



GREATER MANCHESTER COMBINED AUTHORITY

25th January 2013

GMCCS Implementation Plan 2015

Report Of	Mark Atherton, Director of Environment, AGMA
Contact officer:	Richard Sharland MCC, Tel: 0161 234 3232
Wider Leadership Team Lead Officer:	Charlie Parker, Chief Executive, Oldham MBC

PURPOSE OF REPORT

To seek the Combined Authority's comments and approval of a final draft of the Greater Manchester Climate Change Strategy (GMCCS) Implementation Plan 2011-2015.

RECOMMENDATIONS

The Combined Authority is recommended to:

- a) Note the contents of this report
- b) Approve the final draft of the Greater Manchester Climate Change Strategy (GMCCS) Implementation Plan 2011-2015 annexed at Appendix 1.

PRIORITY

A low carbon economy: Achieve a rapid transformation to a low carbon economy.

BACKGROUND DOCUMENTS

Greater Manchester Strategy 2009

Greater Manchester Climate Change Strategy 2011

RISKS/IMPLICATIONS

Financial:

This plan aggregates activity by a wide range of organisations across Greater Manchester. Responsibility for delivery is, therefore, not confined to GMCA and District Authorities. Some finances to deliver activity within the plan are already secured while others are dependent upon investment and grant aid, yet to be

secured or allocated.

Staffing:

Coordination and monitoring will be undertaken by a small central team, funded by AGMA to facilitate delivery

Policy:

There are no specific policy risks.

Equal Opportunities – Has a Diversity Impact Assessment been conducted?

No.

1 BACKGROUND

Steered by the Low Carbon Priority in the Greater Manchester Strategy, in 2010/11, work was undertaken to draft an overarching strategy for tackling the opportunities and challenges that climate change presents for Greater Manchester for the period to 2020. At its meeting in July 2011, the GMCA Board approved the Greater Manchester Climate Change Strategy and agreed that a shorter term Implementation Plan be drafted for the period to 2015.

In order to estimate attainable levels of activity and targets, preparation for this Implementation Plan has consisted of a stakeholder dialogue, compilation of a GM project database and consideration of priorities and programme targets by theme groups working to the Environment Commission, the Environment Chief Officer's Group and, subsequently, the Low Carbon Hub Board.

The Plan draws upon the Greater Manchester Strategy of 2009 as well as discussions about 'refreshing' GMS that took place in 2012. In keeping with the partnership approach being pioneered through GM's City Deal, the Plan also incorporates substantial input from Government, with DECC supplying key data that forecasts emissions reductions in GM from 2011 to 2015 arising from national policy.

On the basis of this work, a first full draft of the GMCCS Implementation Plan 2011-2015 was endorsed by the Low Carbon Hub Board on 6th December 2012 and endorsed by the Wider Leadership Team on 11th January 2013. The Board had agreed that the Plan should adopt an emissions reduction target to 2015 in line with our target trajectory to 2020, even though project forecasting left us approximately 40% short of that target. This shortfall is not unexpected given the under-developed state of carbon metrics reporting and the difficulties associated with capturing activity across all stakeholders across GM. It was also agreed that some emission reductions be attributed to cultural and behaviour change, though it was accepted that the accuracy of such forecasting would be inexact. It was accepted that this approach would entail finalising the Plan with some emissions reductions 'currently unallocated'.

2 PROPOSAL

This Plan has been drawn up by integrating and co-ordinating projects and proposals from a range of organisations across Greater Manchester, including businesses, universities and the 10 AGMA Districts. Approval of the Plan constitutes approval of an overall approach for stakeholders across GM based on estimates of what can be achieved by 2015 against the Greater Manchester Climate Change Strategy (GMCCS) targets for 2020. Approval does not entail making commitments to specific projects or programmes at a GM or District level nor does it entail making commitments to expenditure: such commitments will all be made on individual projects as they are developed and agreed by the relevant stakeholders.

The Plan recognises the wider context of extensive budget pressures that are likely to prevail throughout the period to 2015 and the ongoing process of public sector reform. It also represents a mechanism for capturing and promoting the significant contributions that energy saving and building efficiency can contribute to financial savings and resource efficiency, and the importance of resource efficiency and growth in the low carbon goods and services sector to sustainable long term prosperity in the Greater Manchester economy.

Following approval by this Board, it is proposed that there is a public launch of the Plan during national Climate Week in March 2013.

3 IMPLICATIONS

This Plan has been drawn up by co-ordinating the headlines of a range of existing plans and projects into an integrated whole, enabling GM to support, develop and monitor progress strategically over the plan period to 2015, and to track progress against long term objectives.

Approval of the Plan does not, of itself, have any specific financial implications for GM, for Districts or for key partners over and above the project and programme commitments that all these stakeholders are already undertaking. It does provide the Low Carbon Hub Board with a high level three year framework of actions and targets that provides integration with other GM strategies and it has potential implications for further development of joint working and further savings at District level.

By providing further shared context and integration of existing plans, projects and programmes, the Plan creates the opportunity to further develop joint working alignments and efficiencies over time – in co-ordinating climate change planning, identifying and exchanging good practice, developing joint programmes between Districts and between Districts and other stakeholders, and providing a joint strategic commitment that will contribute to attracting investment in the low carbon economy.

The opportunity for Districts to use the Plan as a template for climate change action planning at District level has been discussed at an operational level, as savings can be made by adopting the Plan and adapting it for District plans that meet local needs. This will be reinforced by the development and adoption of common metrics and by exploring the efficiencies that might be achieved by developing joint programmes and services where this is appropriate.

Implementation Plan 2012 – 2015

Greater Manchester Climate Change Strategy

1.	Executive Summary	2
2.	Background.....	3
3.	Greater Manchester Policy Context	3
4.	A Partnership with Government	4
5.	Our Objectives	5
5.1.	Rapid Transition to a Low Carbon Economy	6
5.2.	Reducing our CO ₂ emissions by 48% from a 1990 baseline	7
5.3.	Actively adapting to a changing climate.....	11
5.4.	Embedding ‘carbon literacy’ in our culture	12
6.	HEADLINE ACTIONS BY THEME.....	13
6.1.	Buildings	13
6.2.	Energy	14
6.3.	Transport	16
6.4.	Green & Blue Infrastructure	18
6.5.	Sustainable Consumption and Production.....	21
7.	CROSS CUTTING ACTIONS	24
7.1.	Low Carbon & Environment Sector Growth	24
7.2.	The Development of Low Carbon/Green Skills.....	25
7.3.	Stakeholder Engagement – public, private and voluntary sectors ...	26
8.	STRUCTURES, PARTNERSHIPS, MEASUREMENT & REPORTING ..	28

1. Executive Summary

In 2011, approval of the Greater Manchester Climate Change Strategy (GMCCS) created a high level framework of actions to steer Greater Manchester on a course to a low carbon future by 2020. GMCCS set a stretching target for CO₂ emissions reduction – 48% on 1990 levels – as well as setting the strategic agenda for other actions on climate change – transition to a low carbon economy, adaptation to a changed climate and culture change that embeds low carbon thinking in the behaviour of organisations, residents and employees.

This Implementation Plan sets out the actions to be taken in pursuit of GMCCS during the period from approval in 2011 to 2015. Headlines of the approach include:-

- Developing integrated plans that incorporate strategies for both mitigation and resilience, low carbon economic development, and cultural change.
- Adopting a 2015 CO₂ emissions reduction target of 2,600 kilotonnes (kt), on 2010 levels, in line with a trajectory drawn up to meet GM's 48% target for 2020.
- Developing and delivering a range of actions that stimulate the low carbon economy – promoting resource efficiency, stimulating the sector, investing in skills and accelerating economic transition.
- Integrating the contributions of all partners in an integrated approach focused on the GM Low Carbon Hub, its Board and theme groups.
- Including national Government in this partnership, recognising that more than 50% of our emissions reduction target will be delivered through national policy and programme activity, including decarbonisation of national energy supply.
- Investing and delivering major schemes in transport infrastructure; energy infrastructure, use and supply; building retrofit; and flood risk management, to enhance resilience.
- Harnessing GM strengths in research and innovation to explore and demonstrate new mechanisms and technologies and to provide stimulus and opportunity for GM businesses.
- Maintaining programmes of stakeholder engagement that optimise the awareness and participation of residents and organisations, and which align low carbon activity with the overarching objective of prosperity for all.

