Prepared by: Jason Knight
01752210007
calibra654321@googlemail.com

For: Jeffrey
Hays Cottage, Old Hill, Winsford,
Bristol

Quote #: 2280619
Valid until: 29th June 2023

Solar Energy System Proposal

Dear Jeffrey,

Thank you for the opportunity to present your Solar Energy System Proposal.

Best Regards,
Jason Knight
Cisco Homes Limited

Recommended System Option

7.885 kW	9.5 kWh	7,252 kWh	£4,237
System Size	Battery Size	Estimated Annual Solar Generation	Estimated Annual Electricity Bill Savings

Your Solution

Solar Panels

Trina Solar Co., Ltd.
7.885 kW Total Solar Power
19 x 415 Watt Panels (TSM-415DE09R.B5)
7,252 kWh per year

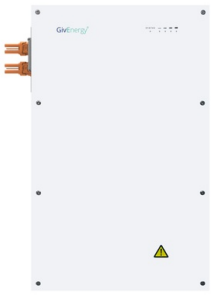
Hybrid Inverter

GivEnergy
5.000 kW of Total Inverter Power
1 x GIV-HY5.0
5 Year Warranty

GivEnergy

Giv-Bat9.5

1 x Giv-Bat9.5
9.5**kWh** of Storage
10 **Year** Performance Warranty



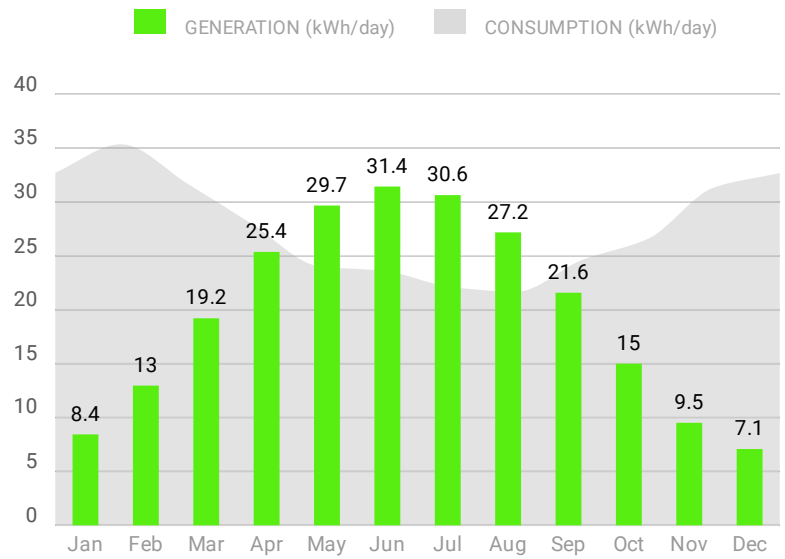
GivEnergy

Warranties: 25 Year Panel Product Warranty, 25 Year Panel Performance Warranty, 5 Year Inverter Product Warranty, 10 Year Battery Product Warranty

System Performance

71%

Energy From Solar



System Performance Assumptions: System Total losses: 0%, Inverter losses: 0%, Optimizer losses: 0%, Shading losses: 0%, Performance Adjustment: 0%, Output Calculator: MCS. Panel Orientations: 11 panels with Azimuth 162 and Slope 30, 5 panels with Azimuth 256 and Slope 30, 3 panels with Azimuth 180 and Slope 20.

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. This estimate is based upon the standard MCS procedure is given as guidance only. It should not be considered as a guarantee of performance. The solar PV self-consumption has been calculated in accordance with the most relevant methodology for your system. There are a number of external factors that can have a significant effect on the amount of energy that will be self-consumed.

Shading will be present on your system that will reduce its output to the factor stated. This factor was NOT calculated using the MCS shading methodology, but we can confirm that the system as quoted, taking into account the shading present, will deliver at least 90% of the energy (in kWh) as set out in this performance estimate.

This system performance calculation has been undertaken using estimated values for array orientation, inclination, or shading. Actual performance may be significantly lower or higher if the characteristics of the installed system vary from the estimated values.

Important Note: The energy performance and benefits of EESS is impossible to predict with certainty due to the numerous functions a system can be programmed to perform. This estimate is based upon the standard MCS proceduce and is given as guidance only. It should not be considered as a guarantee of performance.

A. Installation data		
Installed capacity of PV system - kWp (stc)	7.88	kWp
Orientation of the PV system - degrees from South	Group 1: 11 panels with Orientation: 20 ° Group 2: 5 panels with Orientation: 75 ° Group 3: 3 panels with Orientation: 0 °	°
Inclination of system - degrees from South	Group 1: 11 panels with Tilt: 30° Group 2: 5 panels with Tilt: 30° Group 3: 3 panels with Tilt: 20°	°
Postcode region	5E	

B. Performance calculations		
kWh/kWp (Kk) from table	Group 1: 954 Group 2: 835 Group 3: 935	kWh/kWp
Shade Factor (SF)	1.00	
Estimated annual output (kWp x Kk x SF)	7,252	kWh
C. Estimated PV self-consumption - PV Only		
Assumed occupancy archetype	In Half Day	
Assumed annual electricity consumption, kWh	10,150.00	kWh
Assumed annual electricity generation from solar PV system, kWh	7,252	kWh
Expected solar PV self-consumption (PV Only)	3,853.57	kWh
Grid electricity independence / Self-sufficiency (PV Only)	37.97	%
D. Estimated PV self-consumption - with EESS		
Assumed usable capacity of electricity energy storage device, which is used for self-consumption, kWh	9.50	kWh
Expected solar PV self-consumption (with EESS)	4,132.48	kWh
Grid electricity independence / Self-sufficiency (with EESS)	41.0%	%

Environmental Benefits

Solar has no emissions. It just silently generates pure, clean energy.

