How can Agroecology be a solution for adaptation and healthy soils?

Side Event, SBSTA 50, Bonn, 18 June 2019

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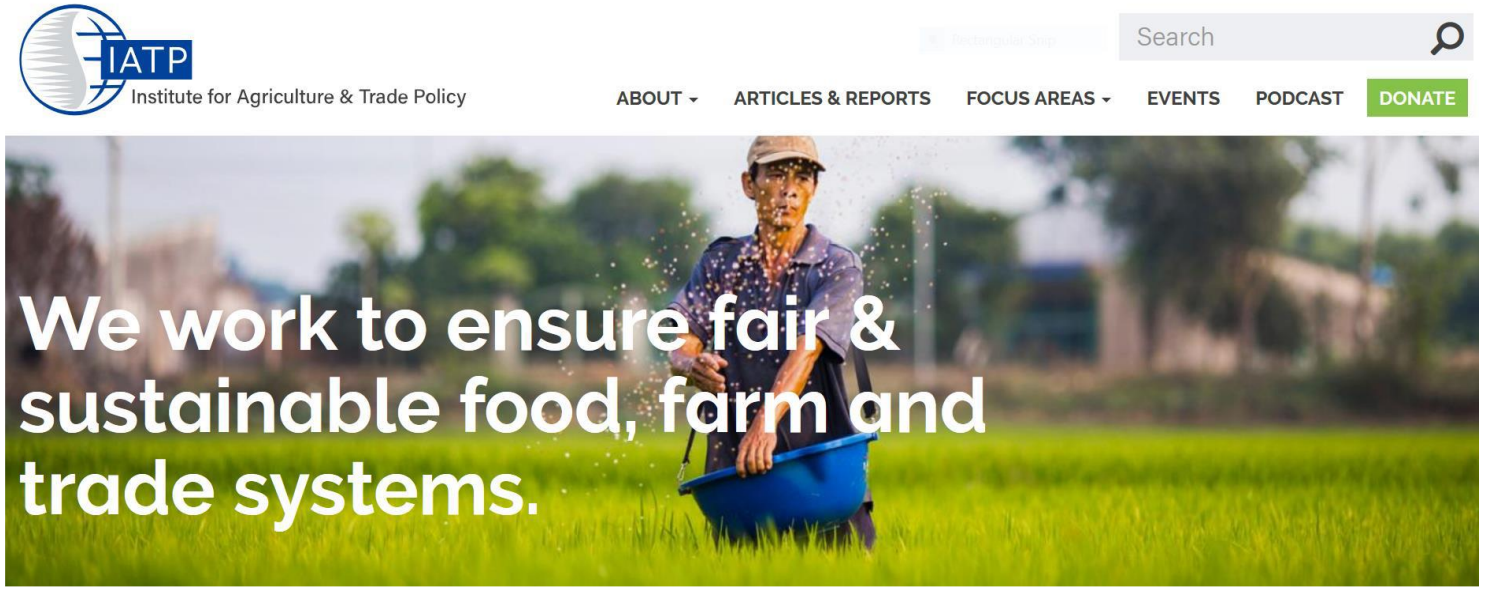
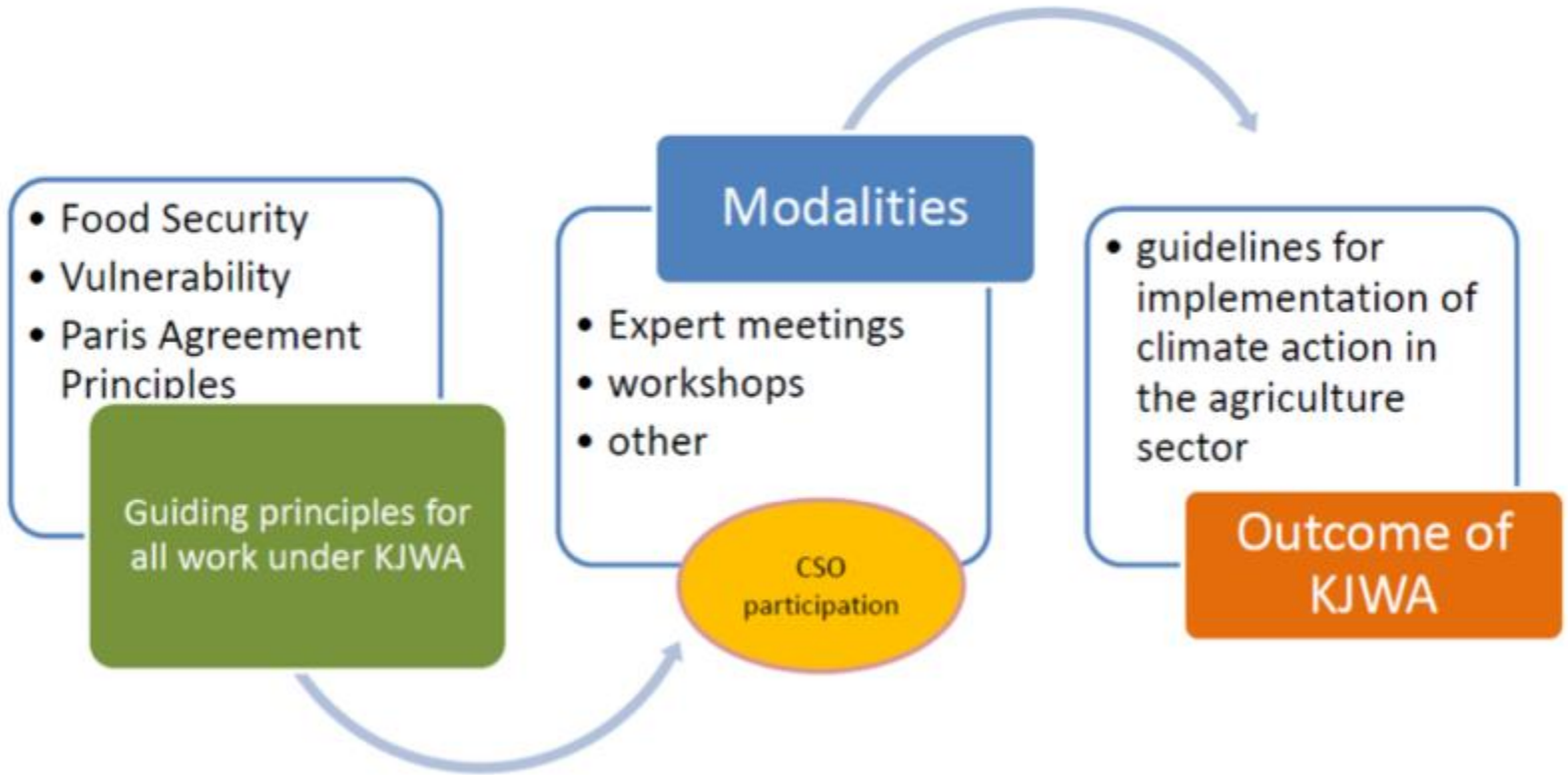


