

Topic Paper 7

Climate Change

for the Crawley Borough Local Plan 2015-2030

November 2014



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1.0 Introduction

- 1.1. This topic paper relates to the following policies in the submission Local Plan¹:
 - SD1: Presumption in Favour of Sustainable Development
 - ENV6: Sustainable Design and Construction
 - ENV7: District Energy Networks
 - ENV8: Development and Flood Risk
 - ENV9: Tackling Water Stress
- 1.2. In response to the increasing awareness of the impact of climate change, particularly the impact of greenhouse gasses, many countries have signed legally binding international agreements to reduce their emissions. The UK has committed to achieving an 80% reduction on 1990 levels by 2050, with a 34% reduction to be achieved by 2020, and a 50% reduction by 2025. Energy consumption is a major contributor to UK carbon emissions and, in addition to its carbon targets, the UK has a target to obtain 15% of its energy (including electricity generation, heat production and transport fuel) from renewable sources by 2020.
- 1.3. As the Local Plan deals with new development and sustainable growth patterns, it is an ideal tool for the Local Authority to address locally specific issues and concerns, and to assist in the UK meeting its overall national emissions targets.
- 1.4. This topic paper addresses how climate change will affect Crawley over the Local Plan period until 2030 and how the policies within the Plan will help development mitigate and adapt to these changes.

2.0 Background

Legislative context

Renewable Energy Directive 2009

- 2.1. As a result of this directive, EU Directive 2009/28/EC, the UK is committed to supplying 15% of its energy requirement from renewable sources by 2020. In 2008, this figure was around 2.25%.
- 2.2. To meet this target local authorities are required identify and approve appropriate renewable energy development.

Climate Change Act 2008

- 2.3. The Climate Change Act 2008 introduced a statutory target of reducing carbon emissions by 80% below 1990 levels by 2050, from 1990 levels, with a 50% reduction by 2025 as set out in the carbon budgets.

Energy Act 2008

- 2.4. Feed-in Tariffs and the Renewable Heat Incentive (RHI) scheme were introduced by the Energy Act 2008. The ambition was to increase renewable energy generating capacity throughout the UK.

Planning & Energy Act 2008

- 2.5. The 2008 Planning and Energy Act allows local councils in England and Wales to set reasonable requirements in their Development Plan Documents for:
 - the proportion of energy used in a development to be sourced from local renewable sources and/or local low carbon sources; and
 - energy-efficiency standards which go beyond Building Regulation requirements.

¹ Crawley 2030: The Crawley Borough Local Plan 2015 – 2030 – Submission Consultation Draft (CBC, September 2014)
 Core Document Library Reference: LP001
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- 2.6. This Act provides Crawley Borough Council with the opportunity to set locally specific requirements that are higher than are in other legislation; placing the Local Plan in a key position to achieving energy efficiency measures.
- 2.7. This Act empowered a local planning authority to include, within its Local Plan, policy which secures a carbon emission rate above that prescribed by Building Regulations. However last month a ministerial statement confirmed the intent to remove this opportunity as part of the housing standards review.

Housing Standards Review

- 2.8. The ministerial statement released on the 13 March 2014 to support the previous Housing Standards Review consultation in 2013 states that with regards to energy, there will be a change to a “Building Regulation Only” approach with no optional local standards in excess of Part L to be prescribed as part of any Local Plans. For water, the statement sets out a 110 litres per day (lpd) target, with a target of 125lpd in an area of water stress.

Planning and Compulsory Purchase Act 2004 and the duty on mitigation and adaptation

- 2.9. Section 19 of the 2004 Planning and Compulsory Purchase Act, as amended by the 2008 Planning Act, places a legal duty for Local Authorities to ensure that Local Plan policies contribute to the mitigation of and adaptation to climate change².

Planning policy context

National Planning Policy Framework (NPPF)

- 2.10. The NPPF³ states that planning policy should play a key role in “shaping places to secure radical reductions in greenhouse gas emissions, planning for new developments in locations and ways that reduce greenhouse gas emissions, and supporting the delivery of renewable and low carbon energy and associated infrastructure”. It states that Local Planning Authorities have a statutory duty to tackle climate change and its impacts by having local plan policies that “adopt proactive strategies to mitigate and adapt to climate change”.
- 2.11. Paragraph 94 states that “local planning authorities should adopt proactive strategies to mitigate and adapt to climate change, taking full account of flood risk, ...and water supply and demand considerations”, whilst Paragraph 95 states that to “support the move to a low carbon future, local planning authorities should:
- plan for new development in locations and ways which reduce greenhouse gas emissions;
 - actively support energy efficiency improvements to existing buildings; and
 - when setting any local requirement for a building’s sustainability, do so in a way consistent with the Government’s zero carbon buildings policy and adopt nationally described standards”.
- 2.12. Paragraph 97 states that local authorities should help “increase the use and supply of renewable and low carbon energy” by having a positive strategy to promote energy from renewable and low carbon sources; design their policies to maximise renewable and low carbon energy development while ensuring that adverse impacts are addressed satisfactorily, including cumulative landscape and visual impacts; and consider identifying suitable areas for renewable and low carbon energy sources, and supporting infrastructure, where this would help secure the development of such sources.

