



Climate and environment emergency executive panel

Date: Wednesday, 18 December 2019

Time: 09:30

Venue: Mancroft room, City Hall, St Peters Street, Norwich, NR2 1NH

Committee members:*

Councillors:

Maguire (chair)
Stonard (vice chair)
Carlo
Giles
Lubbock
McCartney-Gray
Osborn

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Agenda

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1 Apologies

To receive apologies for absence

2 Declarations of interest

(Please note that it is the responsibility of individual members to declare an interest prior to the item if they arrive late for the meeting)

3 Minutes

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To approve the accuracy of the minutes of the meeting held on 30 October 2019

4 Presentation

Presentation from Asher Minns, Executive Director, Tyndall Centre, University of East Anglia

5 Carbon Footprint Report 2018-19

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To consider the council's carbon footprint report 2018-19

Date of publication: **Monday, 09 December 2019**



Climate and environment emergency executive panel

09:30 to 11:55

30 October 2019

Present: Councillors Maguire (chair, following appointment), Stonard (vice chair, following appointment), Carlo, Giles, Lubbock, McCartney-Gray and Osborn

(Members resolved to admit the public to the meeting from the start of the meeting.)

1. Appointment of chair

RESOLVED to appoint Councillor Maguire as chair for the remainder of the civic year.

2. Appointment of vice chair

Two nominations were received and on being put to the vote, it was:

RESOLVED to appoint Councillor Stonard as vice chair for the remainder of the civic year.

3. Declarations of interest

There were no declarations of interest.

4. Terms of Reference

The chair welcomed members to the first meeting of this panel and introduced the report, which set out the terms of reference for the panel.

During discussion members confirmed that the correct name for the panel as agreed at council (23 July 2019) was the climate and environment emergency executive panel (CEEEP).

In reply to a question, the chair explained that the proposal was that the panel would take up terms of reference from the sustainable development panel which were within its remit.

RESOLVED to:

- (1) confirm that the title of the panel is the climate and environment emergency executive panel;
- (2) note the terms of reference as agreed at council on 23 July 2019;
- (3) adopt the following points from the terms of reference of the sustainable development panel:
 - (a) monitoring the progress of the council's environmental strategy and carbon management programme;
 - (b) consider how the council's environmental strategy, carbon reduction programme and associated policies tackle the issues of climate change, carbon reduction and sustainable development;
 - (c) overseeing the implementation of the action plan for the integrated waste management strategy;
 - (d) the development of specific environmental strategies including trees, parks, play areas and natural areas;
- (4) agree to hold meetings of the climate and environment emergency executive panel in public.

5. Environmental Strategy 2019-2024

The chair introduced the item and suggested the procedures for the meeting.

The director of strategy, communications and culture explained that due to restrictions on local authorities and communications during pre-election periods, it would not be possible to hold the public consultation on a substantive item like the council's draft environmental strategy in November as planned. The consultation would therefore have to be deferred to after the end of the pre-election period, as it would be impractical to close and then open the consultation once it started. Cabinet would consider the draft strategy in the New Year following the completion of the consultation.

The environmental strategy manager presented the covering report and explained the procedure for reviewing the existing environmental strategy and the consultation on the draft Environmental Strategy 2019-2024, leading to consideration by cabinet at the end of the public consultation. Members were asked to consider whether the four main themes in the new environmental strategy (as set out in paragraph 14) and the priorities within these themes (as set out in paragraph 15) were comprehensive enough.

The environmental strategy manager then referred to the detailed action plan set out as Appendix 3 to the draft strategy and officers commented on a number of the key actions (as set out in the bullet points below):

- The environmental strategy manager explained that action *1.3 Updates risk register using UKCIP 18 and LCLIP (Local Climatic Impacts Profile)* would provide the most up-to-date assessment of how the climate of the UK might change over the 21st century, using a climate analysis tool that forms part of the Met Office Hadley Centre Climate Programme, supported by the Department of Business, Energy and Industrial Strategy (BEIS) and the Department for Environment, Food and Rural Affairs (Defra). This information would help with developing our climate change risk assessments and adaptation plans. The council's previous data used UKCIP90 which would be used to work as the foundation of any required changes.
- The communications officer referred to action *1.14 Continue to run an annual sustainable living event One Planet Norwich*, and said that the event was the pinnacle of the communications project and strategy to embed environmental behaviour change in the city and reach as many people as possible. The council had reached over 40,000 people on social media and publications such as TLC and Citizen delivered to households in the city. The One Planet Norwich programme also promoted a wide range of environmental issues, including pumpkin rescue and car free day. The event itself attracts 8,000 visitors and was hosted by the Forum.
- The interim director of regeneration and development provided background details to the introduction of the new cycle sharing scheme in the city as set out in action 1.19. The £7,000 scheme to provide pay-as-you go "Beryl" bikes was part of the Transforming Cities programme and would provide 580 manual and electric bikes in 100 locations across Greater Norwich from early 2020. The electric bikes would be available from the summer.
- The environmental strategy manager updated members on the progress of action *1.35 - To set up a Climate Leaders Group*, and said that Tyndall (UEA), Aviva and the Chamber of Commerce were developing a new climate leaders' group to help deliver the City Vision sustainability goals. This would be discussed at the City Vision event on 31 October 2019 and demonstrated the power of a shared target to reduce emissions in Norwich and embed sustainable transport use. He explained that every citizen could make a contribution by using electricity and/ or gas from a SMART renewable energy system like the Norwich Energy Company – Roar Power (actions 1.37 to 1.38). Roar Power could provide the residents in the city with all the 791 GWh of gas and 205 GWh of electricity. City Vision aspirations for fuel to be 100 per cent renewable by 2040 could be achieved by people using SMART renewable energy systems and through these there were opportunities for local innovation for community generation, grid back up, battery storage, connected homes, EV tariffs for EV charging at home, renewables, local eco-projects and peer to peer trading.
- Under *Theme 2: The council as service providers*, the environmental strategy manager commented that democratic services had contributed to the creation of this panel (action 2.7).
- The interim director of regeneration and development reported on the Transforming Cities Bid and said that Greater Norwich had been awarded

£6 million in the first tranche of funding with the expectation of further funding in the second tranche. There was no guarantee that bids would be successful but colleagues were working with the county council to capitalise on the funding to deliver sustainable transport measures in the city.

- *2.69 Carbon management programme* – The environmental strategy manager reported that the council had achieved 59.6 per cent of the 70 per cent reduction in emissions in the next five years. The council was committed to minimising its emissions as soon as possible but members were warned that it would be more difficult to deliver the remaining 40 per cent as “easy wins” had already been achieved. The council had just invested £265,000 in energy efficient lighting at St Andrew’s Car Park.
- Members were advised that under action 3.2, the council purchased all its electricity from 100 per cent renewable sources. This included all electricity in the council’s buildings, parks district lighting.
- The environmental strategy manager confirmed that under action 3.4, the council had a comprehensive ethical investment strategy,
- The council was making real progress in retrofitting its council housing across the city (action 4.1). The development at Goldsmith Street had received national recognition for outstanding environmental credentials.
- The council would continue microgeneration where possible and in line with the energy hierarchy.

