



WHITE AND BIOCOAL PELLETS PRODUCTION WITH CARBONFX™ TECHNOLOGY



Who we are

Airex Energy is a technology provider of biomass torrefaction systems and a producer of high quality **biocoal**

We are a **spin-off** of Airex Industries, a well established industrial equipment manufacturer



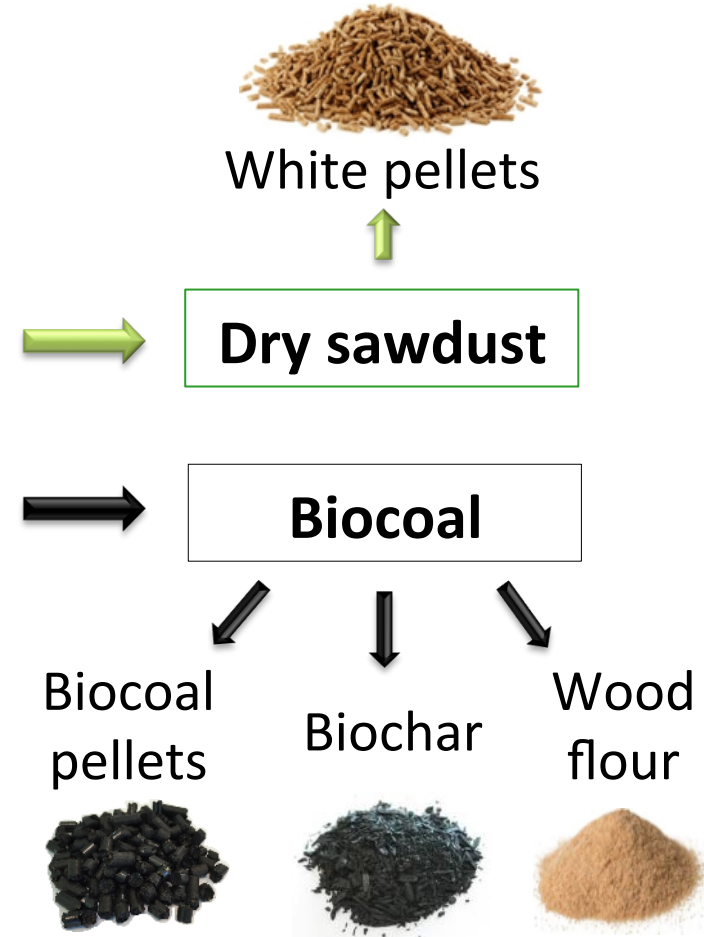
We are commercializing our proprietary **CarbonFX™** process, a **simple, reliable and cost competitive** technology platform

CarbonFX™ technology

Upgrading biomass through thermal treatment



Wet sawdust



Products

Biocoal pellets

Heating value	9K – 10.5K BTU/lb
Durability	> 97 %
Bulk density	> 45 lb/ft ³
Moisture	< 4%
Ash	< 3%



Torrefied Wood flour

Particle size	40-80 mesh
Bulk density	10 - 13 lb/ft ³
Moisture	< 1.5%
Ash	< .5%



Biochar

Carbon content	60% to 75%
Particle size	0.1 – 2 mm
Bulk density	10 lb/ft ³
Moisture	< 2%
Ash	< 15%



White pellets

Heating value	8K BTU/lb
Durability	> 97 %
Bulk density	> 40 lb/ft ³
Moisture	< 8%
Ash	< 1%



