

Company Overview



Ron Pulliam,
Director, Group Quality

Core Values



VISION

The preferred global leader excelling in the delivery of advanced energy and operational solutions.

MISSION

We are B&W. Count on us to:

- Deliver innovative technologies and solutions to fulfill the needs of our customers.
- Provide a challenging, rewarding and safe work environment for our employees.
- Generate increasing value for our stakeholders.

CORE VALUES

- People:** We will treat each other with dignity and respect while embracing diversity, cooperation, open dialogue and teamwork.
- Safety:** We strive to finish each and every day incident- and injury-free.
- Excellence:** We are committed to the relentless pursuit of quality, service and integrity in everything we do.
- Technology:** We are passionate about innovation and technology leadership.
- Stewardship:** We are dedicated to the long-term well-being of the environment and to preserving the value of our customers' and shareholders' assets.

Safety is fundamental to B&W

Safe conduct of operations is expected and demanded as we successfully operate in and manage high consequence, high risk work



Creating a Target Zero Culture

TARGET EACH AND EVERY DAY ZERO



Company Profile

Headquarters: Charlotte, NC

Incorporation: Delaware

Ownership: Public (NYSE:BW)

Revenue: ~\$1.7B

Chairman & CEO: E. James Ferland

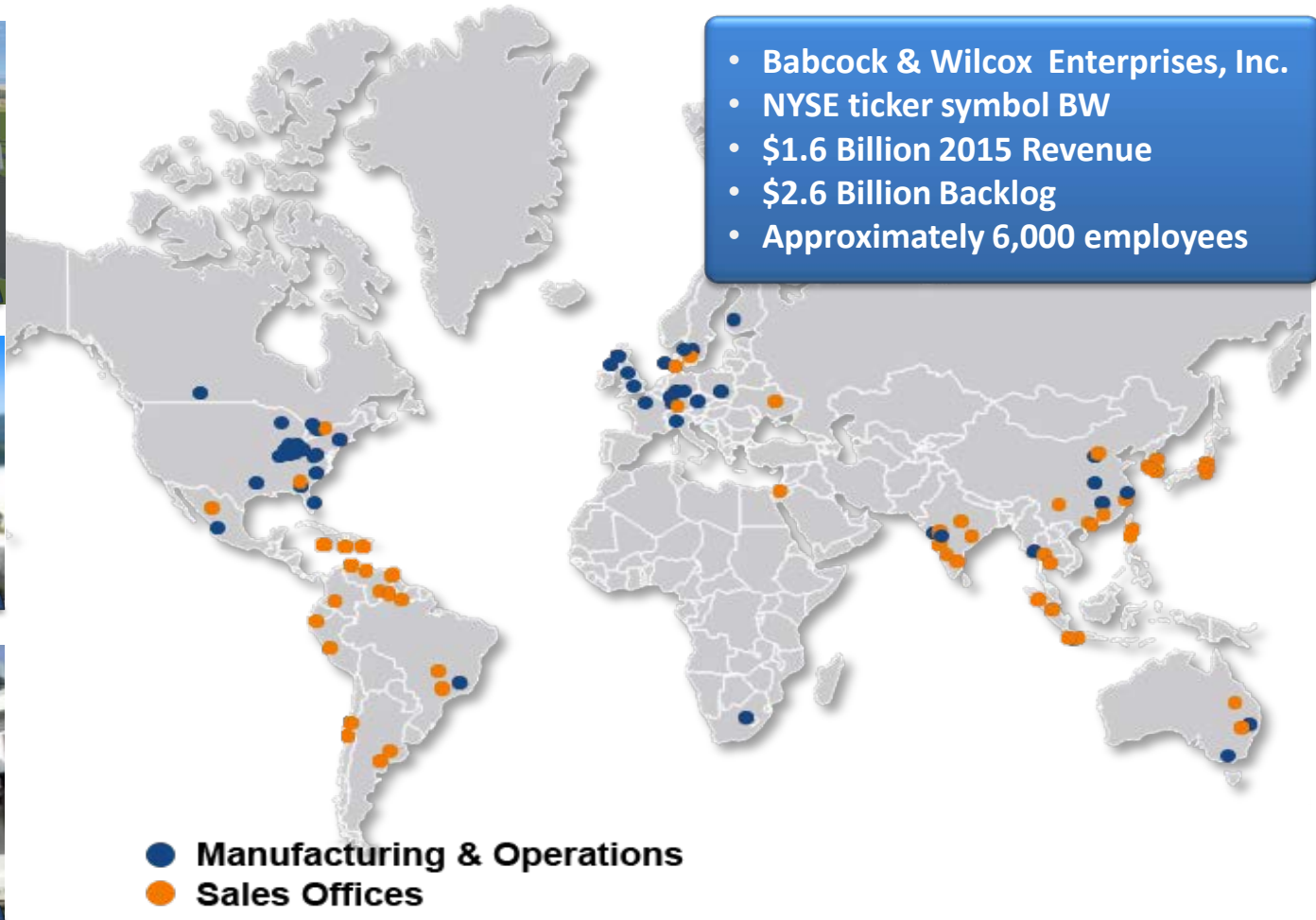
Employees: Approximately 6,000 employees, in addition to 2,500 joint venture employees worldwide

Strong balance sheet with no debt and backlog of over \$2 billion

- Global leader in energy and environmental technologies and services for the power and industrial markets
- Installed electricity generation capacity of more than 300,000 megawatts in more than 90 countries
- Pioneered environmental equipment in the 1970s with most comprehensive suite of products available
- Ability to service B&W and competitor products
- Employees in 25 countries



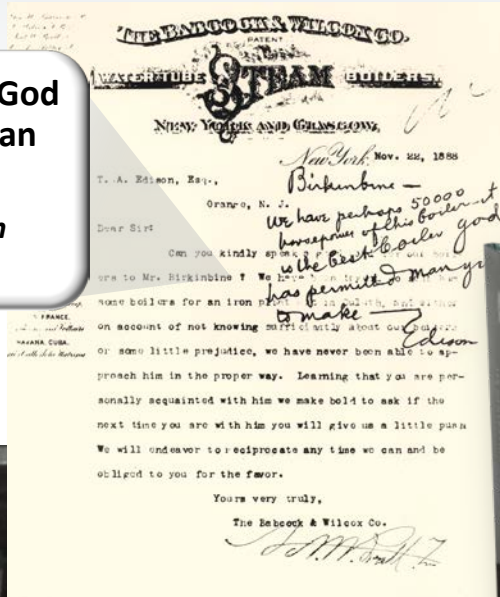
The Babcock & Wilcox Company



149 Years of Success in Power Generation

“...the best boiler God has permitted man yet to make.”

