

# Mobile Solar Pod

Sustainable power supply



**Harvest & store solar energy to minimise harmful emissions**



Modular, expandable power supply



Large extendable sliding solar panels



Diesel generator on stand-by just in case.



- ✓ Reduce CO<sup>2</sup> emissions
- ✓ Reduce Noise
- ✓ Reduce Fuel costs

## Easily add a sustainable power supply to remote site locations.

The Mobile Solar Pod (patent pending) significantly reduces carbon emissions and fuel costs associated with power provision by harvesting solar energy to provide free power to your sites.

Complete with a backup generator, the built in Ecosmart system efficiently manages the power supply between solar PV, battery bank and generator.

Our Autosmart system ensures that all the end user needs to do is switch on and use.

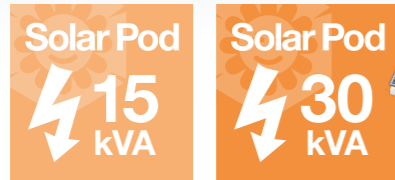
There are 2 model options with various power outputs and storage capacity.

## A responsive, modular power supply.

For large site set ups, multiple Solar Pods can be used. Modularise the site into segments which will optimise the performance of the Solar Pod.

Add more solar capacity to your setup by plugging in extra third-party solar panels (of correct voltage) directly to the Solar Pod.

An optional mains power input is also available. This will by-pass the generator and ensure only solar/batteries/mains are used. 100% zero noise operation. Maximise solar input to your existing site accommodation by swapping the site generator with a Solar Pod. Further energy savings can be made with Solar Lights.



**Plug & Play**  
Modular, expandable power supply

**STAND BY**  
Integral backup diesel generator

**LOW**  
Reduce local site noise levels

Large battery bank power storage

Large extendable sliding solar panels

Optional mains power generator override

**Auto smart**  
Just add fuel. Fully automatic start/stop

**Ecosmart technology**  
Intelligent, efficient power management

# Case studies

The Static Solar Pod has been in use since October 2018 across sites in England & Scotland. The Mobile Solar Pod includes all the same systems and solar panels, all mounted on a trailer chassis. Here are 2 examples of how the Static Solar Pod performed in the usual imperfect weather of the UK.

## Site location Donna Nook UK

DATE  
**1st June 2019 (17 weeks)**

SITE USAGE  
**24 hours per day / 7 days a week**

SITE SETUP  
**1x Solar Pod 30 powering 5x static units**  
**OFFICE X2 CANTEEN DRYING ROOM TOILET BLOCK**

The Solar Pod has been on site for 17 weeks, and the standby generator has only ran for 306 hours across these nine weeks. An average of 18 hours per week. Reading the telemetry data, we are able to show that frequently, the site is powered silently and emission free either by direct solar or energy stored in the batteries.



Ordinarily, the temporary accommodation on this site would be powered by a 50-60kva Diesel Generator, and would run for 168 hours a week.

	50-60kVA Diesel Generator	Solar Pod 30
TOTAL CONSUMPTION	2,643.3kWh	2,643.3kWh
TOTAL SOLAR GAIN	0	724kWh
FUEL USED	Fuel Projected 17,136 Litres	Fuel actual 1,737 Litres (actual)
GEN HOURS	168 (Per week)	18 (Per week) 12% running time out of possible 2,856 hours
TOTAL FUEL COST	@ 60p per ltr = £10,281	@ 60p per ltr = £1,042
TOTAL LOCAL CO <sup>2</sup> PRODUCED	17136 x 2.758 = 47,261kg	1737 x 2.758 = 4,790kg

Solar Gain  
**724kW**

Silent running hours  
**2,513 (88%)**  
Power from Solar / Batteries only

**LOW CO<sup>2</sup>**  
Carbon saving\*  
**42.5 Tonnes**

## Site location Osea Island UK

DATE  
**29th July to 26th August 2019**

SITE USAGE  
**24 hours per day / 7 days a week**

SITE SETUP  
**9x Solar Pod 30's powering 30x Snooze Pods**

The 9 Solar Pods provide power to 30 Snooze Pods (60 bed modular hotel with full hotel room facilities) which would normally be connected to an 800kVA sized generator. Each Snooze Pod is being used 24/7 which the profile below shows. The solar gain and battery usage was so high, the generator has only activated 7% of its time, this is a huge diesel, noise and CO<sup>2</sup> emission saving, as below shows.