Technology roadmap

Scaling up capacity



Capacity
10 kg/hr output

Status
Experimental

2010



Capacity
100 kg/hr output

Status
Self-contained
2 units sold

2012



Capacity
2 tons/hr output

Status
Commercial

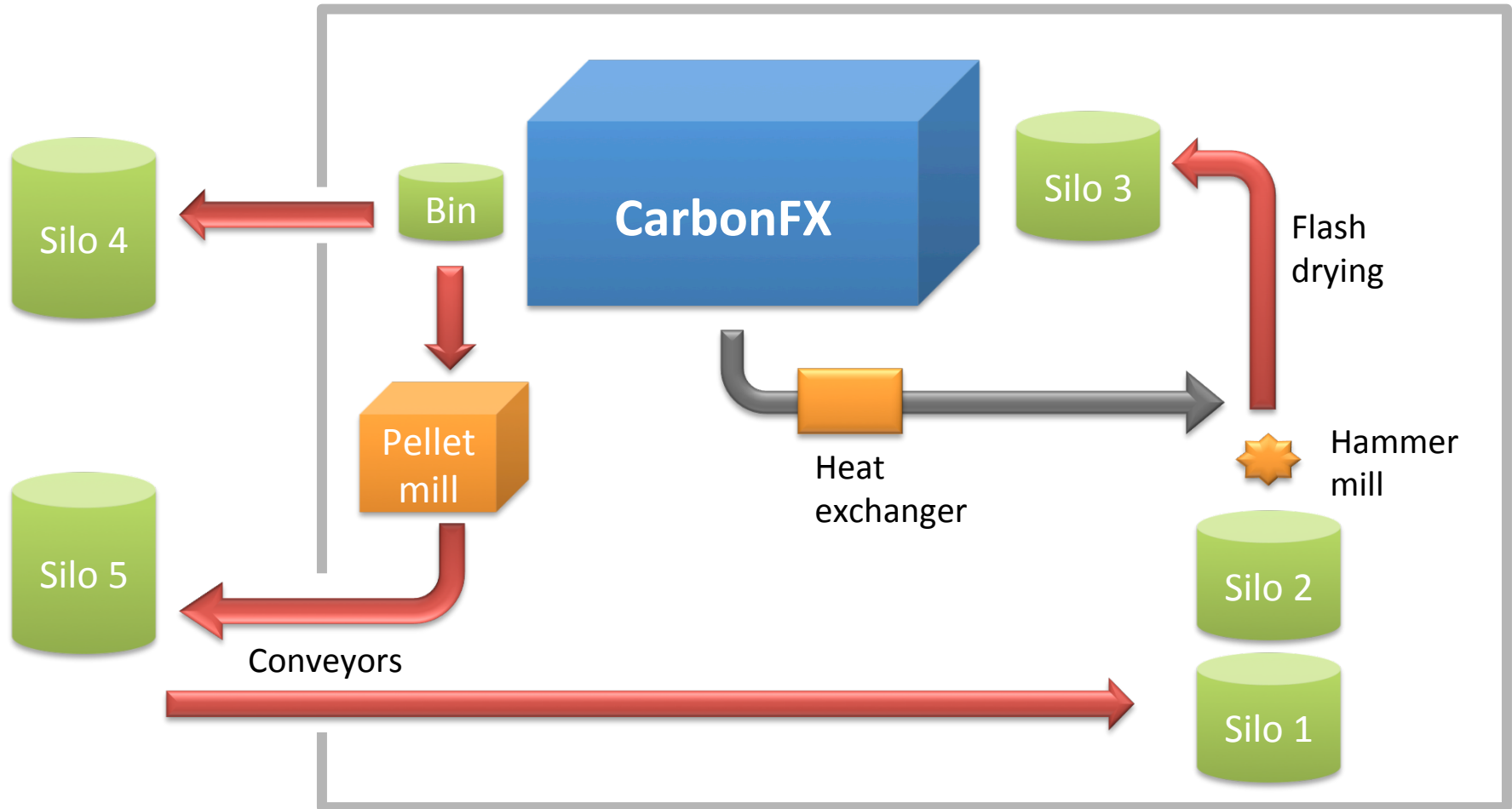
2015

Becancour plant



- Location : Becancour, Qc
- Capacity of 2 tons/hour
- Investment : **CAD\$6.5M**
- Feedstock : sawdust / recycled wood
- End-product : **biocoal pellets, white pellets, biochar, torrefied wood flour**

Becancour plant



Becancour plant

- **Flexible plant :**

- Feedstock : sawdust, woodchips or C&D wood
- End-products :

	Capacity
White pellets	35K t/year
Biocoal pellets	15K t/year
Biochar	8K t/year
Torrefied wood flour	20K t/year

- **Cost competitive plant :** A biocoal plant for the price of a white wood pellet plant
- **No market risk :** white pellet production

Becancour plant



Becancour plant



Becancour plant



Becancour plant



Becancour plant

Main features

- Built to run 24/7
- Staff of 2 operators/shift, 1 mechanic and 1 plant director
- Safety features : 2 dust collectors, enclosed conveyors and silos, magnets, sprinklers (building and inside silos), heat detection in silos, spark detection/suppression systems, explosion vents
- Propane/natural gas for start-up and pilot flame
- Automation : automated plant with minimal operator interventions
- Maintenance : rugged and proven equipment used in wood industry (sizing equipment, conveyors, extraction systems, pellet mill, instrumentation)

Competitive edge

Cost competitive technology

- Smallest footprint of the industry : residence time of **3 seconds vs 30 min** for other technology
- **No biomass boiler** required for process heat
- Integrated **pre-drying** system
- Perform as a **high-efficiency** biomass dryer

Scalable technology

- Proven **multi-cyclone** design

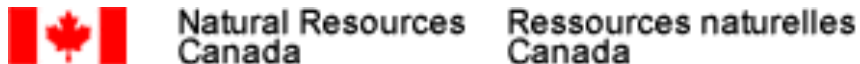
Incremental technology development

- From proof-of-concept to demonstration plant ⇒ **risk management**



Partners

Funding Partners



R&D Partners



Ready for biocoal production ?

CarbonFX™ technology available in Q3 2016

Becancour plant open for site visit

What we offer :

- Plant engineering

- Procurement and commissioning

- Operators training

- Plant optimization and support

Information

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