Quotation Summary

Dear Mr Keenan,

Thank you for your enquiry with this company and for inviting me to survey your property to assess suitability for solar photovoltaics (PV). Please find the enclosed quotation and associated documentation required under Microgeneration Certification Scheme (MCS) rules, including;

- A detailed breakdown of the solar PV system proposed.
- Predicted system performance.
- SAP Calculations (Standard Assessment Procedure Calculations).
- Cancellation rights.

The Coretech Electrical Solar Process

The Coretech Electrical Solar Process (CESP) is a system designed to provide optimum-performance solar PV systems. A Coretech Electrical Solar Questionnaire is used to survey your property and assess your individual needs so you can experience the benefit of a solar PV system that generates the most electricity possible whilst providing you with the greatest return on investment.
During the survey accurate measurements were obtained for your property. This information was then fed into cutting-edge design software, with details of any shading from nearby trees, buildings,

chimneys etc. along with your personal design requirements. The software then produces a bespoke system design with millimetre precision.

The FREE Coretech Solar Report enclosed is now yours to keep. It details the system best suited to you and your property and includes all the information you need to make an informed decision regarding your investment in solar. If you decide that you would like to benefit from optimum-performance solar PV please complete the order form and return it to us with your deposit and we will contact you to schedule installation.

Our Solar Product Range

We carefully select our products and components to suit individual projects as solar PV panels are available in many sizes, outputs, styles and efficiency levels. It is also important to match the individual panel design to the correct inverter as they too have different characteristics that affect the performance of the whole system.

All products we supply are MCS Approved and have been carefully selected to meet our own exacting standards of quality and performance. Our experience within the electrical contracting industry enables us to easily recommend reliable products with the highest performance levels. This is an essential part of the Coretech Electrical Solar Process that enables you to be 100% confident you are making the right decision when investing in solar.

Accreditation

Coretech Electrical Services Ltd holds MCS Approval, accreditation from the governing body that permits the Design and Installation of Photovoltaic Systems. Consequently, you can be confident of employing a contractor with the very highest standards and expertise. All our Electricians are fully trained, courteous and come to work with a positive mental attitude.

We are also part of the Renewable Energy Consumer Code (RECC) Scheme. By choosing a company that is RECC registered you are protected by the Renewable Energy Consumer Code that ensures consumers wishing to install a small-scale heat or power generation unit for their homes have the necessary confidence and service standards to make an informed choice.

Coretech Electrical Services also hold a NAPIT Certificate providing you assurance that we are a competent electrical company.

Customer Care

Founded in 2008 by Craig Brooker and Mark Bell, Coretech Electrical Services Ltd continue to build on a reputation for electrical expertise, the highest standards of workmanship and customer satisfaction. The Coretech Electrical Solar Process is designed to maintain these high standards from the initial survey right through to after-sales care.

Yours sincerely

Craig Brooker

The Coretech Electrical Solar Report

System Performance and SAP Calculations

This section of the Coretech Solar Report provides information on the predicted performance of the proposed solar PV system of:
Array 1 – 13 x 410 Watt panels with an orientation of 160° South at a roof angle of 21°
Array 2 – 3 x 410 Watt panels with an orientation of 70° South at a roof angle of 21°
Array 3 – 3 x 410 Watt panels with an orientation of 250° South at a roof angle of 21°

The UK Microgeneration Certification Scheme requires all certified companies to give an assessment of system performance using a standardised approach based on the Government's Standard Assessment Procedure (SAP) 2012.

The performance of solar PV systems is impossible to predict with certainty due to the variability in the amount of solar radiation (sunlight) from location to location and from year to year. The following estimate is based upon the Government's Standard Assessment Procedure (SAP) 2012 for energy rating of buildings and is given as guidance only. It should not be considered as a guarantee of performance.

The Standard Estimation Method is as follows:

1. Establish the electrical rating of the PV array in kilowatts peak (kWp).
2. Determine the postcode region.
3. Determine the array pitch.
4. Determine the array orientation.
5. Look up kWh/kWp (Kk) from the appropriate location specific table.
6. Determine the shading factor of the array (SF) according to any objects blocking the horizon.

The estimated annual electricity generated (AC) in kWh/year of installed system shall then be determined using the following formula: Annual AC output (kWh) = kWp x Kk x SF

The calculation for your property is:

Array 1 – 5.33 x 854 x 0.8 = 3641 kWh estimated electricity generation per year.
Array 2 – 1.23 x 688 x 0.8 = 676 kWh estimated electricity generation per year.
Array 3 – 1.23 x 779 x 0.8 = 766 kWh estimated electricity generation per year.

kWh stands for kilowatt-hour and is a unit of energy equal to 1000 watt hours. The kilowatt-hour is most commonly known as a billing unit for energy delivered to consumers by electricity utility companies.
The Shading Factor (SF) of 0.8 was calculated with the MCS standardised approach. Using a Solar Design Sun Path Indicator the number of segments occupied by a shade-causing object is calculated and entered into the formula: 1– 1– (0*0.01) = 1 – 0.00 = 1

This shade assessment has been undertaken using the standard MCS procedure – it is estimated this method will yield results within 10% of the actual annual energy yield for most systems.

