

IMMEDIATE RELEASE

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INFO: Reboot Food manifesto [here](#). Reboot Food full report [here](#). Precision fermentation press briefing [here](#). Photos of precision fermentation in action [here](#).

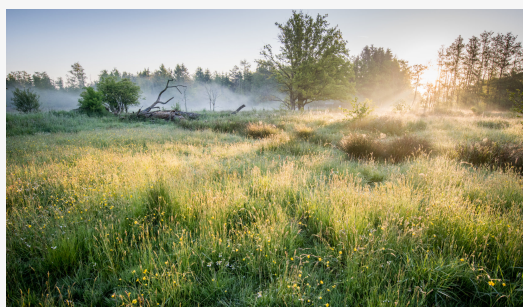
Entire world's protein can be produced on an area of land smaller than London, say COP27 campaigners

Animal farming should be replaced with protein from microorganisms and 3/4s of the world's farmland should be rewilded to meet our climate goals, according to a new campaign launched on COP27 agriculture day by green group [RePlanet](#).

The [Reboot Food](#) campaign, fronted by veteran author and activist **George Monbiot**, claims that COP27 efforts to keep the Paris Agreement alive are 'futile' without such a move and calls for global governments to urgently invest in precision fermentation – a key technology in microbial protein production.

George Monbiot, author and activist, says *"The elephant in the room at COP27 is the cow. But thankfully this time, there really is a recipe for success. By rebooting our food systems with precision fermentation we can phase out animal agriculture while greatly increasing the amount of protein available for human consumption".*

Precision fermentation (PF) creates biologically identical animal proteins using genetically engineered microorganisms fermented in tanks. According to the Reboot Food report, protein from microorganisms uses up to **40,900 less land than beef**, meaning that such 'farm free foods' could produce the entire world's protein requirements on just 420km² of land – **an area of land smaller than Greater London**.



This would not only save 3/4s of global agricultural land for nature restoration and carbon drawdown, but would also release up to 91% less greenhouse gases per calorie produced¹.

The Reboot Food [manifesto](#) lays out a series of 10 policies that world governments should adopt to make COP27 a success and calls for 'land sparing' and planetary scale rewilding to be the objective in all agricultural decision making. The 10 policies include: investing 2.5% of GDP over 10 years into food innovation, ending all subsidies for animal agriculture and subsidising plant based foods instead, banning the advertising of carbon intensive meat, limiting patents on new food technology and legalising gene editing.

Such moves are urgently necessary, says RePlanet, because agriculture is responsible for more greenhouse gas than all cars, aeroplanes and ships on the planet², is the cause of 80% of deforestation this century³ and is the single biggest cause of the 6th mass extinction of species^{4,5}. Most of this harm is caused by the high land usage of animal agriculture which occupies 28% of the planet's ice free land, more than all the world's forests combined⁶.

Precision fermentation is already used to produce 99% of global insulin supply⁷ and 90% of global rennet⁸. Today PF [milk proteins](#) and PF [egg whites](#) have already reached the US grocery market.

Joel Scott-Halkes, Campaigns Coordinator of Replanet speaking from COP27 says *"COP27 has shamefully failed to address the emissions and land use of animal agriculture. Incrementalism in farming is no longer an option - we need revolutionary food production. In the face of catastrophic climate breakdown, precision fermentation and other highly land efficient forms of food production are the bold solutions we need"*

Emma Smart, Coordinator of Replanet UK says *"The precision fermentation revolution is as significant and consequential for our natural world and climate as the dawn of farming was 10,000 years ago. Only this time, today's food revolution promises a new age of regeneration not devastation for non-human life."*

Mark Lynas, climate author and RePlanet Senior Strategist says: *"The mainstream environmental movement's agricultural policies are making things worse not better. Organic and 'regenerative' farming methods encourage agricultural sprawl and have become smokescreens for the livestock industry. It's time for sensible environmentalists to unite behind food production techniques that use less land, not more."*

*For calculations please see p20 of the Reboot Food Full Report [here](#).

Notes to editors

Campaign website www.rebootfood.org

Reboot Food manifesto [here](#).

Reboot Food full report [here](#).

Precision fermentation press briefing [here](#).

About RePlanet

RePlanet is a new, charitably-funded pan-European environmental NGO with campaigners in 13 different European countries. United under the emerging philosophy of eco-humanism, RePlanet is unique among environmental NGOs for promoting the use of technologies such as advanced nuclear power, cellular agriculture and gene editing. It aims to see 50%–75% of Europe rewilded, animal farming disrupted, the climate cooled and energy abundance achieved in the Global South. RePlanet is philanthropically funded and accepts no funding from industry or political parties. Its main donor in 2022/23 was the Quadrature Climate Foundation. www.replanet.ngo // www.rebootfood.org

¹https://m4f6w9b2.rocketcdn.me/app/uploads/2022/01/Comparative-Perfect-Day-Whey-LCA-report-prepared-by-WSP_20AUG2021_Non-Confidential-1.pdf

² <https://ourworldindata.org/emissions-by-sector>

³ Bruce M. Campbell et al., 2017. *Agriculture production as a major driver of the Earth system exceeding planetary boundaries*. Ecology and Society, volume 22, issue 4. <https://doi.org/10.2307/2679899>

⁴ Walter Willett et al., 2019. *Food in the Anthropocene: the EAT – Lancet Commission on healthy diets from sustainable food systems*. The Lancet Commissions, volume 393, issue 10170, pp. 447–492.

⁵ Brian Machovina et al., 2015. *Biodiversity conservation: The key is reducing meat consumption*. Science of The Total Environment, volume 536, pp. 419–431. <https://doi.org/10.1016/j.scitotenv.2015.07.022>

⁶ <https://ourworldindata.org/land-use>

⁷ Lipska, K. J., Ross, J. S., Van Houten, H. K., Beran, D., Yudkin, J. S., FRCP, & Shah, N. D. (2015, June 11). *Use and Out-of-Pocket Costs of Insulin for Type 2 Diabetes Mellitus from 2000 to 2010*. Journal of the American Medical Association (JAMA), volume 311, issue 22, pp. 2331–2333. doi: 10.1001/jama.2014.6316

⁸ Jeanne Yacoubou, 21 August 2012. *Microbial Rennets and Fermentation Produced Chymosin (FPC): How Vegetarian Are They?* The Vegetarian Resource Group (VRG).