

HIGHLIGHTING HYDROGEN

H₂

FACT:

The Hydrogen industry – development and deployment – is growing...but as the technology becomes more prominent, so does the misinformation around and about it.

Examining some myths and realities concerning this green, sustainable energy source:

THE CLAIM: HYDROGEN GAS IS HAZARDOUS TO USE & STORE

- THE FACTS:**
- Hydrogen presents the same, if not fewer, hazards versus other fuels because it's nontoxic and has very low volatility.
 - Hydrogen leaks do not contaminate the environment or threaten human or wildlife health.
 - Hydrogen is 14 times lighter than air and 57 times lighter than gasoline vapor.
 - The air around Hydrogen flame is not as hot as that around a gas flame, resulting in a much lower risk of a secondary fire.
 - Gasoline can be explosive at Oxygen concentrations between 1% and 3%; but those same concentrations would have to reach 18% or higher for Hydrogen to explode.



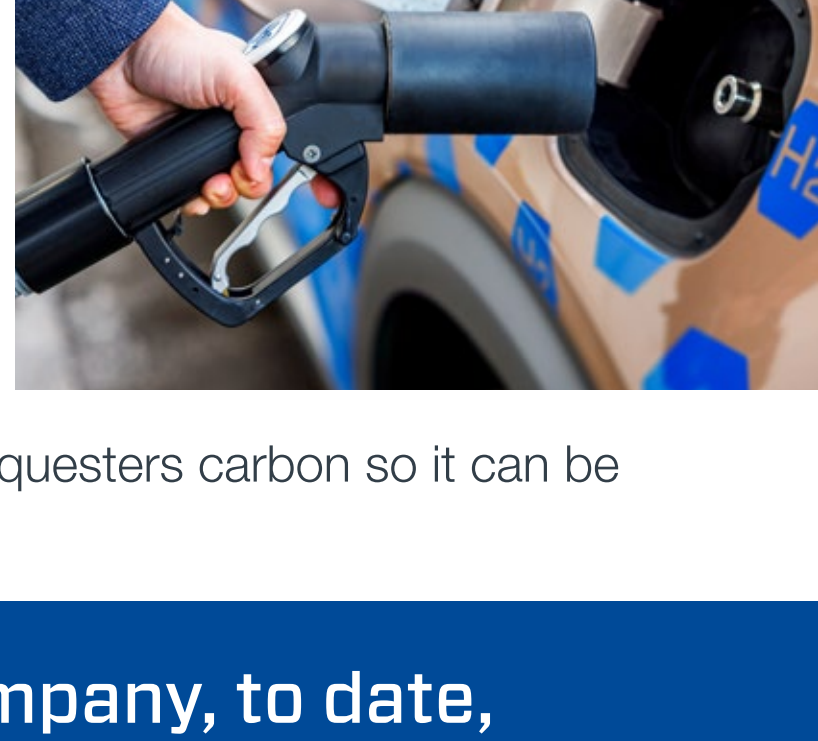
THE CLAIM: HYDROGEN IS TOO EXPENSIVE

- THE FACTS:**
- The price of green Hydrogen continues to fall – and trend will accelerate over the next decade.
 - Major federal initiatives will spur Hydrogen development, further bringing down costs.
 - Use of premium-quality processing components will



THE CLAIM: HYDROGEN IS NOT ENVIRONMENTALLY FRIENDLY

- THE FACTS:**
- Hydrogen use in a fuel cell creates no smoke and waste – outputting only energy and water.
 - Most Hydrogen processes yield reduced CO₂ emissions versus comparable fuels.
 - Carbon capture technology sequesters carbon so it can be stored for industrial purposes.



