

Emissions and sinks of greenhouse gases on farms

Ana Marta Paz - EIP-AGRI Service Point



24-25 March 2021
EIP-AGRI Workshop "Towards carbon neutral agriculture"

What is C neutral agriculture?



Emissions

- Enteric fermentation (CH_4)
- Manure management (CH_4 , N_2O)
- Soil (N application) (N_2O)
- Energy and other inputs (CO_2)
- Land use and land use changes (CO_2)

Sinks

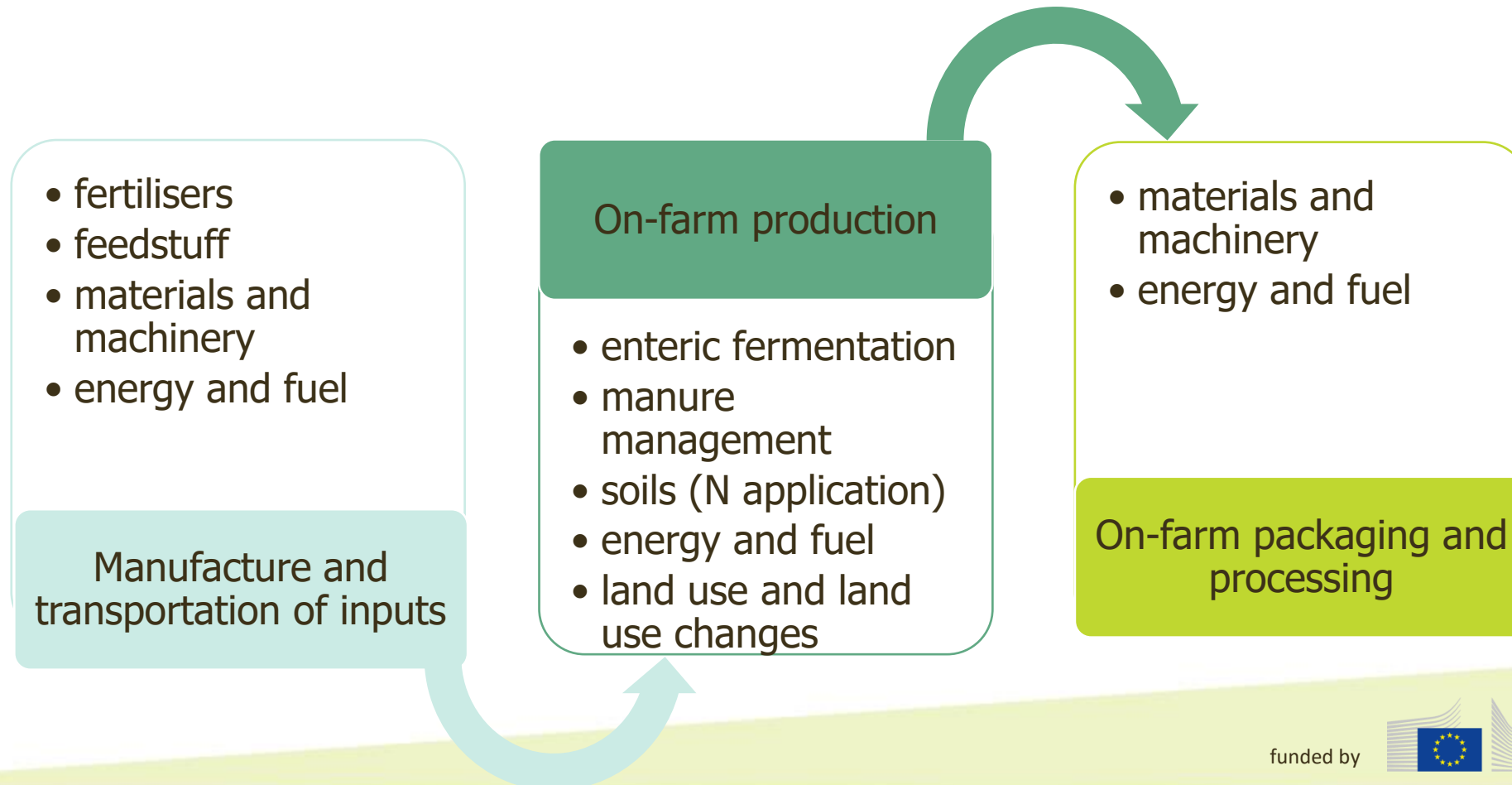
- Land use and land use changes (CO_2)



**Net zero
emissions**
 **CO_2
equivalents**

What is included in C neutral agriculture?

