

Postcards from the Future - Carbon Neutral Leicester

Leicester City Council's plans address the six themes below

1. What needs to happen to make the vision reality?

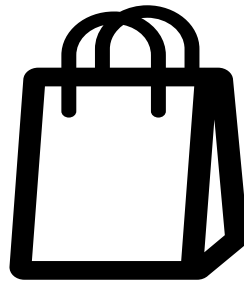
You have 5 minutes to discuss your topic and come up with your top three actions



At Work



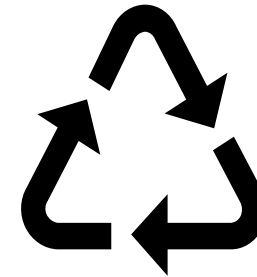
At Home



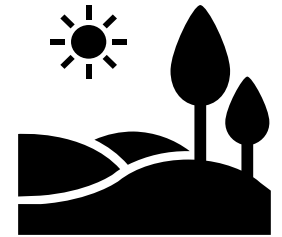
Our Consumer
Choices



Travel and
Transport



Waste and
Recycling



Land Use,
Green Space &
Development

At Home



Context: Heating of homes and the use of electricity for lighting, appliances and gadgets causes about a third of carbon emissions in Leicester from our direct fuel and energy use. To reduce these emissions, housing will need to be made a lot more energy efficient and heating will need to change. A big increase in renewable energy will be needed too. Many people will need help to make these changes.

- Homes will need to be very highly insulated to keep warm using much less energy. This will mean that fewer people get health problems from cold homes.
- Everyone will need to replace gas heating and hot water with low-carbon alternatives. Most often this will mean using heat pumps. They use electricity to extract heat from the ground or air.
- In areas with denser housing, low-carbon heat networks will be the best answer. These provide heat and hot water to whole neighbourhoods through underground pipes. In the future hydrogen could also replace gas as a fuel for boilers.
- The move away from gas will increase electricity demand. Homes will need to have their own renewable energy like solar panels. These will provide power to the house and owners could get money for selling back excess electricity.
- Houses will need 'smart' systems such as remote control for heating and lighting, and batteries to store extra energy from solar panels. They will also need to be able to charge electric cars.
- Homes will also need to be kept cool without air conditioning, as this uses a lot of energy. This might mean fitting shades and shutters, or planting trees for shade.
- Water use will need to fall, as low rainfall could become more of a problem.

Our Consumer Choices



Context: As well as the carbon emissions we produce within the city, we are also responsible for emissions elsewhere produced from making and delivering the products and the services we buy in from outside. They could add at least another 40% to the total. For the city to become carbon neutral we have to do something about them..

- All of us will need to become well-informed about the climate impacts of what we buy – so that we can make climate-friendly choices.
- Customer demand for climate-friendly products and services will need to convince shops, manufacturers and suppliers to provide them.
- Customer demand will need to convince manufacturers to produce long-lasting products which can be repaired. Disposable and short-lived products cause extra carbon emissions when they have to be replaced.
- The overall consumption of beef, lamb and other meat, eggs and dairy produce will need to be a lot lower than today. There will need to be much more emphasis on plant-based ingredients. ‘Food miles’ will need to reduce too.
- Air travel will need to reduce a lot unless zero-carbon flights become possible.

Travel and Transport



Context: Travel and transport are a large source of carbon emissions in Leicester. These emissions come from petrol, diesel and LPG vehicles. Leicester's population is expected keep growing, so more people will need to access work and facilities. If changes are not made this will add to Leicester's carbon emissions.

- A much greater share of journeys will need to be made by walking, cycling and public transport. A city-wide network of walking and cycling routes, along with improved public transport, will be among the improvements needed to make this possible.
- Journeys that can't be taken by walking, cycling or public transport will need to be made by ultra-low emission vehicles. These will mainly be electric vehicles, although new HGVs may need to be hydrogen-powered.
- Electric charging-points will need to be widely available across the city. The electricity grid in Leicester may need upgrading to allow this. More solar panels will help provide some of the electricity needed.
- Some electric cars will need to be part of 'vehicle-to-grid' systems. These store surplus renewable electricity from solar panels in electric car batteries. They help the electricity grid by selling it to the grid when demand is high.
- Alternative travel and transport services, such as ride-sharing, electric car clubs and e-bike share could be used more instead of private car journeys.
- Services and facilities will need to be easy to access without car journeys. This includes making them accessible online, and available nearby within communities.

Waste and Recycling



Context: Disposal and treatment of waste uses a lot of energy, which causes carbon emissions. Things that are sent to landfill also produce greenhouse gases when they decay. More emissions come from producing new things to replace what is thrown away. The best way to reduce waste is to follow the 'Waste Hierarchy': avoid making waste, and then re-use anything that is made. Things that can't be re-used should be recycled. If there is anything left it is better to recover energy from it, with sending it to landfill the worst option.

- Households will need to produce less waste. This will mean not buying things that will be wasted, buying products and services that are produced sustainably and re-using and repairing what they already own.
- Businesses and organisations will need to produce less waste from what they make and sell and the services they provide. Products and packaging will also need to be easier for consumers to re-use, repair and recycle.
- As much waste as possible will need to be recycled. The council will need to support homes to do this through the city's waste collection service. Businesses and organisations will need make sure their waste is disposed of responsibly. Food and garden waste will need to be composted.
- Where waste can't be recycled, it will need to be used for energy instead of landfilled. This includes a small amount of Energy-from-Waste and biogas.

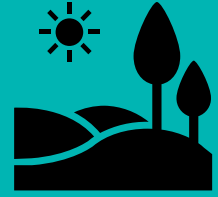
At Work



Context: The gas and electricity used by businesses and other employers is one of the largest sources of carbon emissions in the city. Commuting by employees, travel for work, and the transport of goods causes carbon emissions too. The materials bought and used by businesses also have a carbon footprint. To reduce these emissions employers' buildings will need to be much more energy efficient and heated differently. They will need to have renewable energy sources fitted. Employers will also need to make sure their products and services are sustainable. This includes using recycled materials and making products easier to reuse and recycle.

- Businesses and other employers will need to use low or zero carbon heating and cooling systems and generate their own renewable electricity wherever possible. Workplaces will also need to be more highly insulated to reduce their heating need.
- Business processes and equipment will need to be much more energy and resource efficient. Production processes will need to be carbon neutral – using renewable energy generated on-site where possible.
- All items and materials procured by businesses and organisations will eventually need to come from sustainable sources, for example using recycled materials.
- Customers will expect the good and services they use and buy to be sustainable and zero carbon, so businesses and organisations will need to achieve this to stay competitive.

Land Use, Green Space, Development



Context: Leicester's population is expected to keep growing. An estimated 29,104 homes will need to be built by 2036, along with more employment sites, schools, facilities and infrastructure. This could add to Leicester's carbon footprint unless new development is designed to be carbon neutral. The climate is also expected to change, with more chance of heatwaves and long dry spells, but also more frequent intense rainfall. New buildings will need to be designed to cope with these challenges.

- 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.