NAVIGATE

Final outreach event – Agriculture – 14 Dec 2023

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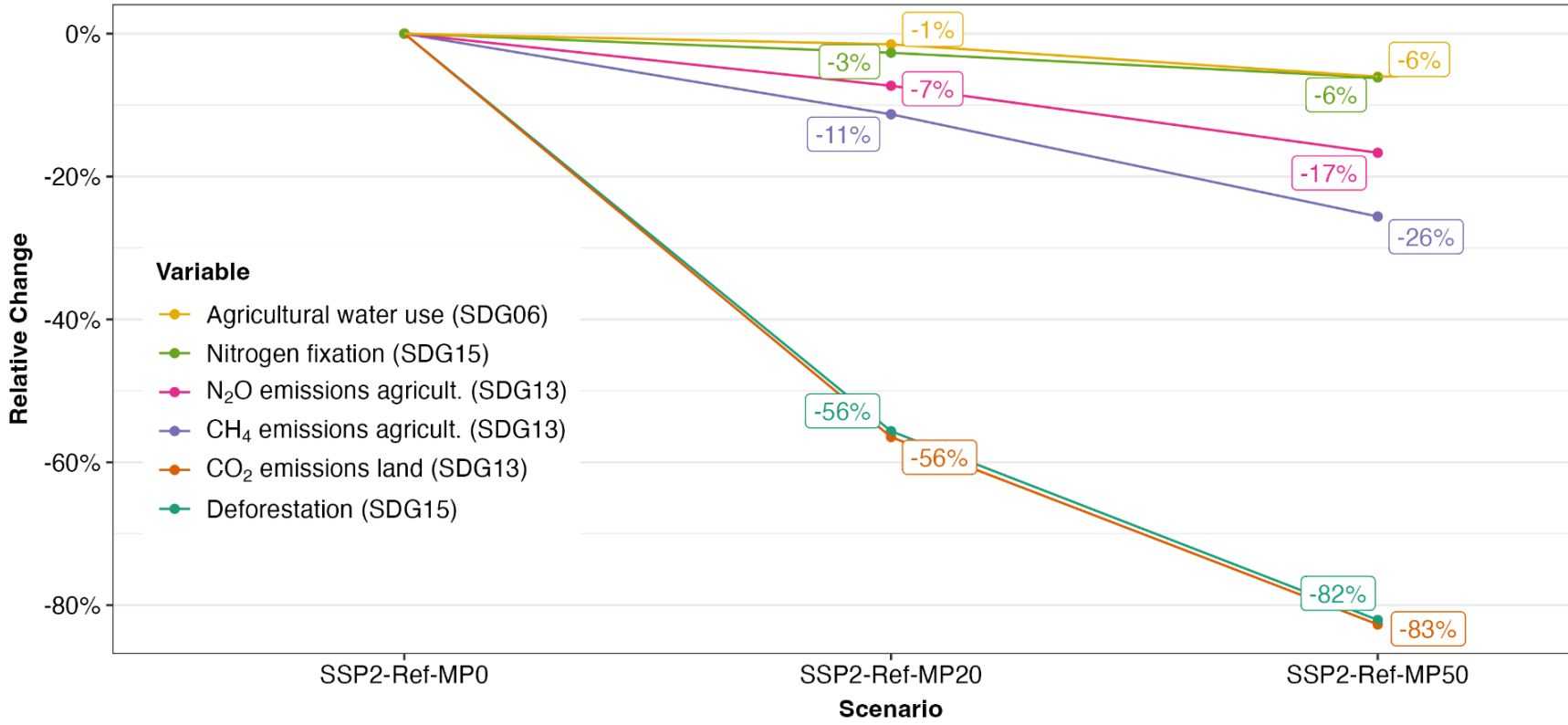
This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 821124.

Substituting ruminant meat with microbial protein

- Substituting 20% of per capita consumption by 2050 halves global deforestation and land use CO_2 emissions.

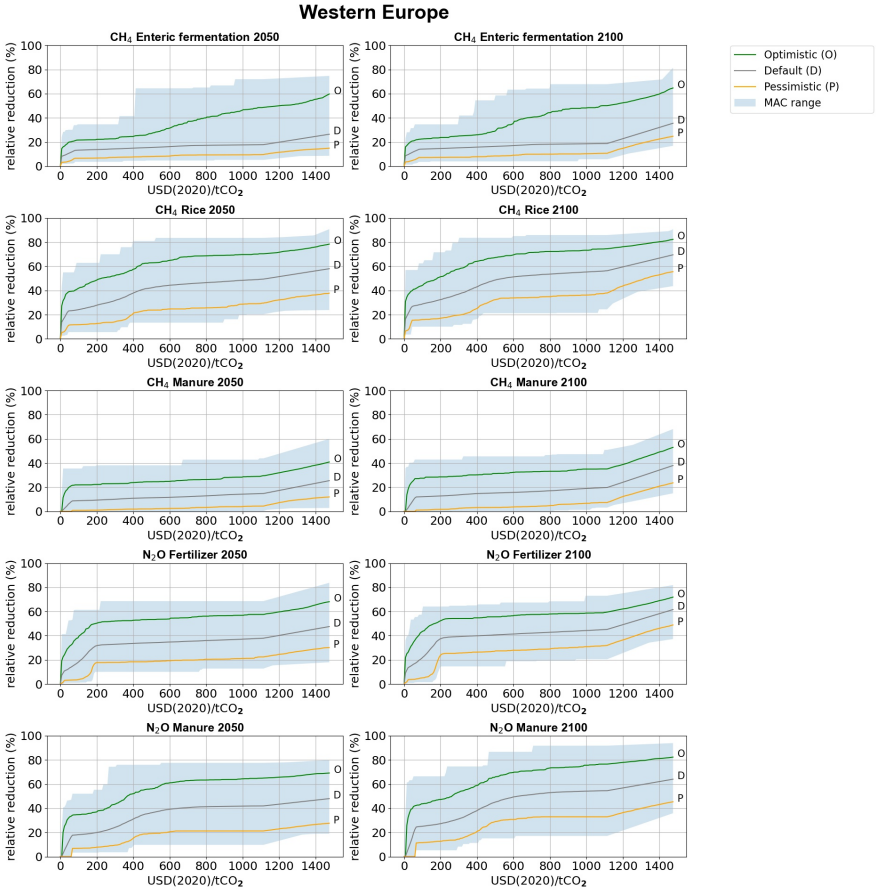
- Also lowers CH_4 emissions from ruminants and reduces N_2O emissions from fertilizers.



