Stoke-on-Trent City Council and Newcastle-under-Lyme Borough Council

# Joint Local Plan Issues Consultation

# Energy & Climate Change Technical Paper

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## 1.0 Spatial Portrait

1.1 Newcastle-under-Lyme and Stoke-on-Trent both occupy high altitude settings which contain a number of river catchments. Newcastle-under-Lyme is served by the Upper Trent, the Sow, the Bollin, the Tern and the Wheelock, whilst Stoke-on-Trent is drained by three rivers, with the River Trent being the largest. In Stoke-on-Trent, a large amount of housing is old nineteenth century properties, creating known issues with the energy efficiency of existing housing in the area. There are also areas of particular air quality issues in both authorities, due to high levels of vehicular emissions, with the entirety of Stoke-on-Trent being identified as having air quality issues.

## 2.0 What we are required to do

### Planning and Energy Act 2008

2.1 This act allows local planning authorities to set 'reasonable requirements' in Local Plans which may require:

- A proportion of energy used in development in their area to be low carbon energy or energy from renewable sources in the locality of the development
- Development in their area to comply with energy efficiency standards that exceed the energy requirements of building regulations*

*However, the 2015 Deregulation Act has now amended the Planning and Energy Act 2008 to make it clear that development to construct housing or convert building to housing cannot be required to comply with energy efficiency standards that exceed the requirements of building regulations

### National Planning Policy

2.2 As part of delivering sustainable development, the National Planning Policy Framework (NPPF) requires the planning system to perform an environmental role. Part of this role involves using natural resources prudently, minimising waste and pollution, and mitigating and adapting to climate change – including moving to a low carbon economy.

2.3 The NPPF sets out a number of key responsibilities for local authorities, which include the requirements summarised below.

2.4 The NPPF requires local authorities to adopt proactive strategies to mitigate and adapt to climate change, taking full account of flood risk, coastal change and water supply and demand considerations (para. 94). To move towards 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 ensure they are consistent with the Government's zero carbon buildings policy and adopt nationally described standards (para. 95).

2.5 In addition to this, there is a statutory duty for authorities to include policies in their Local Plan designed to tackle climate change and its impacts. This can include a variety of measures to mitigate and adapt to climate change, such as providing opportunities for decentralised energy, reducing the need to travel and considering future climate change risks when allocating development sites[1].

2.6 To take account of flood risk, Local Plans must be supported by Strategic Flood Risk Assessments and contain policies to manage flood risk from all sources (para.100). This should then inform local authorities as they seek to allocate future development in areas at lower risk of flooding, which is known as the 'Sequential Test'[2]. Development should only be allocated in areas of higher flood risk where other sustainability criteria clearly outweigh flood risk issues[3].

2.7 In order to conserve and enhance the natural and local environment, the planning system should prevent both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability. Furthermore, it should remediate and mitigate despoiled, degraded, derelict, contaminated and unstable land, where appropriate (para.109). Planning Practice Guidance advises that this is more likely to be an issue in former industrial areas, although it can still occur in other areas[4].

2.8 Therefore, in meeting development needs, local planning authorities should seek to minimise pollution and other adverse effects on the local and natural environment (para. 110).

2.9 Planning Practice Guidance provides further guidance on the implementation of these responsibilities.

## 3.0 Our approach in the past

### Local Planning Policy

The Newcastle-under-Lyme and Stoke-on-Trent Core Spatial Strategy 2006-2026

3.1 The adopted Core Strategy sets out the following strategic aim, which will require reconsideration through the preparation of the Joint Local Plan:

[1] http://planningguidance.planningportal.gov.uk/blog/guidance/climate-change/how-can-the-challenges-of-climate-change-be-addressed-through-the-local-plan/
[2] http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/applying-the-sequential-test-in-the-preparation-of-a-local-plan/
[3] http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/applying-the-sequential-test-in-the-preparation-of-a-local-plan/what-is-the-role-of-sustainability-appraisal-in-the-sequential-test/
[4] http://planningguidance.planningportal.gov.uk/blog/guidance/land-affected-by-contamination/land-affected-by-contamination-guidance/

- **Strategic Aim 17 (SA17)** - To minimise the adverse impacts of climate change in the move towards zero carbon growth through energy efficiency, promoting the use of renewable energy sources and green construction methods in accordance with best practice.

