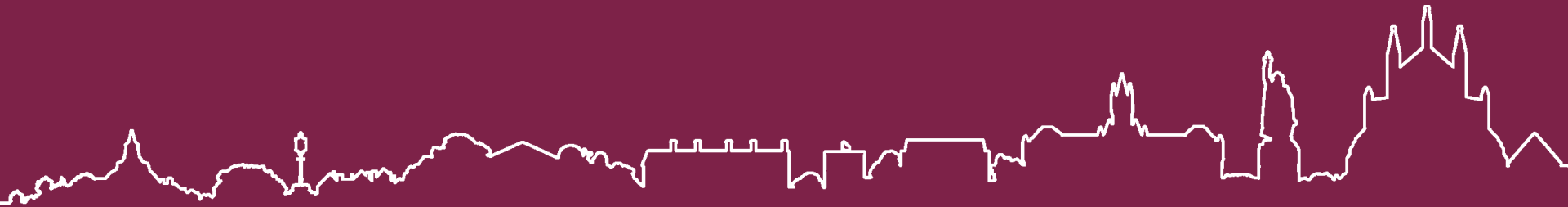
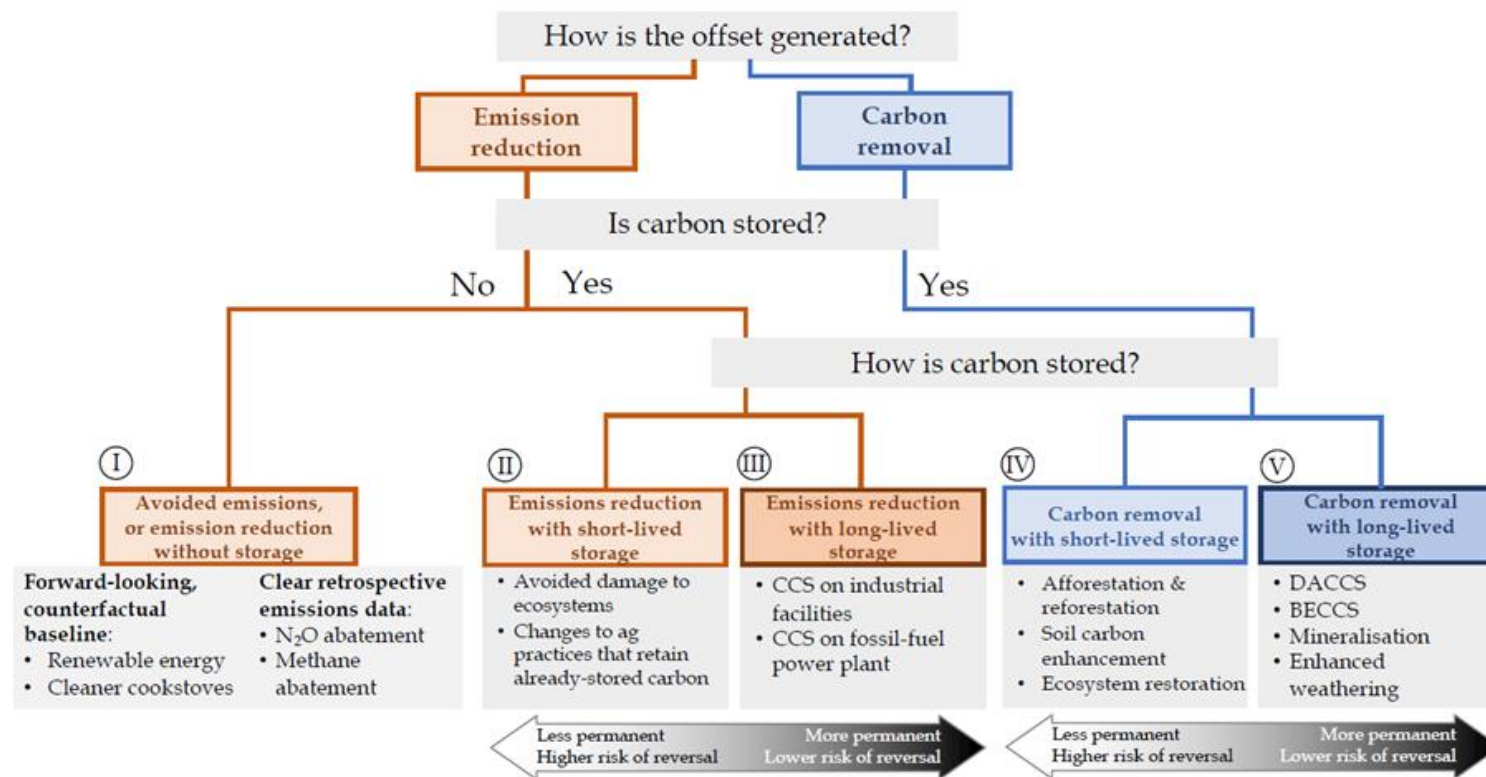


