Certain wavelengths of light are able to ionise the silicon atoms, which separates some of the positive charges (holes) from the negative charges (electrons). The holes move into the positive or p-layer and the electrons into the negative or n-layer. These opposite charges are attracted to each other, but most of them can only re-combine by the electrons passing through an external circuit, due to an internal potential energy barrier. This flow of electrons produces a DC current. PV panels could be mounted to roof slopes but would have an obvious visual impact.

In summary, only PV panels or an air source heat pump are suitable for installation on this site, air source heat pump has been selected.

NO DISTRICT HEAT CONNECTION	**Regulated Energy Demand (MWh/yr)**	**Regulated CO2 emissions (tonnes/yr)**	**CO2 saved (tonnes/yr)**	**% CO2 reduction**
Baseline - Part L TER *See Note 1*		1021	-	-
Proposed scheme after energy efficiency measures *See Note 2*		1021	0	0.00%
Residual emissions Proposed scheme after energy efficiency measures and CHP (if using)		1021	0	0.00%
Proposed scheme after on-site renewables *See Note 4*		564	457	44.76% (NOTE: THIS SHOULD BE MIN. 20% TO COMPLY WITH BCS14) *See Note 5*
Total CO2 reduction beyond Part L TER *See Note 5*			457	44.76% (NOTE: THIS SHOULD ALSO BE 20% TO COMPLY WITH BCS14)