biovision

ActionAid International

Jeunes Volontaires pour l'Environnement (JVE)

- Introductions
- What is agroecology and what is its potential?
- How agroecology has transformed livelihoods and land: on the ground experience
- Why is it relevant to the UNFCCC, barriers and way forward


• Food Security
• Vulnerability
• Paris Agreement Principles
Guiding principles for all work under KJWA
Modalities
• Expert meetings
• workshops
• other
CSO participation
• guidelines for implementation of climate action in the agriculture sector
Outcome of KJWA

- **<u>Industrial agriculture's heavy climate footprint:</u>**

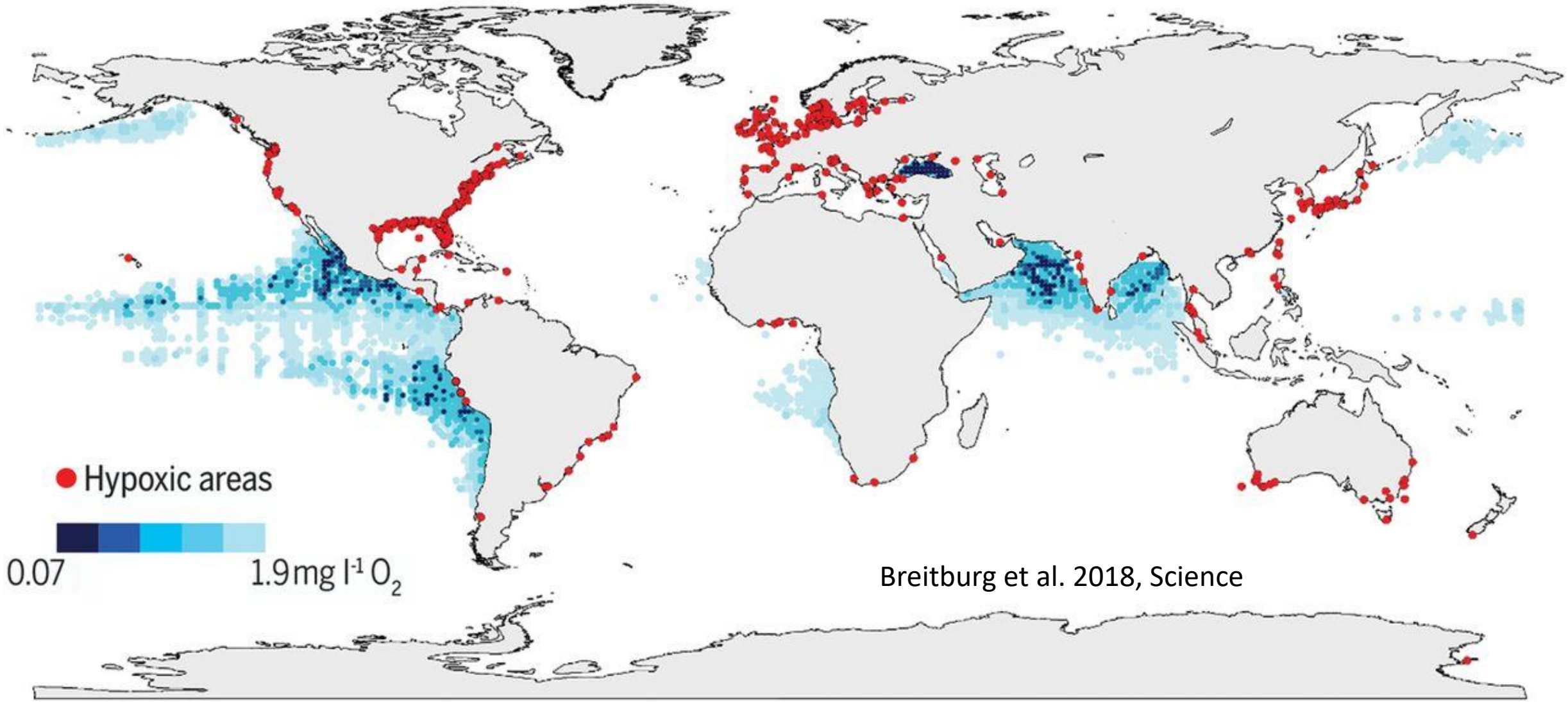
- Creation of synthetic nitrogen fertilisers is energy-intensive, burning large amounts of fossil fuels and leading to high levels of GHG emissions.

- Synthetic nitrogen fertilisers kill mycorhizzae fungi in the soil, converting stable organic matter to CO2 emissions which are released back into the atmosphere.

Gulf of Mexico “hypoxic” dead zone can cover anywhere between 15,500 sq Km—18,000 sq kilometers

