CARBON TRUST STANDARD

REDUCING CO2 YEAR ON YEAR

Certification Report

Harrow College

All UK operations including all subsidiaries

07 April 2017

Contents

1. Introduction

At Carbon Trust Certification, we are delighted that you were successful in your submission to meet the Carbon Trust Standard for Carbon. Standard bearers continue to deliver carbon reductions year on year and realise the benefits of associated efficiencies. Based on our analysis of the performance of certified organisations we produce Certification Reports which include benchmark data to help further develop efforts to reduce carbon emissions, facilitate compliance and enhance their reputation.

This report provides a summary of your performance and a series of benchmarks which enable you to assess your organisation's energy and carbon management capabilities against those of other companies who have been awarded the Carbon Trust Standard and, where sufficient data is available, to review your capabilities against others organisations who we see as your peers. It is meant to further supplement the comments and recommendations found in your assessment form.

In presenting this information to other organisations we have ensured that organisations only see information taken from their own assessment; all other information is aggregated so as to ensure confidentiality, consistency, and comparability.

2. Assessment Parameters

This section provides a summary of your organisation's assessment parameters, including general information about the service and the organisational and operational boundaries used.

Service Information

Accredited Assessor name:	Martin Hockaday
Client Manager name:	Silvana Centty
Client Manager email:	Silvana.Centty@carbontrust.com
Client Manager phone:	020 7832 4635
Certification validity period:	01 January 2017 - 31 December 2018

Organisational Boundary

Description:	All UK operations including all subsidiaries
List of facilities included:	Harrow on the Hill Campus, Harrow Weald Campus, and Units 1 & 5 Whitefriars Trading Estate
Control approach:	Operational control

1

Operational Boundary

|	
Certification Stage:	Subsequent Recertification
Optional emission sources included:	None
Benchmark(s):	Absolute
Rationale for benchmark(s):	This is the most straightforward measurement as student and staff numbers fluctuate during the year and room use is variable
Excluded sources (de minimis):	None

Assessor comments on boundaries including any issues that should be solved for recertification:

The boundary covers the Harrow on the Hill and Harrow Weald campuses and the Whitefriars units. There are no issues with the boundary.

3. Footprint Measurement and Reduction

Understanding the change in an organisation's emissions over time is key to achieving reductions. This section summarises the outcome of the quantitative assessment and provides a benchmark of your performance against the best performing standard bearer in your sector.

Based on the information provided in the assessment, the following year on year footprint performance has been calculated:

Your Emissions Impact by Year

tCO2e

| Year 0	Year 1	Year 2
934	946	947
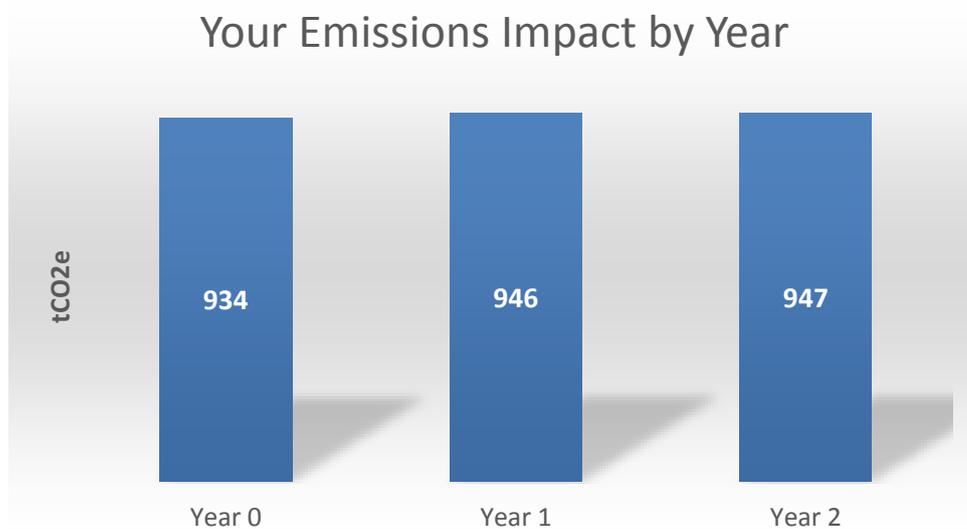
The above data indicates that your organisation has achieved a 7.1% absolute reduction in its footprint. Because this is a subsequent recertification, this reduction was calculated by comparing the average of your footprint from Year 0 to Year 1 with the average of Year 2 and Year 3.

