Greater Manchester Low Carbon Hub Board

Date: Friday 20 January 2017
Time: 10.00 am - 12 noon
Venue: Scrutiny Room, Level 2, Manchester Town Hall Extension M60 2LA

Agenda

1. Introduction and Apologies (5 mins) Chair
2. To receive Declarations of Interest

For Approval
3. Minutes of the meeting held on 7 October 2016 and actions arising. (5 mins) Chair
4. Performance Report (Q3) and Annual Report (15 mins) SR
5. Revised Natural Capital Group ToR (10 mins) AS
6. Jam and Justice Communications Proposal (5 mins) MA

For Discussion
7. Greater Manchester Strategy Presentation (20 mins) AG
8. ARUP/Infrastructure Group Presentation (25 mins) RM
9. Low Carbon Business Support (25 mins) TH

For Information (15 mins)
10. GM Energy Company JP
11. Natural Course Work Programme MA
12. Smart Systems and Heat Update MA

Dates and Times of Future Meetings - All meetings of the Low Carbon Hub Board will be held at 10.00 am, Scrutiny Room, Level 2, Manchester Town Hall Extension on: 7 April 2017, 7 July 2017, 13 October 2017, 19 January 2018
# Greater Manchester Low Carbon Hub Board

## Declaration Of Councillors’ Interests in Items Appearing on the Agenda

**NAME OF COUNCILLOR** ______________________________

<table>
<thead>
<tr>
<th>Minute Item No. / Agenda Item No.</th>
<th>Nature of Interest</th>
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DECISIONS OF A MEETING OF THE GREATER MANCHESTER (GM) LOW CARBON HUB BOARD HELD ON FRIDAY 7 OCTOBER 2016 AT 10.00 AM MANCHESTER TOWN HALL

PRESENT:

City Mayor Paul Dennett  Greater Manchester Combined Authority (GMCA) Portfolio Lead for Low Carbon, Waste and Environment (Chair)
Councillor Cherryl Brock  Greater Manchester Waste Disposal Authority (GMWDA) Representative (Oldham Council)
Councillor Assam Rashid  Deputy Portfolio Lead (Rochdale Council)
Louise Blythe   British Broadcasting Corporation (BBC)
Steve Johnson   M&G Group
Nigel Mellors   University of Salford
Roger Milburn   Arup
Steve Rumbelow   GMCA Lead Chief Executive (CEX) Environment (Rochdale Council)
Anne Selby   Lancashire & Greater Manchester Wildlife Trust
Gordon Whittaker   Environment Agency (EA)
Ian McAulay   Scottish Climate Change Committee

Also In Attendance

Mark Atherton   Greater Manchester Director of Environment
Amy Beasley   Low Carbon Delivery Unit
Adam Booth   EA
Susan Ford   Greater Manchester Integrated Support Team (GMIST)
Andrew Haslett   Energy Technology Institute
Richard Halsey   Energy Systems Catapult
Jenny Hollamby   GMIST
Phil Korbel   Carbon Literacy Project
Anne Morgan   Association of Greater Manchester Authorities (AGMA)
Helen Smith   Transport for Greater Manchester (TfGM)

LCH16/17 INTRODUCTION

The Chair opened the meeting and introductions took place. Councillor Aasim Rashid (Rochdale) and Councillor Lynn Travis (Tameside – not present) were welcomed. It was explained that they had been appointed to the Board as Deputy Portfolio Leads and would assist the Chair in his role as the Portfolio Lead for Low Carbon, Waste and Environment.

It was reported that the Paul Maher, Divisional Managing Director had retired from his role at Siemens and would be replaced on the Board by Siemen’s Finance Director, Robin
Philips. The Board thanked Paul for his long service to the Board, particularly for his energetic Chairing on the Sector Growth Task Group.

APOLOGIES

Apologies for absence were received from Patrick Allcorn (Department for Business Energy Industrial Strategy (DBEIS), John Bland (GMWDA), Robin Lawler (Northwards Housing), Julian Packer (GMCA Core Investment Team) and Councillor Lynn Travis (Deputy Portfolio Lead (Tameside Council)).

LCH16/18 MINUTES AND MATTERS ARISING

The Minutes of the previous meeting of the Low Carbon Hub Board, held on 15 July 2016, were considered.

In terms of minute LC16/12, it was reported that the GMCA’s Green deal Communities Programme had won the National Energy Efficiency and Retrofit award in the large project category, in September 2016. A video about the project would be made available at the end of the meeting and a link to the video would be e-mailed to the Board.

Resolved/-

1) The Board approved the Minutes of the Low Carbon Hub Board, held on 15 July 2016, as a correct record.

2) A link to the video detailing the award would be circulated to the Board following the meeting.

LCH16/19 PERFORMANCE REPORT (Q2)

Consideration was given to the report of the Lead CEX Environment that provided an update on progress of the Low Carbon Hub in the last quarter, the priorities for the forthcoming quarter and identified risks and emerging issues. The report also requested the Board to comment upon progress and agree the next steps.

It was explained that the report provided a progress update on delivery of the recently approved Climate Change and Low Emissions Implementation Plan (2016-20). It was noted that for each of the actions contained within the Plan, an annual Action had been added and progress against those actions within the last quarter had been reported with an associated Red, Amber, Green (RAG) status.

It was reported that progress remained good for the last quarter. Only one item remained highlighted as Red and this reflected the lack of any resource to engage with the private sector on commercial building retrofit. It was explained that the Building Sub Group had considered options to support delivery of this action, including the potential to sponsor an award e.g. for best retrofit low carbon commercial building.
Key points, questions and comments raised during discussion included:

The identified risk to the proposed Carbon Reduction service had been mitigated through the Chancellors’ recent announcement that all ERDF projects contracted before the UK left the EU would be honoured.

a) Roger Milburn offered support on engaging the sector on commercial building retrofit. The Lead CEX Environment accepted the offer.

b) In terms of the suggested award for best retrofit low carbon commercial building, Board Members were supportive of the proposal subject to appropriate resources being available. Ideally, the award should be sponsored by a creditable company in the field.

c) It was noted that the Greater Manchester (GM) guided busway had carried 500k passengers after four months of operation, which was 12 months in advance of the expected target date. The TfGMC representative advised that a report was being produced, detailing the number of reduced car journeys into Manchester as a result of the busway, lowering the carbon footprint. The Chair explained that public perception had been that the proposal would not work, however it had been a huge success and more buses were scheduled for January 2017.

d) In terms of the low carbon skills agenda, it was reported that there had been little progress and work would be undertaken in the next quarter with skills colleagues to address this. The Chair enquired who would take this forward and it was reported that New Economy should produce a report and the Chief Executive would drive this forward.

e) In addition, there would soon be a refresh of the Greater Manchester Strategy and there would be an opportunity to make sure the low carbon agenda was embedded into that.

f) The Chair reported that GM had submitted an Autumn statement influencing paper. It was explained that the Board had contributed to try and shape Government policy around low carbon and environment.

g) Louise Blythe invited the Board to attend the Carbon Literacy Employers Breakfast Briefing on 25 October 2016, which the Chair would open. Furthermore, there would be an awards event for carbon literate organisations, which would be held at the Coronation Street studio in November 2016. The representative asked and the Board agreed, to support the event at a cost of £2k for logistics.

Resolved/-

1) That the Board noted the updates from across the Low Carbon Hub’s accountable bodies, attached at Annex 1 of the report.
2) The Lead CEX Environment would take up Arup’s offer for support on the commercial building retrofit.

3) The Board endorsed the proposal for a best low carbon retrofit commercial building award, given the appropriate resources were available.

4) The Lead CEX Environment would work with New Economy to assess how the skills agenda can be driven forward.

5) The invite to the Carbon Literacy Employers Breakfast Briefing on 25 October 2016 would be circulated to the Board. The Board agreed to support the event by way of a £2k grant for logistics.

LCH16/20 PROPOSAL FOR GM TO BE DESIGNATED A DEPARTMENT FOR ENVIRONMENT, FOOD & RURAL AFFAIRS (DEFRA) PIONEER CITY REGION

The Board considered the report of the GM Director of Environment. It was explained that Defra would publish a 25 Year Plan in 2017 and a preceding National Framework Document in November 2016. It was reported that within the Framework Document, Defra had identified GM as one of four national Pioneer areas. The report provided an outline of the scope of the Pioneer initiative and proposals for GM to be designated as an Urban Pioneer City Region within the Defra Plan. The report also sought the Board’s agreement to the next steps, including production of the finalised Urban Pioneer scoping document and governance arrangements.

The Board received a presentation, which paid particular attention to the following areas: GM Pioneer scope; vision; approach; governance, projects and timeline for delivery.

Key points, questions and comments raised during discussion included:

a) The Chair thanked officers for their informative presentation. He advised that there may be a Ministerial visit to Manchester to launch the Urban Pioneer venture in November 2016.

b) The EA advised that they were scoping ideas and would welcome discussions with Board Members and representatives. There were many opportunities linked to wider issues such as planning and health. Non-Government Organisations (NGOs) were very enthusiastic.

c) The Wildlife Trust reported that they were about to submit a proposal `Our Dream’ to Heritage Lottery fund which aimed to engaged with the public to show how people were making a difference to their City’s environment.

d) Steve Johnson commended the presentation and asked about the projects that fitted into the plan, new data and reporting requirements. It was explained, that the EA would work closely with leads and existing governance structures. They wanted to provide support and add value.
e) A Member enquired about the risks detailed in 3.5 of the report and asked for further clarification. It was advised that the risk was quite low as there was no financial commitment. All four national pioneers would test different mechanisms to natural capital accounting using appropriate approaches and then the successful approaches would be shared with others.

f) The Chair advised that there was no funding attached to the proposal but the EA was looking to recruit a Project Manager. The Chair asked how that would interlink with the GM Natural Capital Sub Group. It was highlighted that the Project Manager would be integrated, would bring work streams together and work with the GMCA to fit in with GM goals.

g) Roger Milburn asked the EA to take three things into account namely; Rockefeller 100 Resilient Cities, the Greater Manchester Spatial Framework (GMSF) and the GM Infrastructure Advisory Group, part of the latters remit was thinking about strategy to support infrastructure to support GM. Discussions with the EA would take place outside of the meeting.

Resolved/-

1) That the Board noted the report.

2) The Board endorsed the next steps, including production of the finalised Urban Pioneer scoping document and governance arrangements.

LCH 16/21 GM HEAT AND ENERGY EVIDENCE BASE

Members considered the report of the GM Environment Director that outlined the findings of the GM Heat and Energy Evidence base, which had been undertaken by the Energy Systems Catapult (ESC) as part of GM’s involvement in the Smart System and Heat (SSH) project. It was explained that the report had been produced to inform the development of low carbon policies for the GMSF. The report also asked the Board to comment on the presentation and consider how the findings of the evidence base could support the low carbon development/infrastructure in GM.

A presentation on the key findings of the report was provided at the meeting, by the Energy Technology Institute which had funded the work. The presentation focussed on: context; challenge of energy planning in GM; Catapult approach for GM as part of SSH; Scope of study; key findings and what next.

It was advised that the piece of work brought together the GM heat and energy evidence base into one collective narrative. Although the work was undertaken to support GM’s input into the GMSF, it had also provided input into the finalisation of the Climate Change Implementation Plan and provided evidence for the Board’s focus on heat networks, Photovoltaics and Air Source Heat Pumps as well as energy efficiency in buildings. The
Chair thanked the officer for his informative presentation and expressed his view that that the work undertaken provided an excellent baseline.

Key points, questions and comments raised during discussion included:

a) A Member asked if there was any data the officer wanted but could not be reached. It was explained that, in terms of the existing study, the data used was that which was readily available from GM or public sources. However, in terms of the more detailed study that would be required for the Energypath model, it would be more difficult to access robust data, especially around domestic buildings. The officer was currently working with the GM Environment Director on the base set of data for this more detailed work.

b) The officer was asked about how widely the information was being shared. It was clarified that the report was being finalised quickly over the next week. However, a short report was already available and the GM Environment Director agreed to circulate it to the Board.

c) A discussion took place about the scale of the challenge with respect to demand management. It was reported that, in terms of usage, Jacobs (a professional services company) had advised that a good education programme could potentially reduce a consumers’ bill by 5%. However, demand, retrofit, supply and usage, all needed consideration.

d) Roger Milburn advised that the Infrastructure Group had already mapped some of the data ETi required. It was explained that the more detailed Energypath modelling would begin by bringing together existing detailed datasets.

The GM Environment Director thanked the ETi officer for his presentation, which confirmed the work that the Low Carbon Hub was driving forward. The Director agreed to make the information accessible, disseminate the summary report to the Board and also build it into LCH communications work moving forward.

Resolved/-

1) That the report be noted.

2) That the GM Environment Director would circulate the short report as detailed above.

LCH 16/22 GM SPATIAL FRAMEWORK (GMSF) - PRESENTATION

The Board received a presentation from AGMA’s Planning and Housing Team working on the GMSF. The aim of the work was to ensure that there was the right land in the right places to deliver the homes and jobs needed up to 2035.

The presentation covered: The GMSF timetable and milestones; the importance of placeshaping; what is being planned for; the draft GMSF Plan; thematic policies; delivering a
successful GM; Green infrastructure network; build in resilience – adaptation; low carbon implications; existing land supply; site allocations; evidence base and supporting information. The Chair thanked the officer for a very detailed and comprehensive presentation. The Board was asked to consider and comment on the carbon targets within the presentation with a view to bringing a further report back to the Board.

Key points, questions and comments raised during discussion included:

a) Roger Milburn commented that it was a complicated piece of work that was being delivered by a small team. The real challenge was about balancing land, infrastructure and politics.

b) Louise Blythe asked about the policy areas and what weighting the officer would give them. In response, it was explained that all policies should have equal weighting. There was no intention to give one policy more importance than another.

c) Anne Selby, on behalf of the Natural Capital Group, thanked the officer for her work in this area and for including them in the dialogue.

d) The Chair advised that Salford Members and Planning Committees had expressed concerns about infrastructure. It was suggested that the GMSF would only be successful if the real infrastructure concerns in GM were resolved.

e) The Chair also drew the Board’s attention to the affordable housing detailed in the presentation and expressed that if targets were going to be achieved, then affordable housing must be considered. It was reported that modelling work had taken place in Salford and concerns were raised about where the space was in GM for affordable housing. How affordable housing was tackled was of real concern. It was suggested that a strategic approach was required if GM was committed to meeting the needs of the population. In response, the officer advised that infrastructure, transport and schools were all of concern.

Resolved/-

1) That the Board noted the report.

2) That a further GMSF report be considered at a future meeting.

LCH 16/23 SMART SYSTEMS AND HEAT PROGRAMME

The Board considered the report of the GM Environment Director. It was explained that at the last meeting, the Board received a presentation on the Salford Energy House and requested a report to outline how the development of Energy House 2.0 could fit into GM’s wider plans for a Smart Systems and Heat demonstrator. The purpose of the report was to fulfil this request, provide an update on the Smart Systems and Heat (SSH) Programme, identify the next steps required to complete Phase 1 of the programme and proposed a model for wider Phase 2 activity.
Resolved/-

1) That the Board noted the report and next steps for Phase 1 - Energypath.

2) That the Board endorsed GM’s proposed approach towards Phase 2 activity.

LCH15/24 HEAT NETWORK UPDATE

Consideration was given to the report of the Low Carbon Investment Director that provided a brief update on the heat network programme development in GM led by the GM Low Carbon Project Delivery Unit (LCPDU). It was reported that much of the work detailed in the report had received funding from the Heat Network Development Unit (HNDU) of the Department for Business, Energy and Industrial Strategy (DBEIS).

Resolved/-

That the Board noted the report.

LCH16/25 POTENTIAL EUROPEAN UNION (EU) FUNDING BIDS

The Board considered the report of the GM Environment Director, which outlined the GM Environment Team’s proposed approach to bidding for EU funding in 2016/17. The report provided a brief update on the existing EU funded programmes and potential future EU funding bids.

Resolved/-

That the report be noted.

LCH16/26 CLIMATE CHANGE LOW EMISSIONS IMPLEMENTATION PLAN AND AIR QUALITY ACTION PLAN

Resolved/-

That the Board note the completion of both Plans.

LCH16/27 ANY OTHER BUSINESS – FORWARD LOOK

As previously reported, the GMCA’s Green deal Communities Programme won the National Energy Efficiency and Retrofit award in the large project category in September 2016. A video on fuel poverty and how the programme had changed people’s lives was made available for the Board. The Chair congratulated everybody involved.

A City of Trees brochure was circulated at the meeting. It was explained that the City of Trees was an innovative and exciting movement set to re-invigorate Greater Manchester’s
landscape by transforming underused, unloved woodland and planting a tree for every man, woman and child who lived there, within a generation. Members were encouraged to take the brochure away and read it.

