



EDITORIAL

First ReCyclone Systems for biomass combustion in Brazil and Malaysia successfully passed PM emission tests!

In early 2015, we rethought our strategic plan to focus on specific applications and geographies where ACS systems could be of greatest benefit. With volatile oil prices and economic downturn, biomass fuels are a valuable alternative where most abundant and available, such as the sugar cane in Brazil, among many other species of biomass, and Palm Waste in Malaysia.

These countries have also new regulatory emission limits in common. While in the state of Rio Grande do Sul in Brazil stack particle concentration for biomass boilers is limited to 70mg/Nm³, Malay Palm Waste boilers used to generate steam for palm mills must be under 150mg/Nm³ corrected to 12% CO₂.

In this 2nd quarter, we had the first **ReCyclone Systems** clearly demonstrating to be a viable alternative to baghouses and ESPs in both geographies, complying with thresholds that are unattainable by any other reverse flow cyclone on the market.

Biomass projects are also recovering worldwide, especially where new regulation forces operators to control emissions. That is the case of France (50mg/Nm³ at 6% O₂), Quebec, Canada (150mg/Nm³ at 7%O₂) and the UK (50mg/Nm³), where ACS started working with companies such as Loire Compost Environnement, KMW Energy or Ignis Biomass.

We are very pleased with our first **Hurricane cyclone system** ordered for Quebec, Canada. It will come online before the end of the year to comply with 150mg/Nm³ at 7% O₂

After a 2nd quarter of some slowdown and reluctance from clients in becoming trailblazers regarding ACS projects in new geographies, we are now looking forward to an accelerated growth in orders until the end of 2016.

**Pedro Ribas Araújo** CEO

LATEST

Tradewinds



Our second installation in Malaysia, the first in Sarawak State is showing promising results! Our team is permanently on field in order to perform all the tests and fine tuning. Emission tests averaged less than 100 mg/Nm³ already corrected to 12% CO₂.

Project Objective: Reduce particulate matter from a biomass boiler burning a mixture of mesocarp fibre and palm kernel shell at Kuala Suai Palm oil mill.

Technology: Mechanical ReCyclone system

Operating conditions:

Fuel: Mesocarp fibre and palm kernel shell.

Effective flow rate (wet) (m³/h): 137 620

Gas temperature (°C): 320

Average inlet concentration (mg/Nm³): 500 - 600

Median particle size (µm): 7 to 17

Measured outlet concentration (mg/Nm³ at 12% CO₂): < 100 mg/Nm³

Tradewinds | Bintulu, Malaysia | 2016



Florestal



Our first installation for a biomass boiler in Brazil is showing good results. The first particle concentration measurements were below $70\text{mg}/\text{Nm}^3$, the threshold imposed by the Brazilian environmental organ.

Hurricane® MH_MK cyclone system optimized to reduce the emission of particles of a biomass boiler burning eucalyptus wood at a flow rate of $13\,176\text{ m}^3/\text{h}$ at 178°C .

Florestal | Brazil | 2016



Hurricane® HR + MK system to reduce flue gas particulate biomass after multicyclone at a flow rate of $1\,557\text{ m}^3/\text{h}$ at 132°C .

Couloidor | Verson, France | 2016



Hurricane® HR_HC cyclone system to separate particulate matter from pyrolysis gases at high temperature, operating at a flow rate between $392\text{ m}^3/\text{h}$ and $546\text{ m}^3/\text{h}$ at 450°C .

Alucha | Arnhem, Netherlands | 2016



ReCyclone® HR optimized for pharmaceutical product recovering in a Niro mobile minor spray dryer operating at a flow rate of 80 m³/h at 80°C.

[Upperton | Portugal | 2016](#)



Hurricane® HR + MK cyclone system to reduce particles of boiler flue gas to biomass (wood chips) after multicyclone operating at 4 164 m³/h at 135°C.

[Loire Compost Environnement | Cizay La Madelaine, France | 2016](#)



IGNIS BIOMASS

Hurricane® MKi cyclone system for particulate matter abatement downstream of an existing multicyclone, installed on 3.5MWth LHV biomass boiler running on clean wood chips, operating with a usual flue gas rate of 8 250 m³/h at 140°C.

[IGNIS WICK LTD | Wick, United Kingdom | 2016](#)



Hurricane® HR cyclone system optimized to reduce particulate matter from a 600hp biomass bark boiler after a multicyclone operating at a flowrate of 7 959 m³/h at 180°C. (16 456 acfm at 490°F).

[KMW Energy | Quebec, Canada | 2016](#)

Conferences & Events



ACS will be exhibiting again at [RWM 2016](#) (NEC Birmingham) between 13–15 September 2016 in UK.

Find us at **stand no 4B31 in Hall 4/5**

[RWM 2016 | Birmingham, UK | 2016](#)



ACS will be exhibiting at [POMREQ 2016](#) between the 29th and the 30th of November in Kuala Lumpur, Malaysia.

We will be showcasing our installations in Malaysia and sharing the recent results.

[Pomreq | Kuala Lumpur, Malaysia | 2016](#)

