

Greater Manchester Climate Change & Low Emission Strategies and Joint Implementation Plans 2016 – 2020 Consultation Results

GMCA

January 2016

Quantum



Quality Assurance

CONFIDENTIALITY (Confidential / Not Confidential)		Not Confidential
Project name	GM Climate Change & Low Emissions Implementation Plan Consultation event & survey analysis	
Project reference	CCIP	

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Introduction

The GM Climate Change Strategy was first produced in 2012 and the current consultation document provides an update on progress and outlines aims, actions and detailed indicators up to 2020 with longer-term objectives for 2035. It provides a vision for the city region and draws on past research and the wedges research to quantify a pathway to the 48% emissions reduction target. It also details funding in place and potential funding sources for delivery.

During 2015 engagement events and workshops with various stakeholder groups were held to inform the plan update. AGMA's Environment Team drafted the GM Climate Change and Implementation Plan 2015 – 2020. On 19 October the consultation on the document went live. A range of engagement and publicity activities were carried out to gain maximum feedback on the consultation including:

- Online Survey
- Article on the Platform, with document and link to survey
- 17 November a stakeholder workshop was held for 79 people, facilitated by Quantum
- Twitter campaign
- Email questionnaire to range of stakeholders
- Publicity on the GMCA website Theme workshops
- LEP meeting
- University workshop
- Members and MPs briefings

The survey closed on 11 December and collation and analysis of responses was conducted by Quantum Strategy & Technology to inform a board paper and formulation of a final plan.

The survey received 149 responses for analysis from a wide range of stakeholders representing public, private, community/NGO and higher education sectors, climate expert and individuals. Separate submissions were received from 16 organisations, listed in Appendix 1, some of whom also submitted online feedback. Participants at the November workshop also represented a range of organisations across the city region and are listed in Appendix 2.

The results of the survey, workshop and individual submissions have been collated, read in detail impartially without links to the respondent, analysed to understand organisations' views and analysed for emerging patterns and consensus which are summarised in this report. The questions in the report start from Question 9. The prior questions gathered personal information. The commitments for action have been collated and summarised in a separate document in order that GMCA can liaise with each organisation. The numbers provided do not add to the total number of respondents (149) because not every respondent answered each section. The summaries do not provide exact statistical information on each question because the survey, workshop and separate submissions have been combined.

Summary Findings

Overall feedback is that the Plan is partly right, but needs to be more ambitious, braver, much more specific and delivering in partnership. Many businesses, organisations and individuals know what needs to be done and are more than ready to be part of delivering a low carbon, low emissions, clean, green and economically sustainable city region. Action needs delivering at scale decisively.

Key points from the consultation responses:

- Devolution of health, housing, transport and planning represents potential to integrate spend and ensure the jigsaw fits to deliver a consistent low carbon, clean, active, lifestyle for the city which would lever finance collectively to provide value for money for health, housing etc. This opportunity is recognised by local authorities and industry.
- Overwhelming feedback that the plan should include actions from individuals and organisations as well as local authorities, there is no other way to tackle the ‘missing wedge’.
- Stable policy is ideally needed nationally as a springboard for GM plan but there is a recognised opportunity to influence national policy.
- There is tension between providing very detailed data to back up the plan and details of multiple delivery projects that make up the wedges, particularly the missing wedge and identifying a big brush pipeline of enabling or infrastructure projects that GM can control.
- The plan needs to reference existing evidence and strategies e.g. GM Housing Retrofit Strategy and Behaviour Change report that provide detailed data. There are a lot of comments that the plan is currently vague and optimistic. How do we measure progress against the targets? More metrics were requested on emissions contribution of different actions.
- Communicating sufficiently without overwhelming is a delicate balance. Infographics could be used to greater effect to show data and evidence behind the plan, including options for actions that provide different scales and amounts of emissions savings (e.g. the approach Quantum took in providing renewables equivalents in CLASP training and for Cumbria County Council in outlining measures needed to deliver per capita emissions reductions under former NI186)
- Behavioural change is important alongside the focus on emissions reduction. This is harder to measure and greater emphasis on how programmes of behaviour change alongside physical projects and investments is needed.
- Communication and engagement is a recurring theme and will need to be delivered to different audiences, with a people-centred practice and behaviour focus.
- Many expressed concerns that the changing national policy environment undermines the ability to deliver the plan, with too much reliance on national policies. This can be mitigated by over-delivery on other areas within GMCA control.

Additional Comments on Communications, Funding, Targets, Key Performance Indicators, Metrics etc.

Some separate submissions raised additional points and concerns that were not posed as questions within the consultation. These are discussed below.

Outcome 4. Embedding low emission behaviours into the culture of our organisations and lifestyles

The importance of behaviour change is raised by many respondents across all the theme areas (and detailed below) but it is also raised regarding the Plan introduction and strategy as being vital to delivering the 48% emissions reduction target and seen as needing greater visibility and more specific actions in the plan. The impact of low carbon culture is not visible within the wedges approach, even though it will be part of each element. Making a link between the physical/infrastructure/smart actions and the people/practice element of how these are then used appears to be needed. The contribution to uplift of CO2 savings of integrated behaviour change schemes might be useful, although as we know, they are hard to quantify – GM has an [evidence review](#) conducted by Quantum for ESTA that provides more information on this. Several respondents request that Carbon Literacy and behaviour change has a greater and separate section in the plan. Carbon Literacy can be delivered in a range of ways to different sectors including through specific schemes for GM's employers, health sector, communities, education and through inter-disciplinary research in GM's universities.

This could be included in the plan as a stand-alone section, or could reasonably be incorporated into the sector and skills section as a cross-cutting outcome.

Trade Union submissions highlight the reach of their membership to act as advocates on climate change and who can assist organisational change. Recognising the reach of the region's 200,000+ union members and the additional role unions can play in supporting skills within the plan would be a good engagement tool to bring harness the potential support of these influential bodies.

Funding

Overall concern is shown by respondents that some actions are not funded. This undermines confidence in the ability to hit the target and deliver the actions. Links to funding from other sectors needs to be included, such as the opportunities of regeneration to embed a low carbon low emissions and well adapted approach from the outset.

GM needs to continue to position itself to 'go first' with national roll-outs of infrastructure such as smart meters. Where pilot or partnership or EU projects are undertaken there should be clear methodology for scaling up outcomes. Respondents suggest the creation of a GMCA fund to support the roll out of successful pilot projects set at a level that is realistic to deliver the scale of change needed.

Communication

Participants at the November workshop and survey respondents raised the issue of communications and engagement, some felt the wedges approach separated out issues that are linked, others found it a useful visual tool, but many felt a specific communications plan would be needed to bring the implementation plan to life and make it relevant to a wider audience. This was raised repeatedly.

Data and Monitoring Progress: Targets & KPIs

Several individual submissions raised points about monitoring, targets and data with suggestions for more detail and explanation of data sources, KPIs and benchmarking. This has been provided separately in detail to GMCA.

Partnerships and Non-Local Authority/Public Sector Actions

A section on non-local authority actions may be useful to highlight achievements (based on the November workshop timeline) and to emphasise the message that this plan needs to encourage wider actions by all players in GM.

Question 9. Strategy: Do you think the plan is ambitious enough to meet our 2020 targets and set us on course to meet future commitments?

The Survey results were fairly evenly spread as the question was interpreted by many as one as much about the ability to deliver on the ambition as the ambition itself.

