Answers to Reviewer 2: The changes have been done into the manuscript.

1. *The manuscript would benefit from enhanced clarity, organisation, and presentation to align with the publication standards, specifically using a structure Introduction, Methods, Results, Discussion, Conclusion could help in the readability. Also The manuscript introduces several acronyms without providing their full names at first mention.*

We structured Introduction, Methods, Results, Discussion, Conclusion and improved their readability.

Could you check if The Digital Object Identifier (DOI) 10.5281/zenodo.13885371 of the Code and data availability section corresponds to private Zenodo record that is not publicly available.

The files are publicly accessible according to zenodo at :
https://doi.org/10.5281/zenodo.13885371

*List of **keywords** is missing after the abstract.*

We added key words into page 1.

Figure 1 is not relevant information and too small numbers for comfortably reading and also a white lost space between the grey tables is there that could be reduced.

Figure 1 has been updated to improve readability.

Figures 2- 7 need to be presented in a more organised way for a publications, those are snapshots of the images.

All figures in section 5, namely Figures 1 - 7, were updated to improve readability.

Figure 2 the caption of the image needs to be complemented, more description to be added.

More detailed descriptions were added to figures, with a focus on Figures 2 and 3 introducing the main functionality of the application.

Figure 3 and Figure 4, use subplots (a) (b) and (c) to introduce each subplot in the caption.

We introduced separate descriptions for top-left, bottom-left and right subplots in these figures.

Figure 6 looks a bit as a messy plot, try to make a mosaic with the subimages not overlapping ones to others to illustrate what you want to achieve with this visualisation.

We separated the image of the median confidence score into Figure 6 (as the figures which were in the background were previously showcased). This plot opens as a separate window in the application.

Line 325: Make a table or put this list information in a descriptive paragraph

The parameters used in the given sections were listed in Tables 1 and 3.

Line 340:

We list the used parameters used in the experiments section for the datasets in Tables 1, 3 and 5 respectively for photovoltaic production (Section 6.1) , meteorological benchmarking (Section 6.2) and air quality (Section 6.4). We also list the parameters, their abbreviations and units for the air quality dataset in the new Table 4.

5: 6.2.1 Data Processing section appear in a part which should be the conclusive part of the paper after the results but this start describing something more appropriate from methodology.

Table 1 --> create a new column with the identificators (ECMWF, id=167*) parts of the parameter name column. Also, in the units some J appears bold and others italic.

The identificators of the variables were separated into their own columns and the units standardized (in what is now Table 2, section 6.1).

The section 6.5 Urban Air quality miss some result plots or extra information, or this use cases with no discussion just presentation could be briefly presented in the introduction of the manuscript

We thank the reviewer for this helpful comment. We agree that the Urban Air Quality (UAQ) use case was previously presented too briefly and without sufficient discussion. In the revised manuscript – in Section 6.4, we have clarified the role and scope of the UAQ case study and expanded the accompanying explanation. Specifically, we now:

Explicitly frame the UAQ example as a demonstrator use case for HMMLVis, intended to illustrate the tool's ability to explore heterogeneous causal relations between meteorological drivers and air-quality variables, rather than to provide a comprehensive atmospheric chemistry analysis.

We added the following text:

Urban air quality is influenced by a combination of local meteorological conditions and regional pollutant transport. To illustrate the capabilities of HMMLVis beyond renewable-energy applications, we present urban air quality as a demonstration use case. Specifically,

the tool is applied to explore heterogeneous causal relationships between meteorological drivers and PM 2.5 concentrations in Vienna and Graz. This example is intended to showcase the exploratory and visual analysis functionality of HMMLVis, rather than to provide a detailed or exhaustive assessment of atmospheric chemistry processes.

We added a short interpretative discussion linked to Fig. 12, highlighting the dominant causal links identified by HMMLVis (e.g. temperature, wind speed, boundary-layer stability proxies) and their consistency with established physical understanding of urban air-pollution processes.

We refer to Figure 12 already in the introduction, indicating that UAQ is one of several application examples used to demonstrate the versatility of HMMLVis across energy-meteorology and environmental domains.

We believe these changes improve the clarity of the UAQ use case and align its presentation with the methodological focus of the manuscript.

Manuscript changes:
– Introduction: last paragraph of Section **1**, where the UAQ case study is introduced as a demonstrator alongside energy-related applications
– Section **6.5 Urban Air Quality**, where the scope of the use case and the interpretation of Fig. 12 are expanded
– Discussion: short paragraph referencing UAQ as an example of exploratory causal analysis rather than a full atmospheric chemistry study

References. *Needs to add the doi for the papers that it is missing.*

We have done it.