

Fulcrum's near, Ensyn's back: Hopeful Hours in the Big Heavy

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If the bioeconomy were a galaxy and the heavy-duty fuels were the constellation **Big Heavy**, two of the brightest and longest-lived stars would be **Fulcrum BioEnergy** and **Ensyn Fuels**. Of late, attention has been steering towards newcomers such as Alder Fuels, T2C Energy, and a host of new projects getting off the ground — DG Fuels, NEXT Renewables, and more.

Let's back away from the future star nursery and look again at our two big stars, the E and F of our bioeconomy alphabet.

Fulcrum: Fuels before Christmas, maybe by Hallowe'en

When we last touched on the Fulcrum story in depth, in May, the company had commenced syngas production, but we had not yet heard that the intrepid Fulcrumites had reached the summit of their Everest, which is the commencement of fuel production at their Sierra Biofuels project near Reno, Nevada. As we noted last May, "the hour is late, the winds are fierce, oxygen bottles may be in short supply. Fears begin to grow, unvoiced, that our mountaineers are lost."

Good news, a voice has come crackling over the radio, CEO Eric Pryor gave us an update this week, and stated, "We are in the process of commissioning and operating the many systems and pieces of equipment throughout our process and expect to be in a position to

produce our first gallons of syncrude from landfill waste in the next month or so. As you know, this will be a tremendous milestone for Fulcrum as well as the renewable fuels industry.”

That’s good news, it appear it will be a happy Christmas in Nevada and elsewhere in the bioeconomy amongst the company’s many fans.

There’s other good news to share.

As reported in July, **SK Innovation** made a \$20 million equity investment in Fulcrum. This is the second investment that SK Group has made in Fulcrum, following its participation in a \$50 million equity round in December 2021 by SK Inc. And we reported last month that Fulcrum received its air permit from the **Indiana Department of Environmental Management** for the company’s proposed \$600 million Fulcrum Centerpoint waste-to-SAF facility near Gary in the Buffington Harbor area.

We are especially noting that SK news. That’s the kind of check that comes from people behind the NDA wall and suggests that real progress is happening, not only in producing the gallons of renewable fuels, but affordable gallons. Let’s hope so.

Over at Ensyn: overproduction at BioÉnergie AE Côte-Nord Canada

The other bright light of the Big Heavy has been Ensyn, and there we have had even more public and encouraging news this year. In May, **ArcelorMittal Mining Canada** and **BioÉnergie AE Côte-Nord Canada** inked a three-year agreement for the delivery of 16 million litres of pyrolytic oil per year to the ArcelorMittal iron pellet plant, the fuel is produced using Ensyn technology.

The introduction of pyrolytic oil, a renewable fuel produced from wood residues, will allow an annual reduction of 57,600 tonnes of CO2 equivalent at the Port- Cartier pellet plant, which corresponds to removing 14,000 vehicles from the roads each year. Let us recall that the ArcelorMittal Group has made the commitment to reduce its greenhouse gas emissions 25% by 2030 and reach carbon neutrality by 2050. Sourcing? BioÉnergie is sourcing wood residues of **Arbec Lumber**, another affiliate of Groupe Rémabec. The agreement announced today also includes the use of ArcelorMittal’s railway by Arbec, based on 80 trains per year to transport wood from its forest camps to its Port-Cartier sawmill.

And there was follow up in mid-summer that biofuel production levels have exceeded expectations. After a two-and-a-half-year hiatus, Bioénergie AE Côte-Nord restarted production on June 27, and, in two weeks, produced 700,000 litres of fuel. That’s already past the 16 million liter per year rate needed to meet the ArcelorMittal offtake requirement.

Why the surge in production? Optimization work reduced the frequency of downtime that caused production stoppages. Plant spokesman Tommy Chabot noted that “In the past, we had an average rate of 60% of the production capacity. Over the latest two weeks of operation, we had an average of 85%”. The production filled the 700,000 litres of storage the company had on site — so, now, it’s on Arcelor to expand its capacity to absorb the new fuels — quickly.

Réjean Paré, President and Chief Operating Officer of **Groupe Rémabec**, said “We are proud of this partnership with ArcelorMittal that allows us to create 30 quality jobs in the Côte-Nord region, at BioÉnergie alone. Our group constantly looks for new ways to valorize forest fibre and sawmill by-products sustainably. With ArcelorMittal, we wish to stand out by local production of a renewable energy source that contributes to reduce greenhouse gas emissions. The entire community wins.”

The Bottom Line

One project is back on track, one dangles tantalizingly close to fruition. Both of them hugely ambitious projects that utilize residues (wood waste, the one, MSW, the other), that dramatically inflate the feedstock basket and the potential for fuel production. Both utilizing such low-cost raw materials and producing extravagantly low carbon intensities, the math of the projects seems well suited to our times.

Has Ensyn roared back? Has Fulcrum broken through? Not....quiiiiiii....te. Close enough that the flag is in hand, the summit in sight. The pain is never greater than the final, agonies of the ascent. The lazy days of base camp are long in the rear view mirror. As Ed Viesturs used to say of elite mountaineering, there are “no shortcuts to the top,” these two are in it now, the pleasures of achievement still yet too far to quench the agony in lungs and legs, or provide assurance to the support teams below and supporters around the world.

All must wait for the planting of the flag on the summit, but it appears that the summit is at last in sight.