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Media Release
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Borealis announces collaboration with start-up Qpinch to scale up revolutionary heat recovery technology

Borealis, a leading provider of innovative solutions in the fields of polyolefins, base chemicals and fertilizers announces its collaboration with Qpinch, a start-up that has developed a revolutionary technology to recover industrial waste heat, using an innovative chemical process. The start-up attracted intense industry attention after winning the 2015 “Emerging Technology” award in the annual competition sponsored by the Royal Society of Chemistry in the UK. Borealis and Qpinch have agreed to scale up this technology – which was patented in cooperation with Ghent University (Prof. Christian Stevens), Belgium - to full commercial size.

The Qpinch technology mimics natural processes that store and release energy in living cells – a cycle known as ATP/ADP (where ATP refers to adenosine triphosphate and ADP to adenosine diphosphate). The technology provides a heat lift for industrial waste heat by raising the temperature of waste heat by means of a chemical process. In contrast to conventional heat pumps, this closed-loop process minimises operational costs as well as electricity use. The technology is scalable from one to 50 megawatts (MW) and can thus process massive levels of industrial waste heat.

Borealis open-innovation collaboration with Qpinch on a full-scale commercial unit is an important step forward in the Borealis journey to reduce CO_2 emissions and make its operations more energy efficient and sustainable. Around 2,200 tonne CO2/year will be saved, which is the equivalent of 1,500 small family cars per year. The heat recovery unit will be located at an existing Borealis low-density polyethylene (LDPE) plant in Zwijndrecht/Antwerp, in Europe’s largest petrochemical cluster. With operations scheduled to begin in the second half of 2019, the unit will be the first ever application of this new technology at commercial scale in a polyolefin plant. The Flemish Government enabled the realisation of the project with ecology funding support.

“We are proud to be the first polyolefins producer to scale up this revolutionary technology, which will help the Borealis Group deliver on its commitment to enhance sustainability, specifically in our focus areas of Energy & Climate,” says Maurits Van Tol, Borealis Senior Vice President Innovation and Technology. “We believe that this technology has significant potential for our industry and will ultimately benefit our customers by offering them the same products at a lower carbon footprint.”

“We see this first commercial-scale unit not only as a milestone for Qpinch, but as a beacon for the entire petrochemicals industry,” says Wouter Ducheyne, Qpinch co-founder and CTO. “Our heat transforming technology could in turn transform the entire industry by reducing CO_2 emissions at levels previously unseen. Thanks to our collaboration with Borealis as a leading edge customer, we can scale up our technology. This successful open innovation model between a start-up and an established

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company will move us to the next organizational stage, enabling to further develop the business worldwide."

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About Borealis

Borealis is a leading provider of innovative solutions in the fields of polyolefins, base chemicals and fertilizers. With its head office in Vienna, Austria, the company currently has around 6,600 employees and operates in over 120 countries. Borealis generated EUR 7.5 billion in sales revenue and a net profit of EUR 1,095 million in 2017. Mubadala, through its holding company, owns 64% of the company, with the remaining 36% belonging to Austria-based OMV, an integrated, international oil and gas company. Borealis provides services and products to customers around the world in collaboration with Borouge, a joint venture with the Abu Dhabi National Oil Company (ADNOC). www.borealisgroup.com

About QPinch

Qpinch is an innovative technology provider offering solutions to reduce the overall carbon emissions of world's process industry whilst improving the energy efficiency. Qpinch is based in Antwerp, Belgium and currently employs 14 people. The Qpinch technology is applicable in diverse industrial processes with a main focus on basic petrochemicals; being olefins, aromatics and polymers and refining technology. Qpinch is a subsidiary of Caloritum, who developed the technology in cooperation with Ghent University (Prof. C. Stevens, Department of Green Chemistry and Technology, Faculty of Bioscience Engineering). Caloritum is a spin-off of Ghent University. www.qpinch.com

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