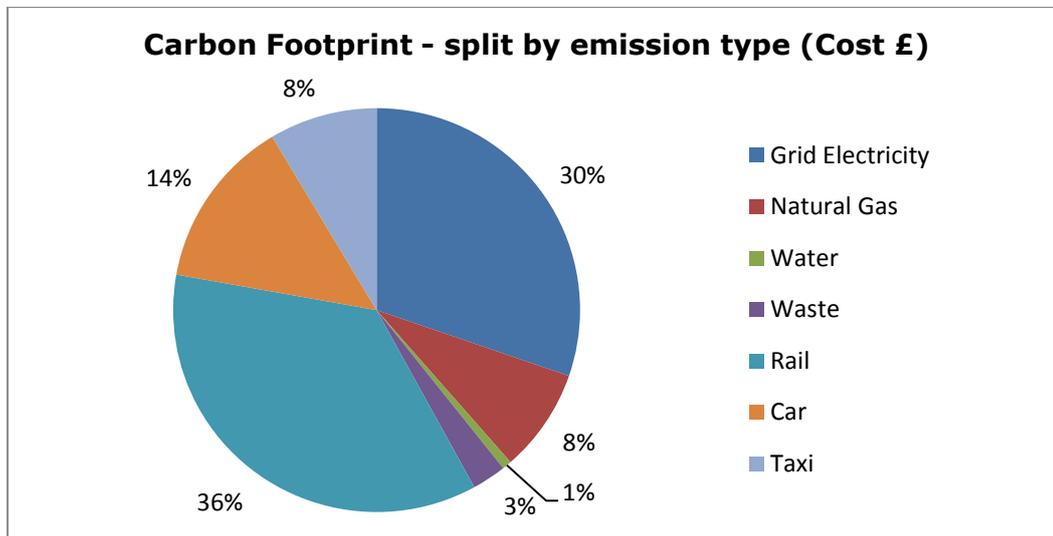
## SQA's Carbon Management Plan (CM Plan) 2015-19

### Graph 1 showing baseline carbon footprint

SQA's overall cost of the carbon footprint for the baseline year of 2013/14 was £636,000.

Graph 2 below reveals that rail constitutes the largest cost at over £225,000. Electricity and gas have a relatively smaller impact on overall cost than on the carbon footprint.

Significantly, taxis, water and waste take on a larger impact on the overall cost (8%, 1% and 3% respectively) when compared with the carbon footprint.



Graph 2 showing baseline carbon footprint cost

Appendix A provides a table detailing the individual consumptions and costs for each element of the footprint.

## 6.7 Business as usual (BAU)

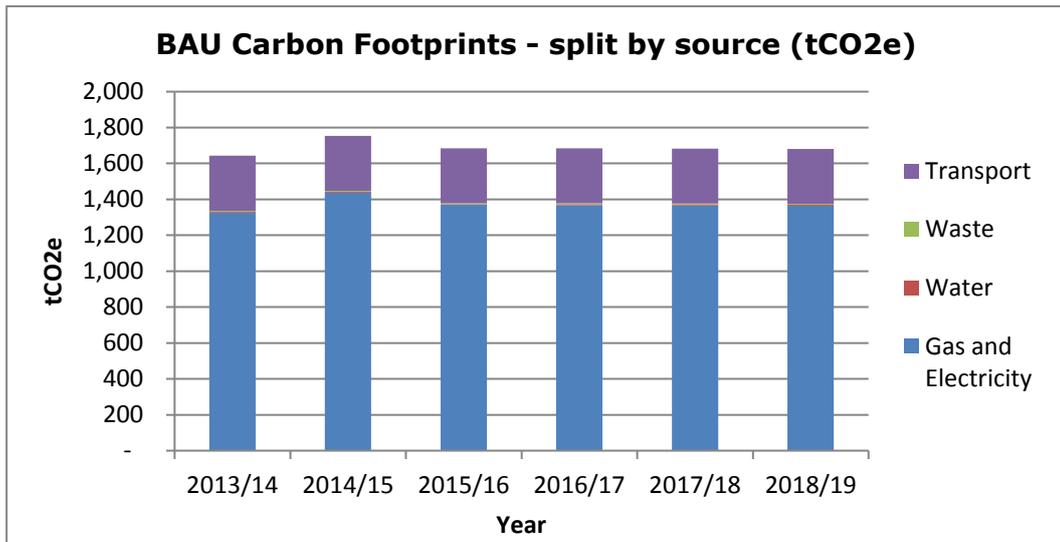
Analysis of projected emissions and the expected impact of operating business as usual (BAU) allows an evaluation of how the organisation's carbon emissions will change over time in terms of tCO<sub>2</sub>e emitted and cost.

The results of the BAU analysis help to explain what is happening in the short and long-term, what is happening to different parts of the footprint, eg gas and electricity, and the current importance of the grid emission factor forecast, including the level of uncertainty in relation to this beyond a certain point.

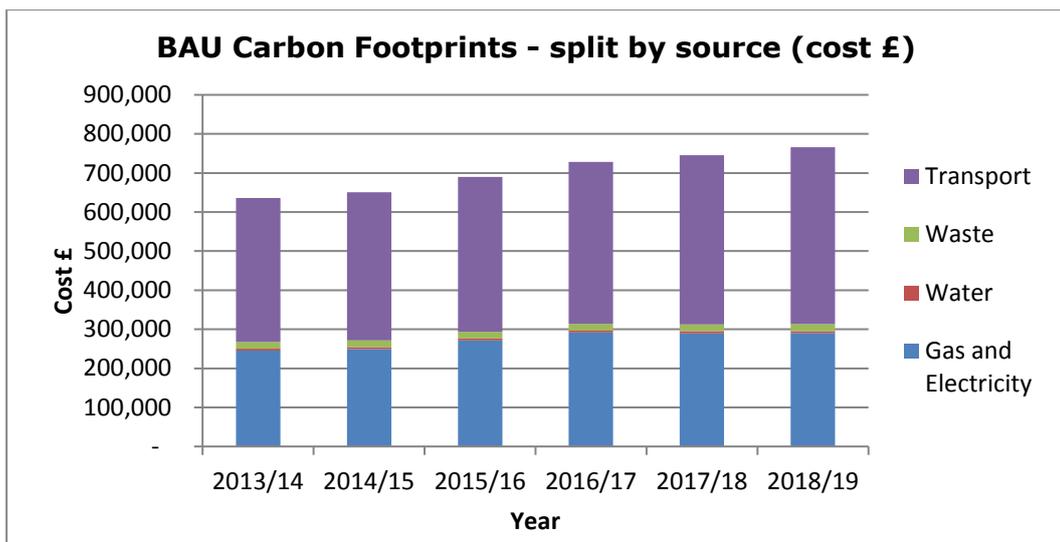
The grid emission factor is dependent on the mix of renewables and other generation methods in the electricity we consume. As 60% of our footprint is grid electricity, SQA's carbon footprint is subject to the electricity grid emission factor, which went up by 10% in 2014/15. No one can say for sure what will happen in the future, although it is expected to go down.

# SQA's Carbon Management Plan (CM Plan) 2015-19

Graphs 3 and 4 below show the expected BAU (carbon and cost) from 2013/14 to 2018/19.



**Graph 3 showing BAU projections (carbon)**



**Graph 4 showing BAU projections (cost)**

## 7 Carbon management projects

### 7.1 Introduction

SQA is committed to identifying and implementing carbon-saving projects so we can continue to achieve emissions reductions and reduce financial exposure.

SQA recognises that successful attainment of our carbon-reduction targets depends on the following key elements being in place:

- An organisational framework within the organisation that is sufficiently robust to support the financing, delivery and monitoring of carbon-reduction projects
- Clearly identified responsibility and accountability for delivery against carbon targets from the outset of the CM Plan
- Identification of a realistic suite of carbon-reduction projects across a range of areas relevant to the carbon footprint; this list must be regularly reviewed and flexible to adapt to emerging needs and opportunities for funding
- A data collection and collation system that is integrated sufficiently to inform both an annual progress update on the CM Plan and other government and associated returns

### 7.2 Existing projects

The following initiatives and projects have already been completed or implemented since 2009. The carbon-emissions savings achieved by these schemes have already contributed towards SQA's carbon reductions and corresponding savings are therefore included in the baseline carbon footprint for 2013/14.

