



Sustainable
Power
Now

HPU

Hydrogen Powered Generator

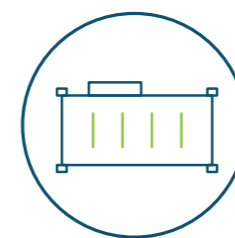


ZERO EMISSION FUEL

GREEN POWER GENERATION



Powering a sustainable future with hydrogen



GeoPura HPU

Welcome

Eliminate carbon emissions, improve air quality, and reduce noise pollution with no compromise in power quality, resilience or reliability.

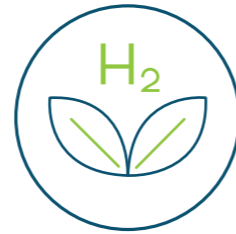
GeoPura has developed a zero-emission solution that enables companies to transform their energy use and eliminate diesel in the hardest to reach sectors. We are deploying green hydrogen power today, eliminating fossil fuels from off-grid, temporary, supplementary and back-up power, helping businesses reach their Net-Zero ambitions sooner.





GeoPura HPU

Introducing the HPU



A GeoPura HPU is built on industrial hydrogen fuel cells, and provides 250kW electrical output, 80kW thermal power and 250kWh battery storage.

Packaged within a standard 20ft shipping container, a GeoPura HPU and a supply of green hydrogen can be delivered to almost any location providing easy access to emissions free electricity. Unlike traditional generators which only run at one speed whatever the load demands, the HPU utilises smart power control technology to provide efficient clean power to match the load and to charge up the batteries without any waste. Deployed across a range of projects, powering major infrastructure developments, live TV broadcasts and off-grid EV charging to name a few, the units are already being used to cut emissions and improve sustainability.

Added benefits also include improved air quality and reduced noise on site, creating a better working environment for employees and neighbours. This enables 24/7 operation in addition to flexible planning permission.

- > 100% zero emission power – the only output is water and heat.
- > Large scale power – 250kW peak off-grid power output. Multiple HPUs can be combined to achieve a 2MW fully resilient system.
- > Fully redundant, uninterruptible power system rated for full load, giving extra reliability.
- > Off-grid (island), grid augmentation (mains current limitation) and back-up power modes for providing flexible power to sync with demand and manage peak loads.
- > Instant start to meet responsive demand.
- > Quiet operation, significantly below the noise levels of an equivalently sized diesel generator.
- > Smart Power controls for more efficient energy management and fuel consumption.
- > Mobile power - 20ft shipping container for ease of transport.
- > Available for short or long term hire to meet site needs.
- > Safe, reliable and proven technology for peace of mind.
- > Energy as a Service offering - including fuel management, operation and maintenance of unit to make switching simple.

“

These new green hydrogen generators are quieter, emit no harmful pollutants and are recycling the waste heat they generate to warm the site cabins. The introduction of this new technology is another way that our dedicated and established energy team is edging Balfour Beatty ever closer to our Net Zero 2040 ambition.

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Stuart McLeod
Energy Manager at Balfour Beatty

