Abstract for 7th Conference on Carbon Dioxide as Feedstock for Fuels, Chemistry and Polymers:

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Industrial scale e-fuel production - the success story of Vulcanol™

Global climate goals require a 95% decrease in the CO2 footprint of European transport in the next 30 years. Battery electric propulsion and biofuels can only solve parts of the puzzle, liquid fuels from electricity are needed to fill a large market gap.

In 2012 Carbon Recycling International (CRI) demonstrated for the first time how CO_2 and electricity can be used to produce liquid e-fuel at industrial scale. CRI pioneered the technical development of an integrated Power-to-Liquids platform, consisting of kiloton-scale CO_2 capture, MW-scale electrolysis and one-step hydrogenation.

CRI has now implemented the full value chain of power-to-liquids, including the world's first system for certification of sustainability for e-fuels and sales and marketing of the product in multiple jurisdictions according to the EU Renewable Energy Directive under the registered brand name Vulcanol. Vulcanol is being used as a pure fuel in internal combustion engine and fuel cell vehicles, gasoline component, for biodiesel production, for water purification and as a chemical feedstock.

This talk will discuss how CRI met these milestones, the technical advantages of the CRI Emissions-to-Liquids, competitive and regulatory landscape for e-fuels and what the future brings, in terms of opportunities and challenges.