Yes	No	Don't know
30 (41%)	27 (37%)	16 (22%)

The workshop results roughly reflected the same pattern. The question drew around 44 comments, many of them substantive and detailed. Some of the separate responses also tackled this question. Issues and comments from the survey, workshop and separate responses included:

The plan is simultaneously seen as needing to be ambitious and being unrealistic or undeliverable. In general 48% is seen as being ambitious and respondents want GM to be ambitious, given the magnitude of the challenge of climate change and the need to establish a trajectory beyond 2020 to deliver significant emissions cuts by 2050.

There is a widespread call that the plan is **light on adaptation** which needs greater visibility, including on community engagement and is **light on Air Quality /Low Emissions** which could be better integrated into the plan.

A few respondents noticed that while a key objective is **culture change** there is little actual action on this (only one action). It should be integrated into each them. The linkages between themes could also be strengthened.

However, there is widespread scepticism about whether the plan can actually be delivered. Much of it is beyond the direct control of GMCA.

There is a **gap between the target and the pipeline of identified projects to deliver it**. This is a significant barrier to buy-in from a wide range of stakeholders.

Three things are causing a problem relating to the yellow wedge and the red (government wedge):

1. **More data** is sought to put evidence behind ambitions and plans (e.g. more use of data around specific numbers of houses for retrofit for example, as cited in the GM Housing Retrofit Strategy, data from the Behaviour Change report for ESTA, specific numbers of electric buses etc.) This is also picked up in the responses for each theme (below).

2. **Government policy**. Respondents from all sectors, including important industries cite government policy as a challenge or obstacle to delivery of the plan. This includes funding cuts to the public sector over time as well as changes to ECO, FITs, zero carbon homes and planning policy as well as the national policy gap beyond 2020 as identified by the Climate Change Committee. Saying something about policy dependencies will be important in the plan introduction.

3. **Funding**. Where funding is available or may be available, this has been identified in the plan, yet many respondents are concerned that much of the plan is beyond GMCA control and is not funded. It is clearly stated that the plan does not list every little project but focuses on enabling actions that can be put in place, however, more may be needed on this.

Recommendation: A way round the yellow wedge challenge would be to quantify what combination of different actions could deliver these emissions savings by way of an example. This could include a range of measures from different sectors and at least would make it seem more realistic to deliver it and could act as a call to action beyond local authorities.

Such data is required to secure the confidence of respondents in GMCA's seriousness and intent to deliver, this includes sceptical respondents who would like to see faster deeper emissions cuts (deep greening) and respondents who are approaching this as carbon or climate experts who want to see the evidence behind the plan.

Some respondents need to see numerical targets and a calculation for the contribution that individual actions will make towards them. Currently it is not clear if the priority statements are correct in the plan and whether additional actions are required. They suggest including clear targets in each section of the plan (e.g. X% of GM's energy will be from renewable sources by 2020 and preparatory work completed to enable Y% from renewables by 20XX).

This presumably would also assist in the behaviour change that many respondents would like to see being enabled and delivered by the plan, and would give industry and investors the certainty there is substance to it.

Many people think that the pipeline of projects needs to reflect a much bigger ambition on the grounds that there will be **project failure**. A much bigger set of projects need to be identified to reassure stakeholders that the 48% target can actually be achieved. This continues the tension between 'vague and optimistic' projects and the need for specific deliverable, funded projects with a carbon emissions or low emissions figure against them. It was suggested that projects be prioritised according to carbon/emissions reductions and that large-scale infrastructure projects are delivered through the plan, in order to deliver the wholesale changes for the target emissions reductions.

Another issue raising doubts is whether the methodology for the 48% target takes into account ongoing **urban economic growth** and (expressed by a smaller number of respondents) **population growth**. There is an expressed tension between emissions reductions and air quality/low emissions and airport expansion, economic development, existing infrastructure (e.g. M60 motorway, Davyhulme incinerator (one respondent)). A small number of respondents challenge the 'business as usual' message given by the climate change/low carbon community which suggests that we can continue to achieve economic development alongside a low carbon transition. A local authority supports the CO2/GVA indicator, and suggests including more specific GM data on population, number of homes, housing tenure (e.g. private rented sector) and growth forecasts.

A small but significant proportion of respondents would like the plan to include a **long-term vision** and trajectory of what GM will look like in the future. A bit more detail on this may be helpful and would avoid the 2020 policy cut off that is problematic in national government policy.

Linkages - more detail is required on the potential to integrate with wider issues such as health, transport and housing alongside climate related actions that devolution will bring. This, alongside a willingness to engage locally with delivery partners is thought to be needed to secure behaviour change and localised action. Rewards and sanctions that can be put in place by councils to foster action were also mentioned e.g. council tax reduction for users of electric vehicles.

A small proportion of stakeholders would like the plan to include and address consumption emissions and power generated outside GM. One stakeholder suggested GM Pension Funds be divested from fossil fuel or mineral based investments (Shell, BP, Glencore, Centrica etc).

Question 10. Strategy: As it stands, the plan does not include many direct actions required by individuals and organisations, other than Local Authorities. Do you think it is important that our Plan should cover these kinds of actions?

Yes	No	Don't know
60 (86%)	5 (7%)	5 (7%)

There was an overwhelming sense in the workshop, also reflected in the survey, that **the Plan should cover actions by individuals and organisations** as well as by Local Authorities. Those who thought this was not the case were concerned about data gathering, becoming too resource intensive, control over actual delivery and fear of diluting the plan. If the plan is owned by GMCA alone there is a sense that public engagement will be difficult to secure, because it will be seen as distant. There were differing views on how the public can be engaged post Local Area Agreements in Duty to Involve while another respondent suggested public representatives on the GMCA. One respondent organisation suggests a programme of local delivery through local authorities, communities and a range of partners in residential and business communities with a strong mandate from GMCA to enable development of funding bids and projects.

One respondent points out that the 'yellow' wedge is the place where there is space for inclusion of a range of actions by everyone. Another suggests the plan includes actions that local authorities can deliver/enable but that the wider set of actions be crowdsourced and input by projects/organisations with commitments of what they will deliver.

Private sector companies want to be included and want to report their contributions, demonstrate leadership and collaborate.

Community and NGO organisations want to harness their role in delivery and engagement at a local level in particular.

It is seen as critical to approach the plan in a holistic way, drawing in **other GM strategies**, shared actions, decisions made by big organisations that influence waste, travel, housing and personal decision-making, and draw together strategic and operational leadership to create the step-change of culture change that is needed to deliver the targets. The Cold Weather Plan was cited as an example of providing information on what to do.

Large organisations and businesses responding were keen to be involved to identify additional new opportunities.

Routes to involvement are needed, this may be through the Business Pledge and checklists and will include policies and enforcement, incentives (grants) and penalties. A call for local authorities to get the best from their local businesses, beyond 'well-meaning' information was put forward. Several respondents voice a need for GMCA and local authorities to provide a strong monitoring and enforcement role to limit developments if carbon reductions and air quality improvements are stalling. Many voice the desire that GMCA demonstrates a very strong low carbon vision, creating a low carbon brand for GM and therefore obliging everyone in the city region to buy into the brand, and act on delivering it. Creating a movement, working with communities and organisations using

new delivery models (doing with not to or for). The support is for big infrastructure plans and enablers to help other actors to make the right decisions around travel, energy, buildings, investment.

There are a large number of calls for **public engagement**/campaigning at a local level, with businesses and educational establishments to inform public choices around active travel, energy, food, retrofit decisions.

There is a strong voice in favour of including **support for communities**, including for community energy and for green or low carbon investment funds and finance.

There are a lot of suggestions put forward that for the **built environment all sectors** need to act regardless of property ownership & occupancy – residential homes, private rented, social housing, private owned, business and public sector. Including Private sector landlords to act on housing quality and fuel poverty, hard to treat, the role of national government; the importance of robust building energy efficiency standards and support for renewable energy. Subsidies for hard to treat homes, and the changes to ECO were also flagged up.