2. Background

The Greater Manchester Climate Change Strategy sets out Greater Manchester's core objectives and headline actions to address the challenges and opportunities presented by climate change from 2011 to 2020. Agreed by the Association of Greater Manchester Authorities (AGMA) in 2011, GMCCS is a climate change strategy for all of Greater Manchester, setting out the collective objectives and actions required collectively by organisations and residents to achieve a high level trajectory of change and development in line with the Greater Manchester Strategy.

The core objectives in GMCCS include targets that were agreed with a long-term vision of a low carbon future in mind: ambitious targets for 2020 that anticipate substantial further challenge and change by 2050. It sets out headline actions that need to be undertaken collectively and individually by organisations in all sectors: on buildings; on energy; on transport; on the natural environment and on patterns of consumption and production.

The purpose of GMCCS is to set a clear direction of travel, creating a single coordinating framework, so that plans and projects can be aligned and integrated between partners and spatial levels. This reflects the nature of the challenge; success will only be achieved by a wide range of inter-related, systemic change actions involving technology, infrastructure, investment, partnerships, culture and behavior. These actions need to be applied or modified by organisations at every scale, throughout the city region.

The primary purpose of this first GMCCS Implementation Plan is to forecast the progress that we intend to make toward the 2020 GMCCS targets by 2015. The Plan attempts – where possible - to project attainable targets from current delivery capacity; it sets out what we believe we can achieve by 2015 and provides the starting point for drawing up detailed plans and low carbon transition trajectories for 2015 -2020.

3. Greater Manchester Policy Context

The Greater Manchester Strategy (GMS) was approved in 2009. The Strategy sets out a vision that will enable GM to have sustainable economic growth based around a more connected, talented and greener city region where the prosperity secured is enjoyed by the many and not the few.

It is based around 11 priorities that aim to help deliver prosperity for all GM residents and a higher level of sustainability and quality of life for Greater Manchester. These priorities were developed during 2008 and they focus on improving the life chances of GM's residents through education, skills and

housing, increasing economic competitiveness and achieving low carbon growth as well as improving connectivity and transport across GM.

There have been significant changes in the national and international context since 2008. The major downturn in the economy and the substantial scaling back of resources for the public sector are resulting in significant changes in the structure and scope of public sector services. These changes are setting the context for a 'refresh' of GMS, a process devised to reflect the changing circumstances affecting GM and to maximise opportunities for the future: key 'transformative actions' are being developed under headings of 'People', 'Business' and 'Place'.

The GMS refresh is taking account of GMCCS, whose approval followed GMS in 2011, and reflects an increase in focus on low carbon opportunity, climate change action and resilience as issues central to future policy and prosperity.

Key actions that are under consideration that relate to GMCCS and this Implementation Plan include the following:-

- Masterplanning and investment in existing and critical infrastructures – transport, digital, energy, water, green – to support sustainable GVA growth above the national average.
- Significantly increasing levels of new build development and building retrofit activity to improve the extent and quality of housing stock.
- Enhancing the competitiveness and resilience of GM businesses by seizing the economic growth potential of the low carbon economy.
- Continuing to increase the percentage of non-car journeys, particularly into the regional centre.
- Achieving a transformational improvement in health, wellbeing and the resilience of our businesses, communities, and individuals, supporting the development of social capital and local economic activity in GM's neighbourhoods.
- Delivering reforms that ensure that the ways in which services are delivered are integrated, client focused, efficient, safe and sustainable.

4. A Partnership with Government

During 2012, a Greater Manchester Deal for Cities was agreed with Government. This included a proposal to develop GM as a Low Carbon Hub, creating a partnership structure that facilitates engagement and collaboration between GM and Government departments on low carbon development. Representation from Government is included in the GM Low Carbon Hub Board.

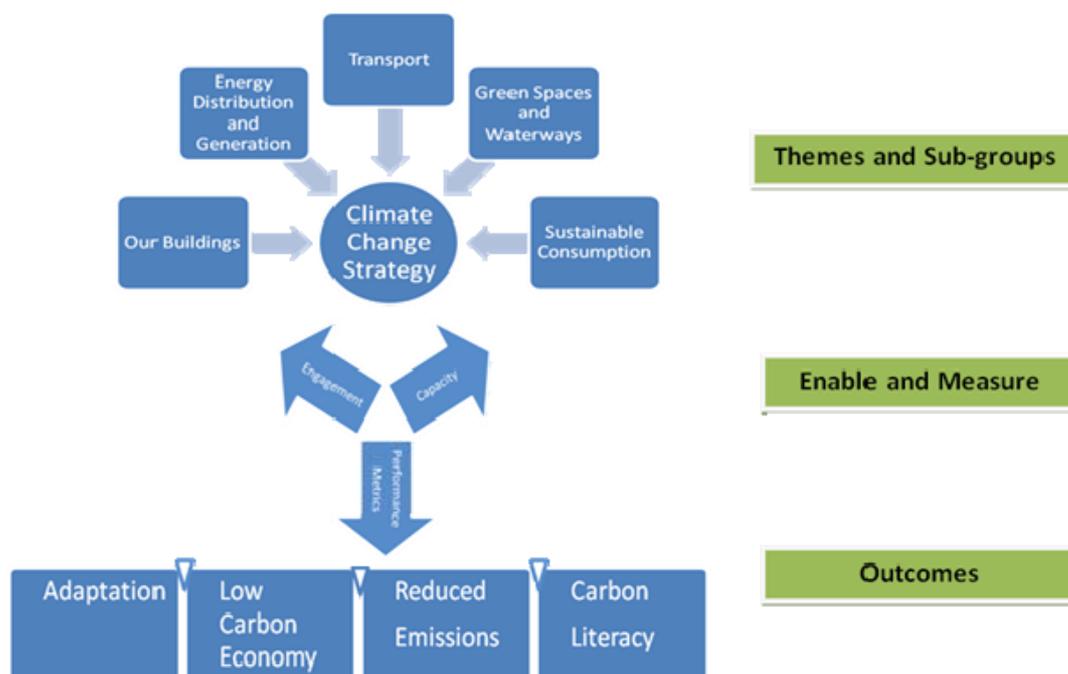
The partnership with Government will be developed through Memoranda of Understanding (MoU) 'Pathfinder' agreements with individual Departments, each of which will provide an input to delivery of this Implementation Plan. Relationships with the Department of Energy and Climate Change (DECC) and the Department for Environment, Food and Rural Affairs (DEFRA) are most developed. MoU's will also be sought with Department of Transport, Department of Communities and Local Government, and the department of Business Innovation and Skills (BIS).

This Implementation Plan incorporates input from DECC, including a GM 'Carbon Plan Analysis' that enables us to forecast the emission reductions in Greater Manchester likely to arise from national activity from 2011 to 2015 (Section 5.2), in particular the decarbonisation of the grid. The Plan also includes input from DEFRA in the form of the core city principles incorporated into the draft National Adaptation Plan. Input from other Government Departments will be progressed following publication of the Plan.

5. Our Objectives

The GMCCS is structured around four objectives and five key themes. While the five themes provide a framework for targeted headline actions, the objectives provide the strategic framework of principles, ensuring that all the key challenges, opportunities and implications are addressed within the strategy. In addition, three cross-cutting issues run through each of the Themes:

- Low Carbon & Environment Sector Growth
- Development of Low Carbon/Green Skills
- Stakeholder Engagement



The four objectives of GMCCS represent high level drivers that steer joined-up action on climate change:-

- We will make a rapid transition to a low carbon economy.
- Our collective CO₂ emissions will have been reduced by 48%.
- We will be prepared for and actively adapting to a rapidly changing climate.
- 'Carbon literacy' will have become embedded into the culture of our organisations, lifestyles and behaviours.

This Plan is structured around these four objectives – set out in this section, and its actions are set out in a framework of five themes and three cross-cutting themes set out in sections 7 and 8.

5.1. *Rapid Transition to a Low Carbon Economy*

The GMCCS sets out the scale of the opportunity for growth of the low carbon economy in GM, underlining the need to achieve a rapid transition during the decade to 2020. At a time when there is low growth in both the global and UK economies, this challenges us to identify priorities to support future low carbon sector growth, the business efficiencies that reduce operational costs as well as CO₂ and the support required to stimulate demand for 'green' goods and services across the economy.

The extent of relevant research activity in Greater Manchester – in excess of £100m – particularly in engineering, electrical engineering, sustainable urban development and 'green' construction provides a substantial platform for development.

Low carbon investment initiatives including the development of a Joint Venture with the Green Investment Bank, and GM's founder membership of the Department of Energy and Climate Change's Pioneer Cities programme, provide opportunities to establish substantial demonstrator schemes during the plan period.