# HEP021: Carbon Neutrality Programme – Carbon Offsetting



# TYPES OF CARBON OFFSETS

A simplified classification system that shows the five different types of carbon offsets:



Allen, M., Axelsson, K., Caldecott, B., et al. (2020). The Oxford Principles for Net Zero Aligned Carbon Offsetting [Online]. Available from: <https://www.smithschool.ox.ac.uk/publications/reports/Oxford-Offsetting-Principles-2020.pdf>

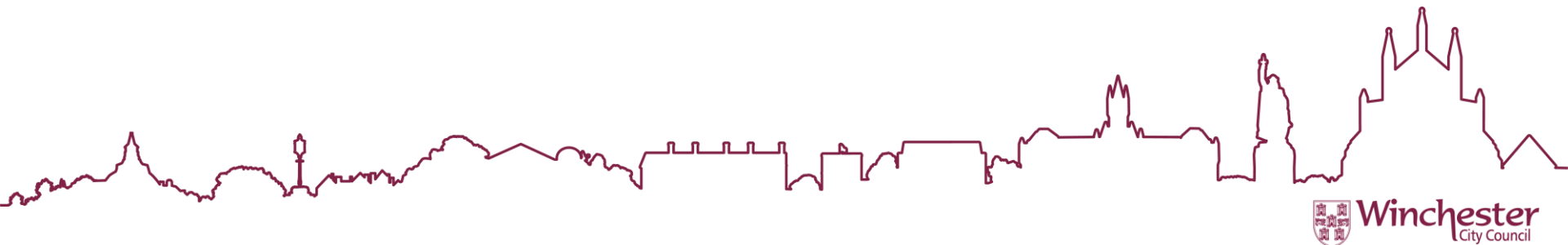
# TYPES OF CARBON OFFSETS

## Emissions reductions (type I-III).

 **Type I** - avoids emissions altogether (e.g. renewable energy generation)

 **Type II** - avoids damage to natural and semi-natural ecosystems, thus preserving the carbon stored within them (e.g. avoiding deforestation).

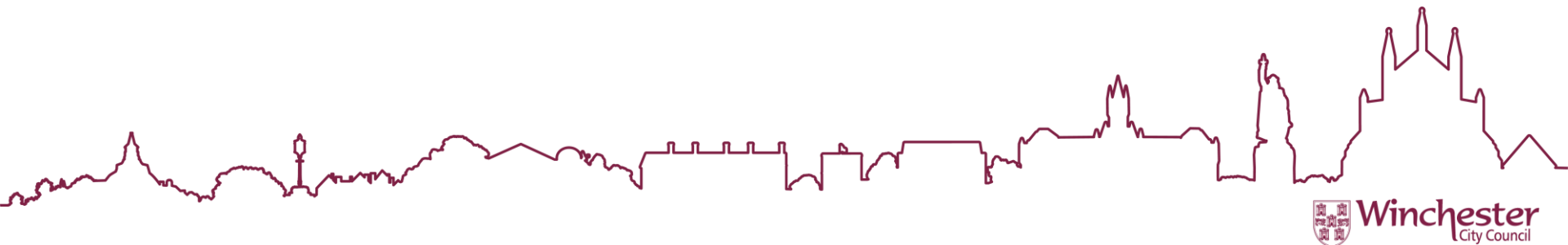
 **Type III** – stores carbon that was averted from emissions (e.g. Carbon Capture and Storage)



