Ecosmart ZERO

CASE STUDY NO.1

Heathrow

Daily usage, solar charge & hydrogen fuel consumption. Measured from remote telemetry systems.

AJC Product	Customer	End User
Ecosmart 16 ZERO	GAP GROUP WELFARE SERVICES	MORGAN SINDALL

Location	Heathrow Airport Long Stay Parking, Terminals 2 & 3, Eastern Perimeter Road, Longford TW6 2SB
Dates	**Monday 4th March - Friday 12th April 2019**

CASE STUDY NO.1

Ecosmart ZERO CO_2

Our replacement for traditional diesel power systems, combining solar & hydrogen power to eliminate local carbon emissions.

As a result of winning multiple Green Apple awards, we have been asked by many of our customers to develop site welfare solutions that produce zero emissions at point of use. As a result we have been busy designing, building and testing a new concept, ready for the demands of future CO^2 reduction targets.

Ecosmart ZERO is the first viable welfare alternative for companies that are working to reduce their carbon footprint and, more importantly, improve the environment for communities in the vicinity of operation.

We have had overwhelming demand from large national hire companies to trial the Ecosmart ZERO with end users in the field. It is important that hydrogen and solar alternative fuel solutions are proven to work and provide the same welfare to outdoor workers as a traditionally powered welfare cabins.

Challenging perceptions

There is a lot of work to do to dispel myths and misconceptions of hydrogen power. It's been a proven power source in industry for decades. More hydrogen powered machines leads to lower hydrogen prices and cleaner air.

Solar panels are also a hot topic in the welfare industry. Myths that solar panels cannot cope with the power draw needed to run a welfare cabin, are untrue. Solar panels used with our patented power management systems, can run the unit without the need of the fuel cell or any other power source (free energy!)

This 6 week long field test proves the power of solar when used with our power management systems.

Working in partnership

Intelligent Energy

AJC EasyCabin

Intelligent Energy is a world-leading fuel cell engineering company focused on the development, manufacture and commercialisation of its Proton Exchange Membrane (PEM) fuel cell products, for customers in the automotive, stationary power and Unmanned Aerial Vehicle (UAV) sectors. Fuel cells are used in multiple applications, where clean, lightweight, high efficiency and cost-effective power is required.

Intelligent Energy's 800 Series Fuel Cell Modules are used in the Ecosmart ZERO and they are suitable for a wide variety of off-grid applications.

Ecosmart Power Management

Battery Bank Storage

6 WEEKS USAGE REPORT

Ecosmart ZERO CASE STUDY NO.1

Period: Monday 4/3/19 -to- Friday 12/4/19

The end user has used the cabin exactly how you would expect over the last 6 weeks, items used = kettle, microwave, lights, heating, water heater, water pump and USB.

In addition to the normal usage, they have moved the cabin which in turn uses the battery for the raising/lowering of the cabin.

The solar absorption was so high during the trial, the hydrogen fuel cell only activated a battery re-charge once and used 40% of 1 bottle. If there was no solar within the ZERO product, 6 bottles of hydrogen fuel would have been used. Or if there was a standard 6kVA diesel generator running 8 hours per day, then over 450 litres of diesel fuel would be used.

END USER FEEDBACK

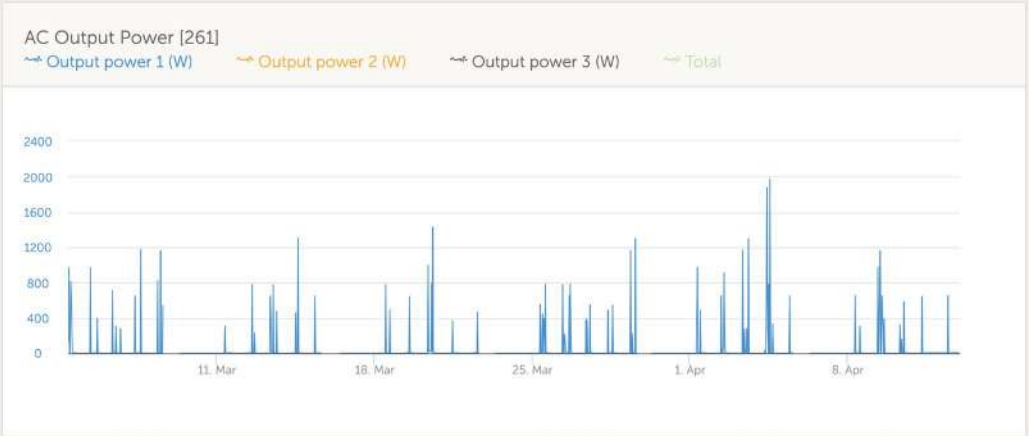
> *GAP have met the challenge that we have set the industry to make innovative strides towards eradicating carbon from our business, the success of this trail enthuses our supply chain so that collaboratively we can set a standard that others can follow, GAP should be applauded for bringing this leading edge product to our business, in turn we have the most receptive client in welcoming innovative and progressive ideas yet another example of working better together!*

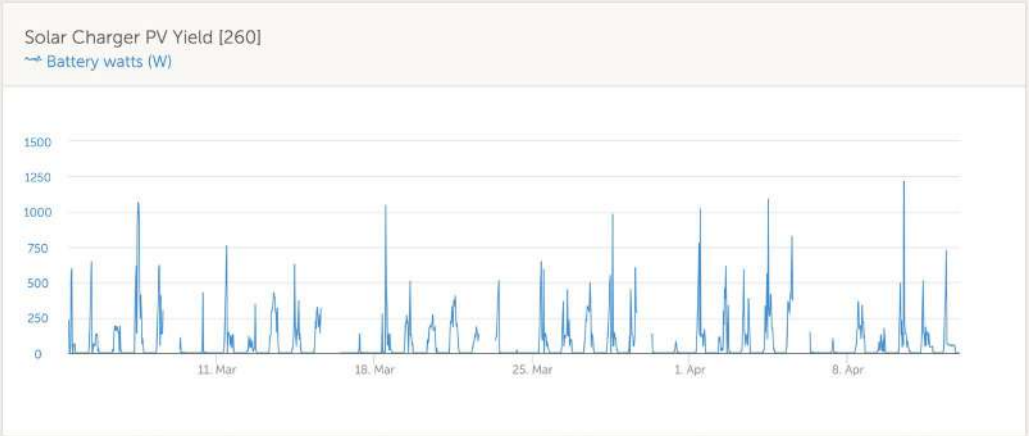
Graham Edgell

Director of Sustainability and Procurement / Morgan Sindall Group PLC

USAGE DATA

Ecosmart ZERO | CASE STUDY NO.1





= 66.29 kWh

Power used

= Equivalent to over 1600 cups of tea

= 63.56 kWh

Solar charge

= 40% of 1 Bottle

Hydrogen used

CO^2 **= NONE**

CO^2 Emissions

6 WEEKS

Total local CO^2 Emissions saved =

1,284 to 1,728kg

1 YEAR

Total local CO^2 Emissions saved =

10.2 to 13.8tons