



BABCOCK  
& WILCOX

# COMPANY OVERVIEW

MAY 9, 2024



# SAFE HARBOR STATEMENT

B&W Enterprises cautions that this presentation contains forward-looking statements within the meaning of federal securities laws. All statements other than statements of historical or current fact included in this presentation are forward-looking statements, including, without limitation, statements relating to the company's business outlook and expected financial performance, including adjusted EBITDA and sales targets, expectations regarding future growth, expansion and profitability, outlook and expectations regarding B&W's BrightLoop™ technologies, as well as statements about B&W's future pipeline of new projects and business within its Renewable, Environmental and Thermal operating segments and their impact on future shareholder value. These forward-looking statements are based on management's current expectations and involve a number of risks and uncertainties, including, among other things: our financial condition and ability to continue as a going concern; risks associated with contractual pricing in our industry; our relationships with customers, subcontractors and other third parties; our ability to comply with our contractual obligations; disruptions at our or manufacturing facilities or a third-party manufacturing facility that we have engaged; the actions or failures of our co-venturers; our ability to implement our growth strategy, including through strategic acquisitions, which we may not successfully consummate or integrate; our evaluation of strategic alternatives for certain businesses and non-core assets may not result in a successful transaction; the risks of unexpected adjustments and cancellations in our backlog; professional liability, product liability, warranty and other claims; our ability to compete successfully against current and future competitors; our ability to develop and successfully market new products; the impacts of industry conditions and public health crises; the cyclical nature of the industries in which we operate; changes in the legislative and regulatory environment in which we operate; supply chain issues, including shortages of adequate components; failure to properly estimate customer demand; our ability to comply with the covenants in our debt agreements; our ability to refinance our 8.125% Notes due 2026 and 6.50% Notes due 2026 prior to their maturity; our ability to maintain adequate bonding and letter of credit capacity; impairment of goodwill or other indefinite-lived intangible assets; credit risk; disruptions in, or failures of, our information systems; our ability to comply with privacy and information security laws; our ability to protect our intellectual property and use the intellectual property that we license from third parties; risks related to our international operations, including fluctuations in the value of foreign currencies, global tariffs, sanctions and export controls; could harm our profitability; volatility in the price of our common stock; B. Riley's significant influence over us; changes in tax rates or tax law; our ability to use net operating loss and certain tax credits; our ability to maintain effective internal control over financial reporting; our ability to attract and retain skilled personnel and senior management; labor problems, including negotiations with labor unions and possible work stoppages; risks associated with our retirement benefit plans; natural disasters or other events beyond our control, such as war, armed conflicts or terrorist attacks and the other factors specified and set forth under "Risk Factors" in our periodic reports filed with the Securities and Exchange Commission, including, without limitation, the risks described in the Company's Annual Report on Form 10-K for the year ended December 31, 2023 under the caption "Risk Factors" and "Management's Discussion and Analysis of Financial Condition and Results of Operations" (as applicable). These factors should be considered carefully, and B&W Enterprises cautions you not to place undue reliance on these forward-looking statements, which speak only as of the date of this presentation, and undertakes no obligation to update or revise any forward-looking statement, except to the extent required by applicable law.

## Non-GAAP Financial Measures

Adjusted EBITDA on a consolidated basis is a non-GAAP metric defined as the sum of the adjusted EBITDA for each of the segments, further adjusted for corporate allocations and research and development costs. At a segment level, adjusted EBITDA presented is consistent with the way our chief operating decision maker reviews the results of operations and makes strategic decisions about the business and is calculated as earnings before interest expense, tax, depreciation and amortization adjusted for items such as gains or losses arising from the sale of non-income producing assets, net pension benefits, restructuring costs, impairments, gains and losses on debt extinguishment, costs related to financial consulting, research and development costs and other costs that may not be directly controllable by segment management and are not allocated to the segment. We present consolidated Adjusted EBITDA because we believe it is useful to investors to help facilitate comparisons of our ongoing, operating performance before corporate overhead and other expenses not attributable to the operating performance of our revenue generating segments. In this presentation, we also present certain targets for our adjusted EBITDA in the future; these targets are not intended as guidance regarding how we believe the business will perform. We are unable to reconcile these targets to their GAAP counterparts without unreasonable effort and expense due to the aspirational nature of these targets.

# WE'RE A GLOBAL ENERGY LEADER CREATING A BRIGHTER FUTURE

## Providing high quality and innovative technologies since 1867


- From our first patent for a more efficient boiler to more than 17,000 patents since, we continue to drive innovation and change
- Today, we are a globally recognized technology leader and innovator at the forefront of the energy transition

## Ensuring energy security for customers and the world

- Helping utility and industrial customers with the technical challenges of moving from current to future energy sources
- Delivering systems, parts and field services to help utility and industrial plants operate more effectively and efficiently

## Making net zero ambitions a reality today

- Our hydrogen production, carbon capture, waste- and biomass-to-energy, and environmental technologies support the reduction of greenhouse gases, including CO<sub>2</sub> and methane, in an environmentally friendly way



WE PROVIDE  
PROVEN, BEST-IN-  
CLASS POWER  
PRODUCTION  
TECHNOLOGIES AND  
ARE LEADING THE  
WAY TO A  
NET-ZERO FUTURE.

# WE'RE HELPING CUSTOMERS CREATE CLEAN AND RELIABLE ENERGY

CLEAN ENERGY SOLUTIONS



## SUPPORTING A CIRCULAR ECONOMY

Ecologically sound ways of using and recycling resources like biomass and municipal waste to create clean, renewable baseload power while reducing greenhouse gas emissions.



## REDUCING THE IMPACT OF GREENHOUSE GAS EMISSIONS

Hydrogen production, carbon capture, ash handling, cooling systems, energy recovery and storage, and advanced emissions control solutions to help preserve the world's natural resources.

TRADITIONAL



## CREATING RELIABLE AND EFFICIENT STEAM GENERATION

Providing boilers and related equipment, aftermarket parts, service and upgrades to help utilities and industries generate reliable thermal energy from a wide range of fuels and bridge the gap during the global transition to new energy sources.

DELIVERING VALUE THROUGH TECHNOLOGY-DRIVEN PRODUCTS AND SERVICES, WITH CONTINUAL PRODUCT IMPROVEMENT AND ROBUST R&D EFFORTS TO SUPPORT CURRENT AND FUTURE ENERGY NEEDS



# THE FOUNDATION OF OUR COMPANY

## **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



# WE'RE STRENGTHENING OUR BUSINESS TO ACHIEVE PROFITABLE GROWTH AS WE CONTINUE TO PROVIDE PROVEN CLEAN ENERGY TECHNOLOGIES

- Continue to expand geographical presence in Thermal and Renewable aftermarket parts and services
- Leverage our advanced thermal technologies to support fuel switching projects
- Increase focus on higher-margin aftermarket parts and services across all three business segments
- Implementing up to \$30 million in cost reductions associated with strategic realignment
- Entered into new \$150 million senior secured credit facility to reduce interest expense associated with letters of credit and revolving lines of debt
- Strengthen balance sheet and evaluate strategic alternatives for non-strategic assets
- Utilize state and federal project-level financing to accelerate deployment of BrightLoop™
- Utilize FEED studies to drive ClimateBright™ technology bookings
- Target full-year 2024 adjusted EBITDA of \$105M to \$115M, excluding BrightLoop and ClimateBright expenses<sup>1</sup>

1) We are unable to reconcile this target to its GAAP counterpart without unreasonable effort and expense due to the aspirational nature of this target

# WE'RE LEVERAGING A VAST INSTALLED BASE AND PROVEN TECHNOLOGIES



- ▶ More than 500 waste-to-energy and biomass-to-energy units at 300+ facilities globally (consuming over 61 million tonnes of waste per year) and a leader in plant availability
- ▶ Serving utility, waste management, municipality and investment firm customers



- ▶ Large worldwide installed base of wet and dry scrubbers for SO<sub>x</sub> reduction, particulate control equipment, NO<sub>x</sub> reduction technologies, and mercury control systems to meet environmental regulations
- ▶ Flue gas pre-treatment technologies for use with CO<sub>2</sub> capture
- ▶ Nearly 2,000 wet, dry and hybrid cooling system units (10,000+ cells) installed globally