Each Year

71% Of CO_2, SO_x & NO_x

2 tons Avoided CO_2 per year

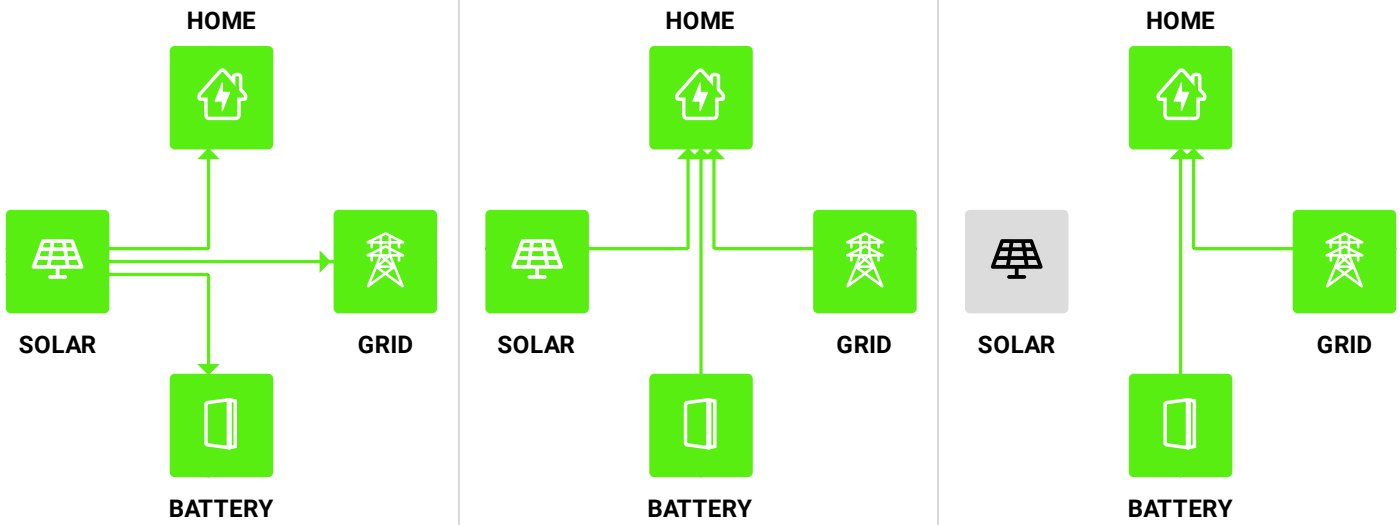
Over System Lifetime

54,127 Car km avoided

348 Trees planted

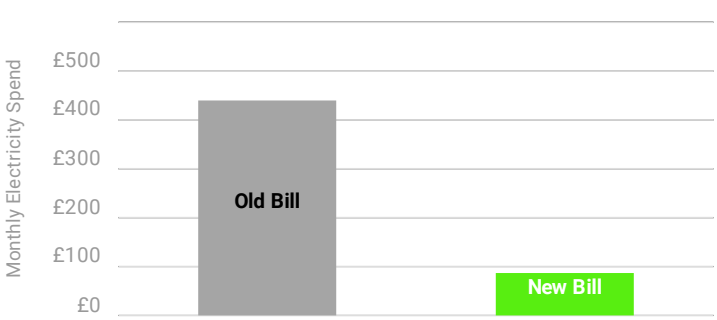
39 Long haul flights avoided

How your system works

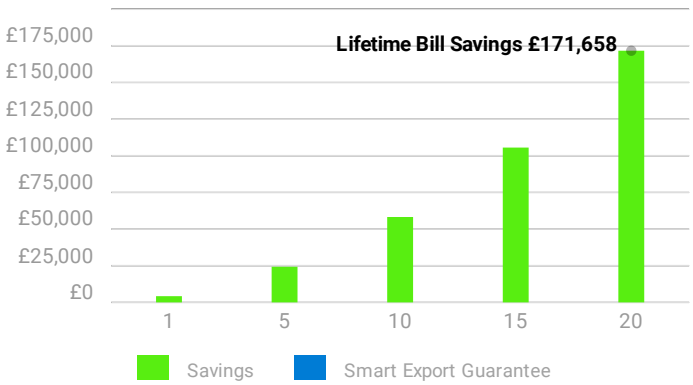


Electricity Bill Savings

First Year Monthly Bill Savings



Lifetime Bill Savings



Month	Solar Generation (kWh)	Electricity Consumption before solar (kWh)	Utility Bill before solar (£)	Utility Bill after solar (£)	Estimated Savings (£)
Jan	261	1,014	527	145	382
Feb	363	990	515	117	398
Mar	595	983	511	94	418
Apr	761	837	435	67	368
May	920	745	387	49	338
Jun	943	708	368	47	321
Jul	950	686	357	47	309
Aug	842	672	349	52	298
Sep	647	739	384	68	316
Oct	465	824	428	83	345
Nov	285	940	489	123	366
Dec	219	1,013	527	148	378

Utility savings based on switch from Average residential rate 2022 - Inline with OffGem energy price cap to Off-Peak Benefit Tariff

Rate not specified specified, using Average residential rate 2022 - Inline with OffGem energy price cap based on location.