The life-cycle perspective includes all emissions and sinks related to the farm:



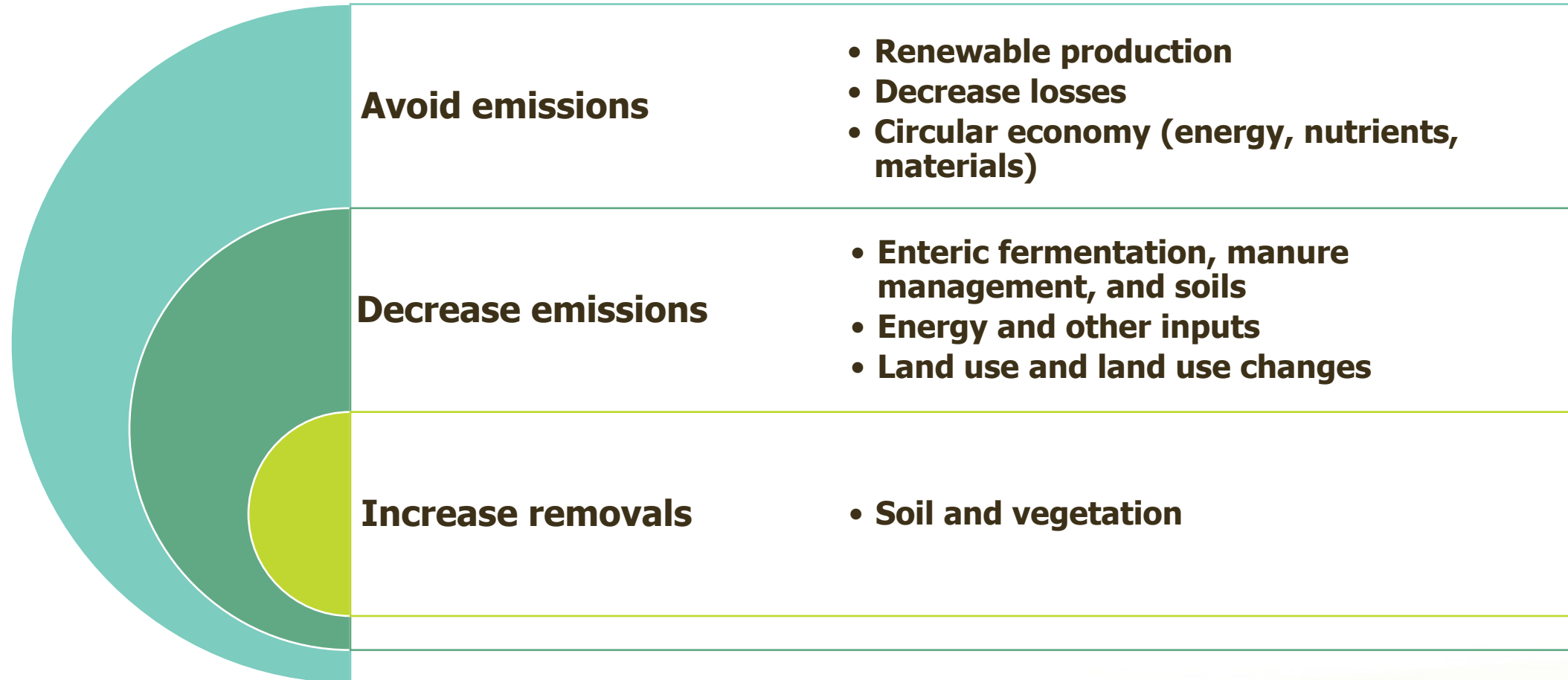
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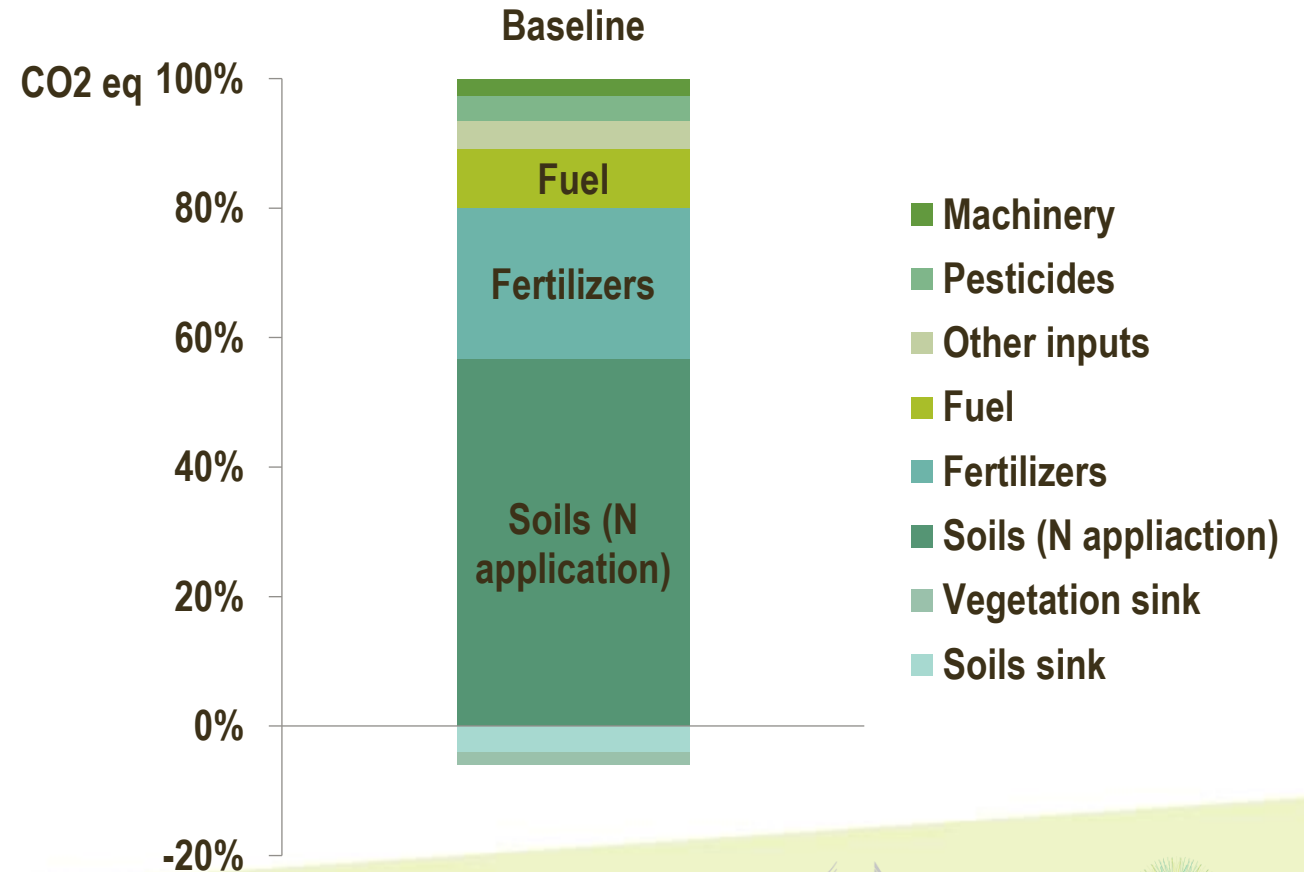
Steps towards C neutrality?



What can it look like at farm level?

Annual crops farm:

- 180 ha conventional farm (France)
- rainfed cereals, protein and oil crops



Case study adapted from Life *AgriClimateChange*

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What can it look like at farm level?

