



## THE BEST MARKETING COMES FROM GOOD RESULTS!

In the first quarter of 2017, ACS successfully commissioned projects in three strategic markets, two of which new markets, achieving residual particulate matter (PM) emissions under the guaranteed values and providing clients with a viable alternative to either ESPs or Bag Filters. These successful results are essential references for other customers for whom cyclone systems would never be an option to consider.

In **Quebec, Canada**, our [Hurricane HR](#) cyclone system is complying with 150mg/Rm<sup>3</sup> at 7% O<sub>2</sub> for a 600HP [KMW](#) biomass boiler burning bark, avoiding a much higher investment in an ESP. The Hurricane HR cyclones are a good compromise between cost and high efficiency, cutting down fine emissions escaping multicyclones by 60-80%. This cyclone family is already being evaluated for other similar projects with this level of emissions.

In **Minas Gerais, Brazil**, a [ReCyclone MH-HR](#) System was installed for [Combioenergia](#) who runs a biomass plant for its end client, [Votorantim](#). Emission testing just confirmed measurements under 100mg/Nm<sup>3</sup> for a 45t/h steam boiler burning wood chips, showing to be an alternative to a Bag Filter, which requires much more maintenance. The ReCyclone MH works with Hurricane HR collectors but further enhances its performance due to mechanical recirculation ([VIDEO](#)).

In **Medellin, Colombia**, a country facing ever more pollution problems worsened by numerous coal & biomass installations, we just commissioned our first Hurricane HR placed downstream of a process cyclone from a coffee rotary dryer in [Colcafé](#) (Nutresa group). ACS's cyclones successfully replaced an existing bag filter, which had serious operational problems such as frequent condensation causing filter clogging and systematic replacement. Recent results under 50mg/Nm<sup>3</sup>, close to ACS estimations, lead the client to order similar cyclones for another plant.

In the **Powder Recovery** area, several projects were ordered for existing clients, including [Hovione](#) (spray drying pharmaceutical powder), [Werner](#) (spray drying of food ingredient and baby food for [Evonik](#)) and [Pavigrés](#) (spray drying of ceramic powder). Regardless of the very different products dried, these repeated clients share the need to recover more product before wasting it in filters or scrubbers!

These projects show that our customized cyclones can improve the economics for many processes, either working instead of or in combination with other filters.

We thank these clients for the opportunity to work together!



Pedro Ribas Araújo CEO

A handwritten signature in black ink, appearing to read 'Pedro Ribas Araújo'.

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## Recent Projects

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**ComBio** is already working and showing good results.  
The first tests showed that we are under the emission limits!

The system is composed of 6 batteries of 24 **Hurricane HR** cyclones  $\varnothing 900\text{mm}$  with 24 **ReCyclone® MH** optimised to reduce particles emission from a biomass boiler burning wood chips.

**Gas flow:** 101 206m<sup>3</sup>/h at 160°C | **Particles:** Biomass fly ashes | **Verified Emissions:** <100mg/Nm<sup>3</sup><sub>dry</sub>

**ComBio | Minas Gerais, Brazil | 2017**

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Our cyclone system at [Colcafé](#) has shown very good results with first emission tests under  $50\text{mg}/\text{Nm}^3$ .

**Hurricane HR cyclone system** optimised to reduce the amount of PM emissions (toasted coffee) from a rotary dryer.

**Gas flow:**  $32\,796\text{m}^3/\text{h}$  at  $79^\circ$  | **Particles:** Coffee grounds | **Verified Emissions:**  $<50\text{mg}/\text{Nm}^3$

[Colcafé](#) | Medellín, Colombia | 2017

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Our project at [KMW Energy](#) is already working!

Consulair, an emission testing company from Quebec, Canada, confirmed that "...all tests meet the standard of Article 75 of the CEOS of 150mg/m<sup>3</sup> at 7% oxygen" performed on January 31<sup>st</sup> and February 1<sup>st</sup>, 2017. The results ensure PM emission compliance for the D&G plant with an ACS cyclone system with lower investment, lower maintenance and lower operating cost than the alternative bag filter.



[KMW | Quebec, Canada | 2017](#)

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**Hurricane HR** cyclone system  $\phi$ 1850mm for Powder Recovery of Eudragit L100 and Eudragit S100 after a spray dryer for Evonik in France (16521Nm<sup>3</sup>/h at 50°C)

[Werco | France | 2017](#)

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**Hurricane HR** cyclone system for product separation from a ceramic atomiser air exhaust (31188 m<sup>3</sup>/h at 84.3°C)

[Pavigrés | Anadia, Portugal | 2017](#)

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**Hurricane HR\_MKi** cyclone system to reduce particulate matter from a 3ton/h of steam biomass boiler, burning wood chips. (6500m<sup>3</sup>/h at 108°C)

[Avipronto | Azambuja, Portugal | 2017](#)

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**Hurricane HR\_MK** cyclone system optimised to reduce the amount of particulate matter (coffee grounds) from a rotary dryer at a flow rate of 456m<sup>3</sup>/h at 32°C.

[ICAVI | Brasil | 2017](#)

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**Hurricane HR** cyclone (type HR\_HC ø250mm) optimised to increase baby milk powder recovery after a spray dryer (303 Nm<sup>3</sup>/h at 80°C)

[Werco | France | 2017](#)

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## Exhibitions & Events

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ACS exhibited at LIGNA (Deutsche Messe). It was a great show for us.

[LIGNA | Hannover, Germany | 2017](#)



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