

Food and Farming to combat climate change

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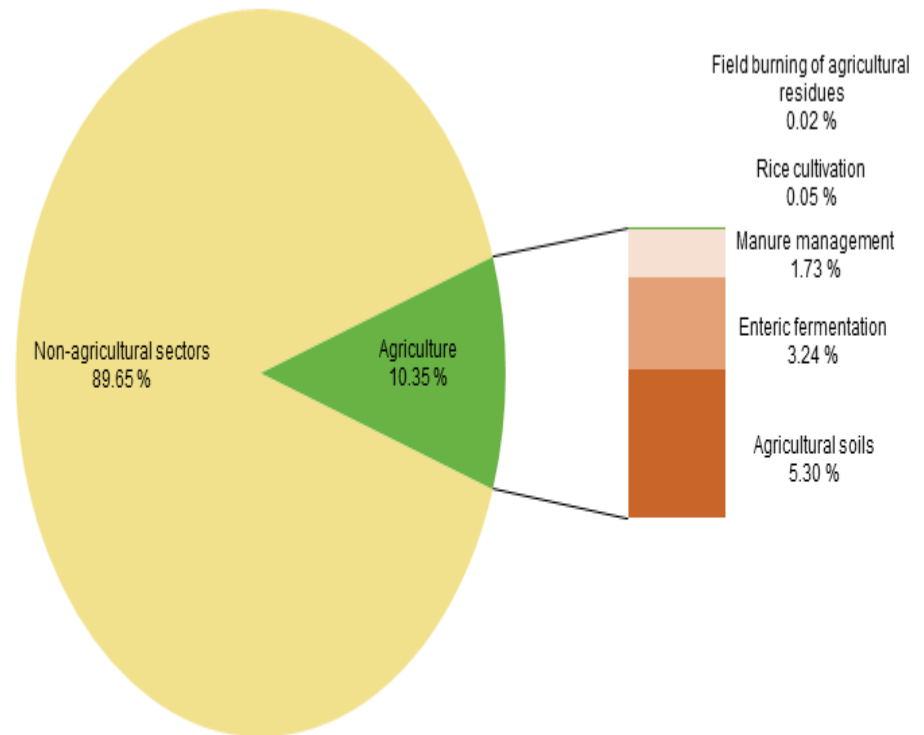
Winston Churchill Fellow 2017

Cow Hall

The problem

- Agriculture in the UK is responsible for 9% of Greenhouse Gas emissions
- World wide, including land use change and forest felling agriculture is 30%, 2nd largest
- Carbon dioxide (CO²): Fertilisers, livestock, soil, fuel
- Methane (30 x CO²): ruminants
- Nitrous oxide (300 X CO²): fertiliser, manure, soil

Emissions



(*) Land use, land use change and Forestry (LULUCF) net removals are not included in total greenhouse gas emissions. Emissions from agricultural transport and energy use are not included in agriculture emissions, as these sectors are not defined as part of the agriculture sector by the current IPCC reporting guidelines.

Farm Strategies to combat climate change

Energy	Reduce farm energy use	
	Reduce off farm embodied energy	
	Energy generation	
GHG Emissions (Carbon dioxide, methane, nitrous oxide)	Reduce farm emissions	
	Reduce off farm embodied emissions	
Carbon sequestration (storage)	Eliminate carbon loss in the farm supply chain	
	Increase farm sequestration	

Technological solutions

- Farm GHG monitoring and benchmarking
- Technological “efficiency” of cropping and livestock management
- Appropriate and well maintained machinery
- Fuel efficiency and green fuels
- Farm energy generation
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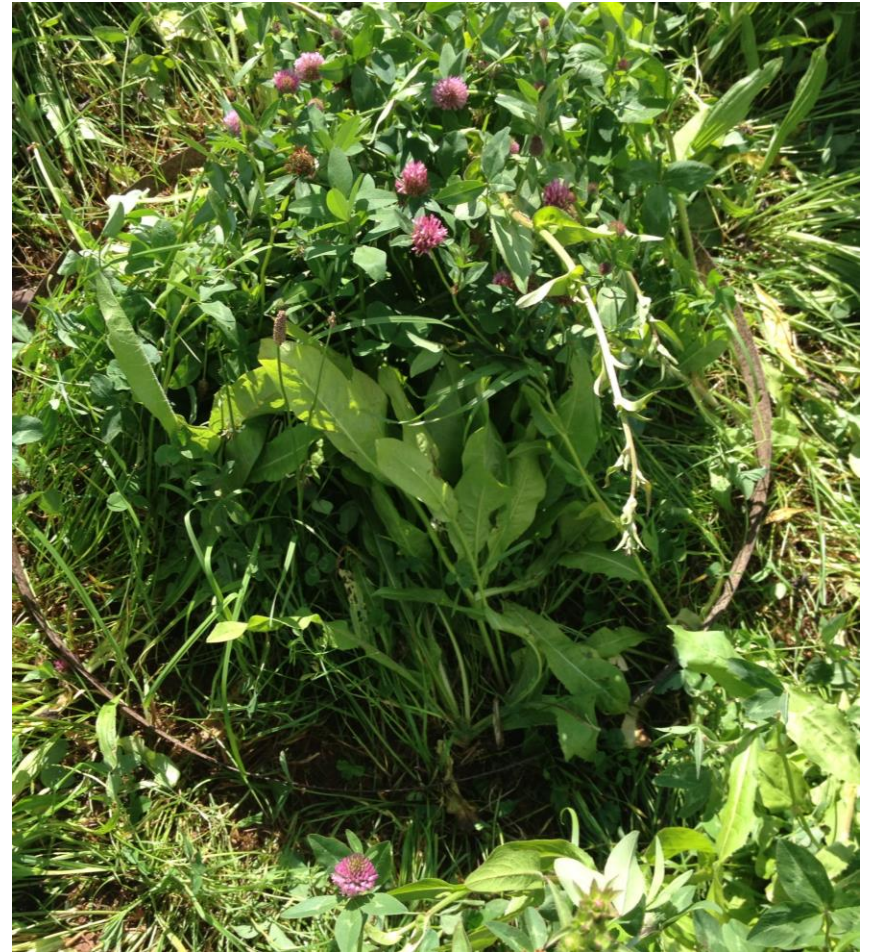


Soil



Soil health

- Reduce or eliminate N fertiliser
- Supply N with legumes
- Soil analysis: where necessary use lime and rock fertilisers
- Ensure leys and/or Green manures in rotation
- Reduce cultivations
- Minimize or eliminate pesticides
- Use manure
- Maintain soil organic matter levels
- Trees and shelter
- Improve soil biological activity
- Effect on soil structure, biology and productivity



Manure management

- Recycling
- Use of animal manure and off farm waste
- Storage to minimize emissions
- Manage manure appropriately – compost if necessary
- Appropriate application timing, crop, rates and machinery



Animals

- Ruminants should be principally grass fed
- Prohibition of feed grain grown from cultivated grasslands and forest
- More extensive pig and poultry production to avoid anti-microbial resistance and manure recycling and emissions issues
- People want to eat meat – they will need to eat less red and white meat, from better production methods



What do we need to bring this about?

- Change to agro-ecological and organic farming systems:
 - National and local Policy
 - Research and development
 - Farm incentives and support
 - Public procurement
 - Local supply and distribution chains
 - **You – to demand the food it produces !**



References

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