Thomas A. Edison
(1888)



Leading technology base

- Combustion systems
- Fluid flow systems
- Heat transfer systems
- Emissions control systems



Steam/its generation and use

- Longest continuously published engineering text of its kind in the world
- Published by B&W since 1875
- Used by power engineers worldwide
- New 42nd edition published in 2015



B&W – A Legacy of Innovation



1867 – Building a power boiler reputation

- Original Babcock & Wilcox
- First water-tube power boiler
- Marine boilers for Teddy Roosevelt's *Great White Fleet*



1947 – Leading the development of nuclear power

- Nuclear components for the *Manhattan Project*
- Reactors for first nuclear-powered submarine, *USS Nautilus*
- First generation U.S. commercial nuclear power plants



1957 – First Supercritical boiler

- 1957 – first initial operation of 306,175 kg/hr; 313.7 bar (675,000 lb/hr; 4550 psig) (AEP Philo)
- 72,200 MW total installed capacity of supercritical boilers
- 107 total SC boilers, base loaded and full-cycling designs, largest in the world



1968 – Addressing the environment

- Fossil fuel emission controls for particulate, SO_x, NO_x, Hg
- Development of supercritical coal plants
- Research in fuels, materials, combustion, and post-combustion systems



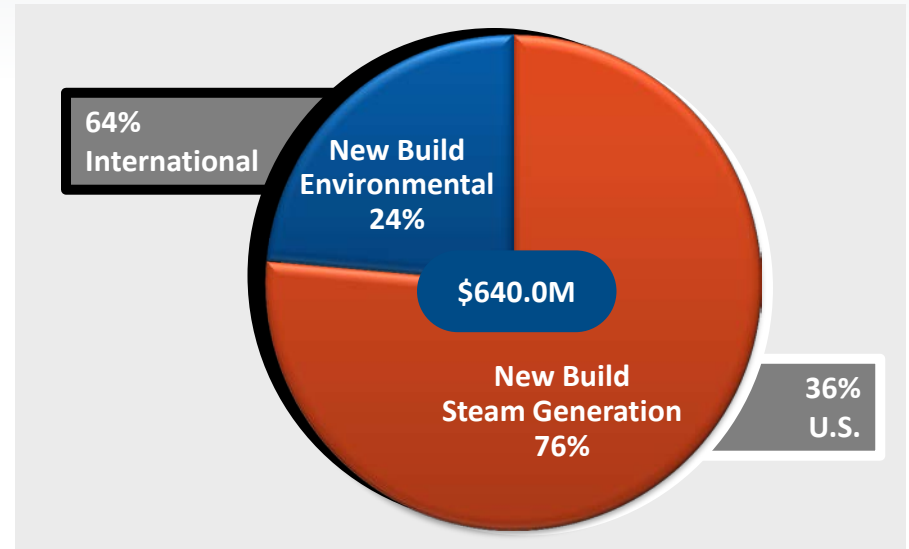
2005 – Minimizing climate change

- Carbon capture and storage demonstration
- Biomass and solar thermal technologies
- Next-generation commercial nuclear power

Global Power Overview

- Steam generating systems for fossil fuels and renewable energy conversion for power generation and industrial uses
- Environmental solutions include emissions control products and related equipment
- Complex project execution from design through commissioning, offering predictable installation of reliable equipment

2015 Revenue by Segment



Utility Steam Generation



Renewable Power



Industrial Power

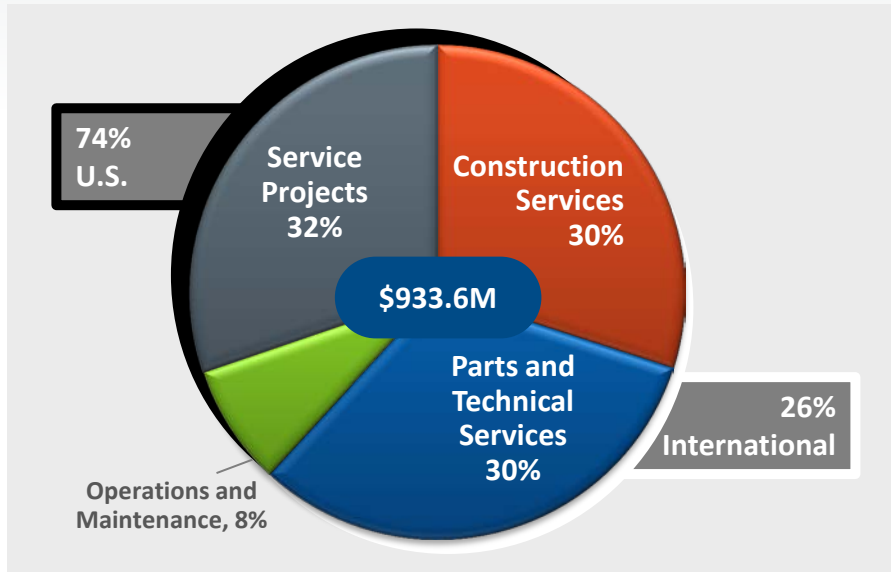


Environmental Solutions

Pursue Core Growth in International Markets

Global Services Overview

2015 Revenue by Segment



- Aftermarket products and services for steam generating equipment and associated environmental and auxiliary equipment
- Servicing B&W installed electricity generation capacity of approximately 300,000 MW in more than 90 countries plus competitor equipment
- Supports general industry and renewable boilers, including waste-to-energy and pulp & paper
- Extensive network of regionally located service centers, technical support personnel and global sourcing capabilities



Parts and Technical Services



Service Projects



Construction Services



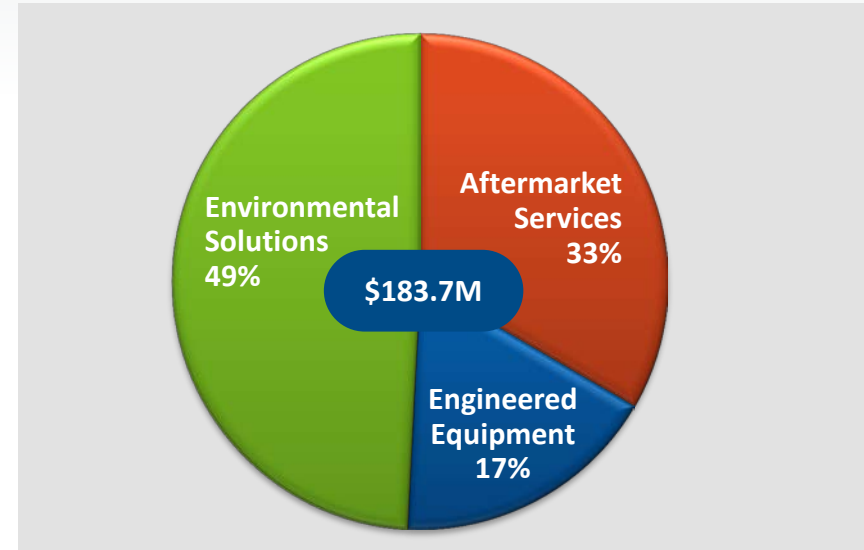
Operations and Maintenance

Optimize Our Business and Improve Efficiency

Industrial Environmental Overview

- B&W acquired MEGTEC Holdings, Inc. on June 20, 2014
 - 40+ year history with ~600 employees across 12 offices globally
 - Asset-light flexible manufacturing platform
 - Significantly expanded B&W's industrial environmental capabilities and provides additional channels to market
- Design, engineer, manufacture and service industrial equipment for process industries worldwide
 - Specific technologies for industrial air pollution abatement and recovery
 - Coating and drying equipment for various end markets (including energy storage)
 - Recurring aftermarket business

