

Leeds Climate Commission Report:

1. Introduction:

The Paris Climate Change Agreement, assigned by the UN in 2015 set a target of a warming of no more than 2°C above pre-industrial levels over this century (UNFCCC, 2015). Pachauri et al., (2014), Meinshausen et al., (2009) and Rogeli et al., (2016a) report that more than 65% of the available budget for ensuring warming doesn't increase to over 2°C have been emitted, indicating that a crucial reduction in emissions is required. A new and improved effort is essential from both the physical and scientific communities (Rogeli et al., 2016b). The Leeds Climate Commission, supported by the Centre for Climate Change Economics and Policy (CCCEP) aims to contribute to the city by meeting its climate reduction targets through the promotion of best practice in public engagement on climate change and collaborating on climate reduction projects. The aims and objectives of this study are as follows:

The principal aim of this study is to aid the Leeds Climate Commission in improving the facilitation of climate mitigation action and communication across organisations in Leeds.

The objectives are:

- 1) Familiarisation with the Commission and attendance at networking events and meetings.
- 2) Conduct an audit of the existing engagement and communications activity which occurs in organisations across Leeds relating to climate mitigation.
- 3) Analysis of world leading initiatives across the UK and globally that can be replicated by the Commission.

2. Literature Review:

2.1 Climate Change

The IPCC 2014 report (Field et al., 2014) writes that the climate is warming at an increasing rate, and has started to have effects on both natural and anthropogenic systems, a statement that is agreed upon extensively across the scientific literature (Kythreotis and Bristow, 2017). It is suggested across numerous scientific reports (Grimmond, 2007; Lankao et al., 2008; Harlan and Ruddell, 2011) that cities in high income nations need to reduce greenhouse gas emissions in order to make a significant reduction in the observed unprecedented rates of warming. A substantial improvement in the climate mitigation across these cities will assist in the prevention of no more than a 2°C warming this century.

There is debate within the literature as to what is the most effective method for installing climate mitigation methods across public and private organisations; climate mitigation is a preventative measure, reducing greenhouse gas emissions (Carter, 2011). Tompkins et al., (2010) conclude that a government top-down approach is extremely effective in the adoption of climate policy, stimulating low cost climate change mitigation. The notion of this top-down approach is further supported by Paul et al., (2017) and Urwin and Jordan (2008). However, Carter (2011) suggest that bottom-up approaches are appropriate in the influence and networking of local business, promoting climate mitigation measures, due to the variation in both local social and economic developments, as well as public opinion (Harlan and Ruddell, 2011). A report by (Kern and Alber, 2008) provides extensive research into the best methods to promote climate mitigation measures; it is suggested that networking across a city in order to improve greenhouse gas reduction methods is an extremely effective method.

This bottom-up approach has been shown to be effective across numerous locations (Bintliff et al., 2007). The Leeds Climate Commission is a group that aims to carry out networking events and a centralised system to provide a platform for organisations across Leeds to improve their climate mitigation methods; a system recommended by Kern and Alber (2008).

2.2. Leeds' targets

A mini stern review for the city of Leeds (Gouldson et al., 2017) has been produced, highlighting the long term trends in energy use and carbon emissions for different sectors across Leeds, as well as providing a list of measures that can collectively reduce carbon emissions and ensure Leeds becomes a low carbon city. The UK has committed to reducing emissions by 80% by 2050 from levels in 1990. Whilst this is an ambitious target, significant reductions have been made over the last 27 years (Khan et al., 2014). However, in order to meet the 2050 target, emissions need to be cut by a further 33% over the next 12 years to be on track (Gouldson et al., 2017). Due to the potential savings that can be made, alongside the employment created with the installation of climate mitigation measures concerning the conversion to a low carbon city, Leeds could cut emissions by 30% by 2030 at a zero net cost, according to (Gouldson et al., 2017). However, even with these reductions, the 2050 target remains ambitious. Gouldson et al., (2017) suggest that it would be possible to reduce emissions by 39.2% over the next 12 years. However, this would require a 12.6 billion pound investment, producing annual savings of 392 million pounds; an investment that would take 32 years to pay back. Evidently, new approaches are required to encourage investment from a variety of stakeholders into a low carbon transition.