Your projected energy cost is calculated by considering a 7.0% increase in energy cost each year, due to trends in the raising cost of energy. This estimate is based on your selected preferences, current energy costs and the position and orientation of your roof to calculate the efficiency of the system. Projections are based on estimated usage of 10150 kWh per year, assuming Average residential rate 2022 - Inline with OffGem energy price cap Electricity Tariff.

Your electricity tariff rates may change as a result of installing the system. You should contact your electricity retailer for further information.

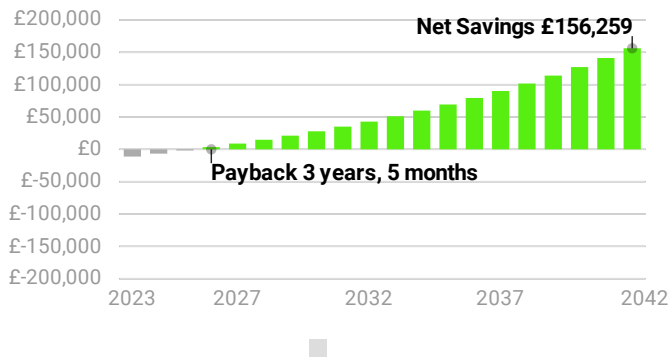
Proposed Tariff Details - Off-Peak Benefit Tariff	
Energy Charges (£/kWh)	
Summer Peak Usage *4am-12am Jun-Sep*	Tier 1 (> 0 kWh): £0.33
Summer Off-Peak Usage *12am-4am Jun-Sep*	Tier 1 (> 0 kWh): £0.07

Winter Peak Usage *4am-12am Mon-Fri from Oct-May*	Tier 1 (> 0 kWh): £0.33
Winter Off-Peak Usgae *12am-4am Mon-Fri from Oct-May and,* *All Day Sat-Sun from Oct-May*	Tier 1 (> 0 kWh): £0.07
rate 4	Tier 1 (> 0 kWh): £0.00
Fixed Charges	
Fixed Charge	£15.62 / month

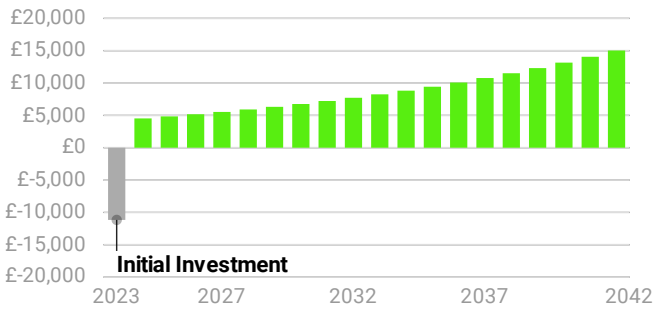
Net Financial Impact Cash

£171,658 Utility Bill Savings - £15,399 Net System Cost = £156,259 Estimated Net Savings

Cumulative Savings From Going Solar



Annual Savings From Going Solar



£64,993
Net Present Value

3.9 years
Discounted Payback Period

1,015%
Total Return on Investment

34.1%
Rate of Return on Investment

Year	Electricity Consumption (kWh)	Solar Generation (kWh)	Utility Bill (before solar) (£)	Utility Bill (after solar) (£)	Annual Savings (from solar) (£)	System Costs (Net of Dealer Incentives) (£)	Customer Incentives (Upfront) (£)	Net Savings (£)	Cumulative Impacts (£)
2023	10,150	7,252	5,278	1,041	4,237	15,399	0	(11162)	(11162)
2024	10,150	7,212	5,647	1,119	4,529	0	0	4528	(6633)
2025	10,150	7,172	6,043	1,202	4,841	0	0	4841	(1792)
2026	10,150	7,132	6,466	1,291	5,175	0	0	5174	3382
2027	10,150	7,092	6,918	1,387	5,532	0	0	5531	8913
2028	10,150	7,052	7,403	1,490	5,913	0	0	5912	14826
2029	10,150	7,012	7,921	1,600	6,320	0	0	6320	21147
2030	10,150	6,973	8,475	1,719	6,756	0	0	6756	27903
2031	10,150	6,933	9,069	1,847	7,222	0	0	7221	35124
2032	10,150	6,893	9,703	1,984	7,720	0	0	7719	42844
2033	10,150	6,853	10,383	2,131	8,252	0	0	8251	51096
2034	10,150	6,813	11,109	2,289	8,820	0	0	8820	59916
2035	10,150	6,773	11,887	2,459	9,428	0	0	9428	69344
2036	10,150	6,733	12,719	2,641	10,078	0	0	10077	79422

Year	Electricity Consumption (kWh)	Solar Generation (kWh)	Utility Bill (before solar) (£)	Utility Bill (after solar) (£)	Annual Savings (from solar) (£)	System Costs (Net of Dealer Incentives) (£)	Customer Incentives (Upfront) (£)	Net Savings (£)	Cumulative Impacts (£)
2037	10,150	6,693	13,610	2,837	10,772	0	0	10772	90194
2038	10,150	6,654	14,562	3,048	11,514	0	0	11514	101708
2039	10,150	6,614	15,582	3,274	12,307	0	0	12307	114015
2040	10,150	6,574	16,672	3,518	13,155	0	0	13154	127170
2041	10,150	6,534	17,839	3,779	14,060	0	0	14060	141230
2042	10,150	6,494	19,088	4,060	15,028	0	0	15027	156258

