

Different scenarios for Eniwa's thermal network expansion



Abstract

The utility Eniwa has identified an increase in demand for district heating. Therefore, scenarios for the expansion of the heating network were to be developed.

A situation analysis was carried out to show the internal technical condition and external influencing factors. Based on this, three different scenarios have been developed, which Eniwa can implement individually or together.

The first two scenarios deal with smoothing the demand curve while keeping the operation of the baseload supplying components as constant as possible and using centralised and decentralised latent thermal energy storage (TES) in combination with heat pumps for this purpose. The third scenario offers the possibility to decarbonise the

peak load supplying components and thus the entire heating network with the Power-to-Gas (P2G) technology.

Eniwa is recommended to implement all three scenarios and develop a stakeholder analysis and implementation strategy for the P2G technology.

Angela Jans

Project coach:
Matthias Berger

Project expert:
Sabine Sulzer

Industrial partner:
Eniwa AG

Semester:
FS21

Image source:
© Angela Jans