A Climate Emergency Action Plan Toolkit for Community Organisations: Pilot Study Results

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Executive Summary

Leicester City Council (LCC) are encouraging businesses and organisations across Leicester to create their own Climate Emergency Action Plans, to play their part in the city's efforts to achieve carbon neutrality by 2030. To support this, LCC are developing a standalone 'Climate Emergency Action Plan toolkit', which can be used by non-business community organisations in the city to develop their own action plans to reduce their carbon footprint (CF), and other negative environmental impacts through measures such as improved energy efficiency in buildings, modal shifts in transport or otherwise. This project aimed to aid development of this toolkit through piloting a small-scale offer of support and eliciting feedback on the draft resources.

Seven community organisations which were based in buildings in Leicester were recruited as participants, comprising two faith centres, three sports clubs and two community centres. Each participant organisation was engaged through initial and follow-up meetings, offered support with calculating their CF and offered desk-based research to support next steps with emission reductions. The project used insights gained from these discussions to inform improvements and amendments to the toolkit. The draft toolkit was also shared with a peer review group of four community members with experience of climate action in a community setting for constructive feedback.

Working with Leicester-based community organisations as part of this project enabled the needs of such organisations to be identified. Broadly, groups could be split into two stages of engagement: *early-action* and *mid-action*.

- The *early-action* group (three of the seven organisations) comprised those which had little current knowledge about carbon emissions, climate change impacts, and the possible interventions to improve these. These groups required signposting and information detailing issues to consider, how to start to make changes, and what the benefits would be for their organisation.
- The *mid-action* group comprised those organisations which already had an awareness of their climate impact/carbon emissions and had taken some steps to improve this already (four of the seven organisations). Typically, these organisations were in need of specific technical help, such as how to improve the efficiency of their air circulation system or the most effective insulation strategy for their particular historic building.

A major barrier identified for all organisations was the cost of investments to reduce the carbon emissions of their buildings. All the organisations participating in the study highlighted the need for financial support to implement the proposed measures. This barrier related to each organisation having a core community-benefit purpose which wasn't related to energy or climate issues, thus major investments were challenging to justify. This barrier was particularly evident for charities.

A second barrier was lack of access to data to enable accurate carbon footprinting calculations. Many organisations did not have this data immediately available and suggested they would need to spend

considerable time sorting through old paperwork to acquire it. In some cases, this was due to the City Council paying the bills for their sites with consumption data therefore being unavailable. This finding, which may apply to many voluntary and community sector organisations with links to the local authority, raises questions about how emissions can be efficiently monitored and managed (if end users do not have billing information, or in some cases pay according to usage) and also about whether responsibility for such emissions should fall with the City Council or the tenant organisation.

A final barrier identified was the challenges organisations faced to produce Climate Emergency Action Plans without access to external support and expertise. There was a demand among the participant organisations to have a way to share experiences and learnings with other organisations, or to receive some form of mentoring to complement a toolkit process.

One key opportunity also arose through this project, that being the role that each organisation we worked with plays in education and community engagement. Each organisation was linked to a wider community, through faith, sport or provision of services at a neighbourhood level, and had opportunities to support local engagement with climate action through formal channels (e.g. courses delivered at education centres) or informally (through hosting events or projects).

Through the project, the information collected from interviews with the participant organisations and feedback from the peer review group was used to make improvements to the toolkit, as summarised in Section 0. In addition, additional draft resources were produced to support the toolkit, including a CF calculator and benchmarking tool, and a 'useful information and supporting resources' document which aimed to share information collated from the desk-based research, which could be applicable or useful to other organisations.

We recommend that the Toolkit is now revised and made publicly available, alongside accessible mechanisms to enable community organisations in the city to offer and receive mutual support in developing their climate action plans, particularly within sectors that may face similar circumstances and challenges (faith centres; sports clubs; community centres and charities).

Acknowledgements

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1 Contents

1 Introduction

In May 2019 the UK parliament declared a climate emergency and in the same year The Climate Change Act 2008 was amended to include the commitment for the UK to reach net zero greenhouse gas (GHG) emissions by 2050. Climate change poses a threat to both environmental and human health. Many human activities, such as the burning of fossil fuels, produce greenhouses gases. These gases cause climate change, raising the average temperature of the world. This is already causing extreme weather, sea level rise and damage to nature. If we don't take urgent action these impacts will get much worse.