2015 Revenue by Segment



Air Pollution Control Systems



Coating and Drying Equipment



Replacement Parts



Preventive Maintenance

Execute a Disciplined Acquisition Program to Drive Growth and Diversification

Environmental Solutions for Industrial Plants



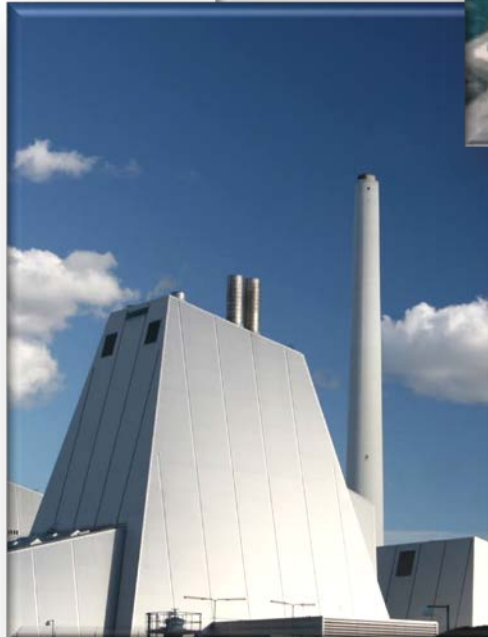
- Wet Electrostatic Precipitator (WESPs)
- Dry Electrostatic Precipitator (DESPs)
- Baghouse/Fabric Filter
- Multicyclone
- Selective Catalytic Reduction (SCR)
- Semi-dry and Wet Scrubbers
- SNCR DeNO_x Systems
- Solvent Recovery Systems
- Distillation & Purification Systems
- Ventilation Air Methane (VAM) to Energy
- Regenerative Thermal Oxidizers (RTOs)
- Catalytic Oxidizers
- Bioscrubbers/Bioreactors
- Greenhouse Gas (GHG) Abatement Technologies
- Heat Recovery Systems

Waste-to-Energy and Biomass

- Leading supplier of energy plants designed to convert household waste and biomass into thermal energy
- Headquarters and workshop in Esbjerg, Denmark
- Branch offices in Copenhagen, Denmark and Gothenburg, Sweden
- Founded in 1898
- 430 employees worldwide

Main business areas include:

- Waste-to-energy plants
- Biomass energy plants
- After sales service
- Refurbishing/rebuilding



Boiler Cleaning and Ash Handling Solutions

Integrated solutions

- Turnkey equipment installation and maintenance
- Diagnostic and Intelligent Control Systems
- Convection Pass, Furnace and Air Heater Cleaning
- Bottom Ash and Fly Ash Handling Systems

Global manufacturing

- Lancaster, Ohio
- Diamond Power Machine Hubei (China)
- Diamond Power Specialty Ltd. (Dumbarton, Scotland)
- Straubing, Bavaria, Germany



Material Handling

Overview

- Allen-Sherman-Hoff in material handling business since 1917
- Over 2,000 ash removal systems installed in U.S
- Over 130 ash removal systems installed in 21 countries outside the U.S.
- Manufacturing and assembly facility in Lancaster, OH, USA
- Manufacturing and assembly facility in Wuhan, PRC
- Engineering and operation offices in Exton, PA

Types of Material Conveyed

Coal ash – bottom and fly ash, oil soot, fluidized-bed ash, petroleum coke, pet coke ash, FGD product, lime/limestone, Municipal Solid Waste, Refuse Derived Fuel

Market

Power plant boilers, fluidized-bed boilers, cogeneration, municipal, incineration, refineries, biomass, bulk materials handling

Systems Experience

Hydraulic ash handling, pneumatic ash handling, mechanical ash handling, mill rejects handling, oil soot handling, petroleum coke handling, bulk materials handling



Mechanical Conveying and Material Handling



- Loibl Allen-Sherman-Hoff GmbH is located in Straubing, Bavaria (Southern Germany)
- Mechanical conveying and material handling equipment
- Capacity:
 - Company plot 15.000 m²
 - Production area 11.500 m²
 - Open area 3.900 m²

Production Equipment

- NC Lathes
- Plasma flame cutting machine
- Laser cutting machine
- Continuous sand blasting system



Refuse-Derived Fuel (RDF) Handling



FGD Gypsum Conveying Systems



Quarry Transport of Lime/Sandstone



Joint Venture Operations



Thermax Babcock & Wilcox Energy Solutions (TBWES)

Established in 2010

- Thermax and B&W ongoing relationship since 1988

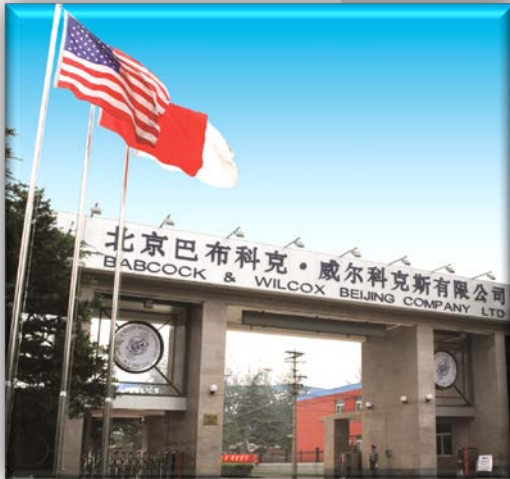
Products:

- Sub- and supercritical utility boilers
- Pulverizers

Manufacturing Capacity - 3,000 MW per year

- Facility near Pune, India

Market – India and Export



Babcock & Wilcox Beijing Company (BWBC)

Established in 1986

Licensed Products:

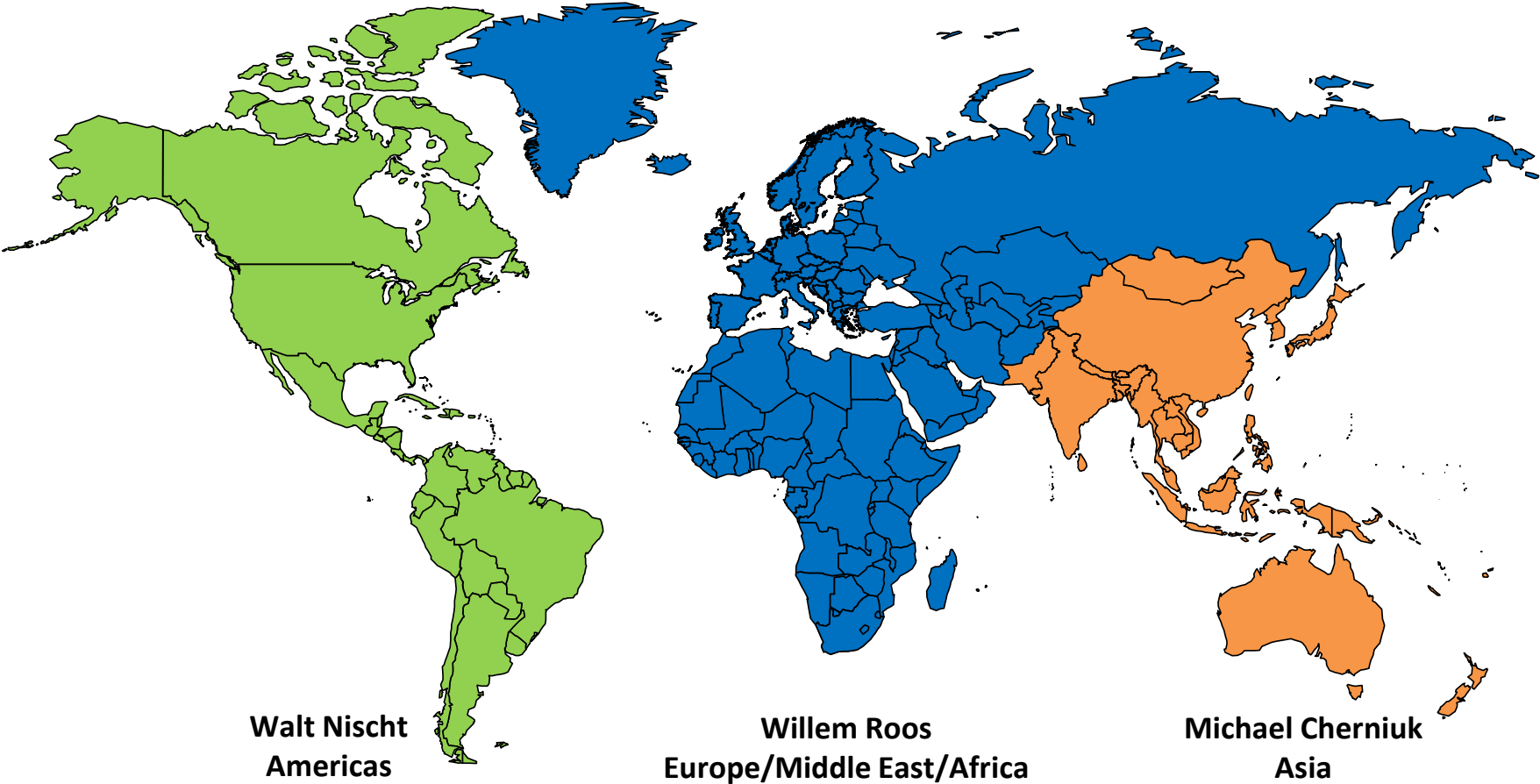
- Sub- and supercritical utility boilers
- Industrial and CFB Boilers
- Some environmental equipment (SCR and Low NO_x burners)