Large businesses based in GM are brand leaders in environmental performance and innovation; SMEs in GM benefit from established resource efficiency programmes in ENWORKS and the Environmental Business Pledge; developing and promoting these opportunities and supporting supply chain development within GM will be a priority in the plan period, augmented by stronger sustainability in public procurement and opportunities that flow from the Green Deal.

Investing in digital excellence and connectivity through low emissions technology, continuing development in the knowledge economy and supporting businesses in our low carbon and environmental goods and services sector will contribute to progress. The low carbon and environmental goods and services markets are still experiencing growth rates of over 4% despite the recession and offers a real opportunity for growth.

Currently there are 2000 businesses employing 37,000 people supplying low carbon goods and services in Greater Manchester. Supporting these businesses and others that want to diversify in to the sector will help develop the low carbon economy in GM. This entails securing investment and opportunity and providing for skills development, both in a range of technical skills in low carbon technologies, and also in foundation level carbon literacy.

5.2. *Reducing our CO₂ emissions by 48% from a 1990 baseline*

A GM-wide target of 48% CO₂ reduction from a 1990 baseline was approved by AGMA Executive/GMCA Board in July 2011. The latest available Government statistics for the GM local authority areas tell us that our annual emissions are already 22% lower than this 1990 baseline, almost half way towards our target. Continuing the trajectory towards a 48% target indicates that by 2015, we need to have reduced our emissions by 33% to 14,000 kt CO₂ *per anum*. This indicative, interim target is 2,600kt lower than our emissions in 2010.

The graph in figure A below shows GM's direct emissions of CO₂ based on DECC statistics 2005-2010, back-cast to 1990, and forecast to GM's 2020 target.

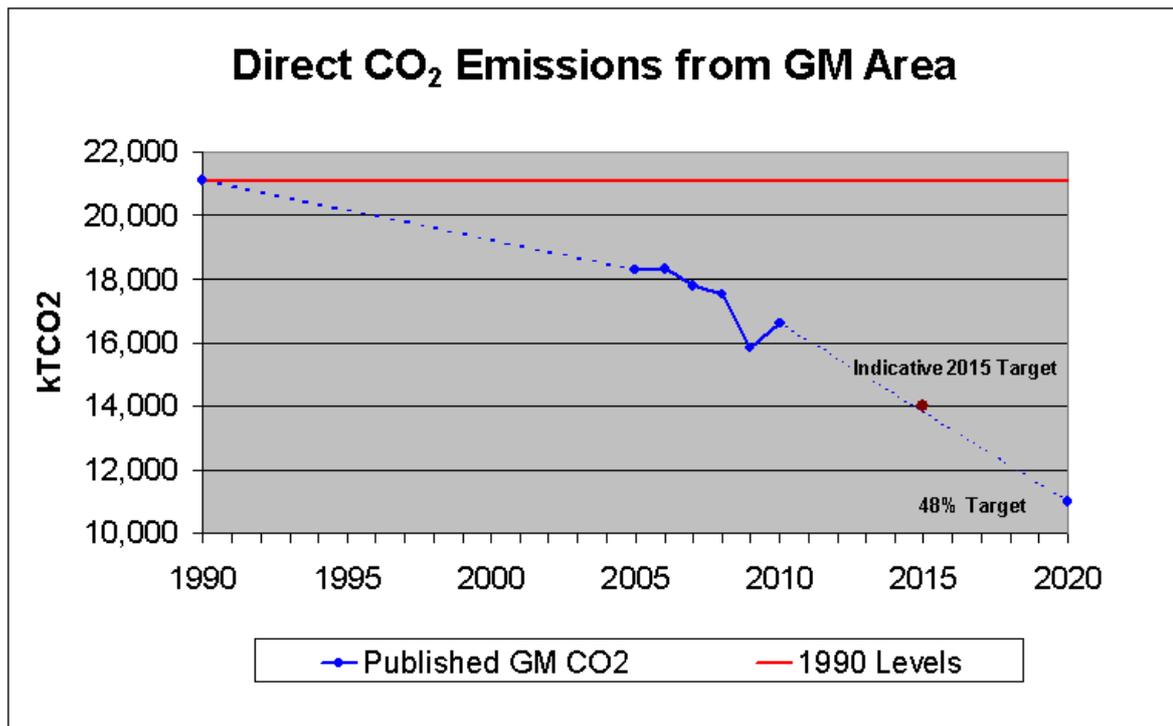


Fig A. Direct emissions actual and projected with target trajectory

Although the graph shows a general reducing trend consistent with the 2020 target, there was an apparent increase in emissions between 2009 and 2010. This has been attributed, in part, to a relative recovery of economic activity, following a severe reduction in activity in 2008. However, other factors have been cited by DECC including a rise in residential gas use, as a result of an exceptionally cold winter, combined with fuel switching away from nuclear power to coal and gas for electricity generation¹.

While this trajectory suggests that GM will hit a 48% reduction target with a 'business as usual' approach, this is very unlikely to be the case. Emissions reductions will become progressively difficult to find, with the early easy wins already implemented. The GMCCS Implementation Plan needs to ensure that emissions do not rise again and that reductions stay on course to hit the target by 2020.

Climate change emissions are currently measured from direct sources: transport; domestic buildings; industrial and commercial operations; and land-use, which correspond with the key themes of the GMCCS; Figure B below shows how each key theme contributes to GM's direct emissions total.

¹ <http://www.decc.gov.uk/assets/decc/11/stats/climate-change/4282-statistical-release-2010-uk-greenhouse-gas-emissi.pdf>