Leicester City Council (LCC) declared a 'Climate Emergency' in 2019 in response to this threat. Hundreds of other cities and organisations across the world have done so too. These commitments mean that they are planning actions to play their part in preventing dangerous climate change. LCC followed this declaration with publication of their Climate Emergency Strategy and Action Plan in 2020, including an aspiration of Leicester being a Carbon Neutral city by 2030 (see LCC Climate Emergency Strategy[1]).

LCC are encouraging businesses and organisations across Leicester to create their own Climate Emergency Action Plans, to play their part in the city's efforts to achieve carbon neutrality by 2030. To support this, LCC are developing a standalone 'Climate Emergency Action Plan toolkit', which can be used by non-business community organisations in the city to develop their own action plans to reduce their carbon footprint (CF), and other negative environmental impacts through measures such as improved energy efficiency in buildings, modal shifts in transport or otherwise. This project aimed to aid development of this toolkit through piloting a small-scale offer of support and eliciting feedback on the draft resources.

Seven community organisations which were based in buildings in Leicester were recruited as participants, comprising two faith centres, three sports clubs and two community centres. Each participant organisation was engaged through initial and follow-up meetings, offered support with calculating their CF and offered desk-based research to support next steps with emission reductions. The project used insights gained from these discussions to inform improvements and amendments to the toolkit. The draft toolkit was also shared with a peer review group of four community members with experience of climate action in a community setting for constructive feedback.

1.1 Project aims and objectives

Project aim: To develop LCC's Climate Emergency Action Plan Toolkit, to enable local community organisations to be self-sufficient in producing their own action plans and commitments to reduce their carbon and environmental footprint.

- Objective 1: To gain feedback on the toolkit and accompanying guidance document from the organisations worked with during the project and a peer review group. This feedback should inform improvements to the documents.
- Objective 2: Develop additional resources to accompany the toolkit, including a CF calculator and benchmarking tool which is suitable for organisations to use themselves.
- Objective 3: Identify the needs of seven local organisations to reduce their carbon and environmental footprint, and to provide them with desk-based research to support them in achieving this.

1.2 Methodology

The opportunity to take part in the project was publicised and aimed at local community organisations, using the 'call out' (see **Error! Reference source not found.**). The criteria for participant organisations, specified in

[1] Strategy is available here: https://www.leicester.gov.uk/your-council/policies-plans-and-strategies/environment-and-sustainability/climate-emergency

the call out was “Voluntary sector organisations based in Leicester (e.g. community centres, charities, co-operatives, sports clubs, religious centres), that own, lease or manage a building in the city.” Following this, seven organisations were recruited to be participants in the project, see Table 1.

Prior to the initial meeting each organisation was sent a copy of the participant information sheet (**Error! Reference source not found.**), an initial meeting information sheet (**Error! Reference source not found.**), and the draft toolkit and accompanying guidance document (**Error! Reference source not found.** and **Error! Reference source not found.**). In addition, each organisation was required to give informed consent to take part in the project.

An initial one-hour online meeting was held with each organisation, with two members of the team from DMU present. In each meeting one member of the DMU team led the interview, using the questions shown in **Error! Reference source not found.**, and the second supported the discussion. Each meeting was recorded and automatically transcribed via Microsoft Teams.

The initial meetings identified areas and topics the organisation required support (in the form of desk-based research) from the DMU team, and to gain feedback on the toolkit and guidance document. Following the meeting an email was sent to the organisation summarising the areas that were going to be researched, and to request any additional information needed to do this (e.g. energy data).

Desk-based research totalling approx. 6 hours per organisations was completed and a research report produced for the organisation. A follow up meeting (half an hour long) was scheduled to feedback to the organisation the findings.

During our discussions, it became apparent that a carbon footprinting tool and benchmarking tool, which would be provided with the toolkit, would be of benefit to the organisations. Carbon footprints are a calculation of the total GHG (in carbon dioxide equivalent) that an organisation is responsible for, understanding this is important for organisations to understand the impact of their organisational activities on the climate. Benchmarking is calculation of a building's energy use per m^2 of floor area, which can be compared to an industry standard for similar building types. Benchmarking is useful for organisations because it shows whether their building is underperforming for energy efficiency compared to similar building types. It enables building owners and occupants to have a better understanding of their building's relative energy efficiency, as well as identify areas where energy waste can be reduced. Therefore, a self-explanatory spreadsheet-based tool was developed, based upon the Carbon Trust’s conversion factor guide[2] and government conversion factors[3]. Feedback from the organisations on this tool was sought.

