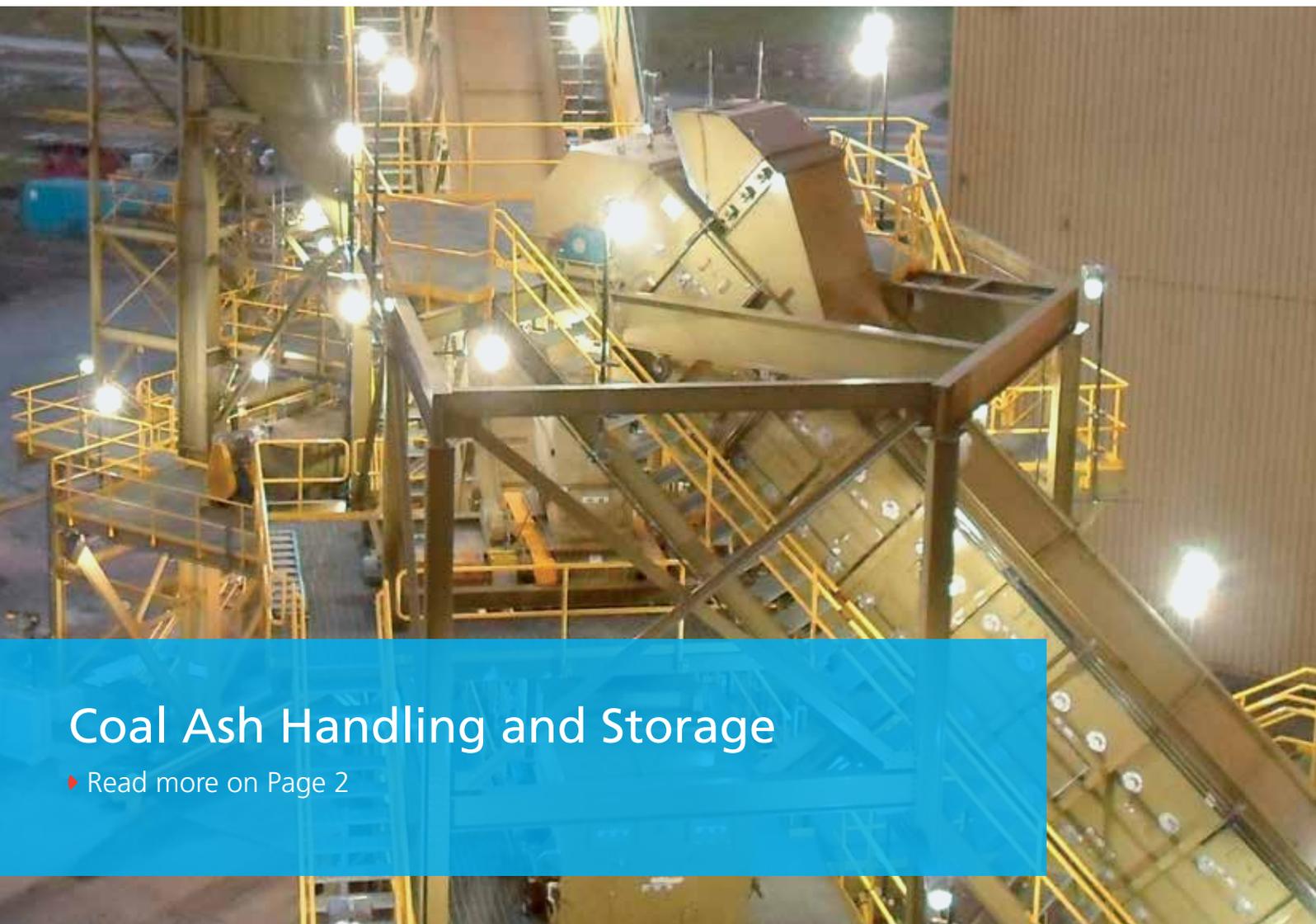


# NEWS



## Coal Ash Handling and Storage

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Franz Bartels | President & CEO

## Our Cover Story: Coal Ash Handling and Storage

The U.S. Environmental Protection Agency (EPA) is about to finalize tougher standards for bottom ash management and disposal at U.S. power plants. In the U. S., the proposed rules would require coal-fired power plants to eliminate wet ash handling and phase out ponds. Less than 1 percent of the nation's coal-fired plants are equipped with dry bottom ash systems presently.

Coal-fired power plants have three options for the disposal of coal ash. Dry ash can be disposed in landfills (today more than 30 percent), stored in ponds (app. 20 percent) and another 40 percent is presently recycled and used in a wide range of industrial applications.

Power producers using ponds to store coal ash have important choices to make. They have several options and solutions to choose from as they prepare to comply with stricter federal regulation.

The same trends are becoming apparent in Europe, CIS and Asia with customers worldwide. Coal-fired power plants are increasingly looking for eco-friendly alternatives. The ever growing drive to conserve water and stricter land usage regulations facilitate a move to dry ash handling.



Furthermore, moving to dry ash handling increases the value of bottom ash allowing easier sales to the cement and building industries, lower lifecycle costs and increased efficiency can be achieved.

### Clyde Bergemann offers different technologies for the power producers

Coal-fired power plants have four basic options to upgrade their existing wet bottom ash system. The first two options not only eliminate the use of an ash pond but also eliminate the need of a wet impounded bottom ash hopper. The other two keep the wet impounded bottom ash hopper but eliminate the ash pond.

