Corporate Partnerships Help Inventys Scale-up Carbon Capture Tech

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by Troy Ault

We recently had the opportunity to catch up with Andre Boulet, CEO of Inventys – a developer of energy- and capital-efficient carbon capture technology – after the company announced its latest round of growth funding from new strategic investor Chevron Technology Ventures, as well as existing investors, last week.

The company got started in 2007 with a unique piece of technology based on the process of *thermal swing adsorption*. Unlike other post-combustion carbon capture technologies that use amines or chemical solvents, Inventys' ***VeloxoTherm™*** platform is based on a solid, ceramic-like adsorbent with a honeycomb form factor. This material has enhanced heat and mass-transport properties that translate into energy-efficient regeneration of the adsorbent via the use of low-grade steam.

More in common with its competitors, however, the oil & gas industry, and specifically enhanced oil recovery (EOR) sites that pump CO2 down into tapped wells to release remaining hard-to-get deposits, have become Inventys' primary near-term market focus. And the company's been racking up partnerships with heavyweights in that space, most recently with new investor Chevron Technology Ventures. "Focus has definitely shifted over the last seven years," said Boulet. "Early on, it was evident that a comprehensive policy framework addressing carbon emissions was slow-coming. So how could we tweak our approach to serve a market need today? That's where the EOR market presented the most compelling opportunity."

Starting in about 2009, Suncor, a major Canadian oil sands producer, helped fund some of Inventys' earliest development and demonstration both directly and through the CO2 Capture Project (CCP) consortium, which also opened up relationships for Inventys with members like BP, Statoil and Chevron.

The addition of Chrysalix Energy Venture Capital as another recent investor was similarly noteworthy on the EOR and oil sands side. That firm's investment was led by Jean-Michel Gires, former CEO at Total E&P Canada, who joined the firm in late 2013 as its newest Venture Partner. Of the new investors, Boulet says, "In Chevron, we're most excited about commercial opportunities with them now that we're nearing that scale. Chevron is one of the largest players in the EOR space, and they also bring tremendous business expertise. Jean-Michel has surprised us in a different way – we'd initially wanted him on the board to bring that gravitas of deep oil & gas experience, sure," he said. "But what has surprised me the most has been his real passion for carbon capture technology."

Additional backers include Mitsui Global Investment and The Roda Group, while the company has also enjoyed grant funding from Sustainable Development Technology Canada, the Climate Change and Emissions

Management Corporation (CCEMC), and others.

Asked about markets of tomorrow, however, Boulet was quick to point out that policy is still the big prize. “CO2 EOR is a $10 trillion market,” he said, “but policy is what’s going to open up these additional markets. It may still be five years out, but that’s what we started the company on and that’s what we’re still waiting for.”

One of those additional markets is clearly thermal power plants. Boulet readily acknowledged past failures of carbon capture in that industry, like Project Pioneer in Alberta – abandoned by power plant operator Transalta in 2012, as confirmation that solvent-based systems are not economically viable. “Even with substantial grant funding, it was a non-starter,” he said.

Inventys is not simply waiting for the needed policy changes to make their message resonate with utilities and independent power producers, however. They’re prepared to attack cost from two angles. First, form factor aside, Boulet insists the real differentiator for Inventys’ platform is in the economics. At $15 per ton captured, he believes they’re the clear winner from a cost perspective.

Additionally, Inventys is facing the industry with a different business model – building, owning, and operating its own plants. “In the absence of policy, nobody wants to buy CCS plants. It’s a very ‘wait and see’ kind of attitude – and that makes sense,” said Boulet. By absorbing the business risk associated with owning and operating the infrastructure, Inventys believes it can remove a major barrier to power plant operators adopting the technology sooner.

Only time will tell whether that risk will pay off, but Inventys is well-positioned with its existing corporate partners, investors, and an existing addressable market in the oil & gas industry. With the new funding, the company plans to scale up manufacturing of its adsorption material and execute on commercial-scale demonstration projects in the next 12-18 months. Interested parties can find more information on Inventys and other companies, investors, and partnerships in the carbon capture space by subscribing to i3.

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