

Appendix 1

Sustainable Trafford

An Over-Archiving Strategy to tackle Climate Change and Energy Security
2013-2020

CONTENTS

1. The Challenges of Climate Change and Energy Security .. Page 2
2. The National Context Page 4
3. The Region and City Region Page 5
4. Local Delivery Plans Page 8
5. Managing Our Resources Page 11
6. Carbon Reduction by Sector Page 13
7. A Carbon Budget for Trafford Page 16
8. GM Implementation Plan and Trafford's Action Plan Page 17

1 The Challenges of Climate Change and Energy Security

- 1.1 The field of Sustainability traditionally covers many areas of environmental, economic and social wellbeing but has in recent times come to focus particularly on energy use.
- 1.2 This is because the use of energy is so fundamental to our lives – it is energy which enables all of our economic and social activity. The ability to afford energy can make the difference between a company surviving recession or not – and the difference between a vulnerable resident surviving the winter and not.
- 1.3 The main environmental issue associated with energy use is the emission of carbon dioxide, the main 'greenhouse gas' responsible for man-made **climate change**. Carbon dioxide comes mainly from the burning of fossil fuels to produce heat and electricity, and fossil fuels still make up the lion's share of our primary energy source.
- 1.4 As well as this environmental consideration, the use of fossil fuels as an energy source is also unsustainable from economic and social perspectives. Fossil fuels, although historically plentiful, are a finite resource and in recent years the expanding world population and industrialisation of developing countries has seen the supply of fossil fuels struggling to keep pace with demand. This has resulted in a steep increase in price across the whole range of fossil fuels, and these high prices both stifle economic activity and lead to a rise in 'fuel poverty' – where low-income households cannot afford to keep warm.
- 1.5 In the UK in particular, much of our electricity generating capacity (particularly coal and nuclear powered) is coming to the end of its operational life and will need to be replaced. It is not yet clear whether this will happen in time to prevent a shortfall in electricity supply, or where the fuel will come from for these new power stations. There is a risk that UK electricity supply will become increasingly unreliable, and **energy security** will become more important for communities and organisations.
- 1.6 The other side to these issues is that the development of clean, renewable and efficient energy resources and technology presents a huge opportunity for economic, social and environmental – and even political – wellbeing. Although the development of low-carbon energy sources does have a cost itself, the long-term trend is for falling costs whereas the long-term trend for fossil fuels is increasing cost.
- 1.7 For these fundamental reasons, issues around climate change and energy security are being tackled at a Greater Manchester level through a number of emerging plans and strategies.

- 1.8 As well as energy, resilience to a changing climate is important for communities and businesses. A forecast higher incidence of extreme weather events means that the Council must take extra measures to reduce the impact of climate change and be able to respond to extreme weather events effectively.
- 1.9 The role of **Green Infrastructure** is key to making Trafford's and Greater Manchester's communities and businesses more resilient to the effects of the changing climate.
- 1.10 Of course each Greater Manchester local authority has only a partial influence on the overall city regional targets and initiatives. Trafford Council is a relatively small local authority with limited resources and so must choose carefully its **priorities and intervention points** to maximise delivery of sustainability initiatives within the context of its overall function.

2 The National Context

- 2.1 The **Climate Change Bill** was introduced into Parliament on 14 November 2007 and became law on 26 November 2008. The Climate Change Act created a new approach to managing and responding to climate change in the UK, by setting ambitious, legally binding targets; taking powers to help meet those targets; strengthening the institutional framework; enhancing the UK's ability to adapt to the impact of climate change and establishing clear and regular accountability to the UK Parliament and to the devolved legislatures.
- 2.2 Two key aims of the Act are to improve carbon (i.e. energy) management, helping the transition towards a low-carbon economy in the UK, and to demonstrate UK leadership internationally, signalling commitment to reducing global emissions.
- 2.3 Key provisions of the Act are a legally binding target of at least an 80 percent cut in greenhouse gas emissions by 2050, to be achieved through action in the UK and abroad, and an interim target for reduction of emissions of at least 34 percent by 2020. Both these targets are against a 1990 baseline. Additionally, powers for the Government to require local councils to report their annual greenhouse gas emissions, as well as powers to introduce new emissions trading schemes such as the Carbon Reduction Commitment (CRC) Energy Efficiency Scheme, mandatory for large organisations such as councils.
- 2.4 Upon being elected, the **Coalition Government** issued a policy statement on climate change. An excerpt is as follows:-
- 2.5 *“The Government believes that climate change is one of the gravest threats we face, and that urgent action at home and abroad is required. We need to use a wide range of levers to cut carbon emissions, decarbonise the economy and support the creation of new green jobs and technologies. We will implement a full programme of measures to fulfil our joint ambitions for a low carbon and eco-friendly economy.”*
- 2.6 The **Energy Act 2011** set the funding landscape for energy efficiency improvements to domestic and non-domestic buildings via the **Green Deal** – an arrangement whereby material improvements to the fabric of a building are financed by a loan which is repaid from savings made on energy bills as a result of the improvements. Local Authorities will be able to charge referral fees for households referred for Green Deal loans. It also enabled a new Energy Company Obligation (ECO) to fund works on 'hard to treat' properties (for example those with no wall cavity) and to assist households suffering from 'fuel poverty' (where more than 10% of disposable income is spent on fuel).