- Dalkeith relocation
- Data Centre cold aisle containment – cooling system for IT servers
- Lighting change in Optima
- Vehicle fleet replacement
- Awareness campaigns

### 7.3 Planned future projects

The projects identified below are those that have been selected for the period 2015 to 2019.

#### Energy

- Explore installation of solar photovoltaic (PV) panels onto the roof at Lowden
- Explore installation of wind turbine at Lowden
- Mechanical and electrical overhaul in Optima

#### Travel/transport

- Executive Management Team and Head of Service commitment to reduce personal business-related CO2 tonnage
- Electric vehicle fleet replacement

## SQA's Carbon Management Plan (CM Plan) 2015-19

### Waste

- Continued awareness-raising and provision of facilities for recycling waste

### Water

- Research water recycling options at Lowden

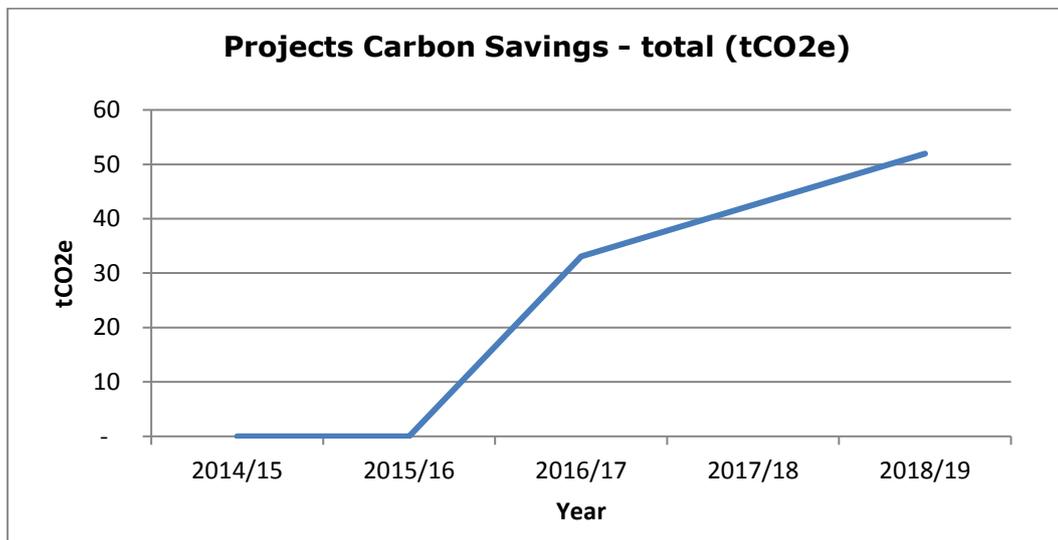
In addition there are some 'enabling' projects which, while not directly leading to carbon savings, will 'enable' further savings to be achieved through subsequent outcomes/actions.

Carbon savings will be achieved through a range of projects, which are summarised in Appendix B. These cover energy, vehicle fuel, water and the generation of waste. Details of project funding can be found in Section 7.4 below. Table 2 below shows the capital cost and savings in future years if all projects were implemented in 2015/16.

	Year					
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
Projects capital costs	-	-	105,500	-	-	-
Project cost savings	-	-	-	20,707	23,105	25,553
Cumulative cost savings	-	-	-	20,707	43,812	69,365

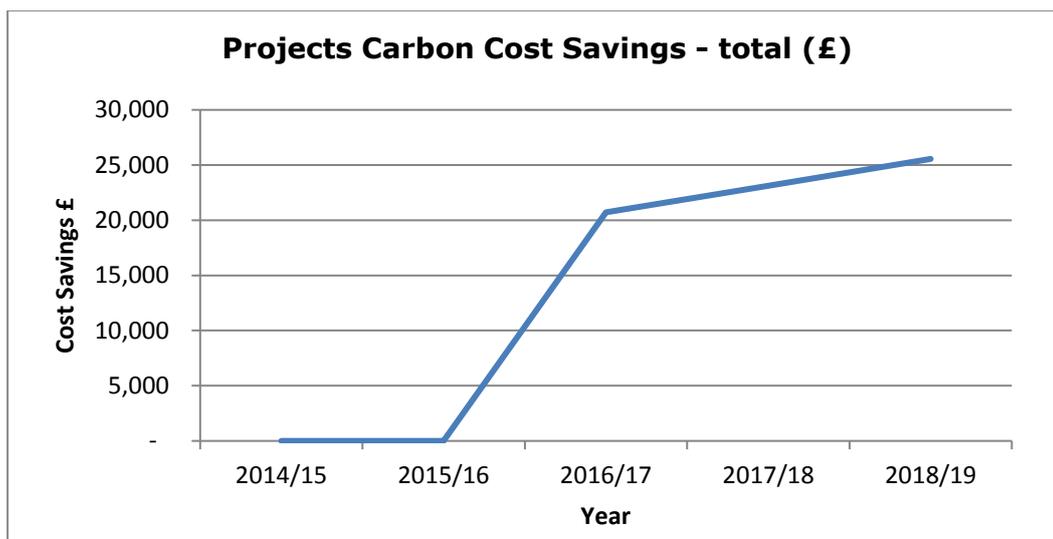
**Table 2: Summary of project capital costs and savings**

There are also some projects that will not have an impact on SQA's carbon footprint as measured in the CM Plan, but are undoubtedly good for the environment and are consequently worth carrying out alongside the other initiatives. These out of scope projects are detailed in Appendix C.



**Graph 5 showing project carbon savings**

## SQA's Carbon Management Plan (CM Plan) 2015-19



**Graph 6 showing project cost savings**

### 7.4 Financing carbon-saving projects

Some of the projects in the CM Plan already have funding in place through either external funding or existing budgets. Other projects will require funding to be allocated in future budgets. Details of costs are provided in Appendix B.

If all identifiable carbon-saving projects were to be implemented, the potential cumulative **financial savings** (avoided costs) to the organisation are in the region of £69,000 over the period 2013/14 to 2018/19.

Opportunities will be taken to maximise any other funding streams from the Scottish Government and other sources for Invest to Save Initiatives.

### 7.5 Value at stake

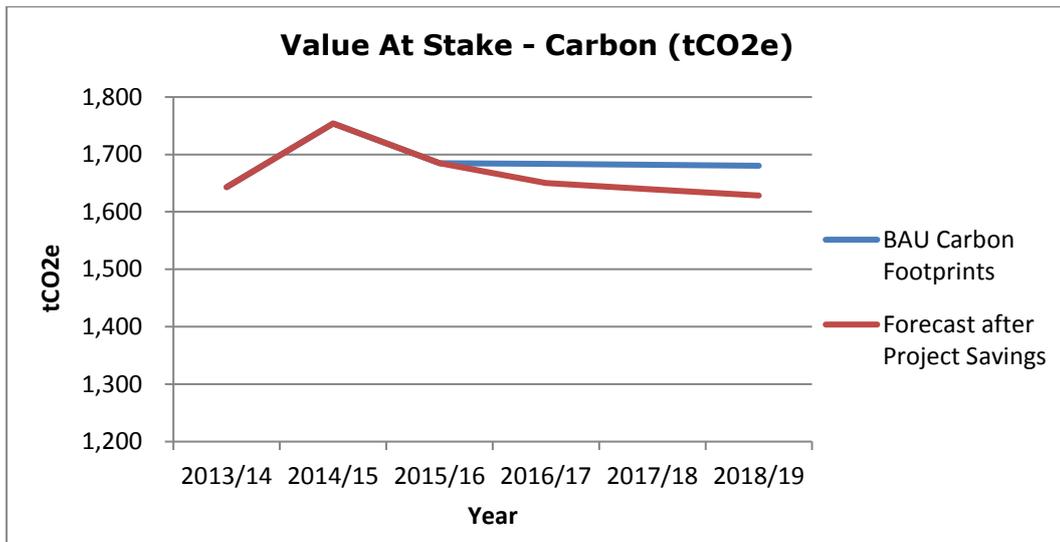
The table below provides a breakdown of the value at stake. This is the cost to SQA if no action is taken to invest in carbon-saving measures. It is the difference between BAU and forecasts after project savings.