**LCH16/28 FUTURE MEETING DATES**

It was noted that the next meeting would take place on Friday 20 January 2017 at 10.00 am to 12 noon, Scrutiny Room, Manchester Town Hall.
LOW CARBON HUB BOARD

Date: 20\textsuperscript{th} January 2017

Subject: QUARTERLY PERFORMANCE UPDATE – Q3 (Oct-Dec)

Report of: Steve Rumbelow, Lead CEX Environment

PURPOSE OF REPORT

This paper presents the draft GM Annual Environment Report (2016) and the updated Low Carbon Hub Board Bulletin for comment and approval. The report also provides the usual update on progress of the Low Carbon Hub in the last quarter.

RECOMMENDATIONS:

The Board are recommended to:

- Comment on and, in principle, approve the LCH Annual Report and the Low Carbon Hub Board Bulletin (drafts to be tabled)
- Note the updates from across the Low Carbon Hub’s accountable bodies, attached at Annex 1 to this report;
- Comment upon progress and agree the next steps.

CONTACT OFFICERS:

Contact Officer: Mark Atherton, GM Director of Environment
Mark.atherton@neweconomymanchester.com

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<th>TRACKING/PROCESS</th>
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<th>EXEMPTION FROM CALL IN</th>
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<tr>
<td>AGMA Commission</td>
<td>TfGMC</td>
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<td>7\textsuperscript{th} October 2016</td>
<td>[Date considered at TfGMC; if appropriate]</td>
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1.0 ANNUAL REPORT AND LCH BOARD BULLETIN

Each year, the Low Carbon Hub publishes an Annual Environment Report to comply with our international reporting requirements and also to briefly summarise the achievements of the Low Carbon Hub within the calendar year. The highlights for 2016 include:

- Publication of the Climate Change and Low Emissions Implementation Plan (2016-20)
- The commencement of the E20m Natural Course Life IP Project
- GM’s Green Deal Communities programme was completed on time and over output, winning the National Energy Efficiency and Retrofit Awards in the large project category.
- GM was one of only 50 global cities (over 600 who signed up in 2015) to achieved Compact of Mayor’s compliance after Year 1
- Ringfencing of £2m of ECO funding from EON for energy efficiency measures focused on the fuel poor
- A number of significant non-domestic energy/energy efficiency projects have been completed, including Parr’s Wood school, the UK’s second largest single installation of PV on a school in the UK
- Successful completion of the Horizon 2020 funded DIMMER smart energy research project.
- The opening of the guided busway with higher than expected patronage
- The completion of the Metrolink second city crossing, record patronage levels
- The completion of the upgrades to the Oxford Rd corridor, including first segregated cycling routes
- The Business Growth Hub has successfully secured additional ERDF to deliver a carbon reduction project to support SMEs to improve their energy efficiency and the adoption of on-site renewable energy

In addition, over the year, the Low Carbon Hub’s communications mechanisms have improved, including website updates, increase in quarterly newsletter and twitter followers and several high profile events.

2.0 QUARTERLY REPORT

The report at Annex 1 provides a progress update on delivery of the Climate Change and Low Emissions Implementation Plan (2016-20) for Quarter 3 2016/7. For each of the actions in the Plan, an annual Action has been added and progress against this action within the last quarter has been reported with an associated RAG rating. Some items are not due to commence this year and have been left blank. Other items are blank as we are awaiting feedback from external partners.

Green = on track
Amber = progressing but either behind target or with some issues to be addressed
Red = stopped or stalled

General progress is good, however, as we begin Q4, it is clear that more actions than previously reported are behind target.
3.0 OVERVIEW OF PROGRESS

The updates attached at Annex 1 to this report highlight areas of progress across the themes of the GM Climate Change Low Emission Implementation Plan over the last quarter (October-December). The updates detail a number of successes; key successes include:

- Following the successful submission of a full ERDF application to DCLG, the Business Growth Hub’s Carbon Reduction Service has received a contract to fund the activity until December 2018; this service is highly complementary to the other Hub services particularly the Eco-innovation and Low Carbon Sector support offers.
- Oldham MBC (on behalf of GM) has been successful in bidding for £1.4m from Interreg to deliver the COALESCE community energy programme over the next 3 years to increase the uptake of community energy. Oldham will lead the project and will receive around 30% of the budget.
- All 550 Air source heat pumps were installed by end of November and the Demand Side Response trails have commenced under the NEDO Smart Communities project.
- Manchester have been successful with a 11.2 Million Euro Grow Green bid to the EU’s highly competitive Horizon 2020 strand. The project will provide the City with a new Global GI profile over 5 years, working with a range of International partners to develop and deliver Nature Based Solutions to tackle climate change problems.
- A paper on the Business Case for a municipal energy company was presented to GMCA in October. The CA decided not to move forward with a fully licenced supply company at this time (see separate paper).
- There has been record usage and subscriptions for the GMEV charge network.
- High speed broadband programme already delivered 97% coverage to target businesses.
- DEFRA and Innovate UK bids have been submitted for both transport related Air Quality and CO2 reduction programmes.
- The LCH Chair spoke at three events in support of GM Carbon Literacy programme and the Interim GM Mayor spoke at two. The LCH funded Carbon Literacy engagement event was delivered successfully.

4.0 KEY ANTICIPATED ACTION IN THE NEXT QUARTER

As a priority, the following activities will be delivered in the next Quarter:

- Engage with potential funders and Core Cities to support development and test tools for setting 2020+ targets for climate change.
- The Business Growth Hub will integrate the new carbon reduction service into the existing business support offer, in particular the existing eco innovation and sector support services.
- In light of the new project the Growth Hub is recruiting an additional business advisor to support on service delivery. (carried forward)
- GMEV and car share tender expected.
- Potential feedback from DEFRA and Innovate UK on transport bids submitted.
5.0 IDENTIFIED RISKS AND EMERGING ISSUES

5.1 Officers and sub-groups have identified a number of risks to existing, and particularly future, programme delivery. Mitigation of these risks, as far as possible, will be managed by the responsible Accountable Body:

- The future availability of EU project funding remains a concern following BREXIT.
- The potential impact of the long standing reassessment of business rates on the uptake of PV in businesses.
- The recently published Bonfield review has proposed a Quality and Standards Framework for home energy efficiency and renewable energy measures. This welcomed measure will be underpinned by provision of advice and guidance to the consumer.
- Lack or real-time data on Air Quality issues, this would be extremely valuable in driving and understanding the impact of change.
- Continued funding to be secured for the Active Travel/Travel Choices work.

6.0 RECOMMENDATION

The Board are recommended to:

- Comment on and approve the LCH Annual Report and the Low Carbon Hub Board Bulletin (to be tabled)
- Note the updates from across the Low Carbon Hub’s accountable bodies, attached at Annex 1 to this report;
- Comment upon progress and agree the next steps.
## ANNEX 1

### Mitigation

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<th>Resources</th>
<th>Action</th>
<th>Status</th>
<th>RAG</th>
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<tr>
<td>Cross Cutting</td>
<td>M1</td>
<td>Consider how best to use spatial plans and related levers in order to achieve compliance with GM's current and 2020+ low carbon aspirations, and advocate increasing well-connected, dense urban development.</td>
<td>GMCA PHE Teams</td>
<td>GMCA revenue</td>
<td>2016</td>
<td>Scope work required for evidence base to support policy direction(s) which considers building standards, renewables (including decentralised energy), transport and waste.</td>
<td>G</td>
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<tr>
<td>Energy</td>
<td>M2</td>
<td>Undertake detailed master-planning and design a long term energy infrastructure plan and map for Greater Manchester through the Energy System Catapult’s Smart Systems and Heat Programme.</td>
<td>GMCA Env Team, DECC, ESC</td>
<td>ET/GMCA Funding</td>
<td>2016</td>
<td>Complete H&amp;E Masterplan, Identify location for SSH Phase 1 plan,</td>
<td>A</td>
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<td>Energy</td>
<td>M3</td>
<td>Deliver a large-scale demonstrator of smart heat systems within Greater Manchester to test and explore the viability of the Masterplan.</td>
<td>GMCA ESC, DECC</td>
<td>DECC, ERDF</td>
<td>2016/17</td>
<td>Agree and Develop SSH Phase 2 Demonstrator (including location)</td>
<td>B</td>
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<td>Energy</td>
<td>M4</td>
<td>Deliver current pilot of heat pump installation in social homes, supporting tenants with the change, and extend pilot to deploy a wider demonstration of integrated heat pumps, heat networks and demand aggregation in domestic dwellings to provide a financially viable offer to private landlords and owners.</td>
<td>GMCA Env Team, NEDO, Hitachi, &amp; landlords</td>
<td>NEDO, DECC, Hitachi, &amp; ALMOs</td>
<td>2015</td>
<td>Complete installations of ASHPs, Complete DSR testing and develop business case, Identify and complete social research opportunities, Agree and Implement Project close down/future studies</td>
<td>G</td>
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<td>Energy</td>
<td>M5</td>
<td>Deliver existing PV projects and establish a pipeline of local authority-lead photovoltaic installations</td>
<td>LAs and LCPDU</td>
<td>Cap Ex Inv Fund</td>
<td>2015</td>
<td>Business cases to be completed and progressed where viable</td>
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<td>Theme</td>
<td>Ref</td>
<td>Action</td>
<td>Led by</td>
<td>Resources</td>
<td>Start Yr</td>
<td>Actions required in 2016/17</td>
<td>Progress Q3 2016 (Oct-Dec)</td>
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<td>Energy</td>
<td>M6</td>
<td>Complete Local Authority lead onshore wind assessments and deliver a programme of onshore wind investments. Identify and progress alternative electricity generation including biomass, hydro etc.</td>
<td>LAs, Peel &amp; GMCA</td>
<td>Cap Ex, Inv Fund</td>
<td>2016</td>
<td>Assess viability of existing proposals. Identify further areas of scope for wind &amp; alternative sources of heat through the ESC Energy &amp; Heat masterplan. Research best practice UK/Internationally. Investigate extra funding.</td>
<td>Masterplan has identified further technical potential for wind generation, however no funding has been identified to undertake feasibility studies. Alongside current political and economic considerations, other opportunities for energy generation are likely to be treated as higher priorities</td>
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<tr>
<td>Energy</td>
<td>M7</td>
<td>Deliver a programme of identified local energy efficient heat networks and plan for their longer term integration</td>
<td>LAs, LCPDU</td>
<td>ERDF Inv Fund, Cap ex, ELENA</td>
<td>2017</td>
<td>Reach financial close on Mcr Civic Qtr project. Complete business case work on projects currently in or just completed feasibility stage</td>
<td>Appointment of preferred bidder delayed - now aiming for Dec 2016</td>
</tr>
<tr>
<td>Energy</td>
<td>M8</td>
<td>Review existing research, assess the potential for and continue to promote deployment of alternative small, mid and commercial heat energy across GM. If viable, develop appropriate schemes.</td>
<td>LCPDU, Local Authorities</td>
<td>Cap Ex, Inv Fund</td>
<td>2017</td>
<td>Investigate water source heat generation.</td>
<td>Oldham Council has secured innovation funding to support community led energy generation (including water source), which is available for community groups to access. ESC Masterplan has identified Hydro as having some potential for energy generation in GM.</td>
</tr>
<tr>
<td>Energy</td>
<td>M9</td>
<td>Replace Greater Manchester’s street lighting and signals with smart LED systems</td>
<td>LAs, LCPDU, TfGM</td>
<td>ELENA, Salix</td>
<td>2015</td>
<td>Street lighting:- Complete business case for Stockport, Rochdale and Oldham. Introduce graphene product into programme. Upgrade traffic signals</td>
<td>Street lighting projects progressing slowly. No progress with Rochdale/Oldham</td>
</tr>
<tr>
<td>Energy</td>
<td>M10</td>
<td>Deploy a smart distribution system (DMS) with dedicated communication network for the whole ENW network by 2018 and deliver a £50 million programme of smart network changes and integrated storage pilots to promote connection of decentralised energy, and deploy smart meters for gas and electricity.</td>
<td>ENWL, Schneider GMCA, MCC, Carbon Co-op, retailers</td>
<td>Private Sector ENWL, OFGEM, EU Horizon</td>
<td>2016</td>
<td>TBC</td>
<td>Tbc</td>
</tr>
<tr>
<td>Energy</td>
<td>M11</td>
<td>Expand and extend community energy partnership initiatives across the whole of Greater Manchester</td>
<td>GMCA – Oldham MBC</td>
<td>DECC, GMCA capacity</td>
<td>2016</td>
<td>Support the accelerated deployment of community lead projects through DECC funded project.</td>
<td>An Innovation competition providing funding to community energy groups is in progress and will look to support and remove barriers to uptake.</td>
</tr>
</tbody>
</table>
## ANNEX 1

