Raven Renewables

Working with AD Construction

Paving the way to a carbon-neutral future in social housing

AT A GLANCE

Project Specifications

- **Location:** Redhill & Horley
- **Property:** Social Housing
- **Project type:** Retrofit

Technology

Technologies installed:
26x Solar PV & Battery Storage,
2x Air source hear pump

Panel type:
Perlight 400W All Black Mono

ASHP details:
5kW Samsung R32 1Ph Mono air source heat pump

Cylinder size:
210L

"It's been great to be involved in a positive addition to older homes that will benefit the residents, future-proof the homes for Raven Housing Trust, and have a positive impact on the environment too."

Mark Gardiner
Business Development Manager
Raven Renewables

BACKGROUND

Raven Renewables was subcontracted by AD Construction Group to deliver net zero carbon retrofit measures to a number of Raven Housing Trust's homes, installing PV panels and battery storage units to 26 homes primarily across Surrey.

THE INSTALLATION

The energy-efficiency installations formed part of a wider suite of measures for Raven Housing Trust, using funding received as part of Reigate & Banstead Borough Council's bid to the Social Housing Decarbonisation Fund (SHDF), a funding scheme set up by the government to increase the decarbonisation of social housing, through the retrofitting of energy-efficiency measures.

The installation of the photovoltaic panels and battery storage units, alongside other works being carried out, was predicted to save customers several hundred pounds per year, whilst of course bringing another client closer to their goal of achieving net zero homes.

BENEFITS

1. **Save customers several hundred pounds per year**
2. **Solar peak output (kW) - 2.4-3.2kWp per property**
3. **Total annual output (kWh) - 2000-2900 per property**
4. **Total kgC02e/pa saved - 386-559 per property**

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pha WHERE PEOPLE AND HOMES COUNT

Raven Renewables

Working with Petersfield Housing Association

Maximizing energy savings and sustainability through the installation of high-efficiency solar panels, supported by ECO4 funding.

AT A GLANCE

Project Specifications

- **Location:** Petersfield
- **Property:** Social Housing
- **Project type:** Retrofit

Technology

Technologies installed:
25x Solar Panels

Panel type:
9 x 410W UKSOL
8 x 3.28 kW UKSOL
8 x 425W Trina Solar

"we have been delighted with the working together with Raven Renewables so far. My team has found the Raven Renewables team to be helpful, knowledgeable, friendly and efficient. A lot of progress has been made in a short space of time and we are on track to make significant improvements whilst getting a significant amount of grant funding into the schemes. I went to an open house this week and your team member on site lived up to all the hype and the install was of a very good quality. Thank you! We hope this will continue."

Linda Wallace
Chief Executive of PHA Homes

BACKGROUND

Raven Renewables partnered with Petersfield Housing Association to provide tailored solar energy solutions to multiple homes. The goal was to reduce energy costs for residents and improve their environmental footprint. The homeowners were looking for a more sustainable energy source and greater energy independence.

THE INSTALLATION

The solar installations were part of a larger sustainability initiative, utilising ECO4 funding to reduce costs and improve energy efficiency. High-performance mono-crystalline solar panels, including 410W UKSOL and 425W Trina Solar panels, were installed across several properties, each system equipped with Growatt MIC 3300 TL-X inverters to optimise energy conversion. Infrastructure adjustments ensured seamless integration with existing electrical systems, enhancing energy independence for the homeowners. This project brings residents closer to net-zero energy consumption, contributing to long-term savings and reduced carbon emissions.

BENEFITS

1. **Total kgCO2e/pa saved: 2,360 kg across the project**
2. **Total annual output (kWh) - 2,745-3,328 kWh per property**
3. **Properties achieve up to 28% energy independence**

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golding homes

Unlocking up to £600 per year in energy savings through efficiency solutions

AT A GLANCE

Project Specifications

- **Location:** Maidstone
- **Property:** Residential
- **Project type:** Retrofit

Technology

Technologies installed:
12x Solar PV systems

Panel type:
8x JA 370W monocrystalline panels

"We want to support our customers to save money on their household bills and this project will help them do that."

Lucy Breeze
Sustainability Manager
Golding Homes

"I am happy that solar panels were installed in my house and am looking forward to seeing the benefits. I will definitely recommend the Raven Renewables service to anyone who wants to install renewables in their properties."

Terry
Tenant

BACKGROUND

Raven Renewables worked with housing association Golding Homes, which manages over 8,000 affordable homes across Kent, to fit solar panels on their properties, enabling residents to reduce their energy bills.

THE INSTALLATION

After the government's announcement that all social houses should meet an Energy Performance Certificate rating of 'C' or above by 2030, Golding Homes chose Raven Renewables to undertake its first renewables project, the installation of solar panels on 12 social housing properties in Maidstone.

Each solar system contained eight to ten high efficiency JA 370W monocrystalline panels, installed on the rear roof of the one-storey homes. The systems were expected to generate up to 2,775 kWh per year, with up to 535 kgC02e/pa carbon emissions savings per property.

This project was predicted to save residents up to £600 per year on their energy bills and make their homes much more energy efficient.

