

Master Thesis Project Proposal

"Creating an intelligent and adaptable system to link specific energy saving measures to individual households"

The ambition to become more sustainable and eliminating wasteful resources is prevalent in most people. To accommodate that ambition when it comes to energy consumption however there needs to be an easy way for households to get an overview of their energy consumption and a clear understanding of the things that they can do to decrease it.

The challenge when it comes to all communication with individuals is how to make the information presented relevant to that specific individual or household. In today's world of vast streams of data from multiple sources the difficulty is not that there is no relevant data, the difficulty is how to sift through the data torrents to find what is relevant. In light of this, it is vital to present information that feels relevant to the specific users. Otherwise, they will swiftly discard it and the source it came from.

The aim of this thesis is to create a system to link relevant and concrete energy savings measure to specific households. This will be done by analyzing households' consumption data, household characteristics, outdoors temperature and other relevant data. More specifically, the following data is available:

- Total energy consumption (hourly resolution per house)
- Outside temperature (per hour)
- Electricity price (per hour)
- Household parameters (municipality, type of house, number of residents, year of construction, etc.)
- Which actions that are taken (from the set of actions that we propose) and when.

About Greenely:

Greenely is a company from KTH Innovation incubated under KIC InnoEnergy with a team of 9 people and growing.

Greenely has created a mobile platform that gamifies households' energy behavior. Using data mining and behavioral science, the application automatically gathers information from smart grid systems, analyzes energy usage behavior, and then offer tailored feedback to each household. Initial pilot results showcase an energy reduction of 6.3% for houses.

Greenely has today partnerships with world leading institutes such as Dept. of Psychology at Stanford University and signed several large customers on the Swedish market. Greenely has launched with its first customer SBAB and will launch with several more toward the end of the year giving it a potential reach of around 500,000 Swedish households.

Contact person at Greenely: Mohammed al Abassi (e-mail: mohammed.alabassi@greenely.se)

Contact person at Uppsala University: Thomas Schön (e-mail: thomas.schon@it.uu.se)