### Mitigation

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<tr>
<td>Energy</td>
<td>M12</td>
<td>Develop alternatives to existing energy systems, including hydrogen and other storage initiatives</td>
<td>GMCA, Universities, Viridor</td>
<td>EU Funds and UK Research</td>
<td>2016</td>
<td>Investigate market readiness for commercial opportunities</td>
<td>H2020 bid in development to be submitted Q4. In addition MMU have secured funding for the development of a Hydrogen Lab for SMEs to develop and test products which can provide linkages to SSH Phase 2 Demonstrator work.</td>
<td>A</td>
</tr>
<tr>
<td>Energy</td>
<td>M13</td>
<td>Seek to identify and accelerate energy generation schemes that the private sector and community groups could bring forward</td>
<td>GMCA Env Team</td>
<td>GMCA, DECC</td>
<td>2017</td>
<td>Not yet started</td>
<td>Not yet started</td>
<td>NA</td>
</tr>
<tr>
<td>Buildings</td>
<td>M14</td>
<td>Work with commercial building owners and major occupiers to increase commercial building retrofit e.g. through access to finance and improving transparency of real energy performance.</td>
<td>LAs, Private sector partners</td>
<td>GMCA cap ex Reveneu &amp; ERDF</td>
<td>2016</td>
<td>Engage with key actors to assess what support, if any, is required and will add value</td>
<td>Brought forward a suite of proposals to the LCH Building groups for comment on re engaging and stimulating the market. This remains an under resourced area of work.</td>
<td>R</td>
</tr>
<tr>
<td>Buildings</td>
<td>M15</td>
<td>Introduce and facilitate a locally-delivered education programme for commercial building owners, investors and financiers on investment risks arising from poor energy/environmental performance, and the business case for delivering improvements</td>
<td>GMCA and UK Green Buildings Council</td>
<td>GMCA revenue</td>
<td>2016</td>
<td>Engage with key actors to assess what support, if any, is required and will add value</td>
<td>Discussions ongoing and are subject to the actions outlined in M14.</td>
<td>A</td>
</tr>
<tr>
<td>Buildings</td>
<td>M16</td>
<td>Identify and deliver programmes to replace poorly performing building stock with low carbon development, particularly where this can also address ill health, poverty and productivity challenges.</td>
<td>GMCA</td>
<td>ERDF, Inv Fund</td>
<td>2017</td>
<td>Investigate opportunity to deliver through Housing Investment Fund</td>
<td>Not yet started</td>
<td>N/A</td>
</tr>
<tr>
<td>Buildings</td>
<td>M17</td>
<td>Identify and deliver programmes to develop low carbon stock and energy efficient infrastructure particularly on previously used and brown field land</td>
<td>GMCA/LA Districts/Planning &amp; Housing</td>
<td>ERDF, Inv Fund</td>
<td>2016</td>
<td>Further development is required to understand the size of the opportunity, while also advancing the projects identified to date</td>
<td>No further progress this quarter</td>
<td>N/A</td>
</tr>
<tr>
<td>Buildings</td>
<td>M18</td>
<td>Complete existing and support the delivery of future national domestic energy efficiency and fuel poverty schemes e.g. ECO. Work with Health colleagues to establish new schemes and initiatives.</td>
<td>GMCA, ECO, DECC, Health</td>
<td>ECO, Landlords, Health</td>
<td>2015</td>
<td>Develop a business case. Work with Utilities. Submit final GDC report to DECC. Produce case studies/publicity material of the GDC scheme. Engage with utilities and DECC for future funding. Form a GM Health and Fuel Poverty Group. Develop and Deliver a work plan. Develop a GM wide fuel poverty proposal. Bid for Health funds.</td>
<td>Commenced dialogue with the major 6 utilities around their potential offering for ECO3. Submitted to BEIS consultation on ECO3, in communication with BEIS around the ‘flexibility eligibility’ element of ECO3. E.ON delivering ECO2 boiler replacements in GM, through GM framework. E.ON scheme has a narrow criteria which means that take up has been low. Working with health/housing lead on the development of a potential GM Home Improvement Agency, met with GM Fire and are looking to conduct a mini pilot.</td>
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<tr>
<td>Buildings</td>
<td>M19</td>
<td>Seek agreement to develop and deliver a £6 million Salix matched recycling fund for energy efficiency in Local Authority owned buildings</td>
<td>GMCA, LCPDU</td>
<td>SALIX, local authorities</td>
<td>2015</td>
<td>Seek approval from CEX IG to proceed - pipeline of capital projects is established</td>
<td>Lead Chief Exec for Low Carbon is leading proposition - still seeking GM approvals.</td>
<td>A</td>
</tr>
<tr>
<td>Buildings</td>
<td>M20</td>
<td>Work with partners on similar programmes in schools and other public sector estates.</td>
<td>LCPDU, Public sector</td>
<td>SALIX, public sector match</td>
<td>2016</td>
<td>Demonstrators to be installed with measurement and verification to be completed</td>
<td>Progress is subject to M19 decision</td>
<td>G</td>
</tr>
<tr>
<td>Buildings</td>
<td>M21</td>
<td>Consider a campaign to better enforce existing building standards, licensing and regulation across Greater Manchester’s building stock</td>
<td>Local authorities</td>
<td>GMCA and LA revenue</td>
<td>2018</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>SCP</td>
<td>M22</td>
<td>Support businesses, organisations and people to be more resource efficient by doubling the impact of resource efficiency support to SMEs, and develop complimentary services within the existing offer</td>
<td>BGH</td>
<td>ERDF</td>
<td>2016</td>
<td>Secure funding to deliver a carbon reduction service in GM, continue to provide eco-innovation services to SMEs</td>
<td>Following the successful submission of a full ERDF application to DCLG, the Business Growth Hub’s Carbon Reduction Service has received a contract to fund the activity until December 2018; this service is highly complementary to the other Hub services particularly the Eco-innovation and Low Carbon Sector support offers.</td>
<td>G</td>
</tr>
<tr>
<td>SCP</td>
<td>M23</td>
<td>Increase the sustainability of the waste collected from homes, by Reducing Void capacity within the Municipal Waste Collection System, Increasing the value of recyclates / energy removed from the waste stream and Increasing kerbside collection recycling rates by communication, reducing residual waste capacity/void space and proportionate enforcement to contribute to an overall Greater Manchester recycling rate of 50%.</td>
<td>GMWDHA</td>
<td>GMWDA budget</td>
<td>2016</td>
<td>Working with districts and contractor to identify savings, by reducing capacity (for Q3 implementation), Districts making changes to residual waste collection arrangements (Reduced capacity) to make citizens “stop and think” before placing all waste in the residual bin (ongoing to Q4). Behavioural change campaigns being delivered to areas agreed with districts on a targeted basis (to Q4)</td>
<td></td>
<td>G</td>
</tr>
<tr>
<td>SCP</td>
<td>M24</td>
<td>Improve shared services by developing Household Waste Recycling Centres to increase recycling, composting and Diversion from Landfill, to 81.3% in 2015/16, 82% in 2016/17 and 85% in 2017/18. Undertake targeted campaigns to around 10% of GM households</td>
<td>GMWDHA</td>
<td>GMWDA budget</td>
<td>2015</td>
<td>Targets for individual sites being developed (as well as overall target), and training to improve consistency of meet and greet in place. Reduction in number of containers to discourage “trade waste” also introduced at some sites</td>
<td></td>
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<tr>
<td>Natural Capital</td>
<td>M25</td>
<td>Plant 3m trees across Greater Manchester by 2035 as part of the City of Trees, to create shade, manage water and sequester carbon.</td>
<td>CoT; LAS, MAG</td>
<td>Grant, Private</td>
<td>2015</td>
<td>Expansion of GI for water type mapping to cover GM. SuDS demo development and City centre mapping</td>
<td>To date (2.12.16) CoT planting outputs: 47,245 trees plus 318 street trees plus 837 fruit trees. Prestwich High St project out to tender…including street tree SuDS demo. Project Manager recruited for City Forest Park.</td>
<td>G</td>
</tr>
<tr>
<td>Natural Capital</td>
<td>M26</td>
<td>Improve the management of our key CO₂ sinks, targeting activity on our key habitats – such as lowland and upland peat bogs</td>
<td>NCG partnership</td>
<td>NCG partnership</td>
<td>2016</td>
<td>Scope action and identify alignment with Natural Course</td>
<td>Meeting held with EA about GM Wetlands and how to support through Natural Course. Further discussion to take place on next steps and potential funding sources including EU.</td>
<td>Tbc</td>
</tr>
<tr>
<td>Sector &amp; Skills</td>
<td>M27</td>
<td>Use inward investment activities to attract businesses most likely to deliver carbon efficient GVA growth, by meeting Greater Manchester’s resource and service needs with the least carbon footprint</td>
<td>BGH / MIDAS</td>
<td>Revenue budget</td>
<td>2015</td>
<td>Nuclear: Proactive work to engage Chinese nuclear supply companies. Low Carbon: Leveraging UKTI Energy team MIDAS to ensure low carbon propositions and opportunities communicated and understood. Energy: Contribute to the creation of Northern Powerhouse investment proposition campaigns.</td>
<td>Nuclear: Part of a group developing Northern Powerhouse nuclear proposition. Low Carbon: No progress reported this quarter. Energy: Supported low carbon networks conference as a business engagement opportunity.</td>
<td>G</td>
</tr>
<tr>
<td>Transport</td>
<td>M28</td>
<td>Deliver new infrastructure to cut emissions, including Cross City Bus, Leigh Sal福德 Manchester Busway, Rail Electrification and Cycling Infrastructure expansion and optimise use of new metrolink lines</td>
<td>TfGM</td>
<td>TfGM cap ex</td>
<td>2015</td>
<td>Guided busway, cross city bus progress, cycle infrastructure oxford road</td>
<td>Since the commence of the busway services in Apr 16 over 1.5m passengers have used the service. In Nov 82% increase when compared to the first week of operation. Record high Metrolink patronage, currently 36m. Cycle city (CCAG) phase 1 complete. Oxford Rd section of Wilmslow Road cycleway under construction. 15 cycle hubs open, 8 under construction. 1500 current members. Significant disruption on OR</td>
<td>G</td>
</tr>
<tr>
<td>Transport</td>
<td>M29</td>
<td>Reducing Emissions from Buses on Key Urban Corridors by setting minimum standards for bus vehicles using the Cross-city Bus Infrastructure and future bus priority schemes, Identify cost-effective ways of accelerating the replacement of pre Euro IV buses and seek to establish consistent bus emissions standards across GM</td>
<td>TfGM</td>
<td>TfGM revenue</td>
<td>2015</td>
<td>Work with operators to encourage use of low emissions fleet within GM boundary.</td>
<td>Study to be commissioned in the new year to determine overall alternative fuels strategy. Investment scenarios will be concluded in the new year.</td>
<td>A</td>
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<tr>
<td>Transport</td>
<td>M30</td>
<td>Stimulating the uptake of ULEVs, by making the case for funding to stimulate deployment of electric vehicles, aiming to have 40,000 registered in GM by 2020, and investigate the potential to introduce joint procurement and common travel policies for GM’s public sector</td>
<td>Local Authorities, TfGM</td>
<td>TfGM and local authority revenue</td>
<td>2016</td>
<td>Tender GMEV and car club. Promote GMEV membership and utilisation.</td>
<td>Car share and GMEV tender due to be released at latest in new year. GMEV has seen sustained growth again. Oct has seen an 8% rise in membership and 16% increase in charging sessions on July figures.</td>
<td>G</td>
</tr>
<tr>
<td>Transport</td>
<td>M31</td>
<td>Demonstrate the potential of alternative fuel transport, aiming to achieve regionally/nationally compatible solutions</td>
<td>TfGM, Universities</td>
<td>INTERREG,</td>
<td>2017/8</td>
<td>N/A</td>
<td>Study to be commissioned in the new year to determine overall alternative fuels strategy.</td>
<td>G</td>
</tr>
<tr>
<td>Transport</td>
<td>M32</td>
<td>Work with local authorities to set stricter emission standards for taxis and consider clean air zones</td>
<td>TfGM, Las</td>
<td>TfGM &amp; LA revenue</td>
<td>2016</td>
<td>Undertake CAZ feasibility study</td>
<td>Modelling scenarios for the 2 geographical areas. Inside M60 &amp; inside inner ring road. Due to be finished by the end of January and the results will feed into the economic assessment and the Health Impact Assessment.</td>
<td>G</td>
</tr>
<tr>
<td>Transport</td>
<td>M33</td>
<td>Reducing emissions from heavy good vehicles by developing a freight and logistics strategy which will include supporting new rail or canal-served distribution centres, subject to planning conditions.</td>
<td>TfGM, Key freight co’s</td>
<td>TfGM revenue and cap ex.</td>
<td>2016</td>
<td>Develop F&amp;L strategy</td>
<td>Bids to innovate UK for ITS with HGVs and to DEFRA for cycle logistics trials have been submitted. Initial forum workshop with LA reps has taken place. New Ecostars scheme due to commence in January</td>
<td>G</td>
</tr>
<tr>
<td>Transport</td>
<td>M34</td>
<td>Implement mechanisms on the Key Route Network to reduce congestion and improve journey time reliability</td>
<td>TfGM, freight co’s</td>
<td>TfGM</td>
<td>2016</td>
<td>TfGM to take monitoring and performance responsibility for KRN. To set targets for action. Implement SCOOT/MOVA</td>
<td>Awaiting SCOOT/MOVA bid decision. Initial trials on a select number of routes to concentrating on: Traffic signal operation / timing / staging (SCOOT/MOVA) Junction performance and intervention opportunities. Corridor management / improvement programme</td>
<td>G</td>
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## Low Carbon Economy

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<tr>
<td>Cross Cutting</td>
<td>E1</td>
<td>Develop a Climate Change Strategy for 2020+, supported by clear Targets and Plans compliant with international commitments.</td>
<td>GMCA Env Team, LCH.</td>
<td>GMCA revenue,</td>
<td>2018</td>
<td>NA</td>
<td>Not yet started</td>
<td>N/A</td>
</tr>
<tr>
<td>Cross Cutting</td>
<td>E2</td>
<td>Lobby government for greater local determination of national funds for power and heat generation, distribution, innovation, storage, demand response and reduction.</td>
<td>GMCA Env Team</td>
<td>GMCA revenue</td>
<td>2016</td>
<td>Restate case to Government for devolution of low carbon taxes and levies.</td>
<td>No further progress on devolution of taxes/levys.</td>
<td>A</td>
</tr>
<tr>
<td>Cross Cutting</td>
<td>E3</td>
<td>Develop costing methodologies and investigate the potential for GM financial instruments (e.g. green bonds) to stimulate commercial property retrofit activity, and related infrastructure investment</td>
<td>LCPDU</td>
<td>GMCA revenue</td>
<td>2017</td>
<td>Tbc</td>
<td>Not yet started</td>
<td>Tbc</td>
</tr>
<tr>
<td>Cross Cutting</td>
<td>E4</td>
<td>Develop a comprehensive low carbon, climate change and water evidence base to inform the Greater Manchester Spatial Framework</td>
<td>GMCA Env Team, GMCA and EA revenue</td>
<td>2016</td>
<td>Ensure GMSF includes policy direction(s) which considers building standards, renewables (including decentralised energy), natural capital, flood risk, adaptation and resilience.</td>
<td>Draft GMSF includes thematic policies on flood risk, carbon and several natural environment policies (including rivers and canals, green infrastructure etc). These have been informed by various reports and evidence which GM Environment team have supported and developed.</td>
<td>B</td>
<td></td>
</tr>
<tr>
<td>Cross Cutting</td>
<td>E5</td>
<td>Review the GM and Treasury Cost benefit analysis tool to identify climate change and carbon costs, impacts and benefits</td>
<td>GMCA Env Team, Core Cities, DECC</td>
<td>DECC</td>
<td>2016</td>
<td>Tbc</td>
<td>Proposal provided to BEIS to support this activity, awaiting feedback response.</td>
<td>A</td>
</tr>
<tr>
<td>Cross Cutting</td>
<td>E6</td>
<td>Identify and implement emissions trajectory planning and project impact tools in order to inform and establish robust long term targets and priorities for Greater Manchester</td>
<td>GMCA Env Team, WRI, Tyndall, GMCA</td>
<td>2016</td>
<td>Initial scope of work defined to support setting of a 2050 target and milestones.</td>
<td>Proposal provided to BEIS to support this activity, awaiting feedback response.</td>
<td>A</td>
<td></td>
</tr>
<tr>
<td>Energy</td>
<td>E7</td>
<td>Build a business case for and, if viable, develop and operate a municipal energy company and supplier licence for Greater Manchester to strengthen the link between local spend and local investment</td>
<td>GMCA, LCPDU</td>
<td>GMCA revenue &amp; investment</td>
<td>2015</td>
<td>To reach a conclusion on the most appropriate model for GM Energy company and implement</td>
<td>GMCA decided not to proceed with white label model. Alternative options for delivering similar outcomes are being considered.</td>
<td>A</td>
</tr>
<tr>
<td>Energy</td>
<td>E8</td>
<td>Subject to viability, establish a UK-wide district energy procurement agency to support the cost effective development and delivery of heat networks.</td>
<td>LCPDU</td>
<td>DECC</td>
<td>2015</td>
<td>To complete business case, issue prospectus and establish first sub lots of the framework</td>
<td>Work on going - first phase work now to complete in Q4 2016</td>
<td>A</td>
</tr>
<tr>
<td>Energy</td>
<td>E9</td>
<td>Encourage the development of commercial and community-lead energy, including wind, heat, biomass, PV, hydro-energy and other renewable and low carbon projects through supportive planning policies and facilitated access to funding and advice.</td>
<td>GMCA Env Team, LAs and Partners</td>
<td>DECC</td>
<td>2018</td>
<td>NA</td>
<td>Links to GMSF planning policy development which will be completed in 2017</td>
<td>NA</td>
</tr>
<tr>
<td>Energy</td>
<td>E10</td>
<td>Encourage the wider uptake of renewables in the domestic, private and wider public sector through power purchase agreements, finance and connection innovation</td>
<td>LCPDU</td>
<td>Energy Co revenues</td>
<td>2017</td>
<td>NA</td>
<td>New lead required</td>
<td>R</td>
</tr>
<tr>
<td>Buildings</td>
<td>E11</td>
<td>Lobby for changes to development viability assessments to ensure that occupant best value is better integrated into decision-making</td>
<td>GMCA</td>
<td>GMCA Revenue</td>
<td>2017</td>
<td>NA</td>
<td>Not yet started</td>
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<td></td>
<td><strong>E12</strong> Develop new models for deploying retrofit in domestic housing stock.</td>
<td>GMCA Env Team, Health</td>
<td>GMCA Env Team</td>
<td>2016</td>
<td>Work with health colleagues to develop domestic retrofit models.</td>
<td>In discussions with Health/Housing colleagues around potential GM Home Improvement Agency which could potentially incorporate fuel poor residents.</td>
<td>A</td>
</tr>
<tr>
<td><strong>Buildings</strong></td>
<td></td>
<td><strong>E13</strong> Develop a clear financial and policy framework to accelerate and increase low carbon opportunities being realised in new build and refurbishment activities</td>
<td>GMCA Environment Team</td>
<td>GMCA Revenue</td>
<td>2018</td>
<td>Links to GMSF and Evergreen work</td>
<td>Not yet started</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Buildings</strong></td>
<td></td>
<td><strong>E14</strong> Use financial Instruments to bring derelict, previously used land back into productive use for low carbon development and energy efficient infrastructure and replace poorly performing stock</td>
<td>Core Investment Team</td>
<td>GM Investment Fund, ERDF</td>
<td>2017</td>
<td>NA</td>
<td>Not yet started</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Sustainable Production and Consumption</strong></td>
<td></td>
<td><strong>E15</strong> Develop toolkits and guidance to assist businesses in improving the activities of their supply chain with the aim of reducing emissions from heavy goods vehicles.</td>
<td>TfGM</td>
<td>TfGM</td>
<td>2016</td>
<td>Develop toolkit and promote to industry/businesses</td>
<td>DEFRA AQ bid submitted - last mile cycle logistics trial on OR corridor and DSPs proposed. Logistics forum held LA workshop</td>
<td>G</td>
</tr>
<tr>
<td><strong>Sustainable Production and Consumption</strong></td>
<td></td>
<td><strong>E16</strong> Increase the efficiency of resource use within Local Authorities and wider GM public sector by Ensuring that Social Value clauses are included in Public Contracts, and that they are monitored and enforced</td>
<td>Business Growth Hub, Public Authorities.</td>
<td>GM Env Team, BGH</td>
<td>1</td>
<td>Support Local Authorities to publicise tenders with include SV clauses to local suppliers and help the suppliers to meet the tender requirements.</td>
<td>Work continues with GM Social Value Network and healthcare sector to help to support both the public sector to engage and connect their suppliers to local stakeholders who can support them to achieve their SV commitments, and to help local companies to improve their SV to help them win public sector contracts.</td>
<td>A</td>
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<tr>
<td><strong>Sustainable Production and Consumption</strong></td>
<td></td>
<td><strong>E17</strong> Investigate and if practical support the development of a sustainable Food Board for Greater Manchester</td>
<td>GMCA, Stockport</td>
<td>Feeding GM grant</td>
<td>2016</td>
<td>Seek agreement and acceptance of proposal to set up a sustainable food board and, if viable, launch the Board</td>
<td>Good Food Greater Manchester shadow board continues to meet and explore funding opportunities, without which progress will be limited.</td>
<td>A</td>
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<tr>
<td><strong>Natural Capital</strong></td>
<td></td>
<td><strong>E18</strong> Identify funding to support Natural Deal skills development.</td>
<td>NCG, Skills and Employment Partnership</td>
<td>Tbc</td>
<td>2018</td>
<td>Not yet started</td>
<td>Exploring opportunities to include a workshop session on Natural Deal as part of NCG conference on 1st Feb 2017</td>
<td>IA</td>
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<tr>
<td><strong>Transport</strong></td>
<td></td>
<td><strong>E19</strong> Change Travel Behaviour by introducing the ‘get me there’ smartcard system across tram, bus and train, Introduce an integrated fares system across all modes in Greater Manchester</td>
<td>TfGM</td>
<td>TfGM</td>
<td>2016</td>
<td>Introduce “get me there”</td>
<td>Unique smartcards use up 7.4% on previous. New multimodal products and pricing agreed for phase 1 of smart programme due 2017. Consideration of specific youth offers as part of smart and fares work streams.</td>
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## Low Carbon Economy

