Exploring climate data's relevance to predict Energy consumption

VPIMA801: company project at IMADA

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1 Context

Energinet would like to be able to predict the normalized electricity consumption in Denmark. In this project, the idea is to pair Energinet's own data with DMI's public weather data and machine learning algorithms. The algorithms should be able to predict expected electricity consumptions for a time interval and in the geographical zones DK1 and DK2. Energinet wants to gain a broader view of how the tool could be used internally in their organization. The perspective of how the data is utilized in such a tool needs further investigation. Those are some of the tasks, among others, that were discussed in a meeting with Energinet.

2 Goals

During the project we will carry out the following tasks:

- Conducting interviews with relevant Energinet employees.
- Reviewing and exploring the data analysis done in earlier projects, in particular, finer time scales. [1]
- Constructing a predictor that will predict electrical consumption in an hourly timescale. Depending on the additional data analysis and response from interviews it would be based on the work in [1].

- Starting development of an open source tool for predicting energy consumption from energy and weather data.
- Collecting results generated by the software developed and analyzing them.
- Commenting the results of the analysis and draw conclusions.
- Reporting the work done in a report written in a language appropriate to the field of study.

3 Agreement

The software implemented within this project will be made publicly available via `https://git.imada.sdu.dk` under MIT license (`https://opensource.org/licenses/MIT`).

References

[1] Marcel Meimbresse. *Normalized Electricity Consumption* University of Southern Denmark, Odense, 2021