Land use, green space and development of the city

Background and explanation of our proposals

The quality of new development in the city, the management of green space and tree cover and planning for future land use and infrastructure will all be important to enable Leicester to become carbon neutral and to adapt as the climate changes.

With the city population predicted to continue growing, an estimated 29,104 homes will need to be built by 2036 (1,712 dwellings per annum between 2019-2036) along with more employment sites, schools, community facilities and infrastructure. This could add to Leicester's carbon footprint and affect its vulnerability to a changing climate unless steps are taken to make sure that development is carbon neutral and adapted to future conditions.

The proposals below set out how we think Leicester will need to change in terms of land use, green space and development if it is to become carbon neutral and adapt to the changing climate. They are aspirational and may not necessarily be achievable within the current constraints and limitations of the planning system, the property market and other factors. They are presented to prompt discussion and gain views on what might need to happen, both locally and in terms of action by national government, to bring about the changes we think are needed.

1. **Making new homes and other new buildings carbon neutral and climate-adapted**

   We will need the levels of carbon emissions generated by new development of all kinds to reduce as quickly as possible, to the point where all new buildings are designed and built to be carbon neutral wherever possible. This will include very high levels of insulation, generation and use of renewable energy and an end to the use of gas for heating and hot water in new buildings. Refer to the At Home and At Work sections for more details.

   Wherever possible, new buildings will also need to be designed for a changing climate:

   - to keep cool without aircon where possible during more frequent heatwaves
   - to use less mains water in response to prolonged spells of dry weather
   - to be located and/or designed to protect occupants from the risk of flooding, and
   - to reduce the pressure on the drainage and river system during intense rainfall by dispersing rainwater runoff in other ways (known as 'sustainable urban drainage systems' or SuDS).

   While the design features and the technologies needed to create carbon neutral, climate-adapted buildings already exist and are being successfully used in buildings today, they do currently add to the cost of construction. This is hindering their wider uptake. The affordability of new housing is an acknowledged issue and developers are not confident that customers will be prepared or able to pay more for a low carbon building - despite it being cheaper to run. There are also currently other constraints within the planning system on all new development, including the need to make sure that development remains viable. This may impact on the ability of the council as Local

Planning Authority to make low carbon, climate-adapted design a requirement on all developments coming forward.

For carbon neutral, climate-adapted development to become the norm, we believe that changes to minimum standards for new building will have a role to play. This is discussed below in point 6.

In the meantime, the council and other public service providers such as the NHS could all aim to set an example with their own developments immediately. Projects would cost more up-front, but the resulting buildings would be cheaper to operate and the future cost of upgrading them to be carbon neutral – which will be necessary for existing buildings - would be avoided. The cost of retrofitting buildings is typically much more than the extra cost of building them to be carbon neutral in the first place.

Similarly, where the council releases land onto the market for new development by private developers or others, there is the potential to seek a commitment from the developer to build to low carbon standards, as part of any sale or development agreement. The council has already done this successfully on some sites. In the current market it could result in a lower sale price for the land being realised by the council, which results in less capital income and therefore potentially less for spending on other projects. It would, however achieve significant and lasting emissions reductions.

2. Use of low-carbon building materials

The impact of new buildings on climate change goes beyond just the carbon emissions generated when construction is finished and they are in use. Research has shown that the emissions caused by the manufacture and transport of the building materials – such as cement and steel - is very significant too. Use of timber can also add to climate change and destroy wildlife through deforestation if it's purchased from companies who operate irresponsibly.

For these reasons, we believe that the climate change and other environmental implications of choices for construction materials will need to be given much more careful consideration. Less energy-intensive alternatives to concrete, steel and other products will need to be favoured, or suppliers found who manufacture using renewable energy. Responsibly-produced 'sustainable' timber is already widely available and its increased use could in fact be positive for climate change by 'locking up' carbon in the structure of new buildings to offset some of the other emissions caused by the building. We welcome views on how these changes to choices of materials could come about outside of the planning process.

The council has a long-standing policy of using only proven sustainable timber and is looking at what other environmental standards it should apply to its own developments. The use of low-carbon alternative construction products could be prioritised, as could the potential to make more use of sustainably sourced timber.

3. Development designed for zero carbon travel

The location of new development, the design of footpaths, cycleways and roads on the site and the inclusion of facilities such as cycle parking, bus stops and electric vehicle charging points will all affect how straightforward, safe and convenient it is to travel to and from the development using low or zero carbon modes of travel.

Development needs to be designed for a city in which ultimately all travel and transport must be by zero carbon modes. This will mean that homes, employment sites and public facilities will need, for example:

- more space for cycles and e-bikes,
- nearby bus services, with stops on or near the development, and
- enough electric vehicle charge points.

The council's planning policies in the Core Strategy already address some of these issues and the public will be able to comment on the proposed policies for the new Local Plan (see point 5 below). Even in the event that the Local Plan is able to develop and adopt such policies it should be noted that there will be a planning balance and other factors could mean that the policies are, in some circumstances, trumped by other considerations in the planning system.

4. Maintaining and adding to tree cover and green spaces

Trees in Leicester are estimated to be storing about the equivalent amount of carbon dioxide as the city generates in a 7-8 month period (826,000 tonnes). It is also estimated that if all of the suitable land in the city without trees was planted up, the extra carbon dioxide absorbed over a 25 year period (279,000 tonnes) would be equivalent to about 2-3 months' emissions.[1] This suggests that an urban area like Leicester with limited space cannot rely very much on tree planting to offset our emissions, even if people were prepared to see much or all of Leicester's open green space covered in trees. However, it doesn't mean that we shouldn't look after and increase our tree stock.