3 The Region and City Region

- 3.1 In October 2006, **Nicholas Stern** published his review of the economics of climate change for the UK government. In it, he outlined his findings that the economic benefits of taking early action on climate change far outweigh the costs, and in fact the long-term costs of not taking action would be crippling for the world economy.
- 3.2 Two years later, the first sub-regional climate change economic study, dubbed the “**Mini Stern**” for Manchester, was published.
- 3.3 The report states that “unless it achieves significant emissions cuts, improves its resilience to Climate Change, and leverages its assets, the Manchester City Region could fall substantially short of its economic regeneration goals and targets”. Deloitte’s calculations suggest that “over the next 12 years” (by 2020) a “failure to adapt” scenario could see the North West lose up to £72 billion in Gross Value Added (GVA) and the City Region up to £21 billion – which is roughly £8000 per person in Greater Manchester.
- 3.4 As a major centre of economic activity in Greater Manchester, Trafford stands to gain or lose a relatively high prize through either failing to tackle the risks or failing to capitalise on the opportunities which present themselves as a result of the climate change agenda.
- 3.5 A **Climate Change Strategy** for Greater Manchester has now been adopted by the Association of Greater Manchester Authorities. The Strategy has the following headline objectives:-
 - A rapid transition to a low carbon economy.
 - An overall reduction in carbon emissions by 48% by 2020 on a 1990 baseline.
 - GM will be better prepared for and actively adapting to a rapidly changing climate.
 - GM will have embedded ‘carbon literacy’ into the culture of organisations, lifestyle and behaviour.
- 3.6 In 2009, the Government at that time designated the Greater Manchester city region a “**Low Carbon Economic Area** for the Built Environment” (LCEA). The GM Environment Commission, working together with the GM Commission for the New Economy, devised a Joint Delivery Plan (JDP) for the LCEA, financed by the AGMA authorities to the amount of £3.75 million over the five year period 2010-2015.

3.7 The JDP had a number of Work Programmes (WP), with implications for the Sustainable Trafford strategy:-

- WP1 Residential Retrofit
- WP2 Non-residential Retrofit
- WP3 New developments and Infrastructure
- WP4 Skills and Employment
- WP6 Supply Chain
- WP7 Funding and Finance
- WP8 Enabling Delivery, (Co-ordination, Corporate Services and Legal)
- WP9 Communications and Branding

3.8 In January 2010, Urbed published the AGMA Decentralised Energy Study, a city regional study looking at the opportunities for using decentralised energy generation and local energy distribution networks to meet a proportion of the city region's carbon emissions reduction targets.

3.9 The study identified a number of opportunities in Trafford where the statutory carbon emissions reduction targets specified for new developments in the Code for Sustainable Homes could be augmented by district energy schemes, to reduce the environmental impact of new developments still further. Opportunities were identified in the study for district heat networks in Old Trafford and Carrington, and the use of waste heat from the proposed new Combined Cycle Gas Turbine power stations (together producing around 2.5GW of electricity) for not only the proposed development in Carrington but also in Trafford Park, Salford and Manchester City centre via a heat main running along the Manchester Ship Canal.

3.10 The full and effective utilisation of waste heat resources from power generating plant and other facilities such as waste water treatment plant and industrial processes within Trafford will be a key aspect to Trafford's low carbon transition and ability to meet our 2020 emissions reduction targets.

3.11 In Greater Manchester, the Green Infrastructure agenda has been pursued through the development of the Greater Manchester Green Infrastructure Framework. This is an ongoing project that aims to identify GI resources, opportunities and priorities of sub-regional strategic importance, and to tie GI into the investment framework for the city-region. Additionally, the GM Strategic Flood Risk Assessment informs climate change adaptation strategy across the city region. The GI agenda is being championed by the GM **Natural Capital Group**, a

Local Nature Partnership for GM under the new City Deal arrangements (see below).

3.12 In 2012, the Greater Manchester Combined Authority GMCA (formerly the Association of Greater Manchester Authorities AGMA) signed a "City Deal" agreement with the Coalition Government to stimulate economic growth. The City Deal for Manchester included a commitment to the establishment of a "Low Carbon Hub" consolidating the various centres of excellence in the GM environment sector.

3.13 The City Deal for Manchester also contains a Joint Venture (JV) with the Green Investment Bank (GIB) to take low carbon infrastructure investment opportunities through to delivery.

3.14 The new City Deal for Manchester consolidates the work areas originally detailed under the LCEA designation into the following work areas:-

Low Carbon & Climate Change Priorities	Greater Manchester	DECC
1) Buildings a) Stimulate uptake of Green Deal b) Promote District Heating	√ √	√ √
2) Transport a) Create demand for LCV b) Support related infrastructure development	√ √	√ √
3) Energy Distribution and Generation a) Energy from Waste b) On-shore wind generation c) Smart Grid/Grid Capacity	√ √ √	√ √
4) Sustainable Consumption and Production a) Promote Resource Efficiency in Business b) Develop Low Carbon Procurement Frameworks	√ √	
5) Blue and Green Infrastructure a) Establish a Local Nature Partnership b) Deliver a Blue and Green Infrastructure Action Plan	√ √	
6) Cross-Cutting Issues a) Carbon Metrics b) Carbon Literacy c) Carbon Finance/Investment	√ √ √	√ √

4 Local Delivery Plans

- 4.1 Trafford's new **Core Strategy** includes a policy on climate change (L5) and a supporting Supplementary Planning Document (SPD) on Sustainability. Policy L5 requires that new developments connect to local low carbon energy opportunities where they are present.
- 4.2 Trafford's own **Low Carbon Study**, prepared by Atkins and published in August 2010, focused on four main areas of Trafford where the most intensive new development is to take place. The four areas – Carrington, Old Trafford, Trafford Park and Altrincham town centre – have potential to form the basis of district energy networks (“anchor loads”) which could be extended to other areas of Trafford over time.
- 4.3 District heat networks can not only supply new developments and industrial and commercial buildings, but could also potentially supply public buildings such as Trafford Town Hall, leisure centres and schools. This means that decentralised energy in Trafford could not only cut carbon emissions for the borough as a whole, but could also cut emissions in the council's own estate and associated organisations such as Trafford Leisure Trust, reducing multi-million pound energy bills and boosting performance under statutory carbon management schemes such as the CRC Energy Efficiency Scheme.
- 4.4 The delivery of decentralised energy and distributed generation infrastructure is therefore key to the success of the low carbon transition in Trafford.
- 4.5 Phase 1 of Trafford's Low Carbon Study identifies opportunities and projected carbon emissions from new developments in the growth areas. Phase 2 identifies low carbon energy infrastructure and microgeneration retrofit opportunities in the rest of Trafford.
- 4.6 Trafford's **Excess Winter Deaths Strategy** (NHS Trafford) aims to reduce winter mortality and morbidity in Trafford by reducing the number of low-income households in the borough who are at risk of fuel poverty. Fuel Poverty is defined as where a household must spend in excess of 10% of its disposable income on heat and light. In 2008, approximately 14% of Trafford's households were classed as living in Fuel Poverty.
- 4.7 As well as financial and social exclusion issues, there are many health-related issues associated with low income and cold homes, in particular respiratory and cardio-vascular problems. Studies have shown that improving the thermal performance of housing can reduce not only excess winter deaths but also admissions to hospital, and hence healthcare expenditure.
- 4.8 The Excess Winter Deaths Strategy utilises grant funding such as the