A peer review group was also used to gain further feedback on the toolkit, guidance document, and carbon footprint and benchmarking tool. This comprised four individuals known to the project team through prior collaboration on community climate initiatives in Leicester, and also the project team, who were willing to provide comments on the draft toolkit.

This feedback was then used to produce updated drafts of each document.

To disseminate the findings of the project, accessible case study documents featuring some of the organisations were produced, and a webinar event has been planned to feed the findings of the project back to the participants and other interested parties.

[2] Available here: https://www.carbontrust.com/resources/conversion-factors-energy-and-carbon-conversion-guide
[3] See here: https://www.gov.uk/government/collections/government-conversion-factors-for-company-reporting

2 Pilot Study Results

The results of engagement with each of the seven participant community organisations are detailed below.

2.1 Summary

The seven participant organisations (with anonymised names) are listed below alongside a summary of their actions to date, identified priorities and stage of action (Table 1)

Table 1 Participant organisation profiles

Participant	Type	Actions to date	Priorities	Stage
Methodist Church	Faith Centre	• Installed solar PV on roof • Understanding of climate change issues, and the that low-carbon electricity needs to be used for future heating • Climate change concerns are part of decision making • Interest in the A Rocha UK Eco-Church scheme • Sunday 22nd August is the Church's first "Climate Change Sunday" in line with recommendations from the Eco-Church framework. • Operates a community recycling scheme • Tries to share energy efficiency principles through user engagement.	• Behavioural change and influencing users • Financially viable measures • Understanding alternative heating systems and how they would interact with historic building. • Retrofit for energy efficiency in historic building	Mid-action
Community Centre 1	Community Centre	• Committed to working towards Carbon Neutrality. • Managed a workshop series to raise awareness of climate change and environment • Have lighting sensors installed. Have replaced lighting units with LEDs, reducing electricity consumption. • Have recycling bins • Currently planning for a roof garden, and to use produce from the garden at their café. • Have a substation linked to building, that provides half-hourly data for water and electricity. This has helped to track electricity and water consumption.	• Understanding the impact of district heating system on carbon emissions. • Technical solutions for the non-zoned air circulation system. • Benchmarking the organisation's energy use. • Green roof potential.	Mid-action
Sports Venue	Sports Club	• Aware of carbon footprint (although not exact figures), and the importance of energy-saving measures. • Implemented some measures such as LED lights • Installed a solar PV system on rooftop. • Installed a ground source heat pump.	• Energy Benchmarking. • Identifying if stratification is an issue • Potential to use the canal for cooling. • Low carbon heating technological options • Heat recovery options. • PV system battery options.	Mid-action

C of E Church	Faith Centre	• Interest in reducing CF • Investigated solar PV panels • Reduced exterior spotlight lumens • Changed heating schedule • Tracking energy consumption	• Moving to LED spotlights • Increasing education of their community on climate change • Moving to a green electricity tariff • Moving away from gas heating	Mid-action
Community Centre 2	Community Centre	• Started a written commitment to reduce their carbon and environmental footprint • Plan to turn some land into a nature area and apiary.	• Understanding their CF and opportunities to reduce • Energy audit • Low cost/short term measures	Early-action
Community Football	Sports Club	• Have identified the clubhouse and floodlights as large parts of their energy use.	• Training to on CF issues and climate change. • Building and floodlight energy efficiency • Switching to a green electricity tariff • Potential for solar PV • Benchmarking energy use	Early-action
Community Tennis	Sports Club	• Clubhouse has been refurbished with LED lights. • Planted new trees on land and have older trees already. • Planted a wildflower bank. • Moved bike storage closer to the clubhouse, to increase use. • Floodlights identified as being inefficient and a high proportion of electricity usage.	• To understand size of CF. • Interested in more energy efficient options for new or replacement floodlights. • Interested in the potential to install electric vehicle charge points, and if this can be an additional source of income.	Early-action

2.2 Methodist Church

Stage: Mid-action

Actions taken by organisation already/current situation:

Methodist Church has recently installed a solar PV system on the roof of the Church, and utilises the electricity generated from the system for its own purposes. The Church has an understanding of climate change and carbon footprint issues, and the understanding that electricity (specifically sustainable electricity) needs to be the heating fuel of the future over natural gas. Climate change concerns are part of the Church's decision making processes at present, although there are several barriers to implementation of decarbonisation efforts.

