

Project Fact Sheet

Project Title Direct-Electric heating with an optimized stratification device (EOS)

Keywords Power-to-Heat, thermal storage, optimized stratification

Project Details

Project Start	2020	Duration	2 Years
Grant Scheme	Zentrales Innovationsprogramm Mittelstand (ZIM)	Project ID	16KN056402
Funding Authority	Federal Ministry for Economic Affairs and Climate Action		
Project Budget	120.000 €		
Project Leader	Prof. Dr.-Ing. Wilfried Zörner		
Contact Person	Thorsten Summ		
Project Partners	Citrin Solar		

Description

For the conversion of excess PV power into heat for domestic hot water and heating purposes in single-family homes, heating rods have been used to date, which are inserted into the side of a heat storage tank and heat the local surrounding water. With this approach, however, it is not possible to define or influence the resulting temperature in the heat storage tank, since the power is given by the PV surplus energy and no other adjustment options are available. The present R&D project addresses this problem and aims at the development of a passive, storage-integrated direct-electric heating system, which makes PV surplus energy usable at the highest possible temperature level in a heat storage system without disturbing the stratification of a thermal storage system. The overall objective of the project is to provide exergetically high-quality heat of constant temperature with fluctuating PV surplus energy for the use in single-family homes.