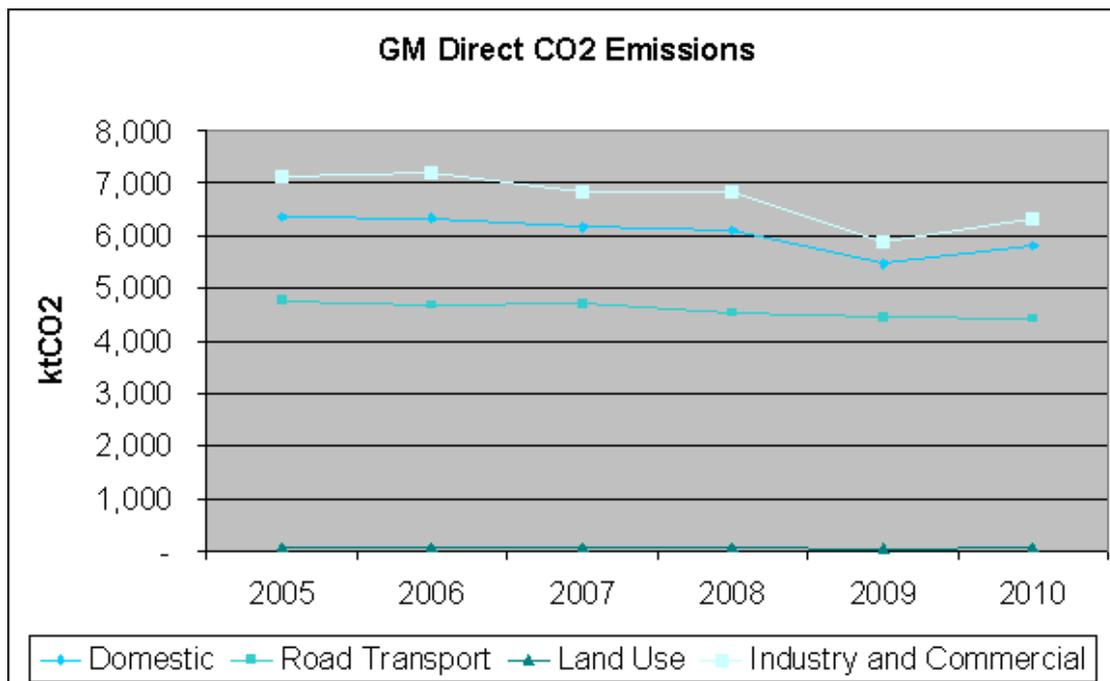


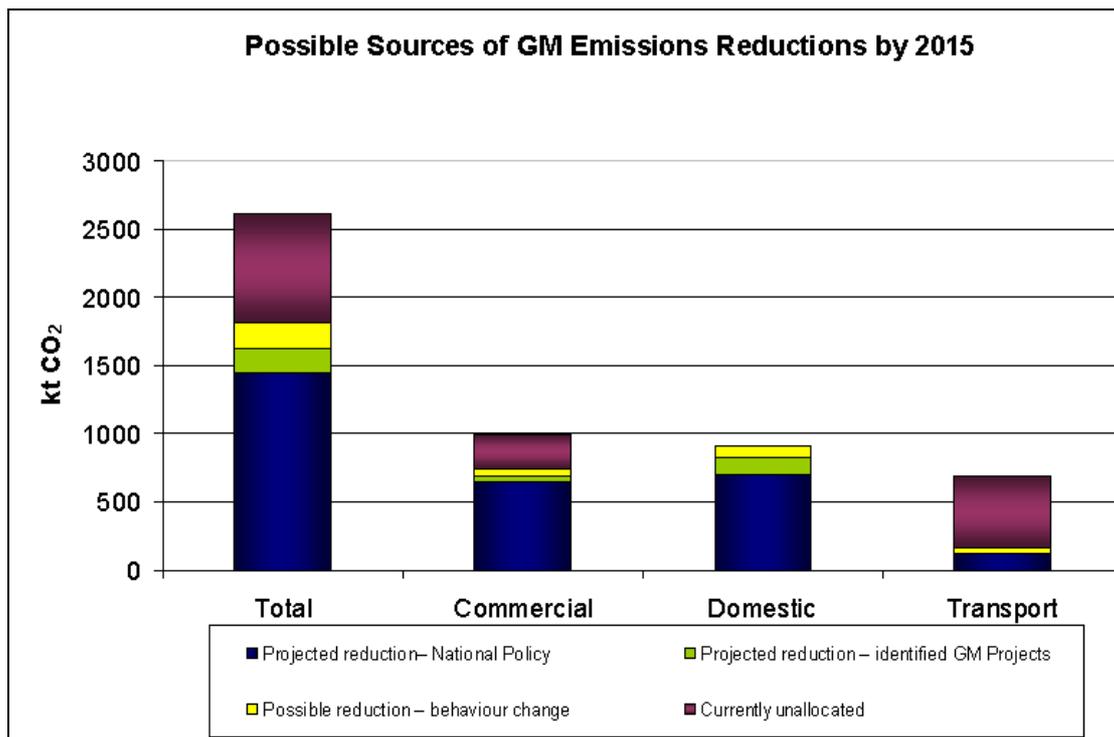
Fig B. GM direct emissions by sector 2005-2010

To meet the 48% reduction by 2020, an interim target for 2015 has been set which can be translated to a 2,600kt CO₂ reduction on 2010 levels. For the purposes of this Plan, a proportional reduction across each sector has been assumed. On this basis, by 2015, each sector will need to achieve reductions on annual emissions as follows:

- Road Transport: 695kt
- Domestic: 912kt
- Industrial and Commercial: 993kt

On the basis of work undertaken by DECC to translate their national strategy for climate change action *The Carbon Plan* to a GM scale, the likely impact of national policy interventions in: grid decarbonisation; gas consumption; and road transport (engine efficiency standards and electric vehicles), combined with CO₂ savings expected from quantifiable actions contained within this Plan, and with indicative estimates for additional savings that can be achieved from cultural/behaviour change measures, we can project an indicative forecast of the savings required in each sector.

Figure. C. below illustrates these projections and shows the extent of currently 'unidentified' or 'unallocated' savings that will need to be found in the GM CO₂ reduction target for 2015. These savings will need to be found from a combination of identified projects with currently unquantified reductions, and projects yet to be identified or agreed. These projections also illustrate the relative difficulty of achieving reductions in emissions from transport in the timeframe of this Plan, suggesting adjustment in future years.



	Projected reduction – National Policy kt CO ₂	Projected reduction – identified GM Projects, kt CO ₂	Possible reduction – behaviour change, kt CO ₂	Currently unallocated, kt CO ₂
Commercial	638	50	50	255
Domestic	701	120	91	0
Transport	115	0	40	541
TOTAL	1454	170	181	796

Fig C. Indicative forecast of possible CO₂ reductions to 2015, by sector

Greater Manchester is currently using direct emissions in line with national reporting requirements, but has also begun to pioneer a ‘total carbon footprint’ or ‘consumption metrics’ approach to measuring CO₂ emissions. These ‘total carbon footprint’ metrics take account of all the ‘embodied’ emissions involved with producing the goods and services used within GM, as well as those ‘direct’ emissions that arise directly from activities.

This approach is still in development but the initial results suggest that the scale of GM residents’ emissions is twice the size of the city’s footprint as measured through direct emissions reporting. Developing this form of analysis will allow GM to identify the additional economic and social co-benefits to emissions reductions. For example, initial assessment shows that approximately 20% of the total carbon footprint of a resident of Greater Manchester results from food purchased and consumed, highlighting an urgent need to address the demand for and supply of a more sustainable food system, which could also generate co-benefits for health and wellbeing, as well as householder and local economies. More broadly, an economy with increased levels of resource efficiency through, for example, recycling, shared

ownership and repair could deliver economic and social benefits, in addition to emissions reduction.

5.3. *Actively adapting to a changing climate*

The GMCCS identifies the need to prepare for actual changes in climate in future years. Climate change is driven by the accumulation of greenhouse gases in the atmosphere: the latest predictions indicate an inevitable increase in average global temperature of 2°C and an increasing likelihood of 4°C by 2060.

Forecasting through the University of Manchester's GM EcoCities programme, published in 2012, suggests mean temperatures and annual rainfall patterns in GM will change, as well as precipitating an increase in extreme weather events. The programme also identifies a range of possible and potentially substantial impacts:

- on the natural environment;
- on human health and wellbeing;
- on infrastructure; and
- economic performance.

There is also emphasis placed on the need for strategies to recognise higher impacts on the more vulnerable groups and communities. Anticipation and understanding of these impacts and the scope of adaptation strategies on water and green infrastructure are relatively well developed; those on food and energy security, on buildings, transport infrastructure, health and the economy, much less so. Within most themes, the interactions between strategies for climate change adaptation and emissions reduction are detailed and complex.

The challenge, during this plan period, is to develop an understanding of these interactions. This will entail maximising delivery which provides climate change adaptation solutions, while simultaneously realising positive benefits in health, jobs, social capital, and general environmental improvement. Thus, work on adaptation and resilience will focus on strategy and plan development across all infrastructures. Work programmes will be developed for flood management and resilience, green infrastructure, and, in buildings, incorporation into the Green Deal, where there may be opportunities to incorporate adaptation outcomes alongside energy efficiency measures.

The core cities principles in the draft National Adaptation Plan will be used a guide:

- Embedding climate risk management in the built environment, working with partners to develop innovative practice and demonstrator projects, developing strategies for targeting the most vulnerable

- Strengthen our infrastructures, developing resilience strategies for energy, water, transport and building partnerships.
- Building climate change resilience into the work of Health & wellbeing, developing the joint working to increase knowledge of vulnerable groups, ability to operate at community level, social capital
- Developing economic resilience, steps to protect business and services. Exploit opportunities exemplar demonstrator working with business to identify addressing issues of food and energy security.

5.4. Embedding ‘carbon literacy’ in our culture

The GMCCS summarises the importance of cultural and behavioural change, emphasising engagement and use as well as technology. *“Creating the space in which residents, customers and businesses can easily make the choice to use buildings and transport in a more energy efficient way enables attainment of a ‘triple dividend’ – saving resources, tackling climate change and fuelling local demand in the low carbon economy.”*

Developing this alignment between low carbon behaviours, making financial savings and supporting local, low carbon business activity will be a priority over the Plan period, as pressures on public expenditure continue and growth in the economy is expected to be slow. There are also opportunities to extend this alignment to include other aspects of ‘environmental literacy’: for example, in the resource efficiencies of waste reduction and water resource management.

Research undertaken in Greater Manchester and elsewhere indicates that between 15% and 25% of CO₂ emissions reductions need to be secured from the behaviours of residents and employees. The way we use our buildings, how we use energy, how we select different modes of transport and our attitudes to waste and recycling are all key contributors. There is a strong track record of behaviour change campaigning in GM in recent years: there is a substantial opportunity to build on work already undertaken in social housing, waste & recycling, food waste and transport to create a more integrated approach. Co-ordinated programmes will be developed so that a broader picture of cultural change emerges, where attitudes in one theme transfer and complement activity in another.

Underpinning targeted campaigns, the development of sustainable transport and Green Deal programmes and workforce programmes with employers and customers, GM needs to work to develop a more carbon literate population. An accessible GM-dedicated basic training programme in carbon literacy will be developed and rolled out in schools and colleges, with employers and residents.

