Response to reviewer comments:

I would like to thank both reviewers for the valuable inputs. Regarding the calculation exercise made on data from the Höglwald, as both reviewers were critical to this, I will omit this part form the paper. This exercise was merely intended as an illustration and omitting this will not alter the conclusion from my comment. Instead, I will add a paragraph on illustrating quantitatively the likely amount of additional N made available by different processes, N_2 fixation, N mineralization and N leaching. Based on literature on annual fluxes of these processes, it is possible to quantify additional N supply under elevated CO_2. Annual N_2 fixation rate in natural ecosystems, not dominated by symbiotic N_2 fixing plants, are in the range 1.5 – 25 kg N ha^{-1} yr^{-1} (Cleveland et al., 1999). Assuming an increase by 14 % under elevated CO_2 (as calculated for non-N_2 fixing plant communities), an additional amount of 0.2 – 3.5 kg N ha^{-1} yr^{-1} is provided. Annual leaching losses from temperate watershed are on average 0.3 kg N ha^{-1} yr^{-1} (Brookshire et al., 2012), which might decrease 42 % or 0.1 kg N ha^{-1} yr^{-1} under elevated CO_2. That means that the two processes identified by Liang et al. combined lead to an increase in N availability of 0.3 – 3.6 kg N ha^{-1} yr^{-1}. If we consider an annual gross N mineralization in the range of 120 and 1000 kg N ha^{-1} yr^{-1} (Rosenkranz et al., 2010; Jamieson et al., 1999), an increase by 14 % under elevate CO_2 (Rütting and Andresen, 2015) provides an additional amount of plant available N of 17 to 140 kg N ha^{-1} yr^{-1}. This agrees well with the comment by David Wårlind, that a small change in a large flux can be more important than a large change in a small flux, to which I agree.

In regards to the comment by Feike Dijkstra if the reduction in leaching is similar in N limited ecosystems compared to non-N limited one: when calculating the weighted average, in accordance with Liang et al., N leaching was reduced in N limited by 21 %, compared to 42 % in the total data set. This means that the importance of reduced N leaching for alleviating a progressive N limitation (PNL) is even lower. However, it should first be noted that only four data points in the database by Liang et al. concerned N limited ecosystems. This limits the informative value of the N leaching response in N limited ecosystems. Nevertheless, this information can be added to the paper.

David Wårlind pointed out that changes in the N use efficiency (NUE) could also prevent the development of a PNL. In grassland species, an increase in NUE has indeed been observed (Lee et al., 2011). However, among four forest FACE experiment, only in a poplar plantation NUE was increased under elevated CO_2, while NUE was unchanged in the remaining three experiments (Finzi et al., 2007). Therefore, it is unclear of this mechanism is widespread in alleviating PNL. Nevertheless, I will mention this as an alternative process in the paper.

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