The top three contributors to your organisation's footprint during the last assessment year were:
1) Purchased electricity - 60.2%
2) Gas - 38.6%
3) Business Travel (Grey Fleet) - 0.5%

Emissions Breakdown (Last Year)

- Business Travel (Grey Fleet), 0.5%
- Other, 0.3%
- Economy, 0.3%
- Gas, 39%
- Purchased electricity, 60%
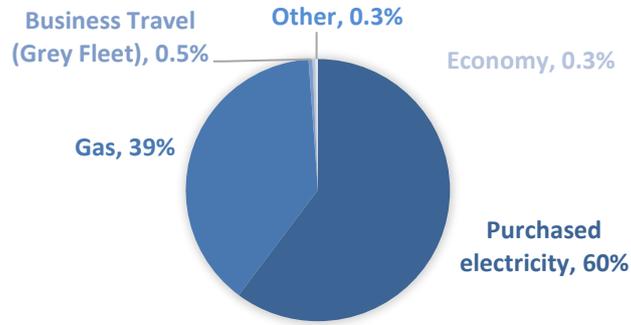
The chart below details your organisation's performance against the best performing standard bearer in your sector:

Absolute Emissions Reduction Benchmark

Reduction

- Your organisation: 7.1%
- Best organisation in sector: 20.7%
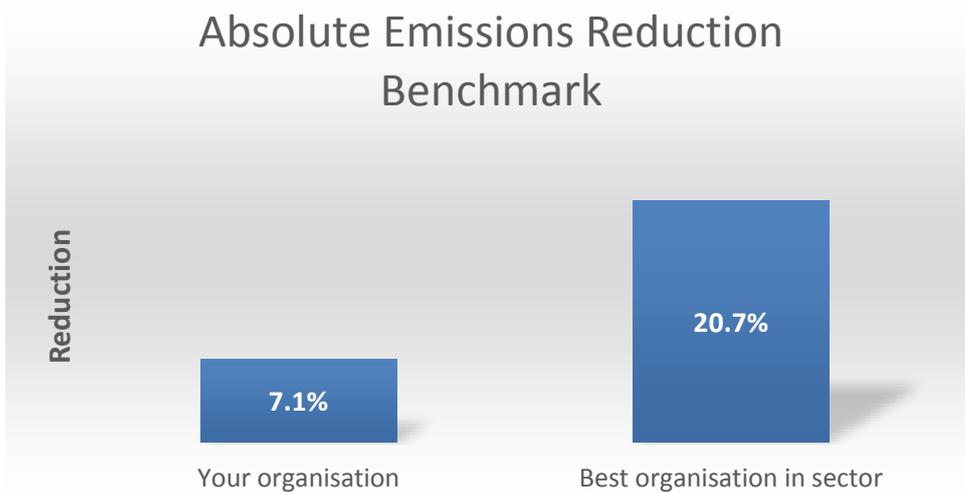
Harrow College has achieved a considerable reduction in its absolute emissions during the latest assessment period compared to the best performing organisation in the sector. This result, however, should not be reason for complacency and a strong focus should be retained on minimising emissions.

4. Carbon Management Performance

Successful certification against the Carbon Trust Standard requires organisations to demonstrate good all-round carbon management performance in their day to day operations. This section contains a detailed analysis of your organisation's individual and benchmarked performance in this area, along with a justification of the assessor's score and recommendations.

Your organisation — Best organisation in sector

88%
Your performance (pass mark: 60%)

90%
Best organisation in sector

Please note that benchmarks cannot be produced for the areas of Supply Chain Engagement, Procurement and Customer Engagement due to a lack of data availability.

The above scores indicate that your organisation's carbon management performance lags behind that of the highest scoring organisation in your sector. This places Harrow College in the 90th percentile in its sector, from a sample size of 73, and in the 95th percentile against all certifications. This means that your organisation's performance is higher than 95% of all other certifications.

Section I: Governance

1. Policy

Does the organisation have a low-carbon policy?

Requirements:

The organisation needs to demonstrate a policy containing clear low-carbon objectives, effectively assigned responsibilities, appropriate methods of communication to all staff and that the policy is regularly reviewed and updated.

