

Ensyn heads for Brazil; locks up \$20M investment, alliance with pulp giant Fibria

Brazilian pulp giant finds renewable chemicals and fuels heaven in a partnership with the intrepid Canadian process developer



In Canada, Ensyn Corporation and Fibria Celulose [announced the creation of a strategic alliance](#) between the two companies. This alliance includes the establishment of an equally-owned joint venture for the production of cellulosic liquid fuels and chemicals in Brazil, as well as a US\$ 20 million equity investment in Ensyn Corporation by Fibria.

Ensyn's key renewable liquid fuel, Renewable Fuel Oil, is a multi-purpose petroleum replacement fuel with uses including heating, conversion to transportation fuels and power generation in diesel engines, and is made via the company's Rapid Thermal Processing technology, which converts wood and other non-food biomass into renewable liquid fuels and chemicals.

The \$20 million equity investment by FIBRIA in Ensyn capital provides FIBRIA with ownership of approximately 6% of Ensyn voting shares and the right to nominate one member to Ensyn's Board of Directors. It also provides FIBRIA certain rights which, if exercised, would allow FIBRIA to invest an additional \$10 million and increase its holdings to as much as 9% of Ensyn's equity capital.

Looking at Fibria

Now, who is Fibria, anyway? It's one of the largest, if not the largest, pulp companies in the world. Born from a 2009 merger between Aracruz and VCP, it has 6 million tons of pulp and paper processing capacity at seven locations throughout Brazil, and has R\$5.85 billion in revenue and a 34% EBITDA margin. Recently, it exited the paper business and focused its resources on pulp and forestry.

So, the focus of this announcement is Brazil, and assuring a feedstock supply for RFO.

Looking at RFO, RTP and the Ensyn backstory

Back in April, Ensyn and Honeywell announced two breakthrough claims at the Advanced Biofuels Leadership Conference.

First, that their pyrolysis process is capable of producing RTP fuel at scale, a crude oil competitor for a price of \$45 per barrel (of oil equivalent). RTP fuel can be upgraded at the refinery – using a

modified (but apparently standard refinery equipment – UOP and Ensyn are being cagey about the exact piece of refinery equipment, but our understanding is that it is widely used, particularly in the US.

Game-changer, no? Here's why that might be the right way to think of it.

1. Obviously, there's the cost. \$45 per barrel for a competitive product to crude oil is, ahem, just a little bit more affordable than the \$101 per barrel price that light, sweet crude was trading for this week on the NYMEX (not to mention the \$122 per barrel cost for Brent crude).

2. Bringing refiners into the game. This puts the refinery into the advanced biofuels game as a producer, rather than an obligated blender, of advanced biofuels. Consider this: for years, refiners have had to deal with early-gen biofuels that have cost them time, money and aggravation to handle, while cutting in to their refining volumes. Their role was limited to buy, blend and suffer.

3. Then there's scale, too. Using existing refineries – once the refinery technology upgrade is in place – takes the volume opportunities up sharply from what are considered standard advanced biofuels capacities of, say, 10-100 million gallons per year, per project.

4. The guessing game. We are left to guess the initial refining partner – though it is not difficult to surmise that Tesoro has been the test partner to date, and presumably would be the first to license and deploy the process, and also presumably starting off in Kapolei.

We are left also to guess the refining unit being used. An adapted version of a fluid catalytic converter (FCC) – a signature bit of refining equipment that has been UOP's signature technology since the 1940s? We'll know in time.

Renewable chemicals

Clearly, anything that comes out of the process, in terms of chemistry, is a traditional refinery product in that it is aimed at refineries and is suitable for upgrading. So traditional, and low cost. But renewable too.

What does that mean? Well, that's a set of low-cost renewable olefins (including ethylene, propylene, butylene and butadiene), plus the aromatics (including benzene, toluene and xylene).

There are resins and plastics such as polyethylene, polypropylene, polystyrene, and polyvinyl chloride (PVC). There's polyester and acrylic, or rubbers such as styrene butadiene rubber or polybutadiene rubber. There are also solvents. A host of products to create value for Ensyn is a Brazilian setting.

The bottom line

No doubt about it – like so many others in this space, Ensyn is headed for Brazil. Unlike so many others, who headed in search of cane sugars and a massive, established market in ethanol, Ensyn targeted the pulp industry and a market in a range of fuels and chemicals that can be produced in a refinery setting. We have yet to see who the refinery partner might be – but assuring itself of an advantaged feedstock partner, and targeting one of the fast-growing BRIC countries and a renewable fuels maven -that will evoke “oohs” and “aahs” from industry, for sure.

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