

Ecovyst eyes fuels, renewables

New CEO Kurt Bitting aims to supercharge growth heading into the energy transition. Ecovyst focuses on both ends of the fuels spectrum – petroleum and renewables

Al Greenwood Houston

Ecovyst's new CEO expects demand to remain resilient for its sulphuric acid and catalysts, which are used to make petroleum based-fuels and polyethylene (PE) as well as renewable fuels and mining metals needed to make lithium-ion batteries and copper wiring.

The company's new CEO, Kurt Bitting, has been with Ecovyst since 2006, when he joined the Ecoservices business when it was part of Rhodia. During his time in Ecoservices, the business became part of PQ. In 2021, PQ changed its name to Ecovyst, and it sold its Performance Chemicals business for \$1.1bn.

It kept its Ecoservices business, its catalyst business and a 50% stake in the Zeolyst joint venture with Shell. That same year, Ecovyst agreed to pay \$44m to acquire Chem32, a company that sulphides and activates catalysts and absorbents used in refining and petrochemical production. The acquisitions and divestments gave Ecovyst an easy-to-understand and coherent portfolio of businesses.

"We put the company in fighting shape," Bitting said in an interview with ICIS. "Our mission now is to supercharge the growth in those sectors where our businesses are exposed to."

Future acquisitions would complement Ecovyst's existing businesses.

Open to deals in catalysts

The Catalyst Technologies segment makes silica-based catalysts used to make high density PE (HDPE) and linear low density PE (LLDPE). The segment includes Ecovyst's stake in the Zeolyst joint venture. Zeolyst produces catalysts used to make renewable diesel and sustainable aviation fuel (SAF) as well as petroleum-based fuels made in refinery hydrocrackers.

The Ecoservices segment makes virgin sulphuric acid. It also regenerates sulphuric acid that is used as a catalyst in the alkylation units of refineries. Its virgin sulphuric acid is used in mining copper, lithium and boron as well as producing phosphate-based fertilizers.

The catalysts industry is technology driven, so Ecovyst could consider acquisitions that would provide it with adjacent and comple-



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mentary technologies, Bitting said. The sulphuric acid business is service oriented, so Ecovyst could consider businesses that provide sulphur technologies or services to petrochemical plants and refineries.

He highlighted the Chem32 acquisition as an example of the type of deals that Ecovyst would consider. Chem32 has a technology and service component. Ecovyst is not considering any divestments, Bitting said.

Fuels outlook

Ecovyst's refining customers had had a busy season, with average utilisation rates running at nearly 94% from the start of June through to mid-August, according to the Energy Information Administration (EIA). Over the past decade, that rate is near the high end of the range.

These refiners will need to conduct maintenance, which will include regenerating alkylation catalysts and swapping out hydrocracker catalysts.

US gasoline production will remain below pre-pandemic levels in part due to refinery shutdowns. Nonetheless, production will con-

tinue recovering, according to the EIA.

Ecovyst serves a subset of the US gasoline market, since it regenerates sulphuric acid used as a catalyst in alkylation units.

Refiners have long called alkylation liquid gold because it is made with propylene and isobutane. Separately, neither one is blended into gasoline. But when they're combined to form alkylation, the resulting blendstock increases octane while lowering the sulphur concentration and vapour pressure of the finished fuel.

The US and other developed economies have adopted stricter regulations that limit the sulphur content of gasoline. Emerging economies are adopting similar sulphur restrictions, according to Stratas Advisors, a consultancy. That should further increase demand for alkylation.

While all of Ecovyst's alkylation catalyst regeneration is in the US, the company still has exposure to foreign markets because the US exports significant amounts of finished gasoline. According to the EIA, gasoline exports exceeded 27m bbl in May 2022, the highest level ever for that month.

If fuel efficiency standards continue rising, automobile producers could design models with smaller, more efficient turbocharged engines, Bitting said. These engines require higher octane fuels, which would raise demand for alkylation.

Ecovyst estimates that alkylation makes up 35-45% of premium blends of gasoline, which have octane ratings of 91-94. That compares with a 12% alkylation content in regular gasoline, which usually has an octane rating of 87.

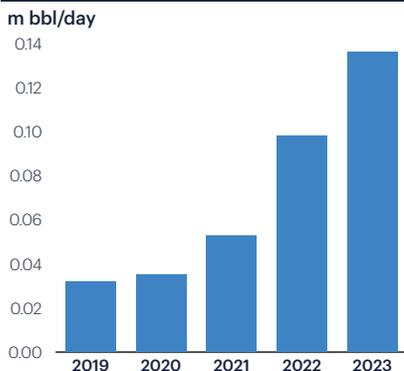
"We view that overall, refining utilisation will be strong, which is good for the North American refining complex," he said. "Specifically for alkylation, the underlying growth factors are strong independent of that."

Like US demand for gasoline, that for diesel and jet fuel should continue recovering in the next couple of years.

