A Just Transition in Agriculture

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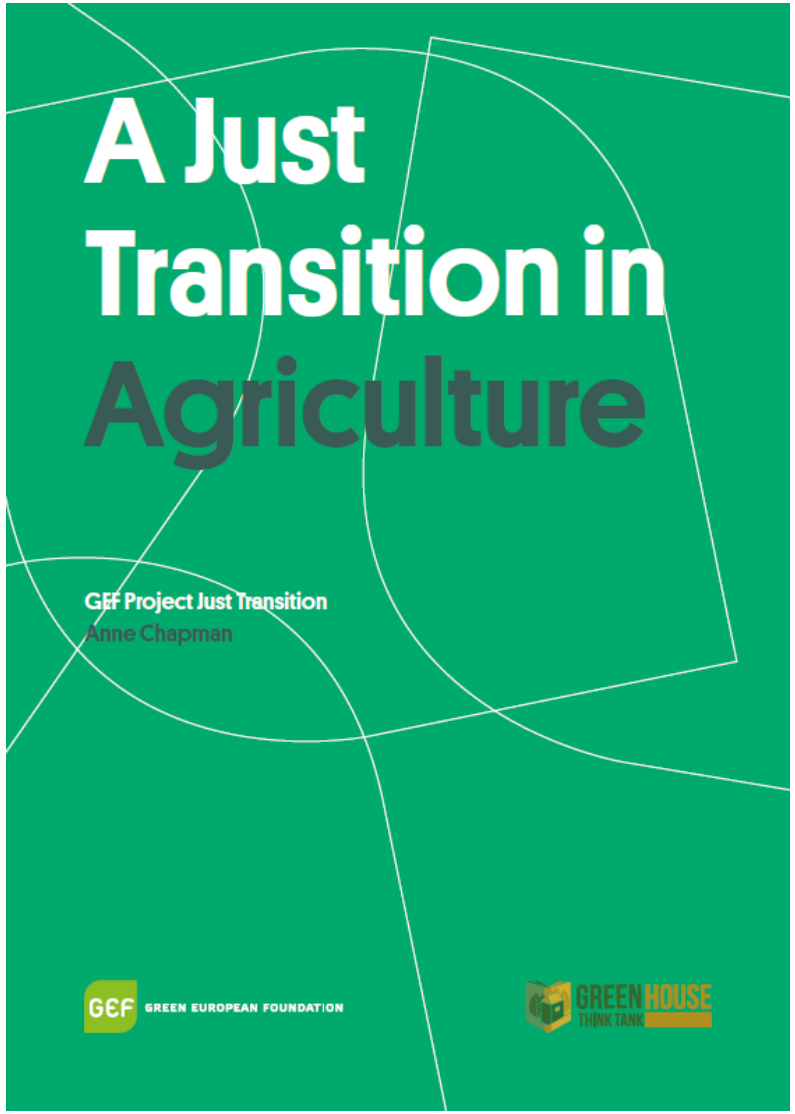
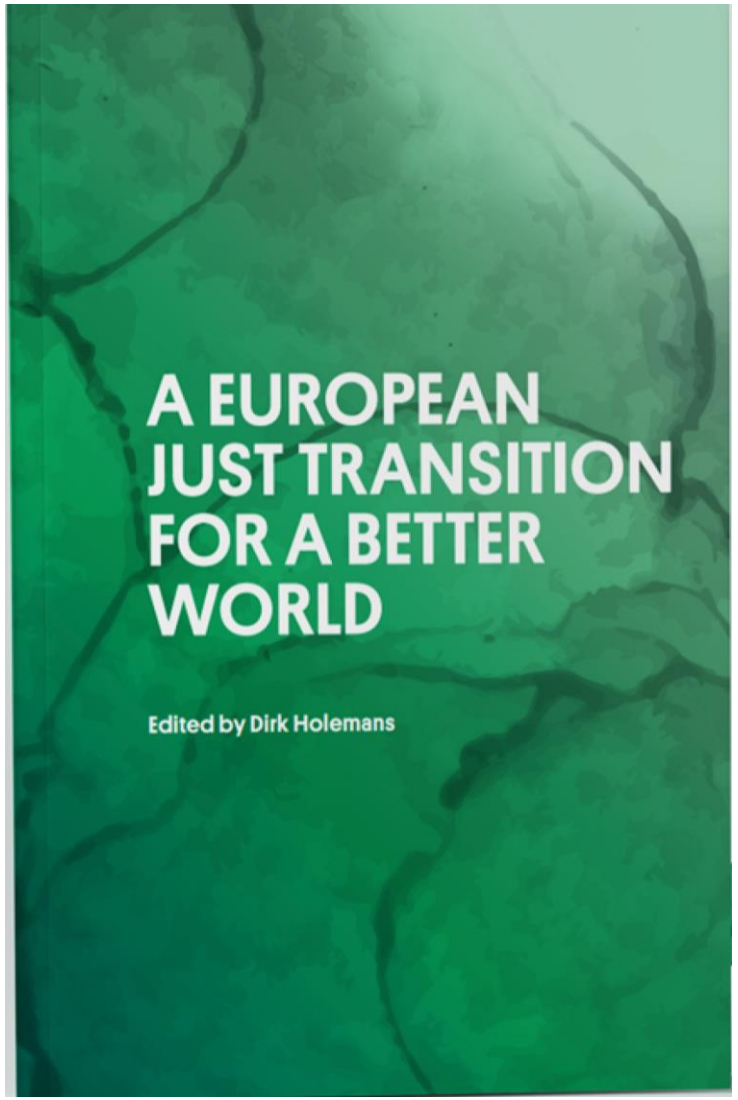
GREEN HOUSE THINK TANK

GEF GREEN EUROPEAN FOUNDATION





https://gef.eu/project/just-transition/

Carried out with the financial support of the European Parliament to the Green European Foundation. The European Parliament is not responsible for the content of the project.

