

Venice Biorefinery Experience Conversion Project

Venice Refinery conversion from a traditional oil refinery into a green refinery is an example of transforming a problem into an industrial opportunity.

Venice Refinery had experienced poor economics since 2008, due to an oil refining industry crisis and its simple hydroskimming flowscheme. For this reason it was shut down in 2011.

In the meantime Eni and Honeywell UOP developed the new, proprietary Ecofining™ technology for producing Green Diesel™; the availability of this technology together with an increase in European biofuels demand, related to the EU Renewable Energy Directive, provided the opportunity for Eni to convert Venice Refinery from a traditional Oil Refinery into a Green Refinery.

The Ecofining unit resulted from the conversion of two existing Diesel hydrotreating units with minor but critical modifications, based on Eni's patent. The required hydrogen continues to be supplied from the existing UOP Platforming™ unit.

The conversion was completed in 2014 and is the first example in the world of converting a traditional oil refinery into a green refinery.

The new green refinery allows Eni to produce high quality Green Diesel (virtually oxygen free, higher cetane), high quality green naphtha and green LPG and represents Eni's commitment to environmental sustainability and compliance with EU climate policy, aimed at reducing CO2 emissions.

In the three years of operation, a continuous effort was made with a dedicated UOP/Eni team to further improve the performance, flexibility and the reliability of the unit.

Looking at the evolution of regulatory framework (RED II under discussion) Venice Refinery is now increasing processing of feedstocks from waste and residues and in 2018, across the start up of a new Ecofining feed pretreatment unit, will be able to increase overall feedstock processing flexibility.

To ensure a stable and sustainable future for Green Refinery Eni is maximizing efforts to select new feedstocks compliant with the future regulatory framework, also across R&D contribution, and is looking at possible uses of Green fuels also in maritime and aviation transportation.

In the meantime Eni is developing a second green refinery project at Gela, Sicily, actually in construction phase.

Dr. Luca Alburno



Luca Alburno is the Deputy Director Eni Venice Refinery since 2013.

He holds a degree in Mechanical Engineering and has spent 26 years of his career at Eni Venice Refinery, covering different management positions in Maintenance, Technological and Operation.

Luca was deeply involved in the conversion project of the Venice Refinery into a biorefinery.

He implemented, commissioned and operated the Ecofining patented technology and explored the availability and processability of unconventional and advanced raw materials, according to the European guidelines.