6. HEADLINE ACTIONS BY THEME

Please note that the outputs from energy demand reduction associated with building retrofit programmes will be reported in the Buildings section (6.1) and some aspects of energy feature within the Sustainable Consumption & Production section (6.5).

6.1. *Buildings*

Domestic Buildings account for 35% of the direct CO₂ emissions across Greater Manchester commercial/industrial properties account for a further 38%, highlighting the importance of building-level actions to this plan. Strategic actions that will deliver substantial improvements in the energy efficiency of GM's existing homes, public and commercial buildings, set high standards for new buildings and maximise opportunities for energy generation from micro-renewables are set out in GMCCS. These actions include work on the fabric of buildings as well as on behaviour change; they focus on reducing emissions but take account of climate change adaptation; they have the capacity to form a key component of the emerging low carbon economy.

Implementation Plan Proposals indicate that by 2015 we will have:

- Through the Green Deal Programme, and other mechanisms, achieved a reduction of 220kt of domestic CO₂ emissions in the period 2011 to 2015 through undertaking 475,000 retrofitting measures in 431,000 homes. This will be measured using national and locally available data on uptake of funding schemes such as CERT/CESP/Green Deal and ECO.
- Established effective mechanisms for delivering an ongoing Green Deal programme in Greater Manchester through the GM Green Deal Delivery Partnership, generating £85m of investment in energy efficiency from 15,000 Green Deal plans being taken up across GM over the period. Delivered retrofit programmes that target vulnerable neighbourhoods and recognising that with fuel poverty, the first priority may be health, not carbon. This will be measured through the GM Green Deal programme monitoring.
- Established a co-ordinated programme for reducing the CO₂ emissions from commercial and public buildings, including delivering 10 demonstrator projects, developing a strategic co-ordinating group and establishing a baseline and reporting mechanism based on the content and number of DEC/EPC certificates available through the NEED database
- Through a developed Greater Manchester Investment programme with Green Investment Bank which has delivered significant numbers of public sector buildings projects across all ten districts. Progress

updates, scale of investment and CO₂ savings will be reported through the GM Low Carbon Hub reporting programme.

- Taken steps to adapt our buildings to climate change risks, integrating these measures with elements of the GM Civil Contingencies Plan, where appropriate. This will be measured through the planning process for new development and reviewing the potential for a similar standard in retrofit.
- Incorporated a neighbourhood approach to all retrofitting programmes, where possible, in order to achieve the efficiencies of working at a concentrated spatial scale. This will optimise integration with smart grid and heat networks, with local generation from renewables, programmes of cultural change and related initiatives targeted at improving the quality of life.
- Realised economic benefits achieved through these works including a 10% increase in businesses engaged with ENWORKS, Environmental Business Pledge and Green Deal business loans.
- All new builds will be built to high energy efficiency standards and practice sustainable building methods.
- Optimise the planned development opportunities in GM being made available to local supply chain companies through open and appropriate procurement measures and provide support to the local supply chain to take advantage of market opportunity.

6.2. *Energy*

GMCCS highlights the important role that development of GM's energy systems will play in delivering its objectives: it will have substantial social and economic impact; increase the efficiency of business and public services and improving the quality of life for residents. Reducing GM's dependency on imported fossil fuels by reducing energy demand, generating power locally and creating smart and dynamic energy networks and district heating systems will realise substantial financial savings and facilitate opportunities within the local economy.

Substantial investment is needed to ensure that GM's energy system is fit for purpose in a low carbon economy. The GM Energy Plan identifies a number of short term priorities:-

- **R&D, Innovation:** Linking university R&D with business for innovation and supply chain opportunities and to align strategic research programmes with GM priorities;

- **Investment and models:** Strengthening access to and integration of energy schemes with GM investment models, developing investment opportunities, contracts, delivery models and finance;
- **Infrastructure:** Taking concepts to 'fundable, doable' programmes;
- **Communication:** Engagement; outreach, influence and partnerships;
- **Planning:** Influencing strategic, spatial and economic planning;
- **Business:** Securing benefits from the supply chain, working with companies to improve energy performance.

Implementation Plan proposals indicate that, by 2015, we will have:-

- Established effective mechanisms for delivering robust energy generation projects and infrastructure and for understanding the impact of our actions on climate, resource efficiency and economic performance.
- Deployed a 'Capacity to Customers' pilot programme that trials smart networks and that incorporates metering, local energy storage, demand management and price signalling. This will seek to substantially increase the available capacity of the existing electricity grid without the need to install significant new cable infrastructure.
- Developed specific proposals for heat networks, energy generation from renewables and building-scale renewable heat models, which, by 2020, would result in the local / locally owned low carbon generation of 3TWh of heat and 1TWh of electricity per annum.
- Increased the amount of electricity procured from renewable resources to 20% of GM's commercial requirements and, subject to feasibility, started to offer energy tariffs to customers that retain economic benefits within GM.
- Released £100 million per annum that would otherwise be spent on energy generated outside Greater Manchester by combined demand reduction, and local generation, supply, sales and management activities.
- Drafted an energy system balancing plan for GM and, through Electricity North West, completed a £500 million programme to strengthen our distribution infrastructure.
- Increased the energy research presence of GM's academic institutions from £100 million to £150 million per year and substantially increased collaboration between research and GM applications.

6.3. *Transport*

Future growth predictions suggest that, if no action is taken to change the way we travel, the current 4m tonnes of CO₂ in transport emissions - 30% of GM's total direct emissions - is set to increase. Air pollution, mainly arising from road transport in the centre of our conurbations is also a significant public health issue.

Greater Manchester's objective, in order to reduce emissions and help improve air quality, is to encourage a quantum reduction in the number of journeys taken by car by promoting travel by alternatives, alongside external transport industry processes that are improving engine technology to reduce both CO₂ and particulate emissions.

Changing individuals' travel behaviour will require a number of related actions to encourage residents, visitors and commuters to make more sustainable choices. Actions that are being undertaken include:

- Significant improvement in public transport options
- Travel marketing measures to ensure that public transport services are easier for commuters to use
- Safer cycling environment and improved cycling infrastructure
- Planning controls that manage the provision of car parking
- Safer walking routes and infrastructure for walking

The third Greater Manchester Local Transport Plan (LTP3, March 2011) set out the policy framework for the range of interventions that will be delivered to 2015 to support growth while reducing emissions and encouraging long-term changes in travel behaviour.

LTP3 places smarter choices and active travel strategies at the core of the sub-region's approach until 2016. A £55m package of local and national funding, supported by the Local Sustainable Transport Fund (LSTF), aimed at cycling and smart travel promotion measures will enhance the delivery of large-scale public transport infrastructure projects through the £1.5 billion Greater Manchester Transport Fund.

The delivery of new travel options, supported by the development of a GM co-ordinated smart ticketing system and smarter choices travel promotion package will serve to ensure that travel by non-car modes continues to grow as new levels of economic activity return. This will have a substantial impact on achieving a stretching 2020 target to increase non-car journeys to the regional centre to up to 75%.

Metrolink Expansion

By 2016, Transport for Greater Manchester (TfGM) will have completed new Metrolink lines to Oldham and Rochdale; Ashton-under-Lyne; East Didsbury; and Manchester Airport, supported by a second Metrolink route across the city centre. It is also hoped that plans for a further extension through Trafford Park will also be in delivery. These new lines will help reduce congestion on our roads with five million fewer car journeys every year, and will increase the number of trips by tram that passengers make each day from 55,000 to more than 90,000. The addition of the airport line, operational by 2016, will result in Greater Manchester having the largest tram network in the UK.

Bus Improvements

Bus services currently provide for four out of every five public transport trips in Greater Manchester. TfGM will continue to promote partnership working with bus operators to improve standards in service and vehicle quality. This will be supported by investment in improved highway facilities by 2015, most notably the Cross City Bus package, which will improve the speed and reliability of existing bus services on key routes and support the creation of new services along each of the corridors through the city centre. Cross City Bus will also provide the onward infrastructure for services from the innovative Leigh-Salford-Manchester Busway, to be completed by 2015. In addition, new bus interchange facilities will be delivered in Altrincham, Bolton, Rochdale and Wythenshawe. These developments will create increased patronage on the bus network and provide incentives for partnership investment in improved fleet by bus operators. This will be enhanced by active traffic management using real-time information to optimise traffic signals to ease traffic flow and give priority to late-running buses.

Cycling & Walking, Active Travel

Greater Manchester's LSTF-supported cycling programme will see a new strategic focus on commuter cycling in place by 2015, by creating new cycle hubs, improved cycle parking, increased cycle training and the improvement of pedestrian and cycling infrastructure.