### Convert to a dry bottom ash system

Our DRYCON™ technology is a mechanical conveyor that conveys and cools bottom ash without the use of water. The advantages of using this system are: Increased boiler efficiency, reduced maintenance, reduced power consumption, and complete water elimination. The disadvantages: A 20 to 30-day boiler outage and a direct path from under the boiler are required.

### Convert to a Submerged Scraper Conveyor (SSC) semi dry system

An SSC can greatly reduce water usage but not eliminate it. In most cases, power plants

that can be fitted with a SSC can also be fitted with a DRYCON™ unit. The advantages of converting to this system are: Reduced power consumption, reduced maintenance and low water consumption. The disadvantages: It's not a dry system, boiler efficiency will not increase, it needs a direct path from under the boiler, and a 20 to 30-day outage is required.

### Divert ash slurry to a Remote Submerged Scraper Conveyor

Our patent pending ASHCON technology is also a semi dry system. Its major advantage is that it can be installed remotely from the boiler to intercept bottom ash slurry and dewater it without the use of an ash



▶ DRYCON™ – Clyde Bergemanns dry ash conveying solution at a hard coal fired power plant in Lünen (Germany)

**Publisher:** Clyde Bergemann Power Group Inc., Schillwiese 20, D-46485 Wesel (Germany)

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pond. Because of its low height, in most cases, the existing bottom slurry pumps can be reused.

The advantages: No outage is required, reduced power consumption, allows reuse of slurry pumps, and the wet bottom ash hopper is unaffected. The disadvantages: It's not a dry system, there is no increase in boiler efficiency, and the wet bottom ash hopper is unaffected.

### Divert ash slurry to traditional Dewatering Bins

Though this is a viable option, it is typically the least desired. Dewatering bins are a 40-plus year old technology and reviewed as a last resort when pond elimination is being considered. Many plants with dewatering bins have reached the end of their expected life cycle. Thirty year old dewatering bins can be worn and structurally unsound. In this situation plants investigate a bottom ash upgrade rather than replacement. The

advantages: Reduced power consumption, no outage is required, and the wet bottom ash hopper is unaffected. The disadvantages: It's not a dry system, slurry pumps may need to be modified, there's no increase in boiler efficiency, and additional slurry pumps may be needed to pump the slurry up the tall height of the new dewatering bins.

"When it comes to ash handling, Clyde Bergemann is able to offer tailor-made solutions to its customers with an extensive product range and global expertise", summarizes Franz Bartels, CEO of the Clyde Bergemann Power Group.

Franz Bartels | President & CEO

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► DRYCON™ – Clyde Bergemann's dry ash conveying solution

## First North America DRYCON™ Installation Complete



► Franz Bartels, President & CEO of CBPG (left) and Hans Schwade, COO & VP of CBPG (right) visit the installation.

a milestone for Clyde Bergemann Power Group. It is also the first conversion of a wet to completely dry bottom ash system in almost twenty years in North America.

The DRYCON™ dry bottom ash systems replaced the plant's existing wet systems, reducing maintenance costs and allowing the sale of the ash. The plant's selection of the DRYCON™ system was centered on its maintenance friendly and robust design as well as its ability to improve the plant's heat rate through a significant reduction of LOI. Included in Clyde Bergemann's project scope was the design, supply, delivery and commissioning of two complete dry bottom ash conveying DRYCON™ systems, including ash hoppers and jaw crushers. The CBAM team worked very closely with the plant personnel throughout the entire project. The contract was awarded in January 2011 and the installation of the systems during outage for Unit 2 in May 2012 and Unit 1 in November 2012. Ron Tempesta, President of Clyde Bergemann Malvern (CBMAL), comments: "This is the first

DRYCON™ project fabricated in North America for Clyde Bergemann and we are very pleased with the results we have achieved. This demonstrates CBAM's ability to deliver on-time and on-budget results."

In January 2013, Franz Bartels, President & CEO of Clyde Bergemann Power Group, visited the plant. Hans Schwade, CEO of CBAM along with Ron Tempesta, accompanied the tour and presented the first North American DRYCON™ installed, supported by a very satisfied customer during the visit.

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## Clyde Bergemann wins two major DRYCON™ contracts

With SK Engineering & Construction (SKEC) for the new coal-fired Paco Power Plant project in Panama, Clyde Bergemann Materials Handling in Doncaster (UK) was able to gain a major contract for its DRYCON™ dry ash handling system.

Clyde Bergemann can now look forward to successful installations in China, the US, Slovakia, India, Russia and South America proving the company's commitment to providing clean energy solutions.

### Helping to deliver a landmark project with a major Korean EPC Contractor

In December 2012 SKEC awarded the letter of intent to CBD to supply the DRYCON™ conveying systems for 2 new 160 MW coal fired power units. The contract was successfully achieved with CBD personnel working closely with CBD's agent Kwangwon P&I who are based in Seoul. Complete delivery of the engineering and equipment for both boiler units is to take place within a 10 month period.

Clyde Bergemann will design, manufacture and commission two identical conveying systems each incorporating DRYCON™ technology for the continuous removal of hot ash from beneath the boiler outlet. The proven DRYCON™ technology is used to cool the hot ash ready for crushing and onward conveying via a low pressure lean phase pneumatic conveying system where it will then be stored in a nearby steel storage silo.