3.2 The Core Spatial Strategy also set out a policy (Policy CSP3 – Sustainability and Climate Change) which required, amongst other matters, that all new development took into account best practice standards where supported by future local or regional evidence. However, this policy set no defined local standards for renewable or low carbon energy targets, other than those set out in regional and national policy at the time.

## 4.0 Other Matters to Consider

### Local Strategic Plans and Programmes

### Stoke-on-Trent and Staffordshire City Deal

4.1 The City Deal identifies a number of future proposals relevant to renewable energy generation and climate change. These include the funding to deliver the Stoke-on-Trent District Heat Network, which will supply up to 45GWh per annum, lowering heating costs by up to 10% and saving approximately 10,000 tonnes of CO2 per annum. Funding is also provided for the Smart Energy Network Demonstrator project at Keele University, which will help to test new lower carbon energy sources and could save 37,300 tonnes of CO2 per annum if applied to the Stoke-on-Trent District Heat Network. These measures recognise the key importance of reducing energy costs for local businesses, many of which are energy intensive, in order to provide a solid foundation for continued economic growth and prosperity.

### Newcastle-under-Lyme Energy Efficiency and Climate Change Strategy 2011-2016

4.2 The main purposes of this strategy are to find ways of minimising the potentially adverse climatic effects of everyday activities within the borough and to reduce the Borough Council's energy consumption which will also be of benefit for financial efficiency reasons. Amongst the key objectives of the strategy is the use planning and building control powers to ensure energy efficiency and climate change adaptation measures are included within the development of land and buildings.

### CAMCO 'Staffordshire County-wide Renewable / Low Carbon Energy Study' (2010)

4.3 This study was conducted to establish the potential for delivering renewable and low carbon energy measures in Staffordshire local authority areas.

Key recommendations relevant to strategic planning include the following:

- Publish details of the resource study conducted (detailed in the CAMCO study), within relevant spatial plans including an Energy Opportunities Map (also produced as part of the CAMCO study).

- Develop and implement criteria-based policies around key low carbon / renewable energy generation technologies. Planning policies need to be supportive of all energy generation technologies but particularly wind energy, biomass and microgeneration, as these have the greatest potential within the study area. A criteria-based approach will enable objective decision-making, in what can be a controversial area. Establish authority-wide targets for generation and establish effective monitoring to assess performance on an annual basis.

## Stoke-on-Trent Air Quality Management Action Plan

4.4 The Stoke-on-Trent Air Quality Action Plan (2014) seeks to tackle air quality problems at a city-wide and localised level to ensure compliance with national air quality objectives, recognising that the whole of Stoke-on-Trent is a designated Air Quality Management Area. It identifies a number of city-wide measures for improving air quality, such as promoting walk to school schemes, delivering sustainable transport access to new and existing areas of employment and promoting the efficient and cleaner operation of HGVs, buses, coaches, vans and taxis. Localised actions such as town centre traffic management schemes and targeted road corridor improvements are also identified.

4.5 Four Air Quality Management Areas have been declared in Newcastle-under-Lyme at this point in time, and the council is currently working to develop Local Air Quality Action Plans for these areas.[5]

## Newcastle-under-Lyme Contaminated Land Strategy (2014) and Stoke-on-Trent Contaminated Land Strategy

4.6 Newcastle-under-Lyme's Contaminated Land Strategy (2014) sets out the process the council will undertake in identifying and formally designating contaminated land, in line with the relevant statutory definitions of contaminated land. At the time of writing, Newcastle-under-Lyme Borough Council has no formally designated contaminated land on its public register. However, the strategy does identify that a number of industrial uses have historically been present throughout Newcastle-under-Lyme, examples of which are mining, iron refining, pottery and tile and brick manufacturing.