Ordinarily, the temporary accommodation on this site would be powered by a 800kva Diesel Generator, and would run for 168 hours a week.

	800kVA Diesel Generator	9x Solar Pod 30
TOTAL CONSUMPTION	3,547kWh	3,547kWh
TOTAL SOLAR GAIN	0	1,929kWh
FUEL USED	Fuel Projected 48,357 Litres	Fuel actual 602 Litres
FUEL COST	@ 60p per ltr = £27,079	@ 60p per ltr = £930
GEN HOURS	100% running time	376 Total 7% running time out of possible 5,184 hours
TOTAL LOCAL CO <sup>2</sup> PRODUCED	133,341kg	1,660kg

Solar Gain  
**1,929kW**

Silent running hours  
**93%**  
Power from Solar / Batteries only

**LOW CO<sup>2</sup>**  
Carbon saving\*  
**132 Tonnes**

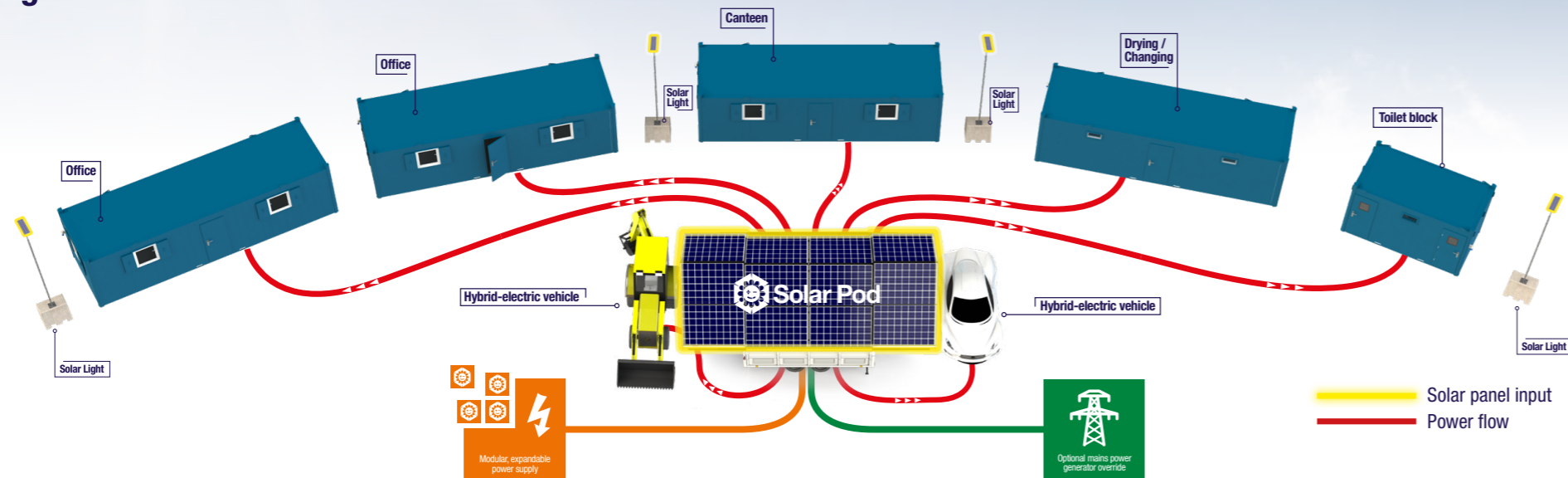
Equivalent to planting  
**5,890 Trees**  
to absorb this amount of CO<sub>2</sub> over a year.

