



Case Study IE-POWER

ECO GH2 Hydrogen DC Power Generator

Developed by TCP Ltd (Taylor Construction Plant), the ECO GH2 is a hydrogen DC power generator that supplies near silent, zero emission and off grid power up to 1kW.

The ECO GH2 is a compact, easy to handle unit that provides off-grid, zero emission power. The unit, fuelled by hydrogen, uses an IE-POWER to produce a DC generator, which is capable of a maximum output of 1kW. The ECO GH2 can be used with DC power loads or with a TCP inverter power pack to

produce an off-grid AC generator unit of 5kW for power tools, accessories and welfare units, which can often be sited in locations where mains power is not available.

The powerful hydrogen DC generator offers considerable benefits when compared to similar petrol or diesel generators. The ECO GH2 is cleaner, smaller, lighter and requires minimal maintenance beyond a simple air filter replacement. "The integration work carried out by Intelligent Energy provides us with a fantastic opportunity for a major step forward in our strategy for the introduction of increased kW zero emission power generation"

TCP MD Andrew Barker

The electro chemical reaction, combining hydrogen with oxygen from the air, is importantly near silent, meaning the unit is suitable for use at night and in urban areas where noise needs to be kept to a minimum, specifically in relation to Section 61 of the Control of Pollution Act 1974. It can also be used in enclosed ventilated spaces or in close proximity to operators owing to the only emission being water vapour.

These features, coupled with the lack of ground spill risk associated with liquid fuels, also makes the ECO GH2 a perfect solution for sensitive sites, and for urban areas where noise and air pollution are major concerns.

The construction industry has come under increasing pressure in recent years to look at ways to reduce its carbon footprint, environmental and neighbourhood noise and risk of oil or diesel spillages. Products like the ECO GH2 are helping to achieve this.

ECO GH2 features

- Instant start up
- Emission free, no NO_x or CO_2 at point of use
- Near silent operation, meets Section 61 with ease

ECO GH2 specification

Weight	25kg
Dimensions	580mm (D) \times 320mm (W) \times 780mm (L)
Operating voltage	24V DC, max current output: 40A
	48V DC, max current output: 25A
Max current output	40A/25A
Operating voltage	48V DC
Emissions	water vapour
Fuel type	hydrogen gas

- Single switch operation yes
- H_2 fuel consumption less than 60g per kWh

Features of the IE-POWER technology used in the ECO GH2

- Lower life-cycle costs than standby diesel
 generators; with minimal service requirements
- Zero harmful system emissions at point of use
- Quiet operation
- Lightweight and compact design for manual handling
- Small footprint
- Regulated output designed for hybridisation with a 24V or 48V battery array
- Proven and reliable fuel cell system technology
- Utilises Intelligent Energy's air cooled fuel cell
 technology with robust metal fuel cell construction
- Assured power availability
- Modular, scalable system
- Simple balance-of-plant

Applications for IE-POWER

- Non road mobile machinery
- Telecommunications
- Disaster recovery
- Portable power generation
- Backup power
- Emergency power
- Off-grid power
- Microgrids
- Auxiliary power units
- Material handling equipment
- Outdoor events



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