	Year											
	2013/14		2014/15		2015/16		2016/17		2017/18		2018/19	
	tCO2e	£										
BAU carbon footprints	1,643	636,233	1,754	650,341	1,685	689,875	1,683	728,176	1,682	745,485	1,680	765,742
Project savings	-	-	-	-	-	-	33	20,707	43	23,105	52	25,553
Forecast after project savings	1,643	636,233	1,754	650,341	1,685	689,875	1,650	707,469	1,639	722,379	1,629	740,189

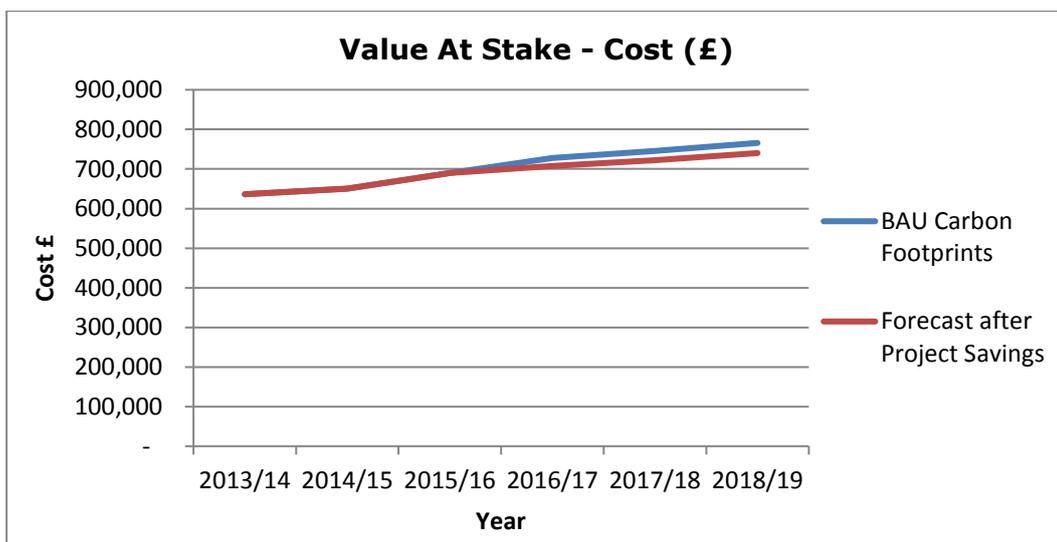
**Table 3: Summary of value at stake**

## SQA's Carbon Management Plan (CM Plan) 2015-19

For SQA, the equivalent financial value at stake equates to £69,000 over the lifetime of this CM Plan (Graph 8).



**Graph 7 showing value at stake – carbon emissions**



**Graph 8 showing value at stake – cost of carbon emissions**

It is predicted that, if all carbon-reduction projects are implemented as planned, by 2018/19, SQA will be able to maintain a carbon footprint of 1,643 tCO<sub>2e</sub>. Costs are predicted to increase from £0.64M in 2013/14 to £0.74M by 2018/19.

### 7.6 Target setting

The analysis shows that, with the current projects in place and the anticipated BAU, carbon emissions will remain stable throughout the duration of the CM Plan to stay at 1,643 tCO<sub>2e</sub> by 2018/19.

Based on this analysis, SQA therefore commits to maintaining its carbon footprint at or below 2013/14 levels by 2018/19.

**By 2018/19, SQA will have maintained its carbon emissions at or below the level in the baseline year of 2013/14. This equates to a figure of 1,643 tonnes CO<sub>2e</sub> in 2018/19**

SQA is likely to maintain the 2018/19 emission reduction target if all projects are implemented in accordance with the intended timescales. In fact, there is scope for the organisation to marginally exceed its target.

SQA's carbon emissions are to some extent subject to the electricity grid emission factor. The organisation does not have control of this, but does have control of the amount of grid electricity used.

Some carbon-reduction projects within the Project List do not as yet have any carbon savings quantified; the majority of SQA's significant proposed projects do, however, have a quantified carbon-reduction value. It is likely that the few projects remaining unquantified will not significantly alter the outcomes of this CM Plan.

The associated costs will increase. However, although SQA has no control over utility, petrol, waste and water costs (limited through procurement choices), it can control the amount of each used. In order to reduce the financial burden, SQA must reduce the amount of carbon emissions.

## 8 Management and delivery of the CM Plan

### 8.1 Introduction

In order to ensure that there is effective and ongoing ownership of the CM Plan, it is important to have a fully defined governance structure. SQA will continue to adopt the following structure for management accountability.

### 8.2 The SQA strategic map

As stated on SQA's strategic map, SQA's purpose is to 'provide products and services in skills, training and education which positively impact on individuals, organisations and society'.

This purpose creates a vision whereby 'we will digitally transform our organisation to offer customers better service by delivering efficient, scalable and new enabling approaches'.

To realise this vision a number of strategic goals have been developed. Most relevant of these goals is to 'continue to develop SQA as a leading public body and key player in the education, skills and training landscape'. This goal feeds into a number of corporate objectives, including for Facilities Management to 'demonstrate best practice and meet or exceed relevant legislative requirements in the following areas: facilities (including building services), environment, and health and safety'.

### 8.3 Reporting and management structure

SQA's CM Plan is one of a number of documents, alongside the SQA Environmental Management Policy and SQA Travel Plan, which form SQA's Environmental Plan.

The objective to demonstrate best practice and meet or exceed relevant legislative requirements in the area of the environment means that certain key performance indicators (KPIs) must be achieved. Reviewing the CM Plan and achieving all CM Plan targets feature as KPIs.

Progress against SQA's commitment to reduce emissions is reported on to the Executive Management Team (EMT) at Quarterly Performance Review (QPR) meetings. This ensures it maintains a high profile and that those with responsibility for the project are accountable for its progress.

SQA's CM Plan is lead and directed by senior management and there is a clear management structure in place to support this. The Director of Corporate Services has overall responsibility for the project.

The Head of Facilities reports to the EMT and Board of Management on environmental matters, under which the Facilities Manager ensures that the organisation works towards the corporate environmental objectives.

The Health, Safety and Environmental Officer is the focal point for environmental issues for the organisation and facilitates the Environmental Working Group, which contributes to environmental projects and initiatives.

## 8.4 Operational roles and responsibilities

### **CM Plan/Project Sponsor**

The Director of Corporate Services champions the project and has ultimate responsibility for strategic direction and for agreeing budgets outside those already available to Facilities.

### **Head of Facilities**

The Head of Facilities reports to the EMT and Board of Management on environmental matters and monitors the work of the Environmental Working Group.

### **Facilities Manager**

The Facilities Manager oversees the strategic implementation plan, has strategic input into its development, and reviews progress.

### **Health, Safety and Environmental Officer**

The Health, Safety and Environmental Officer collects and collates carbon data, co-ordinates the implementation of the CM Plan and reports on its progress to the Project Sponsor.

### **Environmental Working Group**

The Environmental Working Group works closely with the Health, Safety and Environmental Officer to raise awareness and engage staff to promote more environmentally conscious behaviour.

## 8.5 Resourcing and ownership

The CM Plan and carbon-saving target will be approved by the EMT, providing endorsement and a clear commitment at the highest level, reinforcing the need for action across the organisation. The specific objectives of the CM Plan will be included in the organisation's strategic plan and other high-level plans. EMT support will continue to provide long-term organisational momentum for embedding the CM Plan and carbon savings across the organisation. This will primarily be delivered through the governance structure for carbon management described in this section.

Managers at all levels will provide overall support for promoting a culture of carbon reduction throughout facilities and buildings.

The CM Plan is available on SQA's website in pdf format, thus leading by example and saving paper and distribution costs on printed copies.

The key to success of this CM Plan is effective engagement with staff and the local communities. Everyone has a role to play in embedding and delivering the CM Plan and collaborative working is essential to achieving the desired carbon targets.

The key stakeholders in the organisation who will continue to shape and change culture and awareness are:

- Senior management
- Heads of Service

All staff have a responsibility to behave in a way which helps SQA achieve its environmental targets.

## 8.6 The internal delivery model

The Environmental Working Group (EWG) has been created to encourage good environmental practices among colleagues by setting an example in their own workplaces. They can answer basic questions about issues such as climate change, energy efficiency and building performance.