government's "Warm Homes, Healthy People" grant to deliver targeted local programmes offering energy efficiency and a range of other interventions to vulnerable residents. Trafford's Excess Winter Deaths Steering Group takes a partnership approach across the council and NHS Trust, as well as other strategic partners, to maximise the benefit derived from the programme, and is integrated with fuel poverty programmes at Greater Manchester level.

- 4.9 Trafford's Transport Strategy has been replaced in 2011 by a new "**Transport in Trafford**" Local Implementation Plan.
- 4.10 The new Plan details how Trafford will focus resources to meet a number of transport objectives such as reducing congestion and vehicle emissions, and includes a range of measures such as "Smarter Travel Choices" and "Active Travel" to encourage modal shift away from cars and towards healthier, less polluting options such as walking, cycling and public transport.
- 4.11 The **Trafford Forest Plan** has been developed by Red Rose Forest in partnership with Trafford Council. It adopts a 'Green Infrastructure' approach. Green Infrastructure (GI) is defined in the North West Green Infrastructure Guide (NWGrITT 2008): "Green infrastructure is the region's life support system – the network of natural environmental components and green and blue spaces that lies within and between the north west's cities, towns and villages and provides multiple social, economic and environmental benefits." (NWGrITT 2008). The Trafford Forest Plan forms part of the evidence base for the Core Strategy.
- 4.12 GI can make a number of contributions to climate change adaptation and mitigation, including managing high temperatures, providing low carbon fuels, flood risk management, carbon sequestration, food production and material substitution (building materials).

4.13 The 2010 winner of the Sustainable Housing Awards was a project called RELISH (standing for Residents for Low Impact Sustainable Homes), led by Worthing Homes. The project's aim was to reduce carbon emissions in social housing through a combination of educating the residents to change their behaviour and energy efficiency measures such as loft and cavity wall insulation. Six households were selected for the study. The outcomes were as follows:-

- Households receiving only the physical works (insulation etc) saved on average £38 in a year.
- Households receiving only the programme of education for behaviour change saved on average £223.44 in a year.
- Households receiving both physical works and the education programme saved on average £367.72 in a year.

4.14 From these results, it can be seen that simply upgrading the fabric of a building will only achieve minimal energy and carbon emissions savings if the occupants of that building do not have the knowledge and awareness of how to use the building properly.

4.15 To this end, Trafford Council works with a number of partner organisations responsible for **campaigns and communications** targeting the following areas:-

- Householder campaigns around energy efficiency, renewable energy and water conservation, as well as other environmental improvements both in the home and in the community.
- Engagement with community groups and public services such as libraries to communicate energy efficiency, renewable energy and water conservation.
- Engagement with schools, including an Eco-Schools Network, to integrate sustainability into schools' curriculum.
- Fairtrade for the Council, individual towns in Trafford and the borough as a whole.

5 Managing Our Resources

- 5.1 The council's five-year **Energy & Water Management Plan**, which began in 2005/6, expired in 2011 and is currently being refreshed. The new Plan will be a three-year plan and will set a target for carbon emissions reduction from the council's estate, street lighting, transport fleet and schools in Trafford.
- 5.2 As well as the rationalisation of administrative buildings and the introduction of new ways of working for staff, an opportunity exists for the council and its partners to reduce fuel bills and carbon emissions associated with electricity and natural gas use through connection to low-carbon district heat and electricity networks. Delivery of low carbon energy networks across Trafford is a key aspect of this strategy, and council buildings could benefit from these networks, reducing the council's carbon emissions and improving performance under the CRC (see 6.ii), as well as providing an 'anchor load' for heat and electricity produced and thus ensuring a robust business model for any Energy Services Company (ESCo) supplying heat to public buildings, new developments and existing neighbourhoods.
- 5.3 Council buildings and schools could also benefit from microgeneration measures such as solar photovoltaic systems, and a number of financial incentives exist which could enable the council to benefit from income from the Feed in Tariff and Renewable Heat Incentive, as well as helping schools and other buildings to reduce their electricity bills through the on-site generation of renewable electricity and heat.
- 5.4 Other opportunities for carbon reduction may exist within Council operations, for example the updating of street lighting with new energy efficient technologies such as LED (Light Emitting Diode) lamps.
- 5.5 Some of these energy projects could be suitable for funding to be provided by the Greater Manchester JV with the Green Investment Bank.
- 5.6 Trafford Council is a participant in the national **CRC Energy Efficiency Scheme**, which is mandatory for organisations using more than 6,000 MWh of electricity per annum.
- 5.7 The CRC required the council, beginning in 2012, to purchase allowances for all carbon emissions associated with energy use on an annual basis. This 'carbon tax' provides an incentive for the council to reduce its energy consumption. Additionally, Trafford Council has been listed in a national 'league table' of CRC participants. The Council's league table position depended on its performance under a number of 'metrics', which included the installation of Automatic Meter Readers across its estate and schools, and the achievement or otherwise of

accreditation under an energy management system such as the Carbon Trust Standard, Kitemark BS EN 16001 or CEMARS. When this League Table has been published in the past, Trafford has not performed well.