Manufacturing Capacity – 5,000 MW per year

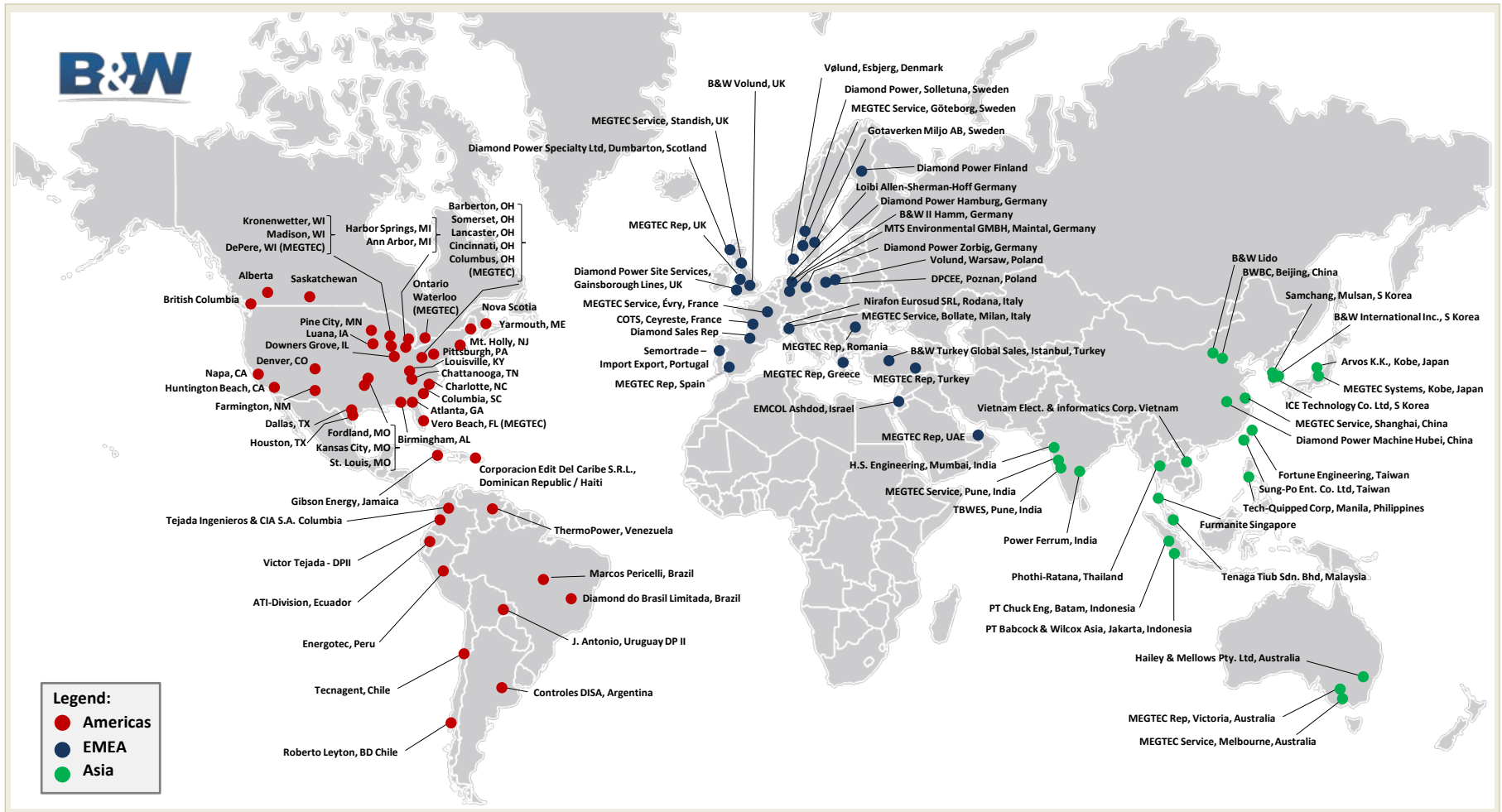
Markets – China and Export



Business Development/Sales Regions



Global Business Development and Sales Footprint



Babcock & Wilcox Locations

● Key Office and Manufacturing. ● Service Centers, Reps, Licensees

Key Office & Manufacturing

- Esbjerg/Copenhagen, Denmark
- Dumbarton, Scotland
- Straubing, Germany
- Gothenburg, Sweden
- Maintal, Germany

Key Office & Manufacturing

- Beijing, China
- Jingshan, China
- Shanghai, China
- Pune, India
- Jakarta, Indonesia
- Australia, Multiple Locations

Key Office & Manufacturing

- Charlotte, NC
- Barberton, OH
- Copley, OH
- Lancaster, OH
- Exton, PA
- De Pere, WI
- Cambridge, Ontario
- Folkston, GA
- Monterrey, Mexico
- Hatfield, PA
- Newport News, VA
- Salt Lake City, UT
- Kansas City, MO



