

Methodology for evaluation of solar thermal collector field

Background

In 2021 Absolicon Solar Collector AB built and commissioned the first phase of a 3000 m² solar thermal collector field connected to the district heating system at Höglätten, Härnösand. The solar thermal field is the largest system of its kind in Sweden. The purpose of the system is to delivered renewable solar thermal heat to the district heating, serve as a pilot for proof of concept in northern Sweden and as a research facility. Umeå University, as a research partner of Absolicon's for this project, has contracted RISE Research Institute of Sweden to assist with a performance evaluation of the solar collector field. RISE has a long experience with performance testing of individual solar collectors and the related evaluation methodologies.

Scope

The scope of this thesis is to develop a test and evaluation methodology for the solar collector field, based upon the methodologies for performance testing of individual collectors.

RISE will provide technical expertise to support and lead the development of the evaluation methodology. Absolicon is responsible for the operation of the solar collector field, the data acquisition and implementation of performance monitoring and will host the student in their offices close to the solar thermal field during a large extent of the thesis project.

The academic supervision will be provided by Umeå University.

Your Profile

We are looking for a student with a strong background in physics, energy engineering, data management and programming (VBA, Matlab or Python).

Location & Duration

The thesis is planned for spring 2022. The main supervision is provided by Umeå University, while Absolicon as project owner will offer the day-to-day work context, and technical expertise will be provided online by RISE (from Borås). The student is required to work at Absolicon Härnösand office to have access to the plant and work closely with the technical department in implementing the findings. Absolicon will cover expenses related to living in Härnösand during the project period and the student will be part of a group of students in the Absolicon Academy programme.

Contacts

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Key Words

Solar Thermal, Evaluation, Data management, programming