These services aim to open up cycling as a genuine commuting option and provide effective modal interchanges at rail stations. They will be complemented by active travel planning for organisations and, in partnership with JobcentrePlus and employment training agencies, a service for jobseekers that provides information on public transport, cycling and walking. These programmes will form the basis for longer-term approaches to embedding cycling as part of our travel culture, which will be enshrined in a new GM Cycling Strategy by the end of 2013.

Implementation Proposals indicate that by 2015 we will have:

- **Metrolink** - delivered new Metrolink routes from Manchester City Centre to Rochdale, Oldham, Ashton-under-Lyne and East Didsbury,

with a further line to Manchester Airport becoming fully operational by 2016, complementing the current services to Altrincham, Bury and Eccles/MediaCity

- **Bus** – delivered the Cross City Bus and Leigh-Salford-Manchester Busway investment programme; completed modern, new Interchanges in Altrincham, Bolton, Rochdale and Wythenshawe; and reviewed working arrangements with bus operators to ensure a commensurate increase in service and vehicle quality.
- **Electric Vehicles** – delivered the basis of a Greater Manchester electric vehicles charging network to support the advent of mass market ownership.
- **Cycling** – delivered an LSTF-supported cycle investment programme, including delivery of cycle hubs at key employment destinations and public transport interchange points, the completion of eight Local Sustainable Access Projects comprising targeted cycle route investment and supporting cycle training for over 3000 people, alongside other cycle market promotion measures; reviewed and improved the wider provision for cycle storage at rail and Metrolink stations; and established a long-term cycle market growth strategy for Greater Manchester.
- **Walking** – implemented pedestrian friendly new developments, along with improved walking routes, especially for shorter trips, to key local transport destinations created.
- **Smarter Travel Promotion** – delivered smart-ticketing solutions for Metrolink and bus travel in Greater Manchester, with arrangements in place for rail delivery through the future franchising process; delivered new travel information technologies, including a revised interactive travel journey planner and real-time smart phone apps; and established a strong programme of business, community, and visitor travel planning.

6.4. ***Green & Blue Infrastructure***

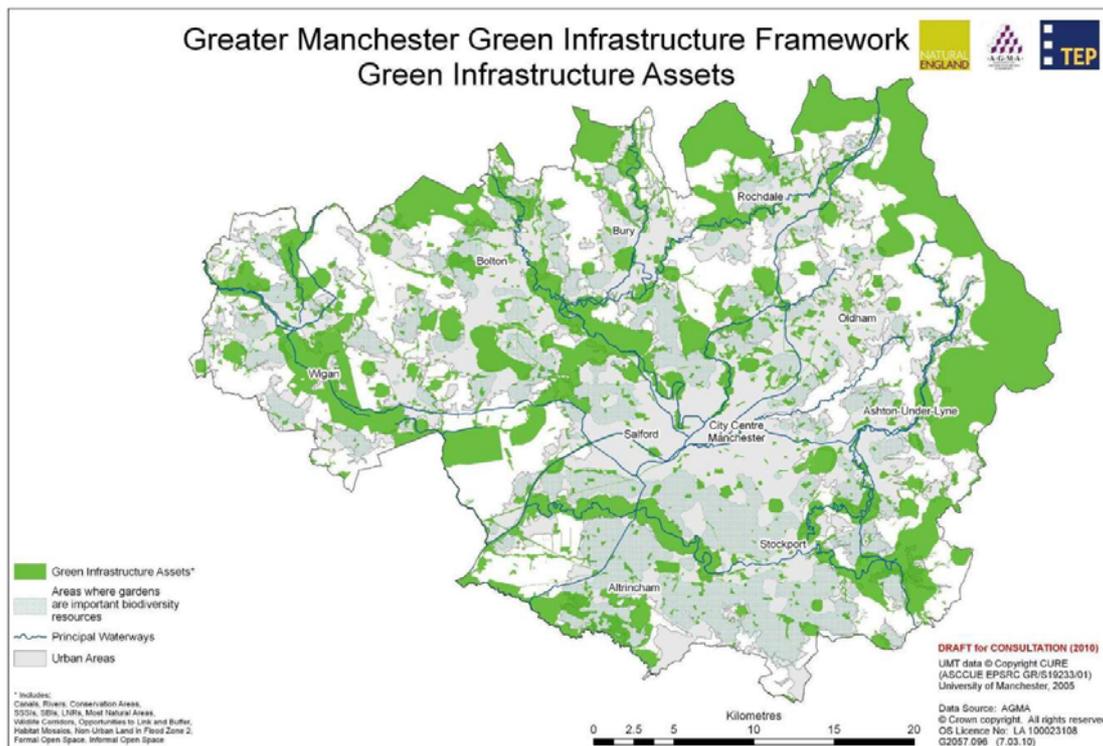
The GMCCS recognises the importance of a healthy, pleasant and accessible natural environment for a low carbon economy. By encouraging healthier lifestyles (GM has some of the lowest life expectancies in the country) and enhancing the perception of GM as a vibrant city, for retaining and attracting students and businesses. Green and blue infrastructure also plays critical roles in addressing climate change; including both mitigation and adaptation, by sequestering CO₂ helping improve air quality and reducing peak summer time temperatures in cities and managing water and flood risk. Good quality green and blue infrastructure also benefits water and habitat quality, improving natural habitat and species resilience to climate change.

The majority of green infrastructure in Greater Manchester is in the 25% of the land area classified as rural. The green spaces and waterways in GM's urban areas may be the primary focus of this strategy, but improving the management, accessibility and perception of the natural environment in GM's rural areas are also important. For example, the mosslands at Chat Moss and the moorlands of West Pennine Moors represent significant 'stores' of carbon whose climate change value needs to be better understood.

Over the next three years, the quality and functionality of GM's natural green networks and water bodies will be maintained, opportunities for improvement will be explored, and understanding of the economic, social and environmental value – the 'ecosystems' value – of these resources further developed. The opportunities and risks associated with effective management of these assets to address the challenges of climate change will be better understood, providing investment models that embed green infrastructure in economic and regeneration programmes.

The establishment of the 'Flood and Water Board' and the 'GM Natural Capital Board' as GM's Local Nature Partnership (LNP) during 2012/13 with briefs to co-ordinate and champion this area of work heralds a period of consolidation and development over the plan period. Organisations and initiatives that have promoted and delivered aspects of work on water body management and the natural environment over the last decade will work more closely together to progress this work.

Partnership programmes on flood management and the evolution of sustainable urban drainage systems (SUDS) solutions will continue as priorities. Established work on urban woodlands, biodiversity, parks and open spaces management and street trees will be maintained, and there will be an increase in community food production, biomass development, health and wellbeing values: demonstrator schemes on 'urban agriculture' and the use of 'meanwhile' land as urban assets will be developed.



Implementation Plan proposals indicate that, by 2015, we will have:-

- Created a higher public profile for quality green and blue infrastructure particularly as part of the public realm in the regional centre and town centres and incorporated within new housing, employment and regeneration projects, in local spatial polices and strategic investment and economic programmes. Investment in green and blue infrastructure will be targeted to optimise functional benefits and in areas of greatest need, and with consideration to benefitting the visitor economy.
- Developed the co-operation and partnerships on fluvial and surface water management planning and have a GM Flood Strategy in place by 2014, making provision for reducing flood risk across GM, improving flood management and the development of future SUDS, utilising green and blue infrastructure where possible. This will be delivered and measured through the implementation of district Flood Risk Management Plans.
- Integrated the ongoing protection, enhancement and extension of green networks and the natural environment into GM's carbon management strategy, including CO₂ sequestration through the natural environment.
- Maintained the monitoring programme for tree cover across GM, continued local tree-planting schemes and developed a plan that anticipates and compensates for loss of tree cover arising from disease such as Ash die-back.

- Clarified and promoted the contribution that ‘ecosystem services’ from our green and blue infrastructure are making to Greater Manchester becoming a more resilient city region, better adapted to future climate change.
- Implemented a range of demonstrator schemes and planned programmes including new tree planting, improved woodland management, water quality and flood risk management schemes, improved public realm and open spaces and as well as food growing initiatives to demonstrate the value of ecosystem services.
- Achieved integration and efficiencies by co-ordinating activity through the LNP, with delivery taking place through partnerships between the voluntary, private and public sectors including Districts, Environment Agency, Forest Partnerships and the Canal & Rivers Trust.
- Developed new financing models to maximise social, economic and environmental value as well as maintaining engagement with communities and organisations from all sectors.
- Incorporated green and blue infrastructure into the development and delivery of retrofitting projects and carbon literacy behavioural change programmes.