Estimates do not include replacement costs of equipment not covered by a warranty. Components may need replacement after their warranty period. Financial discount rate assumed: 6.75%

Quotation

Payment Option: Cash

19 x TSM-415DE09R.B5 415 Watt Panels (Trina Solar Co., Ltd.) 1 x GIV-HY5.0 (GivEnergy) 1 x Giv-Bat9.5 (GivEnergy)	
Standard System Price	£16,899.00 Excluding £0.00 VAT
CARBON REDUCTION INCENTIVE	£-1,500.00
Total System Price	£15,399.00 Excluding £0.00 VAT
Purchase Price	**£15,399.00** Including £0.00 VAT
Awaiting Payment	**£3,849.75**

Price excludes Retailer Smart Meter should you want us to install your Smart Meter it will be an additional cost.
This proposal is valid until 29th June 2023.

Payment Milestones

Deposit	3,849.75
Stage Payment	5,389.65
Balance	6,159.60
Total	**15,399.00**

Quote Acceptance

I have read & accept the terms and conditions.

Signature J. C. Morgan

Name Jeffrey Morgan Date 31st May 2023

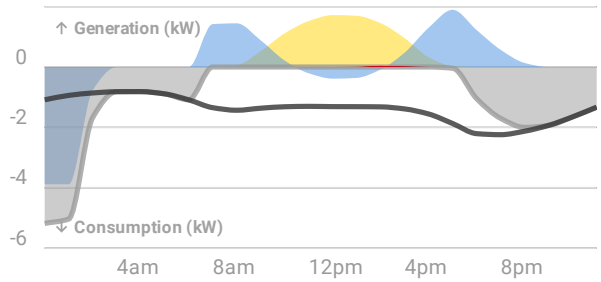
Payment Details: Offline Payment

Contact your sales representative regarding payment.

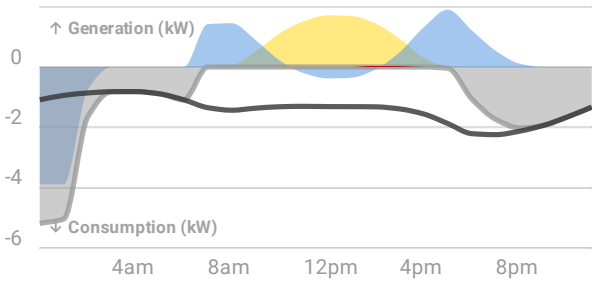
Daily Energy Flows

CONSUMPTION (kWh) GENERATION (kWh) BATTERY (kWh) NET CONSUMPTION (kWh) EXPORT TO GRID (kWh)

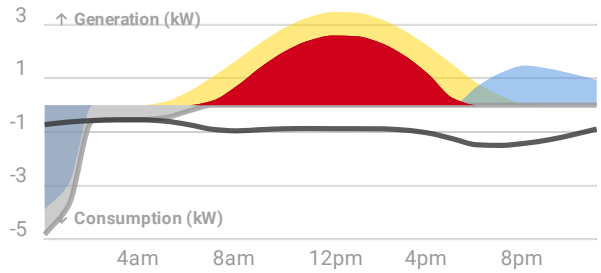
Winter Weekday



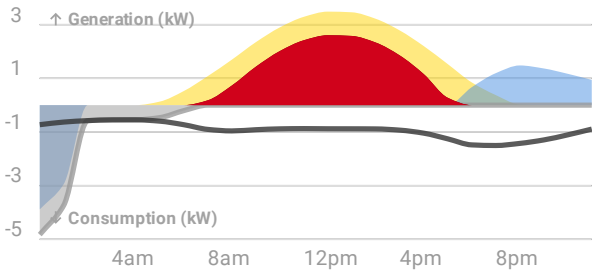
Winter Weekend



Summer Weekday



Summer Weekend



F13AH Contract of Sale – for contracts agreed away from trade premises
Cisco Homes Ltd, Forresters Business Park, 5A EstoverClose, Plymouth, PL6 7PL.
Registered Office: Unit 4, Sandy Court, Ashleigh Way, Plympton, Plymouth, PL7 5JX.
Registered in England - Company Number: 10288094
VAT Number: 252 9099 83

Should you require this Contract or any other information we have supplied to you in large print, please contact us.
This contract has been prepared to comply with all our obligations under the HIES Code of Practice and Microgeneration Certification Scheme.

1. **The Quotation**

The quotation we have given you is valid for 14 days from the date of issue. To confirm your order, you will need to sign both copies of this contract; you should keep one copy for your records and return the other copy to us at the address on the quotation. No contract will be in place until we confirm the order with you.

The quotation will document all goods and services we propose to supply, along with the total price for these goods and services including VAT.

We will provide you with a timetable for supplying the goods and carrying out the installation.

The quotation will include information as to the performance of the technology we have proposed to install. These performance estimates will be calculated according to the requirements of the appropriate MCS Standard.

We will discuss with you and provide you with information as to the location of key components. You will be given the opportunity to approve the site designs before work commences.