Swagelok Company, to date, has played a key role in helping to enable these Hydrogen applications:

- Electrolyzers
- Micro Grids
- Fuel Cells
- Virtual Pipelines
- Refueling Stations
- FCEV Fuel Systems
- Dispensers/Priority Panels



Swagelok supports the overall Clean Energy Industry by:

IMPROVING SAFETY



- Our components and assemblies/panels are engineered and tested to keep you safe during operation and maintenance.
- Our renowned safety training programs teach technicians how to properly install and inspect fittings; bend tubing of various diameters and materials.
- Our media leakage evaluations and hose advisories not only identify your problem areas, but offer trusted and proven recommendations to keep you safe, productive, and profitable.

MINIMIZING DOWNTIME, MAXIMIZING RELIABILITY



- Our leak-tight components are in stock locally.
- Our 99.9% shipping accuracy rate means you get what you need, when and where you need it.
- Your nearby Swagelok account reps – in the field or on the phone – can help you get optimum performance and efficiency from your equipment, no matter how challenging the job.
- Our Design & Build Shop can get you instrumentation panels or subassemblies that are easy-to-install – and always 100% tested, inspected, and warranted.

UNDERSTANDING REGULATORY COMPLIANCE, SUCH AS:



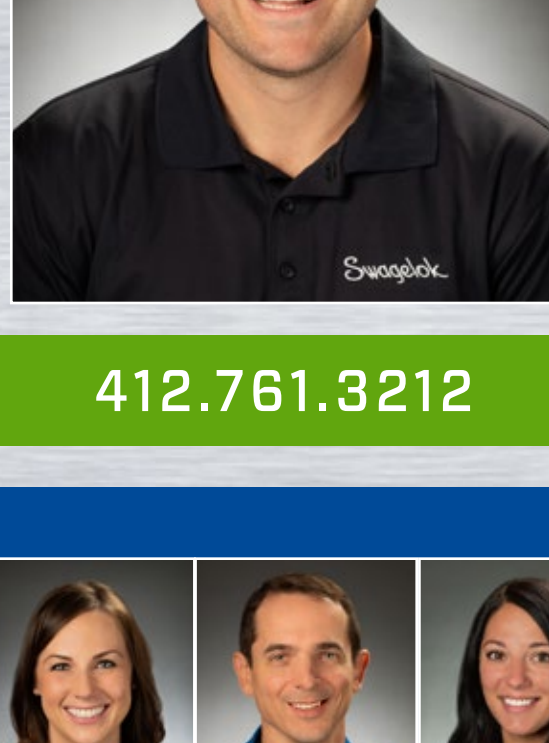
- Production Parts Approvals Processes
- International Material Data System Requirements
- Technical Cleanliness Requirements
- Manufacturing Emissions Compliance

For additional information on Swagelok and Hydrogen/Clean Energy, contact

For more information contact:

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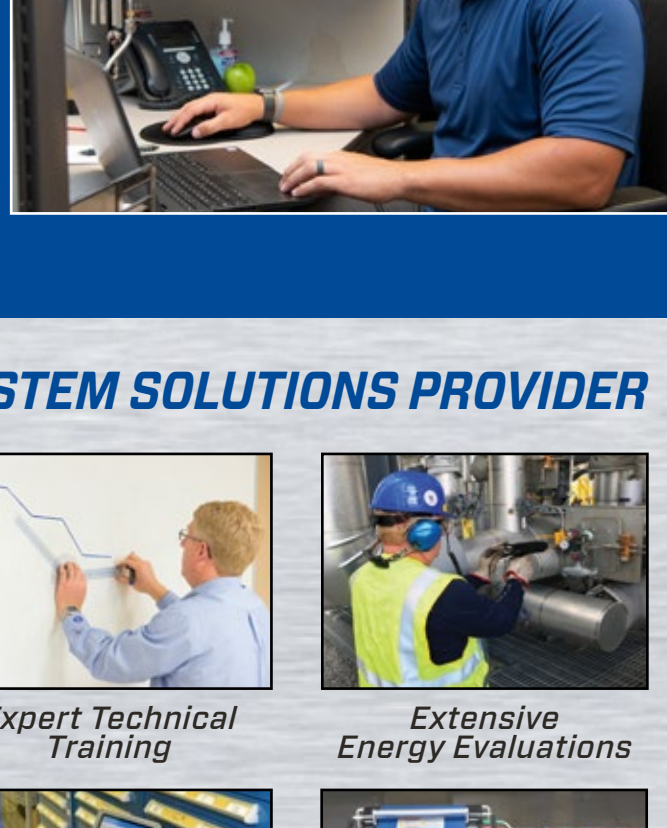