The environmental strategy manager concluded with commenting that the draft environmental strategy would be subject to public consultation and then a revised version would be adopted by cabinet.

(The members of the panel then split into twos in preparation for the discussion that followed.)

During discussion members considered the targets to limit global warming to 1.5°C by 2050 and were advised that these were set out in the United Nations Paris Agreement. A member suggested that it would be more equitable globally if the UK reduced its global human-caused emissions (carbon dioxide) to be carbon neutral by 2030. He explained that this shorter target should not apply to unindustrialised countries in the southern hemisphere as these countries have the right to develop as the northern hemisphere had and would ensure that targets were achieved. The environmental strategy manager said that the council’s target of net zero carbon emissions by 2050 was in alignment with the Paris Agreement and other organisations, including the University of East Anglia. The action plan could make a greater impact sooner than anticipated; for instance, the target could be achieved before 2050 if legislation and resources were available. The UK was setting a precedent to achieve carbon neutrality by 2050 and businesses and organisations would contribute to this national objective.

A member asked that the Norwich Standard (programme for planned upgrading of council housing) was reviewed so that when bathrooms were refurbished showers

could be fitted. She suggested that this was about quality of life as much as saving energy and water. The environmental strategy manager thanked the councillor for her question and said that officers across the council were engaged in the action plan and this could be considered.

During discussion, a member said that the environmental strategy recognised the council's ambition to reduce carbon emissions and the importance of working in partnership to achieve net-zero carbon emissions by 2050. No small group could achieve the target working alone but the council was doing what it could, such as introducing ROAR Power and building high quality Passivhaus council housing. The council was also working with the county council to promote sustainable transport through the Transforming Cities bid and had improved cycling in the city through the Cycling Ambition funding. There was no option other than taking action to stop global warming but working in partnership was as vital as ambition.

A member said that she considered that the environmental strategy should be considered in the context of climate emergency mitigation; climate adaptation; action plan for addressing air pollution; renewable energy and action plan on bio-diversity. The present strategy wrapped all of these issues into one "environmental strategy". She said that it was difficult to see from the draft strategy where climate adaptation was included. She also pointed out that it was difficult to quantify the council's ambition. How was carbon reduction measured or monitored? Topics were broken down into a collection of actions which made it difficult to unpick and quantify. The structure of the strategy should be reviewed under policy headings rather than themes and pointed out that the actions ranged from strategic leadership role of the council to selling local honey. She also suggested that in terms of social equity, the target for net-zero carbon emissions should be shortened to reflect the global situation and questioned whether the per capita carbon emissions data took into account carbon emissions for production and consumption (including emissions from aviation and shipping.) The data could be more rigorous. The chair explained that the themes were linked to social and economic strategies and that without the use of themes the action plan could appear to be a disparate set of actions trivialising the council's environmental strategy. He pointed out that the terms of reference for this panel was the driving force for the thematisation. The environmental strategy manager commented on the difficulty of quantifying CO₂ emissions. He said that the ROAR power project would be evaluated over the lifetime of the project and would be modelled using a SCATTER tool. Asher Minns of the Tyndall Centre had been invited to the next meeting of the panel and would explain the use of the data in more detail. The environmental strategy provided a light touch suitable for a wide audience base. Each project had a set of detailed objectives that sat behind the strategy.

Discussion ensued on the council's promotion of eco measures as a community leader and its assistance to redress fuel poverty and improve the energy efficiency of private sector housing, particularly difficult where there were conservation areas or Victorian terraces.

Discussion returned to the environmental strategy being a single document and a suggestion that it failed to address biodiversity and give greater priority to the biomass at a time where more species of wildlife was becoming extinct. The action plan listed things that could be done now but did not project beyond the five year life span of the strategy. The member referred to the graph *Norwich Per Capita*

Emissions (on page 24 of the agenda papers) and said that the SCATTER tool could potentially be used to update how we measure progress. The chair in response confirmed that there was a set of documentation behind each action on the action plan. He referred to the strategy said that the council's commitment to preventing pollution of the environment and its environmental policy was to protect and enhance habitat and biodiversity. The environmental strategy manager explained that the data for per capita emissions was derived from national data sets. It was within the panel's remit to investigate specific issues like biodiversity and waste management. He explained that the SCATTER tool would look at the emissions inventory for a set area and project forward based on 50 embedded pathways.

A member suggested that the targets were "back-cast" by starting where the council wanted to be and working backwards to carbon neutrality. She suggested that private and public sector houses were retrofitted and new houses built to be carbon zero standards. Private sector housing should be brought up to A rating for energy efficiency and actions should be taken to generate electricity by using photo-voltaic panels on roofs. There should be a high level of ambition and need to step up a level on existing projects but this would need government funding as the council could not do it on its own. The chair said that the strategy recognised the need for government funding to achieve net zero CO₂ reductions. The trajectory going forward was important rather than looking backwards and that the target should be met as soon as possible. As time goes on the council would need to optimise its actions and this might happen more quickly dependent on the government at the time. The environmental strategy manager explained once the SCATTER exercise had been fully developed it would be necessary to review policy decisions in relation to the specific targets for 2040-2050.

Discussion ensued in which a member commented that aviation and shipping; and the Norwich Western Link were not included in the assessment of per capita emissions. He said that transport emissions should be looked at more closely as emissions had risen since 2013. The environmental strategy manager referred to the answer to a question already provided in regards to the Greater Norwich Growth Board and said that transportation emissions had remained flat. The council had a scale of choices it could make consisting of what the council would need to stop doing; looking at what it could do and what was necessary. He suggested that the council stopped investing in the airport. In response the chair referred to the terms of reference for the panel and said that this would be something that the panel could consider in future and place it on its work programme. The vice chair pointed out that decisions were evidence based and would be reviewed if further information came forward. The cabinet had approached its decision on the Norwich Western Link with an open mind. In response to a further remark that aviation data had not been included or considered, the environmental strategy manager said that it was not uncommon to exclude emissions from aviation. He pointed out that it was difficult to obtain statistics on where a plane was coming from or where it was going and how this should be incorporated into the statistics.