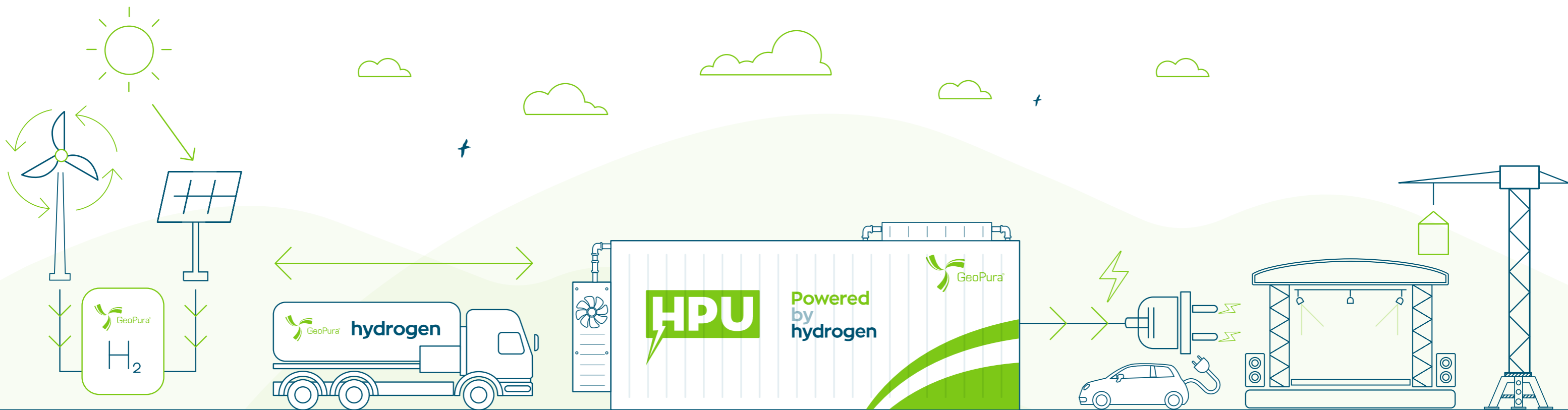




GeoPura HPU

Energy as a service

Operating an Energy as a Service model, the GeoPura HPU makes transitioning away from traditional diesel generators effortless.



1 Hydrogen Production

Utilising renewable energy to generate green hydrogen via electrolysis.

2 Delivery & Refuelling

Full fuel management system – including delivery and refuelling.

3 Plug & Play Solution

Set up and operated by GeoPura engineers.

4 Fully Monitored & Maintained

To optimise performance and energy use.



GeoPura HPU

Emissions savings that matter

CO₂e
33 tonnes
 Monthly Savings
 replacing 100kW Diesel Generator

CO₂e
83 tonnes
 Monthly Savings
 replacing 250kW Diesel Generator



Adopting cleaner alternatives, such as green hydrogen significantly reduces harmful emissions, improves air quality and demonstrates a commitment to mitigating environmental and health risks, reducing any future liability exposures.

Here are some representative figures to outline the potential emissions savings when choosing a HPU instead of a traditional diesel generator for your power requirements. As a GeoPura customer, you will also receive a comprehensive report detailing your specific HPU deployment and the relevant emissions savings.

EMISSIONS SAVINGS FROM USING A HPU TO REPLACE A DIESEL GENERATOR

WEEKLY SAVINGS	MONTHLY SAVINGS
Replacing 100kW Diesel Generator	Replacing 100kW Diesel Generator
CO ₂ e - 8,264kg	CO ₂ e - 33,057kg
NOx & Hydrocarbons - 114kg	NOx & Hydrocarbons - 456kg
CO - 63kg	CO - 250kg
PM - 4.5kg	PM - 18.3kg

WEEKLY SAVINGS	MONTHLY SAVINGS
Replacing 250kW Diesel Generator	Replacing 250kW Diesel Generator
CO ₂ e - 20,660kg	CO ₂ e - 82,641kg
NOx & Hydrocarbons - 285kg	NOx & Hydrocarbons - 1,139kg
CO - 157kg	CO - 626kg
PM - 11.45kg	PM - 45.8kg

Calculations based on representative typical usage of 100kW or 250kW diesel generator running for 12 hours per day over a 7-day period and 30-day period.



GeoPura HPU

HPU in action



Safe and proven technology

- > CE / UKCA accreditation.
- > Safety control systems fully compliant with EN-13849.
- > Hydrogen safe compounds that comply with DSEAR and CDM regulations.
- > Experience engaging staff at all levels of the organisation to adopt safe use of the technology.

Already proven by multiple high profile deployments, including recently powering the live TV broadcast of the DP World Golf tour, providing EV charging for the MOD and powering the shutdown of a Uniper power station in the UK, companies such as the BBC, Balfour Beatty, National Grid and many more are already reducing their carbon footprint and contributing to a more sustainable energy system today.

Working in collaboration with Siemens Energy, the GeoPura MK1 HPU is in mass production in their Newcastle facility.



Why choose a HPU?

Zero emission – reduce carbon emissions to meet Net-Zero targets.

Improved air quality – especially in inner city applications.

Noise reduction – increased working hours (24/7).

Local reputation benefits – considerate neighbour / employer.

Boost sustainability credentials.

Ideal for:

EV charging & transport, construction, film & TV production, outdoor events, bespoke solutions.



250kW
Peak Power Output

100%
Zero Emissions
The only output is water and heat

Safety control systems fully compliant with EN-13849



Contact Us

Contact us to discuss how you could utilise green hydrogen and GeoPura HPU technology to power your next project. Together, we can create a cleaner, healthier, and more sustainable future.

The transition couldn't be simpler – GeoPura's experienced team takes you through **6 easy steps**:

1

Enquiry

2

Site survey

3

Quotation

4

Approvals

5

Deployment and documentation

6

Installation and power generation



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