4.7 Stoke-on-Trent City Council maintain a public register of contaminated land. There is only once area of contaminated land in Stoke that is registered which is in the Cobridge area.

[5] https://www.newcastle-staffs.gov.uk/all-services/environment/environmental-protection/air-quality-newcastle-under-lyme

## 5.0 Past Trends

5.1 As measurable standards for renewable energy and energy efficiency have not previously been set locally, past renewable energy generation has not been monitored in the past.

5.2 Newcastle-under-Lyme air quality monitoring suggests that the majority of monitored sites monitored since 2007 have shown an increase in nitrogen oxide exposure[6].

## 6.0 Evidence Base

### Climate Change

6.1 On a per capita basis, the CAMCO 'Staffordshire County-wide Renewable/Low Carbon Energy Study' (2010) identifies that Newcastle-under-Lyme's annual CO2 emissions were marginally below the West Midlands regional average, but that the borough also had fewer opportunities to meet its renewable energy needs locally compared to the rest of Staffordshire. The study also identifies four significant potential sites suitable for the development of wind power within the borough, largely within the rural area. As the council's future land supply at the time of the study (2010) was largely dependent on smaller sites in the urban area, the potential for district heating in the borough was identified as limited, due to smaller sites being generally unable to deliver such schemes. Biomass energy potential was also identified as being the second smallest in Staffordshire.

6.2 Stoke-on-Trent are currently participating in the PLEEC project – "Planning for Energy Efficient Cities". This is a European Union funded project designed to examine existing strategies and best practices to develop a model for energy efficiency and sustainable city planning. Stoke-on-Trent is one of the six partner cities acting as a case study for this work and as such a number of reports have been produced examining existing energy efficiency and renewable energy policies in Stoke-on-Trent.

Key energy efficiency issues identified in the PLEEC work[7] include:

- The city's current performance in terms of energy efficiency is low, resulting in both social and economic costs.
- Due to its age and lack of investment, much of the privately owned housing stock in the city performs poorly in terms of energy efficiency and is difficult to improve, which also has a corresponding link with rising fuel poverty in the city.

[6] https://www.newcastle-staffs.gov.uk/sites/default/files/IMCE/Environment/EnvProc/Progress_Report_2014.pdf

[7] PLEEC 'Deliverable 4.2/Stoke-on-Trent, The Challenge of Urban Regeneration in Stoke-on-Trent 28 January 2015' pages 39, 50, 51 & 52

- New housing stock has the potential to deliver energy efficiency measures, but stakeholders raised concerns that smaller housing schemes promoted by small developers may be produce less energy efficiency measures due to the associated costs and impact on developer profit.
- The lack of a single focal point for investment in the city, which is made up of six towns, mean it is difficult to plan for more energy efficient transport measures in the city.
- The current network of public transport is inefficient and use of cycling as a means of transport is very low.
- Successful bid for funds to build England's first district heating network system, offering an innovative new scheme to generate renewable energy and boost energy production and training within the region

## Other Relevant Energy Efficiency Data

6.3 Data from the Department of Energy and Climate Change Fuel Poverty Statistics 2010 show that Stoke-on-Trent's fuel poverty in privately rented houses has increased from 31% in 2004 to 46% in 2009. (Department of Energy and Climate Change Annual Poverty Statistics Report 2015) Fuel poverty can be defined in one of two ways. Either it means a household having to spend more than 10% of its income on fuel. Alternatively, it means a household with fuel costs above the median level where, if the household were to spend that amount, they would be left with a remaining income below the official poverty line[8].