Question 11. Which method should we use to establish Greater Manchester’s future targets?

Greater Manchester is committed to achieving a 48% reduction in CO2 emissions between 1990 and 2020. It is indirectly committed to a share of the UK’s legally binding carbon budgets, and is a signatory to a range of international commitments, which set indirect and direct global targets for 2050 (Compact of Mayors, Carbon Disclosure Project, Under 2 MoU).We intend to establish new targets for beyond 2020 as part of this Consultation and Plan development process. Which method should we use to establish Greater Manchester’s future targets? Please rank.

Do you think that Greater Manchester’s future targets should be based on:	Total	Score
the ambition of global cities to be seen as leaders on climate change and low emissions	65	3.77
a scientific analysis of Greater Manchester’s fair share of a global carbon budget based on maintaining temperature rises within 2 degrees Celsius of the 1990 global mean	64	3.42
an evaluation of the investment and economic opportunities presented by global action on energy security, climate change and air quality improvement.	64	2.75
a bottom up analysis of the reductions that can be achieved via current and planned projects and initiatives taking place in Greater Manchester	63	2.71
a local socioeconomical proportion of the UK’s current targets	61	2.48

This question was not addressed in the workshop. In the survey results were fairly close with the ambition of global cities to be seen as leaders on climate change and low emissions as the favoured option, closely followed by the scientific analysis of the fair share and the evaluation of economic opportunities.

Question 12. If you think a different method should be used please explain:

23 comments were received in the survey for this question, along with comments from separately submitted answers by organisations. The comments for this section highlighted the linkage between the options. While the global city ambition was supported, a scientific analysis of action needed to deliver the GM share was also strongly supported, with several supporting COP21 outcomes and aiming for a below 2 degree global temperature rise, recognising the role of a global city to cut emissions. At last five respondents called for stretch targets on transport, food and buildings and zero net carbon emissions by 2030 or 2050. One respondent suggested a Zero Carbon GM Strategy based on the ATC Zero Carbon Britain Pathway.

Rigour in measurement was called for, but not at the expense of action. A ratchet system to halt emissions was sought by one respondent, while others felt action was more important than measurement. However, one respondent noted the recent vehicle emissions scandal and called for transparent carbon and emissions data to be available for planning and other decisions.

Positioning GM emissions in a European and Global context was requested as was taking responsibility for GM's historic emissions.

The comments reflect the call for clearer data on what can be expected to be delivered by the plan, and call for a mechanism to review and adjust/ratchet the plan along the pathway well beyond 2020.

Question 13. Should these targets seek to:

1. Be minimal, seeking to fulfil our basic obligations to UK and EU targets
2. Match the ambition of other areas similar to GM
3. Seek to position GM as a leading global city on climate change and low carbon
4. An alternative approach – e.g. no targets – please explain

The survey findings overwhelmingly support **GM as a leading global city on climate change and low carbon**. This was reflected in the workshop to an extent.

63 (90%) Seek to position GM as a leading global city on climate change and low carbon
5 (7%) Match the ambition of other areas similar to GM
2 (3%) alternative approach

The survey comments and workshop discussion support ambition and positioning GM as a leading city, however, this is tempered by workshop feedback that more data is needed to know what measures will deliver and what the pathway to 2050 looks like. Workshop participants and survey respondents noted that while GM should take a lead, the city region is currently lagging behind other cities, notably Bristol, and that it is easy to become distracted by looking at other cities, rather than focusing on getting action going in GM. There is a call for a longer-term vision of what the low carbon GM will look like. One respondent suggested a strong focus on revolutionizing the lives of people in Greater Manchester, which means 'clean safe energy efficiency homes, jobs, local energy security, green spaces and innovation to be proud of'. Such a vision would counteract fears that a

target would become a barrier to investment, while others suggested that the business imperative is strengthened with incentives to act e.g. council tax rebates/business rates rebates.

Comments specific to buildings and transport are taken into account within feedback on the themes.

Question 14. Buildings Do you agree with the following priority?

“To improve the energy performance of GM buildings, making our buildings more affordable and comfortable.”

The survey showed that a majority of respondents agreed with the priority. While there was less agreement documented in the workshop audience.

Yes 50 (86%)	No 5 (9%)	Don't know 3 (5%)
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Some comments and feedback related to delivery detail and these have been taken into account in the question below. Feedback on the priority related to additional aspects of building related sustainability that could be added to the priority statement or detail. There were calls from at least four people for the explicit inclusion of **commercial and industrial** and **private sector** as well as housing and public sector buildings in the statement. Words around **low carbon, resilience/adaptation, health** and **fuel poverty** were also seen to be lacking. The link in this section to jobs and the LCEGS sector was also suggested.

There was significant support for the inclusion of **strategic planning and space and place** in the building section, to put it in context. The linkages of buildings to the transport (public transport, cycling and walking) theme, to water (waste water/SUDs) and green space and resilience was noted. The urban aspect of this plan was noted, with a need to support urban concentrated development, located in heat, power, transport and green networks.

A **Greater Manchester planning standard** was suggested, exceeding current building regulations.

Comments relating to Future Priorities include:

- Strengthening the 2020 vision to include ‘radically improve’ add space and place and low carbon or even energy independent to the building theme.
- Adding more on adaptation, strategic planning around urban concentrated development and renewable energy, water and greenspace.
- Reference in this section to the Low Carbon Economic Area

Question 15. Are the commitments to meet the above priority specific, realistic and sufficient for both domestic and public buildings?

Yes: 14 (25%)	No 14 (25%)	Don't know 28 (50%)
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There are a lot of very specific comments and suggestions from the survey, workshop and separately received submissions relating to this question.

The difference between improving energy performance and reducing Carbon Footprint is not clear in the priorities or plan. **Carbon and energy are not interchangeable.** In **social and private housing** a

strong link to health and fuel poverty/affordable warmth is sought by several respondents. The potential for local authorities to help deliver value for money retrofit by combining funding pots is highlighted.

Overall the target is seen as aspirational, and lacking detail by at least 8 survey respondents and many more workshop attendees. **Actual numbers** of houses/buildings to be retrofitted, numbers of hard to treat homes, reference to total numbers of homes already treated etc are required. Reference to detailed strategies (e.g. the Retrofit Strategy, Housing Returns) may be useful here. Funding is seen as lacking against many of the building commitments. Detail and scale is sought by respondents. The impact of building fabric and energy efficiency in buildings needs to be better expressed. There is an important role for local authorities in assisting the delivery of the revised ECO with its focus on fuel poverty by identifying vulnerable households. Two respondents point to the fact there are a lot of actions, but not necessarily a named lead, except for the Low Carbon Programme Development Unit.

As with the previous question, context is important. There is a strong demand for the GM CCLEIP to inform the climate change and low emissions aspects of the GM Spatial Framework, and for a **GM Planning Standard** or SPD¹ to require energy efficiency in new buildings which exceeds current regulations and which demands PV or green roof measures, a zero carbon home standard. The need to plan housing and energy concurrently to maximise low carbon heat opportunities is highlighted. While the infrastructure for heat is not in place suggestions for heat-ready or future proof development are put forward. There is also a call for a low emissions strategy with very strong development control (along the lines for those in West Midlands and West Yorkshire). Similar to the energy link, links to the transport theme need to be delivered through spatial plans. In order to deliver the level of control, one council suggests GMCA provides Building Control **Expertise** on specific low carbon technologies (electrification, wet/dry systems). Given the NPFF² it may be challenging to develop very strong policy given the threat and cost of appeals, the workshop suggested action to identify consultation and policy hooks to strengthen planning policy. A council supports planning powers that encourage developers to build to the highest environmental standards.