The EWG implements energy-saving activities and initiatives, from educating and encouraging staff to monitoring and evaluating energy usage and identifying opportunities for reduction. The scope covers carbon reduction, energy saving, recycling, travel reduction, and climate impacts. These staff will champion the CM Plan and it will serve as their roadmap towards achieving tangible carbon savings across the organisation.

## 8.7 Communication and training

Knowledge transfer is at the heart of SQA's purpose.

There are many avenues of communication available and these will be fully utilised in promoting the carbon-reduction message to all staff and visitors. Effective communication and engagement is the key to success. However, it is recognised that substantial cultural change will take time to deliver.

Initiatives for building awareness and continuous improvement include:

- Use of SQA's intranet and IT systems to promote campaigns on particular subjects
- Environmental awareness days held bi-annually

The EWG will regularly monitor progress and report to the EMT ensuring that all major stakeholders are kept informed.

## 9 Progress reporting

### 9.1 Data collection and management

Data to measure the progress of the CM Plan will be collected quarterly and presented to the various relevant levels of governance.

The data collected will include:

- Progress on specific projects
- Details of the performance of the variables contributing to the emissions in the quarter – such as utilities, water, fuel, waste generated

### 9.2 Annual Review

The CM Plan is viewed as a 'live' document and as the organisation's estate changes and planning assumptions become reality it is envisaged targets may change. To ensure that the CM Plan remains 'fit for purpose' to deliver targeted carbon savings, the document will be reviewed on an annual basis. This process will be overseen by the Health, Safety and Environmental Officer.

Specifically, the following areas of the CM Plan will be subject to annual review:

- Progress towards the overall carbon-reduction target including CO<sub>2</sub>e savings against target and quantifiable benefits
- Progress with identified carbon-reduction projects (will also be reported separately to the Environmental Working Group on a quarterly basis)
- Financial savings achieved as a result of carbon-reduction projects
- Costs of the programme
- Wider benefits
- Stakeholder engagement, and
- Risk register

An annual CM Plan review will be completed and presented to the EMT. The annual progress review will be promoted to staff and made available on the intranet.

### 9.3 Other reporting requirements

SQA will continue to fulfil requirements to report on environmental performance through Annual Sustainability Reports to the Scottish Government. This report is presented to the EMT after the financial year end and subsequently submitted to the Scottish Government.

### 9.4 Annual Improvement Action Plan

Following each annual review, an Annual Improvement Action Plan (AIAP) will be compiled to ensure that carbon management performance remains on track. This document will highlight the priorities for the forthcoming year and will become a formal addendum to the CM Plan.

Subsequent Annual Reviews will thereafter require assessment of progress against both the original CM Plan and the AIAP.

## Appendix A

Detail of the individual consumptions and costs for each element of the 2013/14 carbon footprint.

Category	Carbon Footprint	Cost
<b>Grid electricity</b>	991 tCO <sub>2</sub> e	£192,667
<b>Natural gas</b>	335 tCO <sub>2</sub> e	£52,712
<b>Car journeys</b>	176 tCO <sub>2</sub> e	£86,609
<b>Taxi journeys</b>	8 tCO <sub>2</sub> e	£54,560
<b>Rail journeys</b>	123 tCO <sub>2</sub> e	£227,686
<b>Waste</b>	5 tCO <sub>2</sub> e	£17,266
<b>Water supply</b>	2 tCO <sub>2</sub> e	£1,471
<b>Wastewater supply</b>	3 tCO <sub>2</sub> e	£3,263

**Appendix B**

Summary of projects

	<b>Project</b>
<b>1</b>	Reduce individual business-related CO <sub>2</sub> tonnage
<p><b>Description</b></p> <p>Seek commitment from Executive Team, Heads of Service and all other staff to reduce business-travel-related CO<sub>2</sub> emissions from the baseline year.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Management leading by example shows high-level commitment to reducing emissions</li> <li>• Reduction in business and inter-site mileage and associated emissions and costs</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• No capital funding is required</li> <li>• There will be possible financial savings where staff opt to use video conferencing instead of travelling or take the train rather than travelling by car or flying</li> </ul>	
<b>2</b>	Install an electric car charging point in Lowden
<p><b>Description</b></p> <p>Install an electric vehicle charging point at Lowden car park. This will be made available to the public as part of the Charge Point network for one year at no cost, thereafter a charge can be levied for use of the charging point.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• SQA will be seen as leading by example in providing a charging point linked to the Charge Point network</li> <li>• Increasing the availability of electric vehicle charging points supports increased use of electric vehicles</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• There will be a minor increase in electricity use. The typical cost for a full charge of an electric vehicle is less than £2. We expect fewer than 10 charges per month, many of which would be short, top-up charges</li> <li>• Installation costs are entirely funded by the Energy Saving Trust (EST). A funding agreement is in place for EST to reimburse the installation costs once installation complete</li> </ul>	

## SQA's Carbon Management Plan (CM Plan) 2015-19

<b>3</b>	Optima mechanical and electrical overhaul
<p><b>Description</b></p> <p>Work with the Optima landlord on a number of mechanical and electrical works to take place over a five year period in the Optima building.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Increased efficiency of heating, cooling, and electrical systems at Optima</li> <li>• Reduced energy consumption of around 5%, equivalent to around 35 tonnes of CO<sub>2</sub> per year</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• All project costs funded via current lease arrangements.</li> </ul>	
<b>4</b>	Explore the installation of solar photovoltaic panels onto the roof at Lowden
<p><b>Description</b></p> <p>Potential installation of solar PV panels at Lowden, generating free, clean electricity.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Reduced CO<sub>2</sub> emissions — reduction of around 4 tonnes per year for a 10kW system</li> <li>• Leading by example — encouraging staff and other public bodies to follow suit</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• Installation costs of around £17,000, but around £3000 per year in energy savings. Payback period of 6 years</li> </ul>	
<b>5</b>	Regular awareness campaigns
<p><b>Description</b></p> <p>Run regular campaigns to raise awareness of environmental issues and encourage environmentally responsible behaviour.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Some minor benefits in energy, travel, waste may be observed</li> <li>• Staff awareness of consequences of actions on environment to enable informed choices</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• Limited costs — environmental campaigns funded from existing budgets.</li> </ul>	

## SQA's Carbon Management Plan (CM Plan) 2015-19

<b>6</b>	Research water recycling options at Lowden
<p><b>Description</b></p> <p>Investigate the possibility of using grey water from wash-hand basins to feed toilet cisterns at Lowden.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Reduced mains water demand and waste water output</li> <li>• Slightly reduced CO<sub>2</sub> footprint</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• Expected significant costs to plumbing system to retrofit system</li> <li>• Reduced water expenditure</li> </ul>	
<b>7</b>	Explore installation of wind turbine at Lowden
<p><b>Description</b></p> <p>Possible installation of wind turbine at Lowden, generating free, clean electricity.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Reduced CO<sub>2</sub> emissions — around 6 tonnes per year for a 6kW system</li> <li>• Leading by example — extremely visible measure, encouraging other public bodies to follow suit</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• Installation costs of around £26,000, but around £3,000 per year in energy savings. Payback period of 9 years</li> </ul>	
<b>8</b>	Electric vehicle fleet replacement
<p><b>Description</b></p> <p>Rationalise vehicle fleet, replacing one or more existing fleet vehicles with electric/hybrid alternatives.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Visible measure that staff can easily relate to and appreciate</li> <li>• Reduced CO<sub>2</sub> emissions</li> <li>• Reduced running costs by around £1000 per vehicle per year</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• Around £20,000 per vehicle if purchased new. Approximately £10,000 can be raised through partial disposal of the existing fleet</li> </ul>	

## SQA's Carbon Management Plan (CM Plan) 2015-19

<b>9</b>	Print routing
<p><b>Description</b></p> <p>Automatic routing of large print jobs to the print rooms instead of using multi-function devices (printers/copiers/scanners).</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Approximately 1 million MFD prints will be automatically routed to the print rooms, reducing the cost per sheet from 4p to 0.5p</li> <li>• Printing will be 65% quicker so less energy will be consumed, lowering CO<sub>2</sub> emissions</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• No capital cost. Increased lease cost funded as part of MFD re-tender from existing print budgets</li> </ul>	
<b>10</b>	Increase use of video conferencing
<p><b>Description</b></p> <p>Proposal to increase video conferencing provision at Lowden and Optima by one additional room on each site.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Increased availability of video conferencing reduces the necessity for travel between sites</li> <li>• Reduced business travel</li> <li>• Reduced CO<sub>2</sub> emissions</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• Installation and monthly ongoing costs. Reduction in inter-site and business travel costs</li> </ul>	
<b>11</b>	'Grey' fleet review
<p><b>Description</b></p> <p>Review by the Energy Saving Trust of the use of vehicles that are not SQA company vehicles but which are used for business travel.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Detailed recommendations of measures to take to decrease environmental impact and cost of 'grey' fleet</li> </ul> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• No charge for review. Recommendations may require some funding.</li> </ul>	

