

Next Steps to Net Zero
Climate Change Strategy
March 2022

Vision for Climate Change

[forward by Portfolio Holder]

Context

In June 2019 Parliament set in law a commitment to reach Net Zero emissions by 2050. This is quantified as a reduction of at least 100 percent on the carbon emission levels of 1990. In order to meet this target the UK government is taking a broad approach which includes carbon budgeting, investment in green skills and jobs and engaging citizens to identify and prioritise actions to achieve Net Zero.

Under the Climate Change Act 2008 (the 2008 Act), the Government must set five-yearly carbon budgets, twelve years in advance, from 2008 to 2050. A carbon budget places a restriction on the total amount of greenhouse gases the UK can emit over a 5-year period. The UK is the first country to set legally binding carbon budgets. In 2011 the first 'Carbon Plan' was issued which sets out how the government will meet the carbon budgets set from 2008-2027. The plan includes actions to achieve low carbon buildings, transport, industry, energy generation as well as actions relating to land use and waste reduction.

A citizen's assembly (Climate Assembly UK) was formed in 2020 and produced a report entitled 'The Path to Net Zero.' The report shows how a representative sample of the population believe the UK should meet its Net Zero emissions commitment with detailed recommendations across ten areas including: how we travel; what we eat and how we use the land; what we buy; heat and energy use in the home; how we generate our electricity; and greenhouse gas removals. Parliament will use the report to support its work on scrutinising the Government's climate change policy and progress on the target.

In August this year, the UN's Intergovernmental Panel on Climate Change (IPCC) released its latest report – 'Climate Change 2021 – The Physical Science Basis'. This received widespread coverage and stated that "it is unequivocal that human influence has warmed the atmosphere, ocean and land" and at a rate that is unprecedented in the last 2000 years. A range of scenarios were outlined in the report, all of which see significant continuing increases in global temperatures in the coming decades. It concludes that working towards achieving at least Net Zero is essential.

Harlow's Emissions at District Level

According to the Office for National Statistics, CO₂ emission levels in Harlow per km² have reduced from 21.8kt in 2005 to 12.2kt, a reduction of 44%. This can be broken down further by energy type and by sector as shown by the graphs in Figures 1-3.

Electricity has seen the biggest reductions across all sectors, peaking at 287kt CO₂ in 2006 down to 75kt CO₂ in 2019, a reduction of nearly 74%. Whilst Commercial Electricity was the dominant emitter from 2005, it was overtaken by Domestic Electricity in 2011 where it remains dominant in 2019.

