



16 SEPTEMBER 2019 (Vol. 57, No. 35)

## **Sinopec Selects LyondellBasell Technologies For New PP & HDPE Facilities in Ningbo**

*Ningbo—*

LyondellBasell announced that Sinopec International has chosen its "world-leading" technologies for a new polypropylene (PP) plant and high-density polyethylene (HDPE) unit to be set up in Ningbo, Zhejiang Province, China.

The project, which will be built at the Sinopec Zhenhai Refining & Chemical Complex, will include the production of 300,000 t/y of PP, based on LyondellBasell's Spherizone PP process technology, and the production of 300,000 t/y of HDPE, utilizing LyondellBasell's Hostalen ACP process technology. Cost of the project and a schedule were not available.

"The Sinopec Spherizone plant will commence operations using Avant ZN catalyst. The Hostalen plant will commence operations using Avant Z501 and Avant Z509-1 catalysts to produce a full range of multi-modal HDPE products," noted LyondellBasell.

## **Borealis Breaks Ground for World-Scale PDH Plant at Its Existing Site in Kallo**

*Kallo—*

Borealis held a groundbreaking ceremony on 9 Sept. 2019 for its new world-scale propane dehydrogenation (PDH) plant at its existing production site in Kallo, Belgium (PCN, 11 Mar 2019, p 1).

The PDH unit, requiring a total investment of about €1-billion, will have a targeted production capacity of 750,000 t/y of propylene utilizing Honeywell UOP's Oleflex technology. Start-up is scheduled for mid-2022.

Tecnimont was awarded a contract earlier this year, valued at around €90-million, to provide the engineering, procurement, construction management and commissioning services for the project.

"The Borealis investment in the new Kallo plant is not only the largest investment we have ever made in Europe – it is also the most significant investment in Europe by a petrochemicals industry player in the last 20 years," said Borealis Chief Executive Alfred Stern.

## **ExxonMobil, SABIC Begin Construction Of Gulf Coast Growth Ventures Project**

*Houston—*

ExxonMobil and SABIC have broken ground for their Gulf Coast Growth Ventures (GCGV) project in San Patricio County, Texas (PCN, 26 Aug 2019, p 3).

GCGV, an equally-owned joint venture of the two companies, is building a 1.8-million-t/y ethane steam cracker, two polyethylene plants and a 1.1-million-t/y monoethylene glycol unit. Start-up is anticipated by 2022.

The project, expected to create 600 permanent jobs and an additional 6,000 jobs during the construction phase, is part of SABIC's growth strategy to build new petrochemical facilities in key markets, including the Americas, to address industry demand and achieve the company's 2025 strategy, according to GCGV's website.

## **HMC Awards EPC Contract to GS E&C For a Fourth PP Line at Map Ta Phut**

*Rayong—*

HMC Polymers has chosen GS E&C for the engineering, procurement and construction (EPC) of a fourth polypropylene (PP) plant at its Map Ta Phut Industrial Complex in Rayong Province, Thailand (PCN, 1 July 2019, p 1).

The new 250,000-t/y PP line, which will be based on LyondellBasell's Spherizone production technology, will be built next to HMC's third PP plant at the site.

The \$230-million lump-sum, turnkey contract also includes commissioning. Construction is expected to take 35 months, with start-up anticipated in the first half of 2022.

HMC Polymers is a joint venture of PTT Global Chemical (41%), LyondellBasell (29%) and other shareholders (30%).

## **STEP Chooses Honeywell UOP Technology For New Polypropylene Project in Arzew**

*Arzew—*

Honeywell UOP's C3 Oleflex technology has been selected by Sonatrach Total Entreprise Polymeres (STEP) for the production of 565,000 t/y of propylene to be used for a proposed polypropylene (PP) plant in Arzew, Algeria (PCN, 12-19 Aug 2019, p 1).

"The Oleflex technology will enable STEP to convert domestically produced propane into propylene, a primary component in a wide variety of plastic products rapidly growing in demand in the region," said Bryan Glover, vice president and general manager of Honeywell UOP's Petrochemicals & Refining Technologies business.

