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ExxonMobil and Renewable Energy Group Report Progress in Cellulosic Biodiesel Research

- Companies agree to extend research program based on positive findings
- Program uses microbes to convert cellulosic sugars into biodiesel
- Initiative part of ExxonMobil's research into emissions-reducing technologies

CLINTON, N.J.--(BUSINESS WIRE)-- ExxonMobil and Renewable Energy Group (REG) announced today that by utilizing REG's patented fermentation technology, the companies' joint research program has demonstrated the ability to convert sugars from a variety of non-edible biomass sources into biodiesel.

"Our first challenge during the initial research was to determine technical feasibility and potential environmental benefits," said Vijay Swarup, vice president of research and development at ExxonMobil Research and Engineering Company. "We're optimistic as the results indicate good potential for advancing the technology, and we look forward to continuing our work with REG Life Sciences."

During their initial research, the companies successfully validated the feasibility of the REG Life Sciences fermentation technology across multiple cellulosic sugar compositions produced with a variety of methods from various non-edible biomass sources. The research also confirmed REG Life Sciences technology is capable of achieving substantial reductions of full-lifecycle greenhouse gas emissions compared to traditional diesel fuel.

ExxonMobil signed an agreement with REG in January 2016 to study the production of biodiesel through fermentation of renewable cellulosic sugars from sources such as agricultural waste. The companies have agreed to extend the research program based on their positive findings and are excited to continue to jointly explore the technology's potential for scalability.

"Biofuels today are made largely from food sources, such as corn and sugar cane," said Swarup. "ExxonMobil is challenging that paradigm by exploring a portfolio of large-scale biofuels solutions that do not compete with food and water. Our work with REG Life Sciences has been critical to better understanding the potential for converting cellulosic feedstock from agricultural waste into a commercially viable diesel fuel, as well as the lifecycle greenhouse gas implications of that process."

REG Life Sciences has developed proprietary technology that relies on microbes to convert cellulosic sugars into biodiesel in a one-step fermentation process. Cellulosic feedstocks derived from agricultural waste, contain multiple types of sugars, including glucose and xylose, as well as impurities that can inhibit the fermentation process.

“ExxonMobil has been a great partner and we are proud of what we have accomplished to date,” said Eric Bowen, vice president of REG Life Sciences. “The Life Sciences team, led by Fernando Sanchez-Riera, senior director, Fermentation Process Development, made key discoveries in advancing the commercialization of fermenting diverse cellulosic sugars into renewable, clean burning diesel fuel. We are excited to take these discoveries to the next level. We believe our REG Life Sciences technology holds great potential as an innovation platform across multiple industries and can think of no partner better than ExxonMobil to help us realize that potential in fuels.”

A breakthrough in cellulosic biodiesel production could have broad implications for the transportation sector. Global demand for transportation-related energy is projected to increase by about 25 percent through 2040, and accelerating the reduction in emissions from the transportation sector through technologies like biodiesel will play a critical role in reducing global greenhouse gas emissions.

ExxonMobil is also actively researching other emission-reducing technologies, including algae biofuels and carbon capture and sequestration. In June 2017, ExxonMobil and partner Synthetic Genomics, Inc. announced a breakthrough in joint research into advanced biofuels involving the modification of an algae strain that more than doubled its oil content without significantly inhibiting the strain’s growth.

In 2016, ExxonMobil announced its partnership with Connecticut-based FuelCell Energy, Inc. to advance the use of carbonate fuel cells to economically capture carbon emissions from natural gas power plants while generating hydrogen and additional electricity. Since 2000, ExxonMobil has spent about $8 billion to develop and deploy lower-emission energy solutions across its operations.

About ExxonMobil

ExxonMobil, the largest publicly traded international energy company, uses technology and innovation to help meet the world’s growing energy needs. ExxonMobil holds an industry-leading inventory of resources, is one of the largest refiners and marketers of petroleum products, and its chemical company is one of the largest in the world. For more information, visit www.exxonmobil.com or follow us on Twitter www.twitter.com/exxonmobil.

About Renewable Energy Group

Renewable Energy Group, Inc. (Nasdaq: REGI) is a leading provider of cleaner, lower carbon intensity products and services. We are an international producer of biomass-based diesel, a developer of renewable chemicals and North America’s largest producer of advanced biofuel. REG utilizes an integrated procurement, distribution, and logistics network to convert natural fats, oils, greases and sugars into lower carbon intensity products. With 14 active biorefineries, a feedstock processing facility, research and development capabilities and a diverse and growing intellectual property portfolio, REG is committed to being a long-term leader in bio-based fuel and chemicals.

REG Life Sciences is developing renewable products for partners by applying its state of the art microbial fermentation platform to hard to solve problems. REG Life Sciences partners with industry leaders across multiple markets to bring these low carbon, cost competitive and performance advantaged products to market.

Cautionary Statement: Statements of future events or conditions in this release are forward-looking statements. Actual future results, including project plans and timing, demand growth and the impact of new technologies, could vary depending on the outcome of further research and testing; the development and competitiveness of alternative technologies; the ability to scale research discoveries and pilot projects to commercial levels on a cost-effective basis; political and regulatory developments; and other factors discussed in this release and under the heading “Factors Affecting Future Results” on the Investors page of ExxonMobil’s website at exxonmobil.com and the risks and uncertainties described in REG's annual report on Form 10-K for the year ended December 31, 2016 and other reports subsequently filed with the SEC.

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