Response to gmd-2016-197-RC2: (note that some internal numbering from the review has been modified to create consistent numbering.

10. One can still debate whether other metrics should be considered as relevant to our field. While the paper correctly suggests the increasing importance of energy metrics in HPC – in this case the JPSY and AJPSY metrics – perhaps it should also consider other evolving metrics, e.g., FTTSE [Bekas, C. & Curioni, A. Comput Sci Res Dev (2010) 25: 187]. This comment is meant to encourage discussion and promote the evolution of a more complete set of metrics. As mentioned, the strength of the paper lies in the agreement of many institutions on the presented set.

This is indeed a useful reference, and has been added to the text. As noted in the discussion of AJPSY (which is very similar to the FTTSE), we believe we will extend toward such metrics when the hardware routinely supports it. See revised discussion starting page 13, line 20.

11. Explicit mention of spectral models should be made on p. 5, line 1. Spectral models are still in use and tend to have very different scaling behaviour than FD-, FV- or FEbased models.

Agreed, this is an oversight. Fixed, see page 5, line 6.

12. Point 6 on p. 10 (lines 4-6) is not necessary to mention here. It is repeated in section 3.2 and need not be emphasised.

Agreed, we have reworded this section to make the general point instead of repeating what is below in Sec 3.2. See page 11, line 3.

13. Given the caveats mentioned about dimensionality on p. 11, lines 6-7, why even mention the nominal Cartesian representation of NX x NY x NZ on p. 11, line 1?

Fair point: see paragraph of revised text beginning page 11, line 14.

14. There are several full sentences enclosed in parentheses (p. 12, lines 28-29; p. 14, lines 7-8; p. 15, lines 25-26; p. 19, lines 19-21). As a matter of style, it would be better to either (a) remove the parentheses if the authors feel these comments belong in the text, or (b) make them footnotes.

Fixed; the parentheses have been replaced by a footnote in one instance (page 13, line 7); sentence eliminated altogether just below, as it repeats the footnote text (page 13, line 8); parentheses removed and sentence retained in two instances (page 14, line 19; page 16, line 14).

15. The paper is well-written and concise. Obviously great care has been taken in proofreading. Still a small number of mistakes have slipped through. GMD allows authors to write in the variety of English of their choice: We accept all standard varieties of English in order to retain the author's voice. However, the variety should be consistent within each article. When using Oxford spellings, please do so consistently. Whilst the vast majority of spellings are U.S. ("parallelization", "modeling", "characterize", "recognize", ...), the authors curiously use "centre" (8 occurrences, although 2 occurrences of "center"), and "summarised" (1 occurrence). Please use consistent American spellings, if this is your choice. Fixed;

see page 8, line 11; page 1, line 16; page 22, line 4; page 22, line 12; page 23, line 25; page 23, line 26; page 23, line 27; page 23, line 28. Additionally we found one instance of "modelling" which has now become "modeling", consistent with the rest of the text: see page 2, line 10.

16. Various forms are used for "flops", such as "FLOP rates", "flop rates", and "flops". Please use one consistently.

    We have now used "flops" consistently: see page 8, line 22; page 20, line 30; page 23, line 4.

17. While there is no consensus in writing manuals whether there should be a comma after "i.e." and "e.g.", it is universally agreed that there should be a full stop after each letter. Please correct the instances of "i.e" and "e.g".

    Fixed, see page 2, line 29; page 4, line 2; page 5, line 10; page 7, line 3; page 8, line 19; page 9, line 15; page 10, line 7; page 11, line 23; page 12, line 7; page 12, line 8; page 12, line 22; page 12, line 23; page 16, line 14; page 16, line 15; page 18, line 4; page 18, line 5; page 18, line 6; page 18, line 12; page 21, line 18; page 22, line 5; page 23, line 4.

18. The four points at the end of p. 2 / beginning of p. 3 are part of the sentence on p. 2, lines 31-32. Please terminate these with semi-colons rather than full stops.

    Fixed; see page 3, line 6; page 3, line 8; page 3, line 9.

19. Same point for the 4 points in the sentence on p. 8, lines 15-22.

    Fixed; see page 8, line 26; page 8, line 28; page 8, line 29.

20. p. 7, line 1: "such as the recent AVEC report do take it " should be "... recent AVEC report, do take it".

    Fixed; see page 6, line 29.

21. p. 7, line 12: "... maybe run in ..." should be " ... may be run in ... ".

    Fixed; see page 7, line 5.

22. p. 15, line 1: "In this case. it may be ..." should be "In this case, it may be ...".

    Fixed; see page 15, line 17.

23. "S-mode" and "T-mode" are defined (quite appropriately!) on p. 9, line 13, but are used as "S mode" (p. 19, line 8) and "T mode" (p. 16, line 10; p. 19, lines 28-29). Please use consistently.

    Fixed; see page 16, line 28; page 19, line 6; page 20, line 15; page 20, line 21.

24. p. 21, line 1: "core for core, the new machine ..." should be "Core for core, the new machine ...".

    Fixed; see page 21, line 12.