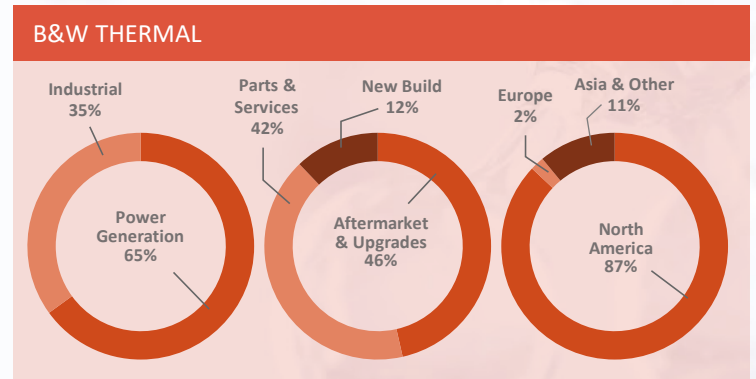
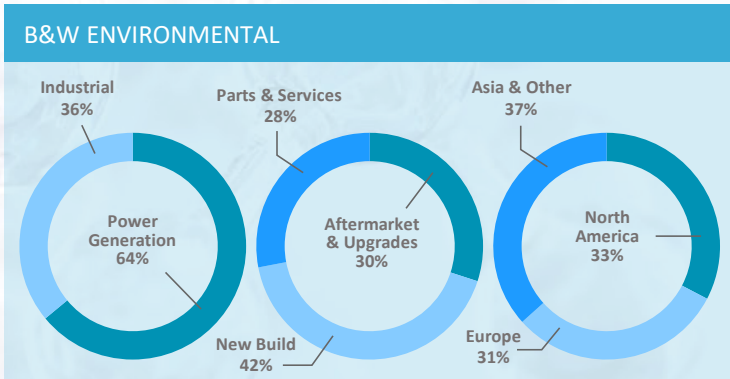
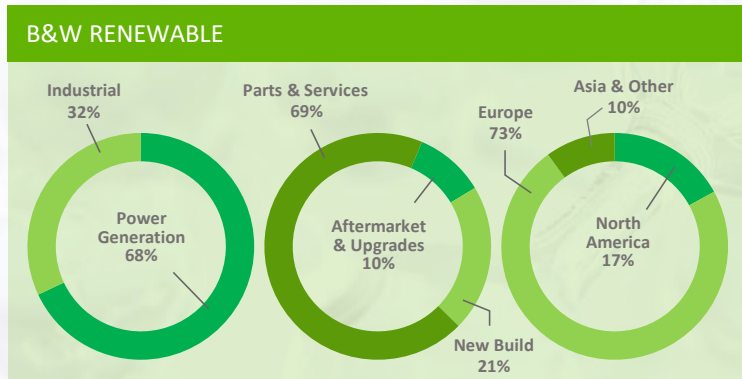
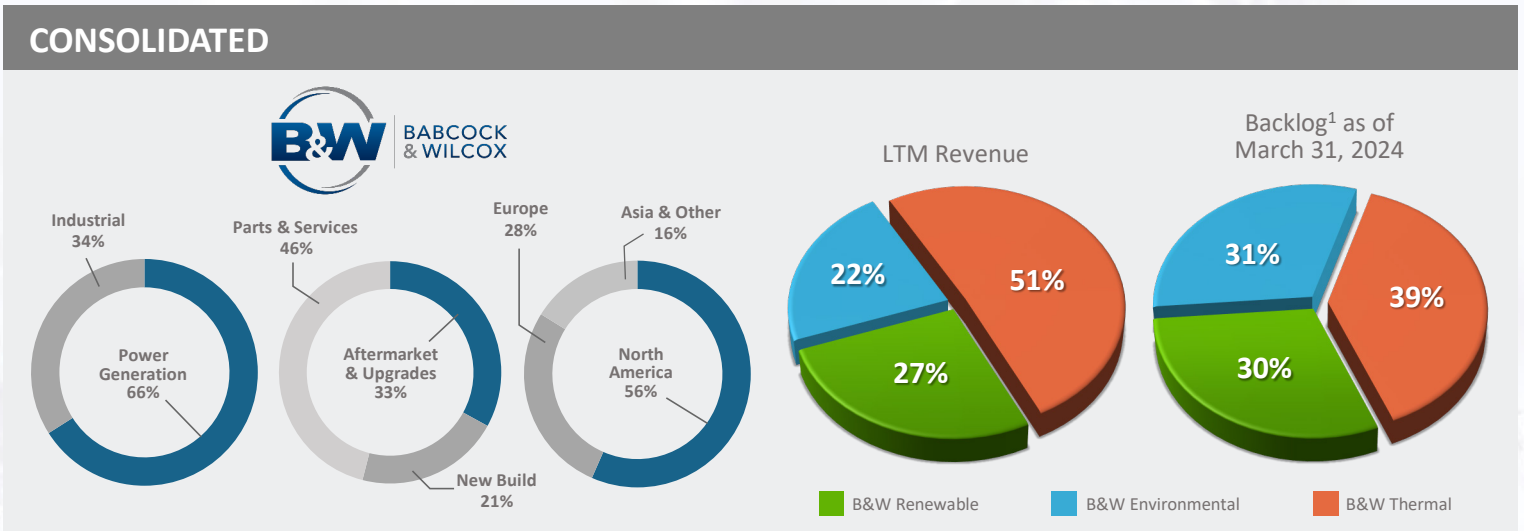
- ▶ More than 300 operating utility and industrial boiler units in the U.S. and nearly 200 operating utility and industrial boiler units across 40 countries around the world
- ▶ More than 5,000 industrial water-tube package boilers and other waste heat recovery products installed in a variety of facilities
- ▶ Average approximately 500,000 Boilermakers' construction manhours per year over last five years

**A VAST GLOBAL INSTALLATION OF B&W'S CORE TECHNOLOGIES AT UTILITY AND INDUSTRIAL PLANTS CREATE LARGE GROWTH OPPORTUNITIES FOR PARTS, SERVICES AND RETROFITS**



# BABCOCK & WILCOX PROFILE

CORPORATE SNAPSHOT	
Headquarters:	Akron OH, USA
Founded:	1867
Ownership:	Public (NYSE:BW)
Employees:	~2,200
LTM Revenue March 2024:	~\$965.7M
2024 EBITDA Target:	\$105M to \$115M <sup>2</sup>



Notes: All charts based on LTM March 31, 2024 revenues, unless otherwise noted.