# TYPES OF CARBON OFFSETS

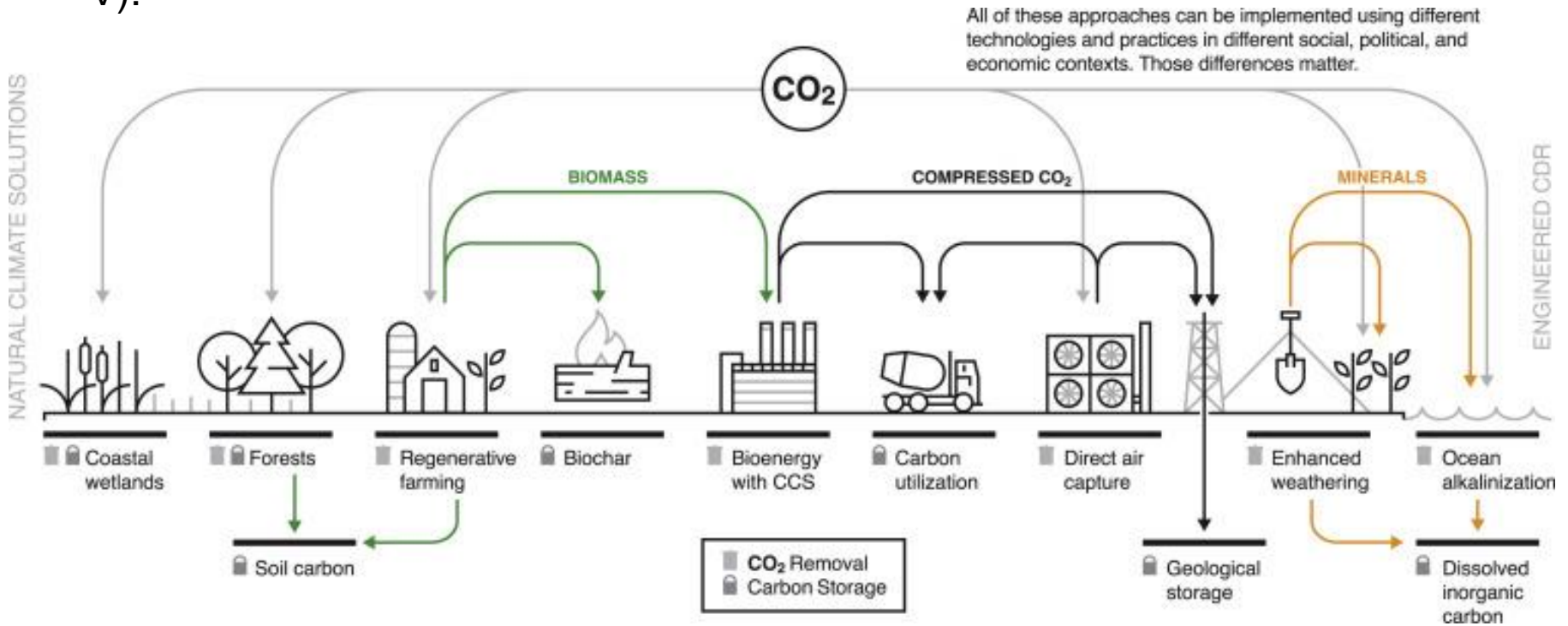
## Emission Removals (Type IV-V)

- **Type IV** – short-lived carbon storage, often uses nature-based solutions to remove carbon (e.g. afforestation, ecosystem restoration etc.)
- **Type V** - long-lived carbon storage, often uses technologically-mediated processes to remove carbon (e.g. BECCS, DACCS).
- Type V are less commonly available as the technology is at an early stage of development and there is insufficient evidence to provide a realistic estimate of their carbon removal capabilities.



