

Project Fact Sheet

Project Title Collaborative project: Cascaded and flexible usage of thermal energy in dairy processing with focus on increasing energy efficiency of cleaning systems (BlueMilk)

Keywords System Efficiency, Energy Efficiency, Flexibility, Pinch Analysis, Dairies

Project Details

Project Start	July 2018	Duration	3 years
Funding Authority	BMEL		
Project Management	ptble	Project ID	281A103616
Sponsor Program	Innovationen zur sicheren, ressourcenschonenden und nachhaltigen Lebensmittelherstellung		
Project Budget	488.254 € (Subproject THI)		
Contact Person	Prof. Dr.-Ing. Uwe Holzhammer (Project Leader) Dr. Annika Tronnier		
Project Partners	Andechser Molkerei Scheitz GmbH; Zott SE & Co. KG; AGO AG Energie + Anlagen; Lemmermeyer GmbH & Co. KG; Deutsche Landwirtschafts-Gesellschaft e. V.; Deutsche Molkerei Zeitung		

Description

Dairy processing industry is energy-intensive. Therefore, it should prepare for the energy transition. This can be done by increasing energy efficiency, e.g. through heat recovery, and by flexibilization of electrical demand for integration of variable renewable energies. The focus is set on the coupling of the sectors of heat and electricity. Important in the project is the connected view – called system efficiency - of energy efficiency and flexibility. To systematically analyse energy demand and build heat exchanger networks, Pinch Analysis is applied, whereas for flexibilization a dynamic simulation of load curves is necessary. After integrating both research fields, the overall system is evaluated technically, economically, and ecologically. The primary target is to investigate reasonable system solutions that can be applied to the whole industry of dairy processing. To secure a high relation to praxis the project is implemented with the industry partners “Zott” and “Andechser Molkerei Scheitz” as well as equipment manufacturers „Lemmermeyer GmbH“ and „AGO AG Energie + Anlagen“. To spread the knowledge and bring this topic to discussion in the branch media partners “Deutsche Molkerei Zeitung” and “DLG e. V.” are participating as associated partners.

The project is supported by funds of the Federal Ministry of Food and Agriculture (BMEL) based on a decision of the Parliament of the Federal Republic of Germany via the Federal Office for Agriculture and Food (BLE) under the innovation support programme.