The Church has also previously shown interest in the A Rocha UK Eco-Church scheme, and Sunday 22nd August is the Church's first "Climate Change Sunday" in line with recommendations from the Eco-Church framework. The Church also operates a community recycling scheme, and tries to promote energy efficiency principles in its own operation through user engagement.

What issues/themes came up in the discussion:

Broadly there are three main themes that emerged during the consultation with Methodist Church: decision-making and prioritisation, behavioural change and access to finance.

Organisational decisions for the Church are performed democratically via the Church Council, on which 15-20 people at any one time sit. In practice decisions are driven by a core group, and then ratified by council members. Property and finance is the most active sub-group within the Church. Prioritisation of interventions is a theme that arose during discussions of the decision-making process, and is directly linked to availability of finance and financial prioritisation. Processes to make informed decisions on which interventions to prioritise, and where to dedicate limited financial resources, were a common theme in the discussions.

Behavioural change and influencing user behaviour, both within the Church's operations and on the part of Church users, was also a priority. This feeds into the technical measures that some of the desk-based research focused on: a number of heating systems in the Church at present, particularly in the community spaces, are user-controlled and often left on for extended periods of non-occupancy. As a technical-behavioural interface this is a challenge to address, and the Church currently uses user-information sheets to try and address this issue, but these are of limited effect. Behavioural change advocacy is also something the Church was interested in, and how to better engender climate change principles in Church users' behaviour outside the Church.

Finally, access to finance and financial prioritisation was a key theme throughout the discussions. In particular, when discussing potential energy efficiency retrofits such as heat pumps to replace gas-fired heating, the Church highlighted finance as the key barrier to large-scale sustainability investments.

<u>Areas desk-based research focused on:</u>

Priorities for the desk-based research were:

- A carbon footprint baseline calculation for the most recent year available
- Information on alternative heating systems and how they may interact with the historic Church building, as well as energy efficiency retrofits in the form of underfloor insulation and interactions with other sustainable heating systems
- Green electricity tariffs
- Window and glazing energy efficiency retrofits for historic buildings
- Access to finance and financial support schemes for retrofits, and
- Influencing building users and tenants to support energy efficiency

<u>What changes have we made or recommend making to toolkit as a result of discussion/research:</u>

Methodist Church provided some in-depth comments for the CF calculator, which are included in Appendix 7.

2.3 Community Centre 1

Stage: Mid-action

Actions taken by organisation already/current situation:

- Community Centre 1 was committed to working towards carbon neutrality.
- They managed a series of workshops to raise awareness of the environment and climate change.
- They have lighting sensors installed at their building, and they have replaced their lighting units with LEDs that will reduce their electricity consumption.
- They have recycle-bins at their building.
- The centre is currently planning for a roof garden to reduce their overall Carbon footprint, and to consume what they produce in this garden at their café.

- They have a substation linked to the building, and it is monitored to provide half-hourly data for water and electricity. Having this type of metering data has helped them to track their electricity and water consumption.

What issues/themes came up in the discussion:

- Their heating is supplied from the district heating system.
- Their waste has been reduced due to the lockdown. And the lack of events held at the building compared to other years have also reduced their waste and energy consumption.
- They have a genuine issue with the air circulation system that consumes a significant amount of energy. The reason behind that is that the air circulation system (Mechanical ventilation) is non-zoned. And they cannot control the air circulation system according to their demand.
- They might consider installing a PV system in the future.
- Their windows are openable to provide fresh air. However, they need to keep the restrictors locked due to safety concerns.

Areas desk-based research focused on:

- District heating system emission factor.
- Technical solutions for the non-zoned air circulation system.
- Carbon Footprint Calculation.
- Benchmarking the organisation's energy use.
- Green roof potential.
- Funding and grants for renewable energy.

