Recarbonizing the Chemical Industry by electrification: shifting gears

In order to meet the climate goals from the Paris Agreement, an unprecedented transformation of the chemical industry is required. Specifically when it comes to the production of base chemicals- high-volume and relatively low margin products that are the building blocks for materials such as plastics and other functional chemicals we use every day. As historical investment cycles in the industry are about 30 years, we need to shift gears and find innovative ways to rapidly scale up and commercialize low or negative GHG emission processes to sustain our high quality of life.

In this presentation I would like to show you how electrification can contribute to achieving a climate neutral and circular chemical industry by 2050. Building on the decarbonization of our energy system, or the transition “from molecules to electrons”, I will demonstrate how power-2-X processes can recarbonize the chemical industry and enable the transition “from fossil to circular feedstock". Circular carbon feedstocks include recyclate, biomass and CO_2. This will be illustrated by a selection of projects from our business driven VoltaChem Shared Innovation Program.