



B&W

ENGINEERED SOLUTIONS



BABCOCK
& WILCOX

RENEWABLE | ENVIRONMENTAL | THERMAL

As a technology innovator, Babcock & Wilcox (B&W) provides a comprehensive package of engineered solutions for a wide range of applications.



Established in 1867, we are a global leader in advanced energy and environmental technologies and services. Our comprehensive renewable, environmental and thermal product offerings support a sustainable and low carbon energy and industrial infrastructure.



Technologies and services for efficient and environmentally sustainable power and heat generation, including waste-to-energy, biomass energy, solar, energy storage and chemical recovery systems for the pulp and paper industry. Our leading technologies support a circular economy, diverting waste from landfills to use for power generation and replacing fossil fuels, while recovering metals and reducing emissions.



A full suite of best-in-class decarbonization, emissions control and environmental technology solutions for utility and industrial steam generation applications around the world. Our broad experience includes systems and services for hydrogen production and carbon capture, ash handling, particulate control, nitrogen oxides and sulfur oxides removal and mercury control.



Steam generation equipment, aftermarket parts, construction, maintenance and field services for plants in the power generation, oil and gas, and industrial sectors. Our extensive global base of installed equipment serves utilities and general industrial applications including refining, petrochemical, food processing, metals and other commercial installations.

The industries we serve are wide and varied, and include:

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|----------------------------|------------------|----------------------------------|
| ■ Power Utilities | ■ Carbon Black | ■ Automotive |
| ■ Pulp & Paper | ■ Pharmaceutical | ■ Hospitals & Universities |
| ■ Refinery & Petrochemical | ■ Chemicals | ■ Hydrogen & Oil Sands |
| ■ Metals & Mining | ■ Cement | ■ General Industry/Manufacturing |
| ■ Biomass & Biofuels | ■ Iron & Steel | |



Decarbonization

As the world moves toward a lower-carbon future, we understand that clean energy is driving the demands of today's energy marketplace, and we are poised to respond with our innovative ClimateBright™ suite of decarbonization solutions. Since the early 2000s, we have been a leader in the development of carbon dioxide (CO₂) capture technologies.

Our range of technologies includes BrightLoop™ chemical looping, SolveBright™ post-combustion carbon capture, OxyBright™ oxygen combustion and BrightGen™ hydrogen combustion, each with carbon negative outcomes.

Of particular distinction, B&W's innovative BrightLoop technology produces desirable outputs such as hydrogen, steam and/or syngas while capturing CO₂ for storage/sequestration or beneficial use. It can accommodate a variety of feedstock for a wide range of industrial and power applications.



Renewable Energy

When the first Vølund waste-to-energy plant was developed in 1930, it revolutionized waste-disposal techniques. Since then, B&W has grown to become one of the world's leading suppliers of equipment and technologies that turn solid waste and biomass into thermal energy.

As a renewable fuel, biomass is CO₂-neutral. Our experience includes a wide range of fuel sources, including sawdust, wood and wood waste, wood chips, stover, peat, bark chips, straw and other opportunity fuels.



Energy Storage

Our proven and established fluid-bed boiler heat exchanger technologies are viewed as the cornerstones for advancing the development of a long-term thermal energy storage solution. Research advancements in this area are critical to allow power producers to store solar or wind energy for the continuous generation of reliable, grid-scale power.



In addition, our exclusive intellectual property option agreement for advanced, long-duration renewable energy storage technology with the U.S. Department of Energy's National Renewable Energy Laboratory (NREL) has expanded our commitment of research and development efforts to support the growth of renewable power as a source for reliable baseload energy.



Sustainable, Clean Energy from Waste

Waste-to-energy (WTE) is a vital part of a strong and sustainable waste management chain. As a critical component of a circular economy and fully complementary to recycling, it is an economically and ecologically sound way to provide a source of energy while diverting waste from landfills.

Our WTE technology, developed and improved over the last 80 years, has been used in more than 500 applications – engineered, tested and proven to offer real and lasting benefits.

Solar EPC

B&W offers industry-leading engineering, procurement and construction (EPC) services for utility, commercial and industrial scale solar projects. Our solar expertise is demonstrated in the reliability of our system design and construction, verified solar production and optimized system integration.

With more than 175 projects and 100 megawatts of installed solar capacity, B&W continues to find new ways to bring clean power production to our customers.