2.4 Sports Venue

Stage: Mid-action

Actions taken by organisation already/current situation:

Sports Venue are aware to the organisation's carbon footprint, and the importance of implementing energy-saving measures. They implemented some energy saving measures such as LED lights and installed a Photo Voltic system on the rooftop of the building, as well as installing a ground source heat pump.

What issues/themes came up in the discussion:

- As mentioned above they installed a PV system that provides them with electricity, sell the unused electricity to the grid during the daytime, and buy electricity from the grid at night. Therefore, they are considering installing a battery storage to enable them to use all the electricity they generate. However, the desk-based research revealed that the VAT will be 20% if the battery storage was installed after installing the PV system. And will be only 5% if the battery storage was installed along with the PV system.
- The organisation was considering an energy audit for their building, to identify if stratification is an issue, as it is a common issue in high ceiling buildings.
- They expressed their interest for additional information on how to benefit from being close to a canal, in terms of energy saving and sustainability.

Areas desk-based research focused on:

- Carbon footprint calculations.
- Energy Benchmarking.
- Energy audit.

- Stratification.
- Canal & Sustainability.
- Low carbon heating options & Potential heating options
- Heat recovery options.
- PV system battery options.
- Funding and Grants options.

What changes have we made or recommend making to toolkit as a result of discussion/research:

- Suggested including an online simple tool to be used for estimating the costs of a PV system for organisations who might be considering one in the future.

2.5 C of E Church

Stage: Mid-action

Actions taken by organisation already/current situation:

C of E Church is a Leicester-based Church of England church that is part of the Diocese of Leicester. It has already taken an interest in reducing its carbon and environmental footprint and the national Church of England have an 'Eco Church' scheme, which includes a net zero commitment by 2030. Interestingly, the Diocese includes emissions related to vicarages within scope 1 emissions, so the church is keen to include this in their CF calculations.

The church has investigated PV panels; however, they are limited as to what they can do due to planning constraints in the conservation area.

The church has already made some progress, having reduced their exterior spotlight lumens, changing and reducing the heating schedule, and tracking their energy consumption.

What issues/themes came up in the discussion:

- The church have identified that there is more scope for them to reduce their CF further, including moving to LED spotlights, increasing their education of their community on climate change, moving to a green electricity tariff, and moving away from gas heating.
- The church has not yet made a CF calculation, and are interested in this.

Areas desk-based research focused on:

- Guidance on looking for installers
- Carbon footprint calculation (information was provided on CF, however the calculation was not possible due to lack of energy data from the organisation)
- Potential for ceiling fans to reduce stratification
- Infrared heating options/suitability
- Low carbon heating options for future
- Possible funding options

What changes have we made or recommend making to toolkit as a result of discussion/research:

The following feedback about the toolkit was provided:

- Guidance about sourcing needed - reputable/trustworthy installers
- Need for a way to get in touch with other similar organisations
- Information required about performing carbon footprint calculations.

2.6 Community Centre 2

Stage: Early-action

Actions taken by organisation already/current situation:

Community Centre 2 have started to put together a written commitment to reduce their carbon and environmental footprint, however they are very much at the start of setting up a strategy and goals. Therefore, they have not made any major changes to increase energy efficiency or reduce their CF yet.

They do have a plan to turn some adjacent land into a nature area and apiary.

What issues/themes came up in the discussion:

- Community Centre 2 are interested in learning more about their current impacts, including having a CF calculation, and the opportunities to reduce these.
- Funding challenges for any new measures and the financial constraints faced by not-for-profits and charities were discussed.

Areas desk-based research focused on:

- Energy audit – information about and a checklist
- Low cost/short term measures that might be appropriate
- Carbon Footprint calculations (information was provided on CF, however the calculation was not possible due to lack of energy data from the organisation)
- Some ideas about how to link these issues to the local community in a way that benefits them

What changes have we made or recommend making to toolkit as a result of discussion/research:

The following feedback about the toolkit was provided:

- Include examples of short term/long term measures – average cost and payback

2.7 Community Football

Stage: Early-action

Actions taken by organisation already/current situation:

- The club has identified the clubhouse energy usage (for heating), and their floodlights as large parts of their energy use.
- The club currently do not have much knowledge around the size of their CF and has not currently made a written commitment to reduce their CF.