Strong links to the **energy theme** are made. Forming an ESCO, defining 'smart heating' referencing smart grid/data use to balance peak loads are suggested. The risk of electrification before the decarbonisation of electricity generation is achieved is also raised.

Adaptation/resilience needs to feature more prominently with an emphasis on both cold and heat and the role of natural planting.

There is a strong demand for more defined **commercial** actions, and for **industrial** buildings to be mentioned. Despite commercial and business being mentioned, many respondents would like a greater emphasis on this. Suggestions include moving the narrative from the cost of occupancy to the cost of process, using more business-friendly words such as 'productivity', providing coordinated encouragement to the private sector and assisting in sharing good practice and providing support.

In the **public buildings** commitment more explicit priorities are requested to provide a similar level of detail as with the other priorities. Asset management plans also need to be influenced for public sector institutions, and also for other sectors. Clarify the contribution LED streetlighting will make.

¹ Supplementary Planning Documents

² National Planning Policy Framework

Social housing also needs to feature within the **retrofit framework**. The different types of tenure need to be treated in bespoke ways in the document. Working in partnership on this is important to achieve scale, a commercial response offers to assist in filling the resource gap and draw in capital and funding to deliver at scale, the company offers a flexible proposal for house building and driving surplus back into retrofit. A couple of responses warn of the 'affordable' retrofit approach, warning that the easier/cheaper carbon and energy savings may have been taken, and that the hard to treat homes are going to be much more expensive. There is an important role with different groups of householders in driving up demand and take up of retrofit measures, and several responses point to the failure of Green Deal to deliver. Local pay as you save/loan schemes that are recycled is a suggested way forward. The challenge of the **private rented sector** is highlighted in detail one company's response, outlining the ineffective regulations, and suggesting that local authorities have a role in lobbying government for better regulation, and delivering engagement with tenants and home owners in local communities to promote energy efficiency.

For the entire building theme, strong links to **local procurement, jobs and skills and business support** are sought. The link to workers, jobs and skills is highlighted by trade union responses to the consultation.

There is a **finance** theme running throughout the responses, either a call to know what funding is possible, addressing the lack of funding to deliver, developing new business models, viable equity release models, sharing open calculations on costings and correct measures for retrofit, and developing a public 'emissions reduction' projects map to encourage investors and share information. Bringing to bear the GM Pension Fund is raised again here. A private sector offer is an example of how flexibility and enabling might bring to bear innovative approaches to linking new housing, retrofit and low carbon together practically over a funded 5 – 10 year plan.

The need for engagement, carbon literacy and engagement with high-carbon households is highlighted by four people.

Question 16. What will you or your organisation commit to do to support the delivery of GM's Buildings priority? Question 17. Will you lead/support?

Responses by individuals and organisations have been collated separately and provided to GMCA.

The responses indicate a willingness by a large number and range of stakeholder types to get involved and share skills, experience and, by the private sector, to work with GMCA to develop projects that tie into the building targets.

Energy: Question 18. Do you agree with the following priority?

“To establish the necessary capacity and policy framework, and start to implement major energy generation, distribution, trading and smart systems schemes across Greater Manchester.”

The survey in particular (results below) and workshop in general found agreement with the priority.

Yes 38 (69%)	No 6 (11%)	Don't know 11 (20%)
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Wording of priority: There are concerns from over five respondents about the word ‘major’ and four wanting this to include mass **micro-generation**/distributed generation. At least five more responses want to see **community energy and local energy** in the priority. Another respondent suggests removing ‘start’ to implement and prioritise delivering. The words **low carbon, zero carbon, sustainable or renewable** need to feature in the headline priority as voiced by at least six respondents. A couple of responses ask about including energy independence to make GM resilient and to enable local balancing.

As with previous comments, **more detail and more data** is sought along with **specific targets** on heat and renewable generation. Actual % of energy generated by different sources is sought. Identifying the future demand for heat and energy (alongside the strong link to energy efficiency/building standards) is needed.

Many respondents make the link to the requirement to **reduce demand** with one company’s response making robust calls for lobbying at a national level to enable planning to require heat to be installed at the construction stage for new build (representing better Value for Money) and for zero carbon building standards. There is also a link to storage and the potential to link this to alternative-fuelled vehicles.

Several respondents stress the need for **long-term timeframes** for energy setting a level of generation for GM, while providing a smarter target on installing large scale smart infrastructure and recognising the LEP and infrastructure provider roles. While a commercial focus is acknowledged, respondents want to see the link between GM wide strategy and the LA level of delivery and engagement down to district levels and a link to decarbonising individual properties and individual engagement. One public sector organisation suggests the early coordination of exits from existing and planned local authority utility contracts to meet Energy Enterprise timelines.

The **GM Energy Company** is popular as a priority and cornerstone of delivery, and is strongly supported by a range of stakeholders, especially trade unions. Finance is mentioned including external investment and China by one respondent. The GM Pension Fund is raised, divestment of fossil fuel investments and reinvestment to zero carbon generation is put forward. Links to local businesses, jobs and innovation support are made.

Alongside GM’s Energy Infrastructure plan is a **policy response** that places responsibility on all major GM institutions and projects to be assessed as compliant with it before proceeding with developments. This links into new build and re-developments.

However, concerns are expressed by several organisations, public and private that planning policy, funding regimes and building regulations will hold back the delivery. A company also elaborates on the disincentive of the application of business rates on district heating and requests GMCA to review

this in light of the recent announcement that local authorities can set their own business rates. Four respondents highlight GM's role to lobby government and get recognition that GM can be supported to become a low energy exemplar.

GM's research expertise including the Tyndall Centre, is referred to and should be within the strategy.

Question 19. Are the commitments to meet the above priority specific, realistic and sufficient?

Yes 12 (23%)	No 26 (50%)	Don't know 14 (27%)
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Most respondents, including workshop & individual submissions do not think the commitments are sufficient to meet the priority.

Some issues raised reflect those expressed in the 'priority' question above. Many more are introduced including:

Many respondents cite the inextricable link between **buildings and energy** ranging from the need to include strong policy, **GM spatial Framework** to include electricity/heat networks in new developments and an end to gas distribution, to zero carbon buildings integrated with a new energy infrastructure, to planning SPDs to make buildings sustainable through positioning, natural light, heat networks and links to low carbon transport infrastructure through to linking the process and occupation cost of buildings, and engagement with private sector landlords to ensure appliances are low energy and that renewable generation is installed. Designating the entire area as suitable for renewable and low carbon generation (wind/solar/heat) will avoid ruling out planning applications in the coming years that might become viable. A sense that GM has a big ambition but little policy to back it and no stick to wield is made by two respondents.

Including more detail on **finance** and incentives within the commitments is sought by at least ten respondents, including incentives or zero business rates for carbon positive developments or organisations, local control of energy taxation, local subsidies for renewable generation with community benefit. The point is expressed that unless it is financially beneficial or legislated for, companies will not do it. Two commercial suggestions are made, one by a council calling for the use of gas CHP providing peak load following installations to generate income to cross subsidise renewable energy installations, the other from the private sector offering a model that drives re-investment from housing developments into energy efficiency and renewables. Both models suggest rather than sale of assets or looking to the private sector to deliver, that GM generates and reinvests income from energy and keeps energy receipts within the city region. There is strong support from a range of stakeholders for the GM Energy Company with calls for when and how it will be established and what it will deliver. More detail is sought on what the words in the finance section mean and what Local Authority innovative finance will look like.