"STEP will further convert the propylene into polypropylene plastic to supply customers in Algeria, along the Mediterranean, and in other markets like Europe."

Earlier this year, Sonatrach and Total said STEP would invest around \$1.4-billion in a new propane dehydrogenation unit and PP facility, which would utilize 650,000 t/y of local propane for the production of 550,000 t/y of PP.

LyondellBasell will supply its Spheripol technology for the PP plant. An expected completion date for the project was not given.

## **Tecnimont Signs Preliminary EPC Contract For Egypt Hydrocarbon's New NH<sub>3</sub> Facility**

*Suez—*

Tecnimont SpA has been awarded a preliminary engineering, procurement and construction (EPC) contract from Egypt Hydrocarbon, a subsidiary of Carbon Holdings, for an ammonia (NH<sub>3</sub>) plant to be built in Ain Sokhna, Egypt.

The contract, which will become effective upon finalization of certain contractual conditions and once a financial closing is reached, involves construction of a 1,320-t/d ammonia unit based on KBR technology.

Tecnimont's scope of work includes execution of engineering, supply of equipment and materials, and construction and erection works. The project is expected to take 36 months to complete.

### **PKN Orlen Chooses Honeywell Technology To Increase Petchems Production at Plock**

*Plock—*

PKN Orlen has selected Honeywell UOP's MaxEne process to increase ethylene and aromatics production at its facility in Plock, Poland.

The project, currently in the basic engineering stage, will also improve the flexibility of gasoline production.

"Since the cost of naphtha represents most of the production cost for most chemicals, we can improve the profitability of petrochemical operations by ensuring the right molecules go to the right processes," noted Bryan Glover, vice president and general manager of Honeywell UOP's Petrochemicals & Refining Technologies business.

"The UOP MaxEne technology is designed to improve molecule management and increase the production of light olefins by up to 30%, and the production of aromatics by as much as 12%."

The company previously announced a petrochemical investment program, which includes plans to build a new aromatics derivatives complex and expand capacities of olefins and phenol by 2023 at its Plock and Wloclawek sites (PCN, 13 May 2019, p 2).

### **Borealis Issues Force Majeure Declaration On Certain Units at Kallo, Burghausen**

*Vienna—*

Borealis confirmed to PCN that force majeure was declared on certain products at its Kallo, Belgium, site, and on all production at its Burghausen site in Germany.

On 2 Sept. 2019, the company declared force majeure on refinery grade propylene and propane at Kallo, as a consequence of unforeseen technical issues.

"At this point in time, it is not clear when this FM [force majeure] will be lifted," said Borealis. "Affected customers have been informed accordingly."

On 24 Aug. 2019, Borealis' Burghausen operations experienced an incident due to disruption in monomer supply from the nearby OMV cracker. As a result, on 2 Sept. 2019, Borealis declared force majeure on production there.

Borealis is also uncertain when force majeure will be lifted at Burghausen and said affected customers have been notified of the situation.

### **TAIF Begins Implementation Phase Of New PHA Project in Tatarstan**

*Moscow—*Russia's

TAIF JSC Group announced it has entered the implementation phase for a new polyhydroxyalkanoates (PHA) bioplastic production plant in Alabuga, Tatarstan, Russia (PCN, 29 Oct 2018, p 4).

The project, estimated to cost around €90-million, will use bio-on's technology for the production of 10,000 t/y of PHA. The plant can be expanded to produce 20,000 t/y of PHA in the future.

Engineering activities are already ongoing and TAIF plans to award the contract for turn-key construction of the facility by the end of the year. Production is scheduled to start in the second half of 2021.

"We are very satisfied for the strategic ongoing collaboration with the TAIF Group," said Bio-on President Marco Astorri. "This will allow us to develop and accelerate the success of PHA worldwide and, thanks to this project, with one of the most important industrial and petrochemical groups of the Russian Federation, also in East Europe."