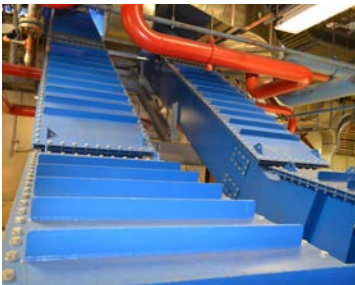


Air Emissions Control

B&W is an innovator and industry leader in providing advanced air emissions control and energy recovery equipment and technologies for power plants and industrial processes. Our engineered solutions control a wide range of pollutants and emissions, such as acid mists and gases including hydrogen chloride (HCl) and sulfur oxides (SO_x), particulates, nitrogen oxides (NO_x), carbon monoxide (CO), mercury, and other hazardous air pollutants (HAPs).

Multi-pollutant control strategies are integrated to optimize overall plant emissions levels and help meet air emissions requirements.





Ash and Material Handling

B&W's Allen-Sherman-Hoff® bottom and fly ash systems are reliable and cost-effective alternatives to ash storage ponds and help to minimize use of process water.

Engineered systems include dry and wet ash conveyor systems and remote dewatering systems for bottom ash, and a wide range of pneumatic transport systems for fly ash, including vacuum, pressure and combined systems, and dense-phase pressure systems.

We also provide a range of fuel conveyors as well as reagent and byproduct transport systems.





Steam for Power and Process

With more than 300,000 MW of generating capacity in approximately 60 countries, B&W's heritage is built on steam generation. We also have sold and installed more than 5000 industrial steam boilers for a wide range of process applications.



From the initial patent for the water-tube safety boiler to the world's first supercritical boiler to technologies using the latest advanced steam cycles, our robust designs deliver availability and long-term operation.

Our boilers serve the diverse needs of power utilities and industry by providing reliable steam generation from a variety of fuels, including coal, oil, natural gas, biomass, refuse and waste fuels.



Boiler Cleaning

There's a reason seven out of ten power plants feature B&W's Diamond Power® sootblowers.

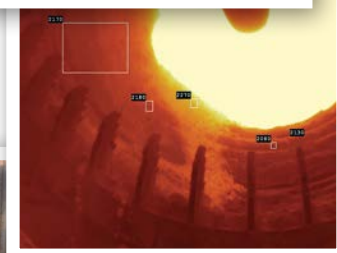
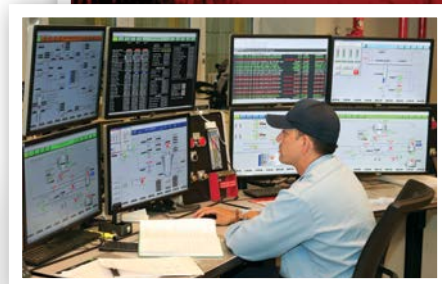
Using superheated or saturated steam, compressed air or water, Diamond Power boiler cleaning components and systems are trusted to remove deposits, reduce plugging of gas passes, and maintain boiler efficiency. Our component and system designs meet customer needs for precision, reliability, efficiency and long-term operation.



Controls and Diagnostics

B&W provides integrated control systems for a wide range of power plant operations, including comprehensive software for boiler, environmental and auxiliary equipment optimization.

Boiler monitoring cameras, along with advanced controls and monitoring systems for boiler cleaning, intelligent sootblowing, ash handling, electrostatic precipitators, and process diagnostics and optimization systems for combustion and emissions are also available.





Services, Upgrades and Retrofits, Replacement Parts and Construction

Modifying, improving and maintaining existing equipment are vital considerations for the long-term viability and profitability of all operations. B&W provides a comprehensive mix of products, replacement parts and services to support optimized equipment and system operation and reliability, regardless of original manufacturer.

An extensive network of worldwide regional service centers, field service engineers and technical support personnel are available to provide the customized services and aftermarket solutions for your requirements.

Our capabilities also include expert equipment installation and engineered construction services.



Renewable | Environmental | Thermal



OUR VISION

Advancing energy and environmental solutions
that bring power and progress to our world.

OUR MISSION

B&W delivers environmentally conscious, technology-driven solutions
and services to energy and industrial customers worldwide
– safely, ethically and as promised.

OUR CORE VALUES

Safety

Integrity

Quality

Respect

Agility



TRANSFORMING OUR WORLD | 150+ YEARS

B&W has a long history of demonstrated success with large and complex projects, a proven track record of innovation, and a strong commitment to safety and ethical business practices.

Our comprehensive portfolio of energy and environmental products and services provides customer-focused engineered technology solutions for a wide range of industries and applications.

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For more information or to contact us, visit our website at www.babcock.com.