### Newcastle-under-Lyme Private Sector Housing Condition Survey 2008

6.4 This 2008 survey of private sector housing conditions identifies issues relating to energy efficiency within the borough's housing stock. Whilst overall household energy efficiency levels within the borough were (at the time) significantly better than the national average, 2993 dwellings or 6.8% of the total private sector stock failed to meet the energy requirements of the Decent Homes Standard, particularly in properties in private-rented accommodation, pre-1919 housing and flats. These properties were more likely to contain poor insulation and have a higher dependence on off peak electricity, rather than central heating, as their primary heating source.

6.5 Poor energy efficiency was also associated with a high proportion of fuel poverty within the borough. This survey considered a household to be in fuel poverty where its annual expenditure was greater than 10% of its annual household income. It was identified that 39.8% of private sector households in the borough were in fuel poverty, compared to 11.0% at the national level, although the survey recognised that household incomes were the main driver behind this.

[8] Department of Energy & Climate Change 'Sub-regional fuel poverty statistics Methodology, 2015'

## Air Quality & Transport

6.6 Recent air quality monitoring evidence for Newcastle-under-Lyme Borough Council suggests that four areas within Newcastle-under-Lyme and Kidsgrove exceeded the statutorily acceptable air quality targets for Nitrogen Dioxide, due to increases in road traffic emissions. This has led to four Air Quality Management Areas (AQMA) being identified within the following areas of Newcastle-under-Lyme:

- Little Madeley
- Newcastle-under-Lyme Town Centre
- Kidsgrove Town Centre
- May Bank, Wolstanton and Porthill

6.7 Within Stoke-on-Trent, numerous areas are known to be failing to meet air quality standards and the entire city has been designated as an Air Quality Management Area with a corresponding Air Quality Action Plan (2014). Similarly to Newcastle-under-Lyme, this is primarily attributed to road traffic congestion and This city-wide designation recognises that future monitoring may reveal other areas which are of poor air quality, outside of existing areas where air quality monitoring is currently available.

6.8 This issue is further reinforced by evidence presented in the Transport Technical Paper. This evidence highlights a number of key points relevant to sustainable transport modes, including the following:

- Complex travel patterns lead to the local transport network in Stoke-on-Trent and Newcastle-under-Lyme operating inefficiently, with significant problems with congestion and high levels of emissions.
- The poly-centric and sprawling nature of Stoke-on-Trent mean many areas are difficult to access without car ownership.
- Public transport access to key services, such as jobs and education facilities, is relatively poor. This is exacerbated by the relatively slow speeds and high prices of bus journeys in the Stoke-on-Trent and the decreasing proportion of buses running on time.
- There is a downward trend in the number of journeys made by bus in Stoke-on-Trent and despite an extensive network of cycle routes, the number of people cycling in Stoke-on-Trent is lower than in other areas.
- Rail use is on the increase, but overcrowding due to lack of capacity remains an issue.
- Many residents do not have access to a car and are dependent upon walking to access essential services. However, this can be made difficult by the number of busy roads and the variable quality of walking environments present in the urban area.

## Other Relevant Transport Data

6.9 National and locally held data identifies further key facts about Newcastle-under-Lyme and Stoke-on-Trent's transport network. For example:

- The 2011 Census shows that 70% of Stoke-on-Trent's population have no access or limited access to a car (1 car or less), with 28% having no car (The Office for National Statistics 2011 Census data).
- The modal split of trips for Stoke-on-Trent in 2014 equated to 80% car; 11% bus; 5% walking; 2% rail; 2% cycling, indicating a high percentage of car trips which contribute to congestion and increased vehicle emissions. (EPOMM 2011)
- Typically, bus modal share in a city would be 15%-18%, in Stoke-on-Trent it is 11%. The proportion of people cycling in the city is also lower than in other areas, with a modal share of 2% (EPOMM 2011)

6.10 2011 Census information further highlights that the number of people who depend on a car or van to travel to work in both areas is above national and regional averages, showing the relatively high reliance on less energy efficient forms of transport in both areas.