### **MEGlobal Inaugurates Its New World-Scale Ethylene Glycol Facility in Oyster Creek**

*Houston—*

MEGlobal Americas, a wholly-owned subsidiary of Equate Petrochemical, has inaugurated its new world-scale ethylene glycol (EG) manufacturing plant at its Oyster Creek site in Texas (PCN, 9 Apr 2018, p 2).

The 750,000-t/y EG plant is the "first of its kind" in the U.S. for MEGlobal, noted Fluor, construction contractor for the project.

Fluor's scope of work on the project included the installation of equipment, steel and piping for the process unit.

"This is a major achievement for the Equate Group and will benefit both Kuwait and the U.S.," said Equate President and Chief Executive Dr. Ramesh Ramachandran.

"With a growing global market for EG products, it will provide us with greater flexibility to satisfy our customers' needs, while capitalizing on the U.S. shale gas opportunity."

Commercial quantities of finished product are expected to begin shipping by November 2019.

### **Denka Ending PS Production in Singapore; Revamping Plants to Boost MS Capacity**

*Singapore—*

Denka has decided to discontinue production of polystyrene (PS) at its consolidated subsidiary in Singapore and will renovate the facilities to produce methyl methacrylate styrene (MS).

The company will invest approximately ¥2.7-billion in the project, which will double MS capacity to 140,000 t/y from 70,000 t/y in response to growing demand. Operations are planned to begin in the first half of 2021.

PS sales will be discontinued at the end of next year, the company noted.

### **Innova Starts up 'First' DHU in Brazil**

*Triunfo—*

TechnipFMC announced that Videolar-Innova recently started up the "first" Direct Heating Unit (DHU) at its 420,000-t/y styrene plant in Triunfo, Brazil.

"This groundbreaking technology for adding heat to high-temperature processes employs flameless combustion for the dehydrogenation of ethylbenzene to styrene," TechnipFMC explained.

TechnipFMC supplied the project development process field services, the DHU equipment, as well as the technology license for the unit.

The DHU technology was jointly developed with support from Total Petrochemicals and Refining and Shell Catalysts and Technologies, and is licensed through Badger Licensing, a wholly-owned subsidiary of TechnipFMC. It is now routinely incorporated as part of the Total/Badger styrene technology for grassroots and revamp applications.

### **People on the Move**

**Royal DSM**—*Shruti Singhal* has been appointed president of DSM Engineering Plastics, effective 1 Oct. 2019, succeeding *Roeland Polet*, who has decided to retire mid-2020. Singhal joined DSM in July 2018 as managing director of Powder, Can & Coil Coatings and CMO Resins and Functional Materials.

### **Air Products Forms JV with Debang Xinghua For New Coal-to-Syngas Facility in China**

*Beijing—*

Air Products announced a new joint venture with Debang Xinghua Technology Co., a subsidiary of Jiangsu Debang Chemical Industrial Group Co., for a new coal-to-syngas processing plant in Xuwei National Petrochemical Park, Lianyungang City, Jiangsu Province, China.

The joint venture, owned 80% by Air Products and 20% by Debang Group, will build, own and operate the air separation unit, gasification and purification assets under a 20-year contract for a fixed monthly fee.

The facility, which will require an investment of around \$250-million, will supply syngas to support Debang Group's 350,000-t/y chemicals plants. Production is expected to begin in 2023.

In addition, Air Products will be the exclusive purchaser of merchant liquid products from the facility to serve high-growth chemical, opto-electronics and general manufacturing industries locally and in key surrounding cities north of Jiangsu and south of Shandong.

"This new project furthers our gasification growth strategy in the Xuwei National Petroleum Park—one of seven national integrated oil refining and petrochemical parks in China—while also creating new merchant supply capability for us to serve a high-density manufacturing base in the region," said Seifi Ghasemi, chairman, president and chief executive of Air Products.

"We are honored to form this JV with Debang Group to own and operate the gasification facilities and supply the syngas that will enable Debang Group to produce needed ammonia and other products for their customers."