CBD had been pre-approved by Sargent and Lundy US who have been nominated as the engineering consultant on the project working closely with SKEC to deliver the whole project engineering scope. Compli-



ance with the Sargent and Lundy specification was key to obtaining their approval for the technology and solution adopted.

Despite tough competition from low cost emerging markets, CBD was able to demonstrate technical superiority using their extensive installed reference based together with features of their DRYCON™ system. Furthermore, having the capability to offer the complete scope including mechanical and pneumatic conveying technologies gave Clyde Bergemann the competitive advantage it required to differentiate itself from the competition.

Utilising DRYCON™ for this application will

ensure the end user benefits in terms of thermal efficiency improvements and the option to increase his revenues from producing a saleable ash by-product that can be sold onto the aggregate industrial markets.

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## Clyde Bergemann Power Group Americas Delivers its First Submerged Scraper Conveyor to Central America

Clyde Bergemann Power Group Americas (CBAM) delivered its first Submerged Scraper Conveyor (SSC) for bottom ash handling to a coal fired power plant in Panama, Central America. CBAM engineered, fabricated, shipped and installed the new SSC to replace the unit's existing SSC.

The boiler and existing SSC has been in operation for two years and manufactured by an Italian OEM. The SSC was frequently down because of large clinkers falling from the upper part of the boiler and damaging the SSC chain and flight bars. The continued downtime was having a large impact on the power generation and they were looking for help to solve the problem.



▶ Testing and Assembly of the new SSC in Atlanta

CBAM was awarded the contract March 2012 with a very short time frame for delivery and installation. The new SSC will reduce downtime due to its robust design as it provides continuous bottom ash removal, dewatering, and control of the discharge rate. CBAM's SSC is a heavy dual chain conveyor submerged in water below the coal fired boiler. The hot ash is quenched as it falls from the combustion chamber and is

then dewatered as it travels up the inclined section before it discharges into the transfer belt conveyor to the storage tanks. Installation and commissioning was provided by CBAM's field service operations with an on time start-up in December 2012 due to great team work within CBAM.

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## Clyde Bergemann India commences supply of Modular Sootblowers for new 660 MW/700 MW units in India



▶ India

Clyde Bergemann India has commenced delivery of modular sootblowers from their assembly shops for two new power station projects (3 x 660 MW and 2 x 700 MW units) in India. These sootblowers are to be installed in new supercritical boilers being built by L&T-MHI Boilers Pvt. Ltd. (a joint venture between L&T Limited, an engineering giant in India, and Mitsubishi Heavy Industries of Japan).

Clyde Bergemann India is to supply a total of six hundred sootblowers for the five boiler units. The types of sootblowers to be provided include wall deslagers, modular long retractable sootblowers and modular short retractable sootblowers. The modular long retractable sootblowers, having a travel length of 13.7 meters, were developed with support from Clyde Bergemann Germany and are among the longest sootblowers cur-

rently manufactured and supplied in India. With the execution of these orders, Clyde Bergemann India emphasizes its role as an effective player in India's growing thermal power market.

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## Clyde Bergemann Wesel receives contract for more boiler cleaning equipment for Korea's largest coal-fired power plant

In February 2012, a consortium consisting of Hitachi, Ltd. and Daelim Industrial Co., Ltd. had been awarded an order by South Korea's largest power supply company, Korea Western Power Corporation, Ltd. (KOWESPO), to supply two additional 1,050MW boiler units for the Taean Power Plant.

This expansion project forms part of the "5<sup>th</sup> Basic Plan of Long Term Electricity

Supply & Demand" which envisages the construction of numerous power stations between 2010 and 2024 to create a total of over 35 GW of new capacity.

The Taean hard-coal fired power station is already the country's largest, providing 8 x 500 MW of capacity at present. Its eight existing boilers had all been equipped with Clyde Bergemann boiler cleaning systems in the past.

More recently, Hitachi Europe GmbH – acting on behalf of Babcock Hitachi Kure of Japan – again entrusted Clyde Bergemann of Wesel with the order for the entire on-load cleaning equipment for the two new boiler units.

The scope of Clyde Bergemann's order comprises a total of 168 wall deslagers for the furnaces and 96 retractable sootblowers with a travel length of 15,250 mm, plus the



▶ South Korea's largest hard coal-fired power plant at Taean, showing the two newly planned 1,050 MW boiler units (at left)

associated control and actuating systems. The first part of the contract (Unit 9) will be handed over to the customer in autumn 2014. Delivery for Unit 10 is scheduled for the spring of 2015.

This major contract award underscores the reliability of Clyde Bergemann's equipment and services once again.

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## Clyde Bergemann Atlanta's Business Development Success with International Steam Savings Projects

As the cost of energy has been increasing for the major wood pulp manufacturing countries and the price of pulp remains volatile throughout the global markets, the cost of energy has become a priority for all of the global Pulp & Paper (P & P) players. In order to bring customers up to date and help them to optimize their production Clyde Bergemann Atlanta has launched corporate workshops and mill visit efforts, held worldwide including India, Taiwan, Brazil, Indonesia, Japan, and Finland. Many workshops resulted in projects with budgetary approvals and more tangible opportunities are to be realized within the next few months.