1. Backlog does not include shorter lead-time parts and services.

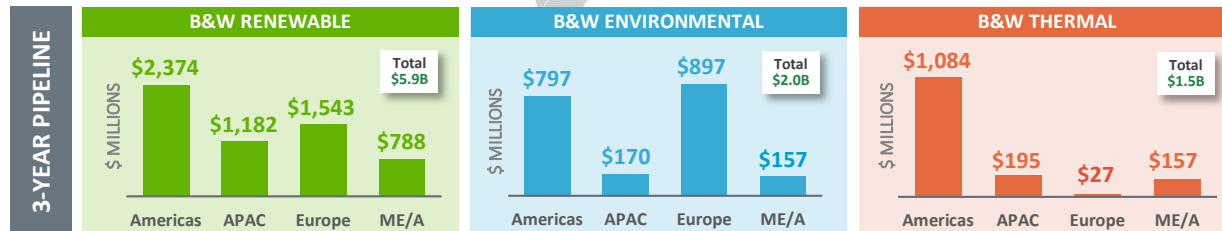
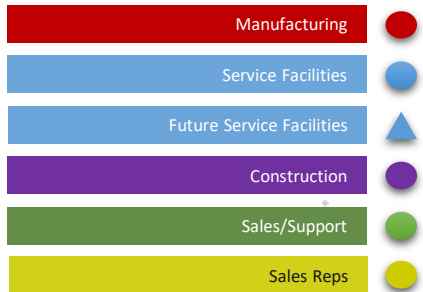
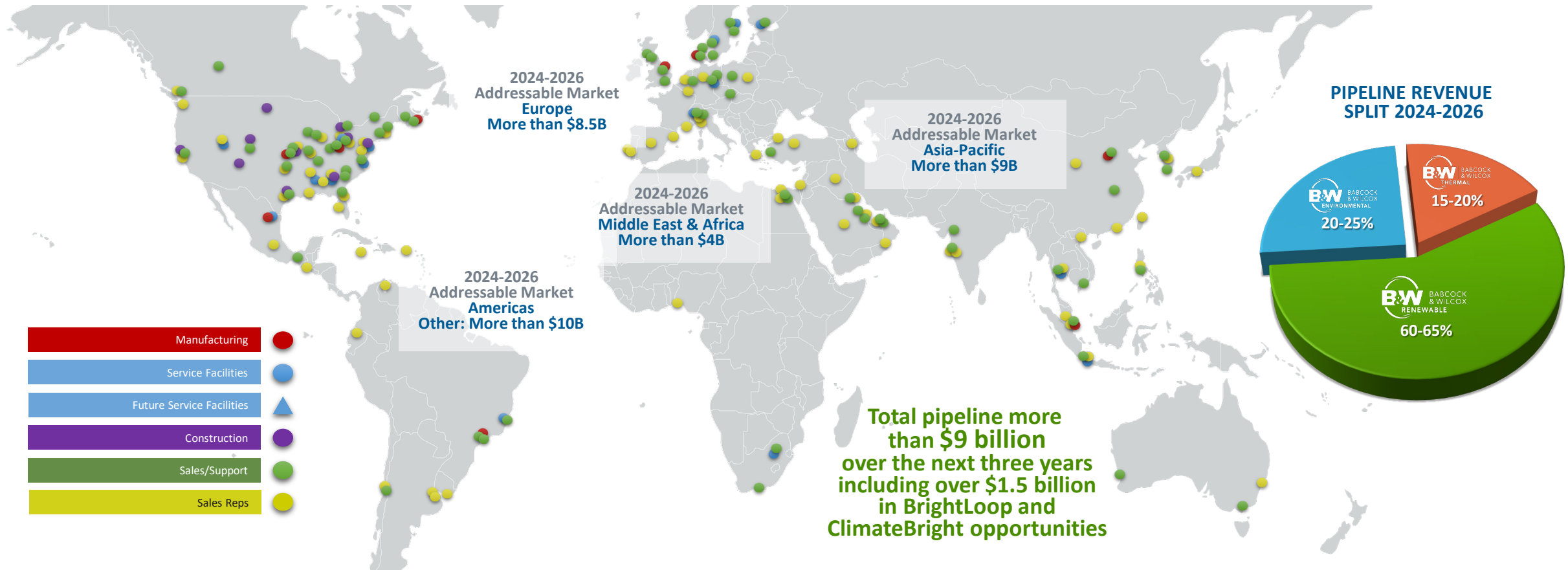
2. The most comparable GAAP target is not available without unreasonable effort. Target is based on continuing operations excluding BrightLoop™ and ClimateBright™ expenses.

Disclaimer: B&W Enterprises cautions not to place undue reliance on any forward-looking statements, which speak only as of the date of this presentation and may be impacted by the risks described in our SEC reports.

We undertake no obligation to update or revise any forward-looking statement, except to the extent required by applicable law.



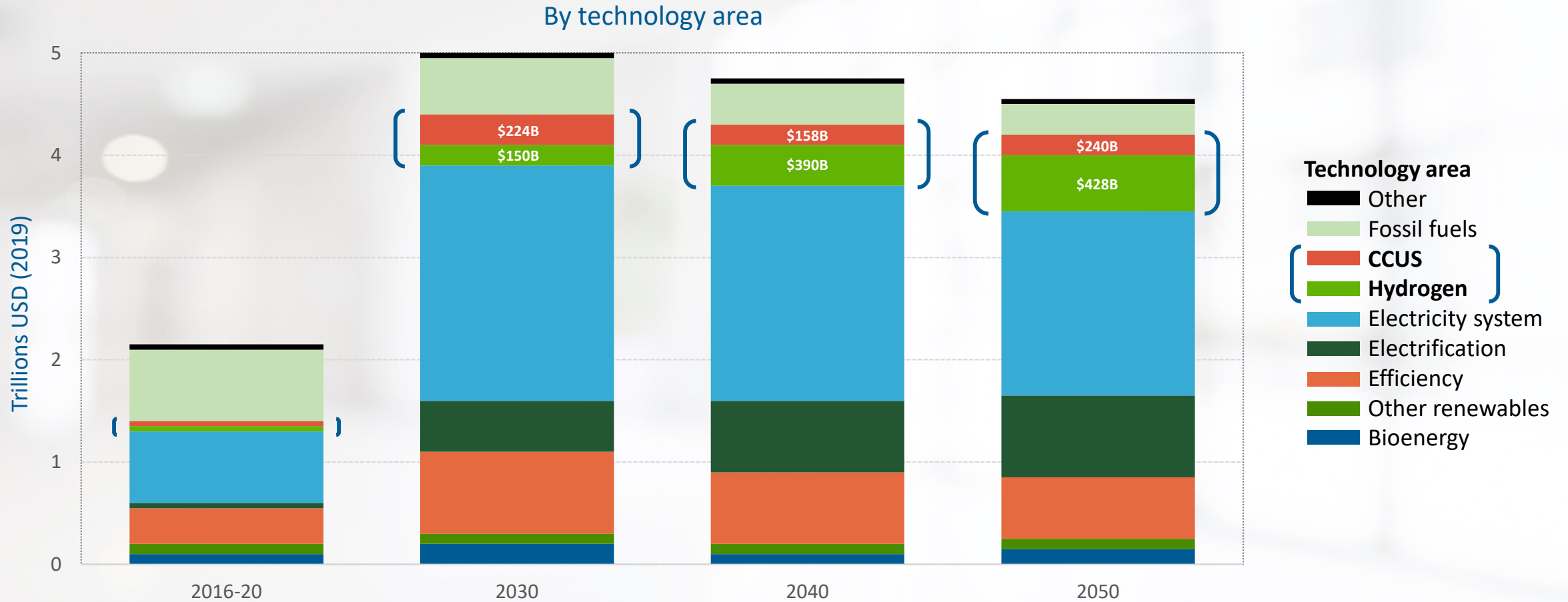
# A SOLID PIPELINE OF GLOBAL OPPORTUNITIES



## A WIDE FOOTPRINT AND ONGOING EXPANSION POSITIONS B&W TO LEVERAGE MARKET TRENDS AROUND THE WORLD

Disclaimer: B&W Enterprises cautions not to place undue reliance on any forward-looking statements, which speak only as of the date of this presentation and may be impacted by the risks described in our SEC reports. We undertake no obligation to update or revise any forward-looking statement, except to the extent required by applicable law.