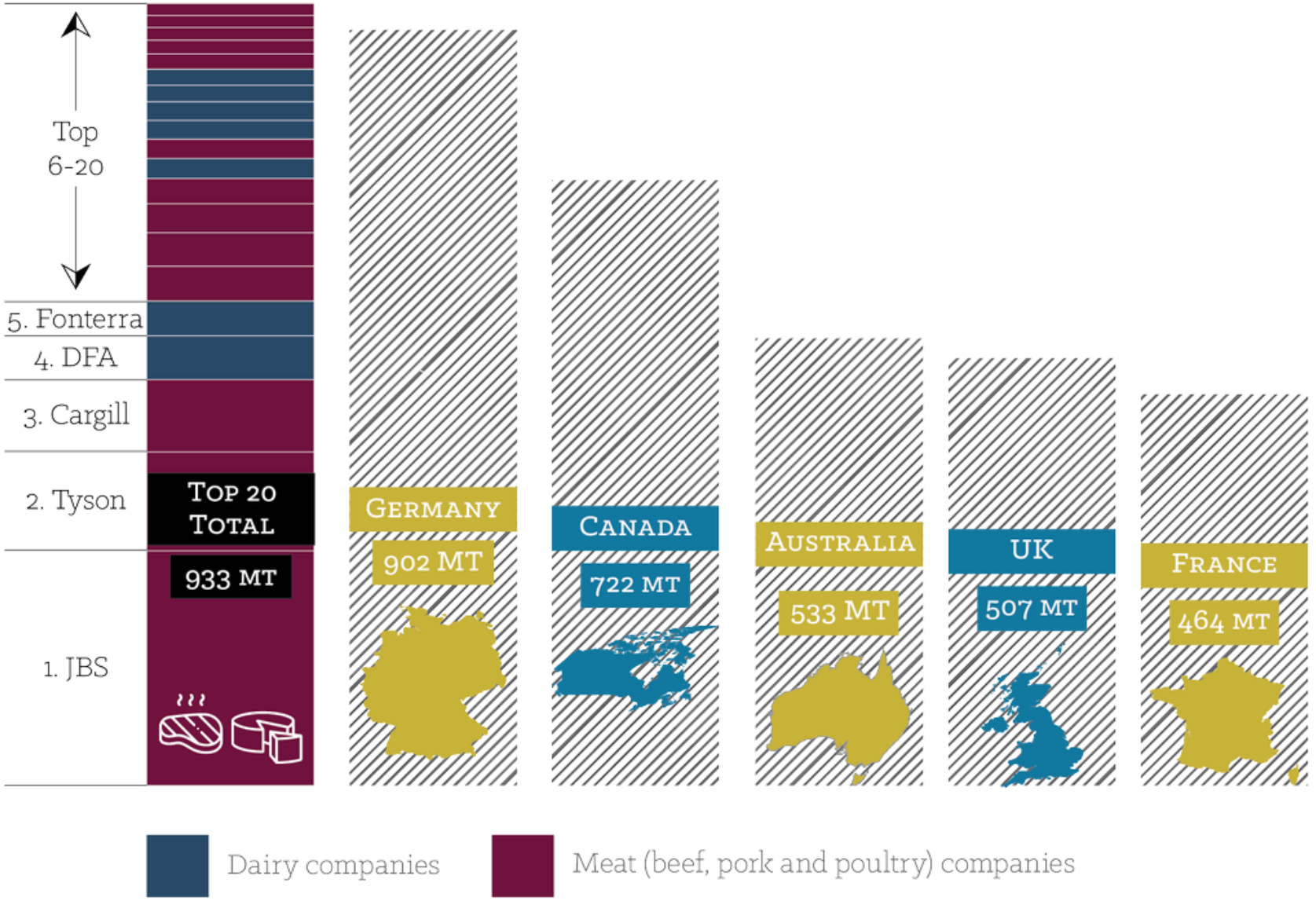
https://serc.carleton.edu/microbelife/topics/deadzone/index.html

“Climate change exacerbates oxygen decline which in turn can expand low-oxygen zones & increase production of N_2O, reduce biodiversity; alter the structure of food webs; and negatively affect food security and livelihoods.”