² Section 19 of the 2004 Planning and Compulsory Purchase Act, as amended by Section 182 of the Planning Act 2008, states: ‘Development plan documents must (taken as a whole) include policies designed to secure that the development and use of land in the local planning authority’s area contribute to the mitigation of, and adaptation to, climate change’

³ Paragraph 93, National Planning Policy Framework (DCLG, 2012)

- 2.13. The NPPF also expects local authorities to “take account of landform, layout, building orientation, massing and landscaping to minimise energy consumption when determining planning applications”.
- 2.14. Other relevant sections in the NPPF include:
- Local plans must be prepared with the objective of contributing to sustainable development: NPPF [151];
 - LPAs should seek opportunities to achieve each of the economic, social and environmental dimensions of sustainable development and net gains across all three. Significant adverse impacts on any of these dimensions should be avoided and, wherever possible, alternative options which reduce or eliminate such impacts should be pursued. Mitigation or compensation measures may also be appropriate: NPPF [152];
 - Local plans should be aspirational but realistic. Only policies that provide a clear indication of how a decision maker should react to a development proposal should be included: NPPF [154];
 - Local plans should include strategic policies to deliver climate change mitigation and adaptation, conservation and enhancement of the natural and historic environment: NPPF [156], bullet 5;
 - Pursuing sustainable development requires careful attention to viability and costs in plan-making and decision-taking. Plans should be deliverable. To ensure viability, the costs of any requirements likely to be applied to development, such as requirements for affordable housing, standards, infrastructure contributions or other requirements should, when taking account of the normal cost and development and mitigation, provide competitive returns to a willing landowner and willing developer to enable the development to be deliverable: NPPF [173].
- 2.15. National Planning Practice Guidance (PPG)⁴ states that effective spatial planning is an important part of the nation’s successful response to Climate Change. It states that LPAs should make sure that protecting its local environment is considered alongside the wider global environment and that planning has a key role in helping with increased resilience to the effects of climate change through, the location mix and design of new developments. Therefore addressing Climate Change should be seen as one of the core land use planning principles.

Other Strategies

- 2.16. Further to the legislative and planning policy as outlined above, there are a number of other areas that directly or indirectly impact the planning system; as such it is imperative to take note of them. These include, but are not limited to:
- The Renewable Energy Roadmap (DECC) seeks to increase the UK’s use of renewable energy and achieve its 15% renewable energy target by 2020.
 - The Low Carbon Transition Plan and the Renewable Energy Strategy were both published on 15 July 2009 and set out how the UK will achieve dramatic reductions in emissions and meet targets on renewables.
 - The Household Energy Management Strategy, Warmer Homes, Greener Homes, published in March 2010, gives more importance to district heating schemes and identifies the essential role of planning to facilitate the implementation of them.
 - The Household Energy Management Strategy was published on 2 March 2010, and placed a greater emphasis on district heating schemes and identified an essential role for planning in facilitating delivery of these and other community scale energy schemes.
 - The EU’s Transport White Paper, published in 2011, sets out a plan to cut 60% of in-city transport emissions by 2050.

⁴ National Planning Practice Guidance: Climate Change, Paragraph 001 (DCLG, March 2014)
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- DECC have published The Heat Strategy and National Heat Map which gives a strategic framework for low-carbon heat. The map is a spatial plan of heat demand from buildings for all of England, designed to help planners develop low-carbon heating solutions.

3.0 The role of the Crawley Local Plan

- 3.1. The Local Plan is in a unique position to guide sustainable development over the Plan period. Climate change has an impact on all the economic, social and environmental dimensions of sustainable development.
- **Environment:** The changing climate is already potentially causing different weather patterns and extreme weather events (such as drought and flooding) which, in turn, impacts upon flora, fauna, and humans.
 - **Economic:** Consequences include the need to upgrade buildings to withstand weather extremes; increased fuel costs to heat and cool them; increased insurance costs and claims from flooding and storm damage; and changes to the design and construction of developments (which can be more costly) to adapt to the effects of climate change.
 - **Social:** Less affluent households are exposed to the impacts of climate change and fuel poor households are particularly vulnerable. It can also affect quality of life as living environments change, affect community resilience, and potentially promote a sense of social responsibility. Other opportunities such as place making may arise through the need for human adaptation.
- 3.2. The Local Plan addresses all of these areas. It includes realistic policies/measures that balance the three elements to ensure that sustainable development can occur within the borough whilst successfully reacting to climate change alongside local conditions, opportunities and constraints.

4.0 Evidence Base

- 4.1. In order to have a solid footing to formulate its policies in relation to climate change the council has drawn upon a wide variety of evidence. This evidence has been prepared by the council, other bodies and organisations; all contain information relevant to Crawley and its future development. These have been used to establish the most appropriate and most effective sustainability policies within the Local Plan.
- 4.2. The evidence is outlined below and is grouped together in subsections, although crossover does occur.

Mitigating Climate Change

Crawley Borough Council Corporate Climate Change Strategy (2008) and Crawley Carbon and Waste Reduction Strategy (2012)

- 4.3. The council's climate change strategy outlines the council's aims for achieving carbon neutrality by 2050. The headline targets are to:
- Reduce carbon emissions by 32% by 2020; and 60% by 2040; and
 - Become Carbon Neutral by 2050.
- 4.4. This document also introduces immediate, short, medium and long term objectives. These include decentralised energy, new planning policies and the use of BREEAM and Code for Sustainable Homes.

Examples of Local Plan policies

- 4.5. During the preparation of the Local Plan a number of assessments have been carried out to look at existing examples and best practice Local Plan policies. These have been generally included within evidence documents as they have been prepared. Updates on other Local Authorities' planning policies can be found within:
- Planning and Climate Change in Crawley (2007);
 - Policy Review Document (2009);
 - Gatwick Sub-Region Water Cycle Study (2011);
 - Decentralised Energy Study for Crawley Borough Council (2011).

Crawley's Carbon Emissions

- 4.6. In line with national & international commitments local reductions in carbon emissions are monitored by central government; Crawley does not monitor its own borough-wide emissions as statistics are released by central government. Crawley has, however, conducted a number of studies looking at ways of reducing emissions further and these, alongside the national statistics, are outlined below.
- 4.7. Energy use in buildings made up 78.33% of the carbon emissions generated within Crawley in 2011⁵. Domestic buildings accounted for 28.33% of this; whilst industrial and commercial buildings accounted for 50%; leaving road transport accounting for the remaining 21.67% (Aviation emissions are not recorded in local borough emission figures).