# GLOBAL ANNUAL CAPITAL INVESTMENT IN CARBON CAPTURE AND HYDROGEN IS GROWING



## ANNUAL AVERAGE CAPITAL INVESTMENT IN THE NET-ZERO EMISSIONS (NZE) SCENARIO

Source: IEA

# BRIGHTLOOP™ HYDROGEN PRODUCTION

## FEEDSTOCK OPTIONS

BIOMASS



BIOGAS



NATURAL GAS



COAL



PETROLEUM COKE



Nitrogen  
for Beneficial Use



CO<sub>2</sub>  
for Storage/Beneficial Use

## OUTPUT OPTIONS

HYDROGEN



STEAM



ELECTRICITY



SYNGAS

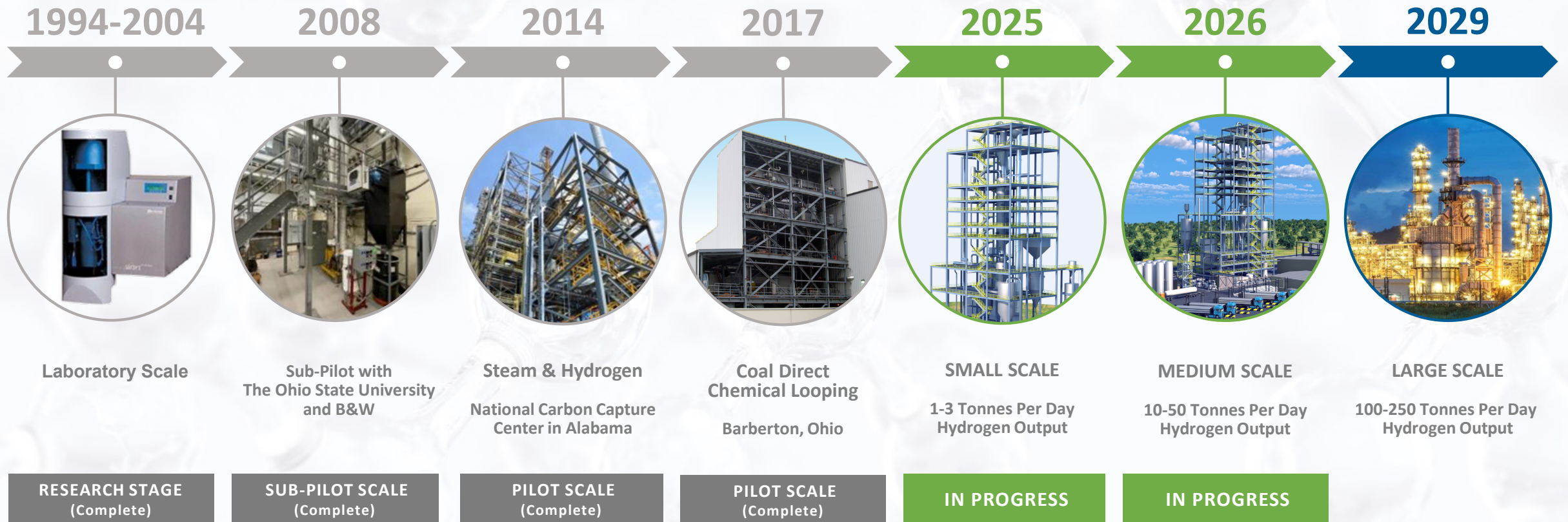


## SIGNIFICANT ADVANTAGES:

- Hydrogen from solid fuels – can utilize a variety of solid or gaseous fuels as feedstock
- High rate of carbon captured – inherent CO<sub>2</sub> isolation supports sequestration or utilization without the expensive post combustion capture equipment and operation
- Competitive hydrogen cost – lower levelized cost of hydrogen when compared to other hydrogen production methods
- High quality hydrogen – production from steam produces higher quality as compared to separating hydrogen from fuel
- Scalable for a range of applications – accommodates both large and small applications

# BRIGHTLOOP™ HYDROGEN PRODUCTION PROGRESS

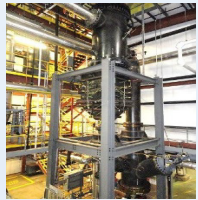
## BRIGHTLOOP™ EVOLUTION



# LEVERAGING DECADES OF FUNDING AWARDS AND INVESTMENTS

CONTINUE TO SCALE THIS INDUSTRY – CHANGING TECHNOLOGY

## COAL DIRECT CHEMICAL LOOPING (CDCL)



**2,000** **50**

OPERATING HOURS

STARTUP / SHUTDOWNS

## NATIONAL CARBON CAPTURE CENTER (NCCC)



**1,000** **20**

OPERATING HOURS

STARTUP / SHUTDOWNS

2009 CL with OSU

2010 NCCC Design & Construction

2010 NCCC Testing

2012 – 2014 CDCL DOE Techno-Economic Analysis

2016 – 2018 DOE Pre-FEED CDCL

2022 - Present Commercialization

## THE OHIO STATE UNIVERSITY

### TGA TESTING

**500** **10,000**  
TEST RUNS HOURS OF TESTING

### 3 Reactor SUB-PILOT

**50** **1,000**  
TEST RUNS HOURS OF TESTING

### BENCH SCALE

**200** **5,000+**  
TEST RUNS HOURS OF TESTING

### SUB-PILOT

**50+**  
TEST RUNS

**2,000+**  
HOURS OF TESTING

**75**  
STARTUP / SHUTDOWNS

### PATENTED IRON OXIDE PARTICLE

**10,000+**  
CYCLE TIMES

**3,000+**  
HOURS OF TESTING

**10,000+**  
TOTAL TESTING HOURS



Experts Trained

**70** OSU CL RESULTED PHDS  
**100** GRAD STUDENTS  
**250** OTHER STUDENTS AND STAFF

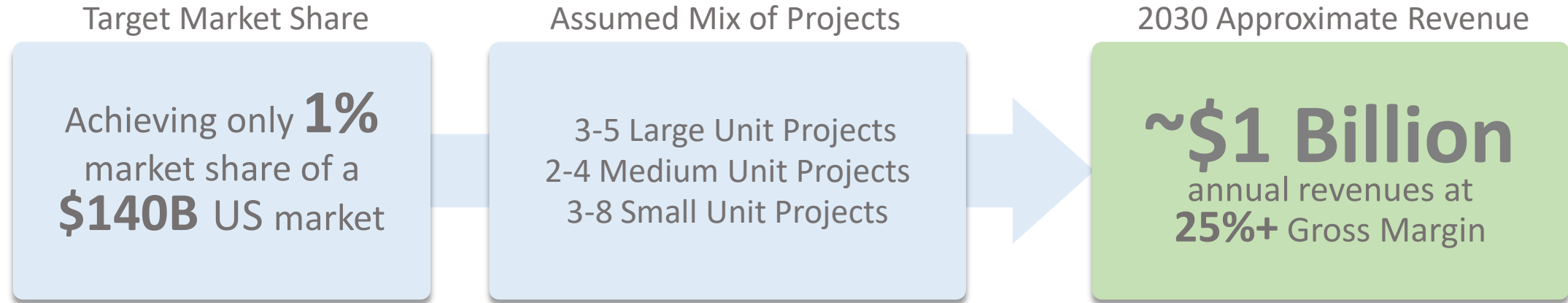
### TOTAL R&D INVESTMENT

**\$275M+**

DOE GRANTS – STATE GRANTS – OSU – B&W to study impact of various feedstocks on hydrogen production and advance the technology

# UNLOCKING FUTURE REVENUE POTENTIAL OF BRIGHTLOOP AND POSITION BASED ON MARKET

WITH SIGNIFICANT GROWTH OF HYDROGEN PROJECTED



B&W currently has 8 projects in pipeline which alone total over \$1Billion

## B&W Project Timeline:

- 2025 – Producing hydrogen from the first small unit
- 2026 – Producing hydrogen from the first medium unit
- 2030 – Booking multiple units of each size per year

