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The Future is Sustainable: NEFI – New Energy for Industry, Key Technologies and Strategies

ABSTRACT

In its current government program, the Austrian federal government is pursuing the ambitious goal of making the economic system completely climate-neutral by 2040. In order to achieve these goals, particular attention is being paid to the Austrian industrial sector, which is responsible for 34% of Austria's total greenhouse gas (GHG) emissions. Overall, the industrial processes of all industrial locations in Austria are responsible for around 37% of the total primary energy demand. The most energy-intensive sectors are iron and steel, non-metallic minerals, chemicals- and petrochemicals as well as pulp and paper. Together, they account for around 61% of total energy demand and 79% of GHG emissions from industry in Austria.

A transition towards a more efficient, sustainable and climate-neutral energy system has already been initiated in Austrian industry, but requires further support to accelerate. To support stakeholders in the manufacturing industry, policy makers and technology providers, the complexities of energy provision and use need to be simplified and a clear pathway identified for each industrial sector. This is being demonstrated in the NEFI - new energy for industry innovation network. The presentation will show successful projects in this regard. It will be shown how paths for the transformation of the industrial energy system can be derived from these projects and what the whole thing has to do with AI.

SHORT BIO

Since 2014 professor and chair of the Institute of Energy Network Technology at the Montanuniversität Leoben. Expert for integrated energy systems in public space and in industry. The main aspects of his research and teaching are interdisciplinary, systemic approaches to renewable integration and to increasing overall systemic energy efficiency.

Since 2018, Thomas Kienberger is member of the steering group of the flagship region New Energy For Industry - NEFI and leader of the NEFI_lab. He is recognized innovator and networker in the industrial landscape in Austria and beyond.

Skills and expertise: Energy Engineering, Energy Conversion, Power Generation, Energy Utilization, Waste Heat Recovery, Biomass Energy, Energy Conservation, EnergyProcess Modeling, Energy Efficiency, Smart Grid, Energy Storage, Energy Systems, power to xGrid, E-Mobility, Energy Modeling, Electricity