SQA’s Carbon Management Plan (CM Plan) 2015-19

<b>12</b>	IT equipment recycling
<p><b>Description</b></p> <p>Securely erase data and recycle all components and materials from old IT equipment. Also allow staff to dispose of their equipment through same process.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"><li>• No materials sent to landfill, reduced carbon footprint, reduced consumption of resources in manufacture</li><li>• Demonstrates SQA’s commitment to recycling and gives easy route for staff to dispose of their own equipment</li></ul> <p><b>Costs</b></p> <ul style="list-style-type: none"><li>• Equipment disposal costs funded through current budgets. Not a significant increase to open scheme to staff.</li></ul>	

**Appendix C**

Out of scope initiatives

	<b>Project</b>
<b>13</b>	Offsetting – explore fully accredited schemes to mitigate flight-related emissions
<p><b>Description</b></p> <p>Identify and purchase carbon credits to mitigate the flight-related CO<sub>2</sub> for which SQA is responsible.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Reduction in ‘out of scope’ carbon footprint</li> <li>• SQA is seen to lead by example</li> </ul> <p>Mitigation of flight emissions will benefit the environment but does not having an impact on CM Plan targets because flights are not included within the scope of the CM Plan.</p> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• The cost of 2,500 carbon credits for annual flight CO<sub>2</sub> of approximately 2,500 tonnes would be around £18,000 per year.</li> </ul> <p>Funding to be agreed by EMT.</p>	
<b>14</b>	Lift share scheme
<p><b>Description</b></p> <p>Investigate joining Tripshare scheme to give staff access to portal to find other users with whom they can car share.</p> <p><b>Benefits</b></p> <ul style="list-style-type: none"> <li>• Reduction in commuting car use, leading to less congestion, less pollution, and less use of natural resources</li> </ul> <p>Does not affect CM Plan targets as commuting is not within the scope of SQA’s carbon footprint.</p> <p><b>Costs</b></p> <ul style="list-style-type: none"> <li>• Small annual administration charge to allow SQA staff unrestricted access to website</li> </ul>	

## Carbon Management Plan Annual Review 2016

### 1 Introduction

SQA's Carbon Management Plan (CM Plan) was written in March 2015, approved and officially launched in July 2015. It covers financial years 2015/16 through to 2018/19. As part of the CM Plan we undertook to carry out an annual review of: progress against CO<sub>2</sub> targets; progress of carbon reduction projects; financial savings and costs; other benefits.

Follow-up actions to be carried out will be identified to improve performance in carbon management and project progression.

This review and actions shall be a formal addendum to the CM Plan and future reviews should be based on an assessment of progress against the original CM Plan and the actions included here.

### 2 CO<sub>2</sub> emissions

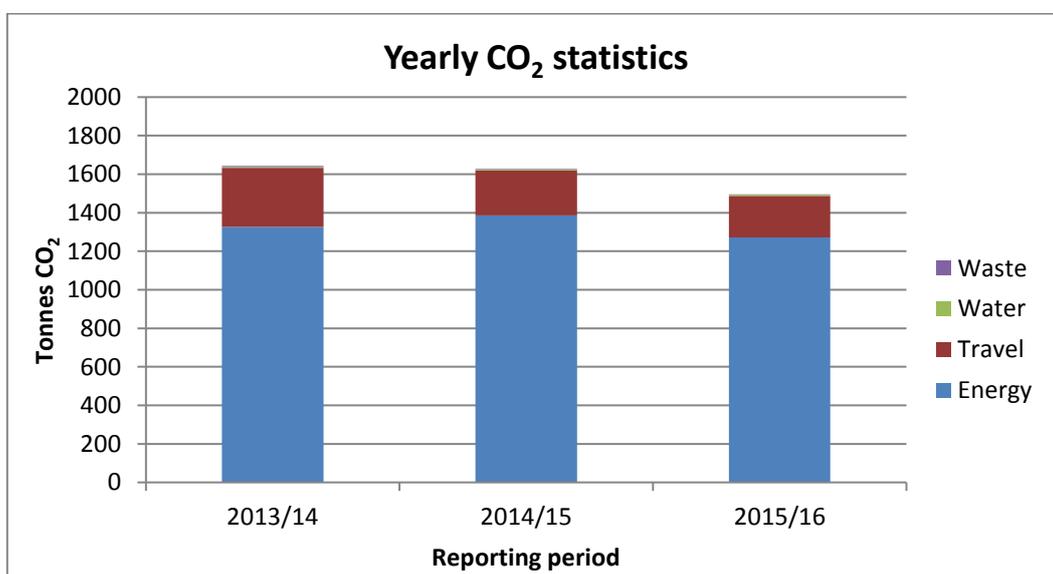
The baseline CO<sub>2</sub> figure used in the CM Plan is the annual emissions figure from 2013/14 which was 1,643 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). Our target is to maintain emissions at or below that level up to the end of year 2018/19.

When the CM Plan was launched in August 2015, figures had just been finalised for 2014/15. The total emissions that year were 1,628 tCO<sub>2</sub>e, a reduction from baseline of 0.9%.

The first year following the publication of the CM Plan is 2015/16. Some of the activities and projects within the plan should have been starting to take effect. Our total emissions in this year were 1,495 tCO<sub>2</sub>e; a reduction of 133 tCO<sub>2</sub>e from the previous year. Compared to the baseline year our current position is a reduction of 9% on our in-scope emissions.

There have been significant reductions in emissions attributable to all forms of business travel, particularly train. Energy emissions were slightly up due to increased use of gas, partially offset by a decrease in electricity usage. Waste and water related emissions form a small part of the overall carbon footprint. Waste emissions reduced slightly and water increased by a small amount.

Air travels remains out of the scope of our carbon footprint.



### 3 Progress of carbon reduction projects

	Project	Status	Comments	Owner
<b>1</b>	Reduce individual business-related CO <sub>2</sub> tonnage	Under consideration	Project under consideration by Environmental Working Group.	Barry Greenwood
<b>2</b>	Install an electric car charging point at Lowden	Completed	Installation completed in 2015.	
<b>3</b>	Optima mechanical and electrical overhaul	In progress	Programme of works currently ongoing, due for completion in 2021.	Simon Parsons
<b>4</b>	Explore the installation of solar photovoltaic panels onto the roof at Lowden	Not yet considered	Owner assigned	Alastair Black
<b>5</b>	Regular awareness campaigns	In progress	A number of campaigns and initiatives run every year and will continue.	Allan Dunbar
<b>6</b>	Research water recycling options at Lowden	Rejected	Benefits measured against costs and practicalities of retro-fitting make project unfeasible.	
<b>7</b>	Explore installation of wind turbine at Lowden	Rejected	Costs and reliability of technology weighed against potential savings and benefits make project unfeasible.	
<b>8</b>	Electric vehicle fleet replacement	Not yet considered	Owner assigned	Brian Clark
<b>9</b>	Print routing	On hold	Technology not currently available for this to happen but will be revisited.	Robert Thomson
<b>10</b>	Increase use of video conferencing	Not yet considered	Owner assigned	Lynsey Williamson
<b>11</b>	'Grey' fleet review	Completed	Review completed; recommendations to be considered for implementation.	
<b>12</b>	IT equipment recycling	Completed	IT equipment recycling contract is in place. Staff have periodically been given the opportunity to dispose of personal IT equipment.	
<b>13</b>	Offsetting – explore fully accredited schemes to mitigate flight-related emissions	Under consideration	Business case for Executive Team to consider is being prepared.	Allan Dunbar
<b>14</b>	Lift share scheme	Not yet considered	Owner assigned	Judith Blackadder

## 4 Financial savings and costs

The total additional **costs** to SQA of implementing the projects completed so far:

Electric car charging point		
Capital outlay	£0	<i>funded through grant from Energy Saving Trust</i>
Ongoing costs (estimate)	£50	<i>approximate annual electricity costs including charges of staff/visitors/public vehicles</i>
Grey fleet review (recommendations contained within review to be evaluated)		
Capital outlay	£0	<i>free service provided by Home Energy Scotland</i>
Ongoing costs (estimate)	£0	
IT equipment recycling		
Capital outlay	£0	
Ongoing costs (estimate)	£980	<i>contract funded through IT operational budget</i>
<b>Total capital outlay</b>	<b>£0</b>	
<b>Total ongoing costs</b>	<b>£1030</b>	

Annual **savings** in running costs:

Electric car charging point	£40	<i>cost of charging electric car for annual mileage of approximately 2,000 miles using standard power source</i>
Grey fleet review	£0	<i>recommendations contained within review being evaluated</i>
IT equipment recycling	£1160	<i>cost of discarding waste electrical and electronic equipment through conventional disposal methods</i>
<b>Total ongoing savings</b>	<b>£1200</b>	
Overall savings per year	<b>£170</b>	
Total savings over lifetime of CM Plan (2015/16-2018/19)	<b>£560</b>	<i>as more projects are completed this figure is expected to increase</i>

## 5 Other benefits

SQA leads by example in our efforts to work in an environmentally responsible and sustainable way. Encourages other organisations to do the same.

Demonstration of commitment to sustainable travel for SQA and wider community.

Highlights SQA's commitment to recycling and reducing waste.

Reduced carbon emissions and increased efficiency of conducting our operations.

Shows SQA's continuing attempts to raise awareness of environmental issues and allow staff to make informed decisions both at work and home.

## 6 Actions

The following actions will be taken forward by the Environmental Working Group:

1. Identify owners for the existing projects in the CM Plan who will be responsible for researching the project and submitting a document to the Environmental Working Group for initial consideration.
2. Identify timescales for investigation into each of the remaining projects in the CM Plan.
3. Review the performance of the CM Plan before the end of each financial year, append the review to the plan and update the version number and review dates.
4. Continue to identify and investigate new projects which can be included to help SQA achieve the carbon targets set out in the CM Plan.

New items for consideration:

### **Grey fleet review recommendations, including:**

- Consider using daily rental vehicles for journeys over 100 miles in place of staff using their own vehicles in order to reduce costs, ease administrative burden and reduce carbon emissions.
- Implement a pool car fleet of EVs.
- Supplement pool cars with Car Club vehicles.

### **Green roof**

- A green roof or living roof is a roof of a building that is partially or completely covered with vegetation and a growing medium, planted over a waterproofing membrane. It may also include additional layers such as a root barrier and drainage and irrigation systems.
- Green roofs can act to cool air, reducing the need for air conditioning during periods of higher than normal temperature.
- A green roof can protect a building from the effects of UV light, frost and sunlight, and help moderate heat flow through the building.
- They provide insulation in winter, reducing the need for extra heating, and they keep buildings cooler in summer, reducing the need for air conditioning.

*Full details, including; cost/benefit analysis, person responsible and timescales, will be developed as these initial proposals are explored.*

## Carbon Management Plan Annual Review 2017

### 1 Introduction

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Follow-up actions will be identified to improve performance in carbon management and project progression.

This review and actions shall be a formal addendum to the CM Plan and future reviews should be based on an assessment of progress against the original CM Plan and the actions included here.

### 2 CO<sub>2</sub> emissions

The baseline CO<sub>2</sub> figure used in the CM Plan is the annual emissions figure from 2013/14 which was 1,643 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). Our target is to maintain emissions at or below that level up to the end of year 2018/19.

When the CM Plan was launched, figures had just been finalised for 2014/15. The total emissions that year were 1,628 tCO<sub>2</sub>e, a reduction from baseline of 0.9%.

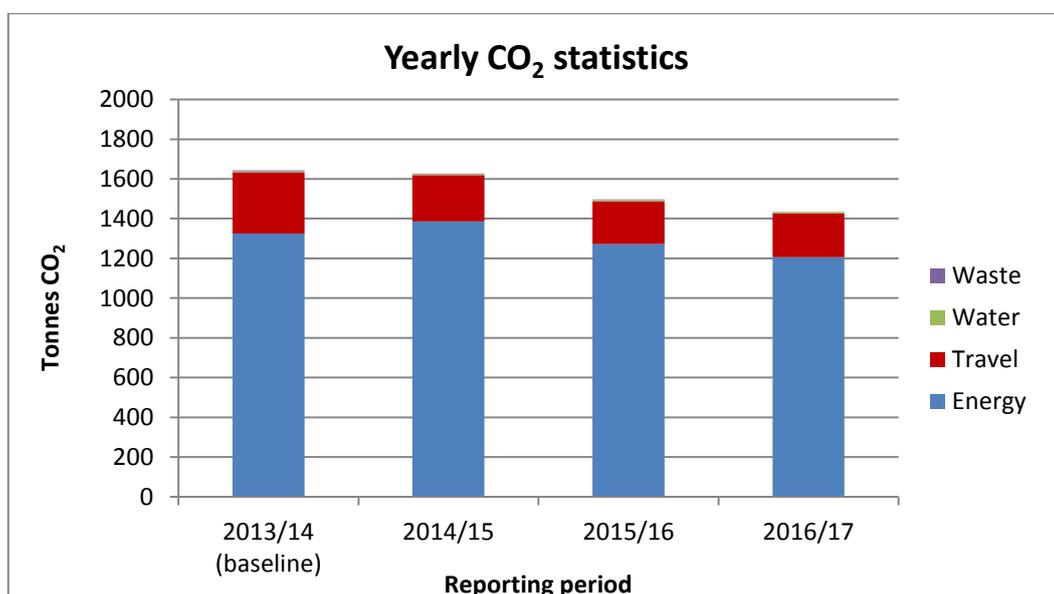
The first year following the publication of the CM Plan was 2015/16. Our total emissions in this year were 1,495 tCO<sub>2</sub>e; a reduction of 9% on in-scope emissions compared to the baseline figure.

In 2016/17 our emissions have decreased to 1,435 tCO<sub>2</sub>e\*, a decrease of 4% on the 2015/16 level, and 12% lower than the baseline year.

Significant decreases have occurred in emissions related to electricity and car travel for business, partially offset by increases in natural gas and rail emissions.

Air travels remains out of the scope of our carbon footprint.

\* Estimated figure as not all figures for March 2017 finalised at time of writing



### 3 Progress of carbon reduction projects

	Project	Status	Comments	Owner
<b>1</b>	Reduce individual business-related CO <sub>2</sub> tonnage	Under consideration	Project under consideration by Environmental Working Group.	Barry Greenwood
	Next steps:		Timescales:	
	- Develop campaign proposal		- April 2017	
	- Approach Executive Management Team (EMT) for backing		- May 2017	
	- Set dates for campaign and produce communications plan		- June 2017	
<b>2</b>	Install an electric car charging point at Lowden	Completed	Installation completed in 2015.	
<b>3</b>	Optima mechanical and electrical overhaul	In progress	Programme of works currently ongoing, due for completion in 2021.	Simon Parsons
	Next steps:		Timescales:	
	- Continue with programme of works		- Ongoing	
	- Quantify any carbon reductions and operational cost savings		- May 2017	
<b>4</b>	Explore the installation of solar photovoltaic panels onto the roof at Lowden	Under consideration	Owner assigned	Alastair Black
	Next steps:		Timescales:	
	- Determine if structurally feasible		- May 2017	
	- Obtain permission of building owner if required		- May 2017	
	- Produce financial and carbon emissions figures		- May 2017	
	- Write paper with recommendations for EMT		- July 2017	
<b>5</b>	Regular awareness campaigns	In progress	A number of campaigns and initiatives run every year and will continue.	Allan Dunbar
	Next steps:		Timescales:	
	- Continue with programme of campaigns and initiatives		- Ongoing	
<b>6</b>	Research water recycling options at Lowden	Rejected	Benefits measured against costs and practicalities of retro-fitting make project unfeasible.	
<b>7</b>	Explore installation of wind turbine at Lowden	Rejected	Costs and reliability of technology weighed against potential savings and benefits make project unfeasible.	
<b>8</b>	Electric vehicle fleet replacement	Under consideration	Owner assigned	Brian Clark
	Next steps:		Timescales:	
	- Obtain information on available vehicle options		- June 2017	
	- Cost and consider purchase/lease of vehicles		- June 2017	
	- Develop fleet review document with recommendations		- December 2017	