Differentiating GM on climate policy. Two private sector companies reference the role of GMCA in lobbying and cite weakened government policy on zero carbon buildings and changes to renewables policy as a barrier to delivering the ambitions. It is suggested that GM states clearly where its plans and policy differ from central government and clearly state what the city wants, the respondent considers that this ambitious and robust positioning of climate change policy by the city will attract investors and create a solid platform for investment.

The need for a **bigger, long term pipeline** for energy projects is commented on by at least 8 respondents and was a significant point in the workshops. More heat projects '500 not 5' are needed; and three times as many energy projects are needed to allow for inevitable project failure. The impact on the pipeline and commitments of recent government policy changes on renewables are also questioned. Integration of the energy theme with the skills & sector theme is needed (noted by several respondents) to link the LCEGS³ sector to where the opportunities are and the people to where the skills and jobs are. The businesses need to be in the same room as the energy people and need to be part of the conversation. More detail, prioritisation, monitoring and reporting is called for, including by councils with annual reports from Chief Executives to keep this at the top of the policy agenda.

Several respondents seek action to build capacity and support for community energy. Another respondent raises the question as to whether local authorities (and GMCA) have the capacity to deliver on energy while a council also raises this issue and suggests engagement with the private sector to ensure delivery. A pipeline of schemes would be helpful, as most developers will have 'early' conversations with planners.

Three respondents refer to a move from **gas**. This links to a call for GM to state its policy position on fracking and coal. If gas is a transitional opportunity – perhaps through CHP, then biogas is also mentioned several times, including by a private sector company which would welcome access to local **biogas**. The need for a long-term gas exit links inextricably to heat and how we eventually replace gas heating.

Comments on a range of technologies are raised:

Storage – this is expected to develop rapidly, and ahead of what DECC or Ofgem are ready for. Battery, hydrogen and heat sinks, alongside EV power storage is expected to be a game changer. GM needs to be ready for this.

Grid – demand response including industrial and business engagement on this; smart metering, and a systems approach to demand management from ASP and IT providers.

Heat – much more demanded, and a strong 20 year pipeline needed.

Waste resource - keep and burn RDF

Woodfuel/biomass – make strong links between council departments with tree waste, woodland management and install biomass boilers in public buildings to use locally produced woodchip.

Pumped storage – look at local opportunities for pumped storage and for watercourses for hydro

Cooling – where does cooling fit into energy demand?

Question 20. What will you or your organisation commit to do to support the delivery of GM's targets for Energy? Question 21 Lead/support

A range of actions and commitments were provided by individuals and organisations across a range of sectors. These are provided separately to GMCA.

³ Low Carbon Environmental Goods & Services Sector

Question 22. Natural Capital. Do you agree with the following priority?

“Our natural environment, and the ecosystem services it provides, still needs to be both protected and enhanced in light of increasing pressures from people, the economy and a changing climate. Our natural capital must also contribute to the sustainable economic growth investments we plan to make, enhancing their success and resilience.”

Yes 45 (86%)	No 5 (10%)	Don't know 2 (4%)
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While most respondents seemed to be supportive of the priority, a significant number who commented 7/15 were unhappy with *economic growth* appearing in the main vision, giving the impression that the natural environment is not as important as economic growth and can be sacrificed to achieve it. They sought a stronger link between natural assets and green space and its basis for supporting economic growth through its contribution to health and happiness, cultural and social importance, resilience and adaptation. Natural capital should not be simply converted to an economic value. Respondents want to see a priority that allows economic growth delivered within the context strong protection of the natural environment, greenfield protection, protection of irreplaceable habitats and ancient woodlands. Suggestions for re-wording included adding ‘continue’ to contribute to the sustainable economic growth... and ‘our investment must take Natural Capital into account enhancing success and resilience’ or replacing ‘contribute’ with ‘underpins’.

One council thinks the Natural Capital plan could be bolder with more Local Authority level commitments and successes included (e.g. MACF Green Infrastructure Group etc).

Three comments prioritised ‘no net loss in habitat quality’ and a charity wants to add ‘no loss of irreplaceable habitats and ancient woodlands’. A council suggests including ‘the creation of new habitats and assets including in the built environment with green roofs and living walls’.

A council and other respondents suggest widening the actions beyond wetlands to include more diversity of green space, and the role of mosses and peatland as carbon sinks and in flood prevention. Another council wants to ensure that the evidence base for ecosystem services in contributing to a sustainable and resilient economy for GM is supported and robust.

Many respondents would like the link to adaptation and resilience through the role of green and blue infrastructure in preventing the heat island effect, and in reducing flood risk. A council strongly favours making the health link much stronger. They also suggest a priority to protect and develop parks and green spaces as community hubs and centres for health and wellbeing. Many others emphasise the quality of life, recreation, walking and physical activity benefits of green space and access to nature, citing improved physical and mental health benefits and associated cost-savings for the NHS. Two councils suggest a strong link to the Transport theme, because protected off-road spaces strongly encourage cycling and walking.

More linkage on the role of natural capital relating to climate change is requested and data is sought e.g. carbon savings of tree planting, peatland carbon sinks and of ecosystem services adaptation roles are needed and the role of natural features in reducing methane emissions is raised. A council suggests Action 4 should make reference to the benefits natural capital can deliver in air quality improvements. It also suggests a further reference to GM’s river network in providing a cooling function.

A significant number of people and organisations raise the role of planning powers relating both to the protection of habitats and green space from housebuilding and economic development sites, and to planning policy to improve and introduce greening into the built environment. A council and charity reference a need to include Green Infrastructure in the GM Strategic Framework and create a policy that assists investor certainty and the growth of skills and jobs in the sector. Trade unions and others want to see a link in this section with jobs and skills.

Sustainable food is not including in the Sustainable Consumption & Production theme, and it is suggested that urban community growing spaces be included in the Natural Capital section. Two respondents express concern that there is a lack of resources to deliver actions on Natural Capital. A council suggests working in partnership with the third and private sectors to structure resources to deliver Green Infrastructure.

Question 23. Are the commitments to meet the above priority specific, realistic and sufficient?

Yes	14 (28%)	No	14 (28%)	Don't know	22 (44%)
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There is a call for stronger quantifying the CO2 contribution of trees/soil/land use to carbon sequestration (we know this is an evolving methodology). And a more spatially oriented, evidence based approach to the actions is sought. Recognition of supportive schemes, such as Manchester Airport's treeplanting schemes (in Cheshire) and of the use of trees in energy production and protection of them (through circular economy) is mentioned. Timing is important, as the impact of newly planted trees will be seen in the next 20 years.

Emphasising the clean air role of trees, especially street trees, is strongly supported by one charity, while a call to define 'sustainable economic growth' currently undefined in the NPFF is sought by another. Others call for a strong evidence base to be used in spatial planning policy, and support of careful development that protects and improves the city-region's assets aiding WFD such as River Roch deculverting and new urban wetlands in Salford.

Some expert stakeholders want to see the importance of Green Infrastructure/Natural Capital raised to an equal level of consideration as health, transport and energy in investment and project planning. A key delivery partner would like to see wider stakeholder engagement before, during and after the LIFE IP project to engage wider numbers of people. This is echoed in the view that the natural environment is a source of engagement more widely with people through recreation, growing, using and benefitting from natural capital. Many stakeholders want greater inclusion of adaptation and resilience to be referenced in the commitments in the Natural Capital section, with detail on flood alleviation/reduction, the role of water management through SUDS, allotments, an emphasis on urban wetlands, and recognition of the role of urban trees in reducing heat and cooling demand. As with the two themes above, planning links to buildings and energy need to be clearly stated.