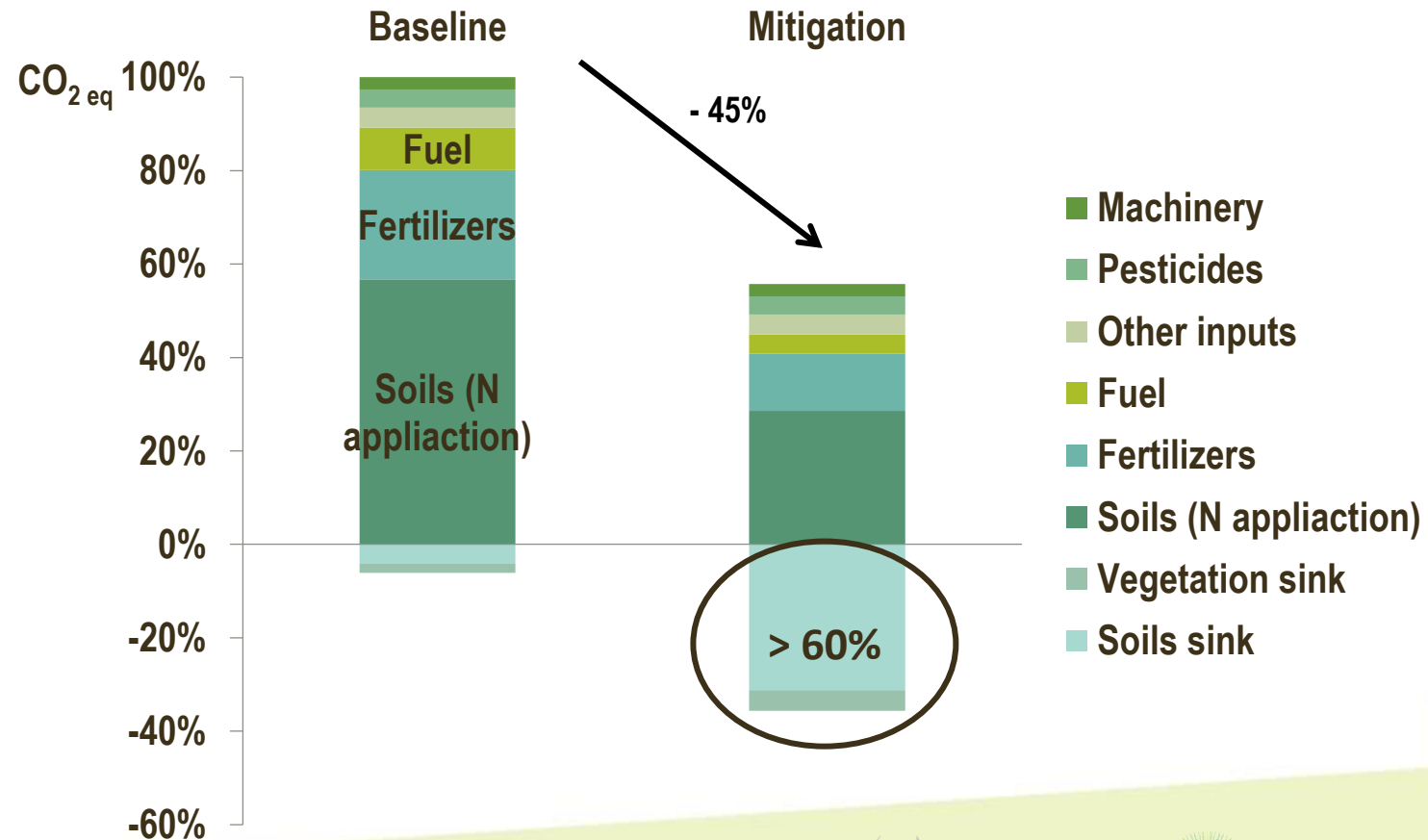
Mitigation measures:

Emissions decreased 45% by:

- optimised fertilisation
- leguminous crops and cover crops
- direct seeding

Sinks increased to offset >60% emissions by:

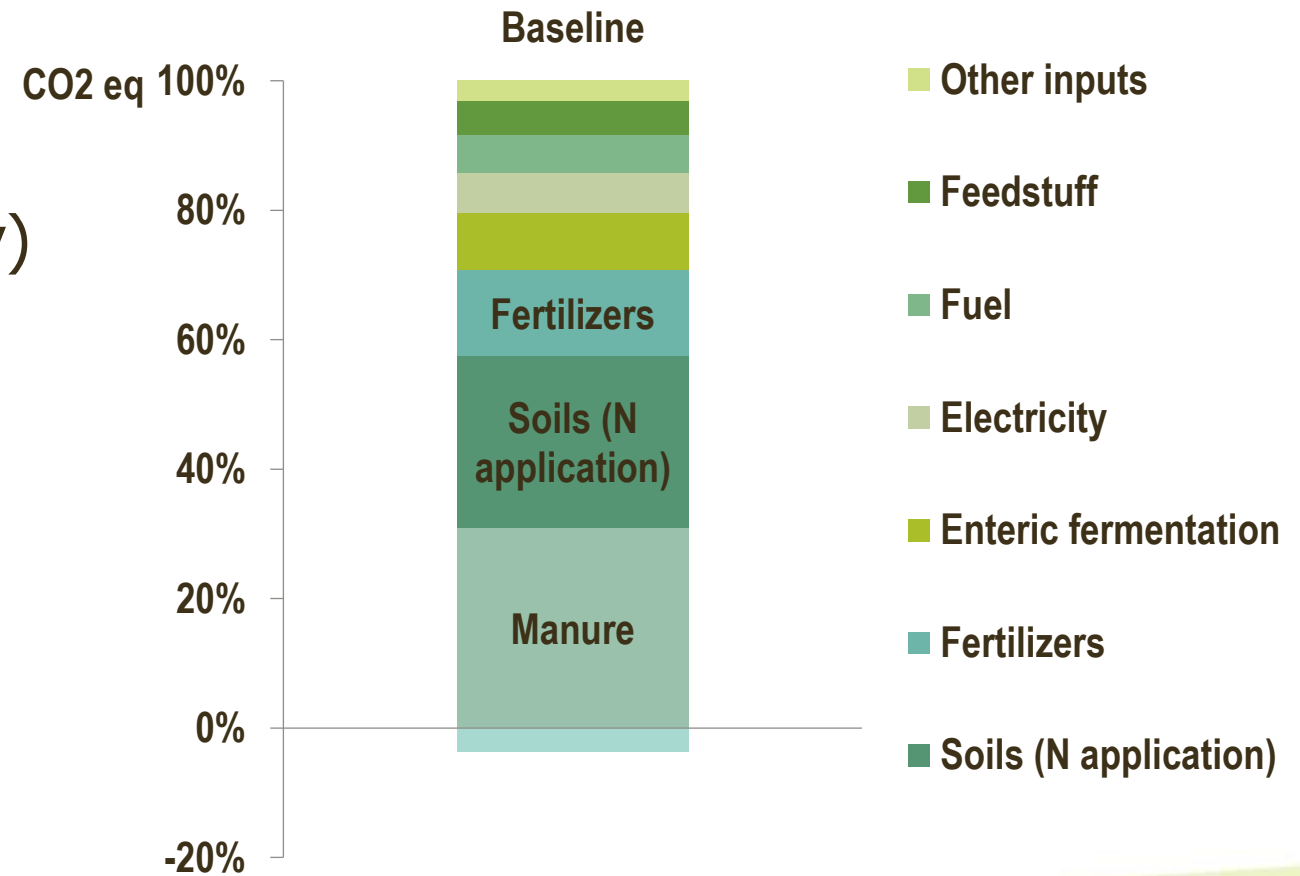
- direct seeding
- cover crops
- hedges, agroforestry (10ha)



What can it look like at farm level?

Dairy farm:

- conventional farm with 50 cows and offspring (Germany)
- 44 ha permanent grasslands
- 30 ha of maize silage

