

# Review of: "Heterogeneous climate change impacts on electricity demand in world cities circa mid-century"

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**Potential competing interests:** The author(s) declared that no potential competing interests exist.

It is interesting to see the comparison between the temperature distribution and the response of hourly electric load to hourly temperature in a variety of cities. I guess this can help to take specific actions about energy saving on a particular location. However, my main concern with the manuscript in general is that the visualizations are not clear enough. For example, Figure S1 includes 3D plots which are difficult to visualize on paper or on a screen without interactive capabilities. Why not use a 2D heatmap instead? Also, such big figure is described in a little more than two lines of text. Is that all that can be said about it? Then, Figure 2 shows the temperature distributions and the response of hourly electric loads for different cities. Here, the axis scales are not consistent for the different cities, also it is not clear why the y-axis for the distribution and response need to have independent scales but be on top of each other. Why not just use just the left y-axis and the right y-axis for both measures? This may help to keep the scales consistent and to easily compare on city to another. Finally, you can use different colors to easily identify the corresponding axis for the temperature distribution, response of hourly electric load, and even the category of response (V-shaped, monotonically increasing, or unresponsive).

I also wonder what is the motivation behind the cities chosen in Figure 1. Why are there so many unexplored areas in the world? This includes the whole of Europe, and most of the Americas, Asia, and Australia. Would it be possible to have a socioeconomical or cultural impact on the response of hourly electric loads?

Other figures need some work with formats and use of colors to make them more legible.

Finally, I wonder if you can provide more details on the next comments to facilitate the understanding for the novice reader.

Page 1: The link between ambient temperature and mortality or morbidity is well understood. (Although, is this sentence really needed?).

Page 2: Our statistical model incorporates a distributed lag structure similar to that employed in epidemiological investigations of temperature on mortality.

Page 2. "these these" is written just before the results section.