Where we are unable to supply the main energy generator that was specified in the quotation, we willinform you of this in writing and you will have the right to cancel this contract.

We will advise you on approvals and permissions that may be required for the work; however, it will be your responsibility to ensure that such approvals and permissions are in place.

If there are additional payments that you may have to make, such as planning costs or if you need to consult a Structural Engineer, we will offer assistance and advice, but you will be responsible for these costs.If there is a particular service or item of equipment that would normally be considered as part of the installation and you have requested that this not be
included, then we will have documented this on the quotation.

Please take time to acquaint yourself with this contract, if there is anything you do not understand, or if you require clarification on any point, please contact us.

2. **Right to cancel**

Your rights under this contract

The 'Cancellation Period' begins when the contract is agreed and will end 14 days from the day on which you acquire, or a third party other than the carrier and indicated by you acquires, physical

possession of the last good.

You have the right to cancel this contract during the cancellation period without giving any reason. To exercise the right to cancel, you must inform us of your decision to cancel this contract by a clear statement (e.g., a letter sent by post, fax, or e-mail). You may use the Cancellation Form we have supplied but it is not obligatory.

To meet the cancellation deadline, it is sufficient for you to send your communication concerning your exercise of the right to cancel before the cancellation period has expired.

You may also cancel this contract if there is an unreasonable delay in the installation being carried out, if this has not been caused by you. You would also be entitled to a full refund if that delay has been caused by something outside of our direct control but not caused by you.

If you cancel this contract outside the cancellation period you may have to pay to us reasonable costs for any losses we may have incurred. We will attempt to keep these costs to a minimum. If you have paid us a deposit or any advance payments, we may retain all or part of these payments as a contribution.

You will be entitled to cancel this contract if there is a serious delay in our ability to carry out the agreed work that is outside of your control, but within ourcontrol. You will be entitled to a full refund.

If we are in serious breach of our obligations as detailed in this contract then you will be entitled to cancel this contract, request a repair or replacement or you may be entitled to request compensation.

You can only recourse to these actions if the goods or services are incorrectly described or not fit for purpose. You will not be entitled to seek these remedies if you have changed your mind about the goods and services agreed to.

3. **Effects of cancellation**

If you cancel this contract, we will reimburse to you all payments received, including the costs of delivery (except for the supplementary costs arising if you chose a type of delivery other than the least expensive type of standard delivery offered by us).

We may make a deduction from the reimbursement for loss in value of any goods supplied, if the loss is a result of unnecessary handling by you.

We will make the reimbursement without undue delay, and not later than:

a) 14 days after the day we receive back from you any goods supplied, or
b) (if earlier) 14 days after the day you provide evidence that you have returned the goods, or
c) If there were no goods supplied, 14 days after the day on which we are informed about your decision to cancel this contract.

We will make the reimbursement using the same means of payment as you used for the initial transaction, unless you have expressly agreed otherwise, in any event, you will not incur any fees as a result of the reimbursement.

We will collect the goods at our expense. You are only liable for any diminished value of the goods resulting from the handling other than what is necessary to establish the nature, characteristics, and functioning of the goods

4. **Work begun prior to the expiry of the cancellation period**

If you have agreed in writing that installation work will commence before the cancellation period expires, andyou subsequently cancel in accordance with your rights, you are advised that reasonable payment may be due for any work carried out. You must confirm in writing that work may commence before your cancellation period expires.

You will be entitled to cancel this contract if there is a serious delay in our ability to carry out the agreed work that is outside of your control, but within our control. You will be entitled to a full refund.

If we are in serious breach of our obligations as detailed in this contract then you will be entitled to cancel this contract, request a repair or replacement or you may be entitled to request compensation.

You can only recourse to these actions if the goods or services are incorrectly described or not fit for purpose. You will not be entitled to seek these remedies if you have changed your mind about the goods and services agreed to outside of any required cancellation periods.

5. **Related credit and other agreements**

If you decide to cancel your contract for our goods and services, then any credit agreement and any other ancillary contracts related to the main contract will be automatically cancelled.

6. **Our rights under this contract**

If, within fourteen days of us informing you in writing of a serious breach of your obligations to us you have failed to rectify this breach, we will have the right to cancel this contract.

Should we suffer any losses due to a breach of this contract then we will be entitled to reasonable compensation to cover these losses. We are required to attempt to keep all losses to a minimum.

7. **Timetable for works**

We will have agreed with you a timetable for carrying out the installation. By signing this contract, you are confirming that you agree with this timetable.

There can be occasions that this timetable may need to be varied, due to, for example, poor weather or unavailability of goods and services. We will inform you of any delay we become aware of at the earliest possible opportunity. We would then arrange a new mutually agreeable timetable.

In the case of severe delays to the delivery of goods then you may be offered different products of equivalent specification, value, and quality, so long as they are MCS certified. You can either accept that offer, wait for the products you ordered, or choose to cancel the contract without penalty.

Should the delay be caused by us, or by our suppliers, and that delay could be considered as severe by a reasonable person, you would be entitled to cancel this contract without penalty to you.

Should the delay be caused by you, we will attempt to accommodate that delay without cost to you. However, if the delay incurs us in extra costs, for example scaffolding, we will require that you cover these costs.

8. **The Installation**

The installation will be carried out strictly in line with the MIS Standard relevant to the technology, and to any document referred to within that standard. In addition, we will ensure at all times that we meet all our obligations under the HIES Code of Practice.

