





# press release

#### 4 March 2019

# BP partners with Virent and Johnson Matthey on Virent's Bioforming® process for production of bio-paraxylene

BP, Virent Inc. and Johnson Matthey (JM) have signed an agreement that will further advance the commercialization of Virent's Bioforming® process for production of bio-paraxylene (PX), a key raw material for the production of renewable polyester.

Virent's Bioforming® technology, which is being developed with JM, produces drop-in reformate product from renewable sources that can be used to produce renewable fuels and also processed into lower carbon intensive bio-PX, the feedstock for bio- purified terephthalic acid (PTA), using existing technologies.

As part of this agreement, the parties will work together to commercialise the BioForming® technology – BP will contribute technical resources and has exclusive rights to negotiate becoming the sole manufacturer of bio-PX using Virent's technology.

Charles Damianides, BP's vice-president of Petrochemicals Technology and Licensing, said: "We consider Virent's technology to be the leading route to commercial quantities of renewable bio-PX that may enable BP's existing petrochemicals plants to produce a distinctive product in support of our commitment to advance a low carbon future. In our petrochemicals business we have also introduced our PTAir product line, a low carbon PTA product, and we continue to work toward improving the efficiency of our operations."

"We have been working with JM to scale up the BioForming® process for production of renewable fuel and are very pleased to enter into this agreement with BP to commercialize the technology for production of bio-PX and bio-PTA," said Dave Kettner, President of Virent. "This is an indication of the flexibility of the BioForming® technology to produce both bio-fuels and bio-aromatic chemicals."

Eugene McKenna, Business Development and Innovation Director at JM added: "JM is a leader in science that makes the world cleaner and healthier. In bringing this latest technology to market, we continue to apply our catalyst and process engineering expertise and capabilities to tackle some of the world's biggest challenges. We are delighted that BP has selected this technology to support its ambitions in supplying renewable bio-PX. This is an important step in increasing the quantity of renewable feedstocks used to make polyester packaging and fibers. We will continue to use our science and engineering skills to facilitate wider adoption of this technology."

#### About BP

- BP is committed to advancing a low carbon future, aiming to reduce greenhouse gas emissions in
  its operations, improve its products and services to help customers lower their emissions, and
  create new low carbon businesses.
- Technology is ever-present in all that we do from safely discovering and recovering oil and gas, to renewable energy, digital, and lower carbon fuels and products. We seek innovations that help to make our operations and products more efficient and sustainable.
- We have scientists and technologists at eight major technology centres in the US, UK, Asia and Germany. We complement our comprehensive research capability with external collaborations that provide a cross-cutting range of specialisms, supported by innovative academic programmes.
- For more information, please visit: www.bp.com/technology

## About Virent, Inc.

- Virent is a wholly owned subsidiary of Marathon Petroleum Corporation, a leading, integrated, downstream energy company. Virent technology is creating the low carbon fuels and chemicals the world demands using a wide range of naturally-occurring, renewable resources. Its patented technology features catalytic chemistry to convert plant-based materials into a full range of products identical to those made from petroleum, including gasoline, diesel, jet fuel, and chemicals for plastics and fibers, including bio-paraxylene, benzene and toluene. The products are drop-in replacements that enable full utilization of existing logistics infrastructure.
- For more information, please visit: www.virent.com

# About Johnson Matthey (JM)

- Johnson Matthey is a global leader in science that enables a cleaner and healthier world. With over 200 years of sustained commitment to innovation and technological breakthroughs, we improve the function, performance and safety of our customers' products. Our science has a global impact in areas such as low emission transport, pharmaceuticals, chemical processing and making the most efficient use of the planet's natural resources. Today more than 14,000 Johnson Matthey professionals collaborate with our network of customers and partners to make a real difference to the world around us.
- For more information, please visit: www.matthey.com

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Our most recent Annual Report and Form 20-F and other period filings are available on our website at <a href="www.bp.com">www.bp.com</a>, or can be obtained from the SEC by calling 1-800-SEC-0330 or on its website at <a href="www.sec.gov">www.sec.gov</a>.