Solar Panels/Modules
Trina 410w Mono

Small in size, big on power

Generates up to 415 W, 21.1 % module efficiency with high density interconnect technology

Multi-busbar technology for better light trapping, lower series resistance, improved current collection and enhanced reliability

Excellent low light performance (IAM) with cell process and module material optimization

Universal solution for residential and C&I rooftops
Designed for compatibility with existing mainstream inverters, optimizers and mounting systems

- Perfect size and low weight for easy handling. Optimized transportation cost
- Reduces installation cost with higher power bin and efficiency
- Flexible installation solutions for system deployment

High Reliability

- 6,000 Pa snow load (test load)
- 4,000 Pa wind load (test load)

Inverter

The Fronius GEN24 Plus is the versatile hybrid inverter with integrated back-up power and thus offers the best flexible solution for solar energy supply.

Whether photovoltaic, storage, backup power, heating solutions or e-mobility - the Fronius GEN24 Plus offers a unique variety of solutions.

Features

The integrated basic backup power supply is a power socket supplied with electricity in the event of a power outage. This allows loads to be supplied with up to 3 kW of power. The PV Point represents our low-cost backup power solution.

- automatic activation in case of a grid outage
- costly additional installation work is not necessary
- supplies households with single-phase loads of up to 3 kW

FULL BACKUP AVAILABLE ON REQUEST ONLY

The sophisticated backup power solution works in combination with an energy storage system and supplies 1- and 3-phase loads, such as an electric cooker or a heat pump, whenever there is sufficient energy available.

- supplies the entire household (even three-phase loads)
- automatic switch to backup power in the event of grid failure
- efficient energy flows due to the Multi Flow Technology, even in backup power situations

ACTIVE COOLING

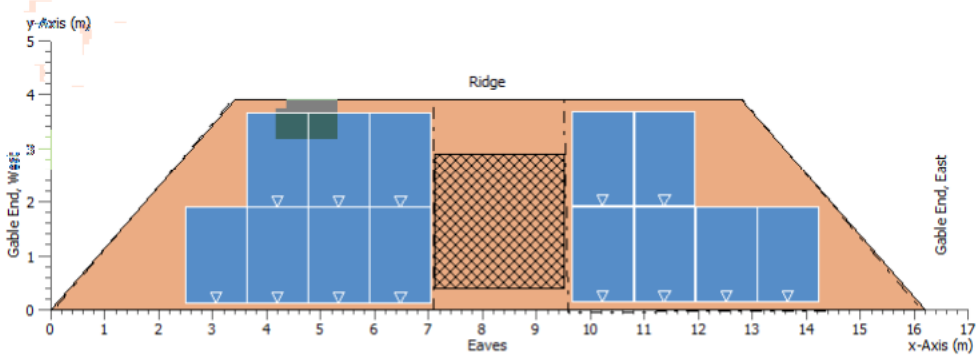
Thanks to active cooling, the Fronius GEN24 Plus offers greater flexibility in terms of design and installation right from the planning stage. In addition, lower costs are incurred during operation due to less or no maintenance. Above all, however, it is the longer service life and increased yield due to better performance that speak in favour of the active cooling system:

- longer service life
- higher yields
- lower maintenance costs
- simple & flexible installation
- flexibility in the system design