Question 24. What will you or your organisation commit to do to support the delivery of GM's targets for Natural Capital? Question 25: Will you lead/support?

28 people/organisations offered to support and six offered to lead on the priority. The actions are have been provided separately to GMCA.

Question 26. Transport. Do you agree with the following priority?

“To develop, gain funding for and deliver transport interventions which enable GM to reduce its emissions, adapt to climate change, improve air quality, raise awareness of the carbon and health impacts of transport choices and encourage behaviour change.”

Yes	41 (79%)	No	5 (10%)	Don't know	6 (12%)
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There is widespread support for the priority. 21 comments were received in the survey for this question and for 27 (below) and workshop and individual submissions were extensive on the transport theme from the full range of stakeholder sectors.

Themes emerging on the Transport Priority related to the desire for **greater ambition** and inclusion of **actions beyond TfGM** to include air travel, waterways, railways (and the hinterlands/rural areas), Northern Powerhouse, and strong expression of support for modal shift from car use to walking, cycling and public transport linkages. The role of the Highways Agency managed M60 and smart motorway system impacts needs to be included. One suggestion was for a vision around ‘improved spatial and technology infrastructure encouraging active and non-fossil fuelled modes and reducing congestion.’ Another suggested that TfGM should only invest in zero or low-carbon projects.

There is very strong support that the priority and commitments separate out **Low Emissions** from carbon emission reductions, and provide a clear pathway to achieving clean air. Policy certainty is called for including deleting the word ‘considered’. Policy certainty enables investment and several people call for the adoption of Low Emissions Zones followed by Zero Emission or Ultra-Low Emissions Zones. Trafford raised the issue of displacement impacts on neighbouring boroughs of HGV reductions in the city centre and Oxford Road corridor, and sought greater links with the Air Quality Action Plan.

A strong role for the **private sector/third sector** working along with public sector bodies is identified as necessary for delivery. This includes collaboration between major employers and local authorities to ensure that the planning of public services takes into account travel times for workers and service users in planning provision; takes into account development focused on locations with good public transport links (ensuring ‘smart’ growth) to avoid car use; employers liaison to ensure practical scheduling/timetabling of interconnected public transport so that it can be used by workers; that car clubs are expanded since they take cars off the road.

Travel behaviour/practice is strongly flagged up and stronger ambition sought to deliver behaviour change to make ‘all modes’ of sustainable transport more attractive (and affordable) than the car. This is raised by local authorities as well as third sector and individuals. Making use of university research capabilities in this is likely to be useful. It is noted by many that changing behaviour is far cheaper than spending a lot of money on electric vehicles and charging points. There is also a strong link to health benefits of walking and public transport combined. A delivery partner suggest that the full cost (and benefit) to society of different projects is assessed. A council suggested that further Metrolink expansion projects be included under planned infrastructure improvements including the new line to the Trafford Centre.

The private sector role in tackling **last mile logistics** (collection & delivery) is important, with a call for an industry-led GM Freight Partnership. It is noted that freight figures are not presented. Precise actions on tackling the air quality and congestion issues associated with freight are called for by one expert (zero carbon last mile deliveries by cycle for example). A public sector organisation suggests the inclusion of more on transportation of freight by rail.

Funding and affordability are big issues that are raised by respondents. Several suggest that congestion charging should be reviewed/introduced, two others cite Workplace Parking Levy (e.g. Nottingham) and road pricing as ways to bring in revenue for investment in other parts of the transport system. A union opposes congestion charging as it can be seen as a ‘stealth tax’ and can be negative for engagement by the population, however it also recognises that funding for subsidies for public transport are necessary. Several people raise the issue of fairness and affordability, an example of buses being provided to affluent rather than disadvantaged areas, while bus fares can be expensive, making car use attractive. Another respondent warns against shifting people from bus transport, where they can walk to a bus stop, to trams which are more centralised and force people to drive to them.

A respondent raises the lower than national average figure of **home-based** workers, while others refer to the need for smart and digital communications to support home based working to take down the commuter car numbers.

Lastly the link to **Green Infrastructure** and resilience is raised, with the danger of removing street trees for bike routes, greenery encouraging active travel choices, and links for leisure and recreation out of the city through the TransPennine Trail. The outlying or rural areas are also raised, as needing improved rail links, and integrated bus transport.

Question 27. Are the commitments to meet the above priority specific, realistic and sufficient?

Yes	13 (28%)	No	16 (34%)	Don't know	18 (38%)
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As with other themes, greater detail and data is sought. Clear targets around the number of cars in GM, % of electric vehicles by 2020, share of travel to work by public transport by 2020 would be helpful to set the context.

As well as delivery projects, there is a demand for how car use will be cut, through congestion charging, car free zones etc.

More specific mention of **modes** – personal travel, freight and aviation need to be separated out. The link between delivering behaviour change which can only be delivered alongside infrastructure change is made with reference to research on this. Simultaneous incentivising of low carbon travel and disincentivising car use needs to take place. Encouraging the growth of **car clubs** and car share only lanes is put forward.

Around five people suggest that **cycling** appear as a separate section in the commitments, with improved commuter cycling (not just leisure), car free zones, secure bike parking, driver training and enforcement to create a safer, more conducive cycling environment.

There is emphasis on the traffic around **key employment sites**, such as the NHS, and Manchester Airport traffic. A respondent also raises the question of how aviation emissions are captured and whose carbon budget they belong to.

Reference to the **GM Freight Strategy** should be made, along with calls for the establishment of a Freight [Quality] Partnership. Four people mention getting freight off the roads onto rail and ship/waterways.

Connection to other regions, with affordable public transport at the right time to remote areas through franchising, improvements to trains in/out of GM, providing cross regional travel cards and

information, tackling car parking and transport to commuter stations, linking to Northern Powerhouse and understanding the data and impact of potential increased travel are strongly mentioned, GM needs to provide a bigger picture of how its connectivity with the North West and beyond will be delivered with lower emissions and clean air.

Detail is put forward in one response on the potential of hydrogen powered vehicles, refuelling and pilot schemes in Sheffield. Two people make the link with EVs and electricity storage.

Question 28. What will you or your organisation commit to do to support the delivery of GM’s targets for Transport? Question 29. Lead/Support

29 people/organisations committed to support the priority while 8 offered to lead on their actions. These included a range of actions from stakeholders and have been provided separately to GMCA.

Question 30. Sustainable Consumption & Production. Do you agree with the following priority?

“By 2020 the qualitative and quantitative contribution sustainable production makes towards GM’s low carbon ambitions will be clearly understood, widely communicated and commensurate with the scale of the challenge and opportunity.”

Yes	29 (63%)	No	7 (15%)	Don’t know	10 (22%)
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Although more than half of the respondents to the survey agree with the priority, there are lots of comments that are important in that they relate to the most up-to-date thinking and terminology on this area. It is a new area to an extent, and compared to buildings, energy or transport it is more complex and drew a smaller number of comments.

Workshop participants and two survey respondents found that the priority is not aspirational, needs be a call to action not just increased understanding. It should refer to both consumption and production equally. The terminology of the **circular economy** needs to be included, it reflects EU policy and programmes and the industry-led movement [Ellen MacArthur Foundation](#). A charity suggests that Sustainable Consumption & Production is not simply about reducing waste, but about increasing reuse and recycling in line with the Waste Management Plan for England and the National Waste Planning Policy.

