

Hydrogen Power Plants Service & Solutions

Serving the entire power
generation value chain on your
PATH2Decarbonization

SIEMENS
ENERGY



Our energy landscape is changing

By 2025, hydrogen strategies will be leading the energy transition.

Low- or zero-emission power generation

Reduce CO2 footprint and energy consumption

Reduce high carbon producers

Utilize excess renewable energy

Grid flexibility and reliable transmission

Partner with innovative technology leaders



We energize society

Find your path to decarbonization with end-to-end solutions that suit all of your existing and new equipment needs

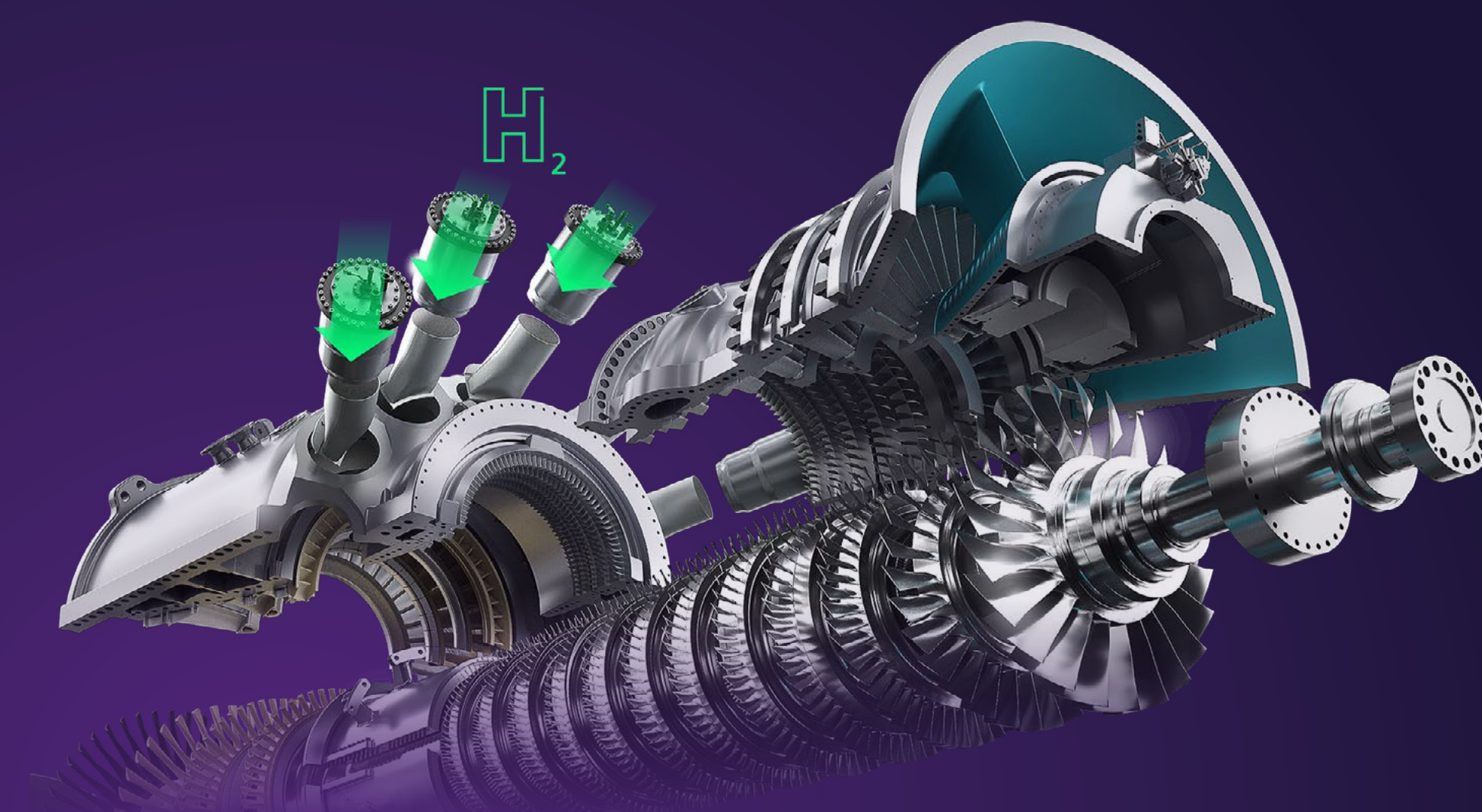
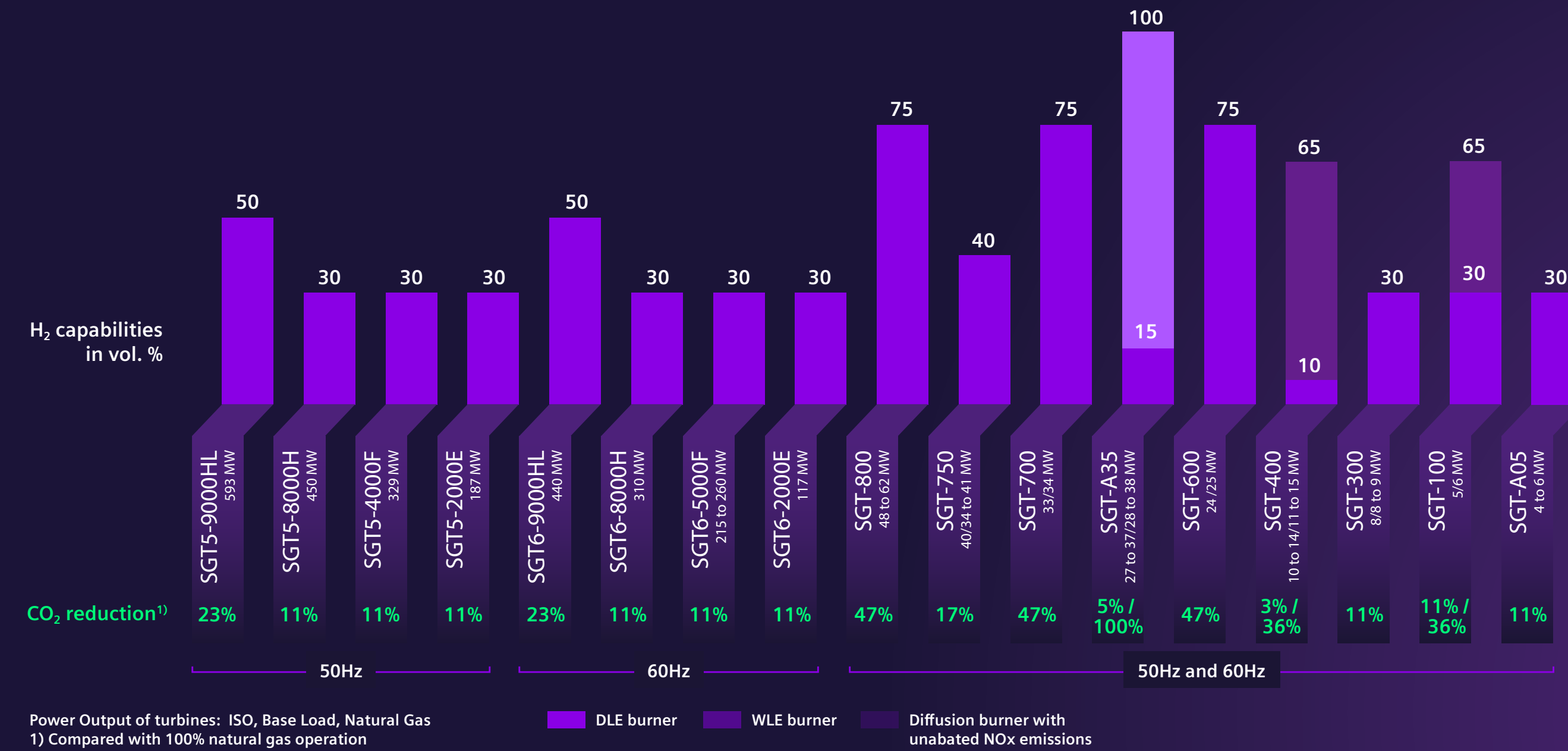
Serving the entire hydrogen value chain