Worldwide Manufacturing Facilities



| Manufacturing Plant | Square Meters | Main Products |
|---------------------------------|---------------|---|
| PTBWA-Jakarta, Indonesia | 1,755 | Power plant maint/services, Trading business (import/export): boilers, machineries, spare parts |
| Beijing, China, (Joint Venture) | 109,161 | Boilers, burners, SCRs |
| Cambridge, Ontario | 25,362 | Boilers, nuclear, pulp & paper |
| Pune, India (Joint Venture) | 64,939 | Boilers, burners, pulverizers |
| Monterrey, Mexico | 8,919 | Pressure parts, Package boilers |
| Esbjerg, Denmark | 12,449 | CHP/WTE boilers |
| DPII, Lancaster, OH | 42,085 | Boiler cleaning equipment |
| Copley, OH (Service Center) | 12,077 | Wear parts, pulverizer rebuilds |
| Exton, PA | | Material handling equipment |
| Kansas City, MO | | Wear parts, tubes, pulverizer rebuilds |

| Manufacturing Plant | Square Meters | Main Products |
|---------------------------------|---------------|--|
| DPII, Dumbarton, Scotland | 9,476 | Boiler cleaning equipment |
| DPII, Hubei, China | 23,133 | Boiler cleaning equipment |
| Loibl A-S-H, Straubing, Germany | 3,502 | Material handling equipment |
| KVB-Enertec, Hatfield, PA | 279 | Emissions monitoring |
| Folkston, GA | 10,219 | Precipitator components, mechanical |
| Newport News, VA | 464 | Precipitator components, electrical |
| De Pere, WI (MEGTEC) | 23,225 | Industrial emissions control equipment |
| Shanghai, China (MEGTEC) | 4,255 | Industrial emissions control equipment |
| Pune, India (MEGTEC) | 836 | Industrial emissions control equipment |
| Salt Lake City, UT | 4,571 | Wear parts, tubes, pulverizer rebuilds |

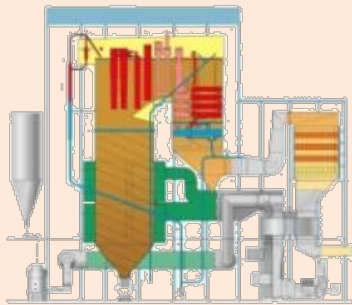


Advanced Technology Portfolio

Enhancing and Adapting for Global Markets

Steam Generators

- Highest efficiency coal-fired design
- Base-loaded, full-cycling
- Largest supercritical boilers in world
- Spiral & vertical tube PC & CFB boilers
- State-of-art metallurgy & beyond



Ultra-Supercritical Boiler

Environmental

- NO_x reduction
- SO₂ control
- Particulate control
- Acid gas reduction
- Mercury removal
- Ash management



*Total Environmental Solutions
for Utility & Industrial*

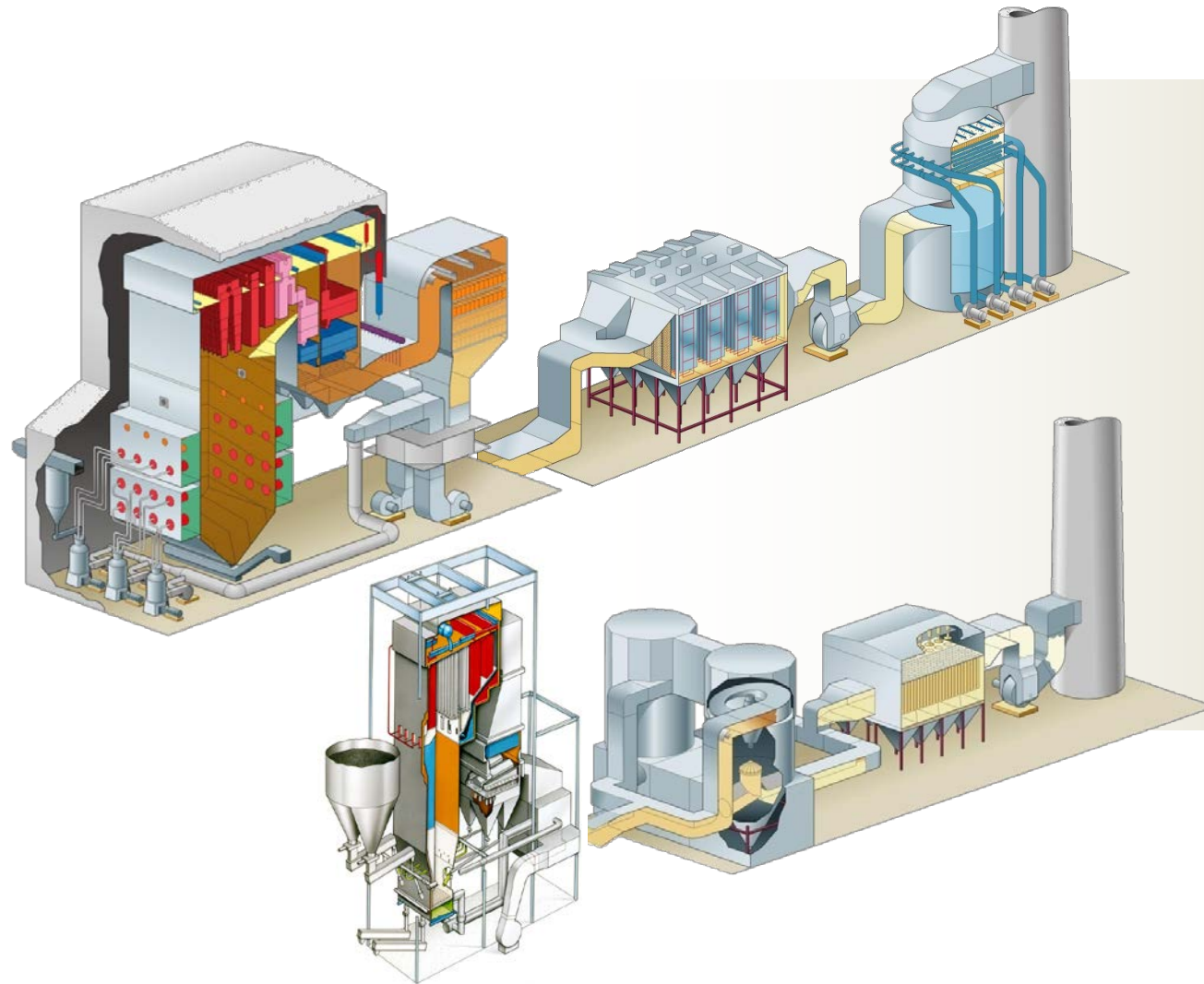
Renewables

- Biomass
- Waste-to-Energy for RDF & MSW
- Grate, BFB & CFB boilers



*Copenhagen – Amager Bakke
Waste-to-Energy plant in Denmark*

Steam Generator and Environmental Technology Solutions – New & Retrofit



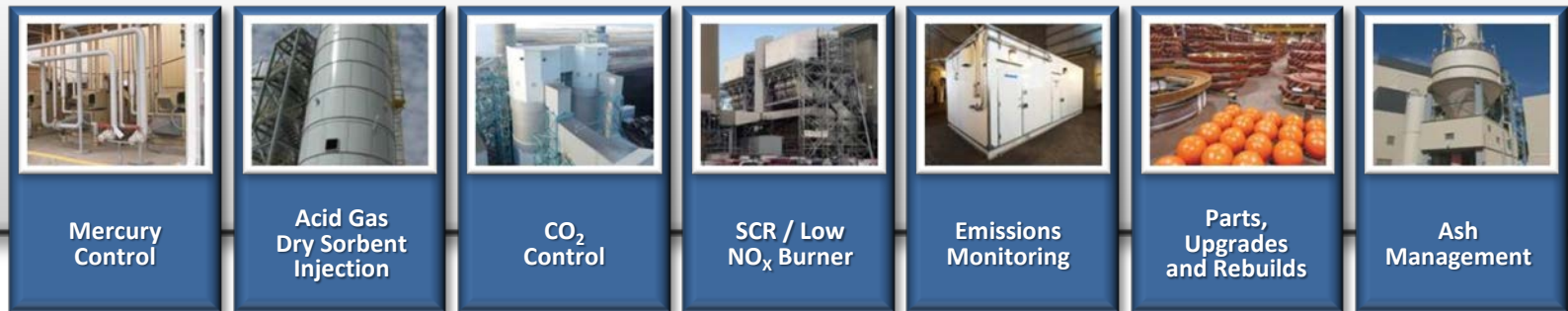
Product & Services

- Boilers
- Environmental (FGT)
- Field Services
- Construction (N.A.)
- O&M Services
- Boiler Cleaning
- Ash Handling
- O&M Enhancements