Discussion ensued on the assessment of per capita emissions 2.09 tonnes of CO₂ (as set out on page 24 of the agenda papers). The environmental strategy manager referred to the report and said that a link to the data would be provided (see attached: <https://www.theccc.org.uk/wp-content/uploads/2019/05/Net-Zero-The-UKs-contribution-to-stopping-global-warming.pdf>)

The UK target was to achieve carbon neutrality by 2050. The IPPC could not set targets for other countries. Another member commented that she disagreed on the assessment of carbon emissions. Members were advised that the environmental strategy did not need to be posted on the website at this point, as it was not yet going to cabinet, and that there would be an opportunity for members to consider the data set at the next meeting. The statistics on per capita emissions would be checked with the Tyndall Centre. Members were also advised that the set of data circulated to members of the panel by email did not form part of the committee papers and were reminded that in the interests of transparency, papers for consideration by the panel would be circulated by democratic services in advance of meetings.

During discussion a member commented on the role of the city council in supporting its residents in fuel poverty and the food waste strategy. Members noted that the food waste strategy was a project being progressed by the transformation team to reduce emissions from food waste and provide food to people in need.

As discussion progressed a member suggested that in order to meet the 2050 target, there would need to be increased carbon storage reliant on specific technologies which did not yet exist. The environmental strategy manager said that to achieve the targets there needed to be some reliance on technologies which were developing at a rapid pace and would reduce carbon emissions. This included work on battery storage, shipping and innovative use of other types of fuel. The director of strategy, communications and culture said that the city council was a district council which, like all local authorities had faced a 60 per cent reduction in its funding and was working in partnership with other authorities and partner organisations. The county council was the highways authority. It would be necessary to ask for external funding. The council needed to determine what opportunities could make a difference, how it could work in partnership and what resources it could provide as part of the budget process. A member referred to working in partnership and said that the target for net zero carbon emissions should be set at 2030, as soon as possible. The chair pointed out that the city council could not dictate this to its partners. The director of strategy, communications and culture explained that other organisations were doing a tremendous amount and some much further advanced. The 2040 Vision for the city was the city council's response to collective leadership.

In reply to a question, the environmental strategy manager provided an update on action 4.10 – *To deliver large scale solar PV schemes on a minimum of 2 commercial or operational sites in the city*. He said that the council was exploring the installation of solar panels and microgeneration on its leisure centre to save energy and bring down operating costs. Any scheme would need to pay back and it was possible that a better project could come forward before 2022. Members were also advised that there was European Regional Development Fund funding, independent of Brexit, for virtual power plants (action 2.73) which provided a means for battery storage in households to store power released from renewable energy for use later where previously electricity from gas fired plants would provide a top up. It was hoped that this could be progressed through ROAR power in the future.

Discussion ensued on whether action 2.23 - *To implement the Greater Norwich Core Strategy by 2026* would be sufficient to meet the targets set in the council's environmental strategy. The interim director of regeneration and development said that the 2013 Joint Core Strategy had been environmentally ambitious as far as

permitted by government policy. He explained that the process of the Greater Norwich Local Plan and that policies would need to be consistent with government guidance. Most homes that will exist at the end of the GNLP period so the policies that will be contained in the plan will only influence a minor proportion of future housing stock. A member suggested that the housing stock needed to be retrofitted to the same high standard as new builds. The interim director of regeneration and development said that no one disagree that radical measures would be required and all areas of the council. When talking about the climate and environmental emergency, it did appear to be counterintuitive that the development plan review could not be completed before 2022 but the council did need to comply with procedures for plan preparation.

In reply to a member's reference to the actions *1.20 – Introduce a new cycle sharing scheme for Norwich City* and *1.21 Encourage more walking and cycling via the Transforming Cities Bid* and question about whether there was a link with Active Norfolk, the interim director of regeneration and development said that the Transforming Cities was encouraging sustainable transport including cycling and walking, encouraged by the health services to help people make their best life options and reduce the burden on the health services. The member commented that this linked well with the Active Norfolk fit steps. Another member referred to action *2.60 - To increase the number of 20 mph zones in the city to make cycling and walking safer* and said that whilst it might seem obvious, she asked what was being done to promote the important message to motorists that cycling and walking was beneficial to health and would save people money. The director of strategy, communications and culture said that the communications officer would be doing a communications plan around this.

The chair said that there would be an opportunity to look in detail at the data at the next meeting. He trusted that a disagreement about how it was worked out would not stop the council trying to achieve carbon reduction. A member suggested that it was important not to mislead the public and that the introduction of the environmental strategy should set out the scale of the task to address the climate and environmental emergency. She considered that there needed to be further discussion on the data set and actions required to achieve carbon reduction and in order to contextualise this, identifying what resources and legislation would be required by the government. She also considered that the environmental strategy was linked to biodiversity and referred to the motion on the biodiversity emergency (Council, 24 September 2019) which called on the council to undertake a number of actions including the storage of cut wildflowers on site and reducing or ceasing the use of pesticides. The chair said that the panel could look at the council's biodiversity aspirations.

In reply to a member's question, the director of strategy, communications and culture explained that the timetable for the consultation on the environmental strategy would be longer dependent on the comments received and amount of redrafting of the document before it went out to consultation and after comments had been incorporated. The interim director of regeneration and development said that it would be appropriate to update the strategy to reflect any outcomes from the City Vision 2040 conference (30 October 2019) prior to its publication.

The director of strategy, communications and culture said that updates could be made at cabinet member and shadow portfolio holders' meetings between meetings of the panel.

RESOLVED to:

- (1) note the comments of the panel and that further consideration of the draft Environmental Strategy 2019-2024 will be made at the next meeting prior to consultation;
- (2) invite Asher Minns, Tyndall Centre, to the next meeting of the panel.

6. Date of next meeting

RESOLVED to hold the next meeting on Wednesday, 18 December 2019 at 9:30.

CHAIR

Report to Climate and environment emergency executive panel
18 December 2019

Item

5

Report of Director of place
Subject Carbon Footprint Report 2018-19

Purpose

To consider the council's carbon footprint report 2018-19

Recommendation

To note the outcomes of the carbon footprint exercise.

Corporate and service priorities

The report helps to meet the corporate priorities for great neighbourhoods, housing and environment, inclusive economy, and people living well.

Financial implications

No new financial implications. Funding for specific proposals would be subject to a separate approval process at the appropriate time.

