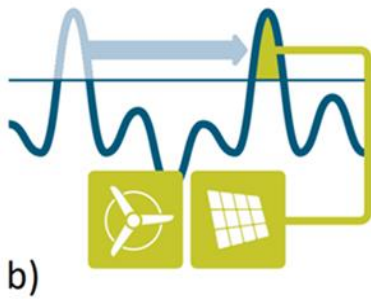
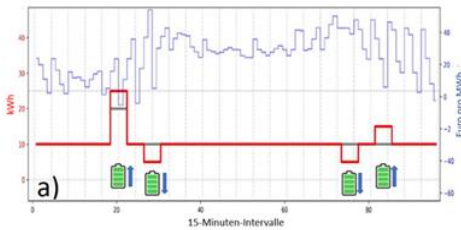


Bachelor/Master Thesis:

Measurement data-based load flexibilization in the brewing sector

Systems Engineering, Production Engineering,
Industrial Engineering, Electrical Engineering, Physics, and related



a) Measured Load of a brewery with
modelled use of energy storage (red)

b) Schematic visualization of the
adaptation of a load profile to renewable
feed-in

c) Tubs used in breweries

Due to the fluctuating renewable feed-in, technical challenges arise with regard to the storage of energy. However, an equally promising approach is the adaptation of load profiles to the available regenerative feed-in. In the energy-intensive brewing industry in particular, load flexibility can be used to optimize the use of regenerative feed-in and thus save CO₂ on the one hand, but also gain market advantages on the other.

We are looking for a student for a bachelor's or master's thesis who will model the brewing process as an energy process and thus determine the load flexibility potential. A technical understanding of the brewing process and the measured load profiles as well as programming skills in Python are required, which can be extended in the course of the project.

Focus of work:

- Preparation of measured load profiles
- Programming of a model to determine the Flexibilization options within the brewing process
- Measurement uncertainty considerations of the results and reference to incoming uncertainties/model uncertainties

Your Profile:

- Interest in the optimal use of renewable feed-in
- (Good) Python programming skills
- Experience in modeling technical processes

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