

MEMBER SPOTLIGHTS

Highlighting ICAC member technologies, markets, and mission



Mitsubishi Power Americas

ICAC is comprised of member companies from every corner of the air pollution control industry. The Member Spotlight series features various ICAC members and their technologies. In this issue, we are turning the spotlight on **Mitsubishi Power Americas, Inc.** (Mitsubishi Power), a leader in delivering innovative and integrated low-carbon solutions with a focus on heavy machinery manufacturing.

WHO THEY ARE

Headquartered in Lake Mary, Florida, Mitsubishi Power is a power solutions brand of Mitsubishi Heavy Industries, Ltd. (MHI). MHI is one of the world's leading heavy machinery manufacturers with engineering and manufacturing businesses spanning energy, infrastructure, transport, aerospace, and defense.

WHAT THEY DO

Committed to global carbon neutrality, Mitsubishi Power designs, manufactures, and maintains equipment and systems that drive decarbonization and ensure reliable power delivery around the world. Mitsubishi Power specializes in services ranging from gas turbines to air quality control systems, along with AI-enabled power plant operations.

Mitsubishi Power Segments and Services

- **Power Generation Solutions:** Gas, steam, and aero-derivative turbines; power trains and power islands; geothermal systems and PV solar.
- **Energy Storage Solutions:** Green hydrogen, battery energy storage systems, and services.
- **Air Quality Control Systems (AQCS):** Pollution control equipment for coal boilers, oil and gas boilers, gas turbines in both simple cycle and combined cycle applications, natural gas and diesel engines, process heaters, and refinery fluid catalytic cracking units

MHI Group also offers essential technologies and products related to Carbon Capture Utilization and Storage (CCUS) and is currently developing a CO₂ ecosystem encompassing all steps from capture to utilization.

A YEAR OF SUCCESS

In 2022, Mitsubishi Power celebrated a successful year in the Americas, by reaching new milestones in its energy transition division, expanding technology and operation in all U.S. business segments.

FAST FACTS

- **Serving since early 2000's**
- U.S. HQ: Lake Mary, Florida
- Global HQ: Tokyo, Japan
- Operations in 30 countries
- **2,500+** employees in the U.S.
- Focus on **heavy machinery manufacturing**
- Establishing World's first **Hydrogen related Validation Center**

ICAC's Mitsubishi Power Participation



Carbon Emissions Management Division



Domestic Conventional Pollutants Division



International Markets Division



Power Generation Solutions

- In May 2022, Mitsubishi Power's first two M501JAC gas turbines manufactured in North America reached commercial operation at J-POWER USA's Jackson Generation Project.
 - The 1,200 MW combined-cycle power plant in Elwood, Illinois, is 50 percent more efficient than peaking plants and will produce more than 65 percent less carbon dioxide than a legacy coal-fired power plant.
- In June 2022, Mitsubishi Power demonstrated a 20% hydrogen blend at both partial and full load on an M501G advanced frame gas turbine at Georgia Power's Plant McDonough-Atkinson. This test resulted in a 7% reduction in CO2 emissions and improved turndown.

Energy Storage Solutions

- Last year, Mitsubishi Power and Magnum Development closed a \$500+ million loan guarantee from the U.S. Department of Energy's Loan Programs Office for the Advanced Clean Energy Storage (ACES) Hub, the world's largest renewable energy hub to produce, store, and deliver green hydrogen located in Delta, Utah.
 - The hub will produce up to 100 metric tons per day of green hydrogen from renewable energy using electrolysis, which will then be stored in two massive salt caverns, each capable of storing 150 GWh of energy.

