

23<sup>rd</sup> November 2020

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## 9th Conference on CO<sub>2</sub>-based Fuels and Chemicals

### Abstract

#### **Title: Electrochemical Production of Fuels and Chemicals – Utilising High Temperature Electrolysis**

Utilisation of CO<sub>2</sub> as a feedstock for fuels and chemicals requires the interaction of multiple industries and investment in new infrastructure. Electricity is a low density feedstock which requires a different optimisation effort compared to traditional fossil feedstocks. This will facilitate a new type of chemical plants which is constructed and operated on a electrical supply security philosophy.

High temperature electrolysis holds a significant advantage compared to low temperature electrolysis with regards to utilising the electrical feedstock. The advantages comes both in terms of thermodynamic and from utilising steam as a feedstock for hydrogen production. Combined this advantages is around 30 percentage points. Hence, high temperature electrolysis is the technology of choice for the production of fuels and chemicals.

The talk will address the industrialisation of high temperature electrolysis and how fuels and chemicals can be produced taking advantages of high temperature electrolysis. Topsoe is a catalyst and technology company supplying catalyst and technology for the production of fuels and chemicals. Topsoe also supplies high temperature solid oxide electrolysis.