This primary school is predicted to be ‘carbon-negative’, exporting energy to council housing in the neighbouring areas. The local authority brief called for zero-carbon operational emissions, and the design meets the BREEAM Outstanding rating.

A derelict site will be regenerated for the new school and nursery, a youth centre and an energy centre. The proposed school will have an in-situ concrete frame with precast floors, prefabricated timber panel walls with Warmcel insulation, triple-glazed windows and sweet chestnut cladding. Daylight factor in teaching spaces will average above 2.5 per cent.

The constrained nature of this urban site meant meeting the zero-carbon brief was something of a challenge, according to Gifford sustainability engineer Hayley Maxwell. A wind turbine was not permitted because of the site’s location on the viewing corridor between Alexandra Palace and St Paul’s; the required number of PVs was unaffordable; and biomass would have met the heating load but not the electrical demand. The only way forward was to export energy offsite, one of the recently approved ‘allowable solutions’ for reaching zero-carbon.

1. Rooftop play area
2. PVs provide shading to external learning terrace
3. Cape youth centre refurbished to include ecology centre and community energy centre
4. Whole site opened up to be more accessible to community
5. Public access extends on to bermed, turfed roof of nursery
6. Building provides variety of habitats for birds and bats. Climbing plants are on all fences and external timber lattice-clad stairs
7. At ground level, building is brick and dug into ground/bermed
8. Upper levels: locally sourced timber cladding on prefabricated insulated timber panels
9. Brown roof