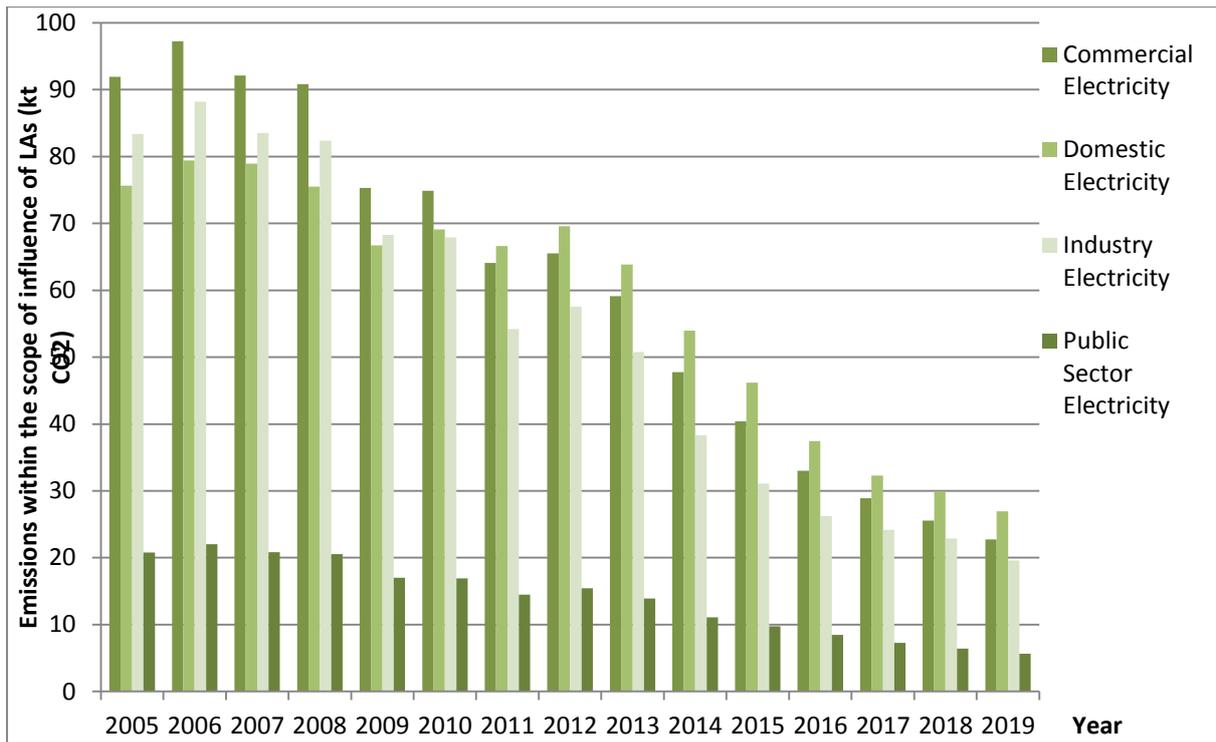


Figure 1 – Carbon emissions from electricity by sector type in Harlow, Essex within the scope of influence of Local Authorities (kt CO₂)

Gas has seen a slow reduction in carbon emissions since 2005, from 179kt CO₂ emitted in 2005 down to 139kt CO₂ in 2019, a modest reduction of 22%. It should be noted here that Domestic Gas emissions continue to be the dominant emissions sector for Harlow for each year since 2005.

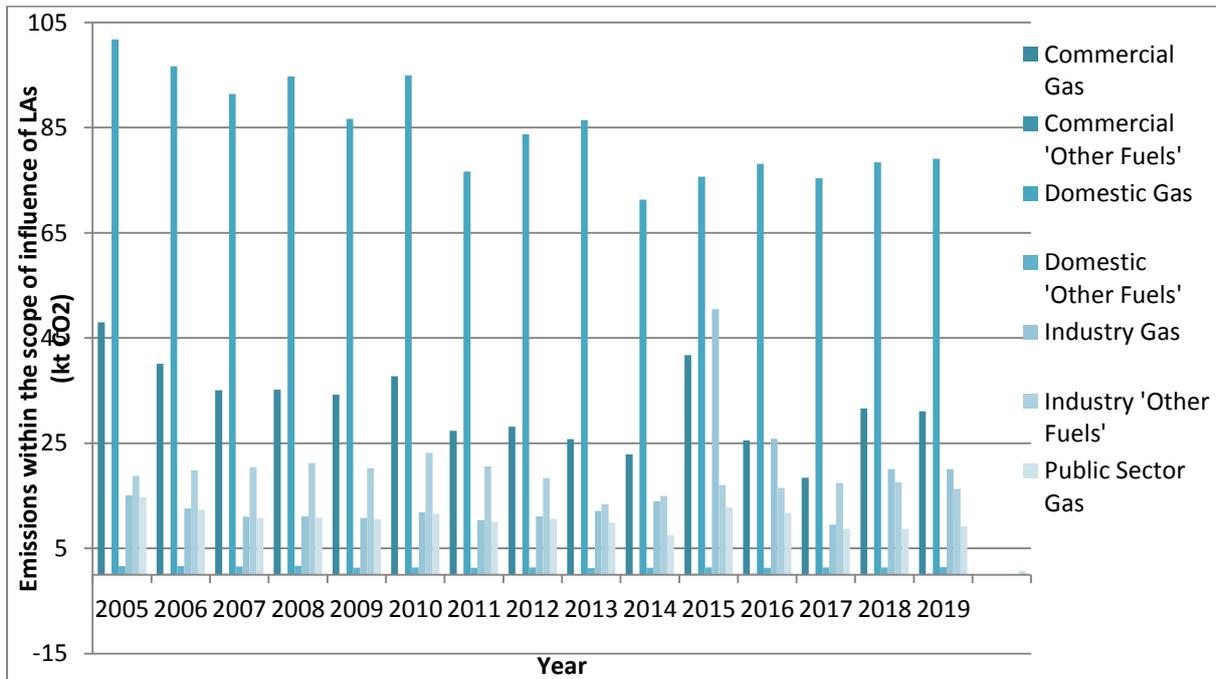


Figure 2 – Carbon emissions from gas and 'Other Fuels' by sector type in Harlow, Essex within the scope of influence of Local Authorities (kt CO₂)

Emissions from road transport sources relevant to Harlow (A roads and minor roads) have seen a small reduction in CO₂ emissions since 2005, peaking at 94kt CO₂ and reducing by 11% down to 83kt CO₂ in 2019. Road transport on A roads has decreased more significantly since 2005, reducing by nearly 27% however, emissions on minor roads has increased since 2005 by 2.5%, despite seeing a reduction in emissions from 2005-2012.