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<tr>
<td>Transport</td>
<td>E20</td>
<td>Encourage home and off-site working through improved WiFi and broadband use</td>
<td>TfGM, TfGM, Digital Funding</td>
<td></td>
<td>2018</td>
<td>Ibc</td>
<td>654 of 586 cabinets completed. 97% of planned coverage for premises complete. Take up at 26% on avg across GM districts. Programme finishes in March 2017</td>
<td>G</td>
</tr>
<tr>
<td>Transport</td>
<td>E21</td>
<td>Work with other agencies such as the DVSA, Universities and the Police to develop interventions which encourage safe and sustainable distribution</td>
<td>TfGM, INTERREG bid</td>
<td>2016</td>
<td>Develop relationships with each organisation and set out scope of opportunity</td>
<td>Clean air day set to align with national on 15th June. Will involve schools workshops and a public campaign. Follow up DEFRA bid in partnership with 5 cities - will expand impact and interventions</td>
<td>G</td>
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<tr>
<td>Sector &amp; Skills</td>
<td>E22</td>
<td>Provide specialist business support to drive growth in companies in the LCEGS sector. Support others to diversify into the sector, delivering positive GVA impacts and helping to reduce their carbon emissions. Include expanding virtual networks to build understanding of local capabilities and serve as a directory of suppliers for local procurement.</td>
<td>BGH, ERDF</td>
<td>2015</td>
<td>Continue to deliver the LCGES sector programme</td>
<td>6 Jobs Created to date. 217 companies on the Low Carbon Network and a number of successful examples of LCN members collaborating to win new sales. Team helped Kast Energy to facilitate product launch event at Manchester Chamber of Commerce.</td>
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<tr>
<td>Sector &amp; Skills</td>
<td>E23</td>
<td>Promote and exploit the existing low carbon sector. by Monitoring and measuring the overall growth of the sector in terms of jobs, sales and companies and raising the profile of the LCEGS sector in GM – e.g. via case studies, impact reports, GIS maps, research reports, virtual network</td>
<td>BGH/NE, ERDF</td>
<td>2016</td>
<td>Purchase most recent data and analyse LCEGS sector deep dive report completed. Further work required to analyse current sector scope and growth.</td>
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<tr>
<td>Sector &amp; Skills</td>
<td>E24</td>
<td>Exploit and promote the cutting edge research developed by our universities and harness the innovations that arise from it, including implementing an eco-innovation projects.</td>
<td>GMCA Env Team, Universities, ERDF, Horizon, EPSRC, INTERREG</td>
<td>2016</td>
<td>Support delivery of DIMMER EU project on BEMS visualisation. Assess the opportunity for an Eco-innovation ERDF call. Preparation of a ERDF funded Sustainable Urban Development call for release in Q1 of 2017 undertaken.</td>
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<tr>
<td>Sector &amp; Skills</td>
<td>E25</td>
<td>Ensure that apprenticeship and training targets are met by procured GM delivery partners, identifying the skills demands that will be required to deliver the low carbon and transitional investments planned for GM;</td>
<td>SEP, GM Chamber, EU Funding, potentially European Social Fund</td>
<td>Ibc</td>
<td></td>
<td>No further progress in quarter reported.</td>
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<tr>
<td>Sector &amp; Skills</td>
<td>E26</td>
<td>Work with colleges, universities and training providers to articulate needs for skills development in the GM low carbon economy, and bid for funding to deliver affordable training on low carbon building design specifically for the SME design / build sector</td>
<td>SEP, GM Chamber, GMCA, European Funding, potentially European Social Fund, revenue</td>
<td>2016</td>
<td>Assess the opportunity to support via ESF and other funds</td>
<td>No further progress in quarter reported.</td>
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<tr>
<td>Sector &amp; Skills</td>
<td>E27</td>
<td>Undertake Specific skills, competencies and training, and workforce analysis, to ensure that the right skills in the right volume are being brought forwards to deliver a low carbon economy. Prioritise CPD for existing trades to ensure that low carbon technologies can be promoted and installed, and professional and managerial competencies to identify and include carbon factors in decision making</td>
<td>SEP, GM Chamber, GMCA, LCH Board partners</td>
<td>European Funding, potentially European Social Fund, revenue</td>
<td>tba</td>
<td>tba</td>
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<tr>
<td>Cross Cut</td>
<td>A1</td>
<td>Deliver Natural Course: LIFE Integrated Project to reform how catchment delivery is managed and accelerate delivery of water quality and management issues in-line with EU Water Framework Directive</td>
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<td></td>
<td></td>
<td>Environme nt Agency, GMCA, UU, RT</td>
<td>LIFE + EU Funding, EA</td>
<td>2015</td>
<td>Appoint staff / virtual team established. Baseline data review. Catchment priorities developed. Urban catchment forestry and grey to green started.</td>
<td>GM work programme developed for Nat Course. Studies of Evidence &amp; Measures and Natural Flood Risk Management opportunities in Irwell catchment to report at end of quarter. Ecological information and woodland demonstration projects underway.</td>
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<tr>
<td>Cross Cut</td>
<td>A2</td>
<td>Deliver RESIN Integrated Project which will put in place tools and evidence to support enhanced climate change resilience – acting as an overarching resource to inform and support many of the actions listed below</td>
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<tr>
<td></td>
<td></td>
<td>GM Environme nt Team, UoM, EA</td>
<td>EU RESIN project funding, EA capacity</td>
<td>2015</td>
<td>Deliver 1st year of Resin Project</td>
<td>Tech and finance reports complete. 3rd general assembly meeting attended. GM working with Fraunhofer to develop Impact Chains to understand climate risks to critical infrastructure. On going contribution to wider project development and comms (GM City pages on <a href="http://www.resin-cities.eu/home/">http://www.resin-cities.eu/home/</a> complete. Starting to plan for GM hosting of General Assembly in Spring 2017</td>
<td>G</td>
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<tr>
<td>Cross Cut</td>
<td>A3</td>
<td>Embed Natural health outcomes in GM Public health activity and wider commissioning and provisioning activity</td>
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<td></td>
<td></td>
<td>PSR Team, GMCA Policy</td>
<td>GMCA revenue</td>
<td>2018</td>
<td>Tbc</td>
<td>Presentation from DPH at November NCG meeting on health and green spaces projects. Health to be picked up at next meeting. Discussions ongoing to hold a health and natural capital event in early 2017. Planning and health meeting to take place Jan 2017.</td>
<td>NA</td>
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<tr>
<td>Energy</td>
<td>A4</td>
<td>Review key energy infrastructure to assess its vulnerability to a changing climate</td>
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<td></td>
<td></td>
<td>ENW, GM Resilience</td>
<td>ENWL budget, RESIN</td>
<td>2017</td>
<td>Tbc</td>
<td>not yet started</td>
<td>NA</td>
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<tr>
<td>Energy</td>
<td>A5</td>
<td>Assess the impact of weather extremes on the energy balance, to ensure that it is integrated into demand forecasting and capacity planning</td>
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<td></td>
<td></td>
<td>ENW, GM Resilience</td>
<td>ENWL revenue</td>
<td>Tbc</td>
<td>Tbc</td>
<td>Tbc</td>
<td>Tbc</td>
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<tr>
<td>Energy</td>
<td>A6</td>
<td>Strengthen the system to support priority customers during extreme weather incidents, especially where these result in power outages</td>
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<td></td>
<td></td>
<td>ENW, GM Resilience</td>
<td>ENWL Cap ex</td>
<td>Tbc</td>
<td>Tbc</td>
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<tr>
<td>Energy</td>
<td>A7</td>
<td>Consider the development of tariffs which support vulnerable users during periods of extra power demand for heat and cooling</td>
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<td></td>
<td></td>
<td>LCPDU (GMEC)</td>
<td>Energy Co revenues</td>
<td>2016</td>
<td>To reach a conclusion on the most appropriate model for GM Energy company and implement</td>
<td>Energy company not to be pursued. Alternative options to support desired outcomes to be considered.</td>
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## Adaptation

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<tr>
<td>Buildings</td>
<td>A8</td>
<td>Embedding resilience of building stock to a changing climate via developing guidance and pilots</td>
<td>GMCA Policy</td>
<td>EA/GMCA capacity</td>
<td>2016</td>
<td>Identify and support the integration into GMSF</td>
<td>Currently not agreed how best practice on building level interventions (including wider than resilience) will be picked up in GMSF or when or if it is more suited to other routes. Further work required to identify this.</td>
<td>R</td>
</tr>
<tr>
<td>Buildings</td>
<td>A9</td>
<td>Integrate responses to extreme weather into key public building management systems and staff communications</td>
<td>GMCA Policy, Civil Contingencies</td>
<td>RESIN</td>
<td>2018</td>
<td>not yet started</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>SCP</td>
<td>A10</td>
<td>Integrate climate adaptation advice into the green growth programme</td>
<td>GMCA/BGH</td>
<td>RESIN</td>
<td>2017</td>
<td>Investigate potential to incorporate into any new programmes</td>
<td>not yet started</td>
<td>NA</td>
</tr>
<tr>
<td>Natural Ca</td>
<td>A11</td>
<td>Develop GM's natural environment evidence base and local priorities and consider as part of the production of GM Spatial Framework</td>
<td>GMEU</td>
<td>GMCA revenue</td>
<td>2016</td>
<td>Ensure Natural Environment evidence is prepared and justified to support GMSF and wider polices</td>
<td>Draft GMSF includes several thematic policies on natural environment:  - Green Infrastructure  - Nature Conservation  - Trees and Woodland  - The uplands  - Lowland wetlands  - River Valleys and Canals  - Green Belt  In support of this GMEU have produced a natural environment evidence base including GIS.</td>
<td>G</td>
</tr>
<tr>
<td>Transport</td>
<td>A12</td>
<td>Identify key risks to transport infrastructure posed by increased incidence of flooding and heat as part of Transport Strategy and Planning</td>
<td>TIGM</td>
<td>TIGM / RESIN</td>
<td>2017</td>
<td>Request to work up possible RESIN support offers and asks with tfgm over Q4 with view to progressing in 17/18. November storm produced significant disruption to transport services. Winter travel preparation campaigns underway</td>
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<td>Transport</td>
<td>A13</td>
<td>Integrate requirements for shelter from extreme weather and heat into building design and transport systems as part of a sustainable design guide.</td>
<td>TfGM</td>
<td>TfGM, EU funds</td>
<td>2016</td>
<td>Update and utilise the Sustainable assessment tool for project designs. Wigan bus station at ITT stage. Use of SAT stated in Q2. Others in pre-construction stage include Tameside and Stockport. Both have utilised SAT with proposed Stockport bridge assessed independently.</td>
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<tr>
<td>Transport</td>
<td>A14</td>
<td>Strengthen traveller notification systems to ensure that they respond to weather risks more effectively, including air pollution risks.</td>
<td>TfGM</td>
<td>TfGM</td>
<td>2016</td>
<td>Real time data made available for public use. £60k budget to fully redevelop the GAM standalone website - real time data. The website is due to be complete by the end of March 2017</td>
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<tr>
<td>Cross Cutting</td>
<td>C1</td>
<td>Operate a Low Carbon Hub Board, with supporting groups and networks.</td>
<td>GMCA Env Team</td>
<td>GMCA revenue</td>
<td>2012</td>
<td>Organise 4 Board meetings per year, plus support Buildings, Energy and NCP Groups</td>
<td>Energy, Buildings and Natural Capital Groups have all met during the quarter</td>
<td>G</td>
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<tr>
<td>Cross Cutting</td>
<td>C2</td>
<td>Publish disclosures as part of our external commitments e.g. Carbon Disclosure Project, Compact of Mayors, Under 2 MOU, and Integrated Covenant of Mayors on their international websites.</td>
<td>GMCA Env Team</td>
<td>GMCA revenue</td>
<td>2013</td>
<td>Submit disclosures by end of September</td>
<td>Final CDP submission on Compact of Mayors submitted. Following confirmation of emissions inventory, submission of relevant information (on both CO2 targets and climate resilience) and a process of clarification, GM is now one of 50 (of 600) global cities fully yr1 compliant with the requirements of the Compact of Mayors. Comms on this achievement is planned over remainder of quarter</td>
<td>B</td>
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<tr>
<td>Cross Cutting</td>
<td>C3</td>
<td>Maintain a suite of Key Performance Indicators and Operational Progress Measures to provide a transparent basis for performance analysis</td>
<td>GMCA Env Team</td>
<td>GMCA revenue</td>
<td>2016</td>
<td>As per main action</td>
<td>KPIs to be included in Annual Report</td>
<td>A</td>
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<tr>
<td>Cross Cutting</td>
<td>C4</td>
<td>Encourage organisations across GM to boost the carbon literacy of their employees via corporate schemes and the GM Carbon Literacy Project.</td>
<td>GMCA Env Team</td>
<td>EU, Partners</td>
<td>2016</td>
<td>As per main action</td>
<td>LCH Chair spoke at three events in support of GMCL. Interim Mayor spoke at two. The LCH funded CL engagement event delivered successfully. That said, take up of CL in GM in all sectors across GM substantially below the levels required to achieve LCH carbon reduction targets.</td>
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## Culture and Communication

