This manuscript presents a data visualisation method designed to help users quickly grasp trends in air pollution and understand its impacts on human health over several decades. Communicating air quality levels, including their causes and implications for health, is often challenging. This tool has the potential to simplify and enhance such communication. The final graphs are certainly helpful, as they integrate a lot of information in a clear and understandable manner. It could be especially valuable for policymakers, NGOs, and the general public to raise awareness and support informed decision-making. Using WHO Guidelines as a benchmark is a strong point and provides a credible standard for comparison.

However, I have some concerns and suggestions that the authors may wish to consider to significantly enhance the manuscript's clarity, robustness, and utility.

General: Is the project focused solely on PM2.5? While PM2.5 is a key pollutant, referring more generally to "air quality" without including other pollutants (e.g., NO_2, O_3) may be misleading. This is particularly important when comparing across European countries, where long-range transport rather than local emissions can heavily influence PM2.5 levels. If the project is to extend beyond PM2.5, what needs to be done to make it easily applicable to other pollutants?

Specific per section:

Section 1.1:

L34–35: How does onshore flow affect PM2.5 levels? Does it lead to an increase due to sea salt or a decrease due to dilution? This should be clarified for the reader who is not so familiar with this topic.

L37: The statement about the "short lifetime" of PM2.5 could be expanded. What is the typical lifetime? Why is this relevant? Providing a brief explanation would enhance the reader's understanding.

Section 2.1:

While it is understandable that the authors use climate simulations to support their visualisations, it is important to acknowledge that most climate models are not optimised for air quality assessment, particularly in urban contexts. The manuscript notes that many CMIP6 models do not include key physical and chemical processes relevant to PM2.5, which is a significant limitation, especially given the focus on urban environments and long-range transport that affects cities' background concentrations.

The authors are commended for applying bias correction, which is essential in this context. However, more detail on the model's spatial resolution is needed. Climate models generally operate on coarse grids, which may not capture city-level variations in PM2.5.

L49: Was UKESM1 selected because it includes relevant particulate matter processes? If so, this should be clearly stated. If not, the rationale for choosing this model should be explained.

Section 3.1:

L75: Is there a reference or source for the colour theory used in the visualisation? If so, it should be included.

L97: How many individuals participated in the informal testing phase, and what kind of feedback was collected? More information on the methodology would strengthen the section.

L104: What daily values were used to extrapolate the ranges for the remaining categories? Were these values consistent across all cities? If not, the differences should be clearly indicated, as this affects interpretation.