Techfor Energy Ltd
Big Yellow Storage
Unit 1 Cobbett Park, 22-28 Moorfield Road
Guildford, Surrey, GU1 1RU
T: 0800 888 6544
www.TechforEnergy.co.uk

Solar PV Quotation

16 October 2023

Option 1 - 11.9 kWp PV Generating System (with micro-inverters)

Option 2 - 11.9 kWp PV Generating System (with micro-inverters)

Option 3 – 9.35 kWp PV Generating System (with micro-inverters)

Mr. Logan

Glaston Hill House
Glaston Hill Road
Eversley
RG27 0LX

V43.4

TESLA
POWERWALL
CERTIFIED INSTALLER

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Option 2 - 11.9 kWp Sunpower 425W with micro-inverters

We propose that your 11.9 kWp solar PV system will consist of 28 Sunpower 425W (SPR-MAX6-425-E4-BLK) panels attached to two ground mount arrays set at 30 degrees on the rear field of your property facing south. Please see diagrams 3a and 3b for the proposed PV layout. Two rows of 7 portrait panels per array.

Diagram 3a – South facing ground mount array 1

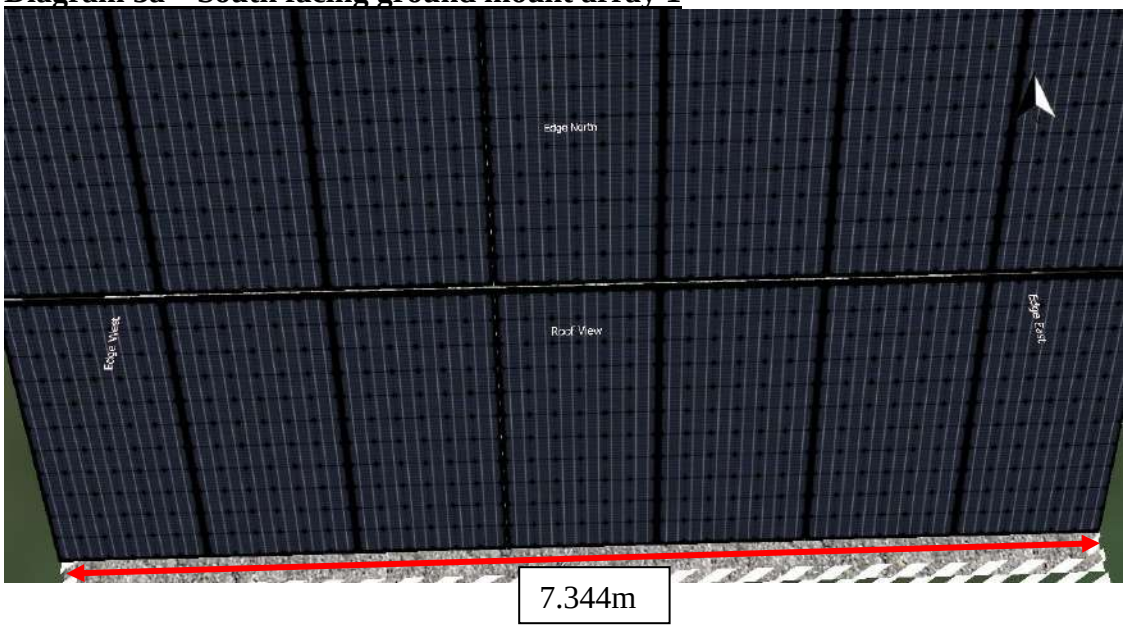

Diagram 3b – South facing ground mount array 2

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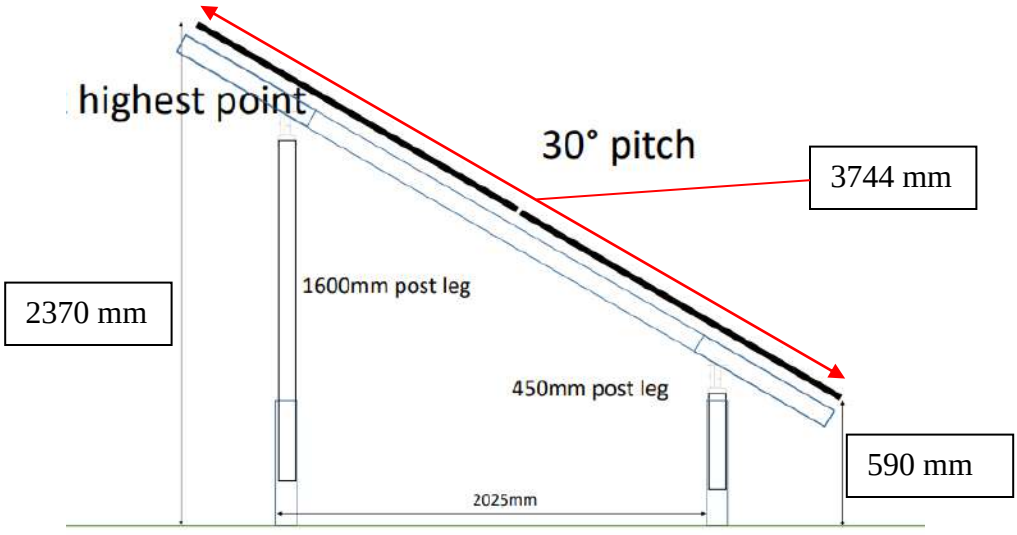
Terrain View