Table 1 - Source: Census 2011: Table QS701EW - Method of travel to work, local authorities in England and Wales"

| | **Percentage of the working age population in employment who travel to work by:** | | | | |
|---|---|---|---|---|---|
| | **Car or van** | **Bus, minibus or coach** | **Train** | **Cycling** | **Foot** |
| **Newcastle-under-Lyme** | 78.5 | 4.6 | 0.9 | 1.2 | 8.8 |
| **Stoke-on-Trent** | 74.3 | 8.0 | 0.7 | 1.5 | 10.4 |
| **West Midlands** | 71.1 | 7.7 | 2.5 | 2.0 | 9.9 |
| **England** | 62.0 | 7.5 | 5.3 | 3.0 | 10.7 |

## Flood Risk

6.11 Both authorities have previous Strategic Flood Risk Assessments from 2008, which were prepared in order to inform the existing Core Spatial Strategy. These indicated that Stoke-on-Trent has largely escaped significant flooding in

the past due to its high altitude and vicinity to the head of the River Trent, although flood risk issues were still identified in the city due to surface water drainage issues, areas of floodplain adjacent to the River Trent and flooding in artificial drainage systems, amongst other factors. Newcastle-under-Lyme's Strategic Flood Risk Assessment (2008) also raised a number of flood risk issues, which significant areas at risk of flooding from rivers, artificial drainage systems and surface water issues. Climate change was also anticipated to increase the risk of flooding from a variety of sources within the borough. Given the age of this evidence, both council areas will need to prepare new Strategic Flood Risk Assessments. These will identify areas at risk from all sources of flooding, taking into account the impact of climate change, whilst assessing the impact that land use changes and development in the area will have on flood risk. This will help to ensure that the councils locate development in areas at the lowest risk of flooding, in line with the requirements of the Sequential Test for flood risk set out in paragraph 100 of the National Planning Policy Framework.

## 7.0 Energy & Climate Change Strengths and Weaknesses

| Strengths | Weaknesses |
|---|---|
| • Newcastle-under-Lyme's rural area offers some potential locations to deliver wind energy schemes.<br>• Stoke-on-Trent's setting and vicinity to the head of the River Trent mean it has experienced limited historic flooding events.<br>• Successful bid for funding to deliver the county's first fossil-free district heating plant and network in Stoke-on-Trent[9].<br>• Smart Energy Network Demonstrator project at Keele University, which will help to test new lower carbon energy sources. | • Limited potential for measures to generate energy efficiency or renewable energy on smaller housing sites.<br>• Increasing number of sites falling under statutory air quality requirements in Newcastle-under-Lyme.<br>• Air Quality Management Areas being designated in parts of Newcastle-under-Lyme and across the whole of Stoke-on-Trent.<br>• Energy inefficient nineteenth century housing stock in Stoke-on-Trent has led to large-scale energy inefficiency and increasing fuel poverty and is hard to bring up to modern standards[10][11].<br>• Barriers to greater use of the sustainable transport network in Stoke-on-Trent and lack of non-car |

[9] PLEEC: Deliverable 4.3 - Thematic report on urban energy planning: Buildings, industry, transport and energy
Generation (11 August 2015) page 83-84 :
http://www.pleecproject.eu/downloads/Reports/Work%20Package%204/d4.3_thematic_report_2015-08-11.pdf

[10] Planning for energy efficient cities. Energy and urban structure (WP4) (March 2015) Results from the case study work on Stoke-on-Trent Roberto Rocco, Department of Urbanism, TU Delft

[11] Planning for energy efficient cities 'The Challenge of Urban Regeneration in Stoke-on-Trent' (January 2015) Roberto Rocco, Department of Urbanism, TU Delft – page 2

| | |
|---|---|
| | access to parts of the urban area.<br>• Contaminated land is formally identified in parts of Stoke-on-Trent, and there is further potential for contamination in many former industrial areas. |