Environmental Technology Portfolio



Providing Customized Environmental Solutions



Steam Generation Technology Portfolio

Ultra-Supercritical Utility Boilers



Subcritical Utility Boilers



CFB Boilers and WtE



BFB Boilers and WtE



Recovery Boilers



An Extensive Array of Technologies

Grate-Fired Refuse Boilers



HRSB Boilers



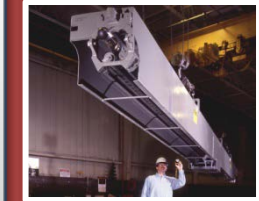
Package Boilers



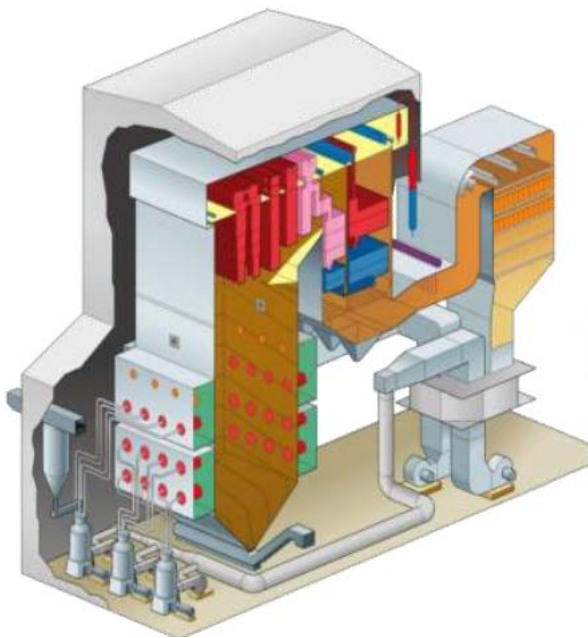
Multi-Fuel Industrial Boilers



Sootblowers
Ash & Material Handling

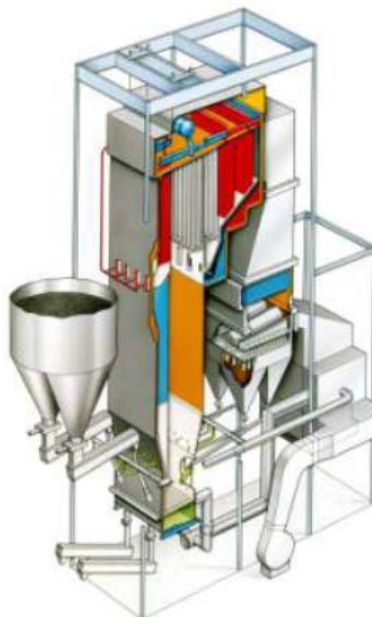


Utility Power Steam Generators Subcritical & Supercritical Pressure



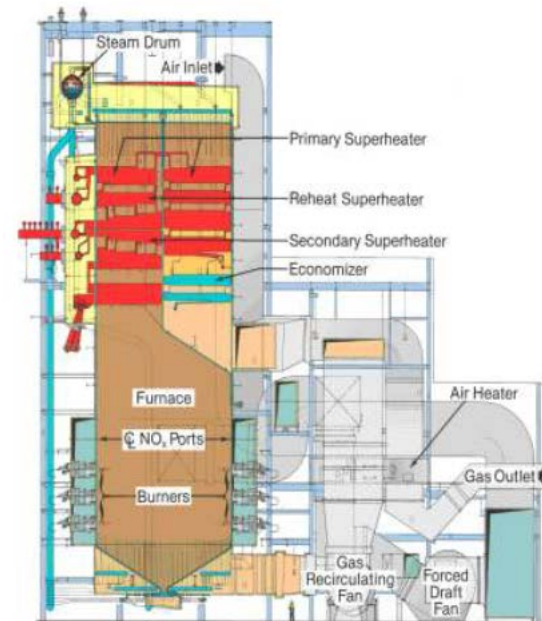
Pulverized Coal

~100 MW to 1300 MW



**Circulating
Fluidized-Bed**

~50 MW to 660 MW

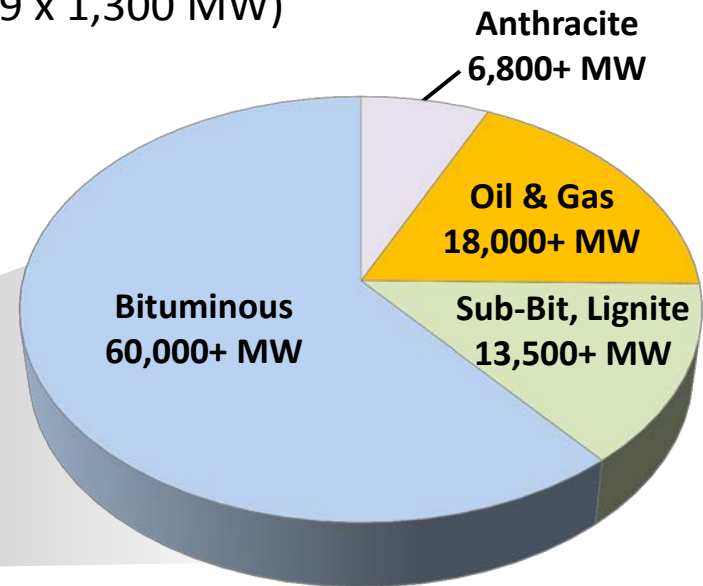
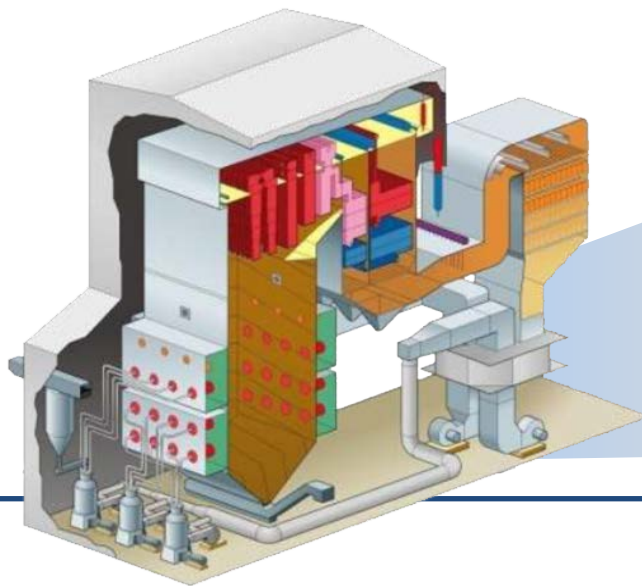


