1. You have mainly two batches of data, one period (20 houses) and the other period (30 houses). Even matching together won’t get you a full year, although we can combine some data from different houses to check if the model works on different months.
2. Scrum: we’ll stick with the planning on the whiteboard.
3. Read on literature review, based on hourly gas data. When you do a paper, you try to see what other people have done just to make sure the results of these people work correctly.

13th of November we will give a 10-minute presentation of our current work to the OPSCHALER team. How we cleaned the data and how we are using it now etc.

Baldiri will give us a link for a guest lecture on the 20th of November in the TU Delft about Toon from Eneco (smart thermostat).

**Victor: How do we divide the tasks of the research paper?**

Baldiri: We all write an introduction, later we will combine it into one. The first step we’re going to do is literature review (and thus references). Don’t spent any energy on the layout yet. Just plain text and bold titles. Then start to write the introduction and give references.

For the methodology, we will split our team into for example MVR and NN, which we later combine into one again.

**Literature search, we all download and read 20 papers for the next meeting, save the pdf. Then order them by quality (in your opinion). We can split into MVR and NN:**

[www.sciencedirect.com](http://www.sciencedirect.com) (start here)

[www.scholar.google.com](http://www.scholar.google.com)

[www.researchgate.net](http://www.researchgate.net) (if there’s a paper on sciencedirect which you can’t access, you can ask them on researchgate).

**Writing a research paper:**

The idea is that there is an established method on how you write a research paper. It’s not the only one used, but this one is the most common.

Baldiri will send us an example of a research paper which is about writing a research paper, including tips and a step by step plan in the Appendix.

The abstract is the last thing you do.

**Introduction:**

* You go from a wide topic (energy prediction) and end in a really small thing which is usually a research question in that topic.
* Define terminology, first time use must be complete word. If 3 related research paper use some kind of terminology, we will use it too.
* Relate it to existing researcher. If we talk about research on neural networks, we relate to other research: *“these guys used this kind of neural networks”* etc. But you’ll create a gap, like this kind of data has not been used in that kind of setting. And our research is about filling this gap.

**Methodology:**

* It’s like a cooking book for people who have never cooked. Provides enough information and detail for competent researchers to repeat the experiment.
* Who, what, when, where, how and why (algorithms or methods)? In the introduction we talk about other research and the method used, but in methodology we go into more detail.
* If we use an algorithm, we explain it using equations in the research paper.

**Results:**

* Gives summary results in graphics and numbers.
* No cheating. The results are what we have.
* Give quantified proof, give numbers. How much better or how much worse (in terms of error).

**Conclusion:**

* Answer research question/objective.   
  *“With this method we can say we can predict with x accuracy.”*
* Explains discrepancies and unexpected findings
* States importance of discoveries and future implications  
  “*It was the best in this case but required lots of computing power so might not be useful in x case”*

References mostly in Introduction and Methodology, almost none in Results and Conclusions and discussion. The reference style is chosen in the end because every publisher has other requirements.

We begin writing the research paper in plain text and titles in bold. Fancy stuff stays till the end.