Year	Crawley per Capita Emissions				South East per Capita Emissions			
	Industry and Commercial	Domestic	Road Transport	Total	Industry and Commercial	Domestic	Road Transport	Total
2005	3.8	2.2	1.7	7.6	2.5	2.5	1.8	6.8
2006	4.0	2.1	1.7	7.8	2.5	2.5	1.8	6.8
2007	3.8	2.1	1.6	7.5	2.4	2.4	1.8	6.6
2008	4.0	2.1	1.5	7.5	2.4	2.4	1.7	6.4
2009	3.4	1.8	1.4	6.7	2.0	2.1	1.6	5.8
2010	3.5	1.9	1.3	6.8	2.2	2.3	1.6	6.0
2011	3.0	1.7	1.3	6.0	2.0	2.0	1.5	5.5

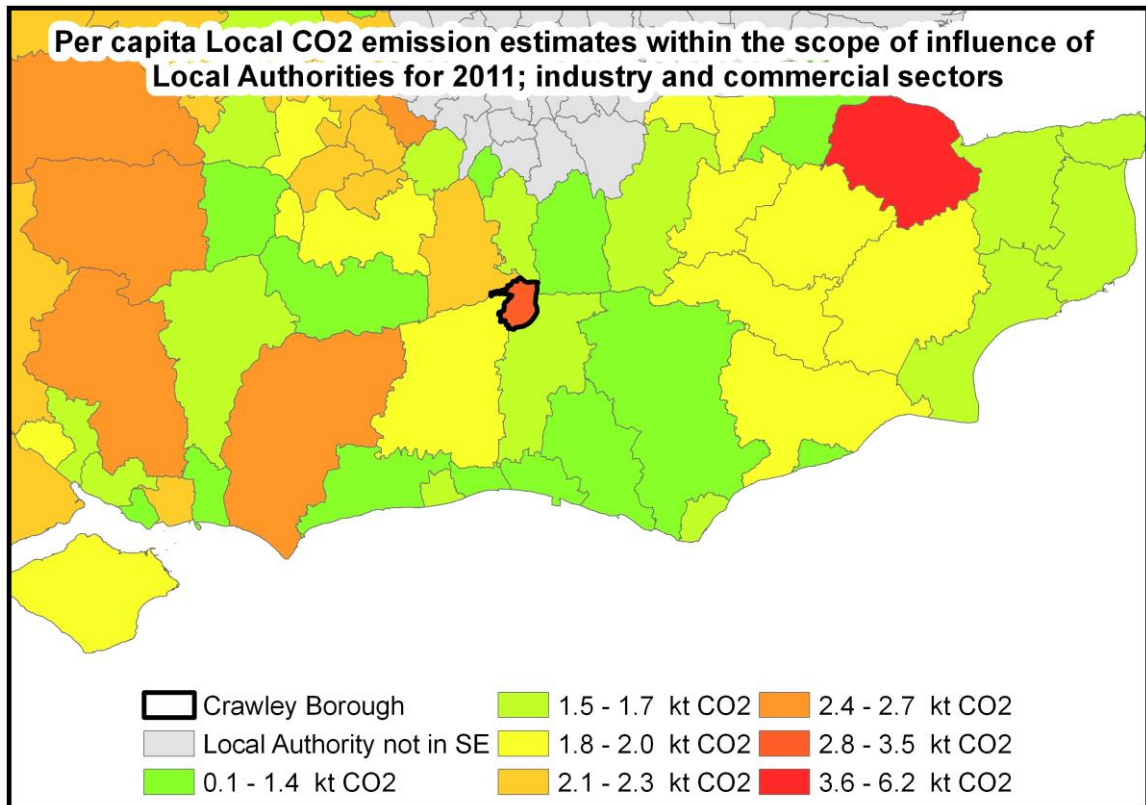
2011 Emissions by % of total per capita			
	Industry and Commercial	Domestic	Road Transport
Crawley	50%	28.33%	21.67%
South East	36.36%	36.36%	27.27%
National	40.02%	34.60%	25.37%

- 4.8. The table above shows Crawley currently does relatively well when compared to the regional and national Domestic & Road Transport per capita emissions ratios. Crawley has a population of 106,597 people living in 42,727 households. The housing stock is relatively modern. However, with the majority of development taking place between 1947

⁵ data from 'Emissions within the scope of influence of Local Authorities for 2005-11' from DECC: This data set excludes items deemed outside of LA control, such as: Land Use Change, Diesel train transport and Motorway road transport emissions.

and 1967, the New Town, at the time of its construction, did not address carbon emissions and as a result of this there are many poorly insulated properties. The latest data published relates to 2011.

- 4.9. Crawley's large employment areas, most noticeably Manor Royal, have the effect of greatly increasing the borough's emissions: 50% of emissions in 2011 came from these areas equating to a 50% increase on the regional South East per capita figure for the industrial and commercial sector. The emissions per capita per Local Authority area are mapped below. It should be noted that whilst the Business District is located within Crawley, alongside Gatwick Airport, the area provides economic benefit to the wider sub-region with the travel-to-work area for commuting into Crawley extending as far as from the south coast to London.



- 4.10. The high levels of emissions originating within the borough from the Industrial and Commercial sector contribute to the higher than national and regional average emissions.

West Sussex Energy Study (2010)

- 4.11. The West Sussex Energy Study was carried out across Arun, Adur, Chichester, Horsham, Mid Sussex, and Worthing administrative areas. Information already gathered by that time from Crawley fed into the study. This study highlighted particular opportunities for renewable technologies across the wider region and in Crawley and identified opportunities to utilise local characteristics and the compact urban nature of the district, in setting a locally specific agenda to tackle Climate change.