NOTE: Carbon emission statistics are from Department for Business, Energy & Industrial Strategy. Greenhouse gas reporting: conversion factors 2019. <https://www.gov.uk/government/organisations/department-for-business-energy-and-industrial-strategy>

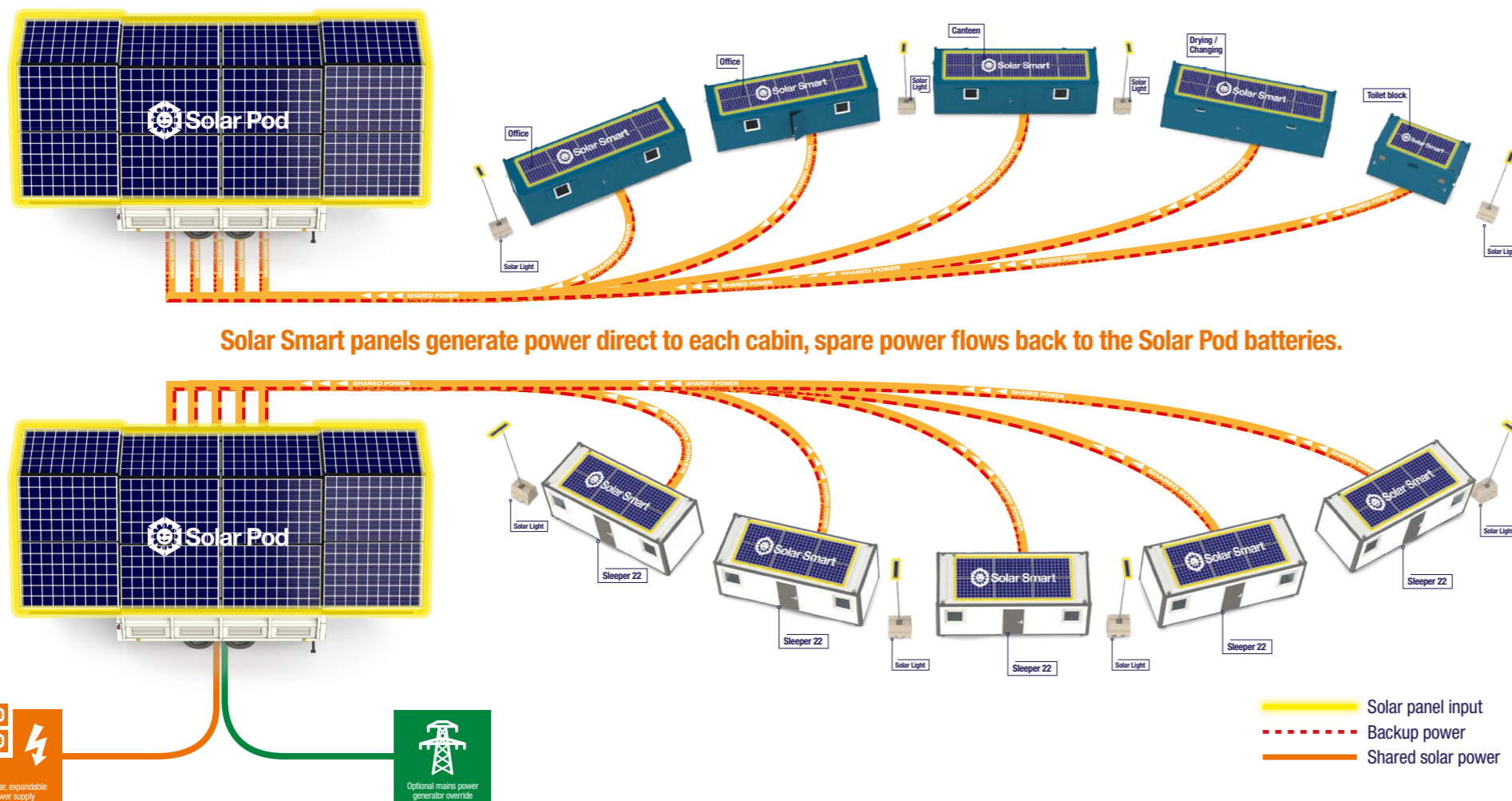