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<tr>
<td>Cross Cutting C6</td>
<td>Seek to operate a communications, awareness and pledge initiative, and provide updates on key issues and action via social media, signposting followers to the initiatives and actions of others.</td>
<td>GMCA Env &amp; Mayor Teams</td>
<td>GMCA revenue</td>
<td>2016</td>
<td>Website proposal paper completed waiting for confirmation of support from GMCA</td>
<td>Due to CA transition, updates to be agreed on gmlowcarbonhub.com website. This will include specific project pages &amp; pages on improving personal low carbon behaviour. Survey delayed until Communications project group established via Board proposal. Twitter (Sep-Nov): tweets = 138 new followers = 81 profile visits = 1199 LinkedIn Group page created.</td>
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<tr>
<td>Cross Cutting C7</td>
<td>Work with experts to develop an evidence base and related resources to support planning officers develop policy and implement measures which enable occupants to adopt low carbon, climate resilient lifestyles</td>
<td>GMCA Env &amp; Planning Teams</td>
<td>GMCA revenue</td>
<td>2017</td>
<td>Tba</td>
<td>Not yet started</td>
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<tr>
<td>Energy C8</td>
<td>Develop and refine our approach to tenant engagement on carbon reduction based on social research conducted as part of the NEDO integrated heat pump and ICT platform trials and digital support training</td>
<td>Landlords, GMCA Env Team, NEDO Landlord</td>
<td>NEDO, Landlord revenue</td>
<td>2016</td>
<td>Develop and deliver bespoke research on tenant engagement to new/low carbon tech; undertake lessons learnt from tenant engagement in NEDO</td>
<td>Social Research ongoing and due to be completed end Q3 (UoS) and Q4 (UoM) providing insights on residents attitude to HPs, DSR &amp; Low Carbon. Lessons Learnt by PMO will be included in final project reports.</td>
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<tr>
<td>Energy C9</td>
<td>Publish and maintain detailed information on the Energy Network, and provide regular updates on our projects, performance and Plans.</td>
<td>Electricity North West</td>
<td>ENWL</td>
<td>tba</td>
<td>tba</td>
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<tr>
<td>Energy C10</td>
<td>Seek to use the development of energy trading to provide a new, more direct engagement with organisations and individuals across GM</td>
<td>GMCA</td>
<td>GMCA revenue</td>
<td>2018</td>
<td>tba</td>
<td>Not yet started</td>
<td>NA</td>
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<tr>
<td>Energy C11</td>
<td>Run and participate in heat networks engagement and communication activities, including conferences.</td>
<td>LCDPU</td>
<td>DECC, HNDU</td>
<td>2</td>
<td>To continue with participation</td>
<td>LCDPU representation at conferences and workshops ongoing</td>
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<td>Buildings C12</td>
<td>Develop an initiative which raises awareness of the links between domestic building quality, health and fuel poverty</td>
<td>GMCA Env &amp; Health</td>
<td>Tbc</td>
<td>2016</td>
<td>Establish a Health, warm homes and fuel poverty task group to develop a GM fuel poverty offer.</td>
<td>The proposal for dovetailing energy efficiency and fuel poverty with health is now being considered as part of a wider Home Improvement Agency proposal.</td>
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<tr>
<td>SCP C13</td>
<td>Operate a green growth pledge to engage businesses on resource efficiency, promoting a wider awareness of climate change and the issues and opportunities affecting them</td>
<td>BGH</td>
<td>ERDF</td>
<td>2015</td>
<td>Secure resources to deliver a carbon reduction service in addition to the eco-innovation support</td>
<td>There are currently 582 SMEs signed up to the Green Intelligence Service, and 91 GM companies to the Green Growth Business Pledge.</td>
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<tr>
<td>SCP</td>
<td>C14</td>
<td>A consortia of BBC North, Peel, ITV and other key media organisations will continue to promote the ALBERT+ standard for programme making, and continue to implement their shared employee engagement initiative, extending it to new organisations.</td>
<td>Media Consortium</td>
<td>Private Sector</td>
<td>tba</td>
<td>tba</td>
<td>Business to Business Breakfast held 25th Oct @ BBC and CL Organisation Awards @ Coronation St in late Nov</td>
<td>G</td>
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<tr>
<td>Natural Capital</td>
<td>C15</td>
<td>Engage communities in natural capital activities as a mechanism to connect them with nature and understand the role of natural capital in combating climate change and its impacts</td>
<td>LAs, NCG, Life IP, GMCA</td>
<td>revenue</td>
<td>2017</td>
<td>Develop engagement plan and comms for Life IP. Finalise branding and official launch of project.</td>
<td>NCG Conference 1st Feb 2017, Articles published on Life IP and Natural Capital On the Platform as well as other social media activity. Natural Course Ecological Information project underway. Training for local volunteers, December 2016.</td>
<td>A</td>
</tr>
<tr>
<td>Transport</td>
<td>C16</td>
<td>Continue to offer an extensive Travel Choices programme, to encourage people to switch more of their journeys to sustainable transport and to better manage their journeys and vehicle choices.</td>
<td>TfGM, TfGM Revenue</td>
<td>2015</td>
<td>Continue roll out of travel choices programme to businesses and individuals</td>
<td>Awaiting bid award notification from application to DfT for Access Fund.</td>
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<tr>
<td>Transport</td>
<td>C17</td>
<td>Work with the industry and customers to raise awareness and actively promote sustainable distribution</td>
<td>TfGM, TfGM revenue</td>
<td>2016</td>
<td>Establish GM Logistics Forum, Develop GM Freight and Logistics Strategy. Identify good practice trails to develop case studies</td>
<td>Forum launched. Workshops run with both operators and local authority officers</td>
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LOW CARBON HUB BOARD

Date: 20th January 2017

Subject: REVISED NATURAL CAPITAL TOR AND UPDATE

Report of: Anne Selby, Chair of Natural Capital Group

PURPOSE OF REPORT

A report was presented to the Low Carbon Hub Board at its last meeting which provided an outline of the scope of the Urban Pioneer, which was agreed subject to further discussions on governance arrangements. It has since been agreed that a Urban Pioneer Delivery Group will be convened as a sub-group of the NCG. Consequently, the following report sets out the draft revised Terms of Reference for the GM Natural Capital Group for approval and updates on the progress which has been made including delivery of the Natural Capital Group Work Programme and Urban Pioneer.

RECOMMENDATIONS:

The Board is requested to:

- Note the contents of the report and
- Agree the updated Term of Reference for the Natural Capital Group (Annex 1).

CONTACT OFFICER:

Email: krista.patrick@neweconomymanchester.com, GM Environment Team
Tel: 0161 238 4525

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1.0 NATURAL CAPITAL GROUP

1.1 The Natural Capital Group and its partners continue to play a key role in acting as an ambassador for GM’s natural environment, influencing the delivery of the Urban Pioneer and Natural Course Projects. A substantial amount of progress has been made since the last Low Carbon Hub Board meeting in October and a number of key actions have been identified for the next 6-12 months.

- The Natural Capital Group meeting in November included a dedicated session on reviewing the work programme and a revised Terms of Reference to include the Urban Pioneer Delivery Group (attached).
- Meeting with health colleagues to discuss key priorities, opportunities for developing a Natural Capital approach and next steps including presentation at the Natural Capital Group meeting on 15th November 2016.
- The Natural Capital Group held a Greater Manchester Spatial Framework Consultation Event on 30th November, which was attended by more than 50 stakeholders. The event provided an opportunity to clarify proposals and to find out more with feedback from facilitated sessions has been used to inform preparation of the NCG GMSF response: [http://ontheplatform.org.uk/article/greater-manchester-natural-capital-group-gmsf-consultation-event](http://ontheplatform.org.uk/article/greater-manchester-natural-capital-group-gmsf-consultation-event)
- The Local Nature Partnership website is currently being refreshed and will be incorporated into the main Low Carbon Hub website. An article was published on The Platform providing a round-up of local and national Natural Capital events including: City of Trees Prosperous Cities Event, Ecosystem Knowledge network prosperous Cities and Valuing Nature Conference: [http://ontheplatform.org.uk/article/what-can-natural-capital-do-our-urban-environments](http://ontheplatform.org.uk/article/what-can-natural-capital-do-our-urban-environments)
- Letters of support have been provided by the Chair of the Low Carbon Hub/Director of Environment for projects including Manchester City Council’s MACF ‘Grow Green’, Lancashire Wildlife Trust ‘Our Dream’ and Manchester University ‘Manchester Environment Map: Online (MEMO)’.

2.2 Future actions (next 6-12 months) include:

- Invited to attend and contribute to the National Green Infrastructure Partnership Group meeting on 25th January 2017 to update on GM Natural Capital activity: [http://www.gip-uk.org/](http://www.gip-uk.org/)
- Hold a Natural Capital Group Conference ‘What can Natural Capital do for GM – understanding multiple benefits’ confirmed for 1st February 2017 at the Lowry, Salford Quays, targeting developers and construction industry to attend and securing high profile speakers including Minster and Chair of the EA.
- Deliver a Natural Capital event for the health sector ‘Valuing our Natural Health Service’ with the Directors of Public Health Network focusing on understanding the value and benefits from Natural Capital and how can we maximise the opportunities.
• A workshop session to be held to review the existing natural environment evidence base and ecosystem services work to understand what is available, what’s missing and what is required to inform both the Natural Course and Urban Pioneer projects.

• A number of PHD research proposals led by Manchester University and Manchester Metropolitan University are looking at green spaces and brownfield land and ecosystem services as well as Natural Capital accounting. Further work is required to understand the relevance of these to the Greater Manchester work programmes and potential for further collaboration and sharing of information.

3.0 URBAN PIONEER

3.1 A report was presented to the Low Carbon Hub Board at its last meeting, on 7th October 2016, which provided an outline of the scope of the Urban Pioneer. Since then the following progress has been made:

• Locally an Urban Pioneer Delivery Group has been created from the Natural Capital Group and will act as the projects steering group, the primary function of this group is to shape and take accountability for the feasibility, development, monitoring and achievement of the outcomes of the Urban Pioneer. These specific outputs have yet to be defined.

• In October 2016, DEFRA held a call for innovative funding projects and there were a number of proposals received from key stakeholders across Greater Manchester. These have been fed back to DEFRA for review.

• Nationally there is the Natural Capital Committee Steering group which identifies and reports on the asks of Government. A Natural Capital Committee round table event was held on 23rd November in Manchester including 50 representatives from national bodies from across the country discussing the application of Natural Capital in urban environments and innovative finance opportunities. A review of the event was published by Dieter Helm, Chair of the National Capital Committee and is available at: http://blog.policy.manchester.ac.uk/posts/2016/11/how-manchester-and-others-can-make-the-most-of-natural-capital/

• Further engagement has included a presentation to the Greater Manchester Infrastructure Group on 12th December 2016, Planning Officers Group on 23rd December 2016 and the Planning and Housing Commission Meeting on 17th January 2017

• DEFRA have secured limited funding to support the four pioneers in developing their natural capital accounts and an evaluation framework is being developed which will set out key indicators for establishing a baseline and monitoring progress.

• A project manager has been appointed for the Urban Pioneer who will be responsible for delivery of the programme.

3.2 Future actions (next 6-12 months) include:

• Consultation on the framework for the 25 year plan has been delayed and is expected to be early 2017. It is hoped that this will be coupled with a
site visit/ministerial announcement. The Pioneers are expected to cover the next 3 years and the Defra 25 year plan is expected to be launched towards the end of 2017.

- The first meeting of the Urban Pioneer Working Group will focus on the identification and agreement on priority areas that the Urban Pioneer will focus on, such as health and wellbeing, supporting growth and prosperity, empowering and educating citizens to understand and value their natural environment, exploration of innovative ways to fund environmental interventions.

- The first stage of the Urban Pioneer Work Programme will look at securing an evidence baseline and Natural Capital account consisting of:
  - What assets are there across GM, where they are and what is their distribution; are they functioning – what is their condition/quality and what is their resilience to known pressures.
  - What are the gaps in our understanding and mapping the service provision of the assets and the service quality.
  - Identification of opportunities for multi-beneficial environmental interventions and inward investment opportunities.
  - Costings exercise, reviewing the total spend on Natural Capital from local and national government including private investment.
  - Continued engagement on the ongoing development of the project.
  - Identification of demonstrator projects and tools to support the testing of the approach.

- The Environment Agency is developing a Natural Capital Scorecard which aims to provide a benchmark of the quantity and distribution of assets and their value. An example is being developed for the Irwell catchment and a first draft is due in January 2017.

4.0 RECOMMENDATIONS:

The Board is requested to:

- Note the contents of the report and
- Agree the updated Term of Reference for the Natural Capital Group (Annex 1).
ANNEX 1

GREATER MANCHESTER NATURAL CAPITAL GROUP

TERMS OF REFERENCE

NOVEMBER 2016

1. PURPOSE

The primary purpose of the Natural Capital Group will be to lead and oversee delivery of the GM Natural Capital Group’s business plan and to provide advice to the Combined Authority on strategic natural environment issues.

2. VISION AND PRIORITIES

By 2020, our natural environment, and the ecosystem services it provides, still need to be both protected and (where possible) enhanced in light of increasing pressures from people, the economy and a changing climate. Our natural capital must also be embedded into the decision-making for sustainable economic growth investments, enhancing their success and resilience.

By 2020 we will seek to achieve:

- No net loss in habitat quality or extent from a 2014 baseline
- A year on year increase in the external funding secured for delivery of physical natural environment enhancement projects
- Over 3 million trees planted (by 2035) and natural capital embedded into our investments
- The transparent and informed consideration of natural capital impact in investment decision making

3. AIMS AND OBJECTIVES

The specific aims and objectives of the Natural Capital Group are set out in the Business Plan 2016-2017, including:

- Identify the key green and blue infrastructure and biodiversity assets for GM
- Quantify the value of key natural environment assets for GM
- Develop an investment framework to target resources at our key assets.
- Act as an ambassador for the natural environment in GM, support delivery through existing partnerships and structures and showcase headline initiatives

4. DELIVERY

The Natural Capital Group will define a Business Plan each year and agree this with the Chair of the GM Low Carbon Hub Board. Key actions and activities will be informed by the
Climate Change and Low Emission Strategies’ Whole Place Implementation Plan for Greater Manchester (2016-2020) (attached at Appendix 1).

The Natural Capital Group will make decisions within the scope of the agreed Business Plan. Decisions outside of the scope of the Business Plan and recommendations to the Combined Authority will be referred to the GM Low Carbon Hub Board.

The Natural Capital Group is charged with obtaining additional resources and funds to carry out the activities identified in the Natural Capital Group Business plan.

Priority outputs required from the Low Carbon Hub Board will be provided by the Natural Capital Group and drawn from the Natural Capital Group Business Plan.

5. MEMBERSHIP

The Natural Capital Group will comprise a Chair and Vice Chair plus appropriate members from the public/private/voluntary sectors of GM. The number of members will be deemed as appropriate by the Chair and Vice Chair. Group members may be asked, at the discretion of the Chair, to assume responsibility for certain portfolios covering specific aspects of the natural environment, geographical locations, projects or initiatives, or oversight of Partnership resources.

The Chair will be appointed by the Chair of the GM Low Carbon Hub on behalf of the Combined Authority.

Chair: Anne Selby, The Wildlife Trust for Lancashire, Manchester and North Merseyside, aselby@lancswt.org.uk

Vice Chair: Chris Matthews, United Utilities, Chris.Matthews@uuplc.co.uk

Members: See Appendix 2. Group membership will include representation from the GM Low Carbon Hub.

6. OPERATING PRINCIPLES

6.1 Governance

No business will be transacted unless four Natural Capital Group members are present. Decisions will largely be reached by consensus, by 2/3 majority vote or where appropriate under Chair's authority, etc.

6.2 Meeting frequency

The Group will meet quarterly for 2-3 hours, with meeting dates arranged for a full financial year to align with the Low Carbon Hub Board meeting dates.

Where-ever practical, papers will be issued five working days before meetings, and the meeting note will be issued within two weeks of the meeting date. The Greater Manchester Forest Partnership will report minutes from their meeting back to the Natural Capital Group
as a standing item. At the discretion of the Group, more frequent Task and Finish meetings may be held if required i.e. Urban Pioneer Delivery Group.

6.3 Support arrangements

The Group will be assigned a lead officer from the Greater Manchester Environment Team to provide co-ordination and facilitation for the meetings.

6.4 Roles and responsibilities

Chair
- Agree agenda and papers and Chair meetings
- Report back to the Low Carbon Hub Board and represent the views of the Group at Low Carbon Hub Board meetings
- Champion the role and views of the Group to external audience

Members
- Regularly attend and contribute to meetings
- Thoroughly review and inform the work of the Group
- Individually lead specific responsibilities and work programme activities
- Report progress against priorities they are responsible for

GM Environment Team
- Arrange secretariat support to the meetings
- Co-ordinate and facilitate the development and implementation of the work programme
- Review and contribute to proposed papers
- Provide the operational interface between the other LCH themes
- Work with the Group members to support the implementation of actions

GMIST
- Provide equipment, materials, rooms and a secretariat service to the Board

7. RELATIONSHIP WITH OTHER GROUPS

The Natural Capital Group is a task-group of the Low Carbon Hub Board. The Group will establish relationships and a working protocol with other topic groups on the following principles:

- The Chair of the Natural Capital Group is a Low Carbon Hub Board member
- The Natural Capital Group will set out how it expects the relationship to work with each group to be clear about how it thinks it can achieved its aims and objectives. It is expected this will evolve over time.
Appendix 1: Relevant Actions from the Climate Change and Low Emissions Implementation Plan

Natural Capital

M25: Plant 3m trees across GM by 2035 as part of the City of Trees initiative, to create shade, manage water and sequester carbon.

M26: Improve the management of our key CO2 sinks, targeting activity on our key habitats – such as lowland and upland peat bogs.

E18: Identify funding to support Natural Deal skills development.

A11: Develop GM’s natural environment evidence base and local priorities and consider as part of the production of GM Spatial Framework.

C15: Engage communities in natural capital activities as a mechanism to connect them with nature and understand the role of natural capital in combatting climate change and its impacts.

Cross Cutting

M1: Consider how best to use spatial plans and related levers in order to achieve compliance with GM’s current and 2020+ low carbon aspirations, and advocate increasing well-connected, dense urban development.

E4: Develop a comprehensive low carbon, climate change and water evidence base to inform the Greater Manchester Spatial Framework.

A1: Deliver a successful Water Framework Directive focused LIFE Integrated Project (Natural Course) to reform how catchment delivery is managed and accelerate water quality and management issue resolution.

A2: Deliver RESIN Integrated Project which will put in place tools and evidence to support enhanced climate change resilience – acting as an overarching resource to inform and support many of the actions listed.

A3: Embed Natural health outcomes in GM Public health activity and wider commissioning and provisioning activity.