- 5.8 In December 2012, the Government published a number of simplifications to the CRC Energy Efficiency Scheme. These changes have a number of implications for Trafford, notably that firstly schools will no longer be included in the CRC portfolio from the beginning of Phase 2 in 2014, and secondly (and consequently) that Trafford should fall out of the scheme at the beginning of Phase 2 as neither schools' electricity consumption nor that for street lighting will be included in the Phase 2 qualification criteria, taking Trafford Council well below the threshold of 6,000MWh required for participation in the CRC.
- 5.9 However, the CRC may be replaced with a new scheme when it is reviewed again in 2016, which may affect the costs of high-carbon energy to Trafford Council.

6 Carbon Reduction by Sector

- 6.1 In order to be able to effectively monitor and manage performance against both national and local targets, it is essential to establish a number of reliable **metrics for carbon management**.
- 6.2 Although national targets for carbon emissions reduction were originally set with a 1990 baseline, there is no data for that year at a local authority area level, the first data at that scale being made available for the year 2005.
- 6.3 The 2009 UK Low Carbon Transition Plan addressed this issue with the publication of a carbon emissions baseline broken down by sector for 2008, and updated emissions reduction targets for 2020 based on those data.
- 6.4 The carbon budget for Trafford proposed in *Appendix 1* includes both a local baseline for 1990 estimated with the same methodology used to set the Greater Manchester Climate Change Strategy 1990 baseline, and a local baseline for 2008 based on published data from National Indicator NI186.
- 6.5 Additional work is being carried out at a city regional level, to ensure that individual districts' carbon emissions reduction strategies are coordinated with the GM Climate Change Strategy in a way that progress against targets at both a local and city regional level can be assessed under a common methodology.
- 6.6 Any changes and improvements to the way Trafford measures its own progress will be incorporated into this strategy and the associated carbon budget, reduction targets and action plan.
- 6.7 **Emissions reduction opportunities** which have been identified by the various delivery plans, low carbon studies and opportunities identified in this strategy are as follows:-
- 6.8 Energy efficiency measures for domestic dwellings: 139.88 kt CO₂ per annum (Trafford Council Housing Stock Condition Survey 2008 / Low Carbon Study Housing Module 2010). This figure is derived from basic improvements which could be made to the energy efficiency of Trafford's housing stock including loft and cavity wall insulation, replacement high efficiency boilers and the installation of double glazing. These improvements can be financed from a number of sources including the outgoing Carbon Emissions Reduction Target (CERT) energy supplier obligation and the "Green Deal"/ECO.
- 6.9 Friends of the Earth "Smarter Travel Choices" Local Transport Plan programme: 37.4 kt CO₂ per annum (10% of 2008 baseline).

- 6.10 Partington District Heat Network: 21.23 kt CO₂ per annum – from Trafford's Low Carbon Study Phase 2.
- 6.11 Solar PV Retrofit of RSL Properties at Sale West: 684 tonnes CO₂ per annum – from Trafford's Low Carbon Study Phase 2. This is a figure for the complete retrofit of one social housing neighbourhood, however it is more likely that a similar number of properties will be retrofitted across a number of estates and housing providers.
- 6.12 Talbot Road District Energy Network: 23.62 kt CO₂ per annum – from Trafford's Low Carbon Study Phase 2.
- 6.13 Solar Photovoltaic Systems on Trafford's Schools: 0.7 kt CO₂ per annum. Many schools have potentially suitable roofs but guidance from the council is required to ensure installations are technically sound.
- 6.14 In the 30 months between June 2010 and December 2012, 548 solar PV systems were installed in Trafford. According to the Energy Saving Trust, the average size of a solar PV system is 3.5kWp, saving the household around one tonne of carbon dioxide annually. If solar PV continues to be installed at the same rate, then between January 2013 and December 2020 an additional 1,534 systems will be installed saving 2,082 tonnes of CO₂ annually in total. This is likely a conservative figure as additional renewable energy will be generated by other microgeneration technologies such as wind turbines, biomass boilers, heat pumps etc.
- 6.15 The Carbon Trust, in partnership with Siemens Financial Services, has introduced an energy efficiency loan scheme for businesses similar to the "Green Deal" for households. The official Green Deal for commercial buildings is expected to supersede the Carbon Trust scheme. Standard energy efficiency measures can normally be expected to achieve carbon savings of between 5% and 15%. Assuming the success of the "Green Deal for Business" loans scheme, plus other resource efficiency programmes such as Enworks and Groundwork's Environmental Business Services, this strategy will take a target of a 10% reduction in carbon emissions in the business sector across the board. This would yield 10% of the 1,116 kt CO₂ 2008 baseline which is 111.6 kt CO₂ per annum saved by energy efficiency in businesses.

6.16 **Emissions increasing liabilities** which have been identified by Trafford's Low Carbon Study Phase 1 are as follows:-

- Proposed Carrington mixed-use development: minimum 9.8 kt CO₂ per annum, maximum 36.3 kt CO₂ per annum.
- Proposed Altrincham Town Centre development: minimum 16.7 kt CO₂ per annum, maximum 17.1 kt CO₂ per annum.
- Proposed Trafford Park development: minimum 138.9 kt CO₂ per annum, maximum 252.6 kt CO₂ per annum.
- Proposed Old Trafford development: minimum 42.7 kt CO₂ per annum, maximum 72.2 kt CO₂ per annum.

6.17 For the purposes of this strategy, we will take a simple average of the minimum and maximum projected emissions for new development, giving an estimated carbon liability for new development of 293.2 kt CO₂ per annum.

