The Greening (Dao) of Dow, Part 2

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This is part two of a two-part piece. Part one can be found here *[1].* [1]

2012 Begins with Vinyl

The New Year started auspiciously, when in February, Dow and Teknor Apex announced a joint market development [2]agreement for flexible vinyl in several application areas. Under a joint collaboration agreement, Teknor Apex was granted exclusive marketing rights in North America for flexible vinyl compounds containing Dow ECOLIBRIUM bio-based plasticizers in certain applications, such as consumer and industrial products, certain medical devices, automotive components, and select wire and cable products. Teknor Apex plans to commercialize compounds made with Dow ECOLIBRIUM this year and introduce the new compounds at the National Plastics Exposition (NPE) 2012 in April.

Score One for Carbon's Yin

The balance in Dow's approach became apparent in April. It wasn't going to be the "green, green fields of home" — there was going to be discipline in the approach, and carbon was going to be dominant in the mix, so long as natural gas supplies kept piling up in the U.S. In mid-month, the company announced that a planned expansion of its Freeport, TX plant would cost as much as $4 billion, create 2,000 jobs in the construction phase and come online in 2017. It's an ethylene cracker unit, part of a major expansion of its propylene production capacities — including a 750,000-ton-per-year propane dehydrogenation (PDH) unit.

The Solazyme Collaboration Moves to Phase 2

In May, Solazyme and Dow Chemical announced a contingent off-take agreement [3] in which Dow has agreed to purchase from Solazyme all of its requirements of non-vegetable microbe-based oils for use in dielectric fluid applications through 2015. Concurrently, Solazyme and Dow entered into a Phase 2 joint development agreement, a multi-year extension including accelerated commercialization timelines based on Solazyme's rapid progress in the production of tailored algal oils.

And the Very Next Week …

Dow and Emerald Biofuels announced that Emerald aimed [4] to build an 85-million-gallon renewable diesel refinery at a Dow Chemical site in Plaquemine, LA. The company would use Honeywell's UOP/Eni EcoFining process technology for the production of Honeywell green diesel fuel. At the time, Emerald and Dow said they were finalizing a site lease and a site services agreement for Dow to provide a number of services and utilities to support Emerald's operation.

Summertime & Crop Sciences in Focus

By August, attention had switched to industrial biotechnology in crop applications [5]. Dow AgroSciences, in Argentina, launched its Powercore corn hybrid product, which combined two herbicide-tolerant genes plus three genes resistant to pests of economic importance to Argentina, and was the first product approved in Argentina with five genes stacked in corn.

Over in Australia, the next month, Dow AgroSciences struck again [6] with a research collaboration announced with Agriculture Victoria Services to develop novel plant genetics tools designed to increase crop performance for the benefit of farmers in Australia and around the world.

The Bottom Line

It's a lot of carbon yin with a sweetener of clean-tech yang for now. The scope of the company's activities represents the realities of scale in the market right now. Partners like OPX Bio, Solazyme, Genomatica and Algenol are highly promising and headed for commercialization, but scale is down the line.

Meanwhile, there are some in-this-decade-at-huge-volume opportunities that Dow is determined to capture from the natural gas boom — so it's a matter of some small (yet promising) steps towards the clean, balanced by giant leaps toward carbon. The hope? To balance sustainability and cost attributes and, when clean-tech's promised ability to meet both price and performance goals is realized, Dow will not need to pounce, it will have readied itself for the next phase in the revolution through positioning and "action without force."

And how daoist is that?

To read part one of this two-part series, please click here. *[1] What's your take? Please feel free to comment below! Copyright 2012;* Biofuels Digest [7]

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