Our expert in-house competencies can support your goal to be a key player in the energy transition with hydrogen power generation.

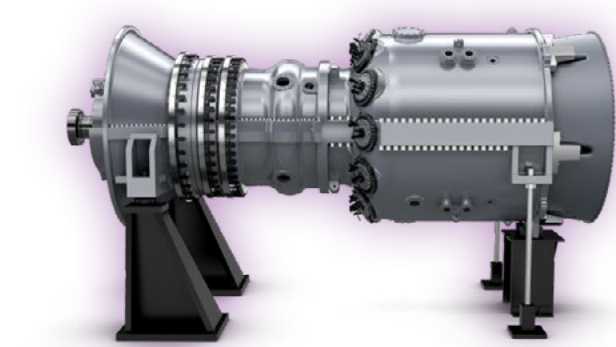


H₂ combustion experience built on development across fleets

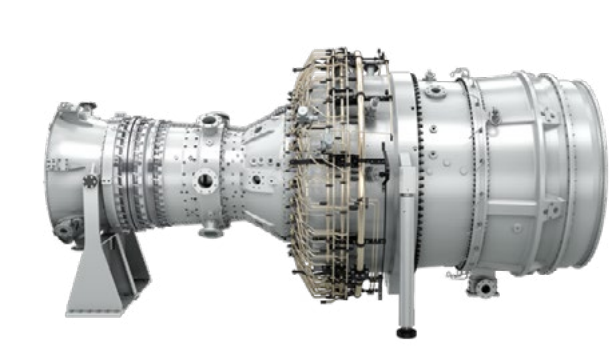
We rely on steady increases of hydrogen to meet strict reliability standards.



