Reducing diesel costs in construction and quarrying

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**Construction and quarrying are vital industries yet consume vast quantities of diesel at huge financial and environmental cost. Engine specialist Prior Power Solutions has launched a new product which can cut the cost of diesel, and emissions, utilising hydrogen technology. Crucially it is a product that is available right now.**



Simply put, diesel engines and generators cannot be matched for performance, reliability, or portability – nor are likely to be in the short to medium term. And they are everywhere.

Quarry operators and construction companies had, until April 2022, been able to save significant costs on fuel through rebated red diesel. Now without that allowance, businesses are left watching diesel costs rise weekly or look to alternatives.

Realistically however there are limited real options available at present.

Electricity can be cost-effective to power equipment such as pumps, machinery, and lighting, but this is not a possibility for remote quarries and construction projects.

Renewable technologies such as solar and wind can provide power for standalone generation but at significant investment and lengthy planning processes and still leaves vehicles and heavy machinery running on costly diesel.



Which leaves hydrogen.

Whereas hydrogen combustion engines and fuel cell technology are still in infancy and not yet financially feasible commercially, the Hydrogen-Diesel Introduction System, whilst not omitting diesel completely, provides a very cost effective and realistic option in the interim for mitigating carbon emissions – and diesel consumption providing a quick return on investment.

There are global and national drivers for reducing carbon emissions – the disentitlement to red diesel for many sectors being one from the UK Government – and the development of technology that will reduce environmental impact of industry, with climate change and, more recently, energy prices, shaping the future of economical and sustainable operations.

With over four decades under its belt repairing and maintaining diesel engines used in a wide range of equipment and machinery, Norfolk-based Prior Power Solutions is supporting carbon-neutral construction and quarrying through a simple, cost-effective retrofittable unit suitable for a wide range of diesel engines and generators.



Substantially lowering greenhouse gases, the Hydrogen-Diesel Introduction System effectively converts a standard combustion engine into a dual fuel engine. It is a stand-alone system that produces hydrogen gas from water by electrolysis, which is injected directly into the engine, reducing diesel consumption by up to 14%.

“This is significant saving for heavy plant operators and quarries,” says Paul Dekker Kleyn, Business Development Manager for Alternative Power at Prior Power Solutions.

“The Hydrogen-Diesel Introduction System could take a conservative 10% off that bill annually with units soon paying for themselves,” continues Paul.

Independent testing has proven up to 80% less diesel particulate matter, 22% less nitrous oxides, 25% less carbon monoxide and 8% less carbon dioxide.

Producing hydrogen on demand from deionised water, no hydrogen is stored, and no other chemicals or acids are used in the process.

Although construction and quarrying will continue to be heavily reliant on increasingly costly diesel-generated power for many years to come, the financial impact can be mitigated through such hydrogen technology, simultaneously reducing emissions.

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