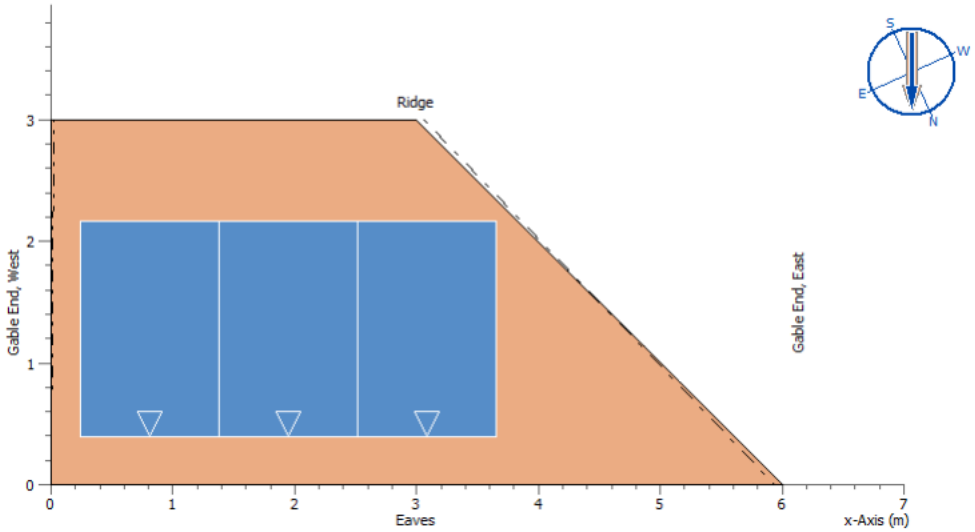
Fronius Service Partners

In the event of a fault you will experience reduced downtime and generation losses because Coretech Electrical Services are Fronius Service Partners . Your System will sit live on Solar Web and you will have full visibility of the system. Being a valued customer you will also sit on our portal in the event of a fault we will be triggered an email for one of our team to respond.

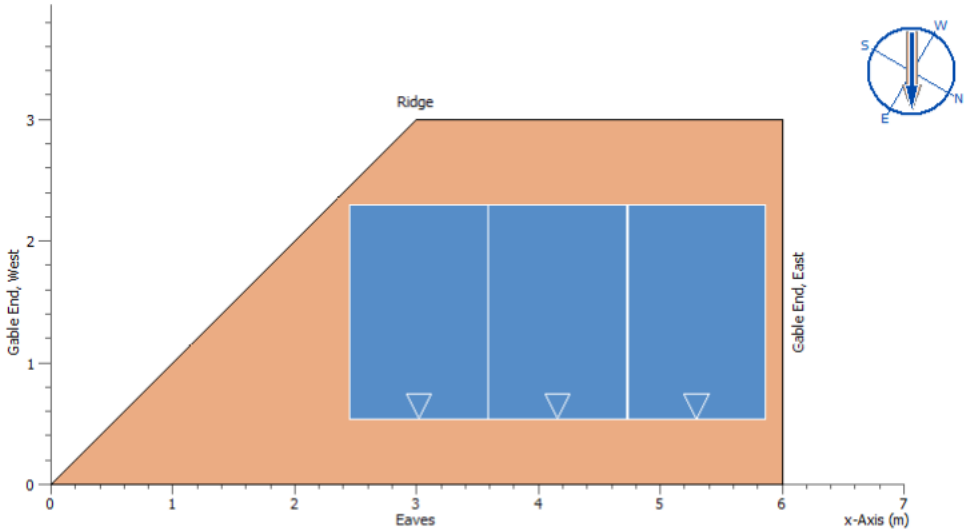
Array 1



Array 2



Array 3



Battery Storage Solution

Fronius have partnered with BYD and their Battery Storage solution.
The HVS Battery Box is modular and we have allowed for **3 number 2.56kwh** Battery Boxes giving you a total of **7.68 kwh** of storage. You can also add to this solution at a later date should you require it. The brains of the system is the Control Unit which is commissioned to accept however many Battery Boxes the system is designed for.

Features

Capable of High-Powered Emergency-Backup and Off-Grid Functionality
- Highest Efficiency Thanks to a Real High-Voltage Series Connection
- The Patented Modular Plug Design Requires no Internal Wiring and Allows for Maximum Flexibility and Ease of Use
- Cobalt Free Lithium Iron Phosphate (LFP) Battery: Maximum Safety, Life Cycle, and Power
- Compatible with Leading 1 and 3 Phase High Voltage Battery Inverters
- Two Distinct Modules to Cover the Complete Range of System Sizes
- Highest Safety Standards like VDE 2510-50

Customer Testimonials

Testimonial 1 – Stuart Cookson, Scapegoat Hill, July 2022

"I approached Craig with an already well formed idea of what we wanted. Contrary to a number of others, I found him very accommodating and more than happy to work together with me to form a final design. He and the team kept us informed as stock became available prior to installation.

When it came to the installation, our layout gave the team a few challenges as they had to fight around Velux windows. It was also the hottest couple days of the year, with temperatures approaching 40 degrees for a few days, but the Coretech team was professional, accommodating and very friendly throughout.

A few weeks post-install of the panels the system is performing really well. We just can't wait for the batteries to come into stock so we can get even more use of all the energy we're generating!