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Quote Assumptions and Notes

1. **Welfare for all workers**
   Toilet and hand washing facilities on site will be required for all workers and sub-contractors.
2. **EV charging whilst on site** – Techfor Energy wishes to make your solar PV and battery installation a zero emissions experience as far as possible, which is why we are electrifying our vehicle fleet. We are starting with one electric survey vehicle and one electric installation vehicle and will progress to electrifying the rest of the fleet as fast as possible. With the range capabilities of current of electric vehicles, we will need our customers assistance to make this transition by being able to charge the vehicles on site on an extension lead and a 3 pin plug, or a car charging point if you have one. We are aiming to replace approximately 25% of the battery charge which is usually the amount used to arrive at site. Naturally, we would pay you the grid market rates for being kind enough to help us transition to electric vehicles. For 3-pin socket charging domestically, this would result in us offering you a discount of £10 per day that the electric vehicle is charging on site. For 3-pin commercial premises where electricity costs are higher, this would be £ 15 per day that the vehicle is charging on site. We've made the assumption that you're happy to help us combat the climate emergency by agreeing to this, so we've built this into your current quote, but please let us know if you prefer not to do this and we will adjust our charging plans and the applied built in discount accordingly.
3. For the safety of everyone, please ensure that all animals or livestock, including dogs, must be secured and kept away from Techfor Energy staff for the duration of our work whilst we are on site. Examples of risk are when an electrician is working with his hands inside live electrical connections, or when roofing staff are lifting or moving, large or heavy or bulky objects at ground level, or into or out of vans or up and down ladders. Any unexpected distraction during these or similar activities, could be dangerous or fatal or cause injury to people or animals. Thank you for your cooperation.
4. **AC Isolator** – It is the customer's responsibility to contact your energy provider to install a 100A double pole AC isolator at both main incomer grid connections.
5. **Trench** – It is the customer's responsibility to dig a trench from the house and garage to the solar PV arrays on the field, as per the below diagram. The customer will be responsible to avoid any existing utility services i.e. drainage, gas, water or buried electricity cables.

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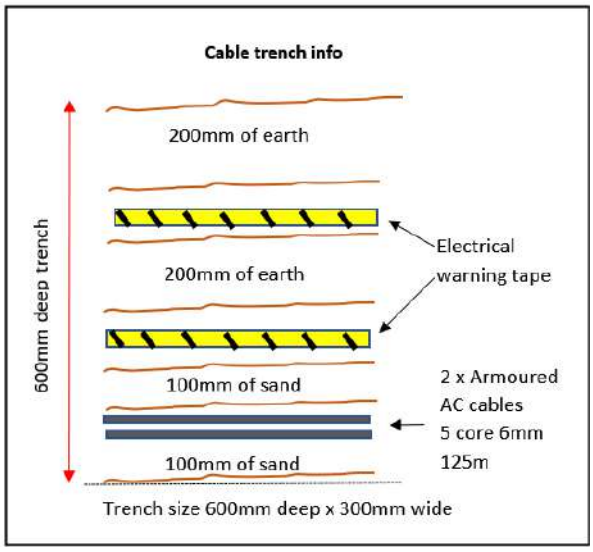
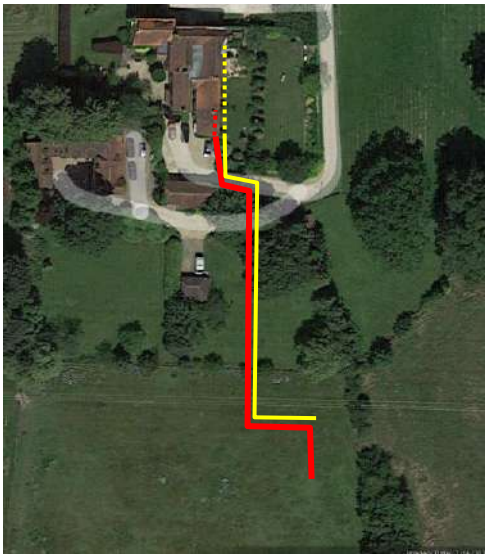


6. **Cable run** – If the trench route is different from the below diagram, then it will affect the cost of the AC cable quoted.



