Environmental Impact Assessment [version 1.1]

Proposal title: Bristol City Council and Bristol City Leap Action Plan for Decarbonising Bristol's Homes	
Project stage and type: ☒ Initial Idea Mandate ☐ Outline Business Case ☐ Full Business Case	
☐ Policy ☐ Strategy ☐ Function ☐ Service ☒ Other [please state] Action Plan	☒ New ☐ Changing ☐ Already exists / review
Directorate: Economy of Place	**Lead Officer name:** Emily White
Service Area: Sustainable City and Climate Change	**Lead Officer role:** Climate Change Coordinator

Step 1: What do we want to do?

The purpose of this Environmental Impact Assessment is to help you develop your proposal in a way that is compliant with the council's policies and supports the council's strategic objectives under the One City Climate Strategy, the One City Ecological Emergency Strategy and the latest Corporate Strategy.

This assessment should be started at the beginning of the project proposal process by someone with a good knowledge of the project, the service area that will deliver it, and sufficient influence over the proposal to make changes as needed.

It is good practice to take a team approach to completing the Environmental Impact Assessment. See further guidance on completing this document. Please contact the Environmental Performance Team early for advice and feedback.

1.1 What are the aims and objectives/purpose of this proposal?

Briefly explain the purpose of the proposal and why it is needed. Please use plain English, avoiding jargon and acronyms.

The decision being sought from committee is to adopt the Action Plan for Decarbonising Bristol's Homes. Adopting the Action Plan will support the city's desire to meet carbon neutrality, it will also address the cost of living crisis by making homes warmer and cheaper to heat and it will support a Just Transition to carbon neutrality through the creation of many new jobs.

Bristol has a goal to become a carbon neutral city by 2030 and the second highest greenhouse gas emitting sector for Bristol is the city's homes (30%, 467 kTCO2e/yr). To tackle this, the way we heat homes will need to change, as well as becoming more energy efficient and generating their own renewable electricity where possible. Therefore, the key elements of this transition will involve insulating homes, installing heat pumps in individual homes or connecting homes to district heating networks, and installing solar panels on suitable roofs.

Bristol City Council has a several key roles to play to decarbonise the city's homes and this action plan sets out how it intends to play these roles, working with the many stakeholders involved, including all the city's residents, and supporting the Just Transition. Within these roles, it identifies broad objectives and specific actions for Bristol City Council and Bristol City Leap to take forward over the next five years.

Some of these roles include delivering decarbonisation projects on our own housing stock or delivering projects in certain sectors of private housing where Bristol City Council or Bristol City Leap are directly procuring services and responsible for the equalities impacts and benefits. However, many roles are designed to indirectly lead to action by other stakeholders and households in the city. The plan articulates where resources are required and secures buy-in from the Bristol City Council and Bristol City Leap teams who are responsible for the different roles, so adoption of the plan makes both the direct delivery and indirect enabling of homes decarbonisation activities more likely.

The intended impact of adopting the Action Plan is that work in all areas of the Action Plan is accelerated, the energy efficiency of Bristol's homes improves (reducing heat demand), heat network connections and heat pump

installations increase (decarbonising heating) and rooftop solar PV installations increase (decarbonising electricity), whilst also ensuring that the transition to decarbonising homes occurs in a just way.

1.2 Will the proposal have an environmental impact?

Could the proposal have either a positive or negative effects for the environment now or in the future? If 'No' explain why you are sure there will be no environmental impact, then skip steps 2-3 and request review by the Environmental Performance Team.

If 'Yes' complete the rest of this assessment.

☒ **Yes** ☐ **No** [please select]

1.3 If the proposal is part of an options appraisal, has the environmental impact of each option been assessed and included in the recommendation-making process?

If 'Yes' please ensure that the details of the environmental impacts of each option are made clear in the pros and cons section of the project management options appraisal document.

☐ **Yes** ☐ **No** ☒ **Not applicable** [please select]

If 'No' explain why environmental impacts have not been considered as part of the options appraisal process.

Step 2: What kinds of environmental impacts might the project have?

Analysis of impacts must be rigorous. Please demonstrate your analysis of any impacts of the proposal in this section, referring to evidence you have gathered. See detailed guidance documents for advice on identifying potential impacts.

2.1 Does the proposal create any benefits for the environment, or have any adverse impacts?

Outline any potential benefits of the proposal and how they can be maximised. Identify how the proposal will support our corporate environmental objectives and the wider One City Climate and Ecological Emergency strategies.

Consider how the proposal creates environmental impacts in the following categories, both now and in the future. **Reasonable efforts should be made to quantify stated benefit or adverse impacts wherever possible.**

Where the proposal is likely to have a beneficial impact, consider what actions would enhance those impacts. Where the proposal is likely to have a harmful impact, consider whether actions would mitigate these impacts.