\*Market Data from IEA Net Zero by 2050 A Roadmap for the Global Energy Sector

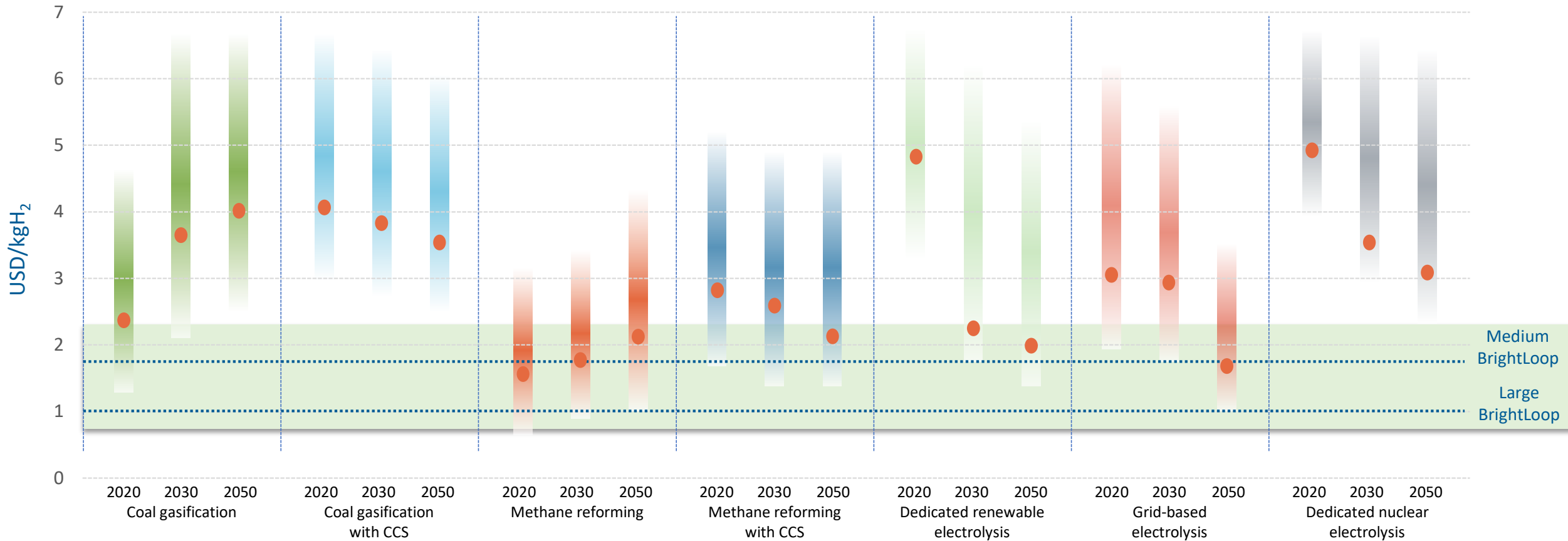


# HYDROGEN PRODUCTION AND COSTS

*BrightLoop™ produces low-cost hydrogen compared to the competition*

Levelized cost of hydrogen after support by production route

● weighted world average

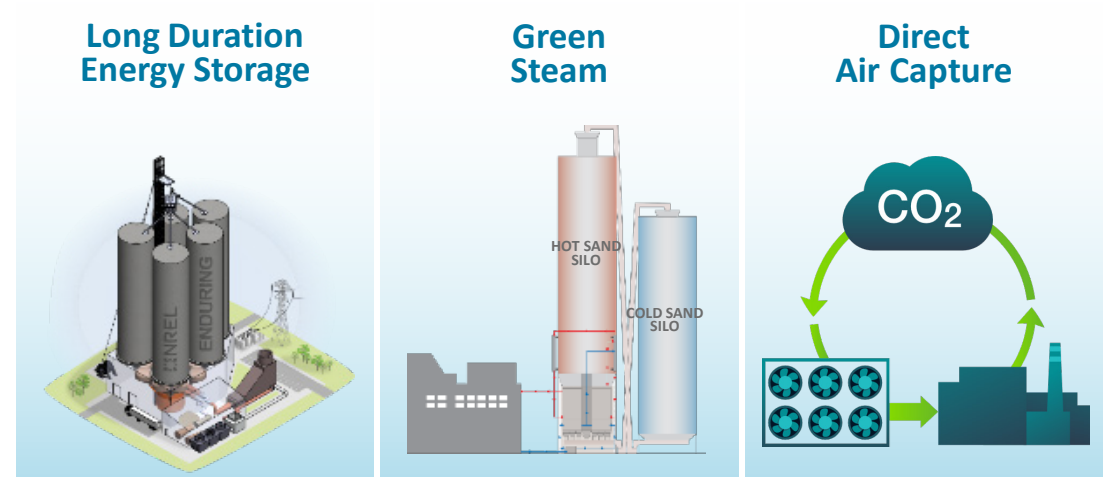


Note: BLH Projections based on \$1 / MMBTU feedstock; Source: DNV

# GLOBAL LEADER IN CLEAN POWER PRODUCTION TECHNOLOGIES — OUR CLIMATEBRIGHT™ SUITE



## EMERGING TECHNOLOGIES



- B&W is at the forefront of developing CO<sub>2</sub> capturing technologies
- Multiple technologies ready for commercial demonstration
- 93 active patents related to carbon capture technology
- Positioned to provide critical solutions to meet global climate goals

**B&W'S PORTFOLIO OF CLEAN POWER PRODUCTION SOLUTIONS CONTINUES TO EVOLVE TO REACH CUSTOMERS AT ALL STAGES OF THEIR ENERGY TRANSITION.**



# INFLATION REDUCTION ACT FOR CLIMATEBRIGHT™

## Clean Hydrogen Production Tax Credit (PTC): 45V

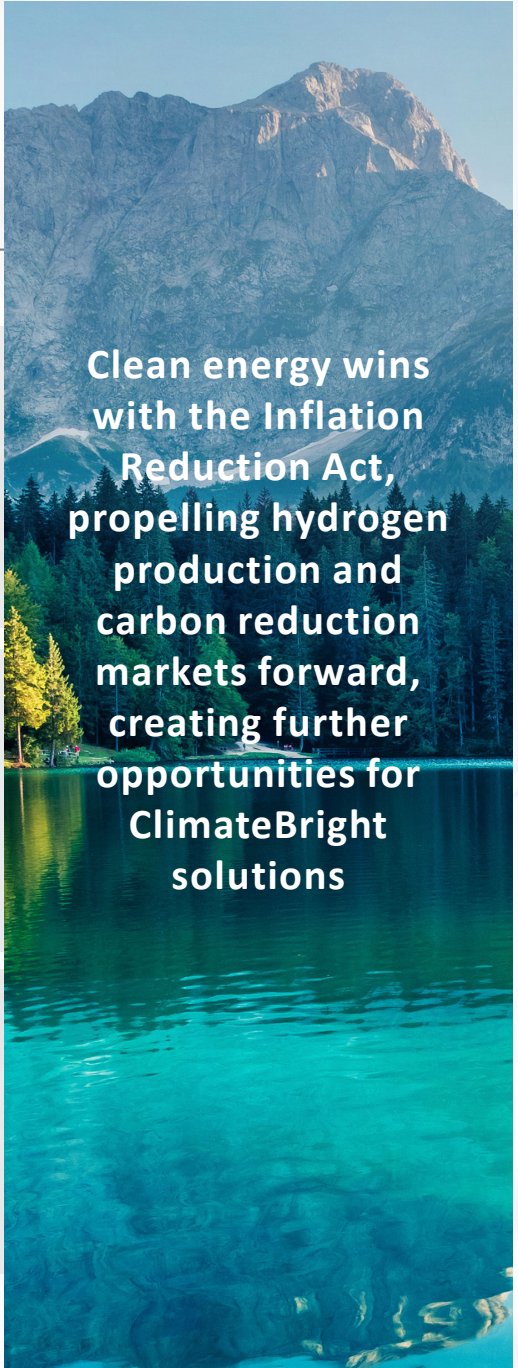
- New 10-year incentive for clean hydrogen production with four tiers and a maximum of 4 kilograms of CO<sub>2</sub> equivalent per kilogram of hydrogen
- Green hydrogen awards: \$3/kg

## Carbon Capture and Sequestration Tax Credit: 45Q

- Increases the tax credits, lowers the threshold to be applicable, and adds direct air capture making carbon capture affordable
- CO<sub>2</sub> increases to \$85/ton and DAC increases to \$180/ton; 12-year term

## Clean Electricity Investment Tax Credit (ITC): 48C

- New, tech-neutral ITC replaces Energy ITC after 2024, emissions-based and flexible between clean technologies
- Renewable energy offsets CapEx at 30%, with potential for multiple 10-20% bonuses



Clean energy wins with the Inflation Reduction Act, propelling hydrogen production and carbon reduction markets forward, creating further opportunities for ClimateBright solutions

# B&W'S WASTE-TO-ENERGY TECHNOLOGY REDUCES METHANE EMISSIONS



- Methane has **84 times** the Global Warming Potential (GWP) of CO<sub>2</sub><sup>i</sup>
- **Annual additions to landfills** in the U.S.<sup>ii</sup> produce emissions equivalent to **10 million cars**
- **Landfills in the U.S.**<sup>iii</sup> emit more than 330 million tons of 20-year basis GWP each year, roughly equal to **70 million cars**<sup>iv</sup>
- Waste-to-Energy (WTE) avoids landfilling while producing **baseload clean energy**

- **B&W's state-of-the-art technology** has been installed in more than 500 units in more than 30 countries, including:
  - The most recent WTE facility in the U.S. (Palm Beach Renewable Energy Facility, Florida)
  - One of the world's largest waste treatment facilities (Shenzhen East, China)



## WTE TECHNOLOGIES

- Boiler/steam generation island
- DynaGrate® combustion grate
- Fuel handling systems
- Emissions control equipment

1 ton of waste in a **LANDFILL** emits **3.42 metric tons** of global warming potential



1 ton of waste in a **WASTE-TO-ENERGY FACILITY** emits **.001 metric tons** of global warming potential



Landfill methane is **84 times** as potent as CO<sub>2</sub>.