Ward/s: All wards

Cabinet member: Cllr Kevin Maguire – Safe and sustainable city environment

Contact officers

Graham Nelson, Director of place 01603 212530

Richard Willson, Environmental strategy manager 01603 212312

Background documents

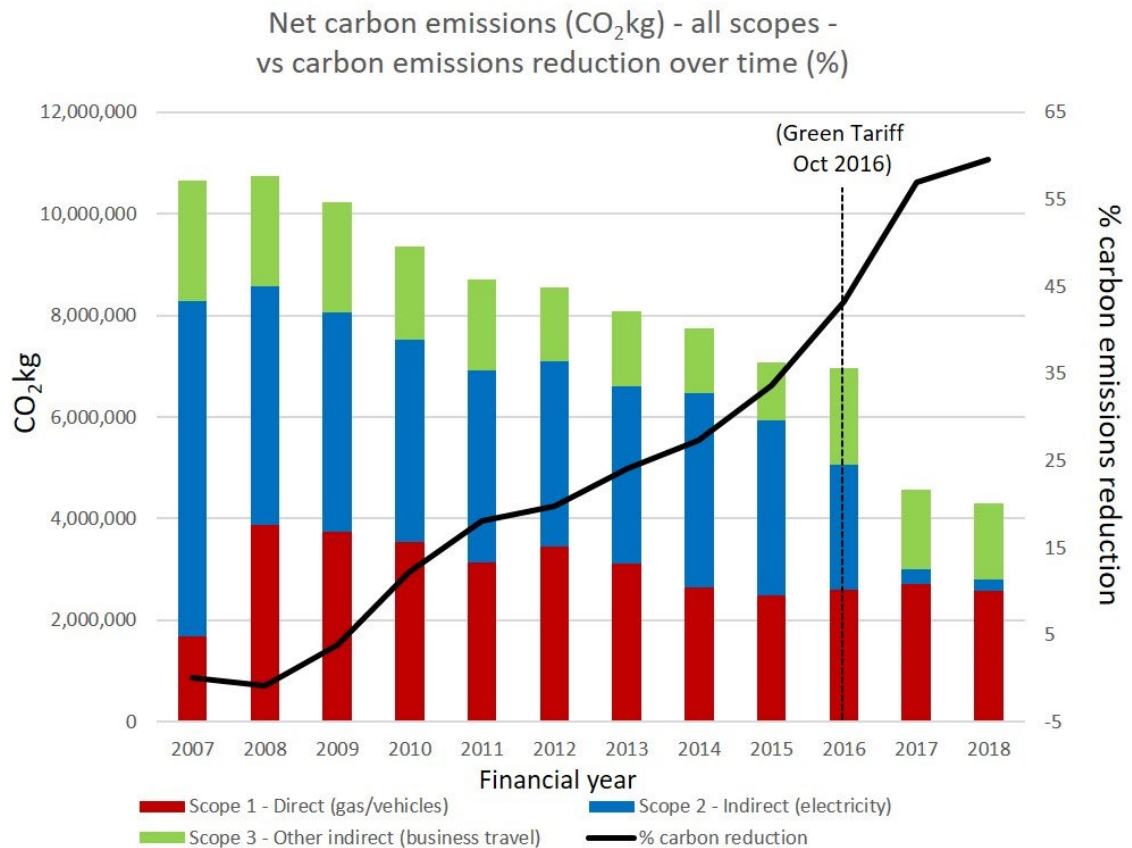
None

Carbon Footprint report 2018-19

Background

1. In 2008-09 the council produced its first Carbon Management Plan and set a target to achieve a 30 per cent reduction in carbon emissions by 2013-14 (using a 2006-07 baseline). In total over the five year period a reduction of 24 per cent (29 per cent when weather corrected) was achieved using previous conversion factors. Following the production of the council's second Carbon Management Plan; this target has been re-set to achieve a total reduction of 40 per cent in carbon emissions over the next 5 years (from the 2006/07 baseline).
2. By using a carbon conversion factor emissions from vehicle use (litres/km) and gas and electricity (kWh) use can be directly compared and the amount of carbon emissions reported as CO₂kg emitted.
3. In previous years, officers have been requested to present the council's energy consumption (kWh, litres/km) alongside the carbon emissions figures (kgCO₂^e). Therefore both sets of figures have been provided in this report on the understanding that although these figures are related they are not directly comparable due to the use of carbon conversion factors which are influenced by factors at a national level.
4. In order to minimise the effect of spikes in data in any year, we have compared this year's figures to a five year average figure. This makes comparison over time fairer as it seeks to smooth any sharp increases or decreases in any given year, which can happen when one year is directly compared with another and does not allow the scope for a trend over time.
5. The council reduced its carbon footprint by an additional 2.6 per cent over the period 1 April 2018 to 31 March 2019. This equates to a reduction of 455,041kg or 455 tonnes CO₂^e. The annual reporting period follows the financial year, not the calendar year.
6. This brings the total reduction, against a 2007 baseline, to 59.6 per cent. It should be noted that in October 2016, the council switched to an OFGEM accredited Green Tariff for its electricity supply. The impact of this was to immediately remove all the carbon emissions relating to electricity use in council assets. This is reflected on Graph 1 as the sudden drops in Scope 2 carbon emissions and corresponding increase in percentage carbon emissions reductions in 2016-17 and 2017-18. These large emissions decreases can, of course, only be realised once, rather than year on year.
7. The 59.6 per cent carbon emissions reduction far exceeds the 40 per cent carbon target set in the council's 2015-19 environmental strategy. This is shown on Graph 1 below. The bars show a clear trend for an overall reduction in CO₂kg over time, across all scopes. The secondary axis shows the council's progression towards its 40 per cent carbon emissions reduction target, and beyond.

Graph 1.0: Carbon emissions by scope:



8. Table A gives an overview of the figures for the 2018-19 period. The data is split in to scopes, as specified by the DECC/Defra carbon footprint requirements and detailed below. The third column of Table A shows the amount of energy use either in kWh, litres of fuel used, or km travelled. The fourth column shows this year's figures as a percentage increase or decrease against a 5 year average from 2013 to 2018 in order to allow for one off anomalies in reporting. The fifth column shows the amount of carbon emissions produced by each factor of each scope in the 2018-19 period. Finally, the sixth column shows this year's figures as a percentage increase or decrease against a 5 year average from 2013 to 2018.

Definition of Scopes 1 to 3:

9. **Scope 1 emissions: *Process emissions (owned buildings)***, Data obtained from utility bills (kWh). ***Process emissions (contractor-operated buildings)***, Data obtained from contractor's energy records (kWh). ***Fuel use (owned vehicles)***, Data obtained from fuel invoices (litres).

Scope 2 emissions: *Electricity emissions (own buildings)*, Data obtained from utility bills (kWh). ***Electricity emissions (contractor-operated buildings)***. Data obtained from contractor's energy records (kWh).

Scope 3 emissions: *Business travel (grey fleet and contractors)*, Data obtained from officer and member business mileage claim forms (km). ***Public transport***, Data obtained from officer and member business mileage claim forms (km). ***Fuel use in contractor vehicles***, Data obtained from contractor fuel records (litres).