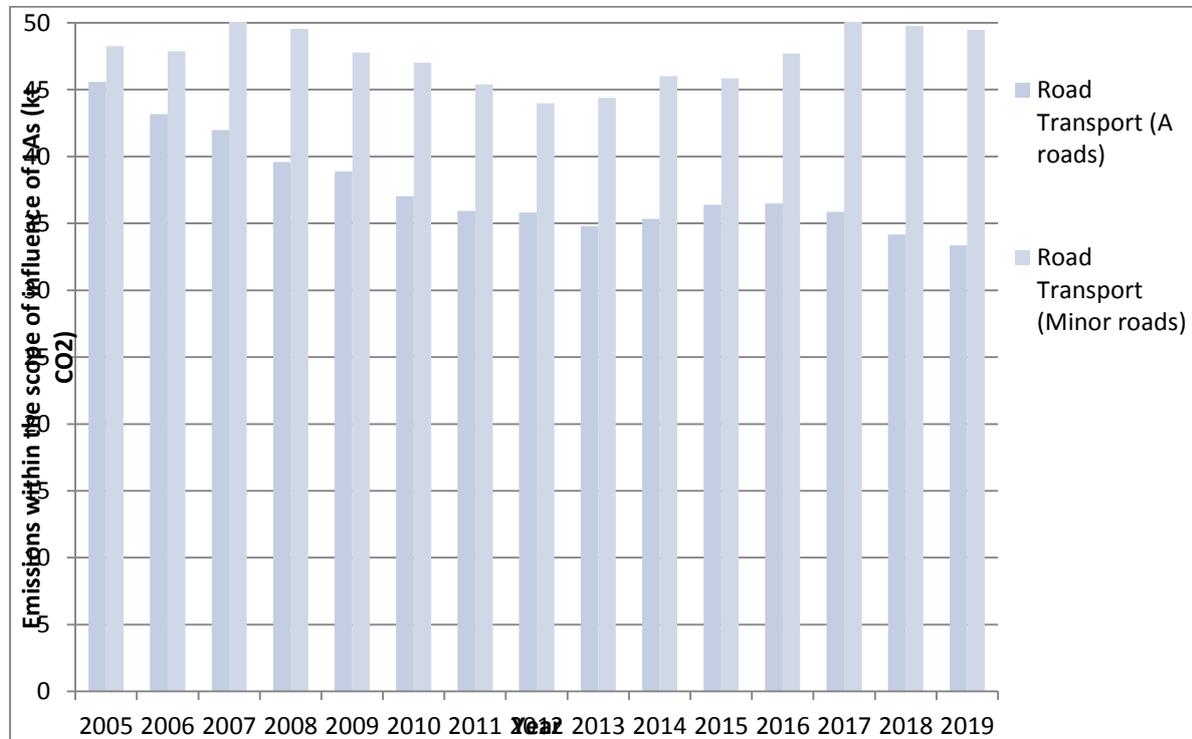


Figure 3 – Carbon emissions from road transport by road type in Harlow, Essex within the scope of influence of Local Authorities (kt CO₂)

Strategy Scope and Purpose

In July 2019 a Full Council meeting passed a motion declaring a climate change emergency. The motion stated that:

“This Council believes that climate change is one of the most significant threats facing the world. One of the largest factors contributing to climate change is man-made emissions, especially those relating to the use of non-sustainable power sources. This Council recognises that action must be taken quickly in order to prevent climate change from causing irreversible damage to the planet. It also recognises the numerous social benefits which are brought about by reducing greenhouse gas emissions such as better air quality. This Council believes it is still possible to restore a safe climate and therefore declares a climate emergency.”

The purpose of this strategy seeks to set out how Harlow Council can not only achieve this through its own operations but through influencing the wider community and economy through the use of SMART and achievable targets. The strategy also

seeks to put into focus those areas where further support and influence is required and to identify targets that are currently unquantifiable.