The goods we supply will be of satisfactory quality and fit for the purpose. They will operate as we have described to you.

We will have insurances in place which will cover any loss or damage caused by us or our agents.

You will be required to supply to us normal services free of charge; this would include toilet, washing, water facilities, and electricity. You should also ensure we have safe and easy access to the installation area.

Any work to prepare for the installation, carried out by you or a third party that you employ should be carried out in line with the agreed start date for the installation. If this work has not been completed and a consequent delay is caused you may be liable for any costs incurred by us for such a delay. The work will be carried out by personnel trained in each of the tasks they are assigned.

You will be given warranties for both the installation itself and for the installed goods. The terms of these warranties will be given to you in writing, and we will explain them to you verbally.
Within seven days of the completion of the installation we will hand over to you all documentation required as set out within the appropriate Microgeneration Installation Standard.

9. **Deposits, advance payments and goods purchased with deposits and advance payments**

Any deposits and advance payments that you make to us can only be used to carry out work under this contract.

We are required under the HIES Code of Practice to protect any deposits and advance payments you make to us, up to 25% or to the value of £5000, whichever is the lowest amount, as well as the Workmanship Warranty, with an insurance policy. We will give to you the name and contact details of this insurance company with the quotation. You will be entitled to claim on this policy should we fall into receivership, bankruptcy, or administration.

When we purchase goods for use under this contract the legal title to those goods or the proportion of which you have paid us for will pass to you. We will either deliver them to you or we will store them for you and mark them as your property. They will be kept separate from other goods. We will ensure that these goods are insured until they are delivered to you. You may make arrangements to inspect the goods or to remove them from our premises if you wish.

If we have requested a deposit, then this deposit will not exceed 25% of the total contract price set out in the quotation. Should you decide to cancel this contract within the cancellation period, then this deposit will be returned to you promptly. **[NOTE: HIES will not cover deposits or advance payments in excess of 25%]**

If we have requested advance payments in addition to a deposit, the total of all advance payments and deposits will not exceed 60% of the total contract price.

We will only request advance payment once an installation date has been agreed upon.

If we have requested a deposit before a full technical assessment of your property has been made, and we are unable to proceed because of something discovered during that technical inspection, then any deposits or advance payments will be returned.

The quotation will set out in detail when invoices will be sent and the amounts due for each payment.

10. **Goods belonging to us**

Any goods belonging to us that have been delivered to you should remain clearly identifiable as our property. Until the title to the goods is transferred to you the goods should be stored in such a way as they are protected from damage. They should be kept in theiroriginal packaging. Should you fear for the safety of the goods in any way, or you feel that the goods are causing any form of hazard you should contact us.

Where products and materials are delivered to, or stored at, the installation site you, the customer, shall not be liable for inspection, storage, or handling of those goods. This does not preclude us asking you to check the goods received for any visible damage, and to ensure they are correct.

Should you terminate the contract for any reason, then we will make arrangements with you to collect the goods. If this happens then we will reimburse you if any of your money was used to purchase a proportion of the goods. If you do not make adequate and reasonable arrangements with us to allow the goods to be collected, we retain the right to take legal proceedings to recover the goods or their value. The amount of any reimbursement may be reduced by any reasonable costs we may have incurred.

11. **Changes to the planned work**

If you decide to make changes to any planned work after you have signed this contract, you should contact us without delay. Wherever possible we will incorporate your changes and if we are not able to do so, we will inform you as to why it is not possible for us to do so.

Where we are able to agree to your changes, we will require that you set out, in writing and within fourteen days, confirmation of your request.

You need to be aware that any changes to the original design may mean an adjustment to the cost of the installation. Any adjustment in the cost, either in addition or subtraction will be dealt with as a Variation of Contract and we will adjust the price by written agreement with you.

There can be occasions when we come across unexpected work. Should this arise, we will discuss this with you. If it is an area of work in which we are competent to operate, we will issue you with a quotation to complete that work. We will have documented on the quotation the normal rate for the work of our installers. If the work is outside our area of competence, we will assist you in finding a suitably qualified contractor to carry out the work. If this unexpected work causes a delay in the installation process, we may need to make reasonable charges for this delay.

12. **Late payment**

You should make the payments agreed on the quotation as they become due. The final payment will be due on completion of the installation. If you fail to make any agreed payment, we may cease work. If you fail to pay the amount specified in an invoice sent to you by the agreed due date, then we reserve the right
to charge you interest until you pay the amount due. The interest rate we will charge will be 3% above the Bank of England base rate.

It is not permissible under this contract to withhold any more than a proportionate amount of the outstanding balance for any alleged defect. If you do withhold any amount after a payment has become due, you should give us notice of your intention before the final date on which payment is due. You should also, with that notice, state the reasons for withholding payment.

If we intend to cease work, we will give you notice of this in writing.

If you are in breach of this contract because you have not made a payment that was due to us and we have ceased work, you may have to compensate us for any additional costs we have incurred.

Dependent on the circumstances, we may require that the goods are returned to us. If necessary, we will take legal proceedings to recover the goods or/and any outstanding amounts due to us.

13. **Alternative Dispute Resolution (ADR)**

Note: The HIES ADR process only covers unresolved disputes arising from issues connected to the sale and installation of small-scale renewable technologies.