2.3. Reducing emissions in Leeds

In order to generate investment into climate mitigation methods, they first need to be proven and carried out by organisations willing to take that innovative step. Ahonen (2005) suggest that organisations that initially invest in economically viable climate mitigation measures, encourage similar organisations to follow suit. A significant barrier for organisations in investing in climate mitigation measures is the risk in the rate of economical return (Blyth et al., 2007). Bradford and Fraser (2008) indicate that climate mitigation methods need to be developed that can provide the highest economic return possible, in order for organisations to invest. Gouldson et al., (2017) identify that heating and cooling in commercial buildings has the greatest potential in terms of reducing emissions and providing an economic return. Specifically, insulation of buildings and investments into energy efficient appliances; with potential to save 1 to 5Mt of CO₂ per year in Leeds. The literature suggests that carbon reduction measures have the potential to be financially beneficial long term (Hoffman, 2005). Gouldson et al., (2017) highlight that the 2030 energy bill for Leeds could be cut by 25% through low carbon options.

3. Justification for the study:

It has been highlighted within the literature review that the city of Leeds could significantly reduce its carbon output, whilst also benefiting economically, in order to help contribute to the UK's 2050 emissions target. Leeds is currently on track to miss both the 2030 and 2050 targets, and therefore a new method of promoting change is required. Kern and Alber (2008) emphasise that there is a lack of inventory data to monitor progress within a city. Having a common framework will allow organisations to assess cost effectiveness of different climate mitigation methods. One of the aims of this study is to produce an audit of what methods are being carried out in organisations across Leeds, which could start to form a database of the most effective measures, and measures that are perhaps less effective. Kern and Alber (2008) further suggest that without a centralised framework for a city to compare carbon reduction methods, it will be extremely difficult to efficiently progress in city level mitigation action.

This study will highlight what climate mitigation methods are currently taking place across organisations in Leeds, and how the Commission can improve its methods in order to further facilitate the transition to a low carbon city.

4. Methodology:

A climate mitigation action and engagement survey was constructed based on the information provided from a small cohort of organisational representatives at the Leeds Climate Commission Forum event on the 10th October 2018. This provided an initial idea as to what some of the climate mitigation measures were occurring in Leeds. This allowed the questions to try and draw out the responses required to enhance the Commission's knowledge of climate mitigation action and engagement in Leeds. The survey was originally distributed by Professor Andy Gouldson to members of the Commission, which was then further distributed to organisations in Leeds. An effort to share the survey through social media was also attempted, which proved unsuccessful. The survey was open between 11th December 2017 and 8th January 2018, and generated 24 responses from a range of organisations. Throughout this report, the reader must consider that not every question has been answered by all 24 different responding users.

Before the survey was produced, methods of best practice were researched to allow the survey to be as effective as possible. In addition to this, numerous pilot test surveys were sent out to establish any sort of flaws in the survey and ensure the questions prompted answers that could be easily analysed.

5. Results:

5.1 Demographic

The majority of responses (21), came from organisations that have been engaged (some of which are members) with the Commission (Figure 1); this will have a significant effect on the responses, and will not be representative of all organisations from Leeds. This will be considered throughout the analysis of data generated from the survey responses.

Organisations that said they were engaged with the commission can be anything from a member, to receiving a newsletter. Three of the responses were from members of the Commission, other responses included receiving emails and newsletters, attending events such as workshops, Climathon, the launch as well as attending working groups. In addition to this, a lot of the responses could be categorised as organisations that are either the University of Leeds, Leeds City Council or