The scope of the strategy is to be broadly set across 8 objectives covering:

1. To achieve zero emissions from operational buildings and activities
2. To achieve zero emissions from homes within Harlow
3. To support businesses to reduce emissions to zero, supported by a successful green economy
4. To effectively lead local communities to reduce their emissions in everyday behaviours and choices
5. To introduce and strengthen planning policy to support a built environment which considers climate change adaptation and mitigation
6. To adopt good stewardship of the natural environment of the town to support both climate change adaptation and mitigation
7. To achieve the shift in transport used within the town to sustainable modes
8. To reduce use of single use items and encourage re-use and recycling of waste items

The Councils' 2019 Climate Change Emergency declaration initially focused upon the mitigation of climate change through reduction of emissions within the District and the carbon footprint of the Council's own operations, which is addressed through its separate Carbon Management Plan. The impact of Climate Change on the local environment is not yet widely evident, however the Council is a participant in the CDP Cities Climate Change Reporting programme which provides a framework for evaluating performance and opportunities in this area. Disclosing environmental data through this process allows the Council to evaluate current performance, specifically in relation to adaptation, benchmarking performance against peers and identifying areas of opportunity. Through early monitoring, the adaptations required to the natural and built environment will be fully understood and enacted in good time.

Net Zero Build Back Green report from Government

[Mitigation as well as adaptation: adaptation risk assessment to be carried out: <https://www.ukcip.org.uk/wizard/> as starting point – include likely impacts on highways and localised flooding]

[Long term target around emissions, renewables and energy efficiency and timeframe for action plan]

Objective 1: Achieve zero emissions from operational buildings and activities

The Council has set a target to achieve Net Zero carbon emissions from its operational activities by 2040. The Council needs to ensure that it delivers against the targets set out in its Carbon Reduction Plan 2021-26. As outlined above, there is still more work to be done in relation to this. A key part of this ongoing work will be working with HTS to enable them to also achieve Net Zero by 2040. Decisions will also need to be made on boiler replacements in a number of the Council's buildings over the next few years – these decisions will have the biggest single impact upon the Council's operation carbon emissions.

Key challenges:

At present, there are a variety of technologies with the potential to take Harlow to zero emissions, but it is not yet clear which of these will work best, and indeed a combination may be required. Harlow Council will closely monitor the emerging technologies that will facilitate our path to Net Zero, so that we are ready to take full advantage of them when it is appropriate for us to do so.

42% of emissions for 2020-21 (1689 tonnes) were from natural gas, most notably from gas powered boilers to heat operational buildings. The current gas boiler infrastructure for the majority of buildings is at/beyond end of life. Most notable examples include the Latton Bush Centre (South Boiler House), Mead Park Depot, Harlow Playhouse and Civic Centre. Detailed feasibility studies will be undertaken when boiler replacements are required to appraise the most suitable option on a site by site basis. There is no one size fits all solution for heat emission reduction and in the short term.

The barriers to the use of renewable heat sources currently include poor fabric insulation levels in roof, walls and thermal elements, sizing of properties for the power ratings of available technology and the nature of the heat distribution systems within these buildings. Installation of new gas appliances at these properties is currently likely to be the most cost effective option. This will still achieve significant savings on emissions due to the improved efficiency new installations will provide, but nonetheless tying the properties in to gas heating sources for a minimum 10-15 year period. That said, the Council's commitment to zero emissions by 2040 will mean that no fossil fuelled boilers will be fitted into operational buildings after 2025/26.

38% of emissions for 2020-21 were caused by Council, HTS and Veolia fleet. Council fleet emissions, including staff travel, make up just 2% of these emissions, with HTS fleet making up 22%, and Veolia 14%. Vehicle technology for vans is now at a point that electric vehicles are more commercially available than ever before, though concerns remain about range anxiety and suitability for livery. However, some smaller vehicles (cars or small vans) should be considered for replacement to zero emissions in the short term as the technology has developed to a more suitable level.

Veolia fleet emissions are particularly challenging to tackle as vehicle technology for low/zero emitting refuse trucks is in its early infancy. Until such time that technology is developed, these emissions will remain static. However, efficient route mapping for

refuse collection rounds, Euro 6 classification for all vehicles and carbon offsetting will all be considered to help. Nevertheless, the Council will set an aspiration to delivering Net Zero from the waste service during the lifetime of the next contract from 2029.

What we're doing:

The Council's Carbon Reduction Plan 2021-26 set some ambitious targets and commitments. In particular, this Plan committed the Council to:

- a) Achieving Net Zero carbon emissions from its operational activities by 2040;
- b) Delivering a 50 percent reduction in carbon emissions from 2014/15 baseline figures;
- c) Fitting no fossil fuelled boilers into operational buildings after 2025/26;
- d) Buying no new carbon emitting vehicles after 2022/23;
- e) Achieving Net Zero from its waste service during the lifetime of the next contract from 2029;
- f) Working with HTS to help them achieve Net Zero by 2040 and to identify a potential 12 percent saving during the lifetime of this Plan.