Recently Clyde Bergemann Atlanta has been awarded a steam saver retrofit project from Indian Tobacco Company Ltd (ITC) in India. ITC is recognized as a pioneer of technology in the Indian Pulp & Paper industry.

Clyde Bergemann's solution includes steam saver sootblower conversions for ITC's existing 29 sootblowers and its SMART Clean™ control system on one of their recovery boilers. The proprietary steam saver conversion technology is an expansion of Clyde Bergemann's success with this solution on new boilers.

SMART Clean™ technology, developed by Clyde Bergemann, uses boiler feedback to automatically optimize sootblowing operations by limiting usage to precisely when and where needed. The plant's operational objectives, such as reducing pluggage, steam consumption, or any mixture of the objectives, are achieved through use of an advanced thermodynamic model in conjunction with easily managed rules based optimization. Typical results indicate cleaning capabilities are increased – redu-

cing fouling – concurrent to a significant reduction in sootblowing operations which saves steam.

Clyde Bergemann's steam saver technology further improves sootblower cleaning by using lower cost, lower pressure steam, leaving the costly high pressure steam for the energy generation process.

Strong references like the one above have played a key role in the consultative approach allowing Clyde Bergemann to show the latest technology and dependability. Expertise and leadership in technology will further strengthen by expanding the installation base for SMART Clean from 33 to 45 installations by the end of next fiscal year.

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## Clyde Bergemann Atlanta offers Systems Monitoring Website for SMART Clean System

To further strengthen customer relations, the Clyde Bergemann Atlanta Systems Monitoring group has developed a website that allows customer to monitor the performance of their SMART Clean System through a dynamic web interface.

Once logged in through an encrypted (SSL) connection, customers are presented with

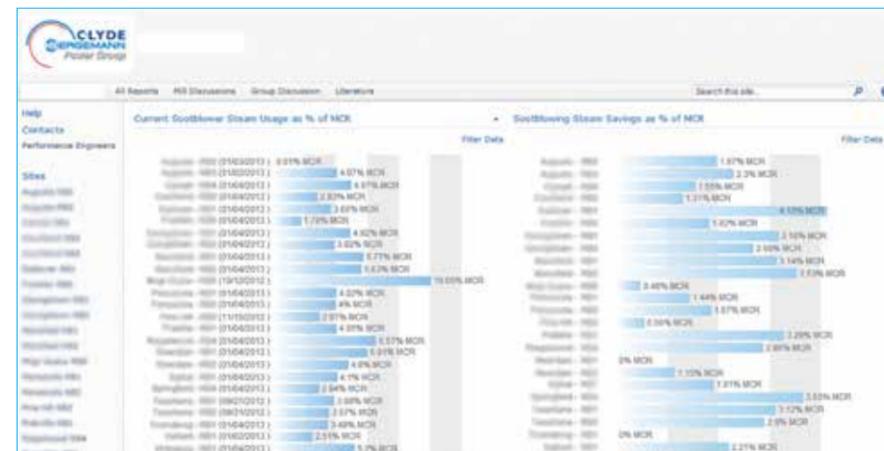
a dashboard that shows the current performance of their SMART Clean System. They can then drill down into performance metrics, access performance reports, and view a calendar that shows upcoming performance reports and site visits. Because most clients are part of a larger fleet, the website also allows to compare the performance of their SMART Clean system with other systems

within the same company. This also provides the ability for corporate stakeholders to track the performance of each project and further realize the return on their investments.

In addition to provide valuable performance feedback, the website also promotes discussion of best practices concerning boiler cleaning and efficiency through discussion forums and access to published literature. The discussion forums are designed to elevate discussion so that customers can engage the entire fleet encouraging collaboration and sharing of knowledge.

Currently 27 customers consisting of 93 users are using the website. The Systems Monitoring group is looking to add 8 more customers in the coming months and eventually expanding to all 65 customers with monitoring contracts.

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## Clyde Bergemann Service offers fixed-price maintenance contracts as "all-in-one package" solutions to the customer for complete peace of mind

For many years, Clyde Bergemann Service based in Wesel has built a reputation as a strong customer service partner among operators of coal and lignite fired power plants, industrial power plants, biomass boilers and waste incinerators.

With four service centers in Germany, the team is close to the customer and can provide fast technical support and advice at all times.

Over the years, a broad range of services has evolved in response to growing product portfolios and changing customer requirements. The most basic service offerings include periodic plant inspection contracts and agreements defining a customer-focused, plant specific choice of services and spare parts which are then made available "on call".

Over and beyond the foregoing, fixed-price maintenance contracts of a package deal type are meeting with growing customer

interest. Launched by Clyde Bergemann as an innovation in the marketplace as early as 1996, this service has been expanded continuously over the years. It proceeds from an initial detailed review of the boiler cleaning equipment whereupon desired parameters are then defined jointly with the customer. These may include an equipment availability guarantee, spare parts storage plans, an on-call response service or staff training. A custom fixed-price offer addressing this specific scope is then developed by our Service team.

The benefits to the customer are just as comprehensive as the requested service characteristics: no capital tie-up for spare parts

kept in stock, reduced administrative procedures at the ordering and payment stages, short repair response times (subject to penalties), plus the fixed cost item for annual budgeting.

Moreover, one key advantage features prominently in every package contract – the high availability of the sootblowers is contractually guaranteed.