C5: Maintain and regularly update a comprehensive online resource of articles, news, documents and reports, including quarterly progress reports and an Annual Performance Report.
# Appendix 2: Current Membership List

<table>
<thead>
<tr>
<th>Chair</th>
<th>Company</th>
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<tbody>
<tr>
<td>Anne Selby</td>
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<tr>
<td>Councillor Derek Antrobus</td>
<td>Salford City Council</td>
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<td>Mark Atherton</td>
<td>GM Environment Team</td>
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<td>Krista Patrick</td>
<td>GM Environment Team</td>
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<td>Jenny Hollamby</td>
<td>GMIST</td>
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<tr>
<td>Gareth Bruff</td>
<td>GMIST</td>
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<tr>
<td>Jeremy Carter</td>
<td>University of Manchester</td>
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<tr>
<td>Jackie Copley</td>
<td>CPRE Lancashire</td>
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<tr>
<td>Matthew Ellis/Helen Telfer</td>
<td>Environment Agency</td>
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<tr>
<td>Barnaby Fryer</td>
<td>Cooperative Group</td>
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<tr>
<td>Alison Gordon</td>
<td>New Economy</td>
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<td>Ginny Hinton</td>
<td>Natural England</td>
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<td>Alan Higgins</td>
<td>Oldham Council</td>
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<tr>
<td>David Hodcroft</td>
<td>GMCA / AGMA Planning and Housing Team</td>
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<td>Anne Morgan</td>
<td>GMCA / AGMA Planning and Housing Team</td>
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<tr>
<td>Will Horsfall</td>
<td>Salford City Council</td>
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<tr>
<td>Tony Hothersall</td>
<td>City of Trees</td>
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<tr>
<td>Philip James</td>
<td>The University of Salford</td>
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<tr>
<td>Chris Matthews</td>
<td>United Utilities</td>
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<tr>
<td>Kathy Oldham</td>
<td>AGMA Civil Contingencies and Resilience Unit</td>
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<tr>
<td>Gillian Renshaw</td>
<td>Canal and River Trust</td>
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<td>Derek Richardson</td>
<td>GMEU</td>
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<td>Bev Taylor</td>
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## Substitutes

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<tr>
<td>Phil Woods</td>
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<td>AGMA Civil Contingencies and Resilience Unit</td>
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<td>Stephen Watkins</td>
<td>Stockport Council</td>
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<td>Mark Turner</td>
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LOW CARBON HUB BOARD

Date: 20th January 2017
Subject: MISTRA URBAN FUTURES COMMUNICATIONS PROPOSAL
Report of: BETH PERRY, ACADEMIC DIRECTOR, MISTRA URBAN FUTURES UK

PURPOSE OF REPORT

The purpose of this paper is to present a proposal for Mistra Urban Futures to fund a PhD student for three years, to work in partnership with the GM Low Carbon Hub, to better understand and act on improving communications and engagement with civil society groups and citizens. This would be aligned to the planned refresh of the Greater Manchester Climate Change Strategy, which will begin in 2018.

The PhD is funded as part of an innovative scheme to explore new approaches to funding and supporting post-graduate research that can balance academic excellence with relevance and impact. Mistra Urban Futures’ overall aim is to explore how co-producing knowledge with different urban stakeholders can help realise more just cities, which are accessible, green and fair.

RECOMMENDATIONS:

The Board are recommended to:
- discuss and feedback on the proposal; and
- agree in principle to the proposal and to support its further development with the Director of Environment and Chair of Low Carbon Hub.

CONTACT OFFICERS:

Contact Officer: Mark Atherton, GM Environment Director
Mark.atherton@neweconomymanchester.com

BACKGROUND PAPERS:

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1.0 BACKGROUND

Between 2012-2015 the Greater Manchester Low Carbon Hub worked with a team of international academics and practitioners to develop comparative understanding of the governance, policy and knowledge-related challenges in urban sustainability (see Diagram 1). The work highlighted the gap between city-regional decision-making organisations and residents in the city-region. It identified a need for the GMLCH to understand, and act on improving, the mechanisms and processes for communicating and engaging with citizens in Greater Manchester. It also highlighting the need to integrate online mass communications with tailored face-to-face interactions.

The work was supported by the Mistra Urban Futures, an international Centre for sustainability with headquarters in Gothenburg, Sweden. Mistra Urban Futures is a centre with the vision of achieving sustainable urban transitions which are accessible, green and fair. The Centre’s mission is to explore how co-production with different urban stakeholders can help achieve this vision. It has set up Local Interaction Platforms (LIPs) in Gothenburg, Malmo, Kisumu, Cape Town and Sheffield-Manchester to operationalise the vision and mission. The current programme of work is called ‘Realising Just Cities’; all funded activities must relate to and support the values and activities of this programme.

This proposal has been developed by Professor Beth Perry at the Urban Institute, University of Sheffield, with input and discussion from Mark Atherton and Steve Connor, Chief Executive of Creative Concern. Beth is the Director of the Sheffield-Manchester Local Interaction Platform.

2.0 INNOVATIVE PhD PROGRAMME

Much of the focus to date on academic impact or co-production has focussed on the relationship between academic researchers and policy-makers. However, there are now increasing efforts to think about the implications of the ‘co-production’ paradigm for post-graduate research, specifically PhD students.

A PhD cluster is being developed by Professors Beth Perry and Tim May (Sheffield Methods Institute) at the University of Sheffield, with the Department of Urban Studies and Planning. This will explore innovative ways of undertaking post-graduate research to combine academic excellence with relevance and impact. Three PhDs will be funded within the Realising Just Cities programme. Collectively, they will focus on different organisational cultures and spaces in city-regions and their role in realising just cities:

- One PhD will focus on cultures of knowledge production. They will look at the role of the university in realising just cities. This student will be based in Sheffield.
- One PhD will focus on cultures of knowledge reception. They will look at the changing roles and cultures of local authorities in engaging with citizens to realise just cities. We are exploring whether this student can be embedded in a local authority in Greater Manchester.
- One PhD will focus on communicative spaces. They will look at the spaces of communication and translation between stakeholders – particularly policy officials and civil society. This is the PhD we are looking to develop with the GM Low Carbon Hub. The PhD will, inter-alia, work on developing GM’s Platform website and at how ‘safe spaces’ can be created to allow dialogue on climate change adaptation and mitigation policy.
The PhD funding is for 3 years only and needs to complete in early 2020. This means that their contributions to the Climate Change Strategy refresh would be to shape, define and develop the process and contribute to effective subsequent delivery.

The Local Interaction Platforms in Gothenburg, Malmo, Kisumu and Cape Town are also exploring how their PhD students can work in innovative ways. For instance, Gothenburg is developing ideas to set up a Transdisciplinary Research School and the Gothenburg Director of Environment is participating in this process.

The three PhD positions have already been advertised, without any specific details about partnerships and co-supervisors, prior to the Board discussing the proposal (see http://www.sheffield.ac.uk/usp/researchschool/realising-just-cities)

3.0 THE PROPOSAL

In discussion with the Director of Environment (Mark Atherton), Creative Concern (Steve Connor) and the Academic Programme Lead for the Sheffield-Manchester Local Interaction Platform (Beth Perry), a proposal has been developed to co-supervise a PhD student on the topic of ‘Communication, Engagement and the Just City’. Dr Aidan While from the Department of Urban Studies and Planning would also co-supervise the student within the University of Sheffield.

The PhD would address a series of intellectual and practical questions. It would operate in an ‘action-research’ mode, focussing on ‘how to’ address problems identified through practical interventions. Questions include:

- What kinds of ‘communicative spaces’ are needed in urban governance between public policy officials and civil society?
- How can they be created and maintained?
- How does communication relate to broader strategies for participation and inclusive governance?
- Who needs to communicate to whom and how to realise more just cities?

The proposal is to focus on a case study of the Greater Manchester Low Carbon Hub, specifically the balance between digital (via ontheplatform.org.uk and other websites) and face-to-face communications and linked to the refresh of the Greater Manchester Climate Change Strategy.

The PhD student’s fees and bursary (c.£60,000) and the time of the academic supervision team would be paid for by Mistra Urban Futures/University of Sheffield. The proposal requires GMLCH/Creative Concern to provide supervision time and in-kind resources (such as desk-space, venues) to match the work.

Cash funding would also be available to part or fully match communication, participation and engagement funds provided by GMLCH.

4. RECOMMENDATIONS

4.1 The Board are recommended to:

- discuss and feedback on the proposal; and
- agree in principle to the proposal and to support its further development with the Director of Environment and Chair of Low Carbon Hub.
UK Coalition Government

Regionalism replaced by localism
RDAs abolished
LEPs established
Context of development of GMCA, devolution and City Deal

Global ‘polycrisis’ – financial, ecological, social
State restructuring
Authority and cuts
Welfare reform
From Environment Commission to Low Carbon Hub

Uncertain national environmental commitments
Targets and incentives
New concepts and ideas
Development of first Greater Manchester Climate Change Strategy

Diagram 1
Contexts and Challenges Identified in the 2012 Baseline Assessment

- Diminishing organisational capacity: staff cuts
- Changes to political landscape
- Siloed and multi-scalar policy domains
- Pursuit of economic growth rather than development
- Complexity of sustainable urban development topics
- Headline indicators are economic
- ‘GM’ is not meaningful to citizens and stakeholders
- Project funding and bidding mentality
- Competing priorities for limited resources
- Imbalance of resources between strategy and delivery
- Limited stakeholder engagement
- Tension between city-regional and localist approaches
- Need to utilise relationship mechanisms of local authorities to engage communities
- Organisational change
- Integrating new GMLCH in governance structure of GM
- No single governance body for sustainability in GM
- Policy framework does not reflect full inclusion of SUD topics
- Just-in-time culture
- Paucity of recognised and collected data for sustainable urban development topics
- Little learning from grassroots initiatives
- Under use of existing regional data from RDA
- Gaps in local authority data
- Lack of research budget
- Poor use of HE and FE research to inform policy development
- No formal sustainability audit process
- Lack of formal management system
- Reliance on usual suspects to provide expertise and input
- Imbalance of resources between strategy and delivery
- Limited stakeholder engagement
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- Lack of research budget
- Poor use of HE and FE research to inform policy development
- No formal sustainability audit process
- Lack of formal management system
- Reliance on usual suspects to provide expertise and input
LOW CARBON HUB BOARD

Date: 20th January 2017
Subject: Update on the Business Growth Hubs Low Carbon Service Offer

PURPOSE OF REPORT

The purpose of this paper is to provide Low Carbon Board Members with an update on the Business Growth Hub’s contribution to Greater Manchester’s transition to a low carbon economy.

RECOMMENDATIONS:

The Board are recommended to:
• Note the report and presentation.

CONTACT OFFICERS:

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BACKGROUND PAPERS:

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1. **BACKGROUND**

Within the Climate Change and Greater Manchester Strategies, GM is committed to reducing CO$_2$ emissions by 48% by 2020 from a 1990 baseline. Not only will this bring significant environmental gains, it will increase GMs prosperity by strengthening the low carbon goods and services sector and more widely by helping all businesses become more productive through increased energy and material efficiency. This will also increase the resilience of all parts of GMs economy.

The Growth Hubs current low carbon service offer has been developed from previous initiatives which have supported local SMEs for over 15 years. Most recently these services were delivered through the Green Growth service which was a single project covering resource efficiency, environmental risk and low carbon sector support. Due to changes in the funding landscape these services have new been separated into three discrete, but highly connected projects.

2. **CURRENT SUPPORT OFFER**

The Business Growth Hub currently delivers three low carbon services, as part of the wider suite of support it provides to GM SMEs, namely:

1. **Low Carbon Sector Support** – part of the wider Priority Sector initiative, this service supports companies who are already in, or are looking to diversify into the Low Carbon Environmental Goods and Services Sector.
2. **Eco –Efficiency** – part of the wider Innovation project with GM University partners, this service looks to support companies who are looking to develop new products or services which have a lower environmental impacts.
3. **Carbon Reduction Service** – this is a standalone project which helps companies reduce their carbon emissions by becoming more energy efficiency and or through the adoption of on-site renewable energy generation. This service also includes a 50% capital grant programme for measure up to £25,000 in value.

The table below provides a headline summary of the nature of the support across all three project areas.

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<td>to SMEs</td>
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<td>to large companies</td>
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<td>Improved energy efficiency</td>
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<td>Supply Chain resilience</td>
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<td>Renewable Energy Installation</td>
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<td>Environmental Risk and Resilience</td>
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* can be included only if there are materials energy savings
As can be seen the current offer does not mirror the previous one, most notably companies can no longer be supported on Environmental risk and resilience, or none energy related resource efficiency; this is due to new constraints placed by the European funding used to deliver the service.

All three services provide on-site reviews to identify improvement opportunities using qualified environmental auditors, eco-innovation practitioners or sector development specialists. The duration of the support depends on the specifics of the client’s needs and can involve the use of specialist third party consultants.

### 2.1 Carbon Reduction and Eco-innovation Services

These are delivered, from a client perspective as a single offer, which provides:

- **A Diagnostic business review** to identify where companies can make energy efficiency savings, use renewable energy and/or improve the environmental credentials of their products or services.
- **Specification support** to help the company understand and quantify the potential of the opportunity and economic and environment benefits arising from its realisation
- **Hand holding** to support the manager to develop and implement the recommendations, and overcome the challenges that arise as part of the process
- **Capture impacts** using the online resource efficiency toolkit to measure the economic and environmental gains which have been identified and secured over time.

To support the uptake of the carbon reduction recommendations suitable companies will be able to apply for a small capital grant to catalyse their plans. Where possible, and within the constraints of the public funding companies who are looking to buy equipment or services will be made aware of the local GM suppliers as identified through the low carbon sector support programme.

### 2.2 Low Carbon Sector Support

This is a specialist sector support service providing advice to support businesses within the low carbon and environmental goods and services (LCEGS) sector, and importantly those looking to diversify into; it provides:

- **A Diagnostic business review** to identify barriers and opportunities for growth and create an action plan of support, which can include:
  - **Market Intelligence** understanding current market trends and supply chains, forecasting market growth opportunities, identifying diversification opportunities
  - **Increasing sales leads** identifying new routes to markets, improving sales strategy, understanding supply chain requirements, direct sales leads via virtual Low Carbon Network
  - **Competitor review** using an in-house database of ~1000 companies mapping GM sector, helping to develop USPs and realise place in the supply chain
  - **Diversification** into the sector providing information on sector capabilities and potential gaps and growth opportunities, developing new products and services

A key component of this service is to ensure that the companies supported are able to maximise the relevant services offered by the rest of the Growth Hub. This ensures that the limited resources available are used to best effect and that the client gets support the need when they need it.
2.3 Integration with the Wider Hub Support Services

As appropriate Business Advisors will refer companies to other Growth Hub services, to ensure resources are optimised, duplication is avoided and most importantly the companies get the support they need when they need it from experts in the relevant fields. As such companies are referred into:

- **Greater Manchester Growth Hub Services** to providing mentoring and workforce development services to help companies identify their development needs, signposting them to appropriate providers.

- **Business Growth Hub Innovation Service** bringing in expertise from R&D institutions, to encourage business investment in research and innovation, product and process development, adoption of digital technologies.

- **Access to Finance** helping them become investment ready and access mainstream or alternative finance to implement their growth plans (which in a high proportion of cases will be identified as part of the support provided)

- **Pan LEP Specialist Manufacturing Service** supporting business improvement projects, procured from the private sector, that drive increased capacity and capability for growth and productivity improvements.

- **Enhancing SMEs’ International Trade Performance** using with specialist advisors delivering specific export advice and support to assist new exporters or those seeking to enter new markets.

- **Business Growth Hub Sector Support Service** a highly targeted Growth Hub service delivering specialist support, from a network of technical expertise and facilities, to GM SMEs in the GM’s priority sectors: digital, creative & technology; life sciences; advanced manufacturing & materials; and low carbon & environmental goods & services.

See Annex 1 Diagram on the interaction between these services and additional support on offer.

3. RECOMMENDATIONS

3.1 The Board are recommended to:

- Note the report and presentation.
In addition to these intensive one to one support services, all companies can access range of free online support through the:

**Low Carbon Virtual Network**
Over 200 companies have joined the GM Low Carbon Virtual Network. It provides a simple mechanism to keep in touch with the sector, keeping them informed of sales and public procurement opportunities, enabling direct contact on specific pieces of work. The network increases the visibility of, and maps local suppliers while raising members’ awareness of services and opportunities within the network.
[www.green-growth.org.uk/network](http://www.green-growth.org.uk/network)

**Green Intelligence**
Over 550 GM companies receive this free, individually targeted, fortnightly e-bulletin bringing them the most relevant environmental business news, information and case studies directly to their inboxes.
[www.green-growth.org.uk/green-intelligence](http://www.green-growth.org.uk/green-intelligence)

**Green Growth Pledge**
Almost 100 GM companies are signed the online commitment to action which can be tailored to suit all sectors and sizes of business covering 14 categories with 55 actions to choose capturing existing good practice as well as future pledges. [www.green-growth.org.uk/pledge](http://www.green-growth.org.uk/pledge)
PURPOSE OF REPORT

This report provides an update on progress with development of an Energy Enterprise for Greater Manchester. It also outlines further areas for consideration on how to fulfil Greater Manchester’s aims and objectives in the absence of a fully licenced supply company or Joint Venture.

