Review Keller et al. 'The Carbon Dioxide Removal Model Intercomparison Project (CDR-MIP): Rationale and experimental design'

This manuscript presents a motivation and description of the experimental design of a planned carbon dioxide removal model intercomparison project. The manuscript touches upon a much discussed but so far little investigated area: how will the Earth system react to large scale removal of carbon from the atmosphere by different processes? This is an important initiative that will serve the community well and I find the article worthy of publication in Geoscientific Model Development. The motivation and experimental protocol is outlined well but for clarity I recommend some changes listed below.

#1 Section 1.2 CDR-MIP Scientific Foci
[Page 6]The first and second motivation seem to address the same question and could maybe put together.

#2 Section 2 Background and motivation
[Page 9, lines 270-273] sentence unclear, rephrase
[Page 10, line 315] Maybe shortly name some examples for other side effects than regional albedo changes.

#3 Section 3.1 Relations to other MIPs
I acknowledge the fact that with the variety of existing MIPs it is not easy to set a new MIP into relation to them. This subsection, however, is generally not very clear to the reader and a bit lengthy with repetitions of statements and needs focusing.

#4 Section 3.5 Model drift
Shortly state acceptable model drift as described by Jones et al. (2016b) (as done on Page 26, lines 832-839).

#5 Model output frequency subsections in section 4 (4.1.2, 4.2.2, 4.2.4,4.2.6, 4.3.2, 4.4.2)
Combine these subsections into one and refer to Table 8 for details to avoid extensive repetition.

#6 Section 4.2
Very lengthy to read. Shorten and focus.

#7 Section 4.2.1
[Page 26, lines 832-839] move to section 3.5 and remove here.

#8 Section 4.3
Same as #6, try to shorten and focus.

#9 Section 7 Code and/or data availability
[Page 41] To avoid repetition, combine this section with section 5.4 into one.

Minor comments

[Page 7, lines 206-207 and 222-225] repetition

[Page 7, lines 223-224] clarify: a good test for what?

[Page 18, line 577] 'not mandatory, nor a prerequisite' replace 'not' with 'neither'.

[Page 19, lines 621-622] In 'limiting the number experiments' add 'of'.

[Pages 20-21, lines 658-661] Remove sentence 'Moreover, since many...'

[Page 21, lines 668-669] Remove sentence 'Note that piControl...'

[Page 28, lines 911-912] Remove sentence 'EMICs and box models...' and include this information in subsection about model output frequency (see #5).

[Page 29, lines 922-924 and 936-937] Remove sentence 'EMICs and box models...'

[Page 45, line 1437] '2.8° longitude by 1.6° longitude' do you mean '2.8° longitude by 1.6° latitude'?

Tables

[Tables 2-7] Including a column with the name of the preceding run from which the experiment is to be started will increase clarity.