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Service team Wesel

## Commercial-scale carbon capture project uses Bachmann damper solutions

Clyde Bergemann Auburn participates in one of the world's first and largest CCUS (Carbon Capture Utilization and Storage) projects.

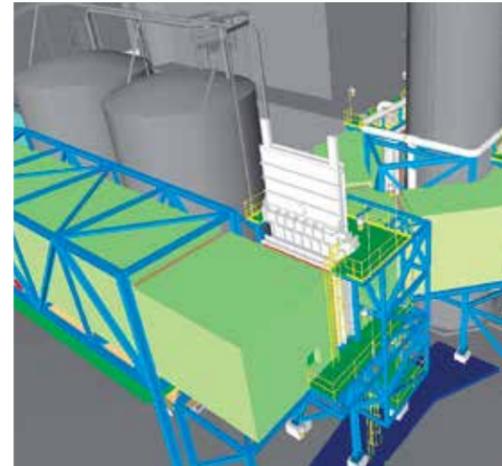
In a \$1.24 billion partnership between industry and government, Canada's SaskPower will put into commercial operation one of the world's first and largest post-combustion CO<sub>2</sub> capture demonstration plants at Unit 3 of the Boundary Dam Station in Saskatchewan.

Boundary Dam 3 was scheduled for closure in 2013 due to the age of the unit, but this project together with the refurbishment of its 150 MW boiler will instead extend the unit's life for another 30 years while capturing one million tonnes of CO<sub>2</sub> per year for use in enhanced oil recovery in the nearby southeast Saskatchewan oilpatch. CO<sub>2</sub> not used in EOR will be safely stored in deep saline reservoirs.

The stack emissions of CO<sub>2</sub> will be reduced by up to 90% once the project is completed. In addition to carbon dioxide handling, the project will add low NO<sub>x</sub> burners to the boiler, enhance overall heat recovery and scrubbing of SO<sub>2</sub>, and incor-

porate mercury abatement equipment at the backend. As of the beginning of 2013 the project is halfway to completion and the re-start of the plant is scheduled for September 2013.

A critical part of the start-up and trial period of the CCUS plant will be made possible by two diverters supplied by Clyde Bergemann Auburn (CBAU). Stantec, the Owner's Engineer, tasked CBAU with finding a man-safe isolation damper solution for the very congested area of the existing stack and electrostatic precipitator. The damper must provide a flexible control device for the flue gas during the trials and operation of the SO<sub>2</sub> and CO<sub>2</sub> Capture Island while capable of 100% isolation, minimizing pressure drop and power consumption and fitting inside the limited available space. A dual-seal diverter with hydraulic actuation will fit the bill perfectly. The two diverters, 4 m wide by 8 m long, will be shipped halfway across Canada, fully assembled, after testing in CBAU's fabricator shop in Fredericton, New

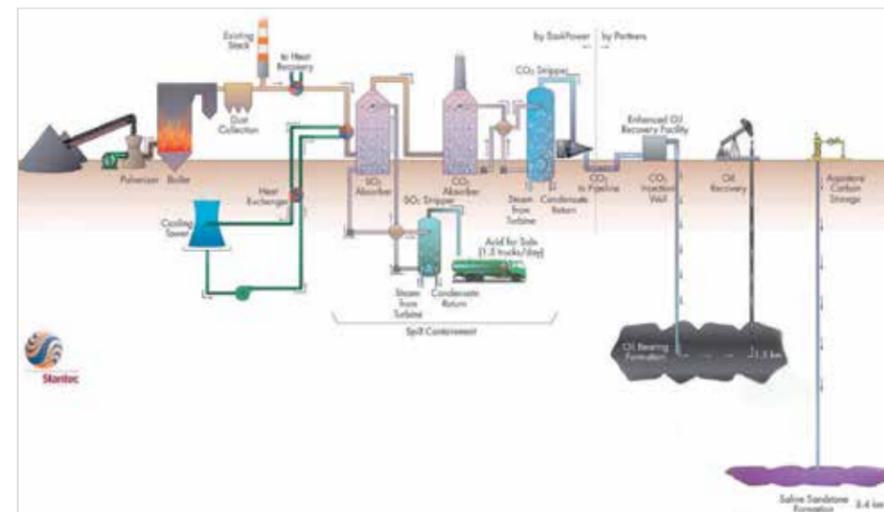


Brunswick, in the spring of 2013. Once the diverters are installed they will allow the refurbished boiler to go back into operation even before the construction of Capture Island is complete, in the spring of 2014.

Downstream of the two diverters the plant will have a fully bonneted isolation guillotine that will grant man-safe access to Capture Island downstream of the stack with the boiler in operation.

Lignite coal provides currently over 50 per cent of the energy in Saskatchewan where coal reserves are estimated to be good for the next 300 years. Given the volatility of gas prices, the urgency to reduce global CO<sub>2</sub> emissions, the availability of local coal and the existing fleet of aging lignite fired boilers, research into the sequestration of CO<sub>2</sub> resulting from the burning this fuel and its safe storage underground where it came from, maybe the most affordable option for base load needs in this Canadian province.