RECOMMENDATIONS:

The Board are recommended to:

i) Note the update on the creation of a GM Energy Enterprise and GMCA’s recent decision not to progress with a partnership (white label) Energy Company at this time; and

ii) Note and comment upon the alternative options being considered for GMCA to fulfil its aims and objectives.

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1.0 BACKGROUND

GM Officers (the GM LCPDU) have been investigating the potential creation of a GM Energy Company over the last 18 months. In June, GMCA were advised that a fully licenced supply company was not considered to be viable, however a potential partnership, via a white label model should be explored.

Subsequent investigation has resulted in a recommendation to the GMCA, in October 2016, that a white labelling model should not be pursued at this time due to the potential benefits being outweighed by the costs/risks (See Annex 1). However, GMCA noted that alternative approaches to enable GMCA to have a positive impact on fuel poverty and achieve the original aims set out for the Energy Enterprise would be explored. This paper sets out some of the options being considered.

2.0 AIMS AND OBJECTIVES

In March 2015, the Low Carbon Programmes Group commissioned an options appraisal and outline business case for the concept of an “energy enterprise” for Greater Manchester. It was proposed that an energy enterprise would inter-alia create a Fully Licensed Supply Company (FLSC) involved in the supply of energy (both electricity and gas) to industrial, commercial and domestic markets and energy purchase from the wholesale market. Also, in the case of electricity, purchase from (local) generators via power purchase agreements (PPAs).

It was intended that such a company would:

- generate revenue surpluses/provide energy cost savings;
- reduce energy costs to the fuel poor;
- encourage the development of and investment in low carbon/renewable generation in GM, by offering power purchase agreements; and
- support and encourage the achievement of socio-economic and low carbon goals.

There is still a case to be made for a GM energy enterprise to address these aims, however GMCA has now decided not to proceed with one perceived key element, a fully licensed energy supply company. The decision followed detailed work which highlighted the reputational and financial risks to the CA should it enter the licensed energy supply market, either as a FLSC or as a “white label” offering. Risks that have become even sharper as a result of a shift back towards a higher cost, more volatile wholesale energy market.

3.0 OPTIONS

GMCA’s aims are still valid; alternative routes to their achievement now need to be investigated. The following options are currently being considered:

3.1 Generate revenue surpluses/energy cost savings
a) Re-examine the potential for joint local authority energy procurement for the public estate. A number of GM Authorities are already jointly procuring their energy (e.g. Stockport, Trafford and Rochdale – through STAR). Additional potential savings could be accrued by other authorities combining their purchasing power; this is particularly true during the GMCA transition phase.

b) Consideration of a comprehensive programme of public building retrofit activity to generate operational savings, potentially using a recycling fund (e.g. using Salix finance) or ERDF grant.

### 3.2 Reduce energy costs to the fuel poor

There are two primary routes:

a) reducing demand/energy efficiency
   - Build on GM’s award winning Green Deal Communities pilot, with a strategic partner, to explore financial mechanisms and models for improving domestic energy efficiency, e.g. whole house approach, in hard to treat properties.
   - Working with the major six energy utilities, we are exploring their offerings around ECO3, and specifically around the new ‘flexible eligibly’ element of ECO3 which will enable LAs to determine the criteria. BEIS/OFGEM are yet to publish their guidelines, rules around ECO3.
   - Working with GM Health and Housing leads we are exploring conducting a pilot, of Bolton Council’s Home Improvement Agency (Bolton Care and Repair), working more collaboratively with GM Fire and Rescue Service (GMFRS) and their Safe and Well Check. The pilot will have the primary aim of demonstrating that the GMFRS Safe and Well Check can work as an integral part of a successful Home Improvement Agency (HIA) model, working with the HIA and other key stakeholders to assist vulnerable residents.

b) reducing tariffs/cost (particularly for fuel poor) - The largest local authority FLSCs are not delivering the cheapest tariff:
   - Explore a GM specific communications campaigns to encourage Tariff Switching Options, although national campaigns already exist.
   - Explore the potential to accelerate roll out of smart meters, potentially aligned to an energy efficiency and/or energy generation offer with a strategic partner.

### 3.3 Encourage the development of and investment in low carbon/renewable generation in GM e.g. by offering power purchase agreements

- Focus on a proposition to enable a virtual private wire arrangement working with ENW, a FLSC and OFGEM, which should deliver more value to local generation supplying local demand.
- Manchester Growth Hub has recently been awarded ERDF Funding which, inter-alia, will deliver small grants to SME’s to support the uptake of renewable energy technologies.
- ERDF 2020 funds are being used to set up a Low Carbon Investment fund aimed at private sector low carbon/renewable energy generation projects. The initial fund will be £15m and will offer loans and equity (but not grants). The LCIF will be part of the Fund of Funds being set up by GM and will become active in 2017. A fund manager is to be appointed and will replace the Low Carbon Investment Director. The fund manager will be supported by a reduced GMLCPDU.
- In addition DBEIS has launched the Heat Network Investment Project which aims to provide £320m of capital support to accelerate heat network
deployment across the UK. Both grants and long term low cost loans are being made available. The GMLCPDU led 3 applications to the pilot phase (2 in Manchester and 1 in Trafford). The results will be known by the end of January 2017.

3.4 Support and encourage the achievement of socio-economic and low carbon goals

In addition to the above options, which could all generate socio-economic as well as environmental goals, we could consider:

- Encouraging the wider uptake of energy efficiency measures in the commercial building sector by promoting best practices and assessing the viability of competitively priced loans (e.g. thorough ERDF Low Carbon Investment Fund). A combination of the above options would support the achievement of these goals.
- As part of the Smart Systems and Heat programme, GM may need to explore with other partners, viable business models to support the commercialisation of a Home Energy Management System (HEMS) and associated energy generation and efficiency measures. This may include the creation of a Special Purpose Vehicle or ESCO.

4.0 CONCLUSION

To make a substantial change, we may need a radical shift of tactics. A number of the options above require the cooperation of a strategic partner(s) to support GM’s delivery of low carbon measures which could also bring socio-economic gains. Consideration should be given to devising a tender opportunity to attract such a partner(s) to join with GM to deliver the outcomes and benefits.
PART A

Date: 28th October 2016

Subject: Energy Company for Greater Manchester – White Labelling


PURPOSE OF REPORT

This report provides an update on the proposals for a Greater Manchester Energy Company (‘GMEC’) to the GMCA. Previous papers on the potential for a GMEC were presented to the CA in December 2015 and June 2016. A detailed analysis of the market position of potential White Label partners is contained in the associated Part B report.

RECOMMENDATIONS

It is recommended that the GMCA:

- Note the work undertaken to determine the appropriateness of a white label arrangement with prospective partner suppliers;

- Agree that in an increasingly competitive energy supply market, the potential benefits of such an arrangement are outweighed by the risks. As such, a potential White Labelling arrangement should not be pursued at the present time.

- Note that consideration is being given to alternative approaches which will enable GMCA to have a positive impact on fuel poverty in Greater Manchester and encourage investment in local generation assets.
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Julian Packer – GMCA (j.packer@manchester.gov.uk)

BACKGROUND PAPERS:

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1. **BACKGROUND**

1.1 This report follows the update presented to the GMCA at the June 2016 meeting. Throughout the report any reference to a fully licensed supply company is to one which is trading both electricity and gas (a “dual fuel” company).

1.2 As detailed in that report, a fully licensed supply company is not considered to be a viable option for Greater Manchester (“GM”) given the increasing level of competition in the energy supply market and the significant associated set up costs and financial risks.

1.3 Investigations into a potential partnership via a white label arrangement with an existing licensed supplier have been made and this paper sets out the key potential benefits and risks of such an arrangement.

2. **BENEFITS**

2.1 The goals of a white label arrangement would be focussed on helping customers who are not engaged with the energy market, and are typically on standard variable tariffs with Big 6 suppliers, to move to a local energy company and realise savings on their fuel bills. Similarly it could offer savings on existing prepayment tariffs and also look to move customers away from prepayment tariffs to cheaper direct debit deals.

2.2 This is predicated on the expectation that a local energy company utilising the Greater Manchester brand could reach those so called “sticky” customers by offering a different proposition to private sector suppliers, such as by operating on a not-for-profit basis or committing to fairer tariffs. As an example, Bristol Energy in their 2016 Annual Report estimate that the 10,000 customers they have signed up to date will save a total of £830,000 per year versus staying with their existing supplier, i.e. an average of £83 per household.

2.3 A white label arrangement could also generate an income stream of commission and retention fees. However these would be offset by marketing fees and any costs directly incurred by GM to facilitate the white label model.

2.4 There is also the potential for the white label company to enter into Power Purchase Agreements (“PPAs”). This could help stimulate investment in local renewable generation assets by providing them with certainty around the income stream they would receive for the energy offtake.

3. **RISKS**

3.1 A white label would present significant reputational risks given the use of the Greater Manchester brand.

3.2 The most obvious PR risk is around the tariffs that the white label would charge.

3.3 Under a white label the tariffs would need to mirror those already charged by the partner supplier to its customers, given the partner supplier needs to ensure it can cover its cost base by pricing appropriately. Reputationally it would also be difficult for the white label to offer a more expensive tariff given the adverse publicity it could bring.

3.4 As a result the price competitiveness of the white label is essentially driven by the pricing strategy of the partner supplier and in an increasingly competitive market place (see Appendix 1 for more details), no supplier could give assurances around being the cheapest provider on the market.
3.5 Ensuring strong customer service levels, including on-boarding of new customers, accurate and timely billing etc, would also be critical to the success of a white label. It would be challenging to get the required comfort in these areas if GM is to look at partnering with a new or smaller supplier whose systems and processes are less established.

3.6 Entering the domestic supply market also presents a significant risk around the handling of any late or non-payers. Current data shows that over last the 3 years there has consistently been c.5% of all customers whose debt is more than 90 days overdue. They are therefore a significant issue that would have to be managed by the white label and the partner supplier.

3.7 The white label could also fail to achieve the anticipated levels of engagement with local residents. The success of other local authority backed energy suppliers is still to be demonstrated.

3.8 Finally, in respect of the aim of encouraging investment in local generation assets, there is no guarantee that a white label would achieve that. Any PPAs would be under the control of the partner supplier and it would not be GM that would enter into these. That would depend on the size of the supplier’s customer base, its energy purchasing strategy, and its appetite to enter into long-term PPAs.

4. SUMMARY

4.1 Based on the above, it is considered that the risks far outweigh the potential benefits of entering a white label arrangement.

4.2 The market has evolved considerably since the concept of a locally owned energy company was originally put forward and there is far more competition than was the case two years ago. In addition the remedies put forward following the conclusion of the Competition and Markets Authority investigation into the energy markets, should serve to increase the competitiveness of the market further (see Appendix 1 for the details of these).

4.3 As a result any locally owned energy company is unlikely to be able to offer the cheapest deals on the market. Its key remit of seeking to reduce fuel poverty is therefore fundamentally compromised if local residents could achieve a greater level of savings by moving to other suppliers.

4.4 Reputationally a white label arrangement would present significant risks to GM, not only around the price competitiveness of the tariffs, but also around customer service levels, the handling of late payers and bad debts, and the risk of the partner supplier failing or withdrawing from the market.

4.5 There would also be no guarantee that a white label arrangement would help stimulate investment in local generation assets through the introduction of PPAs. Such aspirations can instead be promoted through vehicles such as the GM Low Carbon Fund, which will make £25m available to promote the adoption of low carbon/renewable energy technologies.

4.6 Further work is being undertaken to review alternative options which would enable GMCA to make a positive impact on fuel poverty in Greater Manchester and encourage investment in local generation assets.
Appendix 1 – Market Context

A) Current market environment – increasing competition

According to the Ofgem retail market review, published in August 2016, the Big 6 suppliers continued to lose market share in the year to March 2016, with small and medium sized suppliers accounting for 14% of the market, which represents a 4% increase during the year. For reference the market share of the independent suppliers was only 3% as recently as 2013.

Alongside this increase in market share, the number of small and medium sized suppliers is expanding with 14 new suppliers becoming active in the year to March 2016 such that there were 43 licensed and 8 white label suppliers in total at that date. That in turn followed another 5 entrants that became active in the year to March 2015.

B) Competition and Markets Authority (‘CMA’) findings & remedies

The CMA has concluded its energy market investigation and announced its proposed remedies in June 2016.

Pertinent to this report and the establishment of a white label offering, the report confirmed that there is an issue with a lack of engagement from many customers. Suppliers are in turn able to exploit this lack of engagement by charging high prices, typically through standard variable tariffs. The report found that 70% of domestic customers with the Big 6 are on such default tariffs despite typical savings of around £300 per annum being available had they switched to another supplier.

The other relevant area where a failure was found is on prepayment tariffs. There are 4 million customers on such tariffs and the report concluded that they face more barriers to change supplier than credit/direct debit customers. These result from the nature of prepayment meters, as they are constrained in terms of the number of tariffs they can offer, and the higher costs for suppliers to engage with and acquire such customers.

In light of their findings, a number of remedies have been set out by the CMA. The key measures are set out below:

Factors that should help drive competition:

- Roll out of smart meters (will improve customer engagement and competition for prepayment customers)
- Creation of a database of customers who have been on standard variable tariffs for 3 years or more to allow rival suppliers to prompt them to engage
- Price cap on prepayment customers during a transitional period (2017-20) until the smart meter roll out is complete. The cap is expected to lead to an average annual reduction in prepayment meter bills of £75 and will move every 6 months.
PURPOSE OF REPORT

The purpose of this paper is to provide an update on the Natural Course (Life EU Funded) programme which aims to drive implementation of the Water Framework Directive at a significant geographical scale. The project aims to promote innovative solutions and to deliver multiple benefits for increased water quality, flood risk management and Natural Capital across the NW River Basin District. The River Irwell is the focus of intensive action for the first 2.5 years of this 10 year programme. This paper outlines a draft work programme for the Greater Manchester elements of the project.

Natural Course is lead by the Environment Agency, the Co-ordinating Beneficiary, working in partnership with four Associated Beneficiaries including Greater Manchester Combined Authority (with Salford City Council acting as lead authority).

RECOMMENDATIONS:

The Board are recommended to:
• Note the report and next steps.

CONTACT OFFICERS:

Contact Officer: Mark.Turner@Neweconomymanchester.com

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1. INTRODUCTION

Natural Course is an EU LIFE Integrated Project aimed at accelerating delivery towards the objectives of the EU Water Framework Directive (WFD) across the North West England River Basin District, with an early focus on the River Irwell catchment. The project is part of the first group of Integrated Projects (IP) funded by EU LIFE. IPs were introduced to drive implementation of environmental legislation at a significant geographical scale and to make an impact at a regional or national level.

Natural Course has been developed by the Environment Agency, the Co-ordinating Beneficiary, working in partnership with four Associated Beneficiaries; United Utilities, the Greater Manchester Combined Authority (with Salford City Council acting as lead authority), the Rivers Trust and Natural England. The beneficiaries work together to deliver integrated water management approaches and collaborate to tackle the challenges of the WFD. Projects are delivered at a local level within Greater Manchester by individual authorities and by affiliates of the Rivers Trust.

Natural Course began in October 2015 will run for 10 years. Budgets and work programmes are split into four equal phases of 2.5 years. The project aims to promote innovative solutions and to deliver multiple benefits for increased water quality, flood risk management and Natural Capital across the NW River Basin District.

2. BACKGROUND

The WFD covers all water bodies within Europe. It is co-ordinated at a river basin district level and delivered locally at a catchment scale and aims to ensure that all water bodies reach “good status” by 2027. Current estimates suggest that less than half of European waters will achieve this target and many countries report that the cost of implementing the WFD is too expensive.

The need for action in the NW River Basin District is pressing as one third of the poorest quality rivers in England & Wales lie in the North West. However, long-standing partnerships and relationships developed in the region provide an ideal context for the enhanced integrated working associated with Natural Course.

An early focus for Natural Course will be Greater Manchester (GM) and the River Irwell catchment in particular. Working at a GM level provides opportunities for Natural Course to build on the emerging collaborative working through the GM Combined Authority and to develop an integrated water management framework within the context of the GM Spatial Framework. Meanwhile, the River Irwell catchment presents a number of specific challenges associated with poor levels of water quality and the high risk of flooding.

