

Reviewers: Rafał Guzek, Jaromir Węgrzyn

1. Problem formulation [4.5 / 5 pts]:

- **Is the problem clearly stated [1 / 1 pt]**
The problem under study has been discussed in quite some detail.
- **What is the point of creating model, are potential use cases defined [1 / 1 pt]**
The goal of the project is to predict electricity prices, and the use cases associated with it are discussed in detail.
- **Where do data comes from, what does it contain [1 / 1 pt]**
The project used two different databases whose contents have been shortly described. The first database comes from PVgis tool and the second one from polish Energy system operator.
- **DAG has been drawn [1 / 1 pt]**
Yes.
- **Confoundings (pipe, fork, collider) were described [0.5 / 1 pt]**
Some of the confoundings are provided, but not all of them are correct.

2. Data preprocessing [1 / 2 pts]:

- **Is preprocessing step clearly described [0.5 / 1 pt]**
The pre-processing process has been discussed quite generally
- **Reasoning and types of actions taken on the dataset have been described [0.5 / 1 pt]**
The taken actions are only partially described.

3. Model [3.25 / 4 pts]

- **Are two different models specified [1 / 1 pt].**
Yes, two models was specified.
- **Are difference between two models explained [1 / 1 pt]**
Yes, the difference between the models has been mentioned.
- **Is the difference in the models justified (e.g. does adding additional parameter makes sense?) [1 / 1 pt]**
Yes, the second model differs from the first one (in the 2nd one the irradiance influence is calculated , while in the first it is omitted).
- **Are models sufficiently described (what are formulas, what are parameters, what data are required) [0.25 / 1 pt].**
Models were not explained enough, some things were not explained. Only a couple of formulas were presented.

4. Priors [3.5 / 4 pts]

- **Is it explained why particular priors for parameters were selected [1 / 1 pt]**
Yes. The explanation of the chosen priors parameters was precise.
- **Have prior predictive checks been done for parameters (are parameters simulated from priors make sense) [1 / 1 pt]**
Prior predictive checks have been created. The generated values were compared with the real data.
- **Have prior predictive checks been done for measurements (are measurements simulated from priors make sense) [0.5 / 1 pt]**

Prior predictive checks for measurements have been provided. However, the results have not been described.

- **How prior parameters were selected [1 / 1 pt].**

Yes, the topic has been mentioned.

5. Posterior analysis (model 1) [1.75 / 4 pts]

- **Were there any issues with the sampling? if there were what kind of ideas for mitigation were used [0 / 1 pt]**

This was not mentioned in the report.

- **Are the samples from posterior predictive distribution analyzed [0.75 / 1 pt]**

The samples were visualized and lightly described.

- **Are the data consistent with posterior predictive samples and is it sufficiently commented (if they are not then is the justification provided) [1 / 1 pt]**

Yes, the data is somehow consistent with the posterior predictive samples. Detailed comparison is included in the report.

- **Have parameter marginal distributions been analyzed (histograms of individual parameters plus summaries, are they diffuse or concentrated, what can we say about values). [0 / 1 pt].**

Marginal distributions are not included.

6. Posterior analysis (model 2) [1.75 / 4 pts]

- **Were there any issues with the sampling? if there were what kind of ideas for mitigation were used [0 / 1 pt]**

This was not mentioned in the report.

- **Are the samples from posterior predictive distribution analyzed [0.75 / 1 pt]**

The samples were visualized and lightly described.

- **Are the data consistent with posterior predictive samples and is it sufficiently commented (if they are not then is the justification provided) [1 / 1]**

Yes, the data is somehow consistent with the posterior predictive samples. Detailed comparison is included in the report.

- **Have parameter marginal distributions been analyzed (histograms of individual parameters plus summaries, are they diffuse or concentrated, what can we say about values) [0 / 1 pt]**

Marginal distributions are not included.

7. Model comparison [3.25 / 4 pts]

- **Have models been compared using information criteria [1 / 1 pt]**

Yes.

- **Have result for WAIC been discussed (is there a clear winner, or is there an overlap, were there any warnings) [1 / 1 pt]**

The results obtained for the WAIC comparison have been clearly considered. A description of all variables returned by the `az.compare` function has been added. As demonstrated in the waic comparison chart and statistics, both models perform very similarly. It is also worth noting that a warning has appeared in both models.

- **Have result for PSIS-LOO been discussed (is there a clear winner, or is there an overlap, were there any warnings) [1 / 1 pt]**

As in the WAIC criterion, the results were presented and discussed.

- **Whas the model comparison discussed? Do authors agree with information criteria? Why in your opinion one model better than another [0.25 / 1 pt]**

The models were visually compared, but only lightly discussed. However, the report does not include information about the authors opinion on the created models. Due to the small differences between models performance, it is hard to select the better one.

Total grade [19 /27 pts] – Percentage: 70,37%