Key:
- House cable route
- Garage cable route
- Cable attached to the wall
- Cable attached to the wall

7. **Concrete foundations** – It is the customer's responsibility to hire a builder to dig and pour concrete on the foundation to our specifications on the field where the solar PV arrays will be installed. Instructions to follow.

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Notes

- Exceptional or non-predictable site-specific conditions may lead to alteration of the proposed works and/or associated costs. Relevant notifications will be made prior to works should this prove necessary. Confirmation of availability of the above list is correct as of the date of this quote but cannot be guaranteed. Prices are subject to change if alternate products are required due to availability.

General

- **Microgeneration Certification Scheme (MCS) certificate data (where applicable)–** Please note that current Microgeneration Certification Scheme (MCS) requirements require Techfor Energy to enter into the customer's solar PV system purchase value (inc. VAT) into the MCS database in order to generate the MCS certificate. By signing this contract, you give us permission to enter the purchase value of your solar PV system into the MCS database.
- All works to be carried out with due regard to the Health and Safety Policy of Techfor Energy.
- Any additional work outside of the scope of works that is required on an hourly basis is to be charged at £25.00 per hour + VAT
- If bird and squirrel protection is not ordered and fitted to the solar panel system, installed on domestic pitched roofs, Techfor Energy accept no liability for any future roof, flashing or equipment damage caused by squirrels or birds.
- PV installations are generally a permitted development with regard to planning permission but this can vary, for example in conservation areas. It is the responsibility of the client to establish if planning permission is required.
- Please note that unless otherwise agreed in writing the above prices are calculated on a continuous work schedule. Should the schedule be interrupted for any reason beyond our control we reserve the right to make extra charges for additional time and/or site visits.
- This quotation is valid for a period of 7 calendar days. Subject to change if the specified equipment is not available at the point of the order. E & O E
- There is a 14 calendar day cooling off period after signing this contract where the contract may be cancelled and the deposit returned in full.

Complaints:

- Where we cannot resolve any complaints using our own complaints procedure, as a Which? Trusted trader we use Ombudsman Services Ltd for dispute resolution. In the unlikely event of a complaint arising and you wish to refer the complaint to them please contact Which? Trusted traders in the first instance on 0117 981 2929

Payment terms are within 3 calendar days for each stage payment:

- Payment terms for the PV System are within 2 calendar days for each stage payment:
  - 25% of total on order
  - 65% of total due upon receipt of goods to Techfor Energy and the title to the goods (up to the value of payments received) passes to the customer when this second stage payment is cleared
  - 10% of total (balance) due on commission, test & handover of system.

- Payment terms for the Battery System are within 2 calendar days for each stage payment:
  - 25% of total on order
  - 70% of total due upon receipt of goods to Techfor Energy and the title to the goods (up to the value of payments received) passes to the customer when this second stage payment is cleared
  - 5% of total (balance) due on commission, test & handover of system.
- Where applicable, certifications and paperwork will accompany the final invoice receipts
- You, the customer, consent to Techfor Energy using your deposit towards the purchase of your goods.

Enphase IQ 7A Microinverter

The high-powered smart grid-ready **Enphase IQ 7A Micro**™ dramatically simplifies the installation process while achieving the highest system efficiency for systems with 60-cell and 72-cell modules.

Part of the Enphase IQ System, the IQ 7A Micro integrates with the Enphase Envoy-S™, Enphase IQ Battery™, and the Enphase Enlighten™ monitoring and analysis software.

The IQ Series Microinverters extend the reliability standards set forth by previous generations and undergo over a million hours of power-on testing, enabling Enphase to provide an industry-leading warranty.