Reduced to **.03%** of Landfill GWP

## B&W IS ACTIVELY DEPLOYING TECHNOLOGY THAT CURBS THE GLOBAL WARMING IMPACT OF METHANE

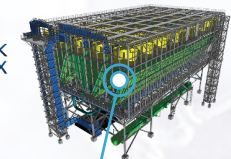
<sup>i</sup> Anthropogenic and Natural Radiative Forcing. In: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA. [https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5\\_Chapter08\\_FINAL.pdf](https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter08_FINAL.pdf), 20-year basis

<sup>ii</sup> EIA Biomass Explained: Waste-to-energy (Municipal Solid Waste), November 29, 2020 <https://www.eia.gov/energyexplained/biomass/waste-to-energy.php>

<sup>iii</sup> EPA Landfill Methane Outreach Program: Project and Landfill Data by State; <https://www.epa.gov/mop/project-and-landfill-data-state#:~:text=The%20LMO%20Landfill%20and%20Landfill,more%20than%20%2C600%20MSW%20landfills> and EPA U.S. Greenhouse Gas Inventory 2020, Chapter 7: Waste, Section 7.1 Landfills (CRF Source Category 5A1)

<sup>iv</sup> Equivalent car emissions calculated using EPA metric of 4.6 metric tons of CO<sub>2</sub> per year per passenger car

# GLOBAL LEADER IN COMPREHENSIVE WASTE-TO-ENERGY SOLUTIONS



On-line boiler washing system

DynaFeeder® waste fuel feeder system

VoluMix® system for improved combustion

DynaGrate® combustion grate  
DynaDischarger® ash removal

Energy storage systems

Dry cooling systems

Selective non-catalytic reduction (SNCR) NO<sub>x</sub> control

Fabric filter baghouse

Wet scrubber with ADIOX® including energy recovery

Carbon capture solutions

Water-cooled wear zones and Inconel® corrosion protection



# BIOENERGY WITH CARBON CAPTURE AND SEQUESTRATION (BECCS)

OxyBright with B&W's biomass-fired BFB boiler produces carbon negative electricity with a **-2,500gCO<sub>2</sub>e/kWh carbon intensity**

OxyBright with B&W's WtE solution could produce carbon negative electricity with a **-1,000 gCO<sub>2</sub>e/kWh carbon intensity**

Our negative carbon intensity (-2500 gCO<sub>2</sub>e/kWh) is **nearly seven times more negative than the US grid is positive (+373 gCO<sub>2</sub>e/kWh)**





# FINANCIAL INFORMATION

# CONSOLIDATED FINANCIAL SUMMARY- CONTINUING OPERATIONS

(\$ in millions)	Three Months Ended <u>March 31, 2024</u>	Three Months Ended <u>March 31, 2023</u>
Revenue	\$ 207.6	\$ 241.3
Gross margin	\$ 48.5	\$ 52.0
Selling, general and administrative expenses	\$ 41.4	\$ 48.0
Operating income	\$ 4.3	\$ 1.3
Target EBITDA <sup>(1)</sup>	\$ \$105M to \$115M	

(1) The most comparable GAAP target is not available without unreasonable effort. Target is based on continuing operations excluding BrightLoop™ and ClimateBright™ expenses



# APPENDIX

# CAPITAL STRUCTURE

(\$ in millions)		As of March 31, 2024	
<b>CAPITALIZATION:</b>			
<b>Total Debt</b>		<b>\$</b>	<b>441.6</b>
Senior Notes	\$ 338.4		
Revolving Credit Line	\$ 36.8		
Letter of Credit Collateral*	\$ 53.3		
Other Debt	\$ 13.1		
Cash, cash equivalents and restricted cash		<b>\$</b>	<b>102.5</b>
<b>Net Debt</b>		<b>\$</b>	<b>339.1</b>

Net Leverage Ratio based on 2024 Target EBITDA Range is 3.23x - 2.95x

Note: Figures may not be clerically accurate due to rounding.

\*Letter of Credit Collateral under the Axos Credit Facility is on balance sheet in Restricted & Long-Term Restricted Cash offset by debt. The previous PNC/MSD letter of credit facility and associated collateral was not required to be included on balance sheet.





# LEADERSHIP TEAM



**Chairman and  
Chief Executive Officer**

Kenny Young



**Executive Vice President  
and Chief Financial Officer**

Lou Salamone



**Executive Vice President and  
Chief Operating Officer**

Jimmy B. Morgan



**Executive Vice President,  
General Counsel and  
Corporate Secretary**

John J. Dziewisz



**Chief Technology  
Officer**

Brandy Johnson



**Vice President,  
Corporate Operations**

Gillianne Hetrick



**Senior Vice President,  
Thermal**

Chris Riker



**Vice President,  
Corporate Development**

Sarah Serafin

# CORPORATE GOVERNANCE

## BOARD OF DIRECTORS



**Chairman and  
Chief Executive Officer**  
Kenny Young



Henry Bartoli



Rebecca Stahl



Joseph Tato



Alan Howe



Philip Moeller



Naomi Boness

## ADVISORY BOARD



Homaira Akbari



Rod O'Connor



Peter O'Keefe



Eric Powell



# KEY TECHNOLOGIES AND CAPABILITIES

# KEY TECHNOLOGIES: STEAM GENERATION



## Utility Boilers

High pressure, high efficiency, high capacity, low emissions

Fuel: Coal, oil, natural gas, multi-fuel



## Natural Gas-Fired and Other Industrial Water-Tube and Fire-Tube Boilers

Bottom- or top-supported, shop- or field-assembled

Fuel: Natural gas, oil, CO, waste heat and gases



## Heat Recovery Steam Generator Components

Pressure parts, casing, ducting, drums, housing and frames

Fuel: Waste heat and gases



## Waste-to-Energy Boilers

Reduces dependency on landfills and reduces methane gas emissions

Fuel: MSW, RDF



## Biomass-Fired Boilers

Carbon-neutral technology

Fuel: Wood, wood waste, straw, sludge



## Process Recovery Boilers

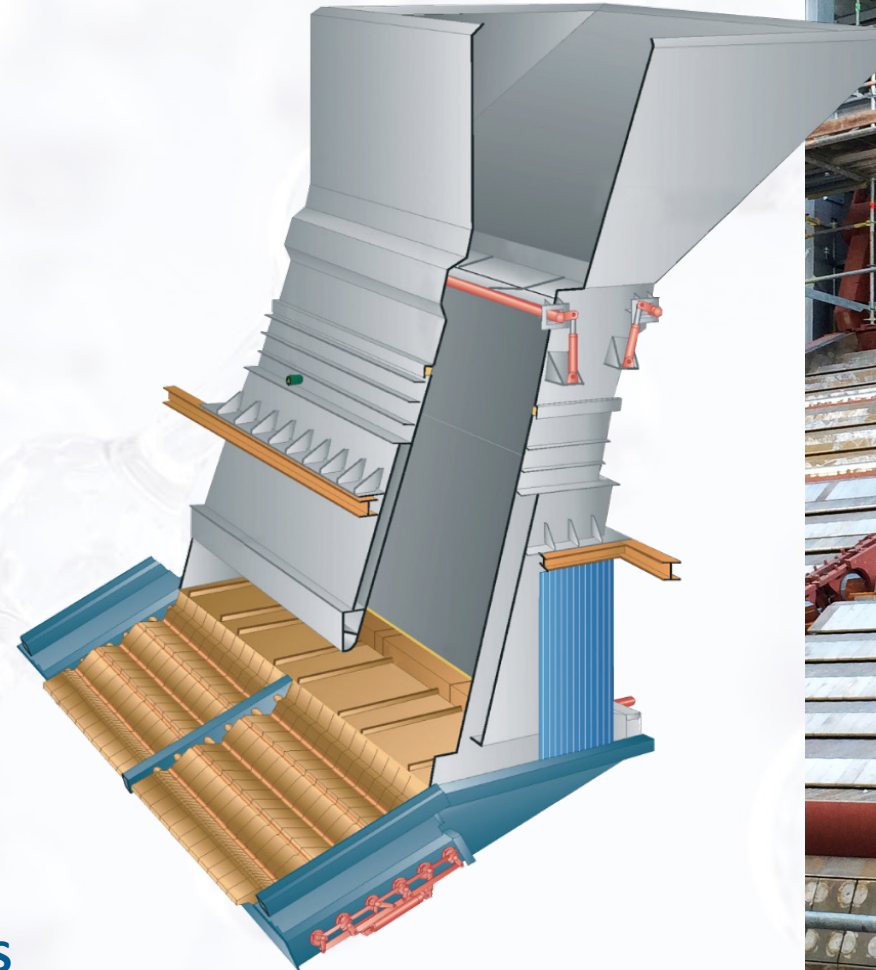
Single-drum, industry-standard unit for improved mill operation