Three Types of Farming and their aims

Industrialised agriculture	increase output
Regenerative agriculture	increase profit per hectare through improved soil health Produce high quality food
Farming for Nature	maintain/improve habitats/ natural processes - food a by-product

Industrialised agriculture

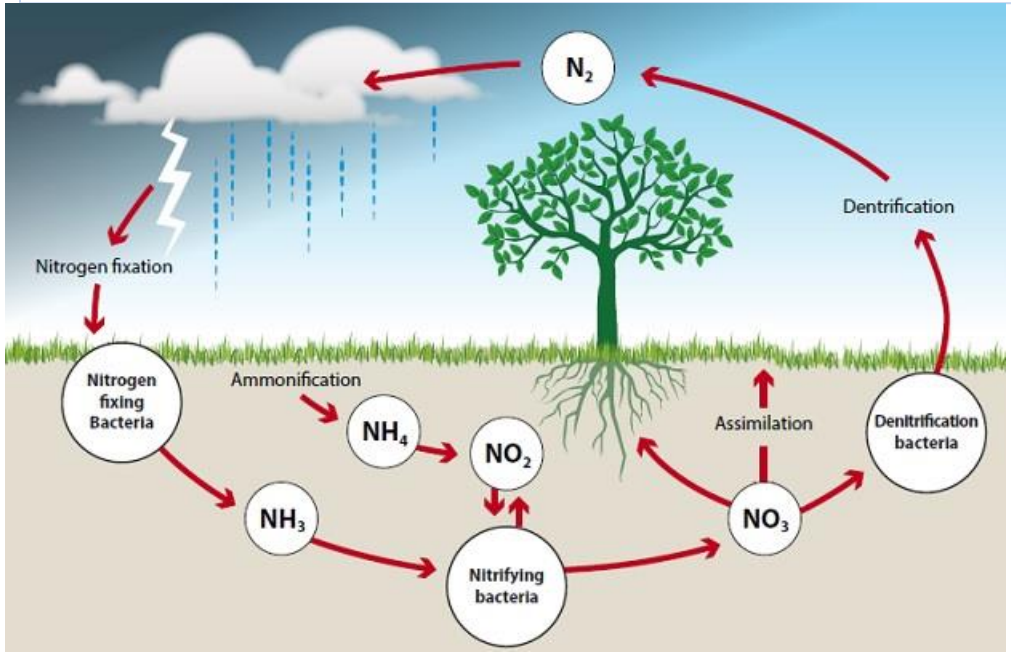
- Mechanisation
- Simplification
- Chemical arsenal (artificial fertilisers, pesticides, medication for livestock)
- New breeds of plants and animals
- Concentration of supply chain upstream and downstream of farmers

Results – no space for wildlife, pollution, loss of livelihoods, hunger in midst of over-supply

Oversupply of grains and soya from mechanized large scale production

- Intensive farming is suited to large scale arable production
- Globally maize, rice and wheat provide over 40% of our calories – resulting in unhealthy diets
- Overproduction of cereals and soya makes possible the intensive livestock industry, in which grains are fed to chickens, pigs and cattle
- We waste 20 – 30% of the food we produce, including 30% of cereals
- Exports of excess grains destroy local farm economies leading to hunger.

Pollution: Opening of the nitrogen cycle



From https://www.studyacs.com/blog-nitrogen-cycle-37.aspx

Key role of soil bacteria – can be harmed by herbicides, anti-biotics etc.

Ammonium nitrate fertilizer

Imported high protein animal feed (soya)

Slurry from livestock

ammonia and nitrate in soil

ammonia NH_3	nitrate NO_3	nitrous oxide NO_2
air+water pollution	water pollution	greenhouse gas (300x CO_2)

Land Sparing Future

Continuation of intensive, industrialised agriculture to produce what we need on small amount of land, with novel technologies for meat substitutes, to allow other land to be restored to nature.

Problems:

- How do we just produce what we need, and not too much, as at present?
- What is to stop continued expansion of intensive livestock production to use excess grains?
- Implies continued loss of rural livelihoods and decimation of farming communities.

Regenerative Agriculture - Principles

- Limit disturbance of the soil - physical and chemical
- Keep the soil covered
  – grow cover crops or leave crop residues on the soil.
- Increase diversity
  – of crops, cover crop species, livestock, enterprises
- Integrate livestock
  – animals are always part of an ecosystem

Not easy to switch and can't do this all at once.

- most RA farmers are on a journey.
- Problems of selling smaller quantities of different types of outputs.

Cessation of farming does not always result in things improving for nature

- Loss of species rich grassland and hay meadows created by traditional livestock practices
- Growth of scrub and decline in biodiversity in Mediterranean region

Farming for Nature

Farming activities carried out to maintain or create key habitats, species, or natural processes.
Food is a by-product
Maintains some farming activities and livelihoods

Cattle of the Morecambe Bay Conservation Grazing company

For more on Regenerative Agriculture and Farming for Nature, including case studies, videos and podcasts see:

https://www.greenhousethinktank.org/a-just-transition-in-agriculture/

Thank you!

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