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## + CLIMATE MITIGATION STATEMENT



KENT **DESIGN** STUDIO  
ARCHITECTURE | PLANNING

The overarching aim of the proposed scheme is to achieve a highly energy efficient, low-carbon dwelling that can operate at net-zero running cost across a typical 12-month cycle. During summer months the property will export surplus renewable energy back to the grid, while in winter any shortfall will be imported, resulting in a balanced annual energy profile.

In addition, no mains water will be used for garden irrigation, reducing demand on potable water resources.

## **SOLAR TECHNOLOGY**

A total of 50 solar photovoltaic (PV) panels are proposed: 8 panels mounted on the garage roof and 42 panels on the main dwelling. This significant solar array is designed to maximise on-site renewable energy generation and will make a substantial contribution to meeting the property's electrical and heating demands.

The system will utilise modern, high-efficiency panels and inverters, selected to ensure optimal performance and to remain current with the best available technology as far as reasonably practicable. The operational lifespan of a typical solar PV installation is approximately 25 years. At the end of this period, or when the system is no longer performing adequately, the panels will be removed and disposed of responsibly in a manner that protects environmental and visual amenity.

The solar PV array will be fully installed and operational prior to first occupation of the dwelling. Thereafter, it will be maintained in accordance with the manufacturer's recommendations and will be retained in good working order for the lifetime of the development.

## **ELECTRIC VEHICLE CHARGING POINTS**

In accordance with the Climate Change Guidance for Development Management, the EV charging infrastructure has been carefully designed to minimise visual impact. Two 7kW Zappi fast chargers are proposed, both to be located discretely within the car port.

These chargers will support the transition to low-emission transport, enabling residents to charge electric vehicles using on-site renewable energy where possible. The charging points will be installed prior to first occupation and will be maintained thereafter in accordance with manufacturer instructions, remaining fully operational and available for use at all times.

## **RAINWATER HARVESTING**

To reduce reliance on mains water and to increase resilience to drought conditions, the proposal includes a rainwater harvesting system with dedicated grey water storage tanks for garden irrigation.

This system will capture, store and reuse rainwater, delivering water efficiency benefits and eliminating the need for potable water within the landscape and garden areas.

## **GROUND SOURCE HEAT PUMP**

Space heating and hot water will be provided by highly efficient ground source heat pump system, utilising the Kensa EVO 17kW single-phase, single-compressor unit.

Ground source heat pumps offer one of the lowest-carbon heating solutions currently available and are capable of delivering significant reductions in operational emissions when powered by renewable electricity generated on site.



## BATTERY STORAGE

To maximise the value of the renewable energy generated and to support load management, the development includes two Tesla Powerwall 3 batteries, each with 13.5kWh of usable energy storage. The combined storage capacity will allow the household to take advantage of flexible electricity tariffs, store excess solar energy during the day, and reduce reliance on the grid during peak periods.

This will increase energy self-sufficiency, further lower operational emissions and stabilise energy costs (if applicable) throughout the year.