Your performance:	80%
Best organisation in sector:	100%

Comments:

The Sustainability Policy appeared to be an in-depth document, appropriate to the organisation, approved by top management, and communicated via the college staff intranet (though not the external college website). The policy includes reference to the carbon objective set out in the Carbon Management Plan. It was advised that a new Carbon Management Plan with a new target is being developed and the Sustainability Policy will be updated to reference this when completed. It was noted that the content of the Sustainability Policy appeared to be a mixture of a policy, strategic planning and a procedures document. The college also has an Environmental Policy Statement which appears on the external website, is approved by top management, states the objective to reduce CO2 emissions, commits the organisation to continual improvement in environmental performance and is reviewed annually.

Recommendations:

The college may wish to review documentation, such as the Sustainability Policy and the Environmental Policy Statement to have policy elements (setting out to the direction of the college with regards to sustainability, the environment, etc.), strategic planning elements (processes for setting objectives and targets and taking actions to achieve the policy) and procedural elements (detailing how day-to-day operations should be carried out) in separate levels of documents to ensure clarity of purpose, ease of reviewing and updating, consistency, etc. It is also recommended that all documents setting out organisational policy (such as the current Sustainable Development Policy) are communicated externally (e.g. by being put on the college website).

2. Responsibility

Does the organisation have an internal framework of responsibility for carbon and energy management?

Requirements:

The organisation needs to demonstrate a robust responsibility framework including senior executive leadership, an effective review system and investment in day-to-day management.

Your performance:	100%
Best organisation in sector:	100%

The college clearly has substantial levels of responsibility towards carbon and the environment in place. The Environmental Organisation Chart clearly shows the interaction of senior management (Executive Director Finance & Resources), the Environmental Coordinator and the various groups with environmental responsibilities. It was advised that the Executive Director Finance & Resources, Judith Abbott, was previously a director at the Energy Saving Trust and is very keen and supporting, and wrote the prologue to the college's Carbon Management Plan.

It was seen that all new employees have responsibility towards responsible use of energy.
The job description for the Environmental Coordinator confirmed responsibilities towards carbon, etc.
Action Notes from the Sustainability Group dated February 2016 were seen to detail several actions, confirming the group's activities. It was advised that the Health, Safety & Environment working group, which meets monthly, is the main group responsible for environmental matters.

Recommendations:
There are no recommendations in this area.

3. Reporting and Communication

Does the organisation communicate emissions and energy-related performance accurately to relevant stakeholders?

Requirements:
The organisation needs to demonstrate clear and concise internal and external communication of the organisational and operational boundary for emissions, total emissions and emissions by scope. Where relevant the organisation shall also explain any significant exclusions or recalculations.

Your performance:	80%
Best organisation in sector:	100%

Comments:
The Carbon Footprint 2016 Report, available on the college website, provides clear and transparent communication on emissions and energy-related performance. The report includes an introduction, confirmation of the boundary and scope used, exclusions (air travel and business travel due to data not being available at time of publication, water consumption and waste), gas consumption data (2013 to 2016), electricity consumption data (2013 to 2016), electricity generation and use data (2013 to 2016), energy costs, etc. The report also records the college's carbon emissions in tCO2 for 2013 to 2016, including a breakdown between emissions from gas, electricity and minibus usage. It is specified that emissions from previous years have been recalculated using 2016 emissions factors to allow comparison. The report included substantial explanation of performance and future plans, e.g. it specifies "Our gas consumption graph shows a fairly erratic year by year consumption pattern, due to the fluctuating British weather which produces very different heating requirements on a month by month and year by year basis".

Information on performance against the college's 5 year Carbon Reduction Plan is included on the sustainability webpage. Further information on this, e.g. showing performance over time, could be provided.

Recommendations:
The college may wish to additionally analyse and report on gas consumption normalised by degree days to remove the effect of external weather conditions and better allow the effect initiatives to reduce gas consumption have had on performance. The college should also look to enhance the level of information communicated (on the website, in the Carbon Footprint Report, etc.) with regards to performance over time against the Carbon Reduction Plans.

5

Section II: Measurement

4. Accounting process

Are there procedures for preparing, quality checking and documenting an accurate carbon footprint?

Requirements:

The organisation needs to demonstrate a well-structured carbon footprint calculation in the following way: an efficient process for accurate emissions recording and compilation, identification of uncertain or estimated data, evidence of data accuracy, selection of appropriate emission factors, use of primary data for major emission sources, and improvements made to data quality over time.