### **Hengyi Produces Qualified Product At Brunei Refinery & PC Complex**

*Brunei Bay—*

Hengyi Industries announced that it has successfully produced qualified petrochemical products at its new refinery and petrochemical complex at Pulau Muara Besar in Brunei, reported several media sources.

The project includes a 160,000-b/d crude oil refinery, a 1-million-t/y aromatics facility and a 500,000-t/y benzene unit (PCN, 15 July 2019, p 1).

This past July, Hengyi said it had begun trial operations and expected commercial production to begin "soon."

Hengyi Industries is a joint venture of Zhejiang Hengyi Group (70%) and Damai Holdings, a subsidiary of the Brunei government's Strategic Development Capital Fund (30%).

### **Teijin Begins Operations in Thailand At Compound Facility, Tech Center**

*Ayutthaya—*

Teijin Ltd. has started up a new ASEAN compound plant and technical center at Teijin Corp. (Thailand) Ltd. in Bang Pa-in Industrial Estate, Ayutthaya, Thailand.

Teijin also has resin-related research and development hubs in Japan and China. The three hubs will collaborate to meet the global demand for new resin compounds, focusing on the automotive and electronics sectors.

Teijin is "positioning the new technical center in Thailand as a development hub for the ASEAN region," the company noted. "The company intends to accelerate its business expansion by strengthening its product development capabilities and focusing these on the fast-growing Chinese and ASEAN markets."

### **Grupa Azoty Cancels Force Majeure On Polyamide 6 from Tarnow Plant**

*Tarnow—*

Grupa Azoty said it has lifted the force majeure declared on polyamide 6 (PA6) from its production facility in Tarnow, Poland (PCN, 15 July 2019, p 1).

Grupa Azoty declared force majeure on 8 July 2019, due to an unpredictable and unexpected technical defect in one of the PA6 production lines. The defect has been removed and the plant is operating in normal mode.

### **German Chemical Industry Experiences 'Disappointing' 2nd Quarter, Says VCI**

*Frankfurt—*

The second quarter of 2019 was "disappointing" for the chemical-pharmaceutical industry in Germany, according to the most recent quarterly report published by the German chemical industry association VCI.

"The recovery of German industry overall, which was anticipated for the second half of the year, is not materializing," said VCI President Hans Van Bylen. "At present, the companies are no longer expecting German and European chemical business to pick up."

Production and capacity utilization dropped slightly. Consequently, sales stagnated even though the prices of chemicals and pharmaceuticals increased once more, the association noted. The main cause for the "subdued" chemical business was industrial production in Germany, which declined for the fourth consecutive quarter, causing a weaker domestic demand for chemicals.

VCI now forecasts an overall production drop by 6% for 2019 in the chemical and pharmaceutical industry. Chemical prices are anticipated to rise by 1% in the present year and sales are expected to fall by 5% to around €193-billion.

The full report is available on VCI's website at [www.vci.de](http://www.vci.de).

### **Norner & R8 Property Sign Agreement To Build 'Polymer Exploration Centre'**

*Porsgrunn—*

Norner has signed an agreement with R8 Property for construction of a new Polymer Exploration Centre at the bank of the Porsgrunn river in Norway.

The center will be a modern international research and technology center for the plastics industry and provide research services throughout the value chain, Norner explained. Construction will begin in December 2019 and is expected to be completed in April 2021.

"Our owners, Thai SCG, have a long-term strategy and commitment with Norner," said Norner Chief Executive Kjetil Larsen. "They are strengthening their position as a significant player in the plastics industry through this investment."

In addition, Norner recently became part owner of Future Materials Catapult Centre, a national test center for the materials of the future.

The Catapult will offer test facilities, expertise and networks to develop sustainable advanced materials and production processes.

"The creation of this new center, together with us entering the Catapult center, will ensure that Norway develops a leadership in the development of future sustainable plastic solutions," Norner noted.

### **Dow & SCG Partner to Develop Solutions To Create a Circular Economy for Plastic**

*Bangkok—*

Dow and SCG signed a collaboration agreement to develop new complete recycling solutions to add value to plastic waste and prevent it from ending up in the environment.