Fuel: Black liquor

# KEY TECHNOLOGIES: RENEWABLE COMBUSTION GRATES

## DYNAGRATE® COMBUSTION GRATE

- Large installed base with diverse set of customers
- Grate design allows for high availability and long operational time, leading to reduced O&M cost
- High thermal efficiency and low emissions
- Fuel flexibility
- Factory assembled modules reduce field construction



**A MARKET LEADER WITH DIFFERENTIATING  
TECHNOLOGY IN WASTE-TO-ENERGY SOLUTIONS**

# KEY TECHNOLOGIES: EMISSIONS CONTROLS

PURPOSE	TECHNOLOGY SOLUTION	PURPOSE	TECHNOLOGY SOLUTION
<b>Particulate Control</b>	<ul style="list-style-type: none"> <li>• Pulse Jet Fabric Filters (PJFF) / Baghouses</li> <li>• Wet and Dry Electrostatic Precipitators (ESPs)</li> <li>• Wet Particulate Scrubbers</li> <li>• Multiclone® Dust Collectors</li> </ul>	<b>Mercury, Dioxins, Furans</b>	<ul style="list-style-type: none"> <li>• Powdered Activated Carbon Injection</li> <li>• Absorption Plus™, MercPlus™, Mitagent™ Additives</li> <li>• GMAB™ ADIOX® and MERCOX™ technologies</li> </ul>
<b>NO<sub>x</sub> Control</b>	<ul style="list-style-type: none"> <li>• Selective Catalytic and Non-catalytic Reduction (SCR/SNCR)</li> <li>• Low NO<sub>x</sub> Burners and Combustion Systems</li> </ul>	<b>Wastewater Elimination</b>	<ul style="list-style-type: none"> <li>• Wastewater Evaporation System (WES) via Spray Drying</li> <li>• Air-Cooled Condensers</li> </ul>
<b>SO<sub>2</sub> / Acid Gas Control</b>	<ul style="list-style-type: none"> <li>• Wet or Seawater Flue Gas Desulfurization (FGD) Systems</li> <li>• Semi-dry FGDs (Spray Dry Absorbers, Circulating Dry Scrubbers)</li> <li>• Wet ESPs and Dry Sorbent Injection (DSI)</li> </ul>	<b>Pre-treatment for Post-Combustion Carbon Capture</b>	<ul style="list-style-type: none"> <li>• Wet and Dry Scrubbers, Sorbent Injection, ESP Fabric Filters, SCRs</li> <li>• Complements SolveBright process, other post-combustion technologies</li> </ul>
<b>SO<sub>3</sub> / Acid Mist Control</b>	<ul style="list-style-type: none"> <li>• Wet ESPs</li> <li>• Dry Sorbent Injection (DSI)</li> </ul>		



# KEY TECHNOLOGIES: FLUE GAS TREATMENT FOR CARBON CAPTURE

- To optimize carbon capture on solvent-based scrubbing technologies, reductions in various pollutants found in the incoming flue gas are required
- Our solutions include technologies for acid gases, particulate and acid mist, NO<sub>x</sub>, mercury, and flue gas moisture



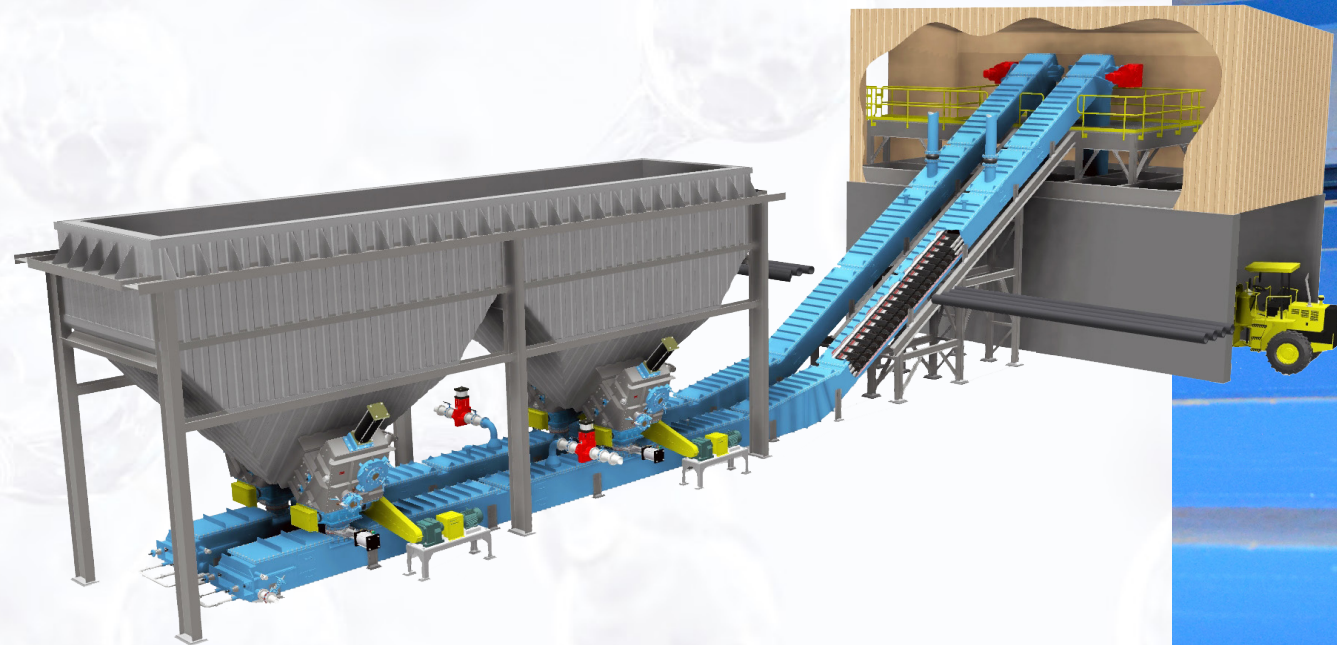
**THE WORLDWIDE LEADER IN FLUE GAS PRE-TREATMENT TECHNOLOGIES FOR POST-COMBUSTION CARBON CAPTURE**

 <b>300+</b> Wet Scrubber Installations	 <b>90+</b> Dry Scrubber Installations
 <b>260+</b> Wet ESP Installations	 <b>490+</b> Dry ESP Installations
 <b>35+</b> Flue Gas Condensation Installations	 <b>1000+</b> Fabric Filter Installations
 <b>100+</b> SCR Installations	 <b>35+</b> Sorbent Injection Installations

