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THE GC3 RELEASES ITS PLAN TO MAINSTREAM GREEN CHEMISTRY, INCLUDING STRATEGIES FOR INNOVATION, RESEARCH, AND ADOPTION

LOWELL, MA (Press Release) – The Green Chemistry & Commerce Council (GC3) announces the release of its Agenda to Mainstream Green Chemistry (the Agenda). Green chemistry is an important field of practice that builds on conventional chemistry by ensuring that environment, health, and sustainability are critical criteria for molecular design, similar to performance and cost. Green chemistry applies 12 fundamental principles that lead to the use of more sustainable feedstocks, conservation of energy and water, and reduction of waste and toxicity. Increasing consumer, market and regulatory pressures for more sustainable products are being felt by brands and retailers. Green chemistry can help meet that need.

According to Joel Tickner, Director of the GC3, "while the growth of green chemistry since the 1990's has been impressive, it hasn't yet reached the tipping point. With the right types of support, green chemistry could be an important economic driver for US industry, preserving and growing jobs in the chemical sector and providing innovative, new high performing and cost-effective products and processes to the marketplace that are also safer for people and the environment. The Agenda identifies strategies and actions that will help our economy transition to green chemistry."

"The market for green chemistry, including bio-based chemicals, renewable feedstocks, bio-based polymers and less toxic chemical formulations, is projected to grow from $11 billion in 2015 to nearly $100 billion by 2020," says Libby Bernick, Senior Vice President, North America, at Trucost, an international sustainability metrics company. She adds that "in North America alone, the market for green chemistry is expected to grow from $3 billion to over $20 billion. Businesses can not only capture value for their company through green chemistry, but avoid risks such as changing regulations, shareholder activism, and costs of chemical accidents."

Despite these growth opportunities, this field faces barriers that must be overcome in order to reach maturity. These barriers, described in the Agenda, include the high cost and long timeframe to develop and scale up these new alternatives, lack of research dollars aimed at green chemistry, incumbency of existing chemicals in the marketplace, multiple and complex supply chains for any given chemical, risks of switching to a safer alternative that are not shared across the supply chain, and a lack of chemists trained in green chemistry practices.

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An additional barrier is the lack of available green chemistry alternatives to meet market demand. John Warner, Chief Technology Officer at the Warner Babcock Institute and co-founder of the field of green chemistry, echoes this latter finding and says that "brands and retailers large and small, including Nike, Levis, Walmart and Target, are hungry for environmentally benign materials and sustainable products. But the capacity to make those alternatives doesn't yet exist to fulfill their demand."

The Agenda is a way to help understand how we can meet existing demand and spur future demand for the more environmentally benign solutions that green chemistry provides. It draws on information from literature searches, independent research, and a survey of GC3 member businesses to describe green chemistry, its benefits, drivers, and barriers. It also identifies five strategies that policy-makers, businesses, researchers, advocates, and other enablers can take to bring green chemistry to the mainstream:

- *Enhance Market Dynamics*: by continuing to build a comprehensive, ongoing understanding of green chemistry enablers, market driers, and obstacles
- *Support Smart Policies***:** by designing and advocating for innovative state and federal policies that increase the supply of and demand for green chemistry solutions
- *Foster Collaboration***:** by facilitating the flow of information about green chemistry solutions among suppliers and product makers, and assembling partnerships to tackle priority challenges
- *Inform the Marketplace*: by disseminating information about green chemistry business, economic, and health benefits, as well as opportunities and funding
- *Track Progress*: by improving green chemistry metrics and periodically gathering and reporting data on progress.

The Agenda also specifies six actions that the GC3 itself will take over the next two years to make green chemistry mainstream practice in the chemical industry. Among them are the convening of a national summit on green chemistry research and education that brings together government and academic institutions to create a new generation of trained experts in green chemistry; building model supply chain partnerships to scale green chemistry solutions for chemical uses of concern; and creating educational, information and networking tools for innovators that will help speed the development and use of green chemistry solutions.

Babette Pettersen, Chief Commercial Officer with the sustainable chemicals company, BioAmber, says "with the many challenges we, in the industry face, to innovate and grow the market for green chemicals, it is extremely helpful to have a reference document, that not only consolidates the case for change from both a business and an environmental perspective, but also defines clear business strategies to accelerate the adoption of green chemistry in the marketplace, downstream and through the value chain to brands, retailers and, ultimately, consumers."

Bob Israel, Vice President, Stewardship and Sustainability at the Valspar Corporation, notes that "green Chemistry is not a barrier to innovation but just the opposite. Mainstreaming Green Chemistry is the

logical next step in a world where there is increasing scrutiny of chemicals in the environmental, the workplace and in the home. It's a vital component to discovering the differentiated technologies of tomorrow. Leading companies will be those who embrace it."

About the Green Chemistry & Commerce Council (GC3)

The Green Chemistry & Commerce Council (GC3) is a business-to-business forum that works collaboratively to accelerate the application of green chemistry across industry sectors and supply chains. The GC3 has more than 90 members representing major retailers, brands, chemical manufactures and innovative green chemistry companies. Its members account for close to 7% of GNP.

The Agenda to Mainstream Green Chemistry, along with more information about the GC3, can be found at www.greenchemistryandcommerce.org, or contact mainstream@greenchemistryandcommerce.org.

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