# Connection examples



## Single Solar Pod + standard cabins



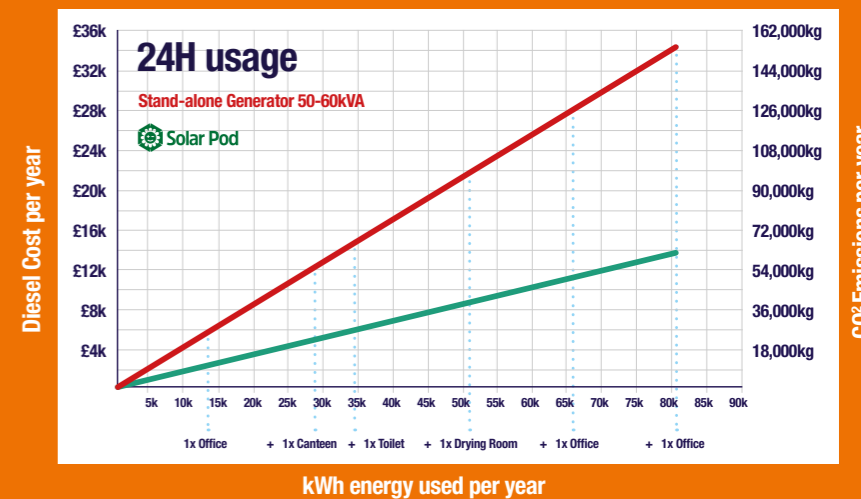
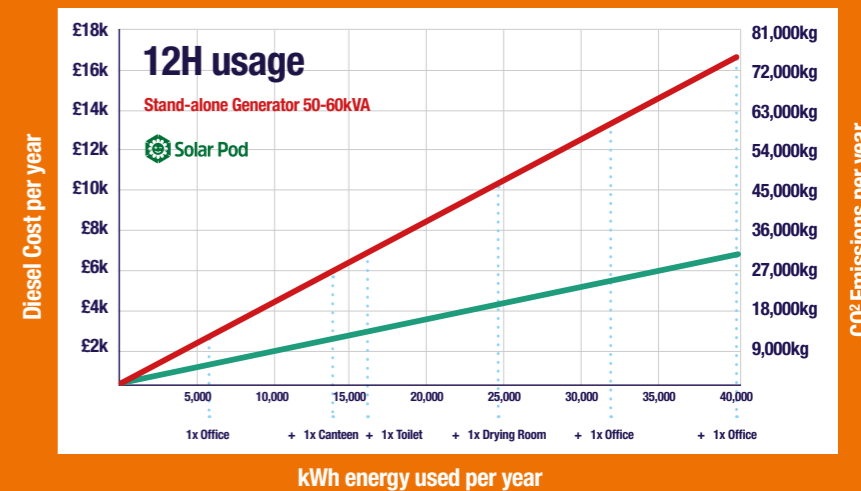
## Multiple Solar Pods + Solar Smart additional solar panels



# Energy usage example

## SOLAR POD 30 MODEL

Compared to a stand-alone on-site generator power supply (50-60kVA).