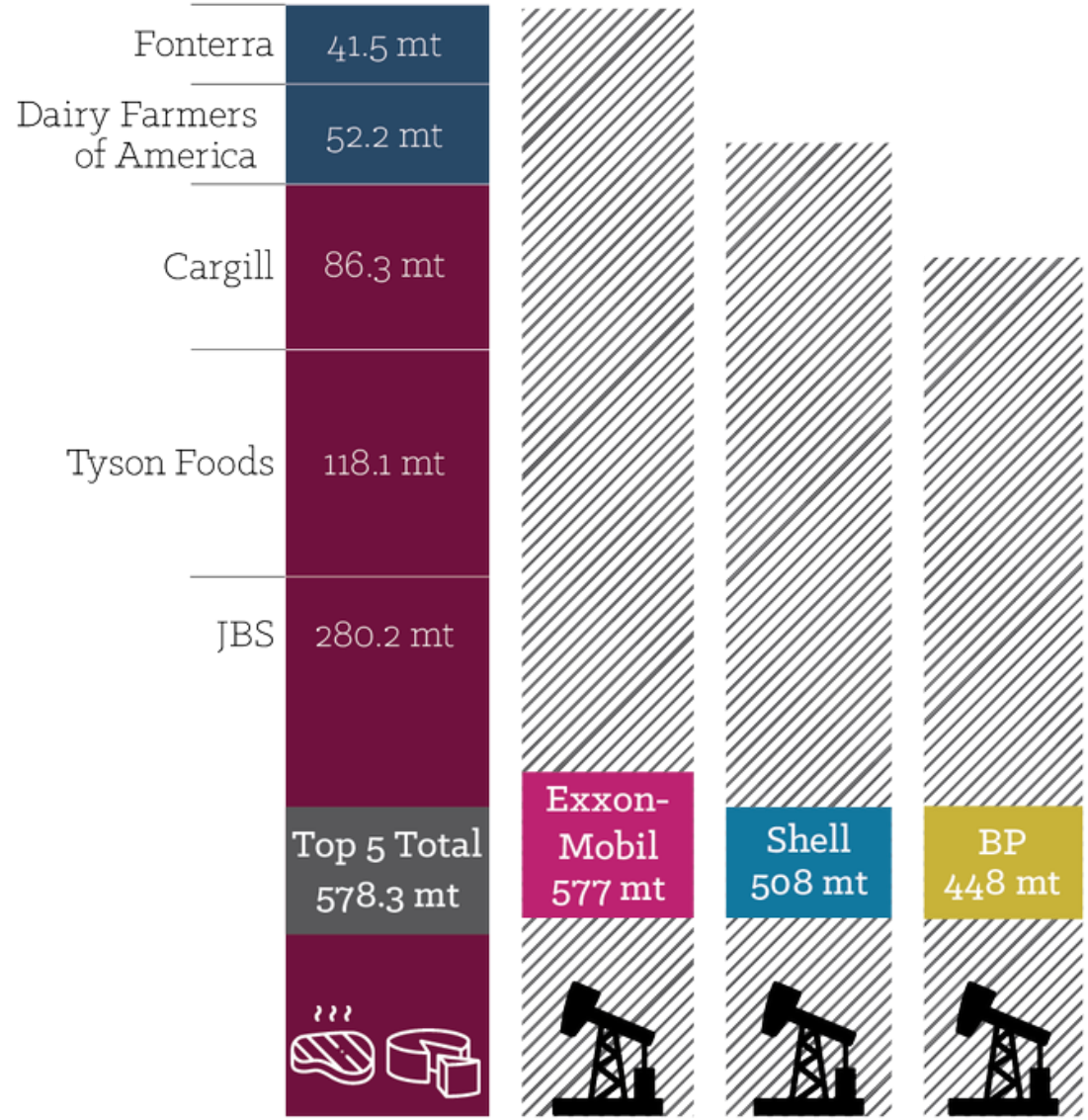
Breitburg et al. 2018, Science

FIGURE 5: The top 20 meat and dairy companies combined emit more greenhouse gases than Germany, Canada, Australia, the UK or France



Emissions Impossible, GRAIN & IATP 2018

FIGURE 4: The top 5 meat and dairy companies combined emit more greenhouse gases than ExxonMobil, Shell or BP



Policies for meeting the 1.5 and food security challenges

- Implement the Paris Agreement through agroecology: reduces GHG emissions from agriculture and ensures food security. Needed link between NDC implementation and the agroecology transition.
- Securing land rights as a cornerstone for climate action
- Linking food systems to territories (local economic development, short circuits, protecting smallholders networks from international trade, adopting a territorial and holistic approach)
- Transforming governance (rights-based and participatory approach, traditional knowledges)
- Remodelling indicators (stop measuring only production but include social, environmental, participatory/political, local economy indicators for local populations).

Barriers to the Agroecology transition

- To move in the direction of agroecology, needed transformational approach (and not reformative one).
- What are the barriers to the development of agroecology?

  - Perception of agroecology as uncompetitive (even though research shows us the contrary)
  - Trade and investment policies encourage large-scale industrial industry
  - Climate policies can be a threat (Climate Smart Agriculture, land grabs linked to BECCS, the ‘zero net’ emission goal, …)
  - Insecure land tenure when agroecology is a lengthy process which requires secures access to land.

Agroecology & Adaptation

- Extremely effective for adaptation, esp. smallholder farmers.
- works with nature, increases biodiversity, avoids harmful agro-chemicals that impact the environment and human health.
- Agroecological approaches increase climate resilience: stable yields, livelihoods, improve environment, for smallholder farmers in the face of climate change.

Marse, Nepal: Nirmaia and Lalmaia found their farms became more resilient to climate impacts after they adopted agroecological techniques.