6.5. *Sustainable Consumption and Production*

The GMCCS recognises the core role Sustainable Consumption and Production (SCP) plays in delivering a range of interconnected objectives. As the phrase suggest Sustainable Consumption and Production covers both the supply and demand side components of an economy in transition to a low carbon future. When considering consumption based emissions, an understanding of resource flows are critical to strategies for reduction. Making GM more resilient to future resource scarcities and global shortages in supply needs to be based on mapping resource and material flows in and out of the city region.

A combination of both strategic and practical actions will achieve a more productive, resource efficient, low carbon city region by 2020 through continuous economic and social progress that makes best use of resources to meet the needs and aspirations of Greater Manchester’s economy.

Underpinning the vision for 2020, there are five key actions:

1. Transform resource use and consumption
2. Accelerate sustainable production
3. Maximise waste as a resource

4. Develop a thriving low carbon and environmental goods and services sector
5. The public sector acting as an exemplar

While there is an embodied CO₂ dimension to SCP, there are two overarching economic benefits which are common to all elements, namely:

- Reduction in cost (financial and environmental via efficiencies)
- Reduction in risk, (from price volatility, security of supply, equitable access due to lowering overall cost.

To enable progress on SCP it is important to view its 10 constituent components:

Business resource efficiency, companies using less energy/ material per unit of comparable production or service and maximising the value of any residual resources (waste streams). This includes behaviour change within businesses.

Business supply chains including resource scarcity, material flows and resilience to disruption

Domestic consumption incorporates both supply and demand side elements. Supply side has two possible models: limiting choice, so that only lower impact products are sold, or provide the widest choice to consumers and prompt customers to make informed choices. Demand side, requires cultural and behavioural change at a community level.

Eco-design involves the design or redesign of goods and services to minimise the environmental impact over its lifetime. This can include using less materials (light weighting) material substitution, increasing recycled content, optimising packaging and design for disassembly.

Eco-innovation, developing new ways of delivering existing or new function (products or services) into the market, often with new technology or materials.

Food including, supply chains, especially cold supply chains; public sector procurement; commercial and domestic growing; seasonality; scarcity and price issues; key links to health and food waste and processing.

Public sector procurement to pump-prime demand, reducing cost, risk and increasing acceptance leading to cultural change.

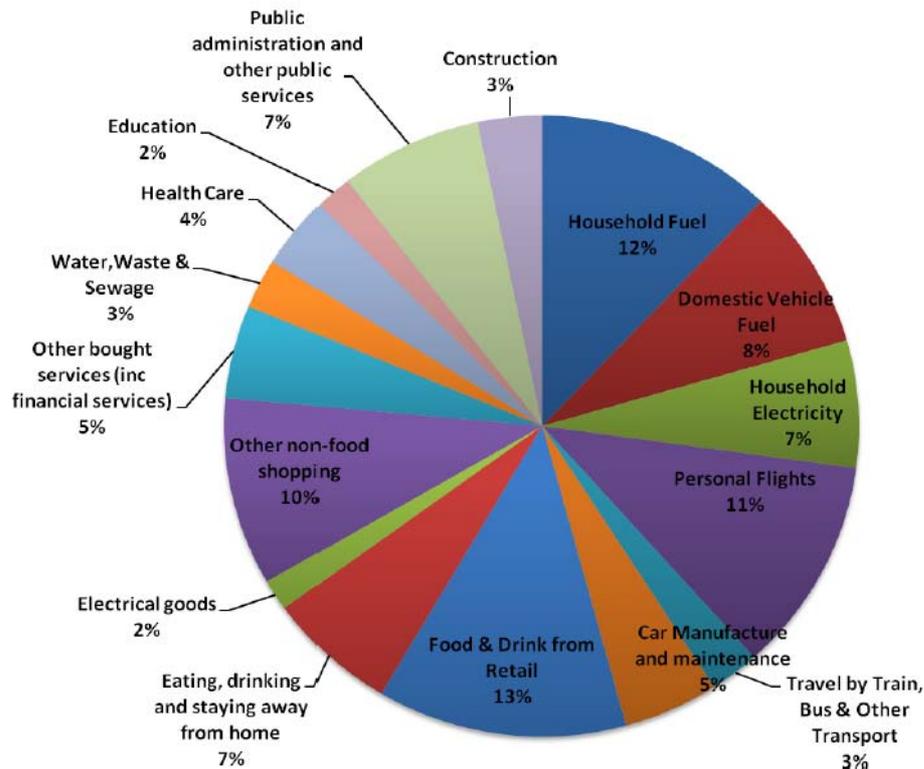
Transport includes leisure, commuting, business travel, and aspects of logistics.

Waste (Commercial, Industrial, municipal) while GMWDA lead on municipal waste, C&I waste (83% of GM's waste arisings) is collected by a range of providers from the private and third sectors.

Water supply, treatment and disposal of both domestic and industrial water

Implementation Plan proposals indicate that, by 2015, we will have:-

- Developed a well established stakeholder network actively contributing to the SCP objectives using the ENWORKS partnership as its conduit; bringing together and identifying synergies and gaps across the 10 areas.
- Established an active programme of holistic environmental business support, from product and service design to residual waste management. This will include mass engagement via ENWORKS, an extended Environment Business Pledge and other GM business networks. This will stimulate demand for low carbon goods and services in local supply chains.
- Developed understanding, deployment and co-ordination of public procurement that optimises the SCP objectives including the delivery of exemplar GM case studies that test outcomes across the constituent components.
- Developed a sound understanding of how trends in commerce and industry may provide void capacity within the collection and recovery infrastructure and how this can be used to increase the value of waste streams arising in SMEs across GM.
- Developed a GM Sustainable Food Strategy that co-ordinates and develops campaigns on food waste, growing and supply schemes and research that maps risk and opportunity to other themes including health & wellbeing. This strategy will establish consumption/production baseline data for GM, and prioritise action on key elements of the GM food supply chain which contribute to climate change mitigation and adaptation; established demonstrator projects for both supply and demand side actions as well as strategic interventions with key stakeholders.
- Further developed our understanding and use of the total carbon footprint of GM and established the role and function for CO₂ consumption metrics alongside direct emissions measurement.



A consumption based footprint for residents of Greater Manchester

7. CROSS CUTTING ACTIONS

7.1. *Low Carbon & Environment Sector Growth*

Sector growth is a cross cutting theme that needs to be an integral part of the success of the actions in the Plan. Actions to reduce CO₂ emissions and develop a more sustainable Greater Manchester will create a demand for low carbon and environmental goods and services. The cross cutting theme can ensure that opportunities are identified and that maximum added value for the economy and residents of GM is realised from the plan.

The low carbon and environmental goods and services markets are still experiencing growth rates of over 4% despite the recession and offer a real opportunity for growth. However, opportunities to maximise the benefit for Greater Manchester may be missed if the opportunities for businesses based in GM aren't optimised.

Currently there are 2000 businesses employing 37,000 people supplying low carbon goods and services in GM. Supporting these businesses and others that want to diversify will help develop the transition to a low carbon economy in GM.

However, it is not just about supply for our projects, Greater Manchester business have the capabilities to supply the range of low carbon and environmental markets around the world and the sector group will support the growth of businesses into markets outside GM.

Implementation plan proposals indicate that by 2015 we will have:

- Established a Sector Growth group to support Greater Manchester's aspiration to make a rapid transition to a low carbon economy and developed protocols to enable the group to interact effectively with the other themes' groups.
- Developed an active network of engaged businesses with a co-ordinated approach to business support providing companies with the access to knowledge, expertise and practical skills that help them grow and innovate.
- These networks will stimulate and support companies to develop low carbon and environmental goods and services thereby creating local jobs and supporting social and economic and environmental development in a carbon constrained world.
- Developed a clear understanding at all levels within the public and business sectors of the importance and growing potential of the low carbon and environmental sector to Greater Manchester's economic prosperity.
- Started to use public sector procurement to bring forward innovative low carbon and environmental products and services and develop local industry.
- Increased the proportions of local content and labour included in low carbon developments

7.2. *The Development of Low Carbon/Green Skills*

A crucial component of the transition to a low carbon economy will be the development of low carbon skills and employment. A suitably equipped workforce has the potential to be a major driver in generating wealth and employment by enabling existing businesses to grow, but also in terms of attracting globally mobile ones to locate in Greater Manchester.

