

CEPSA AND ZETON COLLABORATE TO ACHIEVE MARINE FUEL SULPHUR REDUCTION

Compañía Española de Petróleos SA (Cepsa) and Zeton have recently renewed their 30 plus year relationship by working together on a unique project.

CEPSA has been a leader in the reduction of sulphur content in fuels, in line with international agreements to reduce the maximum content of sulphur in marine fuels from 3.5% to 0.5% from January 1, 2020. This reduction implies a huge change in the operation of all refineries around the world. Despite the technical and research excellence that CEPSA has been demonstrating in these years, it has led the company to investigate new stable low-sulphur marine fuels obtained from processing the heavy waste of the refining processes. To meet the project objectives, non-conventional technologies to economically obtain these fuels and other added-value products, amongst which this deasphalting process, are being investigated and developed from the so-called "bottom of the barrel".

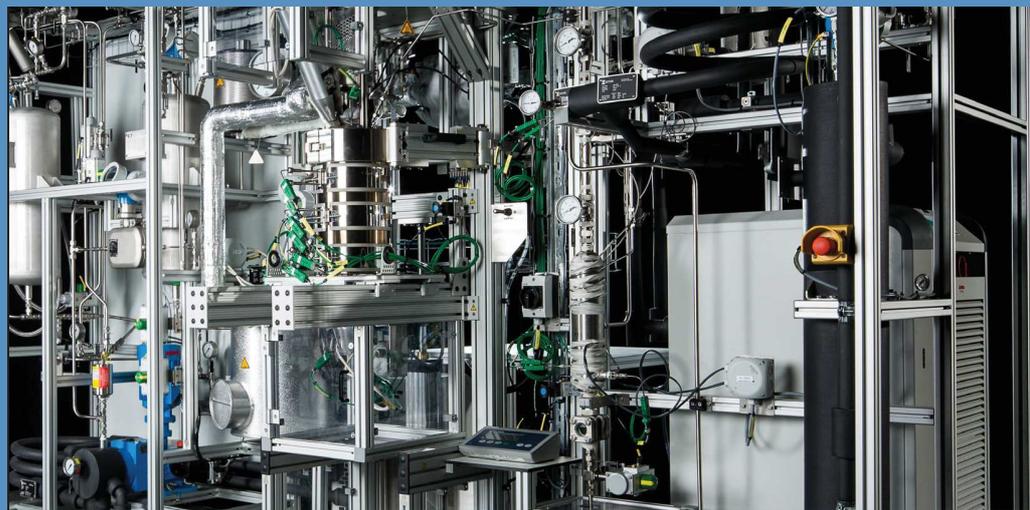
The use of non-conventional technologies in the design, engineering and construction of the project resulted in a semi batch pilot plant which ensures solvent deasphalting with propane, butane and pentane in any mixed composition as the solvent. The reactor can perform liquid and supercritical deasphalting experiments at elevated temperature and pressure (up to 350°C and 70 bar). The configuration of the process makes it possible to recover, sample, and optionally reuse the solvent. The main product

is extracted from the reactor mixture, stripped from the solvent(s) and recovered for analysis, while the residue remains in the reactor and can be removed, hot if needed, for sampling. A flexible automated sequence allows the batch system to run more easily, safely and reliably. Finally, the filling and discharging of hot VGR/residue is facilitated by custom Zeton solutions.

The excellent cooperation between the CEPSA and Zeton project teams has resulted in an on-time performance and smooth completion of the project, which is currently running on site to the full satisfaction of the customer.

"We are really satisfied with the project management and performance of the unit. It's very easy to use either in manual or automatic mode. High repeatability of results and good reproducibility of the experiments.

"Our sincere thanks to the ZETON project team for their implication in the project, collecting and implementing all our special needs, and for the quick support to any problem arisen during the start-up and subsequent tests." Pilar Cabanillas Estébanez, Researcher - Asphalt/Distillation/Base oils - REFINING DEPT. ■



SUCCESSFUL START-UP FOR EVONIK'S RHETICUS PILOT PLANT

Evonik and Siemens Energy have recently commissioned the Rheticus pilot plant that converts carbon dioxide into chemicals. Sponsored by the German Federal Ministry of Education and Research (BMBF), the project uses renewable energy to produce valuable chemicals from CO₂ and water through electrolysis with the help of bacteria. This type of artificial photosynthesis can serve as an energy store and thus help to close the carbon cycle and reduce carbon dioxide pollution in the atmosphere. Siemens and Evonik are each contributing with their core competencies - electrolysis and biotechnology - to this artificial photosynthesis process.

For Zeton, involvement in Evonik's part of the project (biotechnology) provided an opportunity to share our knowledge in Carbon Capture and Utilisation (CCU), together with our scale-specific solutions know-how and expertise at the pilot plant scale. The proximity of both parties, both literally and figuratively - Zeton B.V. is located in the border area with Germany - made it possible to work together in an efficient and effective way, with short lines of communication. ■



The pilot plant has started up in Marl, Germany, the largest Evonik site.