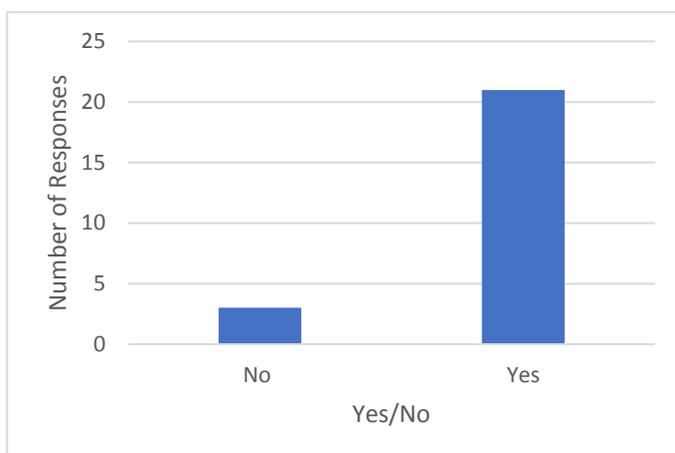


Figure 1: Responses of members being involved with the Commission.

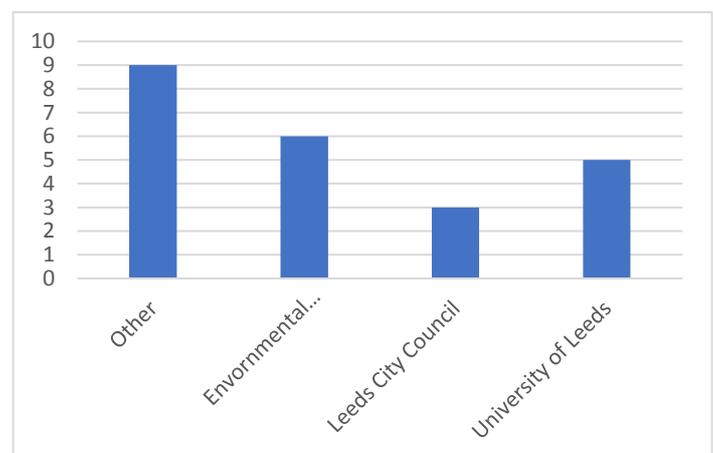


Figure 2: Demographics of organisations responding to the survey. The second category is environmental campaign/working group.

environmental campaigns/working groups (14 in total) shown in figure 2.

5.2 Size of organisation

Most respondents fell in the 1-10 or 200+ categories (number of employees) shown in figure 3. Of the 20 that responded to this question, 10 fell in the 200+ category; 8 of which come from either the University of Leeds or Leeds City Council. One response was 41-50 and two responses were in 11-20. Of the 10 responses that answered the 200+ category, the majority of have come from the University of Leeds and Leeds City Council. Other organisations that responded having 200+ employees were Yorkshire Water, Church of England and West Yorkshire Combined Authority.

Q3 How many employees work at the organisation? (if applicable)

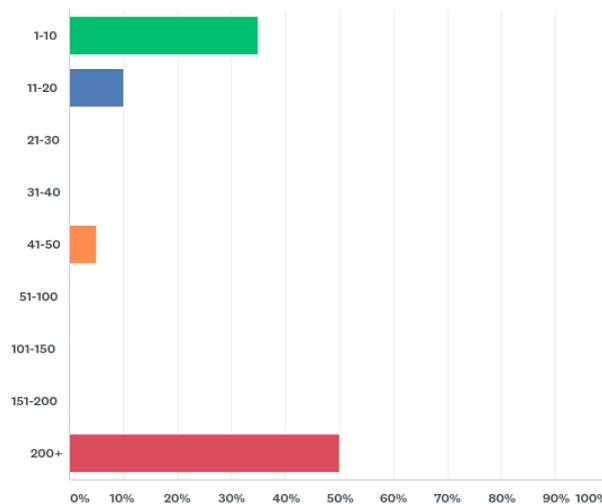


Figure 3: Number of employees that work at the organisation represented.

5.3 Sharing and receiving climate mitigation information

Figure 4 shows how organisations receive information on climate mitigation across the city. All 24 respondents answered this question, providing qualitative responses in addition to the data used to produce the graphs below. Organisations generally appear to communicate with the University of Leeds and Leeds City Council (16 and 14 respectively), however, 8 of which are representatives of the University or Council. Eight organisations outside of the University and Council therefore don't receive any information from these two institutes. 15 of 24 respondents said they received information through social media groups; a notable majority. Online forums was the least ticked option, a contrast to social media.