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Carbon Capture Process Aquistore

## Clyde Bergemann Power Group Adds Circulating Dry Scrubbing Technology to Its Compliance Product Portfolio

Clyde Bergemann Power Group Americas, Inc. (CBAM), once again provides circulating dry scrubbing (CDS) systems in response to new and pending emissions regulations. The former Environmental Elements Corporation (EEC), acquired by Clyde Bergemann in 2005, was the first to introduce CDS technology to the U.S. power sector and designed and supplied four CDS systems. These units have been operating successfully since 1995.

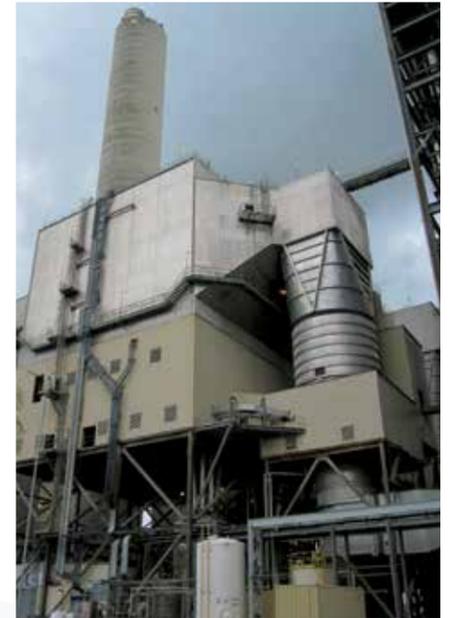
Clyde Bergemann's now newly introduced CDS technology features include:

- Highest capture efficiency for SO<sub>2</sub>/SO<sub>3</sub>/HCl/Hg/metals of any dry or semi-dry technology
- Capability of 50% turndown without requiring clean gas recirculation
- User friendly technology requiring less attention from operators who can focus on other areas of the plant

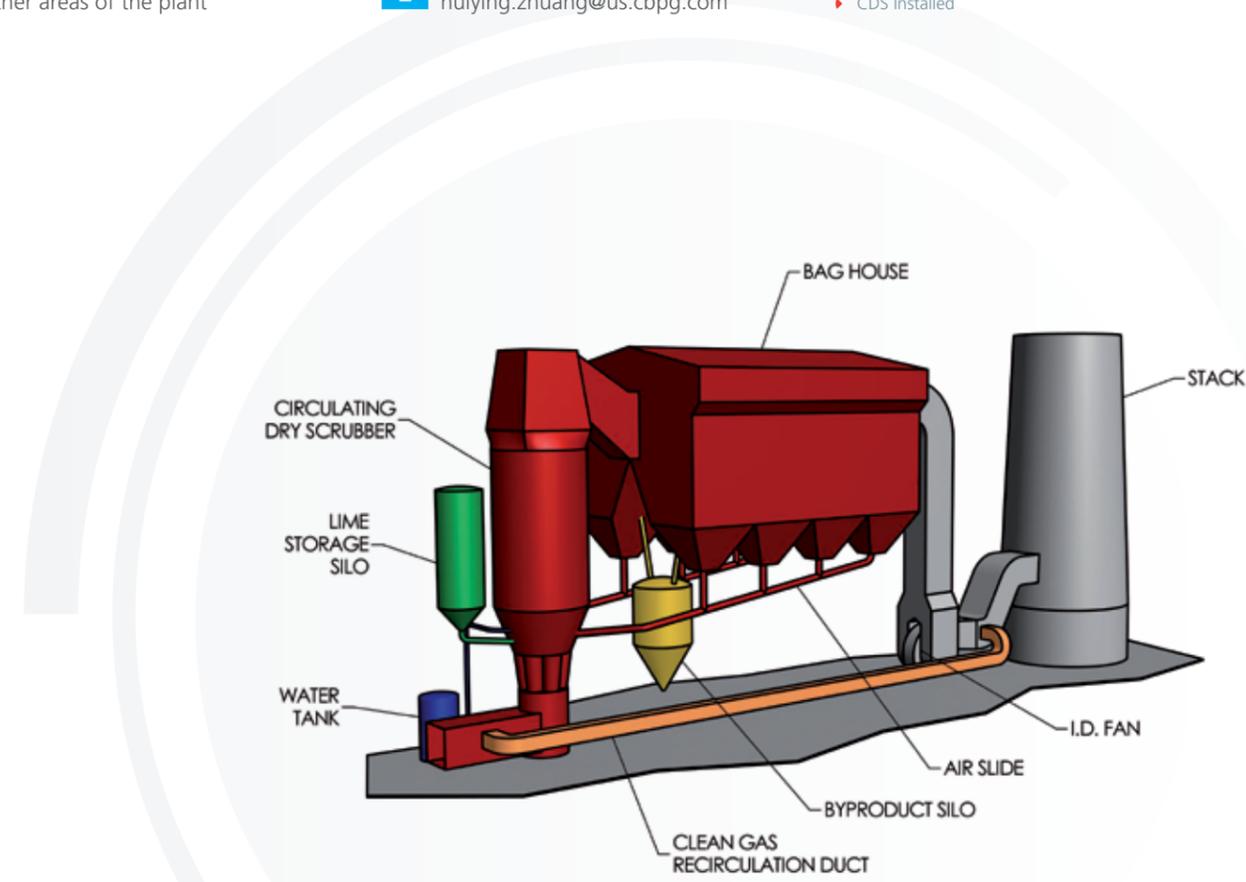
- Fewer moving parts translates to lower annual maintenance costs
- Less than half the size of equivalent spray dryer technology
- Zero liquid effluent discharge, capable of waste water disposal

"The CDS technology complements the Spray Dry Absorber (SDA) and Dry Sorbent Injection (DSI) technologies we are offering and provides the optimum solution to our customers search for acid gas mitigation," says Huiying Zhuang, Director of APC technology and Product Management for Clyde Bergemann. "With the addition of CDS technology, Clyde Bergemann Power Group is able to provide boiler operators another option to achieve MATS and Boiler MACT compliance."