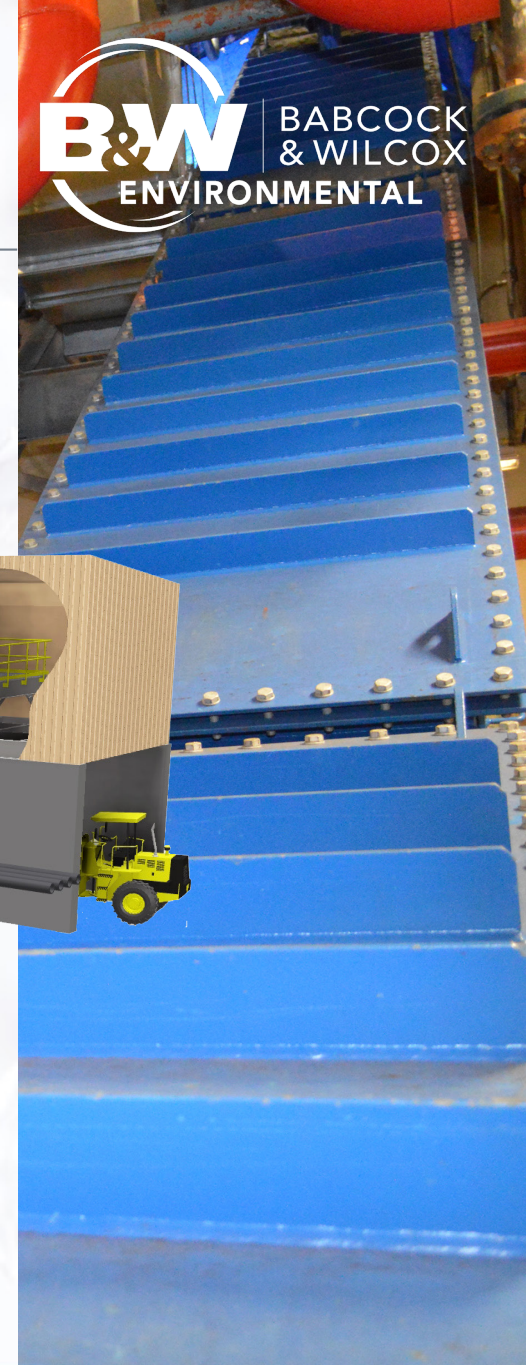
# KEY TECHNOLOGIES: SUBMERGED GRIND CONVEYOR ASH HANDLING

Designated to meet current and future U.S. regulatory requirements for ash handling with:

- Lower equipment cost
- Lower installation cost
- Ability to utilize existing hoppers and gate valves
- No hopper modifications
- Short outage time
- Short lead time
- Available redundancy under the boiler
- Lower O&M costs



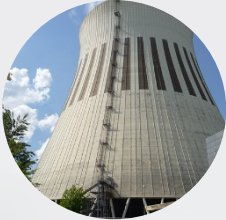
**AN INNOVATIVE SOLUTION TO ELIMINATE ASH PONDS**





# KEY TECHNOLOGIES: COOLING SYSTEMS

## WET



### NATURAL DRAFT/HYPERBOLIC

Fanless design provides low power, noise and maintenance, as well as long operating lifecycle



### MECHANICAL DRAFT

Counterflow for cost-effective thermal performance; crossflow for low energy consumption and operating costs

## HYBRID



### HYBRID WET/DRY COOLING

Environmentally friendly hybrid design combines benefits of both wet and dry cooling technology as the optimal solution for plume abatement and water savings

### MATERIAL OPTIONS:

WOOD  
CONCRETE  
FIBER-REINFORCED  
POLYMER (FRP)

## DRY



### AIR-COOLED CONDENSERS

Water preservation technology customized for high-performance, long-life, low noise, corrosion-resistant applications



### AIR FIN COOLERS

Cost-effective designs using embedded or wrapped tubes to meet required thermal, mechanical, noise, and space requirements

## SERVICES



### OPTIMIZATION SERVICES

Specialized services to maximize plant performance and minimize costs and maintenance

# KEY CAPABILITIES: AFTERMARKET SERVICES



## UPGRADES & RETROFITS

**Maintaining/improving plant operation:**  
Projects for extending the life of power, process and environmental equipment

## REPLACEMENT PARTS

**Supplying components for system reliability:**  
High-quality standard or custom-engineered pressure and non-pressure parts

## OPTIMIZATION SYSTEMS

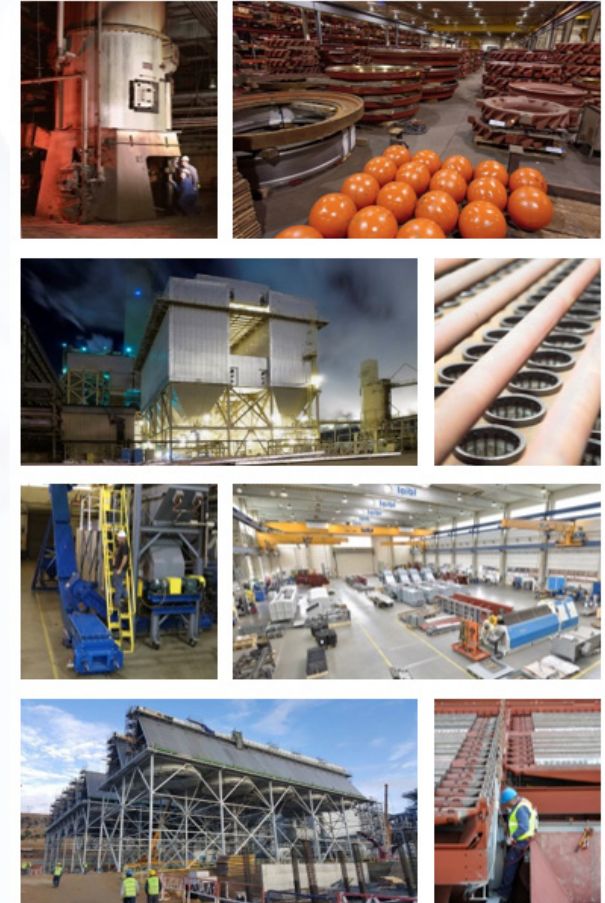
**Enhancing efficiency with proven technology:**  
Diagnostic, monitoring, tuning and control systems for combustion, cleaning and cooling equipment

## ENGINEERING SERVICES

**Evaluating options for improved performance:**  
Expert people, tools and processes to measure, model, design, deliver, train, and project manage

## CONSTRUCTION

**Adding value through constructability:**  
Safe execution of new installation, retrofits, system maintenance/repair, plant modifications

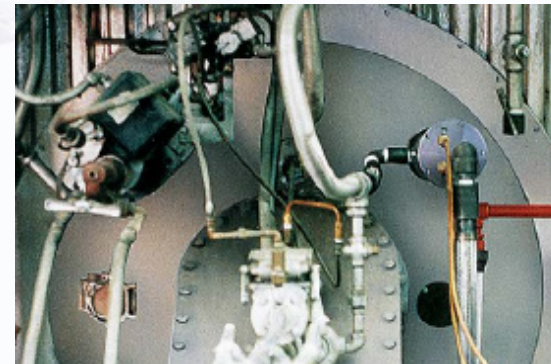
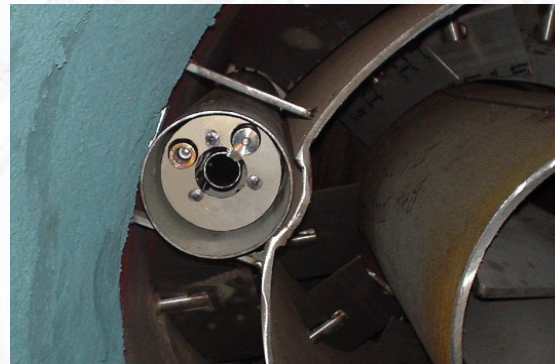
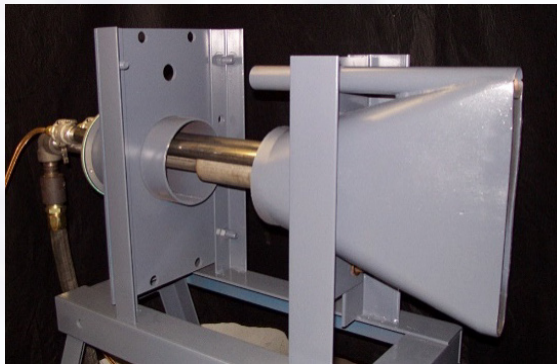


# KEY TECHNOLOGIES: IGNITORS, FLAME SCANNERS AND CONTROLS

## Designed for safety, reliability and fuel flexibility

- Natural gas conversions from oil- or coal-firing
- Alternative energy fuels such as hydrogen, bio-diesel, methanol, and bio-gas
- Burner management and controls for complete turnkey system capability
- Flame scanning capability can be effectively implemented on any industrial application
- Technologies can be utilized for new construction or retrofit projects
- Safety standards conforming to National Fire Protection Association (NFPA) classes

**PROVEN TECHNOLOGIES WITH INSTALLATIONS IN MORE THAN 70 COUNTRIES, INCLUDING MORE THAN 11,000 IGNITORS**





BABCOCK  
& WILCOX