Table A: Carbon emissions reduction vs energy used against 5 year average

Scope	Detail	2018-19 energy use	Inc/ dec on 5 year average (2013-18)	2018-19 carbon emissions (kgCO ₂)	Inc/ dec on 5 year average (2013-18)
1	Gas council owned buildings	13,882,559 (kWh)	Decrease (3.69%)	2,553,836 (kgCO ₂)	Decrease (4.0%)
	Gas contractors	111,175 (kWh)	Decrease (13.2%)	18,564 (kgCO ₂)	Decrease (5.1%)
	Fuel council managed vehicles	10,359 (litres)	Decrease (54.3%)	2,516 (kgCO ₂)	Decrease (91.3%)
	Total Scope 1 emissions (kgCO₂)			2,576,804	Decrease (5.1%)
2	Electricity council owned buildings	6,331,077 (kWh)	Decrease (7.69%)	152,769 (kgCO ₂)	Decrease (34.3%)
	Electricity contractors	240,467 (kWh)	Decrease (29.56%)	68,069 (kgCO ₂)	Decrease (54.2%)
	Total Scope 2 emissions (kgCO₂)			220,838	Decrease (91.9%)

Scope	Detail	2018-19 energy use	Inc/ dec on 5 year average (2013-18)	2018-19 carbon emissions (kgCO ₂)	Inc/ dec on 5 year average (2013-18)
3	Grey fleet (km)	73,407 (km)	Decrease (8.17%)	11,838 (kgCO ₂)	Decrease (28.3%)
	Public transport (km)	42,215 (km)	Decrease (18.6%)	2,495 (kgCO ₂)	Decrease (55.7%)
	Contractors data (litres)	725,200 (litres)	Increase (-5.43%)	1,485,419 (kgCO ₂)	Increase (-2.6%)
	Total Scope 3 emissions (kgCO₂)			1,499,753	Increase (-2.0%)
	Total emissions – All Scopes (kgCO₂)			6,953,249	Decrease (38.1%)

Scope 1 emissions:

10. Overall there has been a 3.69 per cent decrease in gas use (kWh) across council owned assets when compared with the average of the previous 5 years. The trend is for a year on year reduction since 2007.
11. In the period 2018-19 there was an overall reduction in gas use by contractors of 13.2 per cent against an average of the previous 5 years. We continue to work with contractors to monitor their energy use, but we do not monitor their data for them, and rely upon contractors to provide accurate data.
12. There was a decrease of 54.3 per cent on the fuel used by staff through the council owned fleet against the previous five year average figure. This is largely thought to be attributable to the rationalisation of the council's fleet over the past couple of years and the introduction of hybrid vehicles. For local journeys, as an alternative to pool car and taxi use, pool bikes were introduced to the fleet in 2012 and most recently two electric bikes have been added to the fleet.

Scope 2 emissions:

13. There was a decrease of electricity consumption in kWh of 7.69 per cent across the council's portfolio of properties compared to the five year average figure. However, when we consider the carbon reduction figure (kg CO₂) for

the same period this shows a saving of 94.1 per cent against a 5 year average. There are two reasons for this sharp decrease against the average. Firstly, due to the carbon conversion factor which we are required by DECC/DEFRA to use when reporting the annual carbon footprint of the council. The following 'carbon conversion factor' section gives more details on this. Secondly, in October 2016 the council switched to a 'Green Tariff' which has OFGEM approved and this has resulted in a sharp decrease in carbon emissions from electricity consumed as part of council operations.

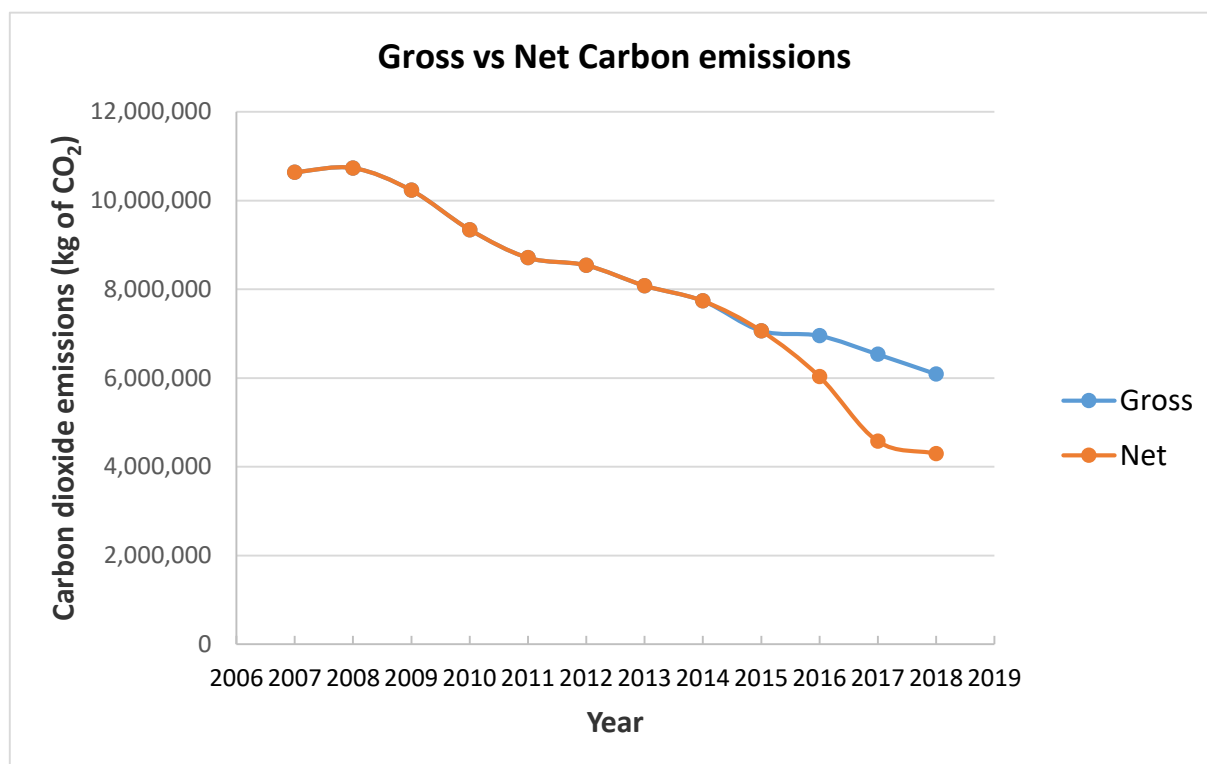
14. Officers continue to work with NPS to look for further opportunities to further reduce electricity and gas consumption across the council's assets. We have implemented a wide range of energy saving projects across our portfolio since 2008 and over time it is becoming increasingly more challenging to find new opportunities. However, we are currently engaged in this exercise as part of updating the council's Carbon Management Plan, which will be valid for the next 4 years.
15. Current projects under consideration include:
 - Server room upgrades and AC reduction investigations
 - Sheltered Housing plant room upgrades – including boilers, pumps, building management system
 - LED lighting upgrade and smart fittings at St Andrew's car park
 - Landlord lighting LED upgrade
 - District lighting LED upgrade
16. This year has seen a decrease of 29.56 per cent in electricity use by our contractors against a 5 year average. The contractors we work with are not always the same each year and the sizes of the contracts also fluctuate depending on demand from the council. Which makes it difficult to accurately compare data year on year.