## SQA's Carbon Management Plan (CM Plan) 2015-19

<b>9</b>	Print routing	On hold	Decision made at senior level not to proceed at present time.	Robert Thomson
Next steps:				Timescales:
- Review when circumstances change				- Ongoing
<b>10</b>	Increase use of video conferencing	Under consideration	Investigation ongoing whether increased provision necessary.	Lynsey Williamson
Next steps:				Timescales:
- Obtain figures showing utilisation of current provision				- April 2017
- Establish whether Skype for Business video capability will be rolled out to all staff				- July 2017
<b>11</b>	'Grey' fleet review	Completed	Review completed; recommendations to be considered for implementation.	
<b>12</b>	IT equipment recycling	Completed	IT equipment recycling contract is in place. Staff have periodically been given the opportunity to dispose of personal IT equipment.	
<b>13</b>	Offsetting – explore fully accredited schemes to mitigate flight-related emissions	Under consideration	Business case for Executive Team to consider is being prepared.	Allan Dunbar
Next steps:				Timescales:
- Arrange date to present business case containing recommendations to EMT				- April
<b>14</b>	Lift share scheme	Under consideration	Proposal for SQA being developed by Liftshare	Judith Blackadder
Next steps:				Timescales:
- Obtain costs for Liftshare scheme options				- April 2017
- Identify other organisations who are part of scheme				- April 2017
- Gauge interest of staff				- April 2017
- Write paper with recommendations				- May 2017
<b>New Projects</b>				
<b>15</b>	Grey fleet review recommendations	Under consideration	Owner assigned	Allan Dunbar
Next steps:				Timescales:
- Examine each recommendation in detail, considering feasibility				- October 2017
- Write paper for EMT with recommendations				- December 2017
<b>16</b>	Investigate installation of 'green' roof at Lowden	Under consideration	Owner assigned	John Tweedie
Next steps:				Timescales:
- Check planning restrictions				- April 2017
- Identify costs and benefits				- April 2017
- Determine structural validity				- June 2017
- Write paper with recommendations for EMT				- September 2017

## 4 Financial costs and savings

The financial impact on SQA of implementing the projects completed so far:

Capital cost	Annual cost	Annual saving	2015/16 saving	2016/17 saving	Total saving to date
<b>Electric car charging point</b>					
£0	£50	£40	-£10	-£10	-£20
<i>Installation funded through grant from Energy Saving Trust</i>	<i>Approximate annual electricity costs, including charges of staff/visitors/public vehicles</i>	<i>Cost of charging electric car for annual mileage of approximately 2,000 miles using standard power source</i>			
<b>Grey fleet review</b>					
2016	£0	£0	£0	£0	£0
<i>Free service provided by Home Energy Scotland</i>					
<b>IT equipment recycling</b>					
£0	£980	£1,160	£180	£180	£360
	<i>Contract funded through IT operational budget</i>	<i>Cost of discarding waste electrical and electronic equipment through conventional disposal methods</i>			
<b>£0</b>	<b>£1,030</b>	<b>£1,200</b>	<b>£170</b>	<b>£170</b>	<b>£340</b>

The current projection of total savings over the lifetime of the CM Plan (2015/16-2018/19) is **£680**. As more projects are completed this figure is expected to increase.

## 5 Other benefits

SQA leads by example in our efforts to work in an environmentally responsible and sustainable way. Encourages other organisations to do the same.

Demonstration of commitment to sustainable travel for SQA and wider community.

Highlights SQA's commitment to recycling and reducing waste.

Reduced carbon emissions and increased efficiency of conducting our operations.

Shows SQA's continuing attempts to raise awareness of environmental issues and allow staff to make informed decisions both at work and home.

## 6 Actions

The following actions will be taken forward by the Environmental Working Group:

1. Continue to progress each of the projects in the CM Plan, gathering sufficient information to enable an informed evaluation to be made and submitting a document to the Environmental Working Group for consideration and recommendation.

Any projects recommended for implementation which require EMT sign-off should have a supporting paper written and presentation made to EMT.

2. Continue to review the performance of the CM Plan by the end of each financial year, append the review to the plan and update the version number and review dates.

Present the annual review to EMT, promote the updated CM Plan to staff and make available on the SQA website.

3. Continue to identify and investigate new projects which can be included to help SQA achieve the carbon targets set out in the CM Plan.

Develop full details, including; cost/benefit analysis, person responsible and timescales, as initial proposals are explored.

## Carbon Management Plan Annual Review 2018

### 1 Introduction

SQA's Carbon Management Plan (CM Plan) was written in March 2015, approved and officially launched in July 2015. It covers financial years 2015/16 through to 2018/19. As part of the CM Plan we undertook to carry out an annual review of: progress against CO<sub>2</sub> targets; progress of carbon reduction projects; financial savings and costs; other benefits.

Follow-up actions will also be identified to improve performance in carbon management and project progression.

This review and actions shall be a formal addendum to the CM Plan and future reviews should be based on an assessment of progress against the original CM Plan and the actions included here.

### 2 CO<sub>2</sub> emissions

The baseline CO<sub>2</sub> figure used in the CM Plan is the annual emissions figure from 2013/14 which was 1,643 tonnes of carbon dioxide equivalent (tCO<sub>2</sub>e). Our target is to maintain emissions at or below that level up to the end of year 2018/19.

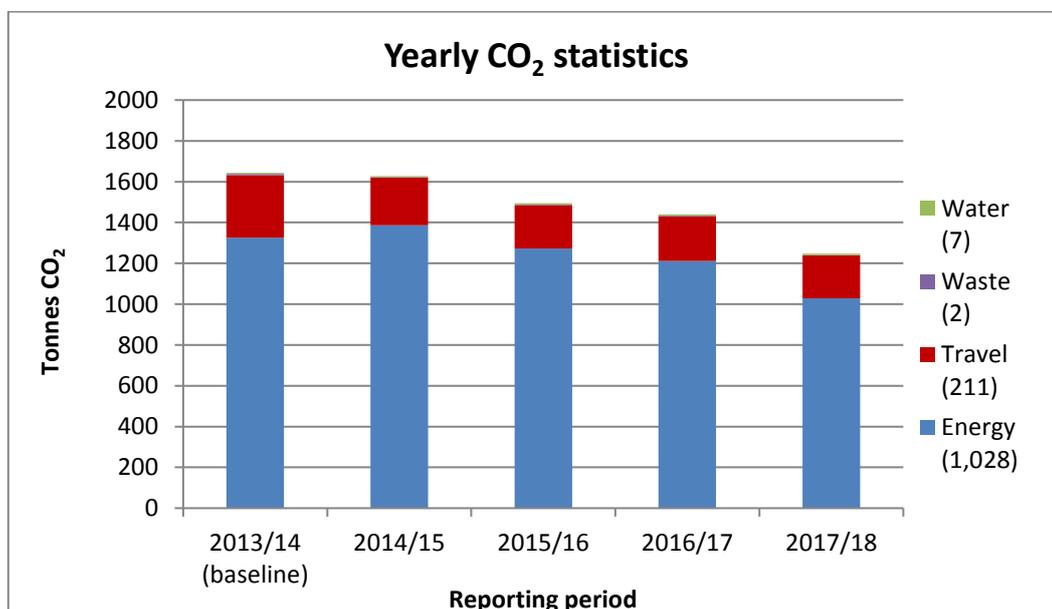
When the CM Plan was launched, figures had just been finalised for 2014/15. The total emissions that year were 1,628 tCO<sub>2</sub>e, a reduction from baseline of 0.9%.

The first year following the publication of the CM Plan was 2015/16. Our total emissions in this year were 1,495 tCO<sub>2</sub>e; a reduction of 9% on in-scope emissions compared to the baseline figure. There was a further 4% decrease in 2016/2017 to 1,440 tCO<sub>2</sub>e, 12% lower than the baseline year.

In 2017/18 our emissions have decreased to 1,248 tCO<sub>2</sub>e\*, a decrease of 13% on the 2016/17 level, and 32% lower than the baseline year. The most significant decreases occurring in emissions related to electricity.

Air travel remains out of the scope of our carbon footprint.