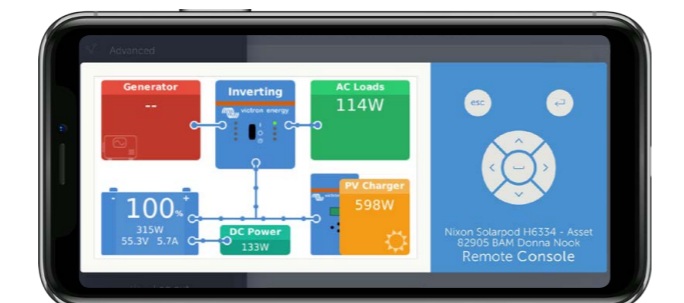
**ANNUAL RUNNING COST SAVING** Up to **£ 20,578**

**ANNUAL EMISSIONS SAVING** Up to **103** Tons of CO<sub>2</sub>

# Technical



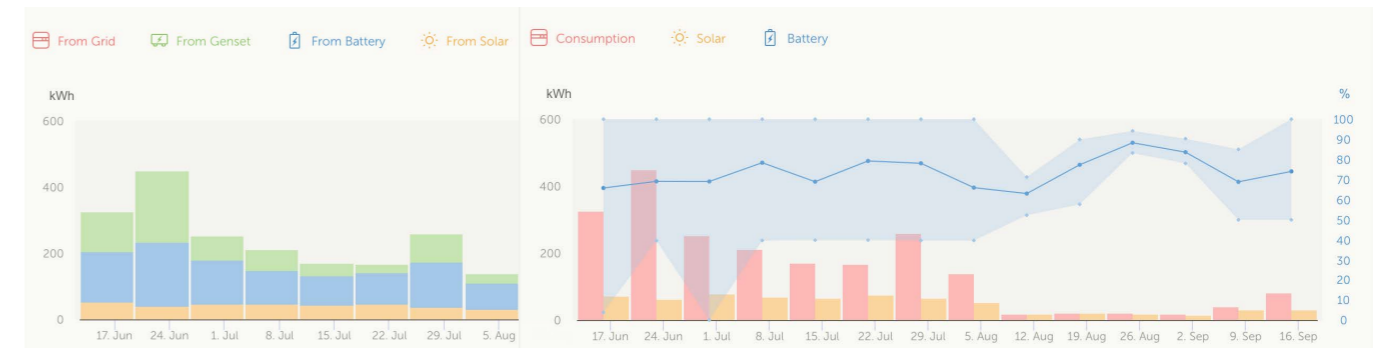
- Facilities**
  - Plug and play sockets: Multiple 32amp sockets, 1x 125 amp socket
  - Large fuel tank
  - Dial in diagnostics from your phone or laptop
- Sustainability**
  - Solar hybrid technology for sustainable free energy
  - Automatic back up generator start/stop technology for economical fuel usage
  - Lower fuel consumption
  - Low CO2 emissions
  - Super silent generator
- Moveability**
  - Length: 6400mm Open, 4680mm Closed inc drawbar, 3375mm Closed unit only
  - Width 2540mm
  - Height 3050mm
  - Gross weight 3500kg
- Security / Safety**
  - Heavy duty locking system per door
  - Robust exterior with high impact resistance