Planning and climate change in Crawley (2007)

- 4.12. This initial study commissioned by the council looked at other policies relating to climate change, options for adaptation to climate change, potential delivery mechanisms, opportunities within Crawley and the way forward.
- 4.13. The report made a number of conclusions on an overarching approach to climate change in Crawley and the opportunities available. The introduction of the NPPF supersedes some of this study. However, the key conclusions that there are opportunities for Crawley to make a positive contribution to reduced carbon emissions given its location, typography and built form, are still relevant and influence the development of the Local Plan.

Decentralised Energy Study for Crawley Borough Council (2011)

- 4.14. This study looked at the borough as a whole and took a systematic approach to identifying the ways in which carbon emissions can be reduced. The study looked at strategic opportunities, good practice and policies from other areas and created a detailed heat density map for the borough.
- 4.15. The study identified a number of potential heat network opportunity areas within the borough and provided initial network routes within these locations connecting consumers or contributors of heat within identified clusters.
- 4.16. It also suggested a number of recommendations on how district heating networks could be progressed, including:
- Recommendation 10:** The planning team should develop and integrate the recommended planning policy wording relating to energy efficiency, district heating and renewable/low carbon energy technologies into a Development Plan Document (DPD).
- Recommendation 11:** The District Heat Network working Group, led by planning, should develop a guidance document on 'District Heat Networks in Crawley' to encourage new development to install or connect to heat networks.
- Recommendation 12:** The planning team should consider creating Supplementary Planning Documents that support the development of district heating networks in Crawley.

Crawley Carbon and Waste Reduction Strategy (2012)

- 4.17. The corporate strategy outlines the council's aims and ambitions with regards to reducing waste and carbon emissions. It sets out a number of Key Areas of Strategic Focus for the council. These include:
- Anticipating and responding to a changing climate;
 - Low carbon, decentralised energy network for the town;
 - Promote sustainable buildings and transport within Crawley.
- 4.18. This strategy confirmed the council's commitment to adapting and mitigating the impacts of climate change wherever possible.

Local Plan Consultation Responses

- 4.19. Consultation responses throughout all stages of the Local Plan preparation have been in support of reducing carbon emissions. However, there have been concerns raised over the cost of implementing the measures required and reassurances requested that the council is clear and specific about the benefits of the measures expected, rather than establishing a list of requirements that are overly prescriptive.

Key issues for Crawley: Adapting to Climate Change

- 4.20. Given Crawley's location within south east England issues regarding radiant energy are raised within early reports. These related to both opportunities from solar gain but also issues of the need to address the increased exposure to temperature extremes and "heat island effects".

Planning and climate change in Crawley (2007)

- 4.21. This planning and climate change study identified at an early stage that there were issues surrounding the "elevated summer temperatures and an increased likelihood and severity of heatwaves". The study recognised that adaptation to such temperature extremes should be considered in the built form of the town.

Policy Review Document (2009)

- 4.22. This document went on to confirm that Crawley is expected "to experience warmer summers, wetter winters and a greater frequency of extreme events including heat waves, drought and flooding".

Local Plan Consultation Responses

- 4.23. A draft policy addressing this issue was included at the Preferred Strategy stage; it received support from Natural England and no objections.

Key issues for Crawley: Managing Crawley’s Water Supply

- 4.24. Water is a finite resource that needs to be managed, both in terms of managing the supply of water and controlling the anticipated demand. Crawley sits on the boundaries of three water utility providers so it is essential that a coherent, joined-up approach is taken to assess the borough’s demand and supply position.

Gatwick Sub-Region Water Cycle Study (2011)

- 4.25. This study, study, was commissioned to look into the impacts of the development proposed over the Plan period on the existing water cycle. This took into account key housing sites and proposed infrastructure and their impacts on fresh water, waste water and flooding.
- 4.26. This study concluded with key recommendations for Crawley. These included recommendations relating to improving water efficiency and sustainable drainage systems through new development.

Crawley Water Cycle Study Update (2013)

- 4.27. Initial assessments of the impact of new housing development on the available water supply were based on the requirements set out in the South East Regional Spatial Strategy. This was revoked in March 2013. The council has now fully assessed the capacity of the borough to accommodate new housing, and the Local Plan has had to take a supply-led approach, the justification for this has been set out in Topic Paper 3⁶. This means that there will potentially be fewer pressures on the water system. Therefore, there was the potential for the proposed policies, as drafted within the Preferred Strategy Local Plan, being too onerous or restrictive.
- 4.28. The Water Cycle update re-assessed the impacts on waste and fresh water infrastructure in line with a supply-led housing position. However, the recommendations did not change significantly. The study also recommended a series of improvements to the policies within the Preferred Strategy Local Plan that highlighted improved lpd targets, as it identified the borough as being in “Serious Water Stress”.

Local Plan Consultation Responses

- 4.29. The main feedback in relation to water and the proposed policy approach was gathered at the Preferred Strategy stage. Most representations offered their support to the policies as drafted, including the utility providers and developers. However, some concerns were raised that by setting stricter requirements the council could be hampering development rates, as a result of the perceived increased costs and impact on viability in order to achieve those requirements. This is addressed in Section 5.0.

Water Management Resource Plans

- 4.30. Water providers are required to prepare Water Management Resource Plans, setting out how they will ensure that water infrastructure can meet the demand for water over a 25-year period. Relevant water (fresh & waste) utility providers for Crawley include:
- Sutton & East Surrey Water
 - Southern Water
 - South East Water
 - Thames Water
- 4.31. Existing Water Management Resource Plans were used throughout the preparation of the Plan and provide insight into the infrastructure planned and challenges presented to the utility providers.

⁶ Topic Paper 3: Housing Land Supply (CBC, August 2014) Core Document Library Reference: LP012
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- 4.32. In 2013, consultation was undertaken on the next generation of Water Management Resource Plans. These consultation plans set out the planned approach over the Plan period and have been invaluable whilst preparing the Local Plan and agreeing a policy approach. No major works are anticipated to occur within the borough.