Your performance:	100%
Best organisation in sector:	90%

Comments:

The Carbon Footprint Report 2016 details a clear scope and boundary for the college's carbon footprint (scope 1 and 2 emissions only), clearly details utility consumption per source for the past four years with analysis, and gives a carbon footprint split between gas, electricity and diesel, with a total, for the past four years. The emissions reported were seen to mostly match those determined by the CTS Assessment Tool, the only differences being attributed to minor errors in data which were corrected for the CTS submission and rounding - these differences were seen to be immaterial (approx. 0.1%). Overall the organisation's processes for calculating and reporting an accurate and complete carbon footprint appeared effective.

Recommendations:

There are no recommendations in this area.

5. Monitoring

Does the organisation have systematic procedures for actively monitoring and controlling energy consumption and emissions?

Requirements:

The organisation needs to demonstrate the existence of robust monitoring systems for all emissions sources, processes to identify and address non-conformities, and methods for monitoring and documenting progress against targets.

Your performance:	90%
Best organisation in sector:	80%

Comments:

The college's monitoring processes appear entirely effective. Invoices were seen for gas, electricity and diesel clearly showing consumption. It was seen that the majority of data used were actual measurements, however it was noted that some estimate data is still used - for example the invoices for Whitefriars Unit 5 were all estimate readings between June 2016 and December 2016 (though it is recognised that Unit 5 does form a only a small part of the College's total gas consumption.
The BMS was shown to provide a robust method for monitoring current building operation performance and it was seen how it can be used to identify and correct faults, e.g. through analysing heating profile graphs and data. F Gas leakage is monitored on a regular basis, however the F Gas log and the service sheets viewed did not make it entirely clear whether any leakages had been recorded (see recommendation under question 8).

The college should take steps to minimise the usage of estimated data as much as possible, e.g. by implementing monthly meter readings at sites where AMR meters are not in place.

6. Targets

Does the organisation have a carbon reduction target(s)?

Requirements:
The organisation needs to demonstrate the existence of challenging yet feasible short and long-term targets for particular divisions/sites/functions based on technical potential. Targets shall follow the SMART framework and be communicated internally and externally.

Your performance:	80%
Best organisation in sector:	80%

Comments:
Environmental Targets and Results were seen for academic years 2015/16 and 2016/17 (in progress). These targets have been set regarding carbon emissions/building use, electricity, gas and mini-buses, and have responsibilities assigned. The target of achieving a 30% reduction in CO_2 emissions by end of 2015 (based on a 2010 baseline) was exceeded – total 32% reduction achieved. New targets, to achieve a further 3% reduction in 2016 and to set a new 5 year Carbon Reduction Plan, are now also in place.

Targets are communicated during staff induction, a blog on staff intranet, all-staff meetings held at the beginning of term, etc. Staff survey were seen to include questions on the level of awareness of targets. The Harrow College Environmental Presentation, available on the external website, was seen to detail the College's targets.

Recommendations:
Harrow College would benefit by setting ambitious short-, medium- and long-term targets (e.g. a 2050 target, with interim targets up to that point). The College may further benefit should these be science-based targets, aligned to international climate goals (e.g. the Paris Agreement on Climate Change). See the Carbon Trust website for further details on science-based targets.

Section III: Implementation

7. Operating procedures

What programmes or quality control mechanisms does the organisation have in place to ensure that the operating procedures of all sites, vehicles and equipment minimise their carbon impact?

Requirements:
The organisation needs to demonstrate that specific and ongoing actions are taken to reduce the carbon impact of all operating processes and procedures.

Your performance:	80%
Best organisation in sector:	90%

Comments:
The College has a very wide range of operating procedures in place for minimising carbon impacts. The organisation has an environmental management system in place, however it was noted that this was certified by an organisation that is not accredited by UKAS or equivalent.

The BMS system was demonstrated and it was seen how this can be used to manage temperature set points per room, time settings, etc., display current operating parameters for fan coil units, boilers, etc. It was seen that the HVAC system is off over the summer and Christmas breaks. The college's powerPerfector voltage optimisation unit was also seen. Plant rooms were inspected and boiler servicing records were seen, confirming that servicing takes place on a regular basis. It was noted that some lagging had been removed from hot pipework associated with one of the boilers and not replaced.

The chemical store for the chemistry laboratories was seen to house a fume cupboard which was advised to run continuously because of odour issues. Owing to the large amounts of treated air that a fume cupboard would remove this would result in a significant energy wastage. The IT server room was seen to contain three air conditioning units, and the temperature was set at 21.5°C. Air conditioning plant were observed, and the company's F Gas log and F Gas servicing records dated August 2016 were seen. Concerns were identified with regards to compliance with F Gas Regulations.