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CDS Installed



## Clyde Bergemann to Install Stacked Air Systems on Torraspapel Recovery Boilers



▶ SAS Outboard Ports Set

Clyde Bergemann Hanover (CBHAN), part of Clyde Bergemann Power Group Americas, has been awarded an order to supply new, optimized air systems for two chemical recovery boilers to Torraspapel, Zaragoza, Spain.

CBHAN's proprietary, patented "Stacked Air Systems" (SAS) will include all new, three air levels of the paper mill's recovery boilers.

CBHAN will increase the firing rate, extend the run time and improve emissions levels. Circulation studies will be conducted by CBC Brazil, subsidiary of the boiler maker Mitsubishi Heavy Industries, to identify and redesign the areas that need to be improved for the boiler to operate at the higher loads.

"One of the main benefits of the Stacked Air System is to increase combustion stability in the lower furnace by providing the proper arrangement and energy to mix the air and fuel for better burning", says Dr. Edmundo R. Vasquez, Director of In-Furnace Combustion and Emission Control Technologies at CBHAN. "Our optimized combustion systems result in reduced boiler stack emissions and gain significant economic returns through improvement in the thermal and chemical efficiencies, elimination of second-

dary air heating, increased boiler run time and higher liquor loading potential."

CBHAN worked closely with Clyde Bergemann Ibérica, the global Power Group's Spanish sales office, to develop the best solution for the customer.

"This new installation adds to the previously supplied air system", says Pedro Fernandez, Sales Manager for Clyde Bergemann, and adds that Clyde Bergemann continues to target further expansion of its presence in the Spanish pulp and paper market."

 Edmundo R. Vasquez, CB Hanover, USA  
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▶ Pulp & Paper Mill

### About Torraspapel

Torraspapel is a leader in the production and distribution of coated woodfree paper and specialty papers in the Iberian Peninsula with an output capacity of over 1,000,000 tons. It is part of the Lecta Group, which, with a production capacity of more than 1,400,000 t of coated paper, is the second-largest manufacturer in Europe. The total output capacity of the Group is approximately 2,000,000 t.

The group runs 7 mills in Spain with over 2,650 employees in total. With own merchant and sales offices it serves the markets of Spain, Portugal, France, Argentina, the United Kingdom, Germany, Italy, Central and Eastern Europe, the USA, Morocco and Mexico.

## Air Pollution Control technology for Russia's largest coal-fired power plant

Clyde Bergemann Materials Handling Limited (CBD), the Doncaster based business unit of the Clyde Bergemann Power Group, received a large scale contract with Enel OGK5, the Russian subsidiary of the major European Power utility Enel Spa., Italy.



▶ Reftinskaya

Following a major contract with Enel OGK5 to deliver fly ash handling equipment on all ten bituminous coal-fired units at their Reftinskaya GRES Power Plant, CBD has now secured a contract to supply fabric filter air pollution control equipment to the largest thermal power plant in Russia.

The project scope includes design, manufacture, delivery and commissioning of a fabric filter for the 500MW capacity Unit 7 with an option for a filter for Unit 8. CBD will be responsible for designing in compliance with Russian design standards and obtaining all necessary Russian legal permits for the DDU delivery to the site in the Urals.

The detailed technical scheme had to take into consideration the existing infrastructure on this working site and had to be approved by both Enel; the international energy corporate group and Enel's subsidiary OGK-5 OAO, the Russia-based company, who own the Reftinskaya GRES Power Plant. In addition to the Clyde Bergemann up flow technology and patented stepped inlet manifold design which provides superior gas distribution in the filter, Clyde Bergemann's expertise and experience of managing large scale contracts to exacting Russian standards and legal requirements were key to our success.

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## Much Delayed U.S. Boiler MACT Rule Signed by EPA

The multi-year delay of the United States Industrial Boiler MACT rule is nearly behind us. The rule, originally promulgated in 2004 only to be vacated by the courts in 2007, was published as a new rule in March 2011 but immediately put on hold by the U.S. Environmental Protection Agency (EPA). After nearly two years of analysis of additional data and responding to public comments, the rule was signed by the U.S. EPA Administrator on December 20, 2012 and published into the Federal Register in January 2013.

This rule will affect industrial, commercial, and institutional boilers rated at 10 MMBtu/hour (heat input basis) and larger. Based on the revised emission limits contained in the rule, following are U.S. EPA estimates for impacted units and related hazardous air pollutant (HAP) reductions.

Clyde Bergemann Power Group Americas (CBAM) positioned the organization to offer answers for this new market. While CBAM has long been involved in compliance and efficiency solutions in the pulp and paper industry, this regulation pulls in industries that have had little regulation in the past. The largest market potential and a key focus area is the solid fuel category. Once promulgated into law, boiler operators will have three years to comply with the regulation.