High Power

- Peak output power 366 VA

Easy to Install

- Lightweight and simple
- Faster installation with improved, lighter two-wire cabling
- Built-in rapid shutdown compliant

Efficient and Reliable

- Optimized for high powered 60-cell and 72-cell modules
- Highest EU efficiency of 96.5%
- More than a million hours of testing
- Class II double-insulated IP67 enclosure

Smart Grid Ready

- Complies with advanced grid support, voltage and frequency ride-through requirements
- Envoy and Internet connection required
- Configurable for varying grid profiles

Enphase IQ 7A Microinverter

INPUT (DC)	IQ7A-72-2-INT / IQ7A-72-E-INT
Commonly used module pairings[1]	295 W–460 W +
Module compatibility	60-cell and 72-cell PV modules
Maximum input DC voltage	58 V
Power point tracking voltage range[2]	18 V–58 V
Min/Max start voltage	33 V / 58 V
Max DC short circuit current (module Isc)[3]	15 A
Overvoltage class DC port	II
DC port backfeed current	0 A
OUTPUT (AC)	
Peak output power	366 VA
Maximum continuous output power	349 VA
Nominal (L-N) voltage/range[4]	230 V / 219–264 V
Maximum continuous output current	1.52 A
Nominal frequency	50 Hz
Extended frequency range	45–55 Hz
AC short circuit fault current over 3 cycles	5.8 Arms
Maximum units per 20 A (L-N) branch circuit[5]	11 (single-phase)
Overvoltage class AC port	III
AC port backfeed current	18 mA
Power factor setting	1.0
Power factor (adjustable)	0.8 leading ... 0.8 lagging
EFFICIENCY	
EN 50530 (EU) weighted efficiency	96.5 %
MECHANICAL	
Ambient temperature range	-40°C to +60°C
Relative humidity range	4% to 100% (condensing)
DC connector type	Model IQ7A-72-2-INT: Bulkhead with MC4 locking type connector Model IQ7A-72-E-INT: Enphase EN4 bulkhead with TE Connectivity PV4-S connector
Dimensions (HxWxD)	212 mm x 175 mm x 30.2 mm (without bracket)
Weight	1.08 kg (2.38 lbs)
Cooling	Natural convection — No fans
Approved for wet locations	Yes
Pollution degree	PD3
Enclosure	Class II double-insulated, corrosion resistant polymeric enclosure
Environmental category / UV exposure rating	Outdoor - IP67
FEATURES	
Communication	Power Line Communication (PLC)
Monitoring	Enlighten Manager and MyEnlighten monitoring options Compatible with Enphase Envoy-S
Compliance	AS/NZS 4777.2, RCM, IEC/EN 61000-6-3, IEC/EN 62109-1, IEC/EN 62109-2, EN 50549, G98/G99, VDE-AR-N-4105

1. No enforced DC/AC ratio. See the compatibility calculator at https://enphase.com/en-us/support/module-compatibility.
2. EU peak power tracking voltage range is 38 V to 43 V.
3. Maximum continuous input DC current is 10.2A.
4. Voltage range can be extended beyond nominal if required by the utility.
5. Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

To learn more about Enphase offerings, visit **enphase.com**

2020-05-08

ENPHASE

SUNPOWER | FROM MAXEON SOLAR TECHNOLOGIES

MAXEON 6 AC SOLAR PANEL

410-425 W | Up to 22.0% Efficient

AC Factory-integrated microinverter

Black backsheet, black frame

More Lifetime Energy

Designed to maximise energy generation through leading efficiency, enhanced performance in high temperatures, and higher energy conversion in low-light conditions like mornings, evenings and cloudy days.

Uncompromising Reliability

Engineered to power through all types of weather conditions with crack-resistant cells and reinforced connections that protect against fatigue and corrosion. Each panel's microinverter enables independent panel operation to mitigate the impact of shade while improving system performance.

HOT-SPOT PROTECTED

Superior Sustainability

Clean ingredients, responsible manufacturing, and lasting energy production for 40 years make SunPower Maxeon panels the most sustainable choice in solar.

SUNPOWER 40 YEAR WARRANTY Power | Product | Service

The Industry's Longest Warranty

SunPower Maxeon panels are covered by a 40-year warranty[1] backed by extensive third-party testing and field data from more than 33 million panels deployed worldwide.

Product and power coverage	40 Years
Year 1 minimum warranted output	98.0%
Maximum annual degradation	0.25%
Microinverter limited product warranty covered by Enphase	25 Years

Learn more about the SPR-MAX6-XXX-BLK-E4-AC
sunpower.maxeon.com

MAXEON 6 AC POWER: 410-425 W | EFFICIENCY: Up to 22.0%

AC Electrical Data	
Inverter Model: IQ 7A	@230 VAC
Peak Output Power	366 VA
Max. Continuous Output Power	349 VA
Nom. (L–N) Voltage/Range	219 – 264 V
Max. Continuous Output Current	1.52 A
Max. Units per 20 A (L–N) Branch Circuit	10
Weighted Efficiency[2]	96.5%
Nom. Frequency	50 Hz
Extended Frequency Range	45-55 Hz
AC Short Circuit Fault Current Over 3 Cycles	5.8 A rms
Overvoltage Class AC Port	III
AC Port Backfeed Current	18 mA
Power Factor Setting	1.0
Power Factor (adjustable)	0.8 lead. / 0.8 lag.