During the site visit, it was also demonstrated it was likely that the College would need to comply with legal requirements for air conditioning energy inspection (TM44), and it was advised that this takes place, however it was noted that the certificates and reports could not be located on the Non Domestic Energy Performance Register (www.ndepcregister.com).

Recommendations:
Overall, the organisation would likely find benefit in obtaining ISO 14001 certification from a UKAS (or equivalent) accredited certification body. The college would benefit by conducting routine checks of plant / boiler rooms to identify and rectify issues such as unlagged pipework. There would likely be benefit in reducing the use of the fume cupboard in the chemical store as a means to control odour. It would be preferable for chemical containment to be improved in order to prevent odours rather than using energy to remove them.

There may also be benefit in increasing the temperature in the server room. Most modern servers will happily run at temperatures higher than the current setpoint. The college should confirm that air conditioning energy inspections (TM44) have taken place as legally required and that the certificates and reports are lodged accordingly as they could not be located on the Non Domestic Energy Performance Register (www.ndepcregister.com).

The College is recommended to review their current processes with regards to F Gas management to ensure that they are compliant with the F Gas Regulations, with specific reference to requirements for: keeping records of the outcome of leak checks and the quantities of refrigerant added, whether the gas is recovered, recycled or reclaimed, etc. (unclear on the current service sheets); ensuring that all air conditioning units are serviced and leak checked appropriately (not all units appeared to be listed on the August 2016 service sheets - pages 29 to 43 of the service sheets appeared to be duplicates of pages 14 to 28); ensuring that leak checking is conducted based on the CO_2 equivalent mass of the refrigerant (the current F Gas log only references the mass of the refrigerant which stopped being the criteria for determining leak checking frequencies in 2015).

8. Investments

What capital investments to reduce the organisation's carbon impact have been made over the last four years? What plans are there for future investment?

Requirements:
The organisation needs to demonstrate that it has made considerable investments in low-carbon initiatives and/or technologies in the past, and that there are well-documented plans for future investment.

Your performance:	100%
Best organisation in sector:	100%

Harrow College have made substantial investments into the two BREEAM Excellent buildings completed in the assessment period. A list of new investment opportunities was seen to be being analysed (including payback period) to prioritise future investments. It was seen that the College had obtained a quote for enhanced BMS controls.

Recommendations:

There are no recommendations in this area.

9. Staff engagement

Are there awareness programmes for all staff and appropriate training for those with responsibility for carbon/energy-related matters? Are staff engaged and empowered to reduce the organisation's as well as their own footprint?

Requirements:

The organisation needs to demonstrate that staff are aware and understand the importance of carbon management; that training is provided for those with responsibility for carbon/energy-related matters; and that employees are engaged and empowered to reduce the organisation's as well as their own

Your performance:	90%
Best organisation in sector:	100%

Comments:

The college has a large number of positive and proactive ways and initiatives for engaging staff. The results of the staff survey are particularly encouraging. It was seen that the college was having an Environment Week event during the site visit.

Recommendations:

Harrow College should continue work on staff engagement so that the small proportion of staff who indicated as disagreeing with them contributing and being aware of the College's sustainability work indicate that they agree, and that those who indicate that they 'agree mostly' move to 'agree completely'.

Section IV: Upstream Impacts

10. Supply chain engagement

Does the organisation engage its suppliers and partners on carbon and energy-related matters?

Requirements:

The organisation needs to demonstrate that there is a systematic approach to working with suppliers to reduce the carbon footprint across all key categories of purchased goods and services; that the organisation is aware of the most carbon-intensive areas of its supply chain; and that changes are being made to the supply chain to manage the risks posed by climate change.

Your performance:	60%
Best organisation in sector:	No data

Comments:

The company has taken a number of steps to ensure that suppliers follow the college's sustainability policy and procedures whilst carrying out work for them, and this has been incorporated into the

key suppliers. The College understands the areas of their supply chain which have the highest carbon impacts (catering, cleaning, deliveries).

Recommendations:

It is recommended Harrow College engages with their suppliers to further understand the upstream carbon impacts associated with the goods and services supplied (i.e. the carbon impacts which take place prior to coming under the extent of the college's control) and seeking to influence these as appropriate. The college may also wish to explore methods of quantifying the impact that their engagement with suppliers has had, e.g. calculating food miles to determine the extent to which the caterers are providing more locally sourced food.

11. Procurement

Does the organisation have a low-carbon/energy procurement policy?