What issues/themes came up in the discussion:

- Club management are keen to get some training to improve their knowledge of carbon footprints and climate change.
- The club identified the following areas as opportunities to reduce their CF: transport, energy use, switching to a green electricity tariff, potential for solar PV. The club would also like to benchmark their energy use.

Areas desk-based research focused on:

- Floodlights

- CF calculation (information was provided on CF, however the calculation was not possible due to lack of energy data from the organisation)
- Transport – provisions for EV and e-bikes
- Greener electricity tariff
- Solar PV
- Energy audit
- Benchmarking
- Funding options

2.8 Community Tennis

Stage: Early-action

Actions taken by organisation already/current situation:

- The club have not yet made a written commitment to reducing their CF, however their general manager supports this as a step.
- The club has started to make some changes, where financially viable, for example the clubhouse has been refurbished with LED lights. The club has also recently planted new trees on their land, as well as having older trees already. In addition, they have planted a wildflower bank.
- The club noted they have seen an increase in members travelling by bike and e-bike, partly due to the bike storage being moved closer to the clubhouse, which may help with perceived security of the bikes.

What issues/themes came up in the discussion:

- The club are keen to understand the size of their CF.
- The club has identified their floodlights as being inefficient and a high proportion of their electricity usage, they are interested in more energy efficient options for any new or replacement floodlights.
- In the future, the club are interested in the potential to install E vehicle charge points, especially if this can be an additional source of income.
- Again, funding was identified as an issue.

Areas desk-based research focused on:

- Energy audit – a checklist to support with this or guidance on how to find companies for this and other services (inc. what accreditations to look for)
- Low cost/short term measures that might be appropriate
- Carbon Footprint calculations (information was provided on CF, however the calculation was not possible due to lack of energy data from the organisation)
- Guidance on floodlight options and new technologies
- E vehicle charge points

What changes have we made or recommend making to toolkit as a result of discussion/research:

The following feedback about the toolkit was provided:

- Potentially setting up a sustainability group for local organisations to join to bring together ideas and current initiatives.
- Include information about energy audits – example checklists and company suggestions.
- Include guidance on how to find companies for services and what accreditations to look for.

2.9 Summary of findings from community organisation pilot study

The interviews and desk-based research for the participant organisations led to the conclusion that two broad groups could be used to split community organisations in Leicester based on their progress in reducing their CF so far. The two groups were 'early-action' (organisations which have done little work on reducing their CF so far but are interested in doing so) and 'mid-action' (organisations who have a plan or ideas for reducing their CF but require technical help).

It was also identified that there are often misconceptions of what the biggest contributors to organisational CF are, for example several organisations (usually early-action) had not considered their building energy use as a major contributor. This demonstrates the value of CF calculations and benchmarking to drive actions based on energy efficiency priorities.

Three main barriers were identified for community organisations interested in putting together a Climate Emergency Action Plan; cost, lack of access to data to allow for carbon footprinting calculations, and lack of external support. The latter led to suggestions that it would be beneficial for there to be some further support more than just the toolkit, whether this is from a designated contact at LCC, or through a facilitated networking platform, where organisations can share learnings.

Due to the cost barrier, organisations were interested in understanding long term vs short term steps and measures they could take, and the expected payback periods for these.

3 Peer feedback group

The peer feedback group offered a different perspective on the toolkit, the guidance document, and the CF calculator. This group included four individuals known to the project team through prior collaboration on community climate initiatives in Leicester, and the project team, who were willing to provide comments on the draft toolkit.

3.1 Feedback received

Feedback received from both the project team and the peer feedback group is shown in Appendix 7 and summarised below in Table 2.