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	AFFECTED UNIT DATA			HAPS REDUCTION (TONS/YEAR)				
	Fuel Type	Units	\$ Capex (\$ million)	PM	Non-Hg Metals	Hg	HCl	VOC
Existing Units	Solid (coal/biomass)	1.123	\$ 2.959	21.367	147	1,5	36.737	1.619
	Liquid	955	\$ 1.535	9.437	2.316	1,0	2.178	643
	Gas	12.058	\$ 215	128	0	0,0	24,4	155
		14.136	\$ 4.709	30.932	2.463	3	38.939	2.417

## Clyde Bergemann and Explosion Power GmbH set up cooperation

Clyde Bergemann Power Group and the Swiss company Explosion Power GmbH (EP) will work closely together in the field of explosion cleaning under the terms of a recent cooperation agreement. As of March 1<sup>st</sup>, 2013, CBPG gains the worldwide license to sell, install and service explosion generators for on-load boiler cleaning developed and fabricated by EP.



For the intense marketing of EP's technology, Clyde Bergemann intends to rely on its advanced worldwide sales and service network. However, some existing EP partnerships, e.g., in the U.K. and Scandinavia, are to remain in place for a transition period.

Clyde Bergemann and Explosion Power see this cooperation as a further major step towards enhancing their offering of comprehensive and intelligent system solutions for boiler cleaning and efficiency improvement. Franz Bartels, President & CEO of the Clyde Bergemann Power Group, and Hans

Rüegg, President of Explosion Power GmbH, emphasized their determination to steer their cooperation towards global success.

Franz Bartels holds the view that EP technology ideally complements Clyde Bergemann's product portfolio, especially in the field of waste incinerators and industrial boilers as well as in other, related industry segments.

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## Personnel Developments



**Dr. Christian Mueller**  
Expansion of the Management Board at CBG

With effect from 1<sup>st</sup> of January 2013, Dr. Christian Mueller has assumed the position of Managing Director (Geschäftsführer) at Clyde Bergemann GmbH.

Christian Mueller has been with Clyde Bergemann since August 2006, most recently serving as head of the department of Technology and Project Execution. Based on his broad expert knowledge and experience in diverse fields, he has been adding substan-

tially to Clyde Bergemann's success in his various functions. As part of his new duties as Managing Director, Christian will continue to dedicate himself to the ambitious objective of further advancing Clyde Bergemann's technology leadership. Within our Group organisation, Christian Mueller will be reporting to Ralph Ludwig as MD of Clyde Bergemann EU I.



**Michael R. Sellinger**

Michael R. Sellinger was named President of Clyde Bergemann Auburn October 1<sup>st</sup>, 2012. He has been with the company since 1996, most recently serving as Vice President and COO. He has extensive international business experience in the power generation, petrochemical and industrial markets.

## Clyde Bergemann Representatives Meet for Annual Sales Conference in Germany

From the 15<sup>th</sup> to the 16<sup>th</sup> of November 2012 Clyde Bergemann Power Group (CBPG) held their annual Sales Conference in Wesel, Germany.

More than 100 key people from CBPG's sales and marketing and research and development teams met in Wesel to share best practices, knowledge and experience of new developments, major projects and market information from all over the world.

Prof. Dr.-Ing. Alfons Kather updated the audience as guest speaker on "The Sevilla Process", reporting on integrated pollution prevention and control in large industrial installations on the basis of best available techniques.

Also presenting was Dr. Benedetto Risio of RECOM Services, who shared his knowledge on the development of a 3D-CFD model for SCR-DENOX-Catalysts.

Next to the opportunity for learning, the two days created an excellent platform for networking, sharing knowledge and expertise throughout CBPG's business units.



Attendees of the CBPG Sales Conference congregate in the new manufacturing workshop of Clyde Bergemann GmbH, Germany

## Events Diary

DATE 2013	NAME OF EVENT	COUNTRY
<b>April</b>		
April 8 – 10	BLRBAC	Atlanta, GA, USA
April 18	CBW Maintenance workshop	Wesel, Germany
April 22 – 24	NAWTEC	Fort Myers, FL, USA
April 23 – 25	World of Coal Ash	Lexington, KY, USA
April 25	CBW Engineering workshop	Wesel, Germany
<b>May</b>		
May 14 – 16	Electric Power	Chicago, USA
May 20 – 22	CIBO Fluidized Bed Combustion Conference	Louisville, USA
<b>June</b>		
June 4 – 6	POWER-GEN Europe	Vienna, Austria
<b>July</b>		
July 8 – 9	Reinhold APC Conference & Expo	St. Louis, MO, USA
<b>August</b>		
Aug 5 – 8	CIBO Industrial Emissions Control Conference	Portland, ME, USA
TBD	AEP BRO	Columbus, OH, USA
Aug 14 – 16	Coal-Gen	Charlotte, NC, USA
<b>September</b>		
Sept 25 – 27	VGB Congress Power Plants	Maastricht, Netherland
<b>October</b>		
TBD	Timber Processing & Energy Expo	Portland, OR, USA
Oct 7 – 9	BLRBAC	Atlanta, GA, USA
<b>November</b>		
Nov 7	CBW Maintenance workshop	Wesel, Germany
Nov 12 – 14	POWER-GEN International	Orlando, FL, USA