As the biggest owner of green spaces and trees in the city, the council already has a Tree Strategy through which we maintain our existing tree stock, replace trees and plant more where we can. In response to the climate emergency, we propose to continue to do this, and to investigate how we can best target our planting to get the most benefits for the city including:

- Increasing biodiversity and providing beautiful spaces for recreation
- Limiting the impact of more frequent heatwaves by increasing summertime shade and reducing heat build-up
- Reducing flood risk by slowing down rainwater run-off - to stop rivers and drains being overwhelmed during intense rainfall

[1] Based on the results of research by Sheffield University and on Leicester's estimated city-wide carbon dioxide emissions for 2017 published by the Department of Business, Enterprise and Industrial Strategy (BEIS).

- Reducing people's exposure to air pollution
- Absorbing carbon emissions to the extent that we reasonably can.

With a limited scope to absorb carbon emissions by new planting due to the constraints on land we have available in the city, we don't propose to make tree planting a major part of our strategy for becoming carbon neutral. However, we will look for opportunities to increase our tree stock through the Tree Strategy and consider carbon-storage as one of the factors when we decide which tree species to plant.

Aside from trees, Leicester's green spaces store relatively little carbon in other vegetation (only 3% compared to 97% in the trees) but they have an important role, like trees, in reducing the impacts as the climate changes: limiting heat build-up during heatwaves and slowing the run-off of rainwater to protect from flooding.

As well as managing a network of public open spaces across the city, the council has planning policies to protect green spaces and to make sure that new development includes an appropriate amount of green space and trees. Developers are also encouraged to consider including 'green roofs' in their designs and these can provide at least some of the benefits of green space at ground level for wildlife, flood risk reduction and heatwave protection.

The council as Planning Authority will continue to apply its planning and conservation powers to protect existing trees and a network of green spaces, and to make sure that new trees and green spaces are provided as part of development where appropriate and possible. Refer to point 6 below.

5. Planning policies and building standards to address the climate emergency

National minimum standards for energy efficiency and carbon emissions from new buildings are set by the government through the Building Regulations and the council applies planning policies (consistent with the National Planning Policy Framework or NPPF) to make sure that development addresses climate change. Current policies in the Core Strategy for the city cover areas including: energy efficiency, renewable energy, district heat networks, transport and accessibility, flood risk and open space.

The council is currently preparing a new Local Plan which will seek to include policies for land use and development to address climate change. We will be publishing a draft of the new Local Plan for consultation and if you would like to be notified when the consultation starts please email planning.policy@leicester.gov.uk.

The government is currently consulting on proposals to raise energy efficiency and low carbon standards in the Building Regulations from 2020, as a stepping stone to a new Future Homes Standard from 2025. Details are available on the GOV.UK website where the consultation is open until 10th January 2020.

Summary of our proposals

Vision for land use, green space and development of the city

- All new buildings will need to be designed and built to be carbon neutral. This means they will need to be very highly insulated and use low-carbon heating instead of gas heating. Renewable energy such as solar panels will need to be installed.
- New buildings will need to keep cool in hotter weather without using air conditioning, as it uses a lot of electricity. They will also need to use less water. To reduce the risk of flooding they will need to disperse heavy rainfall without overwhelming drains and rivers.
- Building materials made with much less energy, or with renewable energy, will need to be used. To prevent deforestation, all timber used for construction will need to come from sustainably managed forests.
- Travel to and from new developments will need to be easy, convenient and safe on foot, by bike and on public transport. There will need to be charging points for electric vehicles too.
- Tree cover will need to be maintained and increased where possible. New planting will need to provide for recreation, wildlife, flood prevention and respite from heatwaves. It will also need to absorb carbon emissions.

Potential actions for land use, green space and development of the city

Potential actions by the council and other public service providers

1. The council, NHS, schools and other public service providers could lead by example in their own building projects. They could allocate money to make them as close as possible to being carbon neutral.
2. When selling land for development, the council could seek an agreement with the developer for the new buildings to be as low-carbon as possible.
3. The council and other owners of green spaces could plant more trees to help keep the city cooler during heatwaves and safer from flooding as the climate changes. More trees can also absorb some carbon emissions.
4. The council could make sure that the new Local Plan addresses the climate emergency.

Potential actions by businesses

5. Developers could more actively market the advantages of low-carbon homes and offices to create more customer demand. Low running costs are a particular advantage.
6. Construction companies could train more of their workforce to build to very low carbon standards. The industry needs to be ready for all buildings to be built this way.

7. Businesses commissioning new premises could specify high standards of energy efficiency, low carbon emissions, renewable energy and facilities for bikes and electric vehicles.

Potential actions by individuals

8. Those looking to buy a new-build home could ask developers for details of the energy efficiency and reduced carbon emissions of their properties for sale, to show that there is customer demand for higher standards.
9. Anyone can read the council's consultation draft Local Plan when it is published and comment on its policies for addressing climate change. They can also comment on the government's proposals for the Future Homes Standard.

Potential actions by the government

10. The government needs to make sure that its proposed Future Homes Standard and changes to the Building Regulations will raise carbon-saving standards quickly enough.