Table 2 Summary of Peer Feedback Received

Respondent	Suggested Improvements	Suggested potential actions to include
Project team	• Table format • Clarity around some sentences/sections • Space to add size/time frames for goals to statements.	• Have energy audit carried out to identify opportunities for energy savings. • All on-site renewables • Making EV charging points available to staff/volunteers.
1	• Improve further help section	• Procurement and investment
2	• Include benefits to organisations • Have a designated support contact. • Explain Kyoto	• Changing to a green energy supplier
3	• Grammar/wording suggestions. • Time limits on action plan • Include how to access carbon literacy training. • Including cycling/walking and renewable electricity on CF calculator.	• Changing out energy supplier to one that is committed to sourcing 100% green electricity and more sustainable gas. • Providing disincentives to personal car use. • Give further specific suggestions for travel e.g. instructing staff members to look at train travel / public transport as a priority over car travel. • Creating a policy of no internal UK flights / no flights for work travel within Europe • Ensuring that any workplace food provided is low carbon (e.g. without meat and dairy).
4	• Include questionnaire in toolkit to collect staff travel data. • Include more space for F gases and the conversion factors on a sheet as part of the calculator.	

The focus of most of the feedback was aimed at improving usability of the toolkit, and suggestions for potential actions organisations can take which should be included in the toolkit. Changes made to the toolkit following this feedback focussed on increasing the simplicity of the information and structure of the toolkit, and improving signposting to 'further help'. This feedback also influenced the decision to include a section about the benefits of improving energy efficiency and reducing carbon footprints for the organisations. Feedback also highlighted that mentoring support, or another form of direct advice and support could be useful for community organisations.

4 Outputs

4.1 Toolkit and guidance document

Using the feedback provided by the community groups worked with as part of this project, and the feedback from a peer review group, several amendments were made to the toolkit, and to the guidance document. The feedback received is summarised in Appendix 7. The drafts produced are shown in Appendix 5 and 6.

The changes made to the toolkit aimed to improve usability and clarity of the toolkit. One change was to reformat the different suggested commitments into a table and include a column for 'Aim to achieve by' and 'Achieved/New Date'. This should encourage organisations to set clear, time limited goals, and to review whether these are achieved.

The 'What Next' section was amended, again to encourage organisations to set specific reduction targets and set a date to review this.

The 'Further Help' section of the guidance document was updated to include more links and directions, it is also proposed that there be a 'useful information' section or accompanying document, to share the research from this project which is applicable to many organisations. A draft of this 'Useful information and supporting resources' document has been shared with the City Council.

Other suggestions which were implemented included: adding information about the other benefits of energy efficiency and use reduction (health from active transport and reduced costs), including an explanation of carbon literacy training and how to access it, and including suggested actions, such as switching to a renewables electricity tariff and having a no flight policy for UK travel.

During the project it was identified that some organisations will be at the 'early-action' stage, whereby they will be just starting to make changes to improve their energy efficiency and carbon footprint, whereas others will be at the 'mid-action' stage and will already have started to make these changes. Therefore, a section was added into the guidance document to give some direction on 'getting started' and 'going further'.

4.2 Useful information and supporting resources document

A document was produced which collated all the information acquired as part of the desk-based research which could be applicable or useful to other organisations. In addition, useful links to external supporting resources were also included. This document should accompany the toolkit.

4.3 CF calculator

During the initial meetings, the organisations have expressed their need for a method that will help them to assess their current environmental impact. Therefore, the carbon footprint calculator was developed to help organisations look for reduction opportunities. It was developed based on the Carbon Trust conversion factor guide available online for SMEs, and the UK Government published conversion factors.

A carbon footprint is the total greenhouse gas (GHG) emissions caused directly and indirectly by the organisation and is expressed as a carbon dioxide equivalent (CO2e). A carbon footprint accounts for all six Kyoto GHG emissions:

- Carbon dioxide (CO2)
- Methane (CH4)
- Nitrous oxide (N2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulphur hexafluoride (SF6)

Usually, organisational carbon footprints include Scope 1 and 2 emissions. GHG emissions are split into 3 'scopes' (https://www.carbontrust.com/resources/carbon-footprinting-guide).

Scope 1: Direct emissions that result from activities within your organisation's control. This might include on-site fuel combustion, manufacturing and process emissions, refrigerant losses, and company vehicles.

Scope 2: Indirect emissions from any electricity, heat or steam purchased and use.

Scope 3: Any other indirect emissions from sources outside your direct control. Examples of Scope 3 emissions include purchased goods and services, use of sold goods, employee commuting and business travel, outsourced transportation, waste disposal and water consumption.

The organisational CF will account for the GHG emissions of all the organisations activities, buildings processes, and any vehicles. Therefore, the calculator has included five sheets:

The ''CF Instructions'' sheet offers detailed instructions for using the carbon footprint calculator.