Both community and council run networking groups were ticked by 9 respondents. A representative from West and North Yorkshire Campaign for Better Transport wrote that they run community meetings on general transport, rail and bus users. They engage with Leeds City Council; to receive information on public transport throughout Leeds.

A respondent from Frack Free Leeds stated that they give public talks regarding the fossil fuel free/climate change debate to labour groups, communities and unions, as well as connecting with members of public across Leeds.

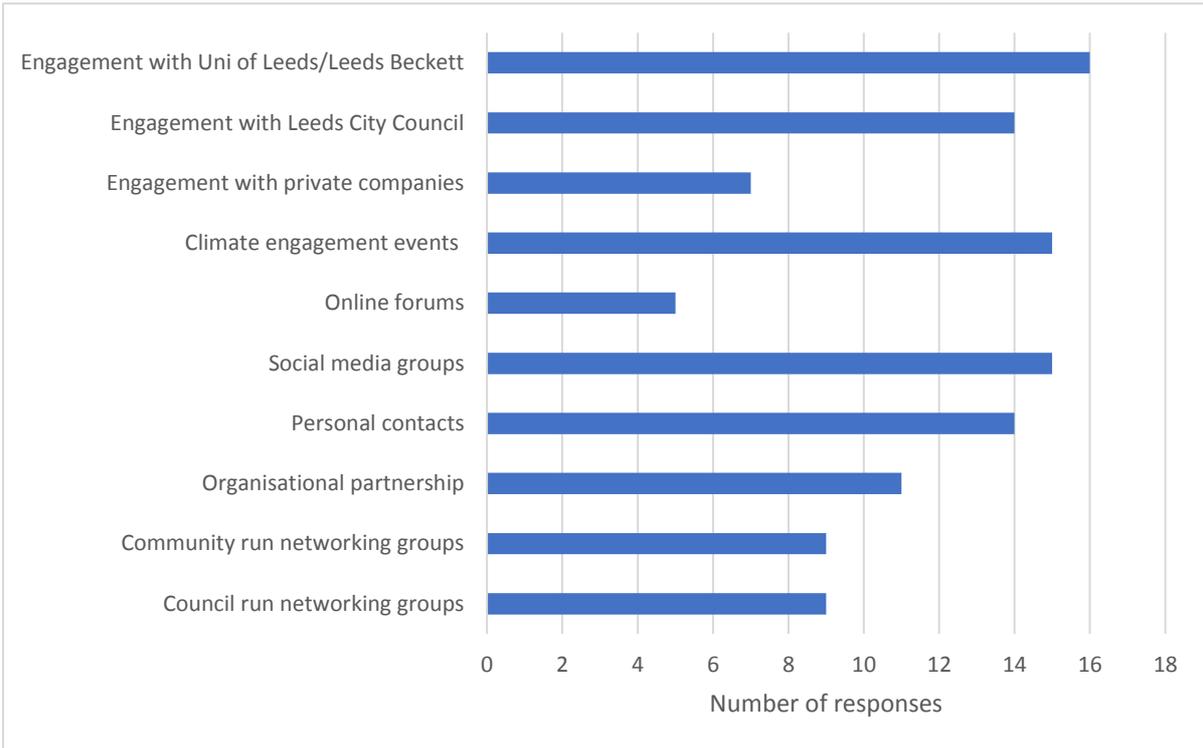


Figure 4: How organisation represented receives information on climate mitigation within the city.

