

Geosci. Model Dev. Discuss., referee comment RC2
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Comment on gmd-2020-392

Anonymous Referee #2

Referee comment on "NDCmitiQ v1.0.0: a tool to quantify and analyse greenhouse gas mitigation targets" by Annika Günther et al., Geosci. Model Dev. Discuss.,
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The manuscript presents in a nice and comprehensive way substantial amount of work the authors completed to develop the tool, which includes several layers and steps to ensure the quality of the tool and the results. This tool is of high scientific relevance, considering the need to monitor and quantify progression overtime of global ambitions in climate change mitigation efforts, and given its open-access nature, it could become a very important modelling resource for researchers dealign with global emissions modelling. However, in its current form, the manuscripts focuses disproportionately on the methods and could be improved with a more balanced version that increases the weight and importance of the results and discussion sections.

Regarding the aim, relevance and reach of the manuscript and tool, I think the authors should limit more explicitly the audience to research and modelling community and be more concrete about the potential applications of the tool, which mostly relate to comparing on an equal basis mitigation pledges overtime and monitoring progress towards global mitigation ambition. Also the shortcomings of the tool, in particular for interested stakeholders should be mentioned more explicitly. For instance, while many stakeholders interested in tracking and monitoring mitigation ambition can be interested in keeping specific countries accountable on their mitigation targets, the applicability of the tool for this purpose is limited considering that the multiple underlying assumptions and harmonisation steps involved in the tool and the underlying databases (e.g. population projections, data filling, etc) make it almost impossible to track with accuracy individual targets and analyse their evolution over time (e.g. changes in assumptions in the base year emissions, qualitative improvement in transparency or other elements, etc.).

Regarding the style, I agree with the other reviewer regarding the fact that the manuscript is written in a way that is more suitable for model documentation or user manual than a scientific journal, and would therefore suggest the authors move large parts of the main body to an annex, or supplementary information and instead expand the results and discussions sections and focus them on practical applications of the tool (e.g. comparison of the first and second round of NDCs, evaluation criteria or ranking for NDCs). However, considering the focus and target audience of the journal, which relate to

modelling (outside my personal expertise) I consider the manuscript can be published in this journal subject to minor revisions, along the lines of my comments above.