Heavy Fuel Oil

~100 MW to 800 MW

B&W Supercritical Boiler Technology

- 99,000+ MW Total Capacity
- 1st Ultra-supercritical (314 bar) unit, 1957
- Largest supercritical boilers in the world (9 x 1,300 MW)

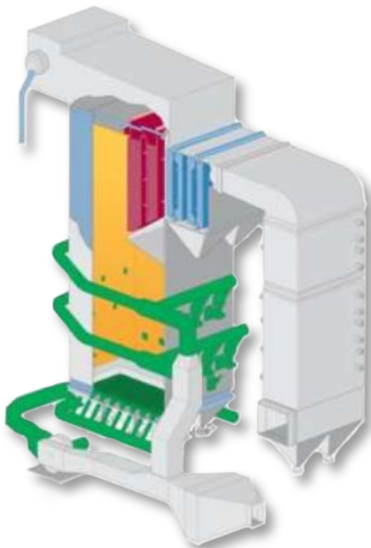
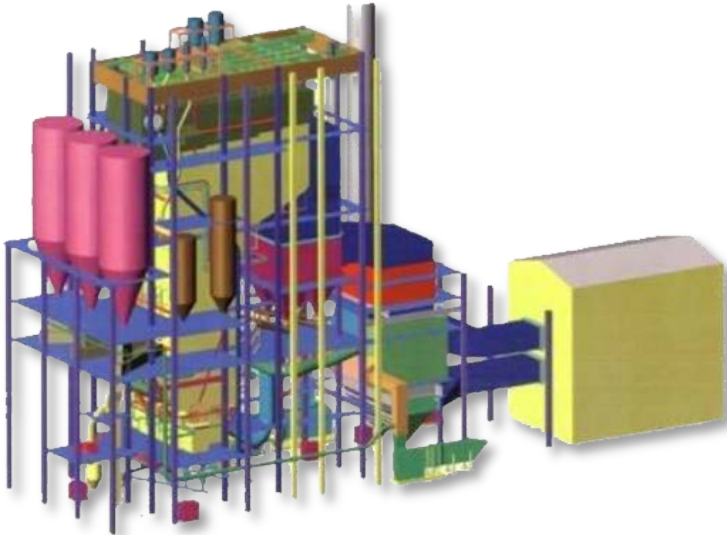


- **Total Supercritical Boilers – 148**
- **Base-loaded and Full-cycling designs**
- **Variable Pressure Designs – 40% of units**



Biomass Technology Portfolio

Circulating Fluidized-Bed (CFB)

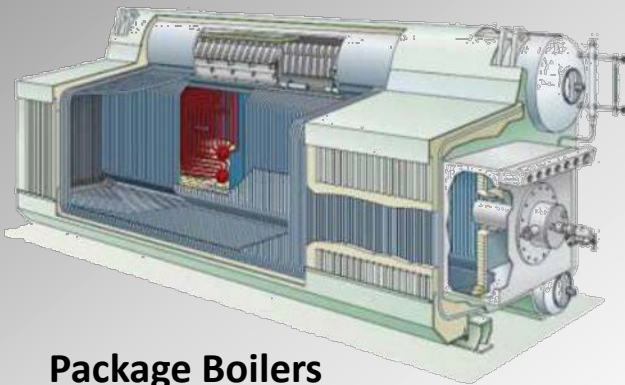


Bubbling Fluidized-Bed (BFB)

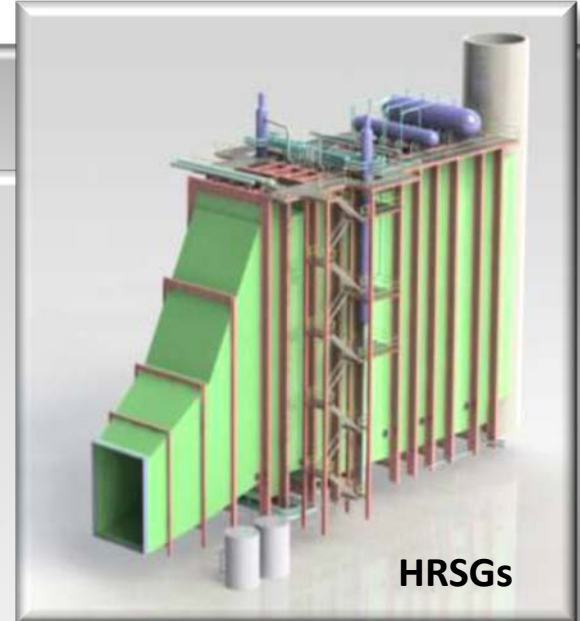
Stoker/Grate-Fired Boilers



Industrial Gas/Oil-Fired Boilers and HRSGs New and Retrofit



Package Boilers



HRSGs

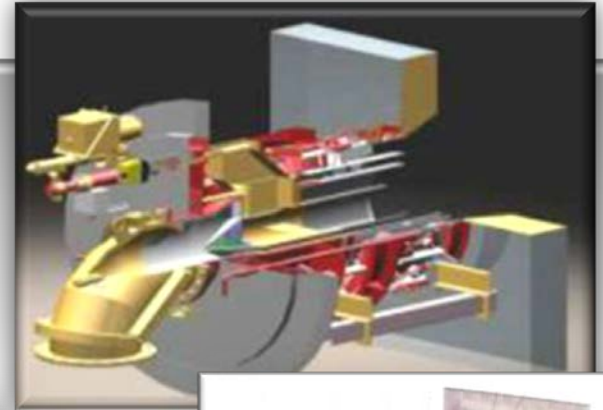
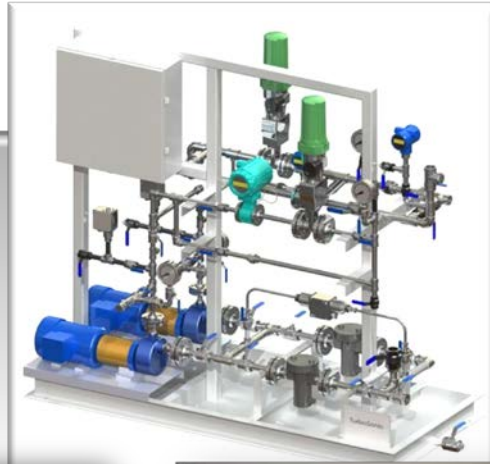


Industrial Multi-Fuel Boilers

DeNO_x Systems



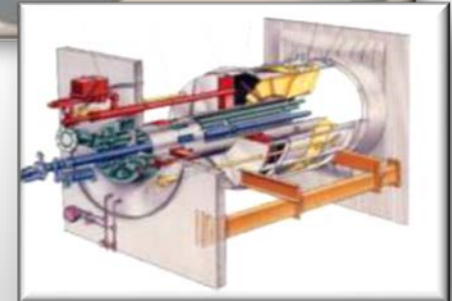
**Selective
Catalytic
Reduction**



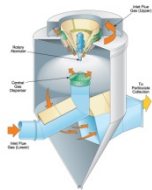
**Low NO_x Burners –
PC & HFO**



**Selective Non-Catalytic
Reduction**



Flue Gas Treatment Systems – DeSO_x



Spray Dry FGD System

- Up to 98% SO₂ removal
- Lower sulfur fuels
- Traditionally <1.5% sulfur coal, but with hydrated lime, virtually unlimited
- Dry product for landfill, Uses lime



