..ser / 010 Abstract
Abstract

My Master Thesis project aims to estimate the energy consumption of every household in Switzerland. The model bases on household's and building's properties.

With this project in the course Big Data Lab 2, I wrangle with energy consumption data and do some analysis. Thereby, I identify household devices that contribute most to overall energy demand. And how much energy is produced by photovoltaic systems.

The first analysis shows, that heatpumps are the major energy consuming device, followed by electric vehicles. The energy consumption of other devices such as dishwashers and washing machine largely varies accross households and depends on households preferences and behaviour. The energy consumption of other devices such as freezers, refrigerators and circulation pumps are rather stable accross households.

The second analysis shows, that pv generated energy can cover a large share of households overall energy consumption. Where as these installation produces the by far largest part of energy during middays in summer, they show a surprisingly substantial energy production also during middays in winter.

The analysis was performed using Zeppelin notebooks and Spark (Spark DF and Spark SQL).