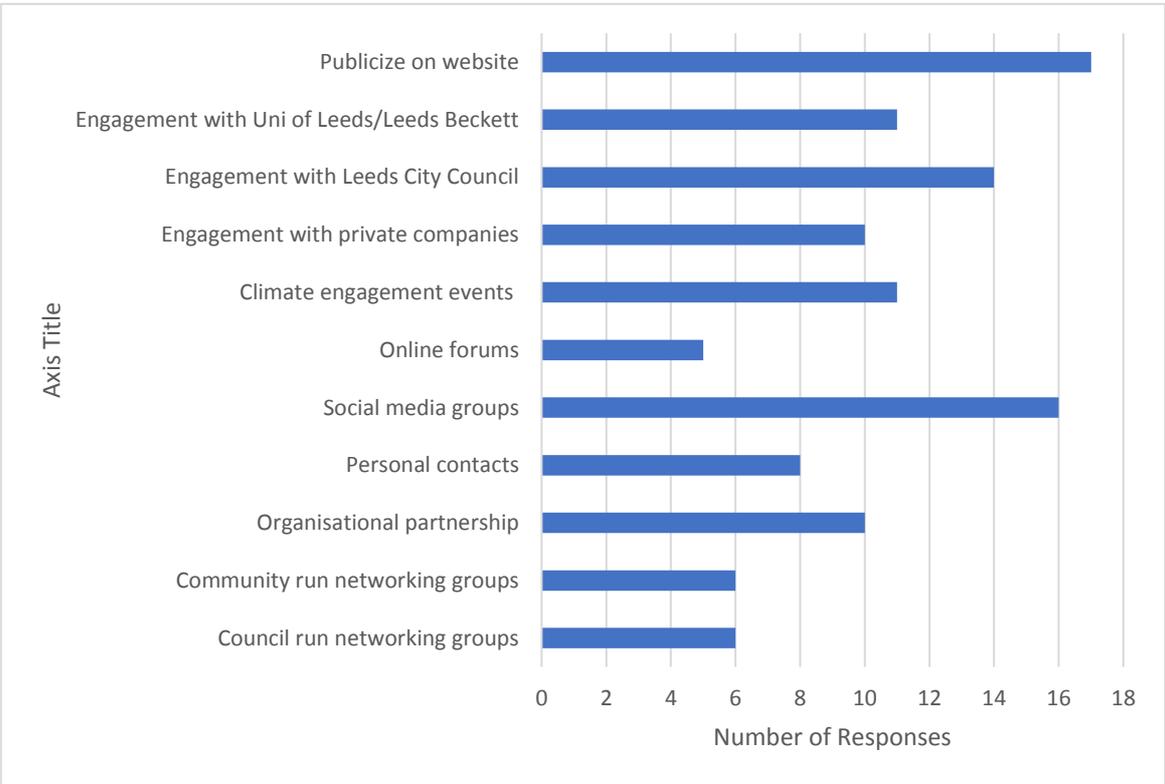


Figure 5: How organisation represented shares their own climate mitigation information.

The main channels used to share organisational information on climate mitigation (figure 5) is through social media groups and publicizing it through their own websites. Furthermore, numerous organisations that responded produce either a newsletter or annual report regarding climate mitigation. Despite a lot of information being published on company websites, more could be publicized, such as climate mitigation projects, however time available to produce these reports is a limiting factor; as answered by a respondent from Quantum Strategy & Technology Ltd.

The sharing of information to the Universities and Council occurs less than information received from these institutes. In addition, less information is shared at community and council run networking groups than is received. It appears that organisations, generally receive more information than they share.

5.4. Barriers to communication

The foremost theme that has been derived from the main barriers to communication regarding climate activity is lack of both time and resources; 12 out of the 22 respondents listed this as the main barrier to communication. In addition to this, it was noted that the ability to have the platform to and therefore reach those who aren't 'climate aware' proves extremely difficult. Furthermore, other barriers that were made prevalent were; other priorities within the organisation (as opposed to climate mitigation work), a lack of press coverage given to climate related campaigns to provide a positive image (in this case in regard to Frack Free Leeds), information overload, and cynicism amongst the public (toward the council).

5.5. Carbon reduction measures

The main measures that are currently taking place in regard to carbon reduction are shown in figure 6. Most of which occur in the transport sector. The use of public transport, car sharing and working from home are the most prominent measures taking place within this sector. In addition to this, an increased use of electric vehicles has occurred following the promotion of charging points available.

15 respondents said measures take place within waste mitigation. Recycling, compostable and re-use systems are being carried out, with targets being put in place to encourage the use of these systems. Furthermore, the avoiding the use of plastics occurs, however, this appears to be on an individual basis, as opposed to a company-induced scheme.