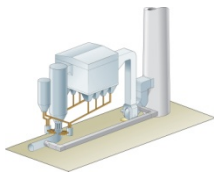
Wet FGD

- Up to 98+% SO₂ removal
- High sulfur fuels (>1.5%)
- More fuel flexibility
- Marketable byproduct
- Typically uses limestone



Dry Sorbent Injection

- Usually lime or sodium based
- Injected before particulate control device
- Used for SO₂, SO₃, HCl control



Circulating Dry Scrubber

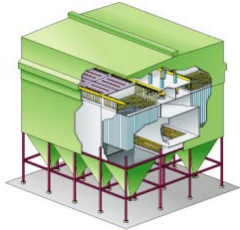
- Up to 98+% SO₂ removal
- Higher sulfur fuels (>1.5%)
- More fuel flexibility
- Dry product for landfill
- Uses lime which is hydrated on-site



Seawater Scrubber

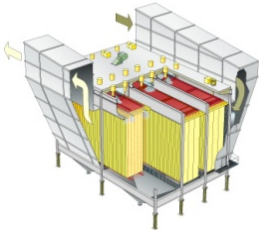
- International applications
- Uses warm seawater
- No byproduct

Particulate Control



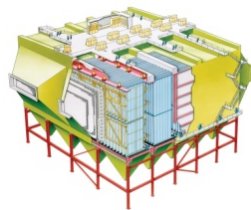
Pulse Jet Fabric Filter

- Emissions $<10\text{mg}/\text{Nm}^3$
- Acts as secondary scrubber with sorbent injection
- Installed $>99\%$ after SDA or CDS
- Can be used in series with ESP for Hg control



Wet ESP

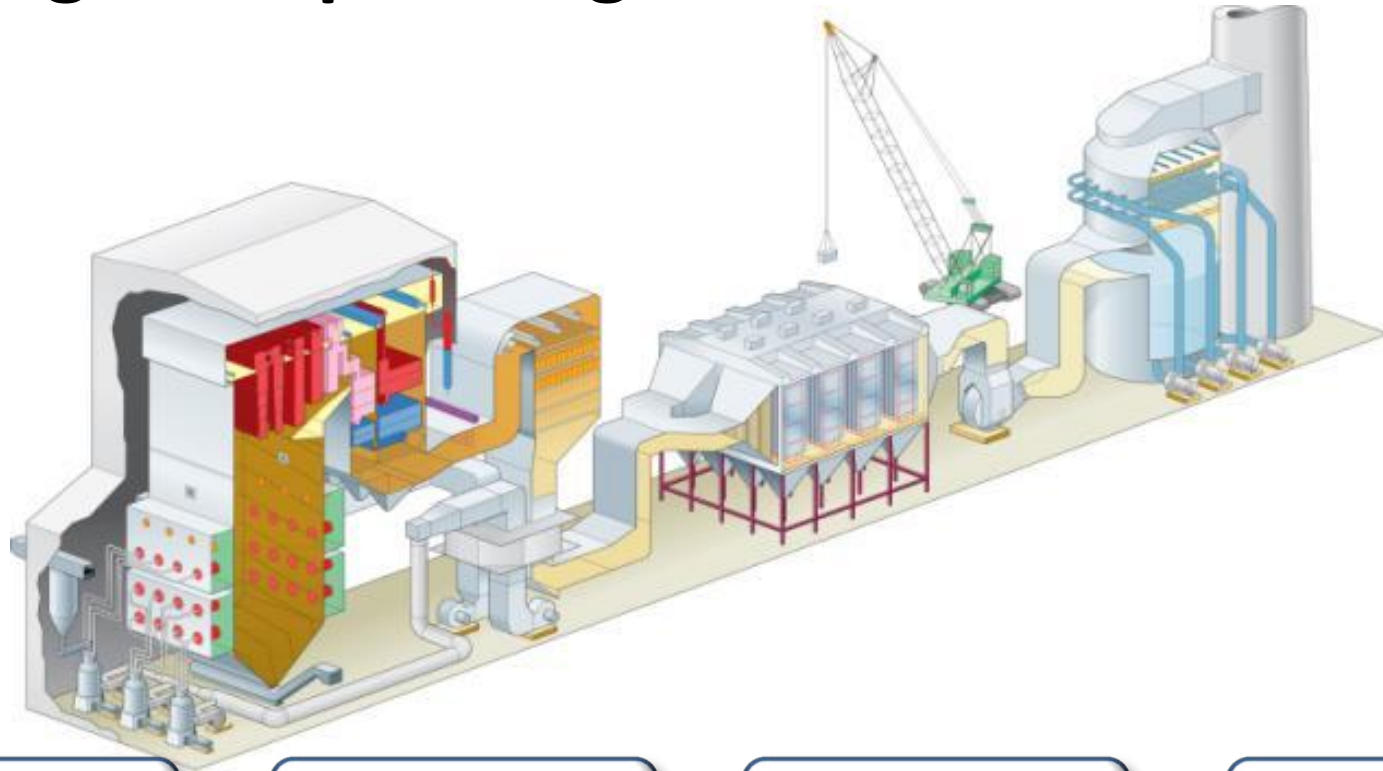
- Final filter after Wet FGD
- Collects residual solids carryover, $\text{SO}_3/\text{H}_2\text{SO}_4$
- One solution to blue plume
- Usually for high sulfur fuel
- Minimizes condensable emissions



Dry ESP

- Workhorse of utility industry
- Low O&M cost
- Can provide $>99.5\%$ collection efficiency

Serving the Operating Fleet from Chute to Stack



Service Projects

Maximizing the Capability
of Your Equipment

Field Service

Trusted Advisors for
Reliable Operation

Replacement Parts

Delivering Quality Parts,
Programs & Services

Boiler Cleaning Solutions

Intelligent
Control Solutions



B&W Environmental Aftermarket Services

Product and Service Offerings



Wet FGD

Upgrades, rebuilds of existing
85,000 MW, replacement parts



Dry ESPs

Rebuilds, service,
inspections and parts



SO₂ or SO₃ Control

Trona and lime
injection systems



SCR and SNCR

Tuning services, catalyst management
and regeneration, DeNO_x systems



Field Specialists

Support and train O&M personnel,
inspections, troubleshooting



Resident Service Engineers

RSE programs together
with B&W FES



Dry FGD

Upgrades, rebuilds (of existing 12,000 MW),
Niro atomizer and system parts



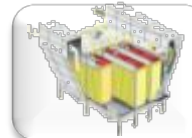
Fabric Filters

ESP to FF conversions;
replacement bags and parts



Mercury Control

Wet FGD re-emission additive,
Fuel additive for PRB units and PAC



Wet ESPs

Parts and upgrades
for existing units



Remote Consulting

Support for troubleshooting, O&M,
process performance, “over the phone”



Emissions Monitoring

CEMS including field service/support and
replacement parts, DAHS software and
remote monitoring and diagnostic services