Renewable diesel and SAF

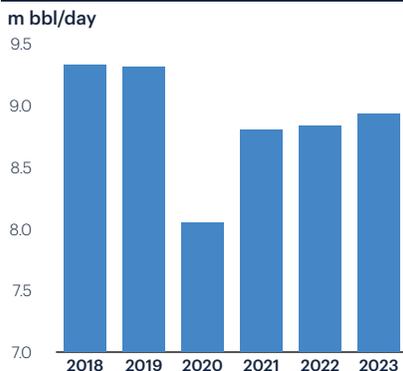
A growing share of diesel and jet-fuel production will come from renewable diesel and sustainable aviation fuel (SAF).

US renewable diesel production



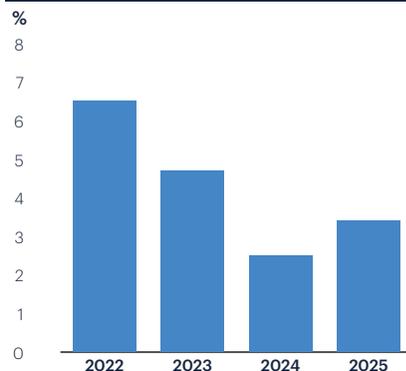
Source: US EIA

US gasoline output



Source: US EIA

Global PE Capacity Growth



Source: ICIS Supply and Demand Database

Bitting expects renewable diesel to make up 5% of the total diesel fuel consumed in the US, up from the current 2%.

Ecovysts provides materials to make dewaxing catalysts, which Bitting said are critical in producing renewable fuels. A large part of Chem32's business is pre-activating sulphide catalysts for renewable fuels production.

"Those are emerging and fast-growing technologies that have a lot of runway when you're talking about renewable fuels," Bitting said. "We have a nice exposure in this sector."

So far, a lot of the growth in renewable diesel production has been the result of California's Low Carbon Fuels Standard (LCFS). The standard calls for a gradual reduction of the carbon intensity of gasoline, diesel and their substitutes used in the state. Other states are implementing their own versions of California's LCFS.

More demand could come from federal laws. The Inflation Reduction Act will extend the \$1/gal tax credit for renewable diesel to 2024 from 2022.

It also increases the value of the fuel credit for SAF. The base credit would be \$1.25/gal, and it could reach a maximum of \$1.75/gal if the greenhouse gas (GHG) emissions from the aircraft are reduced by more than 50%.

The EIAs short term energy outlook expects production of renewable diesel to grow, albeit from a low level.

Polyethylene outlook

Ecovyst's catalysts are directly consumed with PE production, so the company expects to benefit from robust demand and expanding global capacity of the resin over the next several years.

Among the new PE plants being built, Ecovyst is achieving higher adoption rates for its catalysts, Bitting said. For these projects, the PE producers want to produce resins with specific properties that target a particular application. Ecovyst can design catalysts that can help the plant produce PE with those properties.

"We develop the catalyst with them, and it's a customised product for them," he said. "We work hand in hand with them over time."

For underlying PE demand, he expects that it should continue because the world's population and economy will expand.

For pipes, companies are replacing steel with PE because it is more resistant to heating and cracking, Bitting said. If electric vehicles (EV) gain more market share, their growth should increase demand for PE and other plastics because they consume more resins on average than automobiles powered by internal combustion engines.

EVs require more wiring and electrical cabling, so that would increase demand for wire coatings made of PE.

Mid-decade, Ecovyst could start to benefit from catalyst sales to chemical recycling plants. These plants break down waste plastics into pyrolysis oil, which can then be used as feedstock to make plastic.

"We see that as a mid-decade opportunity," Bitting said. It is potentially a large one for Ecovyst because of growing social pressure to address plastic waste.

"With our technologies, particularly our zeolite base, we can really bring a lot of value to that area," he said.

Copper outlook

In mining, sulphuric acid is used to leach copper oxide minerals. One of the main factors supporting more copper production is expected growth in the production of EVs. According to Ecovyst, EVs require four to five

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times more copper than automobiles powered by internal combustion engines.

Already, sales of EVs grew by 50% in 2020 and doubled to 7m units in 2021, according to the consultancy McKinsey.

Another trend supporting copper production is the need to upgrade the nation's electric grid. The US Department of Energy estimates that 70% of the nation's transmission lines and power transformers are more than 25 years old. Last year's infrastructure act set aside \$65bn for power and grid.

The US power grid also will need investment to accommodate new wind turbines and solar panels. Bitting expects green energy will drive future demand for copper, be it from EVs, charging stations, wind turbines or solar panels. The sector could get another boost from the Inflation Reduction Act, which includes several provisions to encourage EVs and renewable energy.

Lithium outlook

Sulphuric acid is not used in lithium-brine extraction, but it is used to leach the mineral out of spodumene ores.

Demand for lithium could reach 3m-4m tonnes by 2030, up from 500,000 tonnes in 2020, according to McKinsey. It based its forecast on lithium carbonate equivalents.

For lithium and renewable products in general, keeping up with demand growth will be a challenge for Ecovyst and other companies that play a role in producing those materials.

"Our challenge is keeping up with the fast pace of demand for those end products. A lot of those things do not happen without sulphuric acid," Bitting said.

For all of its businesses, Ecovyst will continue making safe and reliable plant operations a top priority. The company's refining customers have been running their units at high rates to meet recovering demand in the US and the rest of the world.

"That rolls through to the reliability that we provide to our customers," he said. ■