Carbon conversion factor:

17. The carbon conversion factor allows litres of fuel consumed, km travelled and kWh of energy used to be compared to one another by measuring the carbon emissions produced during each activity. Carbon emissions are measured in kg of CO₂. In 2014 DECC/ DEFRA updated their kgCO₂ conversion factor. Instead of using a 5 year rolling average figure for electricity reporting they now use a 1 year average figure. The reason for the change was to make reporting easier for those companies who report energy use on a frequent basis.
18. DBEIS reported that *"The UK electricity factor is prone to fluctuate from year to year as the fuel mix consumed in UK power stations (and auto-generators) and the proportion of net imported electricity changes. These annual changes can be large as the factor depends very heavily on the relative prices of coal and natural gas as well as fluctuations in peak demand and renewables."*

19. The trend over time is for a decrease in the amount of electricity which is produced at coal-fired power stations. And an increase in electricity which is produced from renewables or nuclear power stations. The effect of this is that electricity production has less carbon emissions associated with it. The figures for the 2017 carbon conversion factor bear this out too.
20. This factor is outside of the council's control, but did affect our annual carbon emissions figure quite profoundly, prior to the council switching to an OFGEM accredited Green Tariff in October 2016. And will continue to impact the carbon emissions associated with contractor electricity consumption. Graph 2.0 clearly shows the impact on carbon emissions associated with electricity consumption, since the council's decision to purchase electricity via a Green Tariff in 2016. Net emissions are gross emissions minus the electricity purchased via the green tariff. However, it is encouraging to note that gross emissions also continue to fall over time, albeit at a slower rate.

Graph 2.0: Gross vs Net Carbon emissions over time:



21. The council's efforts to reduce energy use through the introduction of energy efficient technologies, behaviour change and building rationalisation continue. This will either:
 - (a) compound any changes in the national grid energy mix which assist with 'greening the grid', thereby further reducing emissions;

- (b) help to counterbalance changes in the national energy mix which may lead to an increase in carbon emissions at a grid level.

We may be 'winners' some years and 'losers' in other years. In order to provide a more accurate picture for members it is intended continue to provide the energy use data e.g. kWh, litres fuel consumed, km travelled alongside the carbon emissions data.

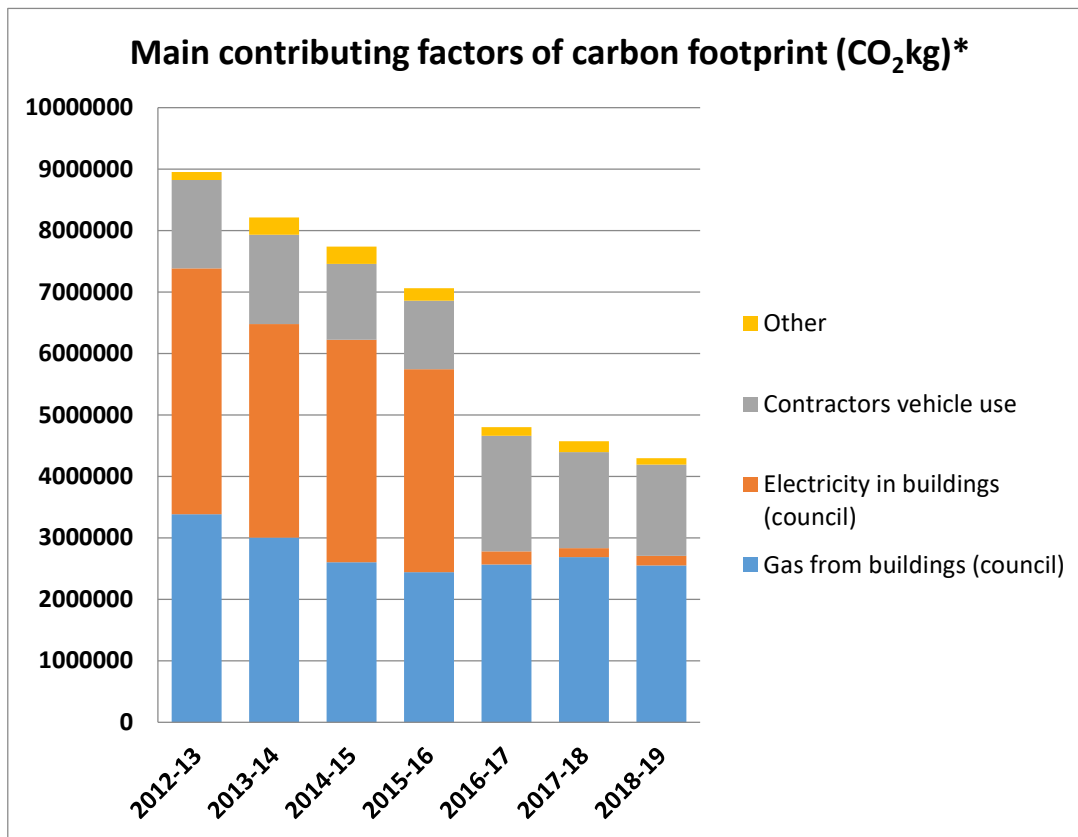
Scope 3 emissions:

- 22. There has been a drop in the use of grey fleet by staff, where they use their own cars for council duties (18.1 per cent decrease against the five year average). There has also been a decrease in the use of public transport (trains, taxis, planes) by staff (8.1 per cent decrease against the five year average). However, there has been an increase the amount of carbon emissions generated by contractors fuel use (an increase of 5.43 per cent against the five year average). This is likely due to an increase in major contractors during this reporting period, as building projects and demolition projects were delivered.

Further considerations:

- 23. The majority of the council's carbon emissions comes primarily from 3 main sources: Gas consumption in council buildings, Electricity consumption in council buildings and contractor fuel use, as shown below on Graph 3.0.
- 24. The impact of the introduction of the OFGEM accredited green tariff can be seen by the large drop in electricity related carbon emissions from 2016 onwards. CO₂ emissions relating to gas have remained fairly stable over the past few years. And emissions relating to contractor fuel use have reduced in recent years, despite an increase in 2016-17.
- 25. Gas and electricity consumption in council assets are more within the direct control of the council. And energy consumption can be reduced by continuing to implement energy efficiency technologies across our estate, although it is doubtful that this is sustainable and can continue indefinitely. In addition, we can encourage energy saving behaviour amongst staff, and continue to install renewable energy schemes, where possible. Some of the energy reduction achieved can also be attributed to building rationalisation. Contractor fuel use is more challenging for the council to control. And the delivery of additional contracts for regeneration and development projects can temporarily create an increase in carbon emissions for the duration of the project, which leads to fluctuations in figures over time.