Credit: Teresa Anderson/ ACTIONAID

- Safety net for women small holders
- Prevents soil degradation, improves soil health
- Soil organic matter, moisture retention in low rainfall

Sinthian, Senegal
This farmer trialed agroecology in one field of groundnuts. That year the rains came late. The agroecological groundnuts produced much higher yields.

Credit: Teresa Anderson/ ACTIONAID

Agroecology & Mitigation

Agroecology helps reduce GHGs by avoiding synthetic fertilisers. (Avoided GHGs from production & application of fertilisers, both methane and nitrous oxide, potent GHGs.)

Compost, manures & mulches improve soil nutrients, biota and health while adding soil organic matter. (Sequestering carbon).

Jatiluweh, Indonesia

Credit: Teresa Anderson/

- **<u>Challenge of Monitoring, Reporting & Verification (MRV) of soil carbon</u>**

- Carbon content in soil varies every metre. Cannot measure every square metre of farmland.

- Often “proxy” numbers are used – creating high levels of uncertainty

- soil carbon is at risk of reversal back to atmospheric CO2 tomorrow, if ploughed, treated with chemical fertilisers, or if there is drought, storms or other land use change

Kisumu, Kenya

Credit: Teresa Anderson

Elusive Promises of the Kenya Agricultural Carbon Project

https://www.iatp.org/sites/default/files/2011_09_09_KenyaAgCarbonProject_SS.pdf

Missing Pathways to 1.5°C

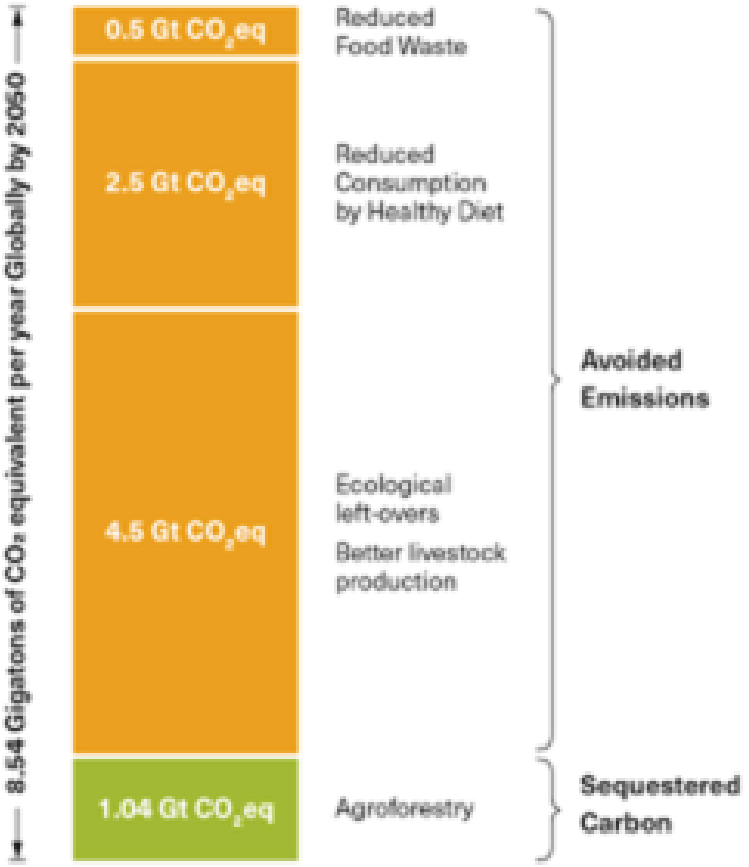
The role of the land sector in ambitious climate action

Climate ambition that safeguards land rights, biodiversity and food sovereignty

CLARA
Climate Land Ambition and Rights Alliance

Mitigation Potential Across All Agricultural Pathways

The potential for avoided emissions by better production, less consumption and reduced waste of food and agricultural products is significant. At the same time, agroecological practices such as agroforestry can increase carbon stocks.



Calculations and assumptions can be found in the supplementary table, available here: www.ClimateLandAmbitionRightsAlliance.org/report

Conclusion

Time for international and national policies to incentivise **Agroecology** for:

- **Adaptation**
- **Avoided Emissions** that are otherwise generated from industrial agriculture
- **No Offsets! Incentivize agroecology through other means including proper state support; stop subsidizing highly emitting industrial agriculture**

Carbon sequestration is co-benefit to soil health!

Should not be traded to let real producers off the hook. **Industrial agriculture must be held responsible for reducing its GHGs.**