BENEFITS

1. **Peak output (kW): 2.96**
2. **Annual output (kWh): 2,775kgC02e/pa saved: 535**
3. **Save residents up to £600 per year on their energy bills**

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ccha

Delivering on our promises

Working with Croydon Churches Housing Association

BACKGROUND

Raven Renewables partnered with Croydon Churches Housing Association to install solar PV systems across 22 flats at Wordsworth Avenue. The project was designed to improve energy efficiency and reduce electricity costs for residents, helping the housing association meet its sustainability goals and leverage ECO4 funding to support the initiative.

THE INSTALLATION

The installation included a 54.12 kWp solar PV system using 132 DMEGC 410W all-black solar panels and 22 SolaX X1-3.0T inverters. Each flat was equipped with a dedicated inverter and panel array to maximise energy generation, with the installation carefully designed to optimize for shading and positioning. Additionally, Tigo Retrofit Frame Mounted Optimisers were installed to improve system performance under shaded conditions, ensuring optimal energy output throughout the year.

AT A GLANCE

Project Specifications

- **Location:** Wordsworth Avenue, Kenley
- **Property:** Residential
- **Project type:** Solar PV installation

Technology

Technologies installed:
136x Solar Panels
22x Inverters

Panel type:
136x DMEGC 410W all-black panels
22x SolaX X1-3.0T inverters with Tigo Retrofit Frame Mounted Optimisers

BENEFITS

1. **Annual energy output: 50,116 kWh, offsetting approximately 30% of the building's electricity usage.**
2. **CO2 savings: 20,046 kg annually**
3. **ECO4 Funded**

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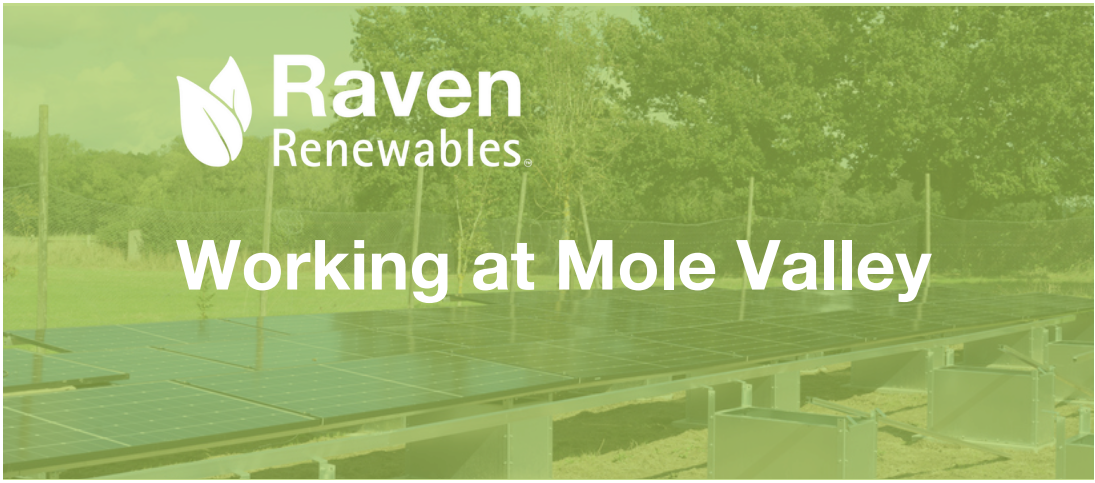

Working at Mole Valley

BACKGROUND

Raven Renewables was contracted to design and install a comprehensive solar energy solution for a listed farmhouse, which had increased electricity usage due to a previously installed ground source heat pump (GSHP). The client, referred by a past customer, required a cost-effective alternative to a three-phase system upgrade, while maintaining the property's historical integrity.

THE INSTALLATION

Raven Renewables installed a comprehensive solar PV system at property in the Mole Valley District, utilising 38 Longi Hi-MO 6 530W Mono PERC Black White solar panels as part of a 20.14 kWp ground-mounted system.

The installation included 2 Growatt MIN 10000 TL-X2 Three MPPT 1ph inverters to efficiently manage the energy generated by the system. In addition to the solar array, 2 GivEnergy All-in-One AC Coupled Systems with a combined 24.6 kWh battery storage capacity were installed to enhance energy independence and storage.
The entire system is supported by a GSE Ground Mount System, with a 150m cable run to connect the solar array to the main property, ensuring optimal energy distribution and efficiency.ent with the client's energy while preserving the site's historical character.

BENEFITS

1. **Produces 16,676 kWh annually, significantly cutting electricity costs.**
2. **Avoids 3,541 kg of CO2 emissions each year, the equivalent of a 12,646-mile car journey or the CO2 absorbed by 162 trees annually.**
3. **Provides 40% grid independence due to the integrated battery storage.**

AT A GLANCE

Project Specifications

- **Location: Confidential (listed farmhouse)**
- **Property:** Residential
- **Project type:** Solar PV installation

Technology

Technologies installed:
38x Longi HiMoX6 530W solar panels,
2x battery storage

Panel type:
38 Longi Hi-MO 6 530W Mono PERC panels
2 xGivEnergy All-in-One AC Coupled System.

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