

Furnace Brook Fishery

Hailsham, East Sussex

A remote course fishery requiring backup power and hot water for the accommodation annex.

TECHNOLOGY:

Prototype hetero-junction photovoltaic/Thermal hybrid modules

- 16 x PV-T HIT
(provided by Panasonic & Solimpeks)

GMDE Hybrid inverter and battery

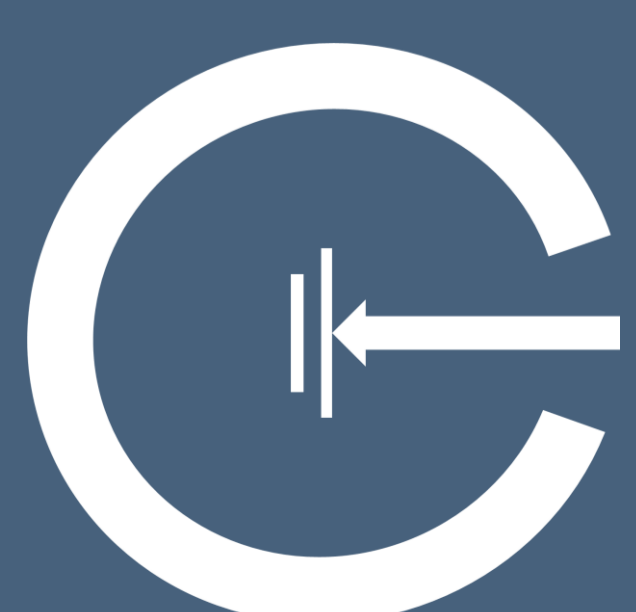
- 4.8kWh Lithium ion battery
(provided by GMDE)

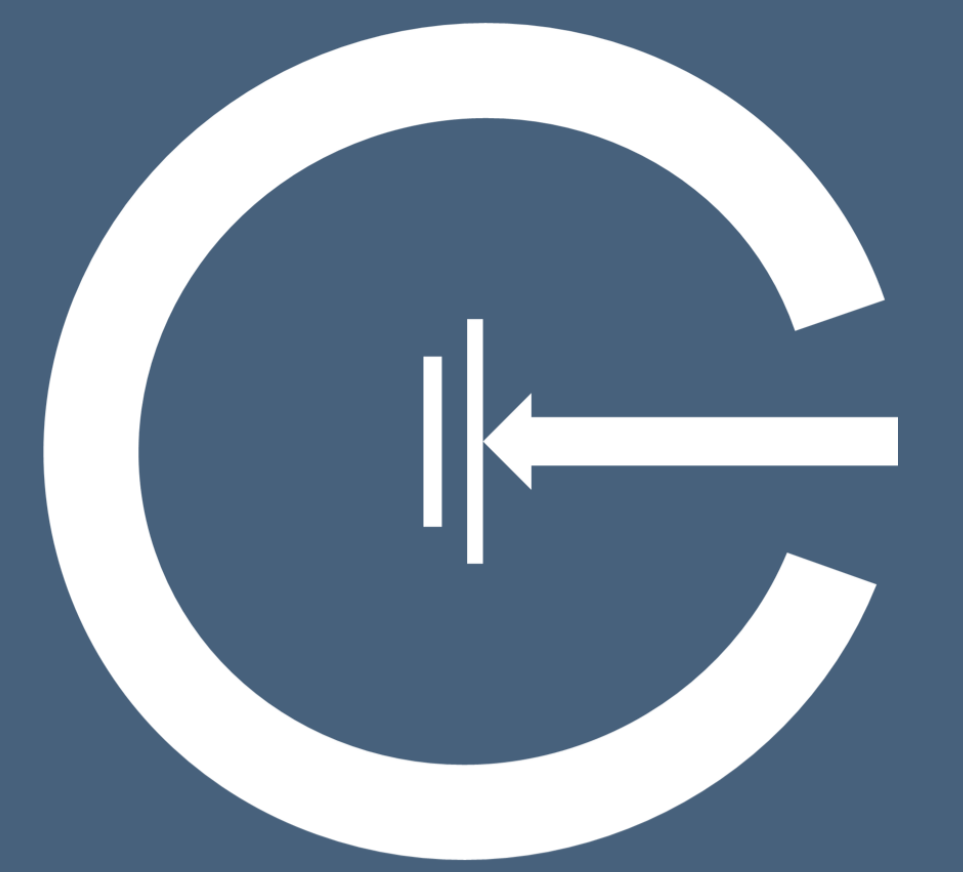
SYSTEM PEAK PERFORMANCE:

- Electrical 3.84 kWp
- Thermal 12 kWp

SYSTEM ANNUAL PERFORMANCE:

- Electrical 4285 kWh
- Thermal 2431 kWh
- Displaced Co2 2696 Kg
- Estimated return on investment 9.2yrs





Convert Energy Ltd



System overview:

Heating & Hot water:

'Pre-Heat' enabled combination gas boiler and hybrid PV-T modules.

Solar thermal energy providing a combination of direct hot water and pre heat to the gas boiler.

Electrical Generation:

Photovoltaic energy providing household electricity baseload and battery backup

Energy stability from new technology

Furnace Brook Fisheries sits within a secluded valley in the Sussex High Weald. The owner has a passion for sustainability which allowed us to integrate some innovative technologies within our solution.

Our brief was to provide back up power for essential systems as the grid supply is intermittent. There was also a need to provide a substantial volume of hot water for the on site accommodation.

This was the perfect project to showcase a new prototype hybrid solar module PV-T HIT. This module uses Panasonic's *hetero junction* cells. Combined with a thermal collector, these modules are arguably the most efficient collectors of electrical and thermal energy on the market.

With the thermal energy supplying direct hot water and pre heat to the boiler, the electrical energy supplies the main house with any excess generation feeding a hybrid battery system to counter any drops in grid supply.

Annual Electrical Performance
Annual Thermal performance
Annual Displaced Co2
Estimated Return on Investment (ROI)

3610kWh
3600kWh
2579 Kg
9.2yrs

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