

## Managing European landscapes to meet the 1.5°C climate target

Stefan Olin (1), Kimberly Nicholas (2), and Mark Brady (3)

(1) Lund University, Physical Geography and Ecosystem Science, Lund, Sweden (stefan.olin@nateko.lu.se), (2) Lund University, Centre for Sustainability Studies (LUCSUS), Lund, Sweden, (3) Lund University, AgriFood Economics Centre, Lund, Sweden

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The Paris Agreement in December 2015, resulted in 195 nations pledging to limit global warming to 1.5°C above the pre-industrial level. This ambition represents a major transformation from business as usual; meeting this target will require rapid and dedicated changes in every sector. So far, most national ambitions for emissions reductions are not sufficient to meet this target, but would accumulatively produce a 2.7-3.5°C warmer world, so more ambitious reductions are needed. A potential exception though is the European Union (EU) that has proposed reductions for itself seemingly consistent with limiting warming to 2°C (Allen 2015). Here we evaluate whether the land use and agricultural management changes proposed in the national climate pledges of the 28 member states of the EU would be sufficient to meet the EU's abatement goals. We do this by modelling the consequences of these changes for greenhouse gas emissions using the dynamic, process-based global ecosystem model, LPJ-GUESS (Olin et al. 2015).

We also examine the efficacy of the various policy instruments that are proposed, in place, or could be used to support the climate pledges, as well as suggest a common reporting framework for land-using activities that could simplify comparison among states and enhance transparency for future climate pledges under the Paris Agreement.

## References

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