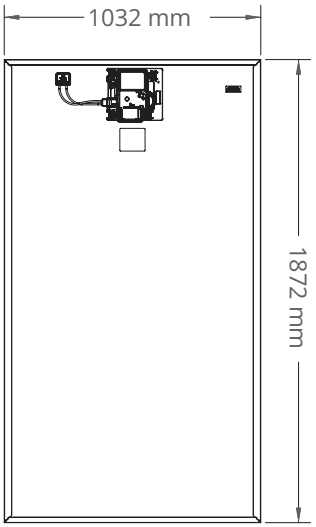
DC Power Data			
	SPR-MAX6-425-BLK-E4-AC	SPR-MAX6-415-BLK-E4-AC	SPR-MAX6-410-BLK-E4-AC
Nom. Power[3] (Pnom)	425 W	415 W	410 W
Power Tol.	+5/0%	+5/0%	+5/0%
Module Efficiency	22.0%	21.5%	21.2%
Temp. Coef. (Power)	– 0.29%/°C		
Shade Tol.	Integrated module-level max. power point tracking		

Mechanical Data	
Solar Cells	66 Maxeon 6 Cells
Tempered Glass	High-transmission tempered anti-reflective
Environmental Rating	Microinverter Outdoor rated - IP67 (UL: NEMA type 6)
Frame	Class 1 black anodized
Weight	21.8 kg

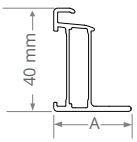
Tested Operating Conditions	
Operating Temp.	– 40°C to +60°C
Max. Ambient Temp.	50°C
Relative Humidity	4% to 100% (Condensing)
Max. Altitude	2000 m
Design Load[4]	Wind: 3600 Pa, 367 kg/m² back Snow: 5400 Pa, 551 kg/m² front
Impact Resistance	25 mm diameter hail at 23 m/s
Microinverter enclosure	Class II double-insulated, corrosion resistant polymeric enclosure

Warranties, Certifications and Compliance	
Panel Warranties[1]	· 40-year limited power warranty · 40-year limited product warranty
Microinverter Warranty	· 25-year limited product warranty covered by Enphase warranty[5]
Certifications and Compliance	· IEC 61215, 61730[6] · IEC 62109-1, 62109-2 · IEC 61000-6-3 · AS4777.2, RCM · IEC/ EN 50549-1:2019, G98/G99 · VDE-AR-N-4105
Quality Management Certs	ISO 9001:2015, ISO 14001:2015
PID Test	1000 V: IEC 62804
LeTID Test	Draft version IEC 61215[7]
Available listing	TUV[6], EnTest
Green Building Certification contribution	Panels can contribute additional points towards LEED and BREEAM certifications
EHS Compliance	RoHS, OHSAS 18001:2007, REACH SVHC-201

LEAD FREE RoHS COMPLIANT



FRAME PROFILE



(A) Long Side: 32 mm
Short Side: 24 mm

1 40-year warranty is not available in all countries or all installations and requires registration, otherwise our 25-year warranty applies. Service availability varies by country and installation provider.
2 Tested per EN 50530 (EU).
3 Standard Test Conditions (1000 W/m² irradiance, AM 1.5, 25°C). NREL calibration standard: SOMS current, LACCS FF and voltage. All DC voltage is fully contained within the module.
4 Safety factor 1.5 included.
5 AC modules shall be connected to Enphase Monitoring hardware (ENVOY) to enable Enphase product warranty.
6 Refer to the DC module, Class C fire rating per IEC 61730.
7 Panels degraded 0% in extended LeTID testing conducted by PVEL. Test report R10124977G-1,2020.

Please read the safety and installation instructions.
Visit www.sunpower.maxeon.com/int/InstallGuideACModules
Paper version can be requested through techsupport.ROW@maxeon.com

SUNPOWER
FROM MAXEON SOLAR TECHNOLOGIES

Made in Malaysia (Cells)
Assembled in Malaysia (Module)
Specifications included in this datasheet are subject to change without notice.

546817 REV A / A4_EN
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