Future actions:

For larger vans and HGV's, a fleet management plan should be drafted by the Council/HTS to identify when and how the fleet can be replaced with low/zero emitting vehicles. Admittedly, there are some HGV's and tractors that may not be able to achieve zero emissions for some time and so carbon offsetting should be considered alongside fleet replacement. HTS will also commit to achieving Net Zero by 2040 and the Council will work with them to achieve this.

As technology develops issues of building sizing will no longer need to be considered but investment in building fabric and more disruptive and costly changes to distribution systems within existing buildings will need to be built into the cost of changing heat sources to renewable options; therefore the timing of these changes needs to be carefully considered against changing technologies to achieve best value for money when replacing heat generation sources.

Inlcude section on future new commercial/operational buildings? Use Pets Corner Learning Centre as an example of sustainable building

Objective 2: Achieve zero emissions from homes within Harlow

[Insert context/need for objective]

Key challenges:

Housing stock

The Council is the landlord for more than 9,000 properties in the town and this provides both one of the most significant challenges and opportunities in terms of managing the impacts of Climate Change and contributing to the reduction of emissions. As part of a corporate approach to tackling climate change, and in the role of community leader, the Council will need to identify what is possible and by when in relation to its housing stock as part of a Climate Change Action Plan.

Include information relating to challenge of switching from gas being more than switching to a heat pump, it also includes investing in retrofitting insulation measures which adds cost pressures on home owners.

Private stock

[Include narrative on condition of private stock]

New builds – planning and Carbon neutral regen

Include further details of Regeneration plans and standards

What we're doing:

Private sector landlord forum (online) - facilitation role for Council

Retrofit academy

Make commitment on own stock? Look at what other authorities are doing? Review the Housing Strategy

The Council has already adopted the Harlow & Gilston Sustainability Guide as a material consideration in the determination of planning applications, along with the Harlow Design Guide detailing how development can tackle Climate Change and achieve Net Zero (see objective 5 for further details).

Future actions:

Pilot schemes for emerging technology

ARU/Arise tie in

Objective 3: Businesses to reduce emissions to zero, supported by a successful green economy

[Context/need for objective]

Key challenges:

Vast majority of businesses in Harlow are SME's and have fewer than 10 employees. Harlow only has 55 businesses with between 50 and 250 employees in the town. Government is looking to set a requirement for larger businesses to declare their carbon levels / target but this is not yet in place.

According to British Chamber of Commerce 9 out of 10 British firms have not done any assessment on strategies on how managing their transition to net zero. This falls to 1 in 20 businesses for microbusinesses – i.e. those with under 10 employees.

Could ask businesses via a survey to understand this?

[Insert narrative around identifying biggest emitters, types of business, differentiation between needs of small and large businesses, drivers for reducing emissions]

What we're doing:

Local supply chain

Business Forum – promote funding and business support schemes that promote net zero activities for businesses.

Future actions:

Climate change pledges

We will work with partners to support a pipeline of local residents with appropriate skills to work in the green economy. This includes the current Community Renewal Funded Retrofit

project that ECC is leading that should develop a cohort of skilled workers for the retrofit economy.

Business emission breakdown – Is this available or can we find this out?

Business one to ones

We will work with our partners (such as ECC and SELEP) on work that is looking at supporting the green economy which will include understanding the business opportunities in developing green technologies and solutions. This may help develop new innovative and entrepreneurial businesses operating in the green economy locally.

Harlow Anchor Network - promote local procurement which will lead to great local supply chains which can reduce carbon footprint of products and services.

Use of the Council's procurement policies to ensure more goods are purchased locally reducing transportation and to require the Council's suppliers to work towards Net Zero targets.

Objective 4: Harlow Council effectively lead local communities to reduce their emissions in everyday behaviours and choices

[Context/need for objective]

Key challenges:

[Insert narrative around personal behaviours and options available, which areas are hard to tackle etc]

What we're doing:

ECC bulk buy/bulk renewables
Energy hub tie ups
School/college green day

Future actions:

Comms – Harlow @ 100

Publicising the work that Harlow Council is doing to combat climate change.

Develop a Harlow Climate Change Forum to bring together key organisations in the town to work together on producing an action plan.

Encourage others to make specific Climate Change pledges.

