

# National Express West Midlands

Preparing for a decarbonised travel network with a state-of-the-art energy-efficient bus depot.



As part of a regeneration of Birmingham's Perry Barr area, Birmingham City Council has given a new lease of life to its 90-year-old bus depot, moving to a brand-new state-of-the-art facility designed for a net zero future.

## Challenge

The previous National Express West Midlands Perry Barr depot had been in operation since 1932. In support of meeting the UK's 2050 net zero target, National Express West Midlands had worked to reduce its carbon emissions, but the legacy of an old building built before energy efficiency was a consideration limited what could be achieved. Birmingham City Council recognised the opportunity that a new building could offer to reduce its carbon footprint and prepare for a future decarbonised travel network.

## Solution

Zenergi was appointed by the building contractor, BAM, to undertake the mechanical and electrical (M&E) design of the project, featuring a range of sustainable innovations and technology to create a highly energy-efficient future-proofed depot.

The new 6.5-acre site with parking spaces for more than 170 buses, 12 maintenance bays, 3 fuel bays, and 4 wash bays, features the following energy-efficient and sustainable features implemented by Zenergi's M&E engineers:

- 150 solar PV panels
- Heating via a hybrid system including Air Source Heat Pumps (ASHP), electric overhead radiant panels & Variable Refrigerant Flow, supplemented with solar panels, meaning there is no need for gas onsite
- A 432m<sup>2</sup> green roof with a 22-species planting mix on an ultra-light sedum, helping improve air quality and habitats for wildlife
- A green wall on acoustic panelling to help improve air quality whilst reducing noise pollution
- A wildflower garden behind the acoustic panelling to improve habitats for wildlife
- A self-contained water recycling system for bus washes
- Rainwater harvesting for chassis wash
- 14 electric vehicle bays with capacity to accommodate a full fleet of electric buses

## Results

The new Perry Barr bus depot has transformed how National Express West Midlands works, evolving their operations to use less energy, and operate more safely and efficiently. The depot also improves the working environment for its 450 drivers, engineers and back office staff, offering snooker tables; a fish tank; a café; rest areas and quiet spaces; shower facilities; and dedicated training rooms. The focus on improving the staff environment supports the work National Express West Midlands has already undertaken to ensure a career in public transport is rewarding.

# 14

Electric vehicle bays

# 150

Solar PV panels

# 432m<sup>2</sup>

Green roof with 22-species