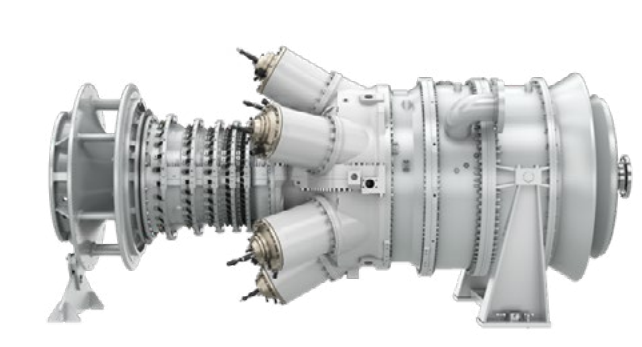
June 2021



Size L
 e.g. with a SGT5-9000HL or SGT6-9000HL gas turbine



Size M
 e.g. with a SGT-800 gas turbine



Size S
 e.g. with a SGT-400 gas turbine

Integrate all aspects of your power generation in one system

Siemens Energy is combining its unique portfolio of gas and steam turbines, electrolyzers, and heat pumps, and turning it into a unique optimized power plant solution with one operating system.

New Hydrogen Ready Turbine

Green power generation can be a valuable addition with a new 100% hydrogen-ready power plant in your decarb journey

Co-Firing Existing Turbines

Existing service units can be upgraded to operate with a hydrogen co-firing mix

Heat Recovery Option

Combining power with heat generation allows for excellent overall efficiency

Hover over to find your decarbonization solution.

Make your plant H₂ ready now and save

H₂ gas turbines can be upgraded to hydrogen at a later date, reducing future retrofit costs.



Upgrade requirement

- Requirement to modify existing gas turbines and combined cycle power plants to burn hydrogen in the future
- Minimization of risk of having future “stranded investments” when deciding today on new GT/CCPP power plant construction projects



Potential future developments

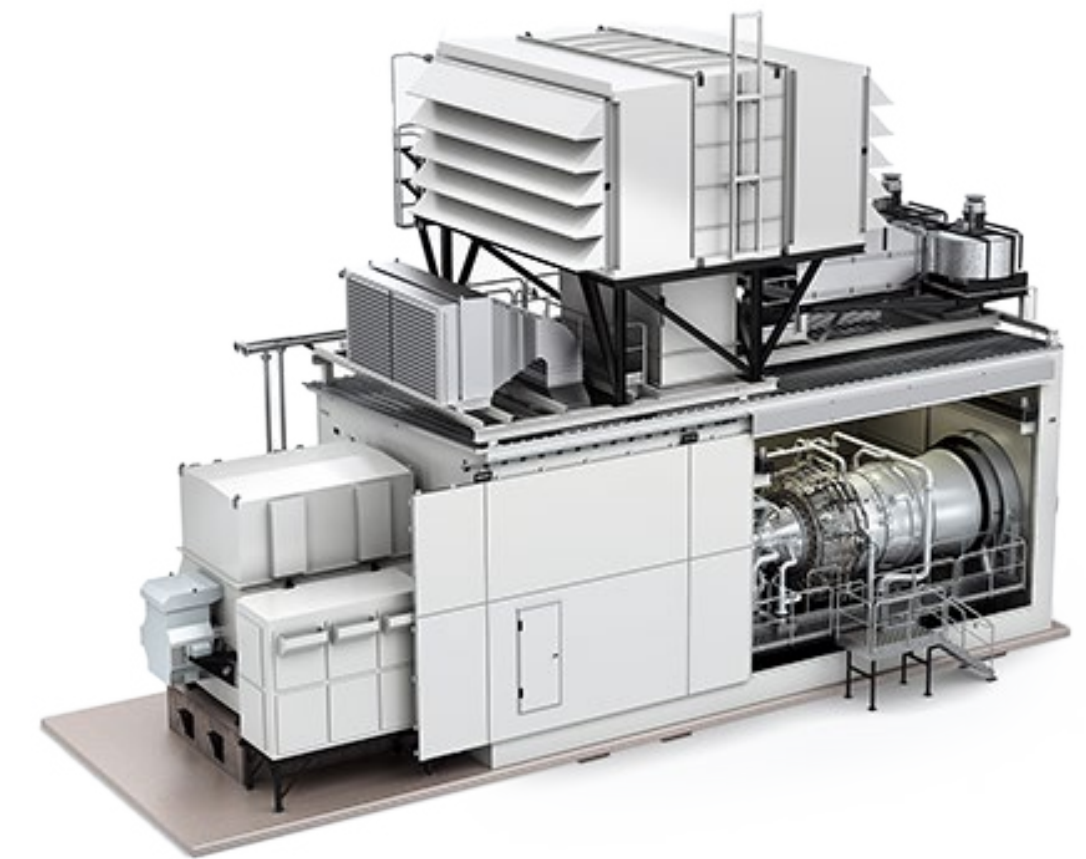
- Hydrogen content in gas pipeline likely to increase in future due to electrolyzers gaining wider acceptance and discharging hydrogen into the gas grid
- Changes in legislation enforcing decarbonization of power sector leading to a requirement to co-burn increasing content of clean hydrogen