7 A Carbon Budget for Trafford

- 7.1 The table in *Appendix 1* shows the initial carbon budget for Trafford, taking into account known carbon emissions reduction opportunities and emissions increasing liabilities.
- 7.2 This budget, and Trafford's carbon emissions reduction target, will be amended on an ongoing basis as further emissions reduction opportunities are identified and quantified.
- 7.3 Trafford's initial target for 2020 is a 29% reduction in total carbon emissions over the 1990 baseline.
- 7.4 This target is lower than the Greater Manchester target of 48% but is set according to a quantified local evidence base for Trafford, and will be revised as the evidence base develops. It is slightly lower than the national target of 34%. Trafford however is an exceptionally industrialised borough with high-carbon energy use which is difficult to replace.
- 7.5 The different carbon emissions reduction opportunities have been colour coded according to a Red, Amber and Green (RAG) system, where Green represents projects where Trafford Council has a relatively good opportunity to influence the outcome, Amber represents projects where Trafford Council can play a part in delivery but is dependent on external factors or partner organisations, and Red where Trafford Council is almost wholly dependent on external factors or organisations and can simply play an enabling role.
- 7.6 The carbon reduction target for Trafford broken down by RAG rating is as follows:-

GREEN - 6% reduction on 1990 baseline

AMBER - 7% reduction on 1990 baseline

RED - 12% reduction on 1990 baseline

Before this strategy - 4% reduction on 1990 baseline

TOTAL - 29% reduction on 1990 baseline

8 GM Implementation Plan and Trafford's Action Plan

- 8.1 In December 2012, the Greater Manchester Climate Change Strategy Implementation Plan was published, covering the period 2011-2015.
- 8.2 The GMCCS IP set an interim target for 2015 of a 33% cut in CO₂ emissions across Greater Manchester.
- 8.3 The GM Implementation Plan is split into a number of themes and cross-cutting themes. Trafford's local Action Plan for this strategy has been compiled in the same format to ensure compatibility with the GM Implementation Plan.
- 8.4 *Appendix 2* describes the headlines for the GM Implementation Plan and Trafford's local actions under each theme.

Appendix 1 A summary of the carbon budget for Trafford (expressed in thousands of tonnes of carbon dioxide kt CO₂):-

	Domestic	Business	Transport	Total
1990 Baseline (estimated according to GM methodology)	670 kt CO ₂	1,310 kt CO ₂	460 kt CO ₂	2,440 kt CO₂
2008 Baseline (DECC Full Dataset)	560.43 kt CO ₂	1,115.53 kt CO ₂	373.78 kt CO ₂	2,049.74 kt CO₂
Most Recent Data (2010 DECC Full Dataset)	539.53 kt CO ₂	1,144.16 kt CO ₂	359.46 kt CO ₂	2,043.15 kt CO₂ CURRENT EMISSIONS
National Programmes				
(RED) Reduction in Trafford's emissions from national grid implementation of UK 15% renewable energy target*	-72.86 kt CO ₂	-145 kt CO ₂	-48.59 kt CO ₂ **	-266.45 kt CO ₂
Opportunities in Trafford				
(GREEN) Domestic Housing Energy Efficiency (including "Toasty" scheme and Green Deal) – loft, cavity and solid wall insulation, efficient boilers, double glazing	-139.88 kt CO ₂			-139.88 kt CO ₂
Solar Photovoltaic Systems (electricity generation) Retrofit of RSL properties at Sale West	-0.68 kt CO ₂			-0.68 kt CO ₂
Solar Photovoltaic Systems on 80% of Trafford's schools		-0.7 kt CO ₂		-0.7 kt CO ₂
Solar Photovoltaic & Other Microgeneration (small wind power, micro Combined Heat and Power, biomass boilers and stoves, solar hot water systems, ground and air source heat pumps) – Feed inTariff / Renewable Heat Incentive / Green Deal	-2.08 kt CO ₂			-2.08 kt CO ₂
(AMBER) "Green Deal for Business" (Carbon Trust / Siemens) / ENWORKS / EBS – resource efficiency measures as for domestic sector plus efficient equipment and appliances		-111.6 kt CO ₂		-111.6 kt CO ₂
Partington Combined Heat and Power / District Heat Network	-21.23 kt CO ₂			-21.23 kt CO ₂
Talbot Road Combined Heat and Power / District Heat Network		-23.62 kt CO ₂		-23.62 kt CO ₂
Trafford Park - Low Carbon Sector & District Heat Network – process integration between organisations, energy generation and energy efficiency		Not Yet Known		
"Smarter Travel Choices" – modal shift & active travel			-37.4 kt CO ₂	-37.4 kt CO ₂
Sub Total CO ₂ reductions	-236.73 kt CO ₂	-280.92 kt CO ₂	-85.99 kt CO ₂	-603.64 CO ₂
Liabilities in Trafford				
Estimated Carbon Liability from Proposed New Development	97.4 kt CO ₂	195.1 kt CO ₂		292.5 kt CO ₂
Trafford 2020 Target (most recent data minus opportunities plus liabilities)	400.2 kt CO₂	1058.34 kt CO₂	273.47 kt CO₂	1,732 kt CO₂ TRAFFORD 2020 TARGET
Trafford percentage Reduction on 1990 baseline	40% reduction	19% reduction	40% reduction	29% reduction
UK Climate Change Act Target (1990 baseline)				34% reduction
Greater Manchester Climate Change Strategy (1990 baseline)				48% reduction
Trafford percentage Reduction on 2008 baseline	29% reduction	5% reduction	27% reduction	16% reduction
UK Low Carbon Transition Plan Target (2008 baseline)	29% reduction	13% reduction	14% reduction	18% reduction

* The national target of 15% energy to be produced from renewables is the UK's share of the European Union target of 20% and is assumed for the purposes of this strategy to result in a corresponding 15% cut in emissions across both gas and electricity supplied from the National Grid. The picture is likely to be more complex than this, depending on what fossil fuel sources are replaced with renewable energy, but the 15% figure will be used as a rough estimate for this strategy. The proportion of renewable energy supplied at the baseline year of 2008 was around 2%, therefore a deduction of 13% on the 2008 baseline will be made for the purpose of this strategy.