Requirements:

The organisation needs to demonstrate that a detailed low-carbon/ energy procurement policy is in place. This policy shall be enforced at all times, communicated, and be readily available for staff to access it.

Your performance:	80%
Best organisation in sector:	No data

Comments:

The procurement process appears to take sustainability/carbon into account in an appropriate manner. The purchasing policy was seen to state that "Every effort should be made to procure sustainably and, in the case of electrical items, to purchase energy efficient models". The analysis conducted for dishwashers and hand-dryers shows that this does take place as energy consumption was seen to be a key consideration. The procurement questionnaire was seen to ask several pertinent environmental questions, such as is the company ISO 14001 certified, and do they have an environmental policy.

Recommendations:

The college may wish to expand upon the existing procurement processes to prescribe set criteria for different types of procurement, for example specifying that all IT equipment must be at least energy label A rated, and that all construction companies engaged for construction works hold accredited ISO 14001 certification.

Section V: Downstream Impacts

12. Customer engagement

Does the organisation engage with customers on low-carbon/energy matters? Does the organisation promote awareness about the issue and encourage low-carbon behaviour?

Requirements:

The organisation needs to demonstrate commitment to communicating and interacting with its customers on carbon/energy matters. The organisation shall also promote low-carbon behaviour.

Your performance:	100%
Best organisation in sector:	No data

The college has implemented a wide range of proactive initiatives for student engagement. It is apparent that students are encouraged to behave in a sustainable manner, are given the option to learn more about sustainability, and learn their chosen subjects with a sustainability perspective. The College's efforts in this area are exemplary.

Recommendations:

The college may wish to consider implementing a student survey in order to better quantify the impact of student engagement initiatives.

13. Products and services

What programmes are in place to reduce the lifecycle carbon impacts of the organisation's products and/or services?

Requirements:

The organisation needs to demonstrate that low-carbon design is a core feature of the product/service development phase, and that it has redesigned products/services in the past with the intention to reduce their footprints.

Your performance:	100%
Best organisation in sector:	100%

Comments:

The same comments apply here as for question 12, Customer Engagement.

Recommendations:

The same recommendations apply here as for question 12, Customer Engagement.

5. Summary of Recommendations and Opportunities

This section summarises the high priority recommendations made and opportunities identified by the assessor, which could be considered to help achieve continuous improvement. Particular attention should be paid to these as there may be significant reputational and financial benefits from addressing them. These recommendations will be revisited during the Midpoint Review and support for them discussed where further support can be offered.

Priority recommendation 1:
There would likely be benefit in reducing the use of the fume cupboard in the chemical store as a means to control odour. It would be preferable for chemical containment to be improved in order to prevent odours rather than using energy to remove them.

Priority recommendation 2:
There may be benefit in increasing the temperature in the server room. Most modern servers will happily run at temperatures higher than the current setpoint.

Priority recommendation 3:
It is recommended Harrow College review their current processes with regards to F Gas management to ensure that they are compliant with the F Gas Regulations, with specific reference to requirements for:

1) Keeping records of the outcome of leak checks and the quantities of refrigerant added, whether the gas is recovered, recycled or reclaimed, etc. (unclear on the current service sheets);

2) Ensuring that all air conditioning units are serviced and leak checked appropriately (not all units appeared to be listed on the August 2016 service sheets - pages 29 to 43 of the service sheets appeared to be duplicates of pages 14 to 28);

3) Ensuring that leak checking is conducted based on the CO2 equivalent mass of the refrigerant (the current F Gas log only references the mass of the refrigerant which stopped being the criteria for determining leak checking frequencies in 2015).

6. Midpoint Review

The Midpoint Review is an engagement between your organisation and the Carbon Trust that takes place approximately one year after certification and one year before recertification. The aim of this review is to support rather than assess, and it is intended to facilitate a dialogue about carbon management and reduction progress. In particular, it will help to ensure that your organisation remains on track to recertify and enable further cost efficiency and reputational gains in approximately one

What will the Midpoint Review include?

• Light touch analysis on data quality and readiness for recertification
• Dialogue about any outstanding questions/queries
• Assistance with staying on track to recertify
• Update on important dates and recertification requirements
• Discussion of changes made to carbon management practices and any actions taken on back of recommendations

Based on the date of your certification, you can expect to have a Midpoint Review around December 2017.
Please do not hesitate to contact your Client Manager about the contents of this Certification Report as well as any other queries that you may have.