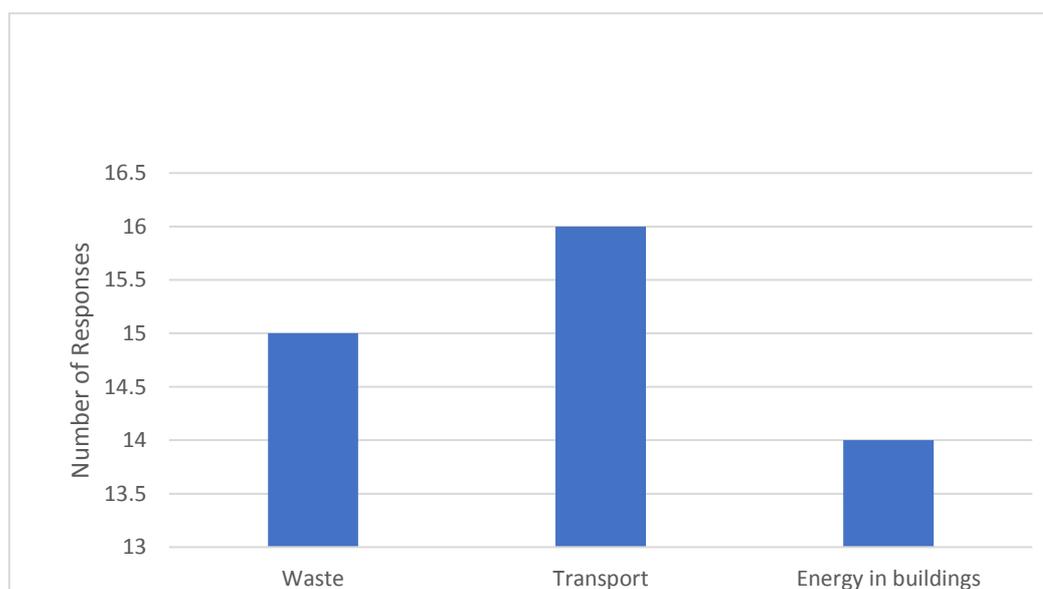


Figure 6: Respondents answers to what measures are carried out currently to reduce carbon output.

5.6 Future carbon reduction measures

Plans for improvement in carbon reduction are planned to occur across all the three sectors. Some of the measures are listed below:

- Liaising with estates about heating building efficiency
- Being part of the 'carbon trust standard' which requires yearly reduction in carbon emissions
- Changing company vehicles to hybrid
- Installation of LED lights
- Use of electric vehicles
- Raising awareness regarding carbon pollution research

5.7 Barriers to climate mitigation action

Figure 7 shows the most prevalent barriers to climate mitigation action. Competition from other organisations being the most prevalent barrier, followed by risk of failure, lack of stakeholder interest and no one within the organisation being assigned this responsibility. The most notable stat to take from this graph is that the financial cost being too high is not ranked one of the most important barriers.



Figure 7: Respondents answers to barriers to climate mitigation action. Scale is produced by an average of a ranking system, 1=most prevalent, 9=least prevalent.

5.8 Future ideas for the Commission

Some of the comments on how the Commission can improve going forward are listed below:

- Transport discussion (in regards to Leeds public transport)
- Waste and recycling
- Electric cars
- Rewilding and restoration of biodiversity
- Delivery of zero carbon across the city

6. Discussion:

6.1 Survey analysis

Despite the survey being shared by the commission, with an attempt to promote the footfall through social media, having only 24 respondents was deemed a failure to achieve the objective of producing a climate mitigation audit. However, some of the responses provided valuable information. To produce an audit in the future, a survey would be promoted to a greater extent through the means of social media, a method which will generate more responses (Hulland et al., 2018). Poynter (2010) suggest that the use of social media to provide market research is the single most important modality, with the use of social media only expected to increase.