3. WORK PROGRAMME

A work programme for the first phase of Natural Course, to 31st March 2018, in Greater Manchester has been developed as part of a wider programme of activities for the project. The programme covers five themes or Actions:

3.1 Preparatory Actions

The first phase of Natural Course focuses on capacity-building and a number of Preparatory Actions aimed at developing an integrated water management framework.
This will provide a context and mechanism for increased collaborative working within GM and across the NW river basin district. Specific activities include:

- The formation of a Greater Manchester/River Irwell team which brings together three posts created as part of the Natural Course project (GM Collaborative Team Leader, hosted by Salford CC; Natural Capital Co-ordinator, hosted by Oldham MBC & Ecological Information Officer hosted by Tameside MBC and based within the GM Ecology Unit) and planning, flood risk and natural resource technical officers from GM local authorities.
- Commissioning consultants to collect and analyse existing data, or “evidence”, from the River Irwell catchment and to develop a programme of works, or “measures”, which could be developed and implemented to address the challenges presented by the WFD and to provide enhanced flood risk management and biodiversity benefits. This piece of work is currently underway and consultants will report back in January 2017 when a workshop of partner organisations will sense-check the initial findings.
- Working with the Rivers Trust to identify and understand the synergies between WFD challenges and sources of investment from different sectors and where there are opportunities to link investment to enhance and accelerate delivery of multiple water management benefits for the River Irwell catchment.
- The production of a management plan for the four catchments that cover Greater Manchester; River Irwell, Upper & Lower Mersey and the River Douglas.
- Collation and sharing ecological and environmental information about the River Irwell catchment. GMEU is working with volunteers to conduct surveys aimed at filling gaps in knowledge about the ecology of the catchment. The unit will use the data gathered to propose opportunities for Natural Capital interventions to enhance the biodiversity and ecology of the catchment.
- The Rivers Trust has been commissioned to run a newly-developed model for the River Irwell catchment to understand the potential value and impact of Natural Flood Risk Management (NFRM) interventions to contribute to reduced flood risk across the catchment. This study has been commissioned on a similar timeframe to Evidence & Measures study and the outputs will also be sense checked during January 2017.

3.2 Concrete Actions

Through Natural Course a programme of practical activity or Concrete Actions will be delivered to help address the affordability of proposed WFD solutions and understand the potential of innovative approaches to delivery. Specific activities in Greater Manchester include:

- Commissioning a study of the existing evidence base to map the opportunities to deliver ecosystem service benefits through the naturalisation of heavily-modified watercourses in the River Irwell catchment.
- Identification of opportunities to address physical modifications that are linked to the industrial heritage of the River Irwell catchment and to work with the heritage sector to tackle the modification. Through this process the Irwell catchment partnership will build up a portfolio of projects across the catchment.
- Building on the Evidence & Measures study to identify sites affected by diffuse urban pollution and to identify opportunities to invest in Green Infrastructure and increase the Natural Capital value to tackle this form of pollution.
- Building on the study of NFRM opportunities to identify opportunities to modify and enhance up-stream Green Infrastructure catchment management to reduce downstream flood risk in the River Irwell catchment. Natural England will lead on exploring how EU-funded agri-environment schemes can be used to increase the resilience of the catchment.
3.3 Demonstration Actions

Natural Course will facilitate and enable members of the Irwell catchment partnership to develop and deliver innovative approaches to multiple-benefit Green Infrastructure investments. Under this Action City of Trees will map the opportunities to use urban catchment forestry to deliver multiple ecosystem services and will deliver three demonstration projects at sites across GM.

3.4 Complementary Actions and mobilisation of resources

LIFE IP project beneficiaries are encouraged to develop “complementary” projects which attract additional resources for the delivery of activity that supports strategic programme delivery (“mobilisation”). This aspect of Natural Course will be increased after the completion of the Preparatory Action studies and the lessons learned from the delivery of the Concrete Actions have been captured.

3.5 Communications and networking

Increased public awareness and effective communications are central to the delivery of LIFE IPs. Beneficiaries are encouraged to network with other LIFE IPs and the beneficiaries of other EU-funded projects. A project specific website will be launched in January 2017 and Natural Course will be launched at the GM Natural Capital Group conference in February 2017.

4. NEXT STEPS

The next stages of Natural Course implementation in GM comprise the completion of the work programme and associated identification of opportunities for collaboration. The studies required as part of the Preparatory Actions, and which underpin the Concrete Actions, will be commissioned. Meanwhile, communication materials will be developed ahead of the launch event in early February and the project will be promoted to relevant audiences within Greater Manchester (e.g. the Infrastructure Advisory Group) and beyond.

5. RECOMMENDATIONS

5.1 The Board are recommended to:

- Note the report and next steps.
Purpose of Report

The purpose of this report is to outline the recommendations of the work undertaken by the Energy System Catapult (ESC) to determine which GM district is most suitable to undertake an EnergyPath modelling exercise, as part of GM’s continuing participation in the Smart Systems and Heat (SSH) Programme. The report also provides an update on wider SSH Phase 2 activity to create a significant demonstrator programme.

Recommendations:

It is recommended that the Board:

- Note the report and the GMCA’s agreement for Bury to be the location of the Phase 1 EnergyPath modelling work; and
- Comment upon GM’s proposed approach towards Phase 2 activity.

Contact Officers:

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Mark.atherton@neweconomymanchester.com
Neil Jones, Low Carbon Energy Innovation Manager
Neil.Jones@neweconomymanchester.com

Background Papers:

Greater Manchester Spatial Energy Plan
https://gmsf-consult.objective.co.uk/portal/2016consultation/supp_docs?pointId=1477648487723
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<th>TRACKING/PROCESS</th>
<th>[All sections to be completed]</th>
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<th>TfGMC</th>
<th>Scrutiny Pool</th>
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<td>7th October (Phase 2 activity only)</td>
<td>[Date considered at TfGMC; if appropriate]</td>
<td>[Date considered/or to be considered at Scrutiny Pool; if appropriate]</td>
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1. INTRODUCTION

In 2013, GM successfully bid to the Energy Technology Institute (ETi)/Energy Catapult (ESC)\(^1\) to be one of three partner cities participating in the ‘Smart Systems and Heat Programme’ (SSH), funded by the Department of Business Energy and Industrial Strategy (DBEIS). Greater Manchester, along with Newcastle City Council and Bridgend Council (working with the Welsh Government) are the preferred local delivery partners.

The focus of SSH is on creating future-proof and economical viable local heating solutions for the UK, as a fundamental shift in how we heat our homes and buildings is required to meet medium term UK carbon reduction targets.

The project has two elements:

- **Phase One (until late 2016):** is the development of software tools to design location-specific smart energy systems. ETI has developed an EnergyPath data model to be tested in the 3 selected local authority areas which will deliver a local energy strategy and transition plan for each area.

- **Phase Two (late 2016 onwards):** design of a significant scale demonstrator of the technology to demonstrate the benefits of a ‘designed’ local smart energy system. The demonstrator (subject to further DBEIS budget approvals) will then be deployed in each of the selected areas from 2018 onwards. In GM’s case, it is possible that the demonstrator could result in projects located wider than just in the district selected for the Energypath model, as we wish to trial a systemic approach to energy innovation.

2. PHASE 1 - MODELLING

The EnergyPath model uses local and national scale data to develop appropriate local future energy pathways for domestic supply and demand. The model is designed to identify ‘least cost’ options which meet future energy requirements. It is not expected that the least cost solution will be the most appropriate in most cases. The benefit of the model is that it will explore and compare different options.

A previous report to GM CEX’s resulted in permission being given to undertake work to identify suitable GM locations for the Energypath modelling. As part of Phase 1, GM has already been supported by ETi to develop a heat and energy evidence base for the GM conurbation. This has been used to inform the development of the Greater Manchester Spatial Framework and also to analyse the suitability of each GM District for the, more detailed, Energypath modelling work by ESC (see link in Background Papers).

ESC has used four main criteria as a baseline:

- **Energy Performance Certificate (EPC) rating** - Areas with significant numbers of thermally poor buildings (rated D or below) provide opportunities for retrofit with subsequent benefits for residents and local economy.

- **Off Gas** – Areas with properties without a gas connection (off gas grid). These areas tend to have fewer heating options and higher energy bills.

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1 ETI were incorporated into Innovate UK’s Energy Systems Catapult in late 2015.
- **Fuel Poverty** – As decarbonisation strategies are likely to be more costly than "business as usual", understanding the potential impacts on fuel poor households will be highly valuable to ensure safeguards are in place.

- **Heat Networks** – GM has identified a number of heat network opportunities across the conurbation. These could provide the basis of low carbon energy infrastructure in the future. Inclusion of heat network areas in the EnergyPath area can allow further scoping of opportunities.

ESC ranked GM districts by each of the criteria and then cross referenced them to identify which districts had the highest scores. Based on this calculation, the top 3 GM districts of interest are:

1. Manchester/Trafford
2. Bury
3. Stockport/Salford
As the EnergyPath tool is still in development, the level of complexity to produce a localised route map can affect the suitability of a district to be modelled. The three most complex areas to model are:

1. Manchester
2. Stockport
3. Wigan

ESC has expressed the view that Manchester would prove too complex to run the Energypath Modal at this time.

When both of the above rankings are considered together, the ESC listed which GM districts would be most suitable for EnergyPath modelling:

1. Bury
2. Trafford
3. Oldham
4. Salford

Figure 3: Local Authority ranking by complexity factor (low values are the most complex).

Figure 4: Overall ranking considering consideration factors and modelling complexity (lower values are more favoured choices).
3. OTHER CONSIDERATIONS

There are other factors which should be taken into consideration when selecting a location for GM’s localised route map. The EnergyPath software will require robust and comprehensive data in order to produce an effective route map. Earlier work, undertaken with Newcastle, (as part of the Smart Systems and Heat Programme) has identified the following issues which should be taken into account:

**Access** to a wide range of data sources including; UPRN, postcode, housing stock condition and maintenance programmes, growth projections, regeneration plans, infrastructure development (e.g. Heat networks, electric vehicle charging points)

**Robust** data sets to ensure EnergyPath uses standardised and completed data where applicable to build a validated route map

**Dedicated** support/resource within the selected district to coordinate data gathering and validation. Local Authority data sets can be often outdated/incomplete/non standardised and an embedded resource will be required to manage and ‘clean’ the data before its inclusion in the EnergyPath model.

**Timescales** ESC believe that the EnergyPath model will take approximately 9-12 months and are keen to initiate data gathering in the chosen district to ensure that overall SSH timescales are met and development of Phase 2 activities (see below) are aligned. An outline timetable of works is outlined below:

<table>
<thead>
<tr>
<th>Task Description</th>
<th>Timeframe</th>
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<tbody>
<tr>
<td>Convene Key Stakeholders Group (Bury, GMCA, Electricity North West, National Grid Gas) to:</td>
<td>early January</td>
</tr>
<tr>
<td>· explain the project</td>
<td>January</td>
</tr>
<tr>
<td>· get everyone on board</td>
<td>January – March</td>
</tr>
<tr>
<td>· explain the data we will be looking to gather</td>
<td>March</td>
</tr>
<tr>
<td>Secure Legal agreements/NDAs with all parties to enable data sharing</td>
<td>March</td>
</tr>
<tr>
<td>Data gathering from Key Stakeholders</td>
<td>April</td>
</tr>
<tr>
<td>Initial base run of the EPN model – will need most data before this</td>
<td>end March</td>
</tr>
<tr>
<td>Closing date for any final data to be included in the model</td>
<td>May-August</td>
</tr>
<tr>
<td>Final base run</td>
<td>September</td>
</tr>
<tr>
<td>First outputs available to Key Stakeholders</td>
<td>October-November</td>
</tr>
<tr>
<td>Sensitivity testing and optimisation</td>
<td>December</td>
</tr>
<tr>
<td>Final model run</td>
<td>Report available</td>
</tr>
<tr>
<td>Analysis, report writing</td>
<td></td>
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4. LOCAL RESOURCE IMPLICATIONS

ETI have already learnt much from running their model in Newcastle. ETI has provided assurances that the requirements of Phase 1 will be kept to a minimum, however we understand that Newcastle has found the exercise quite labour intensive. Ideally, we would seek part of an FTE (funded by the project) within the selected District to work with the GM Environment Team on accessing the data and interpreting the results of the model between October 2016 and March 2017. The person selected would ideally need to be well connected to several different departments in the LA and to wider stakeholders to access data and knowledge.
5. **PHASE 2 - DEMONSTRATOR**

GM and the other SSH pilot cities are also in discussion regarding the scope of SSH Phase 2 Demonstrator activities which will test business models, technological innovation and delivery methods in each pilot city.

The current proposals are to primarily focus Phase 2 activity within the GM district selected for EnergyPath modelling however, given that we are promoting a systemic approach to energy innovation, building on existing GM projects, the SSH demonstrator could include projects in a number of GM Districts. Phase 2 Demonstrator activities are due to commence 2018 – 2020 and ESC has secured conditional funding from DBEIS to develop a programme of pilot activity over the next 18 months.

The development phase will work to develop pilot activity into Business Case level proposals including; stakeholder identification, timescales, costs and appropriate routes for funding. As an indication, ESC aims to develop a pipeline of circa £20m of investment in GM Phase 2 activity, comprising of a range of funding streams including; public, private & European. GM currently has a part time Project Manager allocated to oversee the project. ESC will be providing dedicated resources to support GM in this activity.

GM’s proposal is to build on local strengths and aspirations to ‘capitalise on existing low carbon GM programmes, enhancing and combining them with new smart heat projects and processes to create a national demonstrator of smart heating which exemplifies a systemic approach to innovation in technology, product integration and delivery models, in order to test the business models outlined in the SSH Phase 2 programme.’

In practice, GM aims to build on the foundations of three systemic innovation areas; an interconnected set of innovations where each influences the other and the ways in which they interconnect:

**a) Laboratory Testing of Tech (Technology Innovation)**

Using and building on GM’s existing capabilities to develop, test and innovate low carbon products which can then be piloted at scale in a physical demonstrator. The University of Salford’s Energy House, and proposed Energy House 2.0, is a prime example of the ability to test products in a physical environment under laboratory conditions. Work undertaken by the Manchester Metropolitan University (Hydrogen Partnership) and University of Manchester’s (Manchester Energy) in energy forecasting and grid balancing could also feed into demonstration activity.

**b) Pilot Scale Testing of Tech (Integration and Network Innovation)**

Technological innovation can be combined with the innovative integration of products, with each other and the grid, to blend and test different types of technology within demonstrator homes. GM already has a developing district heating programme, a pre-existing base of domestic homes retrofitted for energy efficiency, others fitted with smart technology through the NEDO project which could be further utilised and expanded to provide data on air source heat pumps and/or ‘home gateways’. Domestic demonstrators could also include emerging commercial market offers around PV & storage, which include retrofit and HEMS units, and potential expansion of existing capital projects (such as Heat Networks and energy storage) depending on timescales, funding and feasibility. Wider stakeholders, (such as the DNO) can also support this area and already have plans for network wide IT to support demand side response.
c) Delivery Models & Control (Delivery Innovation)

GM has the expertise to test different business models at scale in order to determine which are the most appropriate for the market. GM has a history of delivering large domestic projects (such as Green Deal Communities, Fuel Poverty alleviation and the NEDO Smart Communities projects) which required customer role out, marketing, engagement, contracted delivery and installation of retrofit measures in the private and social housing sectors. The potential for establishing project specific SPV/ESCOs could provide a bespoke delivery route for market testing of designed business models.

Separately, GM has the ability to stimulate the local supply chain through procurement and existing support programmes, such as the Green Growth programme, which supports SMEs to grow (or diversify) into the low carbon environmental goods and services (LCEGS) sector.

The attached graphic (Annex 1) provides an idea of how the concept of a SSH demonstrator could be built upon the interaction of a wider set of existing and proposed GM programmes.

6. NEXT STEPS

The success of the EnergyPath data modelling phase will rely on enthusiastic support from the chosen district and the Phase 2 Demonstrator Programme will be enhanced through cohesive delivery of existing planned projects, by a range of GM stakeholders, including collaboration on new project opportunities as they arise.

It is recommended that GMCA:

- Note the report and the GMCA’s agreement for Bury to be the location of the Phase 1 EnergyPath modelling work; and
- Comment upon GM’s proposed approach towards Phase 2 activity.
ANNEX 1 – DRAFT Schematic – Aims of Potential GM Smart Systems and Heat (SSH) Demonstrator

- **SYSTEMIC INNOVATION**
  - **PLAN**
  - **DO**
  - **EVALUATE**
  - **LEARN**

- **TECHNOLOGICAL INNOVATION**
  - Manchester Energy
  - Salford Energy House 2.0
  - Hydrogen Partnership
  - Smart Systems and Heat
  - Salford Energy House 1.0
  - Energy Generation
  - Energy Efficiency Measure

- **INTEGRATION**
  - Non Domestic EE Programme
  - Domestic EE Programme
  - PV and hydro
  - Triangulum
  - Energy Management Systems
  - Storage

- **GRID INNOVATION**
  - Smart Grid
  - C2C SMART STREETS
  - Heat Networks
  - Virtual Private Wire
  - SSH Local Area Planning
  - Nobel Grid
  - NEDO Project

- **DELIVERY INNOVATION**
  - Public Procurement eg. DEPA
  - ESCO/SPV
  - Smart Systems and Heat
  - Green Growth Programme
  - Home Improvement Agency

- **Lab Scale**
- **Building scale**
- **Community Scale**
- **Commercialisation**

**Key**
- System Requirements
- Existing Programmes
- Potential Programmes