World's First Hydrogen-Related Validation Center

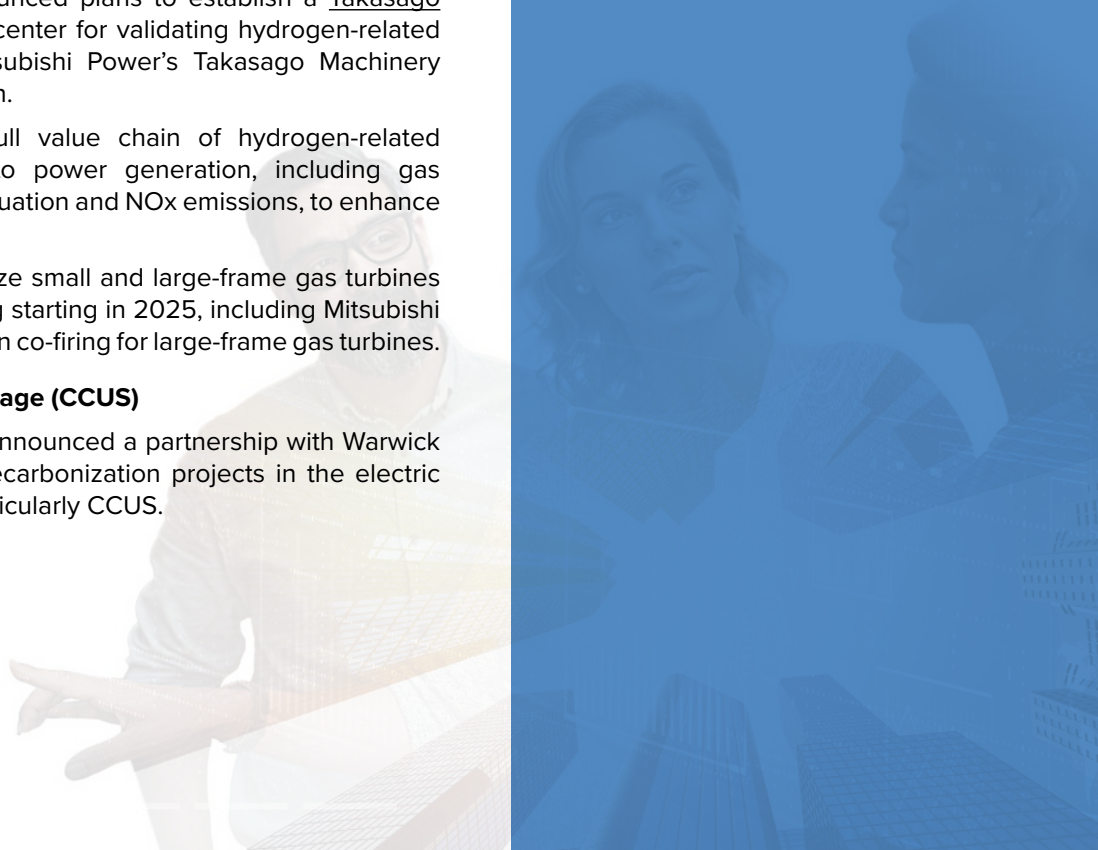
- In 2022, Mitsubishi Power announced plans to establish a Takasago Hydrogen Park, the world's first center for validating hydrogen-related technologies, co-located at Mitsubishi Power's Takasago Machinery Works in Hyogo Prefecture, Japan.
- The center can validate the full value chain of hydrogen-related technologies from production to power generation, including gas turbine combustion pressure fluctuation and NOx emissions, to enhance product reliability.
- This facility will help commercialize small and large-frame gas turbines on a path to 100% hydrogen firing starting in 2025, including Mitsubishi Power's announced 30% hydrogen co-firing for large-frame gas turbines.

Carbon Capture, Utilization and Storage (CCUS)

- In April 2023, Mitsubishi Power announced a partnership with Warwick Carbon Solutions to focus on decarbonization projects in the electric power and industrial sectors, particularly CCUS.

THE FUTURE

Mitsubishi Power is committed to accelerating decarbonization and creating a future with reliable and cost-effective energy systems by developing innovative solutions that power producers need and ensuring resource adequacy and affordability.





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In the U.S., Mitsubishi Power foresees significant opportunities to elevate its role in the U.S. energy transition driven by Bipartisan Infrastructure Law and Inflation Reduction Act (IRA). Mitsubishi Power is closely monitoring the implementation of the Department of Energy's Regional Clean Hydrogen Hubs program and the roll-out of the Inflation Reduction Act's clean energy tax credits, which jointly expands the market for MHI's pioneering products and services in the U.S.

Some upcoming highlights for Mitsubishi Power:

- Mitsubishi Power is focused on expanding CCUS in the U.S. through its latest partnership with Warwick Carbon Solutions to focus on decarbonization projects in the electric power and industrial sectors, particularly carbon capture and storage.
- In 2023, Mitsubishi Power expects to commence operations of its Takasago Hydrogen Park for full chain validation of hydrogen-related technologies.
- By 2025/2026, Mitsubishi Power plans to commercialize its 40MW class gas turbine system powered entirely by ammonia.

To learn more about Mitsubishi Power America's products and to stay up to date on the latest news and events, visit [the Mitsubishi Power Website](#) or [LinkedIn](#).

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