Coretech have been great throughout the whole process. I would have no hesitation in recommending them. "

Testimonial 2 – Jim Gardener, Honley, June 2022

I have been on the solar panel journey for some three years now, my first interaction was with the company I found on Instagram, all seemed very good at the time, but I was inherently suspicious that the salesman (with hindsight, akin to a double glazing salesman) had told me would generate electricity at levels more akin to a French nuclear power station, this ended with numerous conversations with the ombudsman and the subsequent cancelling of the order

My second experience appeared more positive as the sales guy was allegedly a former engineer, I therefore had a great deal of confidence (relative to the first guy) in what he was telling me, however I got the distinct impression that when he reported back to his company, they were incredibly uncomfortable with the Yorkshire stone roof, we then had around 6/9 months of reasons why they couldn't come and do the installation

A friend mentioned to me they had used Coretech, so I gave them a call. Craig and his colleague Matthew came to view the site. From the minute they set foot on our property, I had a sense of complete confidence, they approached the whole installation in a way I have not witnessed from the previous two visits. Craig actually got up on the roof, rather than using Google maps, he was equipped with a weird -looking Sexton -type device which I'm told tracks the path of the sun relative to the roofline, this would allow the prediction of shadows being cast throughout the year onto the proposed site for the solar panels. It was very apparent these guys were not just selling the concept, but were concerned for the installation and to minimise interruption to the household. During the visit they made me aware of technology available that had previously not been mentioned. They gave a confidence/assurance that my now watertight Yorkshire slate roof would be watertight when they had finished, this meant a lot

Craig presented a fully costed/designed system, again I had not seen anything greater than a sketch on the back of a fag packet to date, we signed up

The installation team turned up, exactly as promised, which incidentally included Matthew, this again boosted my confidence, they were equally assured that the roof would be watertight when they had finished. The team were thoroughly professional and behaved with great respect to both the property and the owners, to be honest I couldn't fault them

No fault of Coretech, but the current economic/supply chain situation has led to certain components not arriving on time. Coretech approached this with the professionalism I have by now become used to, placing a temporary inverter alongside the recommended version, I have every confidence they will return to replace the temporary inverter as soon as the specified one becomes available, along with installing the battery when this becomes available

To be honest, Coretech were more expensive than the previous two, but they explained throughout design the quality of the items they were installing and the reason why this quality will pay off in the long run

From start to finish, I would very much recommend Coretech over and above anybody I have come in contact with during my solar panel journey. In a marketplace somewhat characterised by double glazing salesman, Craig and his team with their professional approach give you the confidence to make what I believe in my particular case was the right decision"

Coretech Electrical Services Ltd
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Company No. 6505088

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Rockmill Road, Brockholes,
Holmfirth, HD9 7BN.

Important notes for our customers

Guarantees

Your equipment is guaranteed by its manufacturer but you should contact us in the first instance if anything appears to be wrong.
The guarantees are:
Panel Warranty - 10 Years plus 25 year 80% performance.
Inverters - 7 Years with manufacturer.
Battery Storage 10 Years
We guarantee our workmanship for 10 years from date of install. This workmanship warranty will be transferable to the new legal owner of the property if it is sold during the warranty period. Any components damaged during installation shall be replaced free of charge.

Cost

This quote has been prepared following a site visit and is based on us being able to install your system as described without interruption. If circumstances beyond our control results in us having to undertake the work in stages that involves additional time, we reserve the right to charge for that additional time. If you request changes to the specification that involves additional cost, we will provide you with a revised quote. Any additional charges will be based on the installer hourly rate of £37.50 per hour.

You can pay by BACS bank transfer, cheque. Debit or credit card payments will incur a 2% charge from our Barclays merchant services.

Planning and Notifications

If your installation requires planning consent Coretech will assist with the preparation of your application providing any drawings and specifications.

If your system requires G99 Approval Coretech will complete all necessary paperwork to meet the requirements of with your local Distribution Network Operator (DNO). There will normal be a connection charge from the DNO which you will be liable to pay once this has been received.

Commissioning your solar PV system.

The solar PV system will be commissioned according to MCS installation standards to ensure the system is safe, has been installed in accordance with documented procedures and manufacturer requirements, and is operating correctly in accordance with the system design. Following testing and commissioning of the system, a detailed Handover Information Pack will be provided to you.

System Handover

The Handover Information Pack contains the following information:

- A Coretech Solar PV system manual.
- Electrical test certificates and schematic diagrams.
- Component manuals and warranty certificates.
- MCS & Local Authority Building Control certificates.
- Aftersales care information.

Renewable Energy Consumer Code (RECC) Scheme

Coretech Electrical Services is a member of Renewable Energy Consumer Code (RECC) formerly REAL Assurance Scheme. Our membership number is: 00054016. This document is prepared in accordance within its Consumer Code. A leaflet describing the RECC is available on request.

The Code can also be viewed in full at http://www.recc.org.uk/scheme/consumer-code

Timetable for Works

We will agree installation dates with you in writing after the order has been confirmed and we have received your deposit, if we have asked you for one. It usually takes seven days to install a system, including the erection and removal of scaffolding. Your installation will usually take place within six weeks of receiving your order, subject to work load and availability of materials.

Quotation is valid for 14 Days