In the event of an unresolvable issue, we can refer ourcase to the nominated alternative dispute resolution provider through HIES, QA Scheme Support Services LTD and the Dispute Resolution Ombudsman. HIES can be contacted at: Centurion House, Leyland Business Park, Centurion Way, Leyland, PR25 3GR, 0344 324 5242 or info@hiesscheme.org.uk.

The parties agree that, in the event of a dispute, we will exclusively attempt to resolve the dispute through using HIES's alternative dispute resolution services. If we are unable to resolve the dispute through mediation, the complaint can be referred by HIES to The Dispute Resolution Ombudsman, who is entirely independent of HIES.

This Contract is subject to the applicable laws of England, Wales, Scotland & Northern Ireland and subject to the agreement of the parties to attempt to resolve a dispute through alternative dispute resolution, the courts of England, Wales, Scotland & Northern Ireland shall have exclusive jurisdiction to hear any dispute arising from this Contract.

If any court, ombudsman or any other competent authority decides that any aspect of any term of this Contract is invalid or unenforceable, that aspect of that term shall be severed from the Contract and shall have no effect on the remainder of the Contract.

We recommend that you read the HIES Code of Practice, it is available at:

https://www.hiesscheme.org.uk/regulation/hiesscheme-rules-code-of-practice/

14. **Privacy**

1. We will use the personal information you provide to us in accordance with the Data Protection Act 2018 General Data Protection Regulations and more specifically, to:

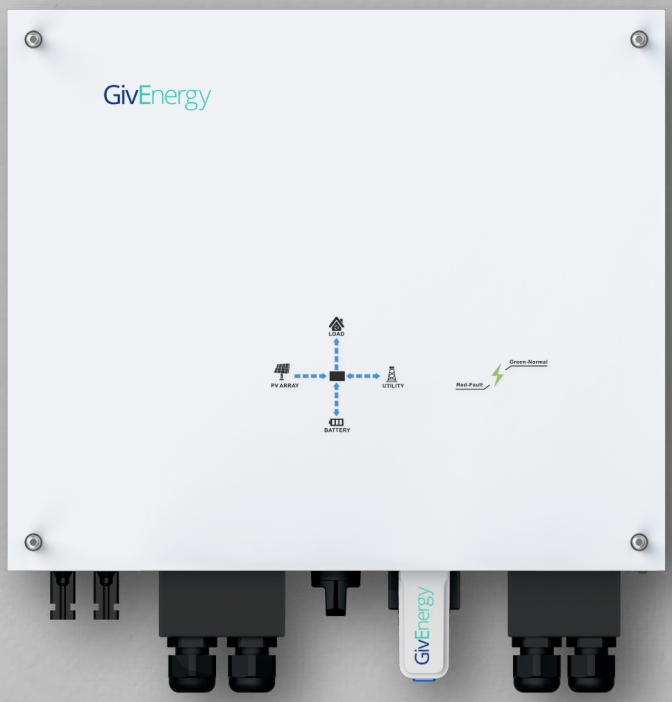
a) Supply the Goods and Services to you
b) Process any payments that you make for the Goods and Services, including if necessary, conducting credit reference check;
c) Register your installation with any relevant bodies, including your deposit protection and insurance-backedguarantee and any competent persons scheme;
d) Address any concerns or complaints that you have about the Goods and Services, including liaison with HIES and QA Scheme Support Services Limited or The Dispute Resolution Ombudsman where the law
requires us to share.

Where you have indicated that you would like to receive further information on offers, products and services, you can change this at any point by contacting us

GivEnergy®

DATASHEET

Hybrid Inverter



Remote Firmware

Control and monitor your Smart System on the move via our GivEnergy Monitoring App and Portal.

Flexible Rate Tariff

Charge from the grid at off-peak times where energy is cheaper, and discharge at peak times where energy is more expensive.

5 Year Warranty

Supplied with a full manufacturers warranty, extendable to 10 years, our UK team are on hand to help you should any issues arise.

New Solar Installations

Replace your old storage system with a brand new Smart System and gain the benefits of renewable energy.

The GivEnergy Hybrid Inverter is a battery inverter and solar inverter in one unit.

It can be coupled directly with solar panels to generate usable electricity in the property, as well as storing any excess energy for later use in a battery. The Hybrid Inverter aims to minimise export by storing excess energy in the battery during generation hours. Additionally it will minimise import by discharging to meet demand in the property.

Dimensions (HxDxW)
440 x 260 x 480 (mm)