Infrastructure Position Statements

- 4.33. Utility providers, such as energy companies and water companies liaise with Crawley Borough Council to ensure that there is always an up-to-date position statement outlining the provider’s policies within the borough.
- 4.34. These position statements provide information on the state of borough and are invaluable whilst preparing the Local Plan. The latest of these were agreed for publication alongside the submission version Local Plan and can be found in the Infrastructure Plan accompanying the Local Plan.

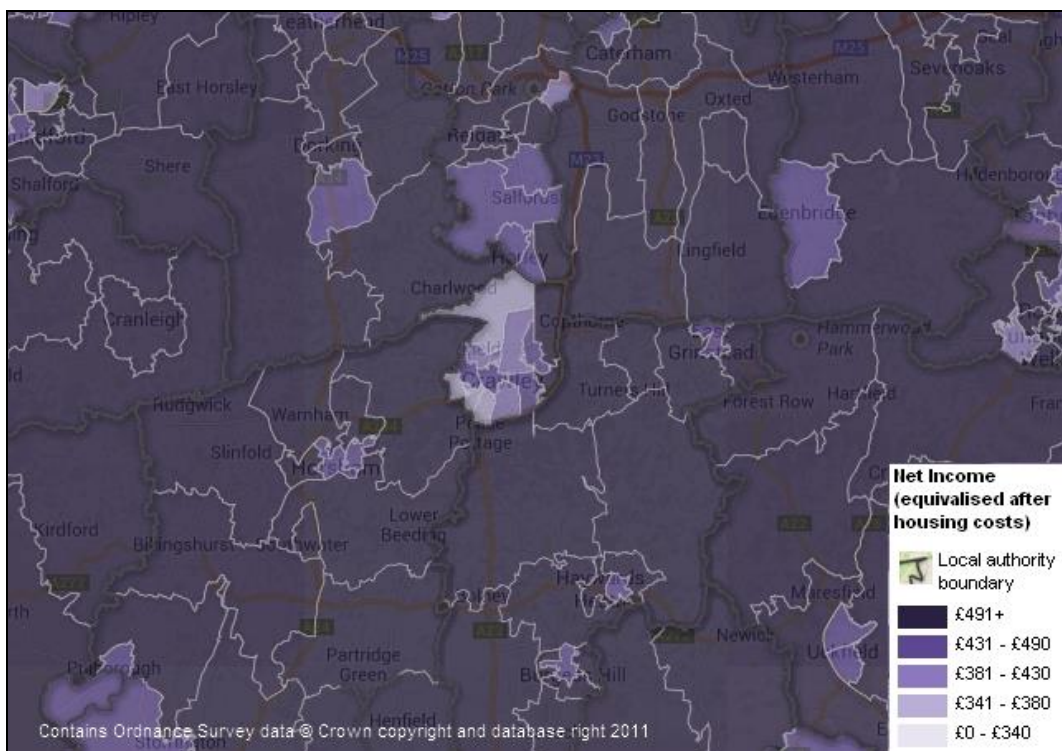
Key issues for Crawley: Tackling Fuel poverty / Fuel Poor Households & Energy Performance of Existing Buildings

Great Britain’s housing energy fact file (2011)

- 4.35. This document published by the Department of Energy and Climate Change (DECC) states that a fuel poor household “would have to spend 10% or more of their income on fuel to maintain a satisfactory heating regime (usually 21°C for the main living area and 18°C for other occupied rooms)”.
- 4.36. It goes on to analyse existing households and shows that through the effective use of appropriate building improvements the energy requirements of housing can be substantially reduced.

National Statistics

- 4.37. The borough contains areas of low income and some relatively deprived areas featuring within the top 20% on the indices of multiple deprivation. Added to this in 2011 there were 2,670 households in fuel poverty, representing over 6% of the current households. The map below shows Small Area Model-Based Income Estimates - 2007/08 and illustrates that the lower levels of income (after Housing costs) that exist in Crawley, are a pockets of deprivation compared to the higher rates of net income experienced by those towns that are in close proximity to Crawley.



Local Plan Consultation Responses

- 4.38. A draft policy to help resolve this issue was consulted upon at the Preferred Strategy stage. The concept of improving existing buildings within the borough was supported. This has now been incorporated within Policy ENV6.

5.0 The economic case for taking action & viability implications

The Business Case for Building Green (2013)

- 5.1 The Business Case for Building Green is a study carried out by the World Green Buildings Council into the costs and benefits of building “green” to developers, investors, and future occupants of properties. Whilst this study does not identify specific costs associated with the measures, it does reach a series of observations regarding the cost of building “green” in general. Its main findings in relation to costs were:
- Research shows that building green does not necessarily need to cost more, particularly when cost strategies, programme management and environmental strategies are integrated into the development process right from the start;
 - While there may be an additional cost associated with building green as compared to conventional building, the cost premium is typically not as high as is perceived by the development industry;
 - Higher upfront capital costs for green buildings have been found to be proportional to the increased level of environmental certification. However, increasingly, projects are able to achieve higher levels of certification at lower cost compared to less ambitious projects;
 - There has been an overall trend towards the reduction in design and construction costs associated with green building as building codes around the world become stricter, supply chains for green materials and technologies mature and the industry becomes more skilled at delivering green buildings;
 - Upfront cost increases for green buildings are often offset by a decrease in long-term life cycle costs, particularly in the case of green buildings that feature high-performance façades and energy-efficient building systems.

Zero carbon homes - Impact assessment (2011)

- 5.2 The Zero Carbon Homes Impact Assessment re-defined the meaning of a “Zero Carbon Home”.
- 5.3 This study estimates that the cost per dwelling of achieving the new definition of Zero Carbon Homes “...could be in the region of £3,000 to £8,000 per house by the time the policy starts to have an effect...” in 2017, so it the cost could be in the region of ...”just over £4,000 for a typical semi-detached house built in 2017”. This contrasts to the previous estimate which had costs of £8,000 to £12,500 per house.
- 5.4 The key figure from this study is that it proposes achieving a Zero Carbon Home will cost around £3000 to £8000 by 2017 prices.