From the comments provided regarding the barriers to engagement and communication in climate mitigation, having an open platform to share mitigating related information is essential. A respondent from Quantum Strategy and Technology wrote that the company lack the time and available platform to promote such success stories that could be of benefit to other organisations. If the Commission could provide a platform for companies such as Quantum Strategy and Technology to share their climate mitigation successes, other organisations across Leeds would benefit. In addition, the live streaming of climate events hosted by the commission would reach a wider audience and further influence change across the city.

More encouragement to share information regarding the barriers and perhaps less successful climate mitigation is required when representatives from organisations attend community and council run network groups. Ben-Amar and McIlkenny (2015) suggest companies withhold negative related information regarding climate change action; whether this is something the company are active in or not. Despite this, there is not much the Commission can do with encouraging representatives from organisations to attend climate events and be active in sharing information.

One of the most valuable pieces of feedback from the survey was that Leeds must create a positive vision for the future of the city. Kouzes and Posner (2009) propose that the best way to lead a large, dynamic system of people is to create a vision that is ambitious, yet realistic with the resources and time available. It has been shown through psychological research that the most effective way to inspire a group of people toward a common goal is through creating a vision that everyone can contribute toward (Vera and Crosson, 2004). A vision can be promoted through architectural drawings, leaflets and posters; which can be advertised through social media.

6.1. Objective 3

In 2015 the city of Bristol won the green capital of Europe award, due to their high environmental standards, ongoing goals for sustainable development and being a role model for other European cities (Clayton et al., 2016). Their environmental success is largely down to the collaboration work of the Bristol Green Capital Partnership (BGCP), an independent leadership organisation that established in 2007, funded by the council. An organisation similar to that of the Leeds Climate Commission. It took BGCP 8 years to win the award after the organisation was established. The commission could use the BGCP as a role model to win the award, and improve the future environmental sustainability of Leeds. The BGCP started in a similar fashion to that of the commission, with a council collaboration and numerous members joining the network. Since then, however, there has been a rapid recruitment of new members, with 16 action groups working on different subjects, more than 700 members and is governed by a board of directors (Longhurst and Townsend, 2017). Longhurst and Townsend (2017) write that the building of networks through informal networking events, advocating grassroots projects and supporting the green capital bid are the focal points for the development of BGCP.

Providing a positive environmental vision for Leeds was a key outcome from the results of the survey. BGCP currently have numerous visions for the future of the city. Wielgus et al., (2015) report the current visions held by the city:

- 2020 vision – ensure Bristol is in the top 20 sustainable cities in Europe
- 2050 vision – become carbon neutral through engaging and educating the public more than the policy makers a businesses
- World leading across all departments of the city

The vision for Bristol has not just been used for the inspiration of the city's population, but to attract 'young wealth creators'; a cohort of people who provide enthusiasm and new input regarding the growth and sustainability of the city (Wielgus et al., 2015).

The city of Essen, in Germany won the European green capital in 2017, and carried out a process similar to that of Bristol in 2015, with a clear vision promoted to the public. However, one of their main centrepieces was the use of social media. Essen promoted environmental related content across central Twitter and Facebook accounts. Members of the public and representatives from organisations located in Essen were invited across these social media platforms, which increased attendance at networking events and workshops hosted by the city (Essen Green Capital, 2017). Attendance at such workshops is a vital process in establishing the goals and ambitions of the city.

7. Conclusion:

The aim of this report was to highlight areas the Commission can work on in order to facilitate the improvement of climate mitigation action and communication in Leeds. Through objectives 2 and 3 there have been a few key points that appear to be vital to the success of the Commission. The first of which is promoting a positive vision for the city; this was commented on in the survey, and has been carried out by the green capital cities from both 2015 and 2017; evidently a successful strategy used to enable large scale participation to work toward a common goal. The second of which is to utilise social media to share climate-related information; be that workshop dates, climate mitigation success stories or live streaming events. In order to inspire change concerning the climate, the less 'climate aware' cohort of the population need to be reached. It was shown by the distribution of the survey that this is a key problem when carrying out research. If the Commission is to be successful in transitioning Leeds into a low carbon city, those that are not as 'climate aware' need to be inspired. The use of social media and a positive vision will be vital components of that.

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