PyPSA-Earth Model Validation for Zambia

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2 Introduction

This document keeps track of the PyPSA-Earth model validation for Zambia. To begin with, the same sections as in the paper by Parzen et al. 2023 presenting the PyPSA-Earth model have been used. We can modify them as we see fit, depending on the specific situation for Zambia.

[Albert S]: Beyond the sections in the pypsa-earth paper, I've added one on hydro given its importance in the Zambian case.

3 Network Topology and Length

4 Electricity Demand

5 Solar and Wind Power Potentials

6 Hydropower

7 Power Plant Database

8 Zambia 2022 - Dispatch Validation

This section corresponds to section 5.1 in the pypsa-earth paper. It is a validation of the state of the model in a recent year. We could try first with 2022 as it is the last complete year. If need be, we can go further in the past.

References

Parzen, Maximilian et al. (2023). "PyPSA-Earth. A new global open energy system optimization model demonstrated in Africa". In: *Applied Energy* 341, page 121096. DOI: `https://doi.org/10.1016/j.apenergy.2023.121096`.