** For road transport, the Renewable Transport Fuels Obligation (RTFO) currently requires that 5% of all road transport fuel sold will contain 5% biofuels by 2013/14. The UK Department for Transport estimates that in the future up to one third of all transport fuel sold could come from renewable sources. Vehicle fuel consumption standards have also steadily risen over the past few years, with engine efficiency improving and emissions levels per vehicle falling. Additionally, the development and increasing popularity of electric vehicles is likely to have an impact on carbon emissions from transport. For the purposes of this strategy, it is assumed that the 15% target for renewable energy in the National Grid will also apply to road transport fuel, including a switch to electric vehicles.

Theme	Greater Manchester	Trafford	Responsible Services / Funding	Metrics for Performance Management
Buildings	<p>The main programme for achieving reductions in emissions from domestic homes will be the GM Green Deal programme, an £85 million programme to retrofit homes with a range of insulation and energy efficiency measures. The programme is also expected to generate local employment and provide training opportunities.</p> <p>Additionally, a programme of retrofit of public sector buildings, possibly financed by the GM/GIB JV, to reduce carbon emissions and improve them to withstand the effects of the changing climate will take place.</p>	<p>Trafford has signed up to the GM Green Deal scheme which starts in 2014 and will be implementing its own interim scheme for 2013 which will be aligned with the GM programme. Trafford will submit a Home Energy Conservation Act return for 2013-15 and contribute to a GM HECA return.</p> <p>Trafford has also submitted a spreadsheet of possible opportunities for public sector buildings and street lighting to be included in the GM portfolio for the Green Investment Bank Joint Venture (GIB JV). The renovation and extension of Lime Tree Primary School could be a 'flagship' project for Trafford and GM due to its high environmental performance specification.</p> <p>A new Energy & Water Management Plan is under development for corporate estate, schools, street lighting, transport and CRC requirements.</p> <p>Core Strategy Policy L5 (Climate Change) ensures new development will be as carbon efficient as possible.</p>	<p>Responsible Services: Sustainability / Asset Management / Housing Strategy / GMCA</p> <p>Funding: Startup costs for GM Green Deal are £1.3 million, to be paid from a GMCA underspend. <u>Trafford required to fund £1.7m loan capital (probably through Prudential Borrowing).</u></p> <p>GIB JV could provide funding for street lighting / buildings projects, including 50% development funding 'at risk'.</p>	<p>Measures installed in domestic homes / Green Deal assessments carried out / Green Deal loans taken out / ECO funding secured / CO₂ savings</p> <p>Housing Energy Efficiency Strategy document for HECA by April 2013</p> <p>Public buildings improved / street lighting projects / financial savings / CO₂ savings / E&W Plan / contribution to JV</p>
Energy	<p>The development of GM's energy infrastructure will deliver a large proportion of the required emissions savings.</p> <p>Apart from R&D and innovation from the universities, the Energy theme will focus on delivery of large-scale key infrastructure such as energy generation and district heat networks.</p> <p>New development across the city region will of course add to emissions, but can also be an opportunity to instigate new low-carbon energy systems.</p> <p>Upgrading the electricity grid will to deal with new energy supplies will also be key.</p>	<p>Trafford has outline plans for a number of district heat networks: around Talbot Road, Trafford Park and to serve the new development at Carrington and extension to existing homes in Partington.</p> <p>An energy rationalisation project for Trafford Park could make a major contribution not only to the reduction of Trafford's emissions, but to significant emissions reduction at GM level.</p> <p>There are also proposals for a number of low carbon power generation facilities in Trafford.</p> <p>Development funding to be sourced from GIB JV / Europe / private sector</p> <p>Core Strategy Policy L5 (Climate Change) encourages the development of low carbon energy sources where appropriate.</p>	<p>Responsible Services: Sustainability / Asset Management / Strategic Planning / Economic Development / GMCA</p> <p>Funding: to be sourced from GIB JV / Europe / private sector. However, if Trafford takes part in a forthcoming bid to Intelligent Energy Europe (IEE) for development funding for the Talbot Road District Heat Network, <u>Trafford Council will have to underwrite up to £500K</u> in case the project is not actually delivered and the funding is 'clawed back'.</p>	<p>Projects developed / development funding secured / ESCOs set up / value of operating ESCOs / financial savings in public buildings & businesses / CO₂ savings / renewable energy generated MWh</p>