Encourage other 'Anchor Institutions' to use their procurement process to make an impact on carbon emission.

Youth council

Objective 5: Introduce and strengthen planning policy to support a built environment which considers climate change adaptation and mitigation

The Council is in a strong position to use its powers to influence building design in the town so that new developments are increasingly working towards achieving carbon neutrality at least. This can be achieved by introducing and strengthening planning policy.

Key challenges:

Council's across the country, including Harlow Council, have declared a climate emergency in response to the urgent issue of climate change. Effective spatial planning is an important part of a successful response to climate change as it assists in the reduction of emission of greenhouse gases. In doing so, local planning authorities should ensure that protecting the local environment is properly considered alongside the broader issues of protecting the global environment. Planning can also help increase resilience to climate change impact through the location, mix and design of development.

In addition to effective spatial planning and sustainable land use, both operational and embodied carbon emissions should be considered as part of the development process so that it can be successfully mitigated against. This should be considered concurrently with any future Government strategies that take advantage of decarbonisation, thereby allowing the building to be Net-Zero enabled.

What we're doing:

The Council has already adopted the Harlow & Gilston Sustainability Guide as a material consideration in the determination of planning applications. This sets out a series of standards and aspirations for the construction of new buildings and includes a checklist for developers to follow to identify how they will meet these standards. This guide is already seen as a model for others to follow in the Garden Town community and will need to be regularly updated as technologies change thinking on sustainability becomes more mainstream.

Future actions:

The Council is currently consulting on some amendments to its Design Guide. This picks up changes in legislation that have occurred since the last Guide was produced in 2011 and includes a section on Climate Change. This provides guidance on how to design

buildings and implement landscaping which will prevent overheating and provide natural cooling, the consideration of natural lighting and ventilation in new properties and the implementation of rainwater harvesting and grey water-reuse. The Guide is likely to be adopted at Cabinet in December 2021 and will then also become a material consideration in the determination of planning applications. However, it is intended during 2022 to develop a new Design Guide and this will provide a significant opportunity for the Council to set some high aspirations and standards to be achieved for new development in the town over the next decade and beyond.

Objective 6: Adopt good stewardship of the natural environment of the town to support both climate change adaptation and mitigation

The Council has a significant opportunity to both make an impact, but also to influence others, in the way that it manages the environment of the town. Some progress has already been made in this area through an increase in tree planting and the encouragement of greater bio-diversity in locations such as Parndon Wood, the Town Park and the River Stort nature reserves. The piloting of some wildflower planting has also raised awareness of the impact of these measures.

Key challenges:

The measurement of the carbon impact of these activities is notoriously difficult and as such they were not included in the recent Carbon Reduction Plan – it was important that this was evidenced-based and measurable. However, it is widely acknowledged that improving bio-diversity, even at a local level, can make an impact on CO2 levels and the Council will commit to a more expansive programme in the coming months and years. A report will be submitted to Cabinet in November with a more detailed programme, but activities that the Council will look to pursue as part of a broader Climate Change Strategy will include:

What we're doing

Implementing the first wave of the installation of electric vehicle charging points and developing a programme for broadening this out into residential areas.

An expansive tree planting programme as part of the Essex Forest Initiative.

Implementation of a programme of increasing bio-diversity and the range of habitats for wildlife in the town. This will include protection for key sites in the town as well measures such as increasing wildflower planting.

Working with HTS to phase out the use of environmentally damaging products as part of its regular activities.

Allotments

Future actions:

Working with the Harlow & Gilston Garden Town to develop and implement a programme of stewardship for new communities that protects and enhances the

natural environment and creates a model for its extension into the town's existing communities.

Air quality

Develop a methodology for measuring the impacts of the above measures.

Objective 7: Achieve shift in transport used within the town to sustainable modes

[Context/need for objective]

Key challenges:

[Insert narrative from HGGT Transport studies]

What we're doing:

Working with partners to develop a new Sustainable Transport system for Harlow as part of the Harlow and Gilston Garden Town

Future actions:

Develop measures to encourage more children to walk or cycle to school.

Vehicle idling

Objective 8: Reduce use of single use items and encourage re-use and recycling of waste items

[Context/need for objective]

Key challenges:

What we're doing:

Future actions:

Improving recycling rates across the town. Harlow has relatively low levels of recycling, in part because of the relatively high level of flat block accommodation which traditionally have lower levels of recycling. Working with the Council's waste contractor, steps will need to be put in place to change recycling rates and this should be a significant part of a new Climate Change Action Plan.

Water fountains/refill schemes