The agreement is an attempt to create a circular economy for plastic in Thailand and is aligned with the country's ambition to "drastically" increase the recycling rate of plastic waste by 2027, the partners noted.

The collaboration is expected to result in outputs of mechanical recycling, feedstock recycling, as well as renewable feedstock, which includes, but are not limited to, recycled resin, recycled products made from plastic waste, petrochemical feedstocks from plastic waste and renewable plastic resins.

"This collaboration not only represents our joint commitment in taking action to solve the problems through technology and making real changes, but also provides us with new business opportunity, enhancing sustainability and bringing about practical solutions for recycling and upcycling of plastic waste in Thailand," said SCG President and Chief Executive Roongrote Rangsiyopash.

"Circular economy is an economic opportunity as much as a solution to a pressing environmental issue," noted Jonathan Penrice, president of Dow in Asia-Pacific. "We will build on Dow's unique materials science and application knowledge and our 50-year experience in Thailand to develop solutions that maximize the value of plastics in the country."

### **GC & ALPLA Agree to Establish JV For Thai Plastic Recycling Facility**

*Bangkok—PTT*

Global Chemical (GC) and ALPLA, a manufacturer of recycling plastic resins, have signed a cooperation agreement to form a new joint venture for building a high-quality circular plastic resin plant in Map Ta Phut Industrial Estate, Rayong Province, Thailand (PCN, 8 July 2019, p 4).

The joint venture, to be called Envicco Ltd., will build Thailand's "first" recycling plant to manufacture recycled polyethylene terephthalate (rPET) and recycled high-density polyethylene (rHDPE), GC noted without providing further details on the project.

"This partnership between GC and ALPLA will encourage cooperation and enhanced operations across different sectors in society, from upstream to downstream, by adopting the principles of circular economy and supporting the more efficient use of resources," said GC.

### **Gevo and Leaf Resources Ink JDA to Explore Turning Sugars into Hydrocarbon Molecules**

*Den-*

*ver—*Gevo and Australia-based Leaf Resources have signed a joint development agreement (JDA) to explore the potential use of cellulosic derived sugars and glycerol from Leaf and the ability to convert them to hydrocarbon molecules for chemicals or fuels.

Under the JDA, the partners will develop the feasibility of a potential facility in a first phase and examine the commercial development and commercialization of the project in the second and third phases, respectively.

Gevo and Leaf will cover their own costs during the first phase of the project, with further funding to be determined by a future written agreement after completion of the first phase milestones.

"The synergies between what Gevo is delivering in the market, and what we've developed with Leaf's technology, is clear to see," noted Leaf Chief Executive Alex Baker.

"Subject to the necessary R&D [research and development] under this project, we see real potential to work with Gevo in the delivery of renewable alternatives to petroleum-based products, where we only expect demand to significantly increase over time."

### **Azelis Named Distributor of Huntsman's CASE Product Lines in the Entire U.S.**

*Houston—*

Azelis Americas CASE LLC will become distributor for Huntsman Advanced Materials' coatings, adhesives, sealants and elastomers (CASE) product lines for all of the U.S., effective 1 Oct. 2019.

At the same time, DB Becker Co., currently responsible for distributing CASE products in the Northeastern U.S. states, and Dorsett & Jackson, distributor for CASE products in the Western U.S. states, will no longer be distributors for Huntsman's CASE products in the U.S.

### **Huntsman Opens Dubai PU Systems House**

*Dubai—*

Huntsman Corp. has unveiled a new polyurethanes (PU) systems house within the Jebel Ali Free Trade Zone in Dubai, United Arab Emirates (PCN, 4 June 2018, p 3).

The purpose-built facility "strengthens" Huntsman's downstream capabilities in the Middle East and North Africa – increasing its capacity to produce PU systems and polyester polyols for customers across the region, Huntsman noted.

Included in the systems house is a production area equipped with "state-of-the-art" manufacturing equipment plus blenders, reactors, filling stations, control room, offices and quality control labs.



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