A wider link to resources and water use, not just the carbon impact of consumption and production needs to be picked up – which is exactly what the circular economy concept does. And a strong link to innovation, research and the LCEGS sector is required. This needs to sit alongside behaviour or culture change which enables a more community focused approach, leading to the shared economy concept. Several people raise the issue of the conflict of the concept of sustainable consumption and production with economic growth, off-shoring of our emissions and embedded carbon in products produced abroad, and of our food.

A key public sector organisation suggests that lower carbon energy production will inevitably reduce the carbon footprint of production processes, while a private sector company refers to the ESOS⁴

⁴ Energy Savings Opportunity Scheme

scheme and a project developed with the Carbon Trust to enable businesses to act on the energy efficiency measures identified.

There is little information in the priority about the how GM will have reduced impacts of consumption and production by 2020. While public procurement is mentioned, little specific action is identified. It is suggested that the investments of the GM Pension Fund should be assessed for their climate impacts, along the lines of divestment from fossil fuel and mineral based investments outlined above.

Question 31. Are the commitments to meet the above priority specific, realistic and sufficient?

Yes	11 (26%)	No 9 (21%)	Don't know 22 (52%)
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The workshop conclusion was that the targets were not enough to deliver the priority. Some survey and individual respondents thought the commitments were sufficient, while the majority did not know.

It was acknowledged that this is a broad agenda, requiring long term action, innovation and behaviour or cultural change. Many felt that the SCP benefits go beyond carbon emissions reductions, and are more than increasing recycling. A new kind of accounting or analysis is needed, understanding energy, materials, water and emissions, along with lifecycle analysis. The circular economy designs out waste, and often changes entire business models and involves disruptive innovation. A shared economy, remanufacturing, leasing, loaning and repair are concepts within it. Better understanding of how to influence sustainable consumption at GM level, identifying the option makers who can influence change, a focus on the benefits of a low carbon society rather than negatives is called for by a council response.

Respondents recognised that there is a strong role here for the growing LCEGS sector, skills and links to universities for research and development. Businesses and universities have a role in delivering solutions. They already deliver activities related to CSR, supply chain engagement and supporting cross-sectoral innovation and tailored business support. Celebrating success and sharing achievements can be combined with the role of the third sector and the Co-operative sector. The Sustainable Consumption Institute at the University of Manchester is a useful resource that researches this complex area. A rewards scheme linked to low carbon purchasing is suggested.

Respondents suggest that public procurement needs to be defined as local authorities, health and education sectors and that enforcement is also a role that is required, such as disposal of waste in construction projects. Across all sectors, buyers, specifiers and designers need to be included in designing and producing innovative repairable, recyclable products, using technology as a means to deliver. Concern was expressed that increasing local production could increase CO2 emissions. However, off-shoring our emissions has been referred to in other sections. Increasing on-shoring can enable shorter supply chains, over which we have greater control and transparency, they can produce better made, better designed products and provide local jobs. This can assist in the new thinking, and new attitudes that may reduce consumption. Three respondents point to the need to make links to individual behaviour and choices. Food, farming, clothing sectors need to be closely included in the strategy. We need to look at purchasing rather than disposal.

Concern is expressed that a lack of funding is in place to foster business support. One council suggests that consideration be given as to whether support for resource efficiency should be

targeted at the highest energy using companies. It is interesting that no respondents refer to resilience in supply chains, which is a risk from climate impacts for many supply chains, alongside the future resource scarcities and geopolitical issues.

Question 32. Are the behaviour change actions enough for people and businesses to engage and achieve the described targets?

Yes 5 (12%)	No 11 (27%)	Don't know 25 (65%)
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The workshop and many comments in the survey concluded that the behaviour change actions are not enough to achieve the targets (which are not clearly stated in the first place). Behaviour change must sit alongside tangible changes in design, taking out waste throughout the product lifecycle, with improved waste/recycling at the other end (until we close the loop). One respondent suggests that to get people to engage it is important to start from their lives (an approach used in public health) and then make the 'right' choices easier to make, through structural changes. Carbon Literacy is in the plan, however two respondents ask how this will be rolled out. Funding for behaviour engagement is not secured. A massive campaign that 'uses every tool in the box' is thought to be required to secure the kind of cultural and behavioural shift that is needed.

Question 33. What will you or your organisation commit to do to support the delivery of GM's targets for Sustainable Consumption and Production? Question 34. Lead/Support?

22 survey respondents offered to support this action and three to lead on the action. The responses by individuals and organisations have been provided separately to GMCA.

Question 35. Sector and Skills Do you agree with the following priority?

"Make a rapid transition to a low carbon economy by enabling businesses to optimise their potential, raising the profile of the sector, increasing understanding of the economic contribution of the sector and coordinating support in GM to develop the sector."

Yes 40 (87%)	No 3 (6.5%)	Don't know 3 (6.5%)
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Respondents and workshop participants largely agree with the priority and would like to see **skills** referenced in the priority headline. Another contributor would like the actions to be more ambitious and outward looking. Increasing the 'understanding' of the contribution could be made more active by using the wording 'improving the economic **contribution** of the sector'. This implies immediate action, rather than further research. Three comments want to see it made clear that growing the sector is not about just the LCEGS sector as narrowly defined, but is about a transition and evolution of **all sectors** to a low carbon, sustainable economy. It is suggested that the rest be named as the high carbon economy.

There is widespread agreement in all feedback that developing people's **skills, job roles** and ability to continue learning is vital for GM to take advantage of the opportunities. One person states that we lost out on wind, are likely to lose out on solar, so need to focus on graphene, hydrogen and low carbon building opportunities to deliver locally and to export. Many people want to see adaptation

skills and integration of mitigation and adaptation skills into existing curricula and courses. Schools and the education sector needs to be referenced in the priorities section according to some.

The trades unions strongly support the **worker role** in delivering low carbon economic development, and are keen to be included as stakeholders in actions on this. They have a big role in supporting their union members who act as green or environmental champions within their workplaces across GM. One suggests GM joins the [One Million Climate Jobs Programme](#) while another suggests a public sector led integrated 'climate jobs service'. Fears are voiced about the vulnerability of some climate related jobs to policy change by the national government, as has been the case recently in renewables, and over the last two years in insulation and retrofit.

As with other priorities, stronger targets are sought, for example, aiming to grow GM's LCEGS sector to become the third in the UK, after London and the South East. Emphasis on local purchasing is put forward by two respondents.

Question 36. Are the commitments to meet the above priority specific, realistic and sufficient?

Yes 14 (37%)	No 4 (11%)	Don't know 20 (53%)
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Over a third of respondents think commitments are specific, realistic and sufficient, but over half don't know. The comments cover a range of issues such as ensuring the universities work together, that there is engagement with professional organisations (e.g. IEMA, CIWM, IOE) on developing supply and demand of skills. Carbon Literacy for all needs to be included (along with key suggestions for Carbon Literacy for key sectors).

Raising awareness in SMEs (including those which don't know or think they are part of the LCEGS sector) and providing routes to skills, particularly multiple skills was noted. Bringing together purchasers in private and public sector with suppliers was suggested and promoting GM's LCEGS sector more widely across the EU through partners was also put forward. Working with identified sub-sectors, and developing a 2050 vision, and some common standards e.g. carbon footprinting and measuring the economic and carbon impacts of support and interventions was suggested. The lack of information available on the sector at a GM, NW, National and international level, with a lack of export data was cited as a challenging in furthering the understanding of the sector.

A council raises need to link Sector & Skills to availability of sites and premises to attract additional inward investment of high value low carbon sector.

Oddly for this subject, there was not a lot of overlapping feedback on the consultation.

Question 37. What will you or your organisation commit to do to support the delivery of GM's targets for Low Carbon Sector Development? Question 38. Lead/Support?