# CARBON REMOVAL TECHNOLOGIES

The different types of carbon removal technologies ranging from natural climate solutions (Type IV) to engineered alternatives (Type V):

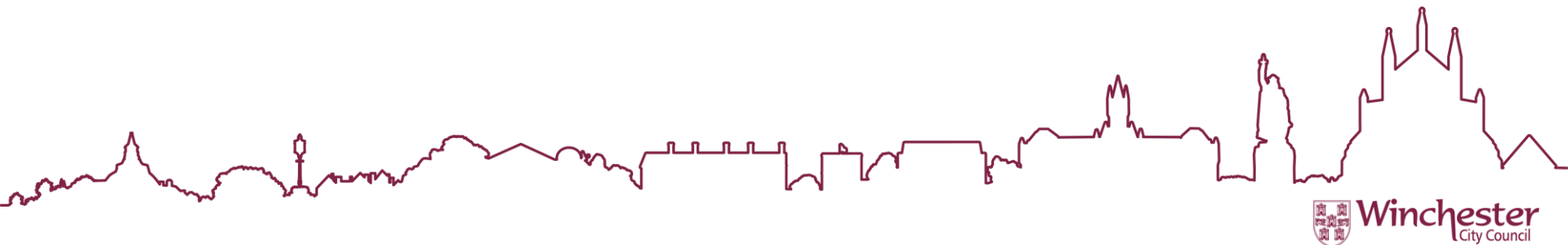


Morrow, D.R. et al (2020). Principles for thinking about carbon dioxide removal in just climate policy. *One Earth*, 3(21): 150-153.  
<https://www.sciencedirect.com/science/article/pii/S2590332220303596>

# OPTIONS FOR THE COUNCIL TO OFFSET ITS EMISSIONS

## Renewable Energy Generation (Type I)

- Significant potential to address most of the council's residual carbon emissions
- Potential for long-term revenue generation and other complementary activities (e.g. wildflower growth, tree planting, sheep grazing, BNG, Nitrate mitigation).
- Further work required to identify, plan, and deliver large-scale solar farm(s) on council land.



# OPTIONS FOR THE COUNCIL TO OFFSET ITS EMISSIONS

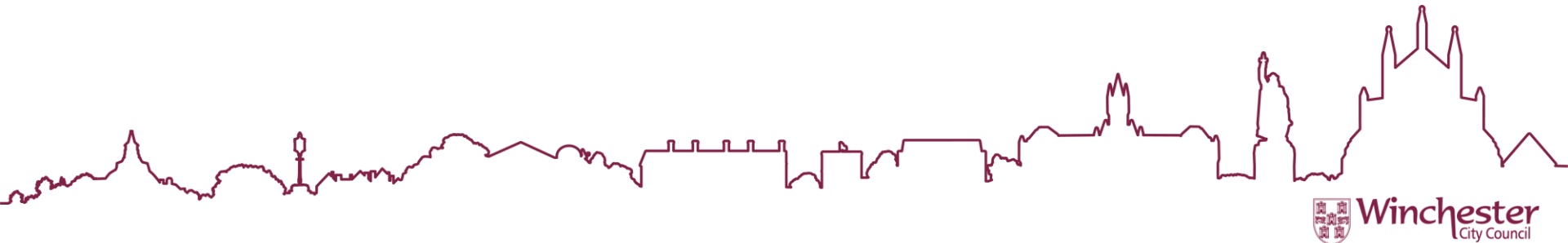
## Woodland creation (Type IV)

- One of the most established and well known offsets reflected by the creation of the Woodland Carbon Code
- It is estimated that 1 ha of woodland can sequester between 300-500 tCO<sub>2</sub> over a 100-year lifespan.
- Can also provide a range of co-benefits for biodiversity, flood risk mitigation, and recreation.
- In terms of reaching the 2024 carbon neutrality target, planting trees alone does not provide a viable option.
- However, tree planting should form a key part of the council's offsetting strategy to reach net zero across the district by 2030.

# OPTIONS TO ENABLE OTHERS IN THE DISTRICT TO OFFSET THEIR EMISSIONS

## Carbon Offset Fund

- 🏰 Developers required to pay into a fund to offset any residual carbon emissions from the development.
- 🏰 Funds ring-fenced for purpose of delivering carbon reduction and removal projects across the district (Type I-V).
- 🏰 Several LAs are either in the process of setting up, or have already set up carbon offset funds
- 🏰 Local Plan consultation indicated little public support of carbon offsetting funds even as a last resort measure.