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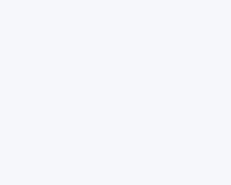
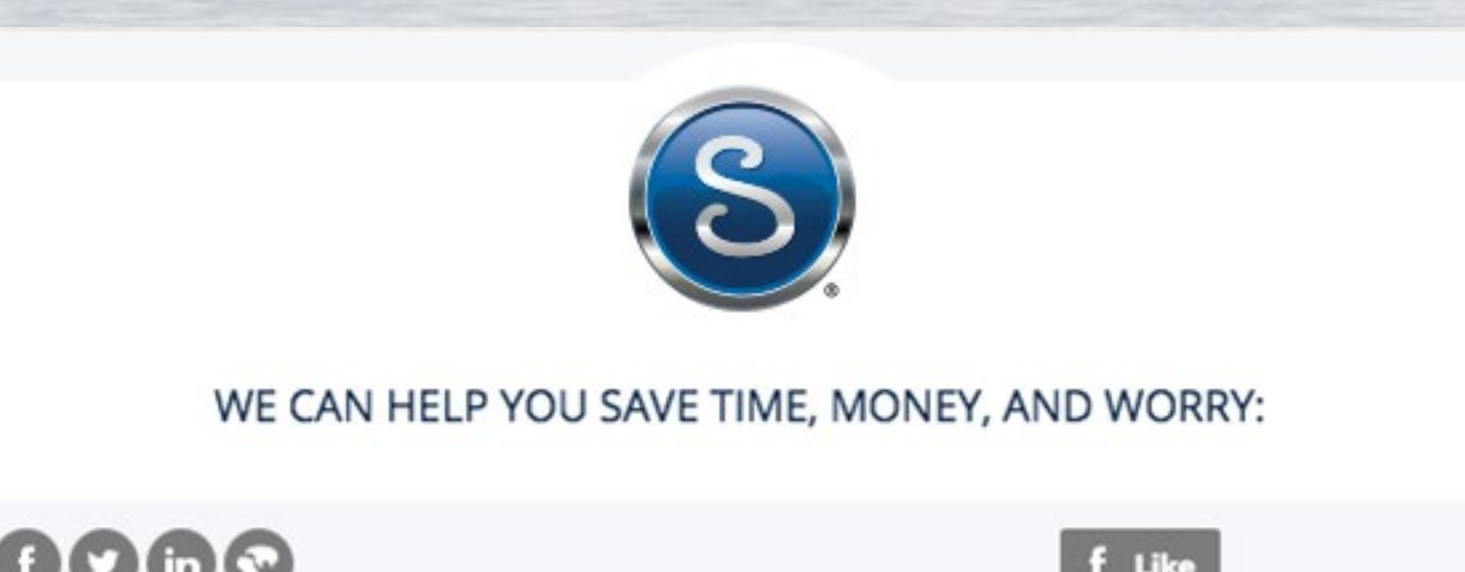
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Our Promise:

In each and every customer engagement and interaction, no matter how challenging your application or operating conditions, we will deliver premier-quality Swagelok Fluid-System Product Solutions and value-added Strategic Services that will positively impact your Bottom Line.



WE'RE YOUR SWAGelok FLUID-SYSTEM SOLUTIONS PROVIDER



WE CAN HELP YOU SAVE TIME, MONEY, AND WORRY:



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