Siemens Energy Gas Turbines

As an OEM for key components, we have the experience, technical domain expertise, and standardized approach for co-firing and recommend a collaborative approach to exploring the current capabilities of a facility and establishing a path forward to accomplish optimal hydrogen co-firing milestones.



¹ Percentage varies from GT model to model and emission limit requirements

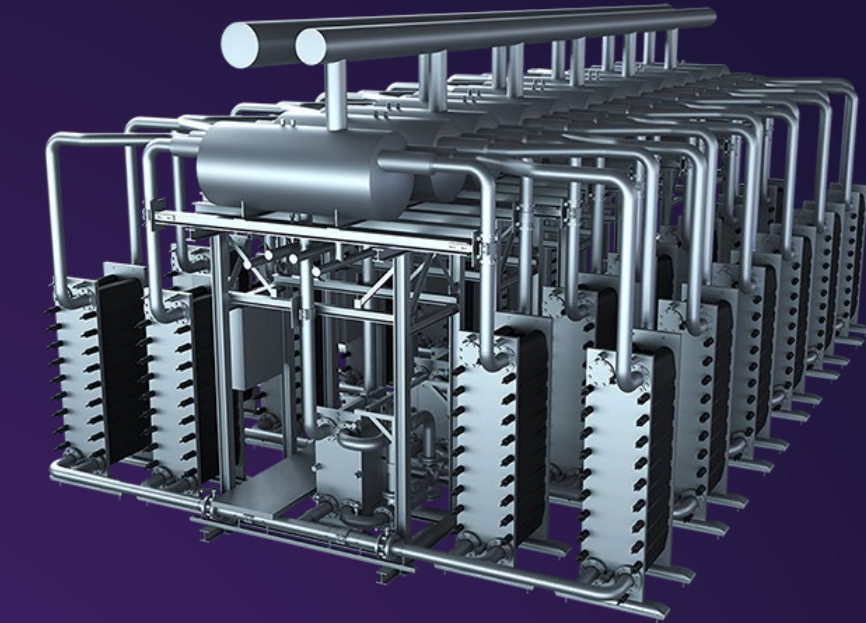


Our electrolyzers are proven and efficient

Silyzer 300 enables grid support services with efficient hydrogen yield and maximum dynamics.



Silyzer 300



Silyzer 300 – Full module array,
24 modules. The next paradigm in
PEM electrolysis

17.5 MW

plant power demand

>75.5%

plant efficiency

24 modules

to build a full module array

335 kg

hydrogen per hour

Hydrogen Decarbonization Calculator

Realize your potential cost savings through CO₂ reduction with our Hydrogen Decarbonization Calculator

Let us help you reach your decarbonization targets.

Calculate your CO₂ reduction and cost saving potential by running your turbines partly or fully on hydrogen.

The CO₂ emission data is based on methane. CO₂ emission intensity is stated per kWh electricity with exception for Combined Heat and Power, which is stated per kWh electricity and heat.

The CO₂ costs are based on The World Bank's Carbon Pricing Dashboard (data from 1st of April 2021) with the exception of UK ETS which is based on a trading price of £43,99 (19th May 2021) and USD/GBP exchange rate of 1,415. Carbon pricing projections for advanced economies (IEA SDS 2030, IEA SDS 2040) are based on IEA's Sustainable Development Scenarios. Exchange rates comes from [exchangerate.host](#).

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Our expert teams are near you

Siemens Energy's global footprint enables engagement in hydrogen projects anywhere

Strong Siemens Energy Footprint:

Present in
>90
countries

~90
Sales & execution offices

~75
Service centers

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