

# Project Fact Sheet

**Project Title** Collaborative project: flex<sup>LAC</sup> - Flexible Series Production of a Highly Efficient Large-Area Collector for Heating Networks;  
**Sub-project: Optimisation and Metrological Investigations on the Collector**

**Keywords** solar collectors, large-scale solar thermal systems, heating networks, insulating glass, automated production, heat production costs, increased efficiency

## Project Details

<b>Project Start</b>	March 2019	<b>Duration</b>	3 years
<b>Funding Authority</b>	BMWi		
<b>Project Management</b>	PTJ	<b>Project ID</b>	03ETW015A
<b>Sponsor Program</b>	7th Energy Research Programme		
<b>Project Budget</b>	564.428 € (Subproject THI)		
<b>Contact Person</b>	Prof. Dr.-Ing. Wilfried Zörner (Project Leader) Mathias Ehrenwirth		
<b>Project Partners</b>	Glas Leuchtle GmbH NATURSTROM AG		
<b>Associated Partners</b>	Savo-Solar Oyj Kömmerling Chemische Fabrik GmbH		

## Description

In order to achieve the climate targets by 2050, annual savings of several hundred TWhs of fossil fuels must be achieved in the area of heat supply. Consequently, in addition to biomass and electricity-based heat generation, especially the application of solar thermal systems must be significantly extended. Due to competitive heat generation cost and a higher thermal efficiency – as compared to conventional flat plate collectors – large-area collectors are increasingly important in the framework of heating networks, whereby large quantities are required within a short time. However, due to this project-related volatility in demand of such large-area collectors together with a high cost pressure in solar thermal market make it prevent investments in to fully automated production facilities for large-area collectors.

The aim of the collaborative project is therefore to design and evaluate a large-area collector for heating networks that can be produced in large quantities. The underlying manufacturing processes are one particular focus of this research project. The collector should be based on the design of insulating glass and thus be able to be produced on existing insulating glass production lines without significant changeover times. On the one hand, this enables decentralised production at any location of insulating glass manufacturers, on the other hand, it requires an integrated approach comprising material development as well as design and production engineering adjustments. Previous studies have shown that the high efficiencies and reduced collector costs that can be achieved, combined with flexible production options for large quantities, are particularly advantageous for applications in heating networks. This meets the usual requirement in heating network projects to make large quantities available within a short time.