



Hydrogen is rapidly advancing, but scaling its use comes with challenges. From safety and technical readiness to cost efficiency and sustainability—addressing these hurdles is crucial for industry growth. This infographic highlights the most pressing challenges in the hydrogen economy and presents proven solutions to overcome them. Explore how DEKRA supports safe, reliable and cost-effective hydrogen deployment across the entire value chain.

1
Hydrogen
Safety



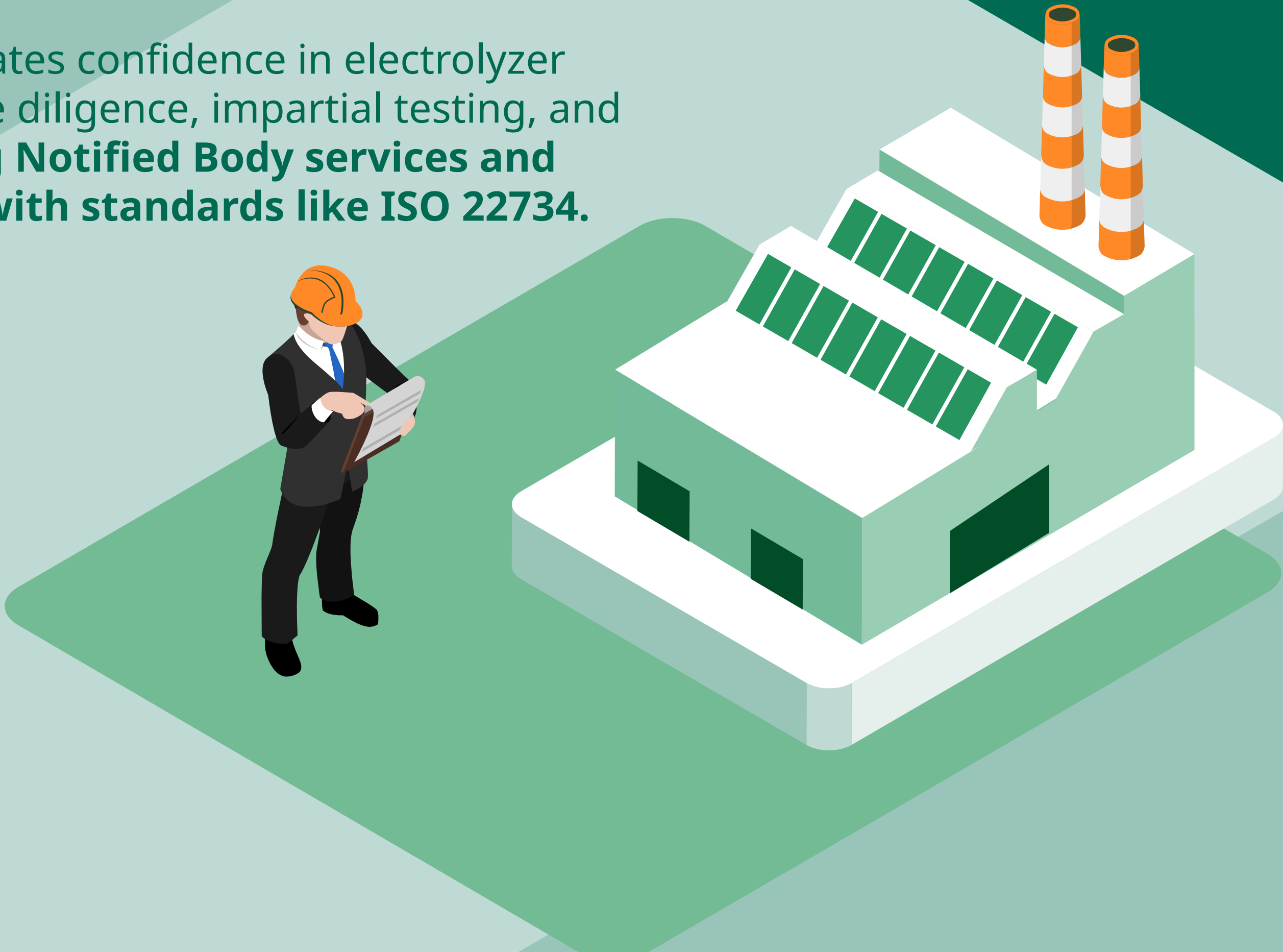
CHALLENGE With more hydrogen facilities in operation and new users working with hydrogen, safety is more important than ever. It is what builds confidence and ensures long-term success.

SOLUTION DEKRA offers extensive safety expertise and services for the safe production, transport, processing and use of hydrogen and its derivatives. **Our portfolio covers plant and process safety, occupational safety and hydrogen training across the entire value chain.**

2
Technical
Readiness

CHALLENGE Scaling renewable hydrogen requires large electrolyzer capacity, but limited operational experience among new suppliers creates uncertainty. Long-term investments rely on confidence in reliable operation to secure consistent cash flow. This gap delays hydrogen projects and hampers industry growth.

SOLUTION DEKRA creates confidence in electrolyzer technology through due diligence, impartial testing, and certification—**providing Notified Body services and ensuring compliance with standards like ISO 22734.**



3
Levelized
Cost



CHALLENGE Electrolysis-based hydrogen is costly due to high CAPEX and OPEX from equipment and power use. Achieving a high utilization rate and maximizing production yield are essential to reduce the CAPEX share of levelized costs.

SOLUTION DEKRA ensures high asset availability and reliability, minimizing downtime. Our solutions include **asset integrity management, predictive maintenance and advanced inspections.**

4
Sustainable
Hydrogen
Off-Take

CHALLENGE Renewable hydrogen projects require long-term off-take agreements to secure investments and generate stable cash flows. In addition to economic factors, sustainability is crucial for off-takers and increases the value of renewable hydrogen over fossil-based alternatives.

SOLUTION DEKRA provides impartial and recognized **sustainability certifications**, such as RFNBO under the ISCC EU scheme, along with **carbon footprint assessments and ESG services** to support essential off-take agreements.



At DEKRA, we embrace the dynamic nature of the hydrogen industry and continually drive innovation to ensure the safety, reliability and sustainability of hydrogen systems. Our hydrogen services are designed to help you meet the challenges of this rapidly evolving market with advanced expertise and a commitment to excellence.

Discover more!