Cost of building to the Code for Sustainable Homes: Updated cost review (2011)

- 5.5 The purpose of this study was to update the two previous Code cost reports, based on a much larger availability of market-tested industry data. It breaks the cost of achieving the code for sustainable home levels into the topic areas and provides a breakdown of costs by topic.
- 5.6 As a result, whilst this study goes into more detail than others, the costs it provides covers whole topic areas. This means that the figures quoted incorporate the cost of achieving all credits necessary within the Energy topic. This includes: Dwelling Emission Rate; Energy

Display Devices; Drying Space; Energy Labelled White Goods; External Lighting; Low and Zero Carbon Technology; Cycle Storage; and Home Office.

Local Plan Consultation Responses

- 5.7 Responses raised the issue of how the increased costs of constructing buildings in more sustainable ways may affect viability. However, many support the principle of the approach to raising requirements. Responses have indicated that any policy requirements should be viability tested before being adopted.

Crawley Borough Council Community Infrastructure Levy and Affordable Housing Viability Assessment (2013)

- 5.8 This report was prepared near the end of the Plan preparation process to support the Community Infrastructure Levy Draft Charging Schedule alongside testing the whole Plan viability of the policies within the draft submission Local Plan.
- 5.9 It shows that the policy requirements aimed at mitigating against, and adapting to, climate change, as drafted, do not compromise the viability of developments within the borough. The report considered a CSH in line with national requirements (currently Code 3) and a BREEAM target of very good and concluded that there were no adverse viability issues that effected the viability of the developments. (add quote/ref)

6. Challenges and opportunities

- 6.1 Given the evidence base, legislative context and emerging national requirements highlighted in relation to climate change, the role of the Local Plan is key in tackling Crawley’s aspiration to be carbon neutral by 2050. This section, therefore, outlines the challenges and opportunities for the Crawley Local Plan that have arisen.

Policy and regulatory framework

- 6.2 Section 2 outlines the regulatory and policy framework that the Local Plan must work within. The table below summarises this:

Key Challenges	Key Opportunities
<ul style="list-style-type: none"> • The UK must source 15% of energy from renewable sources by 2020. • Carbon must be at least 80% below 1990 levels by 2050, with an interim target of 34% by 2020. • The Local Plan must contribute to the mitigation of and adaptation to climate change. • Planning should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources. • Making sustainability issues balance with development delivery and viability. 	<ul style="list-style-type: none"> • Duty to cooperate could ensure cross boundary approaches to tackling climate change. • At present Local Planning Authorities can require standards better than building regulations, however the governments intention to align requirements within a new Part L of the building regs is imminent. • Feed-in tariff makes renewable energy schemes more financially viable. • Local Authorities can operate renewable energy production and sell the energy. • Being able to facilitate and negotiate with developers at the inception of a development ensures that planning policy is a key mechanism in ensuring change occurs.

Evidence

- 6.3 Section 4 outlines the evidence base drawn upon to develop the Local Plan policies to address the challenges of climate change. The findings are summarised below:

Key Challenges	Key Opportunities
<ul style="list-style-type: none"> • Climate change is likely to cause more droughts and flood events exacerbating the existing flooding issues and serious water stress. • The risk of heatwave events is likely to increase, partially due to the high level of radiant energy in the South East of England. This could be exacerbated by the urban heat island effect. • High levels of fuel poor households locally. • Climate change may exacerbate the implications of being in an area affected by serious water stress. • Reducing the relatively high levels of local carbon emissions. • Reducing the relatively poor environmental standard of buildings within the borough. 	<ul style="list-style-type: none"> • High level of radiant energy in the South East of England. • Council is corporately committed to mitigating the effects of climate change. • Local sources of renewable energy have been identified. • Identified potential for district energy networks within the borough. • Utilising location specific constraints as advantages or opportunities.

7. Policy options

- 7.1 Carbon emissions are the main cause of climate change. In the UK, buildings are responsible for approximately 44% of CO₂ emissions emitted. Therefore, the document that guides the development of new buildings, the Local Plan, is in an ideal position to contribute to the aim of reducing future emissions.
- 7.2 Generally, actions to reduce emissions from buildings are most cost effective when undertaken during construction or renovation works. As such, development projects present a relatively cost effective opportunity to mitigate climate change in the borough. In addition, the majority of development in the coming years will still be in use in 2050, and the characteristics of this development will therefore impact on the borough's ability to become carbon neutral.
- 7.3 A number of potential policy options were explored when determining how the Local Plan, and the borough council, could best address the issues. These included:
- Not including a planning policy and allowing the market to lead on addressing climate change.
 - Requiring development to achieve a certain BREEAM/CfSH Level, and possibly ramping this up over the coming years.
 - Adopting a consequential improvements approach when any development takes place to improve existing building stock.
 - Requiring renewable energy / micro-generation to be incorporated into new/existing development.
 - Requiring development to achieve a certain carbon reduction target over and above that of building regulations at the time of the application.
 - Establishing a local carbon offsetting fund funded by s.106 agreements.
 - Supporting/facilitating the installation & expansion of district energy networks.

- Encouraging the market to facilitate the installation & expansion of district energy networks.
- Supporting the use of public transport to reduce the need for the car.
- Requiring development to be passive, before relying on fuels. For instance this could be achieved through orientation and natural ventilation, rather than heating and mechanical ventilation.
- Utilising design and materials to minimise the affects of the heat island affect.
- Requiring higher standards of water efficiency and reduced consumption.

