

The background of the slide features a close-up of a hand pressing a power button. A large, bright green arrow graphic points to the right, partially overlapping the button. The word "POWER" is printed in a light blue, sans-serif font below the arrow. The overall color scheme is dark blue with a gradient.

Accelerating the Clean Energy Transition With Hydrogen On Demand

Go Further with the Transformative Power of Hydrogen On Demand

Hydrogen, the purest combustible substance on earth, is unrivaled in its ability to release more energy than other alternatives. When made from renewable electricity, hydrogen is the only sustainable energy source available 24/7—anytime, anywhere.

It is a workhorse that can scale across a multitude of sectors to decarbonize heavy industry's high-heat processes and supply industrial transportation, such as long-haul trucking and industrial shipping, with the high energy-dense fuel needed to move heavy payloads over long distances.

For this reason, hydrogen has the potential to become a global energy standard across all sectors and is projected to contribute nearly 20% of the total energy mix by 2050.*

Yet, for all of its promise, a few fundamental gaps exist:

- First, where will we get all the hydrogen? Shortages in the supply of pure, compressed hydrogen gas are projected to continue over the next 20 years.
- Further, what about the installed base of more than 40 million commercial diesel engines running today?



Introducing Hydrogen On Demand Technologies

Hydrogen On Demand Technologies (HOD Tec) overcomes the limitations of traditional hydrogen production by extracting hydrogen when and where it's needed—onsite or onboard—instead of centrally producing, storing and transporting it. And, the total process is clean, with no new carbon emissions.

HOD Tec is uniquely positioned to bring about a sensible clean energy transition by decarbonizing existing dirty-burning, diesel-powered industries, such as trucking, marine, heavy equipment, and electric power generation.

We champion sustainable progress by providing a bridge technology for today's diesel fleets to operate more effectively and profitably.

We'll also meet tomorrow's zero-emissions fuel requirements by extending the footprint of hydrogen production—from currently centralized operations to widely distributed availability—along the periphery of hydrogen highways.

*Hydrogen Council 2019

Products

Onboard

Diesel Hydrogen Assist Technology

Hydrogen on Demand Technologies is the exclusive worldwide distributor of Diesel Hydrogen Assist Technology (D-HAT™), a certified and fully warranted aftermarket generator for large diesel internal combustion engines (8-liters and larger) including trucks, buses, heavy equipment, marine vessels, and more.

D-HAT provides a hydrogen-assisted fuel burn that enhances the combustion characteristics of diesel equipment. By injecting the right amount of hydrogen into your engine at the right time—at the top of the power stroke—D-HAT increases its thermal efficiency from 70% to 99.4%.

For diesel fleet operators up against razor-thin margins, D-HAT generators are an effective way to contribute to operations and increase profitability. By squeezing out more energy per rotation, D-HAT is proven to increase fuel mileage, decrease engine maintenance and reduce emissions.* It can increase operating profit and help your fleet operations go further than ever before possible.



Onsite

Distributed Hydrogen Fuel Production Systems

The global demand for hydrogen fueling infrastructure is increasing daily. When the worldwide power industries convert from fossil fuel power to zero-emission hydrogen fuel, HOD Tec will be there to meet and accelerate the hydrogen fueling infrastructure market.

Our same low-cost, commercial-grade hydrogen generation technology can be used to provide distributed, onsite production of pure hydrogen fuel. HOD Tec's scalable generators can produce and store high volumes of hydrogen fuel onsite at hydrogen fueling stations and depots.

The compact generators can also be used at home and across widely distributed public recharging stations to accelerate the hydrogen-powered transportation transition.



*Documented in a 2019 Department of Energy grant study.

Markets

Put the Power of Hydrogen On Demand to Work for You

Onboard or onsite, HOD Tec generators can be modified and scaled to address a broad range of commercial and industrial applications to meet growing consumer and regulatory demands for clean, renewable power.

The addition of Hydrogen On Demand generators to your operations can deliver a triple bottom line impact by improving your sustainability position, increasing net operating profitability and reducing net operating expenses.



Trucking

Over 1.2 billion diesel freight trucks account for 20% of global pollution. For fleet operators up against razor-thin margins, D-HAT generators are an effective way to contribute to more sustainable operations and increase profitability.



Buses

Local governments are imposing stricter laws on emissions inside city limits to improve quality of life for citizens. D-HAT can reduce the harmful effects of bus exhaust emissions to below existing EPA and CARB standards.



Marine

Over 90,000 heavy marine vessels burn the dirtiest bunker fuels on the market. HOD Tec generators can help to eliminate the scrubbers and filters while cleaning up the dirty exhaust.



Generators

Diesel generators release up to 50 times more pollutants and NOx compared to large combustion plants. The addition of D-HAT can significantly reduce harmful diesel exhaust emissions while also reducing fuel costs.



Fueling Stations

HOD Tec generators can be used to provide distributed, onsite production and storage of high volumes of hydrogen fuel along the periphery of hydrogen highways to meet growing demand for zero-emissions fuel.



Home Refueling

HOD Tec generators can be used at home and across widely distributed public recharging stations to accelerate the hydrogen-powered transportation transition.

Technology

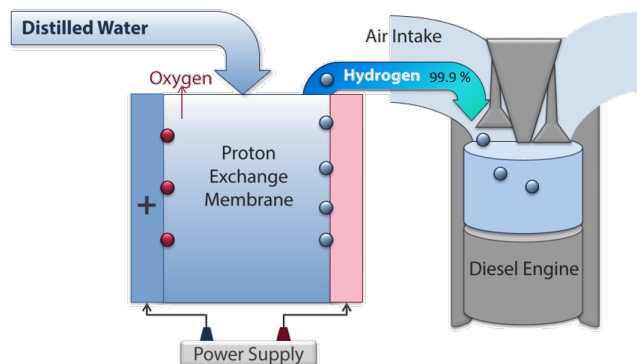
The Hydrogen On Demand Process

HOD Tec's patented Proton Exchange Membrane (PEM) fuel cell safely produces green hydrogen gas on-demand, onboard or onsite, through an ultra-efficient electrolysis process. The small PEM cell's water-to-hydrogen conversion process uses only distilled water with no additives.

The commercial-grade process has a minimum per-unit production volume of 4-liters of 99.9% pure hydrogen gas per-minute by reliably and continuously converting the distilled water into hydrogen and oxygen gases using the excess power drawn from your diesel engine's alternator/

battery system.

The D-HAT generator infuses a small stream of 99.9% pure hydrogen on demand into the engine's air intake where it combines with the fuel in the combustion chamber to



About Hydrogen On Demand Technologies

Hydrogen On Demand Technologies is an early stage Silicon Valley-based company that provides sustainable hydrogen solutions. Our mission is to bring about a sensible transition towards clean energy through innovative fuel solutions to meet existing and future global demands.

We are an environmentally impactful company whose goals are to improve the environmental outcome of diesel operations while transitioning into the future of zero-emissions operations.

The company was founded in 2015 by a group of Silicon Valley executives with more than 100 years of successful high-tech startup, manufacturing, sales, distribution and marketing experience. The HOD team is well versed in bringing new technologies to market, scaling successful businesses, and managing world-class channel programs.



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