Theme	Greater Manchester	Trafford	Responsible Services / Funding	Metrics for Performance Management
<p>Transport</p>	<p>The biggest challenge for emissions reduction is in the Transport sector.</p> <p>Existing initiatives seek to encourage modal shift by means of 'active travel' and development of public transport infrastructure such as Metrolink.</p> <p>Joined up land use and transport planning also plays a critical role in reducing the carbon footprint of our transport network. Through good planning we aim to locate jobs, services and new homes, in areas which are accessible by a range of sustainable modes of transport - most particularly walking, cycling and public transport.</p> <p>Electric vehicles will also make a contribution.</p>	<p>Trafford's strategic transport strategy is set out in our Local Area Implementation Plan of the Greater Manchester Local Transport Plan. This sets out a strategy to manage car based travel and encourage the growth of sustainable modes such as walking, cycling and public transport.</p> <p>As part of our overall strategy, Trafford has a number of specific sustainable local transport initiatives underway :</p> <p>Bridgewater Way. This is a project to provide a major new cycle route, and upgraded walking route, along the towpath of the privately owned Bridgewater Canal. The route of the canal has the potential to form the central spine of the active travel network in Trafford, as it directly parallels the congested A56 road and Altrincham Metrolink corridors. The Council has successfully delivered, in partnership with Sustrans and Peel, the canal's owners, three phases of the project already, seeing growth of 370% in the number of cyclists using it. We have now secured funding to deliver a further three phases of the route, part funded by the Local Sustainable Transport Fund and the Trafford Partnership. This further phases will take the total length of the route to around 8 miles, and be delivered by March 2015.</p> <p>Ongoing wider development of the Active Travel Network. Trafford Council is constantly looking to improve the active travel network through available funds, plug key gaps in the network etc. We are taking a leading role in the development of the Greater Manchester Cycle Strategy, which it is hoped will procure and steer a long term strategic investment in cycling in the County.</p> <p>Trafford Bike It and Travel Revolution. These projects aim to establish a culture of sustainable transport use in the next generation by working with local schools, parents and pupils to convert school-run car trips to active travel. The project is majority funded by the Trafford Environment Partnership in 2012 and 2013, though there is no funding visibility beyond that date.</p> <p>Trafford Bikeability. Trafford Council offers national standard cycle training free of charge to all year 6 pupils. This is taken up by around 70% of pupils, one of the highest take-up rates in Greater Manchester.</p>	<p>Responsible Services: Traffic and Transportation/Transport Strategy and Road Safety</p> <p>Funding: Local Sustainable Transport Fund, Trafford Partnership Local Area Agreement Reward Grant, S106, Private Sector investment and Trafford Council contributions totally £2.5m over financial years 2012/13, 13/14 and 14/15.</p> <p>RS: Transport Strategy and Road Safety F: Various</p> <p>RS: Transport Strategy and Road Safety F: £50k per annum. Trafford Environment Partnership, Sustrans and others</p> <p>RS: Transport Strategy and Road Safety F: £80k per annum from Department for Transport</p>	<p>CO₂ emissions (DECC)</p> <p>Increasing levels of cycling and walking in GM, measured by a range of metrics to be set through the Greater Manchester Cycle Strategy</p> <p>Proportion of pupils in participating schools travelling to school by non-car modes</p> <p>Numbers of Y6 children undertaking Bikeability training</p>

Theme	Greater Manchester	Trafford	Responsible Services / Funding	Metrics for Performance Management
Transport (cont.)		<p>Trafford Park Metrolink. Trafford Council is working with Transport for Greater Manchester to extend Greater Manchester's flagship Metrolink public transport network to Trafford Park - the largest concentration of employment in Greater Manchester outside Manchester city centre.</p> <p>Greater Manchester Commuter Cycle Project. Trafford Council is supporting TfGM in the implementation of this project, which aims to get people on their bikes for commuting purposes. Key interventions in Trafford are the introduction of 'Bike Hubs' in Altrincham and Sale town centres</p> <p>Adult Cycle Training. Trafford Council led the way in Greater Manchester by introducing, alongside Manchester City Council, a pilot project of adult cycle training. Following the success of these pilots, free cycle training is now offered to adults across Greater Manchester by TfGM, and funded by LSTF.</p> <p>Workplace Travel initiatives in Trafford Park. Trafford is supported the LSTF funded work by TfGM, building on previous work by Trafford, around promoting sustainable travel options to businesses in the Trafford Park area</p> <p>A56 Parallel Cycle Routes project. This project will address an identified need for better cycle links between the completed parts of the Bridgewater Way and Manchester City Centre.</p> <p>Plugged in Places. Electric Vehicle charging infrastructure to be installed as follows:-</p> <ul style="list-style-type: none"> • Lacy Street car park, Stretford – 2 parking/ charging bays. • Flixton Road car park, Flixton (close to Flixton Station) – 2 parking/ charging bays. • Trafford Town Hall, visitor car park – 2 parking/ charging bays. <p>Plus between 6 and 12 bays to be installed at Trafford Centre car park.</p>	<p>RS: TfGM and ETO/EGP within Trafford Council F: Total project cost of c£300m. The project has been identified as one of two top priorities for strategic transport funding at Greater Manchester level beyond March 2015.</p> <p>£5m GM-wide to March 2015</p> <p>Local Sustainable Transport Fund</p> <p>Local Sustainable Transport Fund</p> <p>To be funded from a variety of sources, including Greater Manchester Casualty Reduction Partnership funds, and DfT Cycle Safety Fund (funding unconfirmed at time of writing)</p> <p>GMCA</p>	<p>Delivery of the line</p> <p>Level of use of Bike Hubs and takeup of other measures introduced through project.</p> <p>Level of takeup of cycle training</p> <p>Numbers of businesses engaged with the project</p> <p>Before and after surveys of cycle use on the route, and numbers of cycle casualties on the A56 through Stretford and Old Trafford before and after the project</p> <p>Number of EV charging bays installed</p>

