



EDITORIAL

2015 - OFF TO A GOOD START!

2015 has seen ACS meet all of its growth targets so far. In the first quarter, orders rose by 65% compared to the same period last year, thanks to the contribution of medium to large size projects. Notably ACS started working with companies such as **Sab Miller** in **Honduras** for emission control in a large 120t/h bagasse fired steam boiler and further increased the supply of systems for medium sized BFB boilers in **Indonesia**.

In **Europe**, biomass combustion plants wait for the final revision of the *Medium Combustion Plant Directive* from the European Commission, after receiving strong opposition from several wood related entities, such as the Finnish Energy Industries and the Finnish Forest Industries. These institutions complain about the drastic cuts on the PM emission limits currently proposed by the commission. I was personally involved in several workshops and conferences in **Finland**, as well as in **Poland**, not only to explain the advantages of our solutions, but mainly to inform the interested parties about the escalating performance of our systems to meet different requirements. Indeed, ACS can deliver a wide range of cyclone solutions to meet 100, 50 or 30mg/Nm³, thresholds that are way under present emission limits in several countries, including **Finland**, where the general emission limit for small boilers is around 300mg/Nm³. ACS can enable the compliance of the new regulation with very reasonable investment costs and thereby fill a major gap in the filtration market, served mainly by Filters and ESPs, at the expense of high OPEX and CAPEX, respectively. We expect the Commission to be sensitive to these arguments, thus avoid levelling all boilers equal and independently of its size in terms of PM emissions compliance.

Biomass is indeed confirming to be the most important area for ACS, responsible for gasification projects (**Biosus - UK**), pellet manufacturing (**Verdo Renewables - UK**) and, of course, combustion (**Cargill - Honduras**)

On the other hand, the powder recovery area has also shown a high demand from repeating customers for API recovery in spray drying (**Hovione - Portugal**) or powder recovery after tablet pressing (**Actavis- USA**).

As a final note, ACS largest project to date, ordered by **EDP – Electricity of Portugal**, has just been commissioned in April and is delivering extremely promising first results!

**Pedro Ribas Araújo** CEO

A handwritten signature in black ink, which appears to be "Pedro Ribas Araújo".

LATEST

Recent Projects



Hurricane® HR cyclone system (10 batteries of 6 cyclones) to reduce PM emissions, including unburnt carbon particles from a 40MW_{th} wood waste boiler operating at 247 088 m³/h at 303°C.

Objective: Enable the use of a biomass boiler instead of a more expensive natural gas heat generator to heat up a rotary dryer. This can only be achieved with a very high removal efficiency.

Status: ACS commissioned and started up the system in April, and is currently working on a continuous basis.

Granted Emissions: <100 mg/Nm³

EDP Mangualde | Portugal | 2014

SONAE



Hurricane® HR cyclone system to reduce particulate matter from a biomass boiler burning sugar cane bagasse at a flow rate of 325 000m³/h at 170°C.

Azunosa | Honduras | 2015



Hurricane® HR cyclone system with $\varnothing 275\text{mm}$ to capture the waste particles from the combined flow of a deduster and tablet press at a flow rate of $416\text{ m}^3/\text{h}$ at ambient temperature.

Actavis | New Jersey, USA | 2015



Hurricane® HC cyclone system for dust collection on two lines of wet wood chips grinding (hammermill). Each hurricane HC system is placed downstream the existing cyclo-filter operating without cartridges and upstream the ID fan at a flow rate of $7\,353\text{ Nm}^3/\text{h}$ at 20°C .

Verdo | UK | 2015



Hurricane® cyclone system for particulate matter abatement on 420 hpb biomass boiler downstream existing multicyclone at a flow rate of $14\,400\text{ m}^3/\text{h}$ at 171°C .
Biomass fuel used: african palm mix with sawdust and king grass.

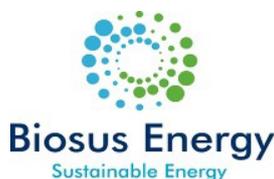
Cargill | Honduras | 2015



ACS designed 3 systems for our partner Basuki.

- **Hurricane® MK** for Coal Bubbling Fluidized Bed (BFB) 30 ton/h boiler operating at $68\,000\text{ m}^3/\text{h}$ at 230°C
- **Hurricane® MK** for Coal Bubbling Fluidized Bed (BFB) 6 ton/h boiler operating at $14\,000\text{ m}^3/\text{h}$ at 230°C
- **Hurricane® MK** for Coal Bubbling Fluidized Bed (BFB) 15 ton/h boiler operating at $34\,000\text{ m}^3/\text{h}$ at 230°C

Basuki | Indonesia | 2015



Hurricane® MK cyclone for reducing particulate matter from a syngas flow rate of $603\text{ m}^3/\text{h}$ at 223°C .

Biosus | UK | 2015



ACS designed and supplied 2 systems for our partner Norbidel.
Hurricane® HR cyclone for particles capture from a biomass boiler at flow rate of $12\,543\text{ m}^3/\text{h}$ at 220°C .

Norbidel | Portugal | 2015

Conferences & Events



ACS was one of the strategic partners at the **IV Forum of Biomass and Waste**, between the 15th and 16th of April.

CBE Polska | Warsaw, Poland | 2015



ACS was present at **LIGNA 2015**, from the 11th to 15th of May.

Ligna | Hannover, Germany | 2015



ACS will be visiting **PROPELLET** in Chambéry between the 20th and the 21st of May. We would love to pay a visit to your booth or factory.

Propellet | Chambéry, France | 2015



ACS will be exhibiting at **ACHEMA 2015**, Hall 5.1 Stand D51, between the 10th and the 15th of June.

Achema | Frankfurt, Germany | 2015