\* Estimated figure for March 2018 as not all figures were available at time of writing.



### 3 Progress of carbon reduction projects

	Project	Status	Comments	Owner
1	Reduce individual business-related CO2 tonnage	In progress	High-profile Business Travel campaign ran in March 2018.	Barry Greenwood
	Next steps:		Timescales:	
	- Monitor business travel emissions to evaluate effectiveness of campaign		- Ongoing	
	- Rerun campaign at appropriate intervals		- Ongoing	
2	Install an electric car charging point at Lowden	Completed	Installation completed in 2015.	
3	Optima mechanical and electrical overhaul	In progress	Programme of works currently ongoing, due for completion in 2020.	Simon Parsons
	Next steps:		Timescales:	
	- Continue with programme of works		- Ongoing	
4	Explore the installation of solar photovoltaic panels onto the roof at Lowden	Under consideration	Contact made with potential suppliers for initial feasibility assessment.	Alastair Black
	Next steps:		Timescales:	
	- Establish financial and carbon emissions figures		- October 2018	
	- Obtain permission of building owner if required		- November 2018	
	- Make recommendations and request funding if applicable		- January 2019	
5	Regular awareness campaigns	In progress	A number of campaigns and initiatives run every year and will continue.	Allan Dunbar
	Next steps:		Timescales:	
	- Continue with programme of campaigns and initiatives		- Ongoing	
6	Research water recycling options at Lowden	Rejected	Benefits measured against costs and practicalities of retro-fitting make project unfeasible.	
7	Explore installation of wind turbine at Lowden	Rejected	Costs and reliability of technology weighed against potential savings and benefits make project unfeasible.	
8	Electric vehicle fleet replacement	Completed	Replacement of two fleet vehicles with an electric vehicle and a new hybrid vehicle in 2018.	
9	Print routing	On hold	Decision made at senior level not to proceed at present time.	Robert Thomson
	Next steps:		Timescales:	
	- Review when circumstances change		- Ongoing	

## SQA's Carbon Management Plan (CM Plan) 2015-19

<b>10</b>	Increase use of video conferencing	Under consideration	Investigation ongoing whether increased provision necessary.	Lynsey Williamson
Next steps:		Timescales:		
- Establish whether Skype video capability will be further rolled out to all staff, potentially reducing dependence on VC rooms		- TBC		
<b>11</b>	'Grey' fleet review	Completed	Review completed; recommendations to be considered for implementation.	
<b>12</b>	IT equipment recycling	Completed	IT equipment recycling contract is in place. Staff have periodically been given the opportunity to dispose of personal IT equipment.	
<b>13</b>	Offsetting – explore fully accredited schemes to mitigate flight-related emissions	In progress	Investment to offset 200 tCO <sub>2</sub> e, a portion of annual flight-related emissions. Tree planting event arranged for April 2018.	Allan Dunbar
Next steps:		Timescales:		
- SQA volunteers take part in tree planting event		- April 2018		
- Receive certificate 'retiring' carbon credits		- May 2018		
<b>14</b>	Lift share scheme	Under consideration	Proposal for SQA developed by Liftshare with outline of costs and benefits, linking with Scottish Government scheme.	Allan Dunbar
Next steps:		Timescales:		
- Obtain approval to promote scheme to staff		- May 2018		
- Agree how costs of scheme will be funded		- May 2018		
<b>15</b>	Grey fleet review recommendations	Under consideration	Owner assigned	Allan Dunbar
Next steps:		Timescales:		
- Examine each suggestion, considering feasibility		- December 2018		
- Make recommendations for any suggestions to be taken forward		- January 2019		
<b>16</b>	Investigate installation of 'green' roof at Lowden	Under consideration	Contact made with potential supplier for initial feasibility assessment.	John Tweedie
Next steps:		Timescales:		
- Identify costs and benefits		- October 2018		
- Determine structural validity		- November 2018		
- Make recommendations and request funding if applicable		- January 2019		
<b>New Projects</b>				
<b>17</b>	LED lighting replacement in Lowden	Under consideration	Obtaining quotes for supply and installation of appropriate lighting	Allan Dunbar
Next steps:		Timescales:		
- Identify costs and benefits		- June 2018		

## 4 Financial costs and savings

The financial impact on SQA of implementing the projects completed so far:

Capital cost	Annual cost	Previous cost	2015-2017 net savings	2017/18 saving	Projected savings to 2019
<b>Electric car charging point</b>					
£0	£50	£40	-£20	-£10	-£40
<i>Installation funded through grant from Energy Saving Trust</i>	<i>Approximate annual electricity costs, including charges of staff/visitors/public vehicles</i>	<i>Cost of charging electric car for annual mileage of approximately 2,000 miles using standard power source</i>			
<b>Grey fleet review</b>					
£0	£0	£0	£0	£0	£0
<i>Free service provided by Home Energy Scotland</i>					
<b>IT equipment recycling</b>					
£0	£980	£1,160	£360	£180	£720
	<i>Contract funded through IT operational budget</i>	<i>Cost of discarding waste electrical and electronic equipment through conventional disposal methods</i>			
<b>£0</b>	<b>£1,030</b>	<b>£1,200</b>	<b>£340</b>	<b>£170</b>	<b>£680</b>

The above are projects that have been completed and implemented prior to the 2017/18 financial year and benefits have been realised for some time.

Any cost savings are an additional benefit rather than the main driver of the project.

## SQA's Carbon Management Plan (CM Plan) 2015-19

### Projected savings for projects completed in 2017/18

Capital cost	Annual cost	Previous cost	Annual net savings	First year of savings	Projected savings to 2018/19
<b>Electric Vehicle Fleet Replacement</b>					
Replace diesel MPV with electric equivalent					
£16,545	£51	£535	£484	2018/19	£484
	<i>Electricity charge cost based on approximate annual mileage of 3,000 miles. Zero road tax</i>	<i>Fuel cost based on approximate annual mileage of 3,000 miles. Annual road tax of £135</i>			
Replace petrol hybrid car with newer, more efficient model					
£14,690	£540	£511	-£29	2018/19	-£29
	<i>Fuel cost based on approximate annual mileage of 4,500 miles. Annual road tax of £130</i>	<i>Fuel cost based on approximate annual mileage of 4,500 miles. Annual road tax of £10</i>			
<b>£31,235</b>	<b>£591</b>	<b>£1,046</b>	<b>£455</b>		<b>£455</b>

The current projection of total savings over the lifetime of the CM Plan (2015/16–2018/19) is **£1,135**. As more projects are completed this figure is expected to increase.

The cost of introducing the new vehicles is partly offset by reduced running costs. However the main benefit is a reduction in carbon emissions.

The electric vehicle does not produce any direct emissions. Even taking into account the electricity required to charge the vehicle, there will still be a significant reduction in the emissions attributable. Replacing the diesel vehicle with the electric alternative will result in reductions of 0.67 tCO<sub>2e</sub> per year.

Replacing the old hybrid vehicle with a more efficient model will result in an approximate reduction in annual CO<sub>2</sub> emissions of 0.16 tCO<sub>2e</sub>. The projected total reduction to fleet vehicle emissions of 0.83 tCO<sub>2e</sub> per year is around 30% of last year's levels for all SQA vehicles.

## 5 Other benefits

SQA leads by example in our efforts to work in an environmentally responsible and sustainable way. We also provide support and advice to other organisations through our partnership working arrangements. This demonstrates our commitment to:

- sustainable travel for SQA and the wider community.
- recycling and reducing waste.
- reducing carbon emissions and increasing efficiency in conducting our operations.
- raising awareness of environmental issues and allowing staff to make informed decisions both at work and at home.
- reducing our carbon footprint through a tree planting and carbon offsetting program.

## 6 Actions

The following actions will be taken forward:

1. Continue to progress each of the projects in the CM Plan, gathering sufficient information to enable an informed evaluation to be made by the Environmental Working Group.

Any projects which require EMT sign-off will be presented to EMT at the appropriate time.

2. Continue to review the performance of the CM Plan by the end of each financial year, append the review to the plan and update the version number and review dates.

Present the annual review to EMT, promote the updated CM Plan to staff and make available on the SQA website.

3. Continue to identify and investigate new projects to help achieve the carbon targets set out in the CM Plan.

Develop full details, including cost/benefit analysis, person responsible and timescales, as initial proposals are explored.