Graph 3.0: Main contributing emissions sources over time:



*net emissions for electricity used in council buildings from October 2016, following the introduction of the Green Tariff.

Norwich City Council - Carbon footprint report

Summary

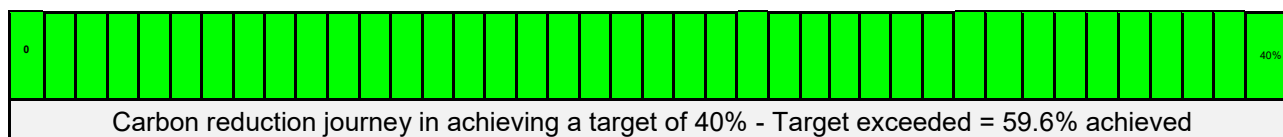
In 2008/09 the council produced its first Carbon Management Plan and set a target to achieve a 30% reduction in carbon emissions by 2013/14 (using a 2007/08 baseline). In total over the 5 year period a reduction of 24% (29% when weather corrected) was achieved using previous conversion factors. Following the production of the council's second Carbon Management Plan in 2014/15, this target was re-set to achieve a total reduction of 40% in carbon emissions over the next 5 years against the same baseline.

In 2013/14 the council's carbon reduction figures were negatively impacted by the re-baselining of our electricity data in line with the requirement of the Department for Environment, Food and Rural Affairs (Defra)/ Department of Energy and Climate Change (DECC) 2013 conversion factor. However, for the year 2018/19, using the 2018 DEFRA conversion factors, Norwich City Council has made an additional 2.5% reduction in its carbon emissions taking the total reduction to 59.6% saving against its target of 40% by 2019.

We are currently in the process of writing the council's third Carbon Management Plan and re-setting our carbon emissions reduction target to more accurately reflect: our successes to date in reducing carbon emissions on our estate, the national net-zero by 2050 target and a recognition that finding new and cost effective carbon reduction opportunities is becoming increasingly challenging the more projects that we deliver.

This report has been compiled in accordance with the guidelines originally set by the DECC. The requirements are that the council publish this report on its website using the standard template, dividing emissions into 3 categories. At the time DECC also requested that a link of this report be sent to them containing totals for all the scope 1, 2 and 3 emissions enabling them to collate all local authority figures centrally.

GHG emission data for period 1 April 2018 to 31 March 2019 (restated)												
	Global kg of CO ₂ e											
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Scope 1	2,576,804	2,714,763	2,593,049	2,499,724	2,640,453	3,121,775	3,446,651	3,136,959	3,549,707	3,745,825	3,873,933	1,682,048
Scope 2	2,012,976	2,239,942	2,462,896	3,432,985	3,836,556	3,478,538	3,644,381	3,774,122	3,972,326	4,311,715	4,691,648	6,603,828
Scope 3	1,499,753	1,579,869	1,897,304	1,131,715	1,261,406	1,480,944	1,449,823	1,800,339	1,821,824	2,173,565	2,167,385	2,355,434
Total gross emission	6,089,533	6,534,574	6,953,249	7,064,424	7,738,416	8,081,257	8,540,855	8,711,420	9,343,857	10,231,105	10,732,966	10,641,310
Carbon offsets	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Green tariff	1,792,138	1,959,434	920,543	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Total annual net emissions	4,297,395	4,575,140	6,032,706	7,064,424	7,738,416	8,081,257	8,540,855	8,711,420	9,343,857	10,231,105	10,732,966	10,641,310



1. Company information

Norwich City Council is a local authority based in the East of England.

2. Reporting period

The reporting period is 1 April 2018 to 31 March 2019.

3. Changes in emissions

In the year 2018-19 a further reduction of 277,746 kg in net carbon emissions was achieved, compared to the previous period. This includes electricity provided under the OFGEM certified Green Tariff. If the Green Tariff carbon reduction is disregarded (to continue to enable direct comparisons with years 2007 to 2015) then total gross carbon emissions (including all scopes) fell by 455,041 kg, or 455 tonnes, of CO₂e over the reporting period.

The following is an outline of sources of change in emissions from the previous year:

Main emissions reductions:

- Second full year of the council's OFGEM certified Green Tariff for electricity supplied to all council assets. Since 1 October 2016 all the electricity supplied to council assets has been sourced from renewable sources. The reporting period of 1 April 2018 to 31 March 2019 includes a full year of green tariff reduction on electricity-related carbon emissions from council assets. This means that the council is only reporting the carbon emissions created by the transmission element of our electricity supply which is significantly lower than the factor applied to our electricity supply pre-green tariff.
- Following the switch to the green electricity tariff the impact of the 'greening of the grid' effect at a national level is less applicable to Norwich city council's carbon footprint. However, it does continue to impact contractor's electricity use and the transmission factor for the council's assets. In relation to the 'greening of the grid' the Department of Business, Energy and Industrial Strategy (DBEIS) have stated; *"The UK electricity factor is prone to fluctuate from year to year as the fuel mix consumed in UK power stations (and auto-generators) and the proportion of net imported electricity changes. These annual changes can be large as the factor depends very heavily on the relative prices of coal and natural gas as well as fluctuations in peak demand and renewables.*
- At a grid level, the principal trend over time has been a move away from coal to renewable sources of electricity production. Over the decade 2008 to 2018, electricity generation from coal decreased from 124 TWh to 17 TWh, a decrease of 86%. Over the same period, electricity generation from renewable sources increased from 22 TWh to 111 TWh, an increase of 400%. (Source: DBEIS – Energy Trends March 2019).

- Essentially, this means that electricity is less 'dirty', or carbon intensive, and this is partly reflected in the drop in carbon emissions reported for Scope 2, which this year is equivalent more than 226 tonnes.
- Demolition of the Mile Cross Depot site.
- Reduction in fuel used by council fleet. It is now smaller and cleaner with electric hybrid vehicles replacing some petrol and diesel vehicles.
- Due to an ongoing programme of implementing energy efficiency measures and building rationalisation, gas and electricity use in council assets continues to decrease. This has resulted in a 4% drop in gas use (kWh) and an 8% drop in electricity use (kWh) against a 5 year average.
- This year contractor's fuel use has seen a drop of over 5% when compared to the 5 year average figure.

Main emission increases:

- Carbon emissions associated with contractor vehicles have increased by 2.6%, against a 5 year average. This is likely to be due to additional construction and demolition projects during the reporting period.