Humpenöder et al. (2022) Nature 605, 90–96. https://doi.org/10.1038/s41586-022-04629-w

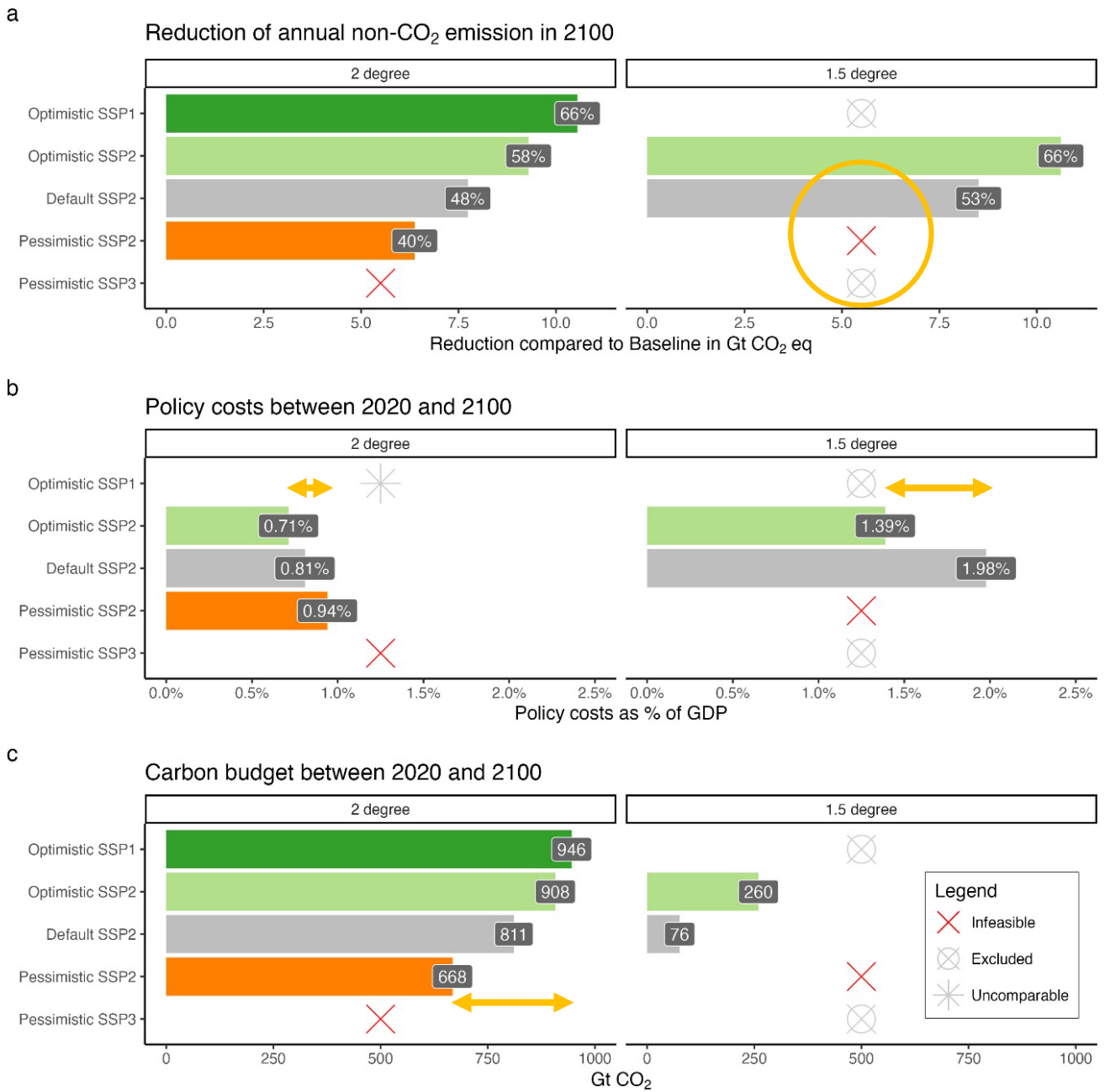
The key role of non-CO_2 GHG mitigation potentials for 1.5-2°C mitigation pathways

- Estimate of non-CO_2 mitigation uncertainty ranges
- Determined by varying underlying parameters (Monte Carlo analysis)
- Assessment of implications for climate policy feasibility



Harmsen et al., 2023, Nat Commun 14, 2949. https://doi.org/10.1038/s41467-023-38577-4

- Under pessimistic non-CO_2 mitigation assumptions, limiting temperature change to 1.5 degrees is not possible
- Climate policy costs are 32% to 42% higher with a low mitigation potenial
- 240 Gt range in carbon budget in a 2C case, due to technological uncertainty



Discussion/questions

Some suggestions:

- Role of land-use change and agriculture in reaching targets
- CO_2 vs. non-CO_2
- Demand vs. technology-driven solutions

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