

Biogeosciences Discuss., referee comment RC2
<https://doi.org/10.5194/bg-2022-35-RC2>, 2022
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Comment on bg-2022-35

Anonymous Referee #2

Referee comment on "The European forest carbon budget under future climate conditions and current management practices" by Roberto Pilli et al., Biogeosciences Discuss., <https://doi.org/10.5194/bg-2022-35-RC2>, 2022

My review of the manuscript BG-2022-35 by Pilli et al. finds that the paper is of high scientific significance. It can be considered an important contribution to scientific progress in the field of forestry research and environmental policy as it provides a concept for combining different types of models for addressing urgent policy questions. The paper is of high scientific quality and to my knowledge includes the most recent and relevant literature on the topic. There are limitations to the approach and the study leaves open questions, e.g. on the interaction of forest management and natural disturbances, the effect of other disturbances beyond fire, the effect of management changes. However, the authors are not tempted to overload the study but focus on practicability of the approach. This has of course also limitations for the interpretation of the results for policy. And here is my only criticism: in the paper the authors draw policy conclusions like the study "may constitute a first benchmark to set up specific management strategies". Due to the limitations of the modelling approach and the rather crude assumptions on the reference scenario conclusions on needed responses to revert the declining trend should not be drawn. As the authors mention in their response to Anonymous Referee #1 (<https://doi.org/10.5194/bg-2022-35-AC1>), "the continuation of forest management (BAU) was chosen just to test our method, but this is not a policy scenario". In that sense the manuscript should more carefully draw conclusions on how to respond to the scenario results. Instead, the authors could provide requirements for making the results more policy relevant, e.g. by a more policy-oriented scenario design, sensitivity analyses regarding forest management options etc.

Overall, the manuscript is well structured, the language clear and methodology and assumptions well-presented. See specific comments and technical corrections in the attached pdf.

Please also note the supplement to this comment:
<https://bg.copernicus.org/preprints/bg-2022-35/bg-2022-35-RC2-supplement.pdf>