Options not taken forward

- 7.4 Some options were removed at an early stage as they were seen as being overly onerous on development, unenforceable, or not addressing the identified issue adequately. These related mainly to different policies for different development types and locations. Others progressed to a later stage.
- 7.5 The options assessed can be found in the Sustainability Appraisal supporting the Local Plan.
- 7.6 As the Local Plan is a document that seeks balance environmental, economic and social issues to achieve sustainable development, it was considered that some options would have had negative consequences on other areas such as potential CIL contributions, the delivery of development, and the development of district energy networks. These related to higher localised carbon reduction targets, consequential improvements to the existing buildings and site specific and size specific criteria based approaches.
- 7.7 A significant area of work looked into carbon offsetting within the borough, one option that featured strongly at Preferred Strategy stage required development to achieve a certain emission level, better than that of building regulations at the time of the application. If developments failed to achieve this then the remaining amount of carbon could be offset by payment into a Carbon Offset Fund. This work included counsel advice relating to the legality of such a scheme.
- 7.8 However, this approach was later removed from the Local Plan. This was triggered by the viability appraisal that showed the policy would have a significant impact upon the viability of development within the borough. Other factors also influenced the decision such as central government proposals to introduce “Nationally Described Standards” and to redefine where the power to control carbon emission lies (removing it from the scope of planning control). There were some potential legal and planning enforcement issues that were also raised as areas of concern. The policy approach was, therefore, removed.

Chosen policy options

- 7.9 The chosen policy options included within the Local Plan are the most appropriate and sustainable options, this is shown in the Sustainability Appraisal.
- 7.10 The policy options chosen also successfully address the identified challenges facing the borough with regards to climate change whilst making best use of any opportunities that exist within the current legislative and policy framework. The chosen policy approach includes policies on:
- Policy ENV6: Sustainable Design & Construction
The chosen policy provides developers with a flexible approach to ensure that climate change is mitigated by the proposed development. A series of objectives are set for all developments to achieve so that locally specific issues as well as global climate change are addressed by development.
 - Policy ENV7: District Energy Networks
By providing a local policy encouraging the development of District Energy Networks and associated infrastructure, and by stating that the council will take a central role in

achieving this, a degree of certainty in achieving the objective is provided and this can lead to an efficient supply of energy across the borough.

- Policy ENV8: Development & Flood Risk
Ensuring that flood risk will be dealt with in a locally specific manner is vital. This policy provides a policy hook through which the most up-to-date Environment Agency Flood Maps and SFRA recommendations can be taken into account.
- Policy ENV9: Tackling Water Stress
As Crawley is situated in an area of serious water stress, a policy to help mitigate the impact of development on the water environment is essential. BREEAM and CfSH water efficiency requirements have been made compulsory whilst allowing for any future changes in national policy.

7.11 The table below shows the identified challenges and opportunities and which policies within the Local Plan ensure that they have been, or have been partly, addressed:

	ENV6	ENV7	ENV8	ENV9
Challenges				
The UK must source 15% of energy from renewable sources by 2020.	✓			
Carbon must be at least 80% below 1990 levels by 2050, with an interim target of 34% by 2020.	✓	✓		
The Local Plan must contribute to the mitigation of and adaptation to climate change.	✓	✓		
Planning should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources.	✓		✓	✓
Droughts and flood events exacerbating the existing flooding issues and serious water stress.	✓		✓	✓
The risk of heat wave events is likely to increase, partially due to the high level of radiant energy in the South East of England. This could be exacerbated by the urban heat island affect.	✓			
High levels of fuel poor households.	✓			
Reducing the relatively high levels of local carbon emissions.	✓	✓		
Reducing the relatively poor environmental standard of buildings within the borough.	✓			

7.12 The table below shows the identified opportunities and which policies within the Local Plan ensure that these opportunities can be utilised locally:

	ENV6	ENV7	ENV8	ENV9
Opportunities				
Duty to cooperate could ensure cross boundary approaches to tackling climate change.	✓			
Local Planning Authorities can require standards better than building regulations (current but to be updated and removed following national housing standards).				✓
Feed-in tariff makes renewable energy schemes more financially viable.	✓			
Local Authorities can operate renewable energy production and sell the energy.		✓		
Planning should support the transition to a low carbon future in a changing climate, taking full account of flood risk and coastal change, and encourage the reuse of existing resources, including conversion of existing buildings, and encourage the use of renewable resources.	✓	✓	✓	✓
High level of radiant energy in the South East of England.	✓			
Council is corporately committed to mitigating the effects of climate change.	✓	✓	✓	✓
Local sources of renewable energy have been identified.	✓	✓		
Identified potential for district energy networks within the borough.	✓	✓		

8. Conclusions

- 8.1 Following various iterations, the chosen policy approach will successfully address the challenges due to climate change faced by the Crawley over the Local Plan period to 2030.
- 8.2 The policy approach has been written to provide a flexible way for developers to successfully mitigate against and adapt to climate change, allowing them to benefit from the locally identified opportunities. It is also considered that the approach allows for innovation and does not negatively affect development viability.
- 8.3 The Local Plan policies have been written to ensure they are easy to follow and adhere to; ensuring delivery of carbon efficient developments. With such a flexible approach, additional detail will be required to explain the locally specific opportunities through which new development can address the mitigation and adaptation of climate change in Crawley.
- 8.4 The council will prepare a “Planning & Climate Change Supplementary Planning Document” to amplify climate change policies and explain how developers can achieve the objectives and requirements set within policies ENV6, ENV7, ENV8, and ENV9. It is anticipated that this will accompany the policies at examination in draft form.

Appendix A: Crawley Borough Council Statement of Commitment to delivering District Energy & Heat Networks

Statement of commitment to delivering District Energy & Heat Networks

One of Crawley Borough Council's corporate priorities is "to protect and enhance our environment by reducing the Council's and the town's carbon foot print..." With this in mind, the council is actively looking at ways to achieve this and implementing them where feasible.