Weight
24 Kg

Connectivity
WiFi or 4G Connectivity

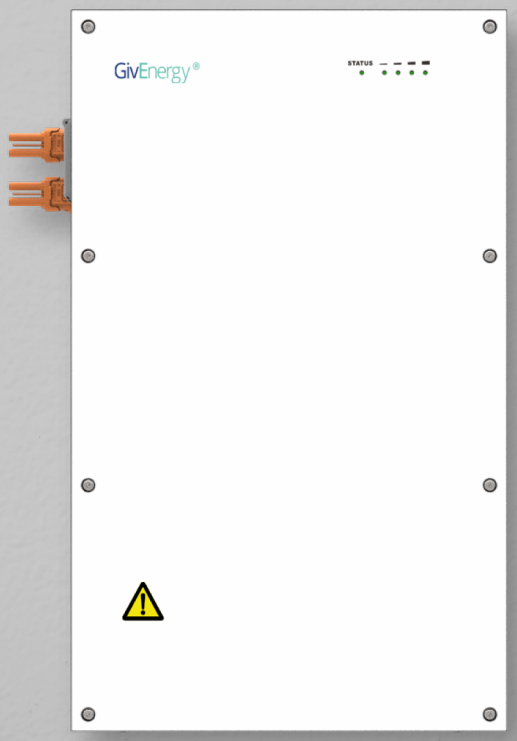
Variants
3.6kW and 5kW

MODEL	Giv-HY 3.6	Giv-HY 5.0
Input Data (DC)		
Max DC Power	4500W	6500W
Max DC Voltage	580V	
Start Voltage	140V VOC (120V MPP)	
DC Nominal Voltage	360V	
PV Nominal Voltage	100V - 580V	
MPPT Voltage Range	120V - 550V	
Max Input Current per String	11A	
Number of Independent MPPT Input	2	
Output Data (AC)	**Giv-HY 3.6**	**Giv-HY 5.0**
Nominal AC Output Power	3680W	5000W
Max AC Apparent Power	3680VA	5000VA
Max Output Current	16.4A	21.7A
AC Range	180V - 280V	
AC Grid Frequency Range	50 Hz; +5 Hz	
Power Factor at Rated Power	1	
Power Factor	0.9 Leading... 0.9 Lagging	
THDI	<3%	
AC Connection	Single Phase (multiple units can be installed for 3 phase)	
Battery Power	**Giv-HY 3.6**	**Giv-HY 5.0**
Nominal Power	2600W	
Max Charging / Discharging Current	50A / 50A	
Backup Output	**Giv-HY 3.6**	**Giv-HY 5.0**
Max Power Output (Battery + Solar)	3600W	5000W
Max Power Output from Battery	2600W	2600W
Output Frequency	50 Hz	50 Hz
Output Voltage	230V	230V
Protection Devices	**Giv-HY 3.6**	**Giv-HY 5.0**
DC Reverse Polarity Protection	Yes	
DC Switch Rating for each MPPT	Yes	
Output Over Current Protection	Yes	
Output Overvoltage Protection Varistor	Yes	
Ground Fault Monitoring	Yes	
Grid Monitoring	Yes	
Max Inrush Current	30A Peak	
Max Output Fault Current	40A Peak	
Max Output Overcurrent Protection	25A RMS	
Earth Leakage Current Monitoring	Yes	
General Data	**Giv-HY 3.6**	**Giv-HY 5.0**
Weight	24 Kg	
Operating Temperature Range	-25°C > 55°C (Ambient)	
Consumption Operating (Standby) / Night	<5W / <0.5W	
Topology	Transformerless	
Cooling Concept	Natural	
Environmental Protection Rating	IP65	
Features	**Giv-HY 3.6**	**Giv-HY 5.0**
PV Connection	H4 / MC4	
Battery Connection	Screw Terminal	
AC Connection	Screw Terminal	
Display	LED	
Interfaces: WiFi / USB / GPRS / RS485 / 4G	Opt / Yes / Opt / Yes / Opt	
Warranty: 5 Years / 10 Years	Yes / Opt	
Certificates and Approvals	**Giv-HY 3.6**	**Giv-HY 5.0**
TÜV CE,TÜV IEC 62109-1&2, TÜV VDE 0126-1-1, TÜV AS4777&AS/NZS 3100, EN50549, SAA, G98, G99, G100		

GivEnergy®

DATASHEET

Giv-Bat **9.5**



Remote Firmware

Control and monitor your Smart System on the move via our GivEnergy Monitoring App and Portal.

IP65 Rating

Our IP65 rated enclosure gives protection against water and dust. Ideal for lofts and outdoor installation.

10 Year Warranty

Supplied with a full manufacturers warranty, our dedicated UK support team are on hand to help you should any issues arise.

Retrofit Compatible

Fit your new battery onto an existing system and start enjoying the benefits of our GivEnergy Smart System.

The 9.5kWh battery pack sits alongside our AC Coupled or Hybrid Inverter so that you can store energy from the grid or excess generation.

Utilising lithium iron phosphate, our batteries are extremely safe and can be installed in a wide range of locations. Our market-leading battery warranty means you can use your battery as much as you want for 10 years and still be covered.

Dimensions (HxDxW)
800 x 223 x 480 (mm)

Weight
110 Kg

Depth of Discharge
100 %

Capacity
9.5 kWh / 186 Ah

MODEL	9.5
Specifications	
Capacity	9.5 kWh / 186 Ah
Voltage	51.2V DC
Current	80A
Technology	$LiFePO_4$ Cell
IP Grade	IP65
BMS	Robust Multi Point Monitoring BMS Pre Installed
Operating Temperature (Charge)	0°C - 50°C
Operating Temperature (Discharge)	-10°C - 50°C
Storage Temperature	-30°C - 60°C
Warranty BTT	Unlimited Cycles / 10 Years
Standard	UN 38.3, IEC61000
Weight	110 Kg
Protection (DC)	Inbuilt 100A DC MCB

ELECTRICAL PARAMETERS	9.5
Operating Voltage Range	46.4V - 57.6V DC
Maximum Charging Voltage	59V DC
Max Charging / Discharging Current	80A / 80A
Network Interface	RS485 / USB
Communication Protocols	Modbus
Advantages	Stackable, BMS Upgradeable, IP65
Depth of Discharge	100%

Giv-Bat 9.5 Dimensions