23 survey respondents offered to support on actions, while three said they would lead on their actions. Actions have been provided separately to GMCA.

Question 39. Climate Resilience Do you agree with the following priority?

“We already have a good understanding of our climate risks, and how to plan and respond to the extreme events associated with them. We now need to ensure we deliver a resilient and ‘well adapting’ GM by rapidly moving from understanding and planning to taking direct action to reduce and manage these risks by increasing the physical resilience and adaptive capacity of GM’s people, places and businesses to climate change.”

Yes 38 (76%)	No 6 (12%)	Don’t know 6 (12%)
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Comments raised in the workshop and survey strongly focused on the lack of reference to Green Infrastructure and Natural Capital as being vital to adaptive capacity. Natural Capital is a key part of planning resilient developments and the timeline on planting now for later benefits was raised.

The resilience of GM’s public transport infrastructure needs to be included.

Two comments refer to the wider impacts beyond the themes in this plan, including health. Summaries of climate risks for each theme which could be included.

The likely impacts need to be communicated and understood, with skills being developed on adaptation through Carbon Literacy and other schemes. Respondents want to see the plan articulate both risks and benefits to make a strong business case for action.

Wording on delivery was suggested for the priority – **we will deliver** (not ‘we now need to...’).

At least three people pointed out the contradictions in expanding the airport and preparing for inevitable climate change impacts. This highlights the tension between GM’s growth ambitions and climate change.

The workshop and several survey respondents highlight the terminology ‘Climate Resilience’ as being difficult to understand, questioning the scope, the vision and what it means to different people. Climate Resilience may imply responding to emergencies rather than longer term adaptation to climate change.

Question 40. Are the commitments to meet the above priority specific, realistic and sufficient?

Yes 14 (29%)	No 12 (25%)	Don’t know 22 (46%)
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Some respondents found the actions were not specific or targeted enough, and included words around ‘explore’, ‘assess’, ‘encourage’, or ‘consider’ rather than including robust actions.

Several responses raised the difference between adaptation, responding to impacts and resilience. Building the knowledge and capabilities of people and businesses to understand the likely impacts and how to be prepared are important. A private sector company felt the plan is weighted towards responding rather than enabling adaptation. A council stated that the understanding of climate risks is not sufficiently communicated to the wider community in GM. Education and engagement is needed to achieve this.

Three respondents think that adaptation should be integrated into each theme, specific to that theme, while having a stand-alone section as well.

The missing role and actions of GM's 'life support system', **Green Infrastructure/Natural Capital** was noted by at least three respondents. The role of trees in ecological resilience and combatting climate effects such as flooding and overheating was noted by a charity which provided evidence reports.

A lack of resources, or assumption that resources will be made available for actual delivery is noted.

There was consensus around the fact that **interdependencies** between infrastructures and the risk of cascade failure be highlighted, this needs to be understood in light of our dependence on the internet and telecoms, and an understanding of unintended consequences. Long term impacts need considering (e.g. hotter, more open windows, more noise from transport), design and maintenance specifications for bridges and critical infrastructure in light of heat, scour etc. Retrofit must be future proof, taking heat into account. The example of Highways is provided, planning for resilience in the network, focusing on vulnerable groups and key services in order to prioritise and decide where not to act.

Alignment of this theme with wider GM strategies is raised by respondents. **The Flood and Water Management Board and Regional Flood and Coastal Committee roles** need to be referenced, these organisations are keen to engage with LEPs. There is no reference to the **GM Surface Water Management Plan**, which should be included and linked to local authority plans.

Actions need to refer to alignment with GM Resilience Forum's recently commissioned **Resilience Strategy** which includes community resilience and takes into account health and social care reforms and the need to reduce dependence on the public sector, promote business continuity and assess how risks relate to the National Risk Register. GM Risk Register highlights risks from severe weather, and puts a framework in place, however this is only a starting point, according to one council, which asks whether the capabilities and resources are available to tackle this.

GM can bring climate change adaptation together with other disaster risk reduction and emergency planning with an emphasis on physical improvements being put in place through the RESIN project. It is suggested that GM can benchmark its resilience against other cities, and use its advantages to draw in investors.

The **planning system** needs to be used more effectively to lock out bad decisions now, as the built environment is slow to adapt. This also needs to account for the impacts of climate change on GI and look to build the role of GI to reduce impacts.

Question 41. What will you or your organisation commit to do to support the delivery of GM's targets for Climate Resilience?

Question 42. Will you lead/support?

24 respondents offered support while six offered to lead. Actions have been provided to GMCA separately.

Question 43. Do you think that Climate Resilience would be better treated as a stand-alone section or integrated into each of the thematic sections in this plan?

Stand alone	12 (28%)	Integrated	24 (56%)	Don't know	7 (16%)
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Most survey respondents supported the integration of climate resilience while over a quarter and many individual responses thought it needed a stand-alone section to ensure it has sufficient visibility and consideration in the overall strategy. Both approaches are needed, to ensure that adaptation/resilience does not fall out of mind, or become merely an emergency response. To ensure early and good value adaptation, it needs to be considered alongside mitigation of emissions within each them. As with carbon reduction, linkage between the themes is vital.

Question 44. I am aware of the Green Growth Pledge

Answer Choices	Responses
have already pledged	16% (7)
intend to pledge before Dec 15	25% (11)
may pledge in future	47% 9 (21)
do not intend to pledge	11% (5)

Question 45. Are you already a signatory to other external commitments on climate change?

Yes	19 (41%)	No	19 (41%)	Don't know	8 (17%)
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Of those who are signatories to other climate change commitments, only some intended to sign the pledge or had done so.

39 people signed up to the mailing list.

Appendix 1. Separate Submissions Received from:

1. Bury Council
2. Cooler Projects
3. Cycle Waggle
4. Department for Energy and Climate Change (DECC)
5. EON
6. GM Green Parties Forum
7. GM Waste
8. Just Housing
9. Manchester A Certain Future (MACF)
10. Manchester City council
11. PCS Union
12. Salford Council
13. Steady State Manchester
14. Stockport MBC
15. Trafford Council
16. Unison
17. Jeremy Carter
18. MCC councillors

Appendix 2. Organisations Represented at November Workshop

1. AGMA
2. Anthesis (UK) Ltd
3. Arup
4. Bolton Council
5. Bury Council
6. Central Manchester University Hospitals NHS Foundation Trust
7. Civil Contingencies and Resilience Unit
8. Climate UK
9. Cooler Projects
10. Corridor Manchester
11. EA/AGMA
12. EDF Energy
13. Energy Systems Catapult
14. Environment Agency
15. ENWORKS
16. Forestry Commission
17. Friends of the Earth
18. GI Energy
19. GM Chamber
20. GM Fire
21. GMCA
22. GMCVO
23. Gyron
24. Jacobs
25. Just Green Capital
26. KAM Futures
27. LGA
28. Manchester Airport
29. Manchester City Council
30. MEEN
31. MGC
32. MMU
33. Northwards Housing
34. Peel Energy
35. Procure Plus
36. Quantum
37. RED
38. Red Rose Forest
39. Renewable Planet
40. Riverside Energy Solutions
41. Rochdale Council
42. Salford City Council
43. Sheppard Robson Architects LLP
44. Skanska
45. Stockport Council
46. Tameside Council
47. Transport for Greater Manchester TfGM
48. Trafford Council
49. Transition Towns Bolton
50. Tyndall
51. United Utilities PLC
52. University of Manchester
53. University of Salford
54. Viridor
55. Visit Manchester
56. Willmott Dixon