A number of projects have been completed recently highlighting the council's commitment to delivery of sustainable development. Examples of projects delivered in the past 3 years include a BREEAM Excellent community centre, Code for Sustainable Homes level 4 social housing and several large roof-top solar PV projects delivered across a number of the council's operational building stock. All of these projects reinforce the council's strong commitment to sustainable energy production.

Building upon several initial studies¹ into decentralised energy and Planning, Crawley Borough Council, together with its strategic partners, has for the past few years been actively planning to implement district heat networks in the Borough. Three key areas have been highlighted as having particular potential and the council is progressing with these areas first. Progress made to date can be seen below:

K2 Heat Network

The council is currently progressing with its first heat network, involving the K2 Leisure Centre, two schools and a housing development, and has allocated £650,000 in capital funding to implement the network. Building work on the ground will commence once the final engineering design work is completed (scheduled for 2014/15).

Town Centre Heat Network

The council is looking to enhance its Town Centre, and there is significant interest in the role that a heat network could play in delivering lower cost and carbon energy to new and existing buildings in the Town Centre as part of this redevelopment. Making use of the lessons learned, and expertise built, the council is now progressing with the detailed engineering design work required to progress a second heat network in Crawley's Town Centre.

The town centre network includes using the council's Town Hall as an anchor client for the network as well as County Council owned buildings, library, hospital, housing and various commercial buildings. A number of have already agreed to be 'network ready' most significantly the Sussex House redevelopment.

The council has been granted £40,000 in funding from the Department of Energy & Climate Change (DECC) to progress design work for networks within the borough including this network. This will be completed during 2014.

¹ Planning and climate change in Crawley (2007) Energy Centre for Sustainable Communities, Policy Review Document (2009) Energy Centre for Sustainable Communities, Decentralised Energy Study for Crawley (2011) HurleyPlamerFlatt Consultants,

Manor Royal Heat Network

A third network is proposed within the Manor Royal Business District. It is hoped that this will utilise the waste heat producers and the heat users to substantially reduce wasted energy and carbon.


The council has intends to bid for funding from the Department of Energy & Climate Change (DECC) to progress design work this network during 2014.

The Council confirms it has a long-term commitment to progressing viable heat networks in the town. Evidence of this includes:

- Capital funding of £650,000 allocated through the Budget Advisory Group process for the K2 heat network.
- A cabinet decision in support of funding the K2 heat network on 13 February 2013.
- Member support for the grant application to DECC for £40,000 to undertake town centre heat network work design work.
- taking the following steps to ensure that the delivery of district energy networks in Crawley is viable and deliverable:
 - market testing
 - energy studies
 - discussions with stakeholders

Further to this, the council will:

- initiate implementation at K2 as the first project building on work with local authorities as critical friends, Carbon Trust and other key stakeholders, energy providers.
- initiate projects to deliver networks within heat priority areas, as shown on the Local Plan Map.
- support the local plan policies to enable delivery of the networks and acknowledge that the policies provide the spatial planning context to support the corporate commitment to such networks.
- continue to see how these networks can be improved and further developed in the future.



Phil Rogers

Director Community Services

14 February 2014

Appendix B: Department for Communities and Local Government, Letter received 1 May 2014



Stephen Williams MP
Minister for Communities

Department for Communities and Local
Government
Eland House
Bressenden Place
London SW1E 5DU

Tel: 0303 444 3440
Fax: 0303 444 3287
E-Mail: stephen.williams@communities.gsi.gov.uk

www.gov.uk/dclg

Our Ref: ER/SW/007422/14

Dr Nina Skorupska
Renewable Energy Association
2nd Floor
25 Eccleston Place
Victoria
London
SW1W 9NF

01 MAY 2014

Dear Dr Skorupska

Thank you for your letter of 12 March to the Rt Hon Eric Pickles setting out your and your colleagues' concerns about potential changes to the Planning & Energy Act. Your letter has been passed to me for reply as the matters you raise fall within my Ministerial responsibilities.

The Government is committed to delivering zero carbon new homes from 2016 and has taken significant steps towards this aim. I made a Written Ministerial Statement on 13th March stating that: "*This will be achieved through a strengthening of the energy performance requirements in Part L of the Building Regulations (incorporating carbon compliance, energy efficient fabric and services), and the delivery of allowable solutions.*"

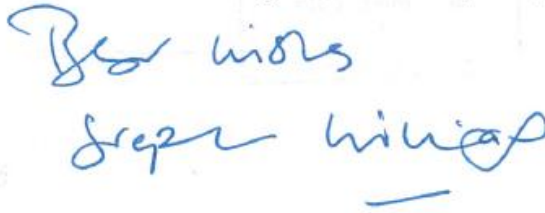
The announcement package is available from GOV.UK at:
<https://www.gov.uk/government/policies/providing-effective-building-regulations-so-that-new-and-altered-buildings-are-safe-accessible-and-efficient/supporting-pages/technical-housing-standards-review>.

When it comes to Energy efficiency, I am clear that a national level playing field is now required. Energy efficiency standards set locally, often using the Code for Sustainable Homes, have introduced disproportionate costs to the development industry. The Act has been useful in driving up the performance of new homes locally, but as the Building Regulations catch up and we move towards zero carbon homes from 2016, there is a legitimate question about its future role and purpose.

The amendment which has now been tabled is, we believe, a suitable and balanced response, and does not remove the ability of authorities to support planning policies for district heating schemes and other low carbon infrastructure. The Government will set out its revised planning policy later this year, including transitional arrangements.

We do not believe that this undermines our commitment; the uplift in the regulations represents a further, meaningful and cost effective improvement step, with a particular focus on fabric energy efficiency. The Review has been about securing a sensible rationalisation of planning technical standards for new housing, so that authorities and developers can get on with delivering quality sustainable housing, to high environmental standards. I welcome the

opportunity to work with all partners constructively as we develop the policy statement later this year.

Handwritten signature in blue ink, appearing to read "Stephen Williams".

STEPHEN WILLIAMS MP