

## Sustainability

### Operational Energy

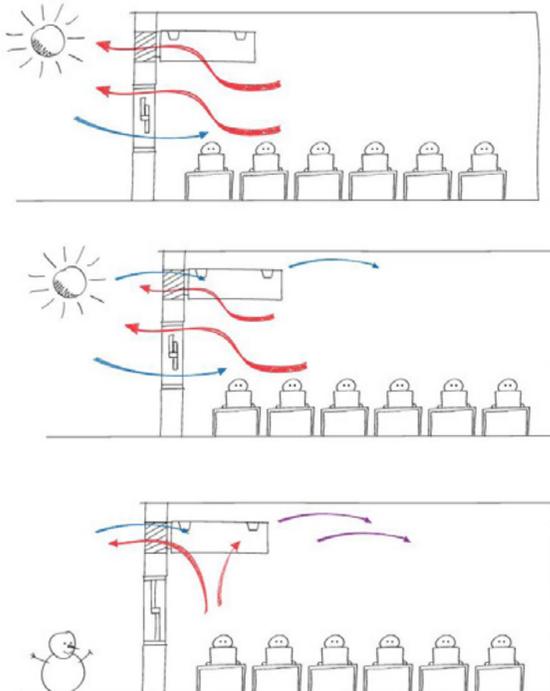
The proposed new buildings will be constructed to create high-performing buildings, ensuring a low-carbon facility. Subject to the suitability of the site, and secured funding, Passivhaus levels of airtightness will be targeted which will maintain thermal comfort in the most energy-efficient manner.

Strategies may include:

- As part of the master plan, we are considering a site wide strategy for de-carbonising making current heating and lighting systems more efficient. We are considering applying for Phase 3b of the Public Sector Decarbonisation Scheme, which takes a whole-building approach to reduce carbon.
- Natural light will be balanced by efficient glazing design, ensuring excellent comfort all year round.
- LED lighting coupled with daylight compensation and presence detection minimises carbon associated with lighting. North-facing roof lights will provide natural daylight without the risk of excessive solar gains, and also provide space for Photo-Voltaic panels facing south.
- Ventilation Studies will identify appropriate systems to provide fresh air and improve comfort during winter, this will ensure a low carbon and healthy internal environment.
- We aspire to target BREEAM excellent, subject to funding and viability studies.

### Recycling

We will provide campus wide recycling bins as part of the strategy.



### Biodiversity

The Brighton and Hove Biodiversity Checklist is being used as the basis for designing with the natural environment in mind. Ecological surveys are planned to identify habitats that may be affected by the proposals. Biodiversity net gain is the approach used to define projects that aim to leave the natural environment measurably better than its undeveloped state.

Consideration will be made to the sites proximity to the South Downs National Park, and its status as an International Dark Sky reserve. The Lighting impact on wildlife and biodiversity will be minimized by restricting the areas to be illuminated. This will allow dark commuting corridors for foraging and commuting bats.

### Green corridors

We will endeavour to retain the linear natural infrastructure that exists on the site, which connects areas in the city to the south downs national park. We have already carried out a preliminary ecological appraisal and discovered that butterflies and bats utilise the area. All efforts will be taken to reduce the impact, with mitigation strategies to be considered. There was no evidence found of other protected species on the site.

Whitebeam and Elm trees are present on site and will be retained. The site has a diverse invertebrate assemblage, including the White letter hair streak butterflies, a species of conservation concern.

Options for increasing biodiversity include:

- A biodiverse roof, with chalkland meadow planting on green roofs. This can be combined with Solar Photovoltaic panels, also known as a bio solar roof.
- Ecology gardens and chalkland habitats on south-facing slopes will be considered as part of the scheme to complement the microclimate and environment.
- Bird and bat habitat provision, and soft landscaping that provides shelter and nectar for invertebrates



### Embodied Carbon

When considering the detailed design, the embodied carbon of the proposed buildings will be assessed to quantify the impact of the construction stage. Reuse of buildings is the first strategy, and this has been considered as part of the feasibility study. Demolition will be assessed for reuse as site materials, to divert waste from landfill and reduce transportation emissions and costs.

Considerations might include:

- Low carbon concrete for raft foundations. Using up to 70% cement replacement such as GGBS could significantly reduce the impact of the substructure.
- A lightweight frame such as a light gauge steel frame or more innovative solutions such as timber frame, cross-laminated timber or low carbon concrete.
- We will consider Facing brick to blend in with the surrounding context or other low carbon cladding materials chosen with its embodied carbon considered.
- A highly insulated and efficient building fabric will reduce the required plant equipment, and significantly reduce carbon impact.