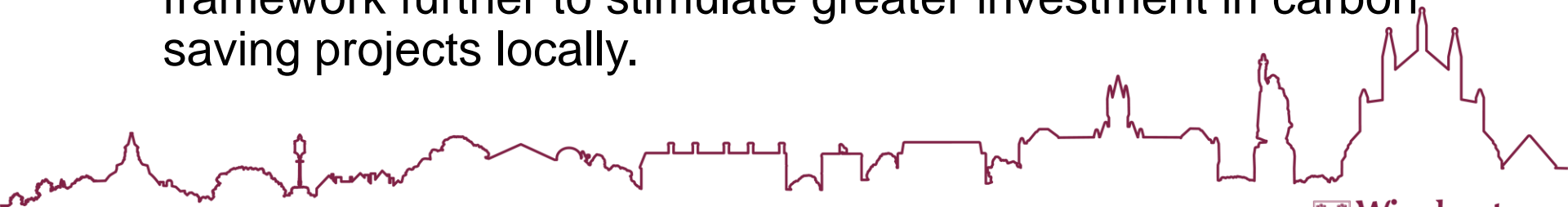




# OPTIONS TO ENABLE OTHERS IN THE DISTRICT TO OFFSET THEIR EMISSIONS





## Other opportunities – ‘Soft’ levers

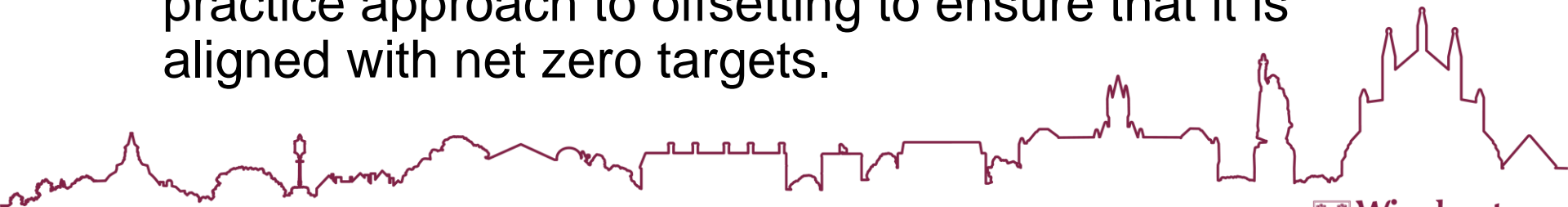
- 🏰 **Mobilising** – encourage and incentivise businesses and communities to develop and invest in carbon offsets (e.g. renewable energy, tree planting)
- 🏰 **Facilitating** – work with existing action and energy in businesses/communities and support them to develop carbon offsets.
- 🏰 **Convening** – create partnerships between local communities and businesses to identify and create carbon offsetting opportunities.
- 🏰 **Collaboration** - explore the Authority Based Insetting framework further to stimulate greater investment in carbon saving projects locally.



# RECOMMENDATIONS

That the Policy Committee notes:

-  The high likelihood we will need to offset residual emissions in order to achieve our council carbon neutrality target by 2024
-  Further work should be undertaken to provide an accurate estimate of quantity of offsetting required to reach our target.
-  Important role for the council in facilitating opportunities for others to offset their carbon emissions across the district
-  The Oxford Offsetting Principles propose a best practice approach to offsetting to ensure that it is aligned with net zero targets.



# RECOMMENDATIONS

That the Committee endorses the following approach:

- First maximise the delivery of carbon reduction measures throughout the council's operations and the district before using offsets to reduce carbon emissions.
- Select a portfolio of different offsetting options at both a council and district-wide scale, generating offsets locally within the Winchester district if possible (incl. renewable energy generation, woodland creation, carbon offset fund).
- Adopt approaches to address the local emissions that it does not have direct control over by mobilising, facilitating, convening, and collaborating.
- An offsetting policy to be brought to Cabinet for approval.