Remote telemetry: Dashboard

## Mobile Solar Pod 15      Mobile Solar Pod M30

	Mobile Solar Pod 15	Mobile Solar Pod M30													
OUTPUT POWER	Prime Rating @ 25°C	63Amp / 15kVA / 12kW	100Amp / 30kVA / 24kW												
	AC Output Voltage	50Hz, 230V													
	Output Connections	3 x 32A single phase IP67 CEE Socket outlets, RCBO protected	5 x 32A single phase IP67 CEE Socket outlets, RCBO protected OR 1 x 125A single phase IP67 CEE Socket outlet, RCBO protected.												
	Additional output connections	16A													
INPUT POWER	Solar panels (on board)	5kVA / 4kW													
	Solar panels (plug & play)	Additional up to 8.75kVA / 7kW (running at 45 to 65 volts)													
	Generator backup power	12kVA / 9.6kW	25kVA / 19.8kW												
	Fuel Consumption	<p><b>Fuel is only used when the generator is active.</b> Generator is constantly in AUTO and only activates when required; battery charging and/or high load spikes.</p> <table border="1"> <tr> <td>100% load:</td> <td>3.7 Litres per hour</td> <td>6.2 Litres per hour</td> </tr> <tr> <td>75% load:</td> <td>2.9 Litres per hour</td> <td>5.0 Litres per hour</td> </tr> <tr> <td>50% load:</td> <td>1.8 Litres per hour</td> <td>3.1 Litres per hour</td> </tr> <tr> <td>25% load:</td> <td>0.9 Litres per hour</td> <td>1.6 Litres per hour</td> </tr> </table>		100% load:	3.7 Litres per hour	6.2 Litres per hour	75% load:	2.9 Litres per hour	5.0 Litres per hour	50% load:	1.8 Litres per hour	3.1 Litres per hour	25% load:	0.9 Litres per hour	1.6 Litres per hour
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Fuel tank capacity	400L														
Grid Connection (optional)	20kW	20kW													
STORAGE	Type	AGM (Absorbent Glass Matt)													
	Capacity @ 25°C	10kW	20.5kW												
	Charge Time (hours approx)	2	3												
	Service life (years)	> 5	> 5												
CONTROL	System Controls (All models)	<p><b>Remote telemetry connection via local WIFI or 4G internet connection.</b></p> <ul style="list-style-type: none"> <li>Low fuel level alarm &amp; monitoring.</li> <li>Generator control; load management, optimised quiet hours and scheduled runs.</li> <li>Enhanced system management.</li> <li>Ability for users to program custom logic sequences.</li> <li>System commissioning/decommissioning assistants.</li> </ul> <p><b>Controlled by App. (Android or Apple)</b></p> <ul style="list-style-type: none"> <li>Troubleshooting assistants &amp; diagnostics.</li> <li>User friendly graphical performance &amp; event logs.</li> <li>Enhanced environmental control.</li> <li>Remote communication, monitoring &amp; control.</li> </ul>													
	Soft start timer	24/7 manually operated timer with soft start functionality to prevent overloading													
	Generator telemetry (optional)	<ul style="list-style-type: none"> <li>Monitoring.</li> <li>Enhanced system management.</li> </ul>	<ul style="list-style-type: none"> <li>Generator control.</li> <li>Troubleshooting assistants &amp; diagnostics.</li> </ul>	<ul style="list-style-type: none"> <li>Event logs.</li> <li>Remote communication, monitoring &amp; control.</li> </ul>											
ENVIRONMENTAL	Operating Temperature Range (°C)	-20°C to +55°C      Humidity (non-condensing): max 95%													
	Solar panels - Max physical load	Wind: 4000 Pa, 408 kg/m² front & back Snow: 6000 Pa, 611 kg/m² front													
	Solar panels - Impact Resistance	25 mm diameter hail at 23 m/s													
MECHANICAL	Dimensions (mm)	Length 6400 Open / Length 4680 Closed Inc. drawbar / Length 3375 Closed unit only / Width 2540 / Height 3050													
	Weight (kg)	3500kg													
	Lift Points	Forklift pockets & bottom lift													



Remote telemetry: Example data



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**Award winning welfare  Designed & built in the UK**



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**FOOTNOTES**

- I. Annual solar input based on usage hours per day, 130 days in winter mode and 130 days in summer mode. Each day is a typical usage day. 60p per litre red diesel.
- II. CO2 per Litre of fuel / DEFRA 2019 figures. Red Diesel = 2.758
- III. Solar panels achieve maximum output in direct sunlight, but they work in normal daylight and cloudy weather too. The amount of power a 48v solar panel or charging kit generates in cloudy weather will be lower compared to direct sunlight. Also the positioning of the cabin will affect the solar charging of the batteries i.e. under trees, etc. Solar assessment is based at Luton, Bedfordshire, UK.
- IV. This assessment is guidance ONLY. As part of our on-going commitment to improvement we reserve the right to alter specifications, designs or figures, without prior notice. All dimensions and weights are approximate.