4. Measuring and reporting approach

All information is stored and processed in Microsoft Excel spreadsheets. Reporting will be on an annual basis, using the Defra/DECC method (based on GHG protocol). Internal reporting on carbon reduction targets will be using the NI 185 (Defra) method. The following scopes are included in the footprint:

Scope 1

Process emissions (owned buildings)

- Data obtained from utility bills (kWh)

Process emissions (contractor-operated buildings)

- Data obtained from contractor's energy records (kWh)

Fuel use (owned vehicles)

- Data obtained from fuel invoices (litres)

Scope 2

Electricity emissions (own buildings)

- Data obtained from utility bills (kWh)

Electricity emissions (contractor-operated buildings)

- Data obtained from contractor's energy records (kWh)

Scope 3

Business travel (grey fleet and contractor)

- Data taken from officer and member business mileage claim forms (km)
- Data taken from contractor business mileage records (km)

Public transport

- Data taken from officer and member business mileage claim forms (km)
- Data for train journeys taken from rail account invoices (km)

Fuel use in contractor vehicles

- Data obtained from contractor fuel records (litres)

5. Organisational boundary

The approach chosen to identify the operations we have collected data from was based on the original guidance for the National indicator 185, which stated that:

“The indicator is to include all CO₂ emissions from the delivery of local authority functions. It covers all an authority’s own operations and outsourced services. Even if the services are being provided by an external body (e.g. a private company) they remain the function of the authority... the definition of a local authority’s function includes outsourced services (eg a private company, third sector organisation), as they remain a function of the authority. CO₂ emissions arising from the buildings and transported related to these outsourced services should be measured and included in the authorities return.”

Following an assessment of the main outsourced services associated with the Council’s functions, leisure centres, street services and housing support services were included.

6. Operational scopes and emissions – net emissions (Green Tariff reductions applied to council asset electricity use)

Scope 1 - Direct emissions (e.g. onsite fuel consumption; gas/vehicles)		CO ₂ (kg)	Exclusions and %
Gas from buildings (council) – kwh		2,553,836	n/a
Gas from buildings (contractors) – kwh		20,452	n/a
Fuel in fleet vehicles (council) - km diesel		454	n/a
Fuel in fleet vehicles (council) – km petrol		2,062	
TOTAL SCOPE 1		2,576,804	n/a
Scope 2 - Energy Indirect		CO ₂ (kg)	Exclusions and %
Electricity in buildings (council) – kWh		152,769	n/a
Electricity in buildings (contractor) – kwh		68,069	n/a
TOTAL SCOPE 2		220,838	n/a
Scope 3 - Other indirect (e.g. business travel)		CO ₂ (kg)	Exclusions and %
Grey fleet eg private cars		11,838	n/a
Taxis		882	n/a
Flights		286	n/a
Trains		1,327	n/a
Contractors vehicle use		1,485,419	n/a
TOTAL SCOPE 3		1,499,753	n/a
Grand total (CO₂ (kg))			
		4,279,395	

7. Geographical breakdown

All operations occur within the city council boundary except for contractor/staff transport related activities

8. Base year

The base year for emissions is January to December 2007.

9. Target

The target for reduction in overall (i.e. all scopes) CO₂ emissions is 40%, from a 2007/08 baseline following the completion of the first phase of the council's carbon management plan. This target exceeds the national target of a 34% reduction in carbon emissions by 2020. Norwich city council's next phase carbon management plan and environmental strategy are due to be published in 2020 and our carbon reduction target will be re-set accordingly, to factor in our success to date in achieving a 59.6% carbon emissions reduction.

This target will be measured using the emissions factors required for reporting on the old National Indicator 185.

10. Intensity measurement

No intensity measurement has been used, as this is generally more relevant for private sector businesses who wish to compare CO₂/turnover.

11. External assurance statement

PWC audit carried out in 2009. The process was considered to be sound.

12. Carbon offsetting

No carbon offsetting was carried out.

13. Green tariffs

In October 2016 Norwich city council switched its electricity supply to a 100% Renewable Energy Tariff which meets stringent OFGEM Green Supply Guidelines and enables the council to claim the CO₂ reduction for our electricity consumption.

14. Electricity generation

144 solar photo voltaic (pv) panels were installed on the roof of City Hall in March 2012. During the period 1 April 2018 to 31 March 2019 the pv panels produced 19,826 kWh of electricity. This is a reduction of 13,143 kWh on the previous reporting period. This reduction is due to the array being taken offline to allow for insulation work on the roof of City Hall to be completed. At the time of reporting the array is fully functional.

A solar pv array, on the roof of Rose Lane car park, became operational at the end of December 2018, and is now contributing to offsetting the electricity use at this asset. Between December 2018 and April 2019 5,100 kWh of electricity were produced.

15. Heat generation

There was no heat generation from owned or controlled sources.

16. Opportunities in 2019-20

We are due to publish the third phase of the council's Carbon Management Plan. The plan will detail opportunities, across our portfolio of assets, where we can further reduce energy consumption. Our carbon emissions target will be re-set accordingly.

We are also due to publish the council's 2020-2024 Environmental Strategy which further details our ambitious plans to reduce both the council's and the city's carbon emissions over this period.

A copy of our current environmental strategy can be found at:

www.norwich.gov.uk/downloads/20195/council_policies_and_strategies

On completion of this reporting period, a 59.6% carbon emissions reduction has been achieved against a 2007/08 baseline. This is against a target reduction of 40%.

The reduction has been achieved through a combination of factors including both the greening of the grid at a national level and more latterly the switch to an OFGEM certified Green Tariff, both of which have significantly reduced the amount of electricity emissions the council reports.

We recognise the impact of the Green Tariff on reducing Scope 2 carbon emissions for electricity consumed in council owned assets. We understand this is a purchasing choice, and should the decision be taken in future years to revert back to a tariff which does not qualify for the OFGEM accreditation, or should the accreditation scheme be revoked, then this would have a negative impact on Scope 2 emissions and the council's overall carbon footprint.

In order to reduce carbon emissions still further, and to help mitigate this risk, we continue to seek further opportunities to reduce our kWh use of both electricity and gas across council's assets. We work closely with our asset management team, and have employed additional resources to help profile areas of highest energy use across our estate, with a view to implementing technologies which maximise the opportunity to reduce energy consumption. We also recognise the need to work closely with our major contractors in order to continue to reduce their fuel use, whilst delivering council contracts.

Having successfully reduced our emissions over a ten year period, it is becoming increasingly challenging to continue to reduce carbon emissions each year, particularly in straitened economic times. However, we seek to introduce energy saving technologies across our assets, wherever possible, and in the year 2019-2020 have plans to implement the following projects which are fully or partly-funded by Salix loans:

- Server room upgrade investigation
- Sheltered Housing plant room upgrades – including boilers, pumps, building management system
- LED lighting upgrade and smart fittings at St Andrew's car park
- Landlord lighting LED upgrade
- District lighting LED upgrade

