

Response to the Reviewers Comments

Manuscript: BG-2022-227

Journal: Biogeosciences

Manuscript title: A comparison of the climate and carbon cycle effects of carbon removal by Afforestation and an equivalent reduction in Fossil fuel emissions

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Associate Editor Comments

General Remarks

Thank you for your revised manuscript, which is almost ready to be accepted for publication.

We are thankful to the associate editor for reviewing the document. We have addressed the comments of the associate editor in the revised manuscript as discussed below.

Comment 1

Following my suggestion, you restructured the Results and Discussion section. However, the Results section still contains literature citations. These sentences should be rephrased; no citations should occur in the Results section. These parts include:

- a) 184ff can be rephrase to something like: In all nine simulations, NPP increases initially until around the year when emissions peak (2040 in SSP2-4.5 and 2100 185 in SSP3-7.0 and SSP5-8.5) and elevated atmospheric CO₂ levels lead to increased plant productivity (Figure S8).
- b) 226-231 (In contrast, previous studies....): this text is data interpretation and therefore belongs in the Discussion, not in the Results section.
- c) 291-293: This is interpretation of results and should thus move to the Discussion
- d) 306-309: the last part of this sentence should be rephrased and citations removed (they can be included in the Discussion).
- e) 326-328: This is interpretation of results and should thus move to the Discussion

Response to Comment 1

We are thankful to the editor for these important comments. We have addressed the comments of the editor as follows,

- a) These lines are rephrased in the manuscript according to the suggestion from the editor. (Please see page 7, lines 183-187)
- b) These lines are now moved to the discussion section. (Please see page 11, lines 319-329)
- c) These lines are now removed from the main text as it is discussed in the conclusions.
- d) These lines are now moved to the discussion section. (Please see page 11, lines 339-343)
- e) These lines are now removed from the main text as it is discussed in the conclusions.

We believe that the editor has indicated we keep the citations in 3 instances where we discuss the comparison of model simulation to observations by not asking us to move those discussions to section 4.

