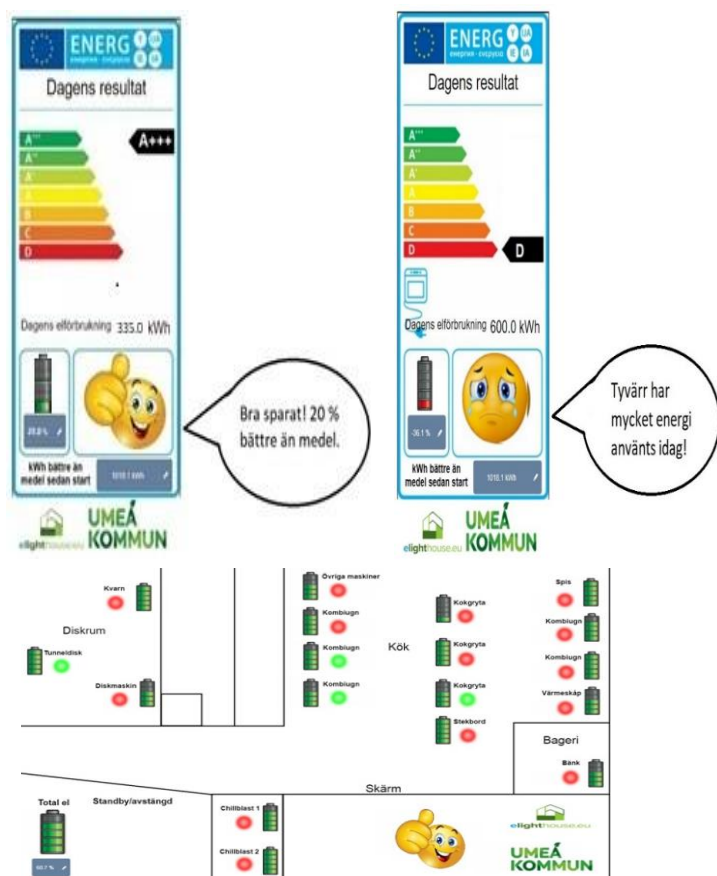


Experiences of “energy visualization” in a Municipality kitchen

Project description

Municipality kitchens use large amount of energy. Feedback on energy use may positively influence the energy behavior of the kitchen staff. In this pilot project we designed and implemented energy display units in a municipality kitchen- Nordstjärnan. Nordstjärnan was selected as all the major kitchen appliances have energy meters.

Display screens



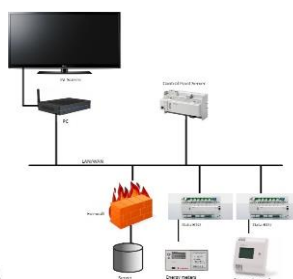
Results

- An energy display unit was designed, installed and tested, providing feedback on energy use in real time to the kitchen staff
- Staff are positive to the “energy visualization”
- The initial feedback suggest that energy display to have an effect in the way staff are operating the kitchen

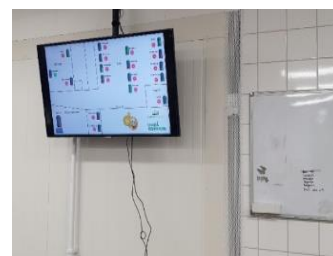
Method

Software from Fidelix and Siemens were used to design the energy display units. The energy display units are connected to the buildings steering and control system. Baseline determination was carried out by collecting historical data on energy use and food cooked (Table 1.).

The display unit was tested in the building for 3 months. Further, survey of kitchen staff were conducted to understand their perspectives on the energy display units.



Energy display system at Nordstjärnan



Energy display unit in Nordstjärnan kitchen

Table 1. Electricity and food portion cooked during five months prior to the trial in Nordstjärnan kitchen.

Months (2018)	kWh/month	Average kWh/day	Cooked portions/month
June	13619	454	30720
July	13020	420	32271
August	13045	450	31961
September*	10511	438	31110
October*	12718	437	31961

* In September and October, the energy meter was faulty for a few days and the energy use for those days are not included to calculate the average energy values.

Further work

- Data monitoring over longer duration is required to get a better understanding of how the energy display affect energy use
- It is planned to install Energy display units in new and renovated buildings owned by the municipality

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