The ''CF results'' sheet where the organisation's CF results will appear.

''Your organisations data'' sheet where the organisation needs to fill their energy consumption data. This sheet included five tables for each year 2019, 2020. To enable the organisations to calculate their CF in 2019, and 2020. Table 1 is the ''Energy (Fuel) Emissions'' that calculates the electricity and fossil fuel CF. Tables 2 and 3 are ''Passenger Transport Emissions'' that will calculate the CF for different car sizes and different modes of transport. Table 4 is the ''F gas Emissions'' that will calculate the F gas CF. And Table 5 is the ''District heating system emissions'' that will calculate the DH carbon footprint for the organisation that uses the DH system for heating supply.

Refrigerant & other conversion factors sheet, this sheet will enable the organisation to extract the relevant F gas conversion factor and calculate the CF of the F gas to add it to their overall CF calculation.

The benchmarking tool sheet will be explained in the section below.

The conversion factors used for the calculations were extracted from the ''2020 Government GHG conversion factors for company reporting'' (HM Government, 2021).

4.4 Benchmarking tool

The benchmarking tool was developed when the organisations expressed their need to assess their current energy performance. Benchmarking is calculating a building's energy use and comparing it to the national average for similar building types. It enables building owners and occupants to have a better understanding of their building's relative energy efficiency, as well as identify areas where energy waste can be reduced.

The benchmarking tool was added as a separate sheet to the CF calculator. It provides a simple calculation for the annual energy use (electricity and fossil fuel) divided by the total floor area. The result of the calculation will be compared to the results of similar buildings available on the benchmarks tables published on the CIBSE GUIDE F 2012.

The benchmarking tool has provided the organisations with an alternative benchmarking tool available online at the Carbon Trust website. As well as simple instructions to help the users use it efficiently.

4.5 Case studies and Dissemination

A series of short case studies on some of the organisations which participated in the project have been produced. The DMU project team intends to hold a webinar in November 2021 to feedback the overall findings of the project to the participant organisations and other interested parties. We hope to use some of the participant organisations as case studies during the presentation.

5 Discussion and Conclusion

The project aim was to develop LCC's Climate Emergency Action Plan Toolkit, to enable local community organisations to be self-sufficient in producing their own action plans and commitments to reduce their carbon and environmental footprint. To achieve this, three objectives were set. This section reviews the objectives and how they were achieved.

Objective 1: To gain feedback on the toolkit and accompanying guidance document from the organisations worked with during the project and a peer review group. This feedback should inform improvements to the documents.

- Feedback was gained from both the participant organisations and the peer feedback group.
- The feedback was reviewed and where appropriate changes were made to the toolkit and accompanying documents.

Objective 2: Develop additional resources to accompany the toolkit, including a CF calculator and benchmarking tool which is suitable for organisations to use themselves.

- Three additional resources were developed; a CF calculator and benchmarking tool, a 'useful information and supporting resources document', and case studies for three of the organisations.

Objective 3: Identify the needs of seven local organisations to reduce their carbon and environmental footprint, and to provide them with desk-based research to support them in achieving this.

- The needs of each organisation were identified through virtual meetings.
- Desk-based research on the topics and issues identified was used to produce a final report for each organisation, and this report was discussed with the organisations in a follow up meeting (except for CofE Church, which failed to attend a follow up meeting).

5.1 Conclusion

This project aimed to develop LCC's Climate Emergency Action Plan Toolkit. Data and insights into the needs of community organisations in the city were collected through the interviews with community organisations, feedback from the peer review group, and through the desk-based research completed as part of this project.

It was found that typically community groups fall into two broad groups; 'early-action' (organisations which have done little work on reducing their CF so far but are interested in doing so) and 'mid-action' (organisations who have a plan or ideas for reducing their CF but require technical help).

Three main barriers were identified for community organisations interested in putting together a Climate Emergency Action Plan; cost, lack of access to data to allow for carbon footprinting calculations, and lack of external support.

The findings of this project informed improvements to the toolkit and guidance document, and demonstrated the need for the additional resources which were produced to support the toolkit. These additional resources were a CF calculator and benchmarking tool, and a 'useful information and supporting resources' document which aimed to share information collated from the desk-based research, which could be applicable or useful to other organisations.