Theme	Greater Manchester	Trafford	Responsible Services / Funding	Metrics for Performance Management
<p>Green and Blue Infrastructure (parks, countryside, waterways and bodies)</p>	<p>Green and Blue Infrastructure is expected to be one component of a larger work area of Resilience Planning (which will incorporate emergency planning and business continuity) at GMCA level. The city region's approach to adapting new challenges from the changing climate will include G&BI as one element.</p> <p>Green Infrastructure: Tackling flooding and the urban heat island through intelligent use of trees and landscapes has been shown to be effective. The development of urban woodlands for wood fuel supply and the development of local food growing projects and initiatives also form important aspects to this theme.</p> <p>The new GM Local Nature Partnership, (Trafford represented at Chief Officer level) has established a Natural Capital Group under the Low Carbon Hub. The Natural Capital Group will identify a series of objectives for delivery for 13/14 that will be approved by the Low Carbon Hub.</p> <p>A GM Strategic Flood & Water Management Board sits within the GM Housing and Planning Commission and has the key aim of supporting districts in meeting their responsibilities under the Flood and Water Management Act as efficiently as possible, linking FWM to new investment opportunities.</p> <p>Blue Infrastructure: A Flood & Water Board will be established by GMCA and A GM Flood Strategy is planned to be in place by 2014.</p>	<p>Trafford's Forest Plan, developed in partnership with Red Rose Forest, will provide a key element of the overall GM approach, integrating aspects of Green Infrastructure planning with an innovative approach to funding and delivery.</p> <p>A number of GI projects are funded and delivered by Trafford's Environment Partnership. Trafford may also participate in GM funding bids for city regional projects such as LIFE+.</p> <p>From 2014, Local Authorities will be responsible for the adoption and maintenance of Sustainable Drainage Systems (SUDS). This responsibility will potentially place a significant financial burden on the council.</p> <p>It is expected that the first 10 years' maintenance of any new SUDS will be paid for by a developer via either S106 contributions or via the new Community Infrastructure Levy.</p> <p>The council is setting up a new SUDS Advisory Board (SAB) to deal with SUDS issues.</p>	<p>Responsible Services:</p> <p>Local Nature Partnership / Trafford input coordinated through Sustainability & Greenspace and ETO Chief Officer level.</p> <p>Funding: Green Infrastructure initiatives will be covered by the partnership with Red Rose Forest and its attendant costs, plus any income from LIFE+ bids</p> <p>Responsible Services:</p> <p>GMCA , Environment Strategy, strategic Planning Developing local flood risk management strategies and the scope for having a GM wide / catchment aspect to local strategies.</p> <p>Funding: SUDS maintenance in the longer term could be funded via a requirement on new District Heat Network companies to maintain environmental infrastructure</p>	<p>Natural Capital Group Action plans developed and approved by Low Carbon Hub Board. Delivery will then be monitored through NCG.</p> <p>Cost to the council of SUDS maintenance / money from S106/CIL to cover maintenance costs / agreement with DHN companies to fund SUDS long term</p> <p>Completion of the Flood Strategy for GM</p> <p>Developing GM schemes for the Regional Flood and Coastal Committee bid to the 2013/14 funding programme.</p> <p>Setting up SuDS Approval Bodies in GM.</p>

Theme	Greater Manchester	Trafford	Responsible Services / Funding	Metrics for Performance Management
Sustainable Consumption and Production	<p>This theme aims to reduce CO2 emissions by addressing issues of waste and efficiency in the supply chain and end-use. It is envisaged that reducing CO2 emissions will also result in cost savings and increased business efficiency.</p> <p>It contains elements of both 'soft' measures (behaviour change) and 'hard' measures (physical design of products and packaging). There is an element of public sector procurement included in this theme.</p>	<p>Trafford is developing its own Sustainable Procurement Strategy, and already boasts an exemplar sustainable food purchasing arrangement for GMCA.</p> <p>'Carbon Literacy' is included in the "Eco Streets" programme being run by Groundwork and funded by Trafford's Environment Partnership.</p> <p>Increasing recycling rates in Trafford, particularly food and garden waste recycling, will contribute to reduced methane emissions from landfill sites.</p>	<p>Responsible Services: Procurement / Sustainability / Environment Partnership / Waste Management</p> <p>Funding: Procurement and Carbon Literacy covered by existing budgets; recycling part of waste collection contract & disposal arrangements with GMWDA</p>	<p>Level 3 of national "Flexible Framework" achieved in Sustainable Procurement Strategy, Level 5 (excellence) in one or two areas</p> <p>Successful delivery of Carbon Literacy in Eco-Streets</p> <p>Recycling rate of 60% or higher.</p>
Cross-Cutting Themes				
Low Carbon and Environment Sector (LCES) Growth	<p>"Green Growth" in the environmental business sector, including low carbon energy technologies such as solar panels, insulation, and other environmental goods and services, currently makes up around one-third of all UK economic growth. This theme aims to further strengthen the sector in GM.</p> <p>There are two sides to this coin: the businesses providing the environmental and low carbon goods and services, and those benefiting from the cost savings that resource efficiency brings.</p>	<p>Trafford Park, and to a lesser extent the planned business district in the new Carrington development, are obvious candidates for a focus on development of this sector. New district energy networks and low carbon power generation would enable a competitive environment for Trafford businesses, as well as encouraging businesses operating in the "green" sector to establish themselves in Trafford.</p> <p>Trafford's Economic Development Team has the development of this sector, as well as tackling emissions, as a priority going forward.</p>	<p>Responsible Services: Economic Development / Strategic Planning / Sustainability / GMCA</p> <p>Funding: <u>Trafford Council officer time (up to 1 FTE) may be required as 'in kind' match funding for both Trafford Park and Talbot Road District Heat Network projects.</u></p>	<p>Energy Services Company set up for Trafford Park / increase in LCES businesses in Trafford / CO₂ savings from Enworks, other initiatives</p>
Development of Low Carbon / Green Skills	<p>This theme is about education and training to provide a skilled workforce.</p>	<p>Trafford College is one of the key institutions in GM providing training in skills for the low carbon business sector, along with Oldham College and the universities.</p>	<p>Responsible Services: Sustainability / Economic Development / Trafford College / Oldham College</p> <p>Funding: No cost to the council</p>	<p>Performance measure developed and implemented to track employment in low carbon and environmental employment sector</p>
Stakeholder Engagement – Public, Private and Voluntary Sectors	<p>This theme is about maintaining a coordinated approach to addressing climate change issues across GM, and obtaining 'buy in' from all organisations.</p> <p>Examples are the "Toasty" insulation brand and the development of climate change strategies at district and organisational level to support the GM Climate Change Strategy, developing and detailing individual actions and programmes.</p>	<p>Trafford is currently an active participant in the GM effort and this strategy supports the GMCCS, using the same baseline calculation method and metrics.</p> <p>Trafford has identified carbon emissions saving opportunities which, if developed and implemented, would give a 29% cut in emissions in Trafford by 2020.</p>	<p>All</p>	<p>Trafford Partnership consulted on this strategy and individual actions adopted by partners where appropriate</p>