Recent substantive changes to the training and skills landscape has prompted new partnership working, enabling training providers and employers to work together in a co-ordinated way across GM. These partnerships will stimulate increased business engagement on environmental issues and address the need and opportunity for low carbon skills to be more clearly articulated by employers. This will raise the profile of low carbon transition in the skills delivery system and help to promote opportunities for career progression within the low carbon economy so they are able to make informed choices.

A newly established GM Low Carbon Skills group, consisting of both public and private sector providers as well as employers has been established under the umbrella of the Low Carbon Hub. This group's work will focus on three key areas of skills shortages:- core skills required by industry to produce low carbon goods and services which are increasingly demanded by the market; general management skills that help a company or organisation operate in a low carbon way; and new skills relating to the new activities specific to low carbon transition.

The group has designed a detailed work programme to begin to address GM's skills challenges and opportunities. This work programme has been developed to:

- understand the specific work force requirements of the low carbon economy;
- identify and develop appropriate training programmes and career development pathways for jobs and occupations created through the transition to low carbon;
- ensure training is adequately resourced; ensure there is appropriate capacity in place within the local training infrastructure, including capital facilities.

This work will build on pioneering research undertaken by Wigan MBC in understanding the provision for and development of low carbon skills, on top of that undertaken by University of Salford. Existing work to better understand requirements is currently being developed which will provide more sophistication to our approach.

Promoting the roll-out of the Manchester Carbon Literacy programme, launched in 2011, will form part of this approach. Based on pilot schemes with more than 50 public and business organisations, this programme provides a foundation level understanding of the carbon cycle and climate change, linked to engagement skills that enable participants to identify and act upon opportunities in the home and the workplace.

7.3. Stakeholder Engagement – public, private and voluntary sectors

The GMCCS objective on cultural change highlights the importance of embedding an understanding of climate change and environmental performance in the operations at every scale across Greater Manchester. Reducing emissions, increasing demand for low carbon goods and services and benefiting from the opportunities of an accelerated transition to a low

carbon economy are all dependent upon 'low carbon decision-making' becoming routine in the workplace, in the home and on the high street.

Facilitating this cultural change will be brought about through extensive stakeholder engagement and integrating this engagement with programme delivery in all themes of activity.

Implementation Proposals indicate that by 2015 we will have:

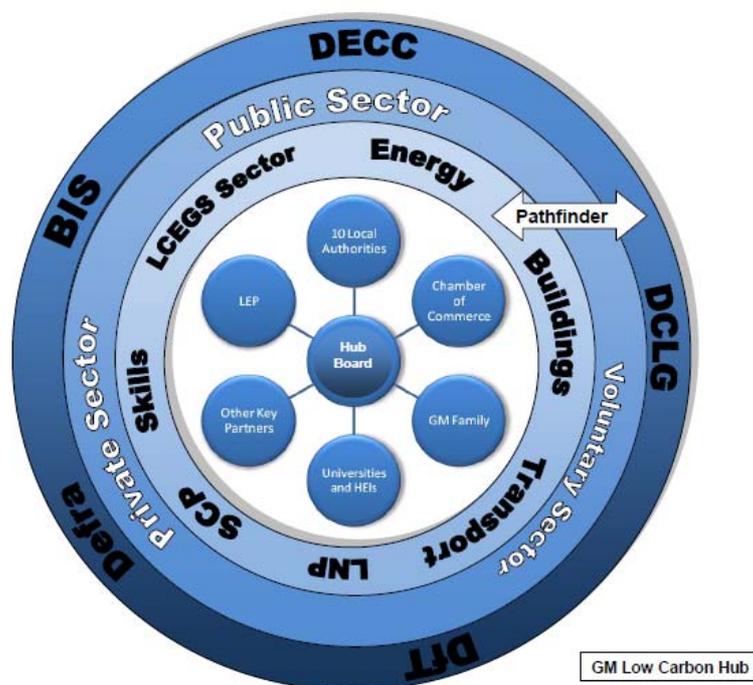
- Facilitated the development of climate change plans and strategies at District and organisational scales, aligned with GMCCS. This includes developing understanding and application of common CO₂ metrics, facilitating efficient measurement and reporting.
- Aligned ongoing development of the locally branded Toasty energy efficiency campaign with the GM Green Deal programme to promote the benefits of energy efficiency and energy switching to keep project opportunities in the eyes of organisations and residents across GM.
- Developed a single co-ordinated IT platform in GM on low carbon activity, climate change and sustainable development, linking this with development of a Manchester Observatory. This will disseminate information, promotions and good practice exchange and contribute to innovation in awareness raising and stakeholder engagement.
- Furthered a more integrated partnership approach to business support and information mechanisms including ENWORKS and the Environmental Business Pledge, and significantly increased the engagement of business in resource efficiency.
- Maintained support for third sector organisations and community groups as a key mechanism for engaging residents at neighbourhood level, both in developing understanding of the local impacts and opportunities arising from a changing climate and in practical environmental projects including food growing, tree planting and energy saving.
- Developed demonstrators that use a Greater Manchester 2050 pathway approach modelled on the UK pathway and promoted the principles of CO₂ budgeting within public sector organisations as a means of embedding low carbon decision-making as part of public sector reform.
- Rolled out the Manchester Carbon Literacy programme, providing access to carbon literacy training or advice, linked to the use of domestic, public and commercial buildings and the selection of transport options through active travel. This will be measured by the numbers of GM residents achieving a carbon literacy training certificate.

- Achieved higher levels of awareness, engagement and low carbon decision-making in GM's schools, colleges and universities and stronger integration between low carbon research projects and local delivery.

8. STRUCTURES, PARTNERSHIPS, MEASUREMENT & REPORTING

Delivery of the GMCCS to 2020 will only be achieved by embedding targets and cultural change in the plans and operational activity of organisations and neighbourhoods throughout GM. The development of plans and structures to achieve this will be a priority in the period to 2015, creating the platform for more substantial change in the period 2015 to 2020.

The development of structures to co-ordinate and oversee this work commenced with the input from GMCCS into the refresh of the Greater Manchester Strategy and the formation of a Low Carbon Hub as part of GM's Deal for Cities agreement with Government. Progress has also been made on establishing a structure of governance to align the sub-groups of the Hub to each of the five themes of GMCCS and the cross-cutting issues of sector development, skills development and engagement.



Key

- Inner Hub – Hub Board and Core Team
- Radial spokes – GM Centres of Excellence, GM Authorities and established Public/Private sector partners
- Inner Ring – Existing and proposed Theme Groups
- Middle Ring – Wider Greater Manchester Public, Private and Voluntary Sector
- Outer Ring – Central UK Government Departments
- Pathfinder – Memoranda of Understanding between GM and relevant UK Government Depts.

By 2015, work on structures, plans and processes will have resulted in:-

- GM's Low Carbon Hub will be providing an established mechanism for high level operational partnerships internally within GM and between GM and Government Departments.
- GMCCS integration in the themes of the Greater Manchester Strategy will have broadened the base for delivery and actions on climate change. These will form part of Business and Implementation Plans for organisations throughout GM.
- Five 'Theme' Boards - for Buildings, Energy, Transport, Natural Capital (LNP) and Sustainable Consumption and Production and two Cross-cutting Sub-groups on sector and skills development – will be overseeing integrated plans and programmes and co-ordinating these through the Low Carbon Hub
- All AGMA organisations will have adopted the objectives and themes of GMCCS, all District climate change strategies will integrate with the GMCCS framework and a shared common CO₂ metrics framework will be in established use throughout GM.
- Substantially increased investment in low carbon activity will be channelled through a network of Green Deal partnerships, Joint Venture investment vehicle and ESCOs, driving a pipeline of low carbon projects from design to delivery.

And, by 2015, we will have made substantial progress on establishing and embedding a performance framework to track progress:-

- Reporting on progress against the targets of GMCCS will be co-ordinated by the Low Carbon Hub Board and form part of an integrated Annual Strategic Assessment for Greater Manchester, providing an updated environment report alongside the annual assessments of economic and social progress.
- A suite of KPIs that measure progress will be in operation. These will be developed by integrating the draft KPIs identified in GMCCS and the suite of dashboard indicators in development for the refreshed Greater Manchester Strategy. These KPIs will feed directly into the Strategic Assessment.
- A common carbon metrics framework will be in place and in use across sectors in GM, linking CRC reporting, the collection of air quality data, and national data sets. This will focus on direct CO₂ emissions, but have a growing capacity to estimate and report on consumption metrics, incorporating all embodied emissions.