

Sustainability Takes Firmer Hold in Mainstream Chemical Industry

Most extensive survey to date, with almost 1,000 respondents, documents progress on multiple fronts; BASF, DuPont, Dow, Bayer and Genomatica seen as the leaders in sustainable technology

San Diego, September 5, 2014 – <u>Genomatica</u> announced today's publication of the results of a major survey of sustainability issues in the mainstream chemical industry. The survey was conducted together with ICIS, one of the world's leading chemical and energy market information providers. The companies believe the new survey, the third in a series they have run since 2009, is the most extensive survey to date of the chemical industry on the topic of sustainability. The survey drew 958 responses worldwide, with 53% of respondents at the level of vice president, general manager or above.

Findings and analysis from the survey are available via an <u>ICIS article</u>; <u>commentary on key results</u> from Genomatica's CEO, Christophe Schilling; <u>slides corresponding to highlights in this news release</u>; and a <u>complete set of slides</u> with detailed results from over 50 questions.

Key findings show importance of sustainability in the chemical industry

"Chemical producers and distributors continue to strengthen their engagement with sustainability," said John Baker, ICIS global editor and organizer of the survey. "The move is being driven by increasing demands from downstream users and final customers for more sustainable products."

Overall sustainability findings include:

- S1. 69% say their company has a sustainability policy in place or are currently developing one.
- S2. 67% describe their company's top business priority in sustainability as either promoting or marketing sustainable products, taking an active lead on sustainability issues, or engaging customers on a business level.
- S3. 81% of producers say it's very or moderately important to be a front runner in sustainable chemicals.

On the specific topic of renewable feedstocks:

- RF1. Amongst producers, 35% are investing in R&D in renewable feedstocks and 31% have a strategic commitment to their use.
- RF2. On economics, 43% of producers say there is long-term economic advantage to renewable feedstocks; and 51% say they should reduce exposure to the petroleum market.

And interest in and plans to offer sustainable chemicals and products suggest that product value chains are moving in synch toward greater sustainability:

VC1. *72% of producers* now offer more sustainable versions of chemicals or plan to offer them within two years. That allows chemical users to do better planning for sustainability.



- VC2. Producers say that 80% of their customers are showing the same or higher interest in sustainable chemicals than just one year ago, with a sizable segment showing *much greater* interest. This signifies strong growth in customer demand and helps drive faster action by producers.
- VC3. 75% of chemical users either offer products made with more sustainable chemicals or expect to do so within two years. They're taking action to make products that they plan to differentiate based on sustainability, to meet growing demand.



Multiple parts of the chemical industry are simultaneously moving toward greater sustainability

Industry sharpens and confirms views of technology leaders in sustainability

When survey respondents mention what companies come to mind as 'technology developers for sustainable chemicals,' they unsurprisingly list some of the industry's leading firms, including BASF, Dow, DuPont and Bayer, in that order. Genomatica comes in fifth, ahead of many much larger firms. This rank is up from ninth in 2012.

Survey respondents also rated their overall impressions of numerous companies with regards to sustainability. The three companies viewed with the highest 'very positive' ratings were BASF, DuPont and Genomatica.



BASF, DuPont, Dow, Bayer and Genomatica are the firms most often mentioned as technology developers in sustainable chemicals and/or with a very positive rating in sustainability.

Consistent with these survey results, Genomatica recently announced it had been named a <u>2015</u> <u>Technology Pioneer by the World Economic Forum</u>. This recognition extends a multi-year string of notable awards across multiple fields of expertise.



"This survey provides concrete, current data to confirm the transition toward greater sustainability in the mainstream chemical industry," said Christophe Schilling, CEO of Genomatica. "We're proud to support the industry by showing how and where biotechnology can be harnessed to develop new, better processes for the advantaged production of major chemicals using alternative feedstocks. And we're delighted to see that our message and results are being noticed, as shown by how respondents include us with the leaders when thinking about technology for more sustainable chemicals."

About Genomatica

<u>Genomatica</u> is a widely-recognized technology leader for the chemical industry. It develops manufacturing processes that enable its licensee partners to produce the world's most widely-used chemicals a 'better way,' from alternative feedstocks, with better economics and greater sustainability than petroleum-based processes.

Genomatica has delivered the industry's first commercial biobased process for a high-volume intermediate chemical. Its GENO BDO[™] process has produced thousands of tons of BDO and been licensed by BASF and Novamont. Multiple large chemical firms have publicly validated quality or described commercialization plans, including <u>Invista</u> (for its well-known Lycra[®] spandex), DSM, Lanxess, Toray, and Far Eastern New Century.

Genomatica's biotechnology platform and over 500 patents and applications enable it to develop processes for additional major chemicals. The next is for <u>butadiene</u>, with Versalis and Braskem as partners, and over \$100 million in industry support. Genomatica has also announced a program to develop processes for the production of <u>nylon intermediates</u>, including HMD, caprolactam and adipic acid.

Genomatica has earned tremendous recognition for its innovation and commercialization track record, including the <u>Kirkpatrick Award</u>, for 'the most noteworthy chemical engineering technology commercialized in the world,' and the 2015 World Economic Forum Technology Pioneer award.

About ICIS

ICIS, the trusted information provider for the chemical and energy industries, is part of Reed Business Information (RBI), a division of Reed Business and a member of Reed Elsevier plc (525), (UK:REL) (US:RUK) (NL:45443), the world's leading publisher and information provider. For more information on ICIS visit www.icis.com.

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