Enhancements or mitigation actions are only required when there is a likely impact identified. Remember that where enhancements or mitigation actions are listed, they should be assigned to staff and appropriately resourced.

GENERAL COMMENTS (highlight any potential issues that might impact all or many categories)		
ENV1 Carbon neutral: Emissions of climate changing gases BCC has committed to achieving net zero emissions	**Benefits**	Reduced carbon emissions from homes. The action plan is designed to accelerate installation of energy efficiency measures, heat pumps, and solar panels, as well as construction of and connections to the district heating network.

for its direct activities by 2025, and to support the city in achieving a Just Transition to net zero by 2030. Will the proposal involve transport, or the use of energy in buildings? Will the proposal involve the purchase of goods or services? If the answer is yes to either of these questions, there will be a carbon impact. Consider the scale and timeframe of the impact, particularly if the proposal will lead to ongoing emissions beyond the 2025 and 2030 target dates. Further guidance ☐ **No impact**	**Enhancing actions**	According to scenario modelling for Bristol by Parity Projects, if all homes take appropriate steps to reduce heat demand, install low carbon heat and install solar PV where possible, remaining carbon emissions from homes resulting from an electricity grid that is not yet fully decarbonised would be around 12% of current emissions. Statistics from the UK Government suggest domestic carbon emissions are 467 kTCO2e/yr, therefore emissions would reduce to around 55 kTCO2e/yr.
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**
	Adverse impacts	Heat pumps use refrigerants (F-gases) with a high global warming potential (GWP) that can sometimes leak if the appliance isn't well maintained or disposed of appropriately at the end of its life. This is a very small proportion compared to the carbon benefit of heat pumps replacing gas boilers. Heat networks in Bristol are currently heated using some energy centres that rely on gas. However, this is a temporary situation as heat networks owned by Vattenfall through the Bristol City Leap partnership are subject to commitments set by Bristol City Council to not install any further permanent fossil fuel energy centres following Vattenfall's purchase of the network, and to decommission all existing gas energy centres by the end of 2030.
	Mitigating actions	F-gas regulations are driving a phase-down of the availability of high GWP F-gases and heat pump manufacturers are replacing them with lower GWP refrigerants in their products. Where heat pumps are installed in Bristol City Council managed homes, they are serviced annually to keep them well maintained and minimise leaks. At the end of life, refrigerants are extracted by an in-house team and taken to a licensed supplier for disposal. A small amount is kept to recharge existing systems. Review requirements of Healthy and Sustainable Procurement Policy in relation to the refrigerants in heat pumps associated with Bristol City Council contracts for decarbonising homes. Manage the contract with City Leap and Vattenfall to ensure commitments on carbon reduction of the heat network as set out in the Bristol City Leap business plan are met.
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**
ENV2 Ecological recovery: Wildlife and habitats BCC has committed to 30% of its land being managed for nature and to halve its use of pesticides by 2030. Consider how your proposal can support increased space for nature, reduced use of pesticides, reduce pollution to waterways, and reduce consumption of products	**Benefits**	
	Enhancing actions	
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☐ **5+ years**

that undermine ecosystems around the world. If your proposal will directly lead to a reduction in habitat within Bristol, then consider how your proposed mitigation can lead to a biodiversity net gain. Be sure to refer to quantifiable changes wherever possible. Further guidance ☐ **No impact**	**Adverse impacts**	Bristol City Council land may be used for infrastructure relating to heat networks. Vattenfall have to go through the Planning process where they are placing temporary or permanent energy centres and will need to meet relevant planning policies, including biodiversity net gain.
	Mitigating actions	Manage the Bristol City Leap contract to minimise the impact of use of green spaces.
	Persistence of effects:	☐ **1 year or less** ☒ **1 – 5 years** ☐ **5+ years**
ENV3 A cleaner, low-waste city: Consumption of resources and generation of waste Consider what resources will be used as a result of the proposal, how they can be minimised or swapped for less impactful ones, where they will be sourced from, and what will happen to any waste generated Further guidance ☐ **No impact**	**Benefits**	
	Enhancing actions	
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☐ **5+ years**
	Adverse impacts	There are considerable resource and materials requirements to insulate homes, install heat pumps and solar panels, build district heating networks. Also, to upgrade the electricity network to support increased electrification of heat. There is also *potential* for gas boilers to be disposed of before the end of their life. Where this relates to homes that BCC manages, all metals are recycled at scrap merchants.
	Mitigating actions	Where delivery of this plan relates to homes that BCC manages, the team strive to use environmentally friendly products through procurement specifications. Review requirements of Healthy and Sustainable Procurement Policy in relation to materials, waste and resources associated with Bristol City Council contracts for decarbonising homes.
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**
ENV4 Climate resilience: Bristol's resilience to the effects of climate change Bristol's climate is already changing, and increasingly frequent instances of extreme weather will become more likely over time.	**Benefits**	At the same time as renovating homes to make them more energy efficient, measures for avoiding overheating can be considered.
	Enhancing actions	With use of appropriate cooling strategies and management by home occupants (ventilation, minimising internal heat gains), highly insulated homes can provide improved thermal comfort during heatwaves. Where homes are highly insulated, advice and guidance will be provided to occupants to ensure that user behaviours maximise potential thermal comfort.
	Persistence of effects:	☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**

Consider how the proposal will perform during periods of extreme weather (particularly heat and flooding). Consider if the proposal will reduce or increase risk to people and assets during extreme weather events. Further guidance ☐ **No impact**	**Adverse impacts**	If insulation is installed badly without due care taken over ventilation, problems with overheating, damp and mould can occur, which would be exacerbated as the climate gets warmer.
	Mitigating actions	Adopt PAS 2035 (a whole house retrofit process that ensures ventilation is embedded in the design of insulation) as standard in all deep retrofit projects carried out in Bristol City Council homes.
	Persistence of effects: ☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**	
Statutory duty: Prevention of Pollution to air, water, or land Consider how the proposal will change the likelihood of pollution occurring to air, water, or land and what steps will be taken to prevent pollution occurring. Further guidance ☐ **No impact**	**Benefits**	Reduced NOx and PM10/2.5 emissions from phase out of gas boilers in individual homes, gas fired energy centres for the heat network and biomass boiler energy centres for the heat network. A study carried out for Greater London (CAL-548_9_LAEI-2019-Summary-Note_April-2023.pdf (cleanair.london)) suggests NOx emissions from domestic heat and power contributed 7% to overall NOx emissions in 2019, as well as 3% of PM10 emissions and 7% of PM2.5 emissions.
	Enhancing actions	
	Persistence of effects: ☐ **1 year or less** ☐ **1 – 5 years** ☒ **5+ years**	
	Adverse impacts	
	Mitigating actions	
	Persistence of effects: ☐ **1 year or less** ☐ **1 – 5 years** ☐ **5+ years**	

Step 3: Actions

3.1 Action Plan

Use this section summarise and assign responsibility for any actions you have identified to improve data, enhance beneficial, or mitigate negative impacts. Actions identified in section two can be grouped together if named responsibility is under the same person.

This action plan should be updated at each stage of the project. Please be aware that the Sustainable City and Climate Change Service may use this action plan as an audit checklist during the project's implementation or operation.

Enhancing / mitigating action required	Responsible Officer	Timescale
Review requirements of Healthy and Sustainable Procurement Policy in relation to the refrigerants in heat pumps associated with Bristol City Council contracts for decarbonising homes.	Emily White	Within a year

Enhancing / mitigating action required	Responsible Officer	Timescale
Manage the contract with City Leap and Vattenfall to ensure commitments on carbon reduction of the heat network as set out in the Bristol City Leap business plan are met.	Jon Buick	Ongoing to 2030
Manage the Bristol City Leap contract to minimise the impact of use of green spaces.	Jon Buick	Ongoing to 2043
Review requirements of Healthy and Sustainable Procurement Policy in relation to materials, waste and resources associated with Bristol City Council contracts for decarbonising homes.	Emily White	Within a year
Strive to adopt PAS 2035 (a whole house retrofit process that ensures ventilation is embedded in the design of insulation) in retrofit projects carried out in Bristol City Council homes, where appropriate.	Sam Robinson	Ongoing

Step 4: Review – for completion by the Environmental Performance Team

The Sustainable City and Climate Change Service need at least five working days to comment and feedback on your impact assessment. Assessments should only be marked as reviewed when they provide sufficient information for decision-makers on the environmental impact of the proposal. Please seek feedback and review from the Environmental Performance Team before final submission of your decision pathway documentation[1].

Where impacts identified in this assessment are deemed significant, they will be summarised here and included on the cover sheet of the decision pathway documentation.

Summary of significant beneficial impacts and opportunities to support the Climate, Ecological and Corporate Strategies (ENV1,2,3,4):
BCC's Environmental Impact Assessment has determined significant beneficial impacts from the proposal: If this Action Plan results in appropriate resources being put in place, and Bristol City Council's and Bristol City Leap's actions lead to further action to decarbonise homes by other stakeholders, important groundwork will be achieved in the next five years (including a small proportion of total potential carbon reduction) and in the next 10-15 years a substantial amount of the total carbon reduction could be realised. Full delivery of this plan would realise nearly all of the net zero transition pathway for domestic housing emissions, and result in annual carbon savings of around 400,000 tonnes per year.
Summary of significant adverse impacts and how they can be mitigated:
N/A

Environmental Performance Team Reviewer:	**Submitting author:**
Daniel Shelton	Emily White
Date: 15.10.2024	**Date:** 15.10.2024

[1] Review by the Environmental Performance Team confirms there is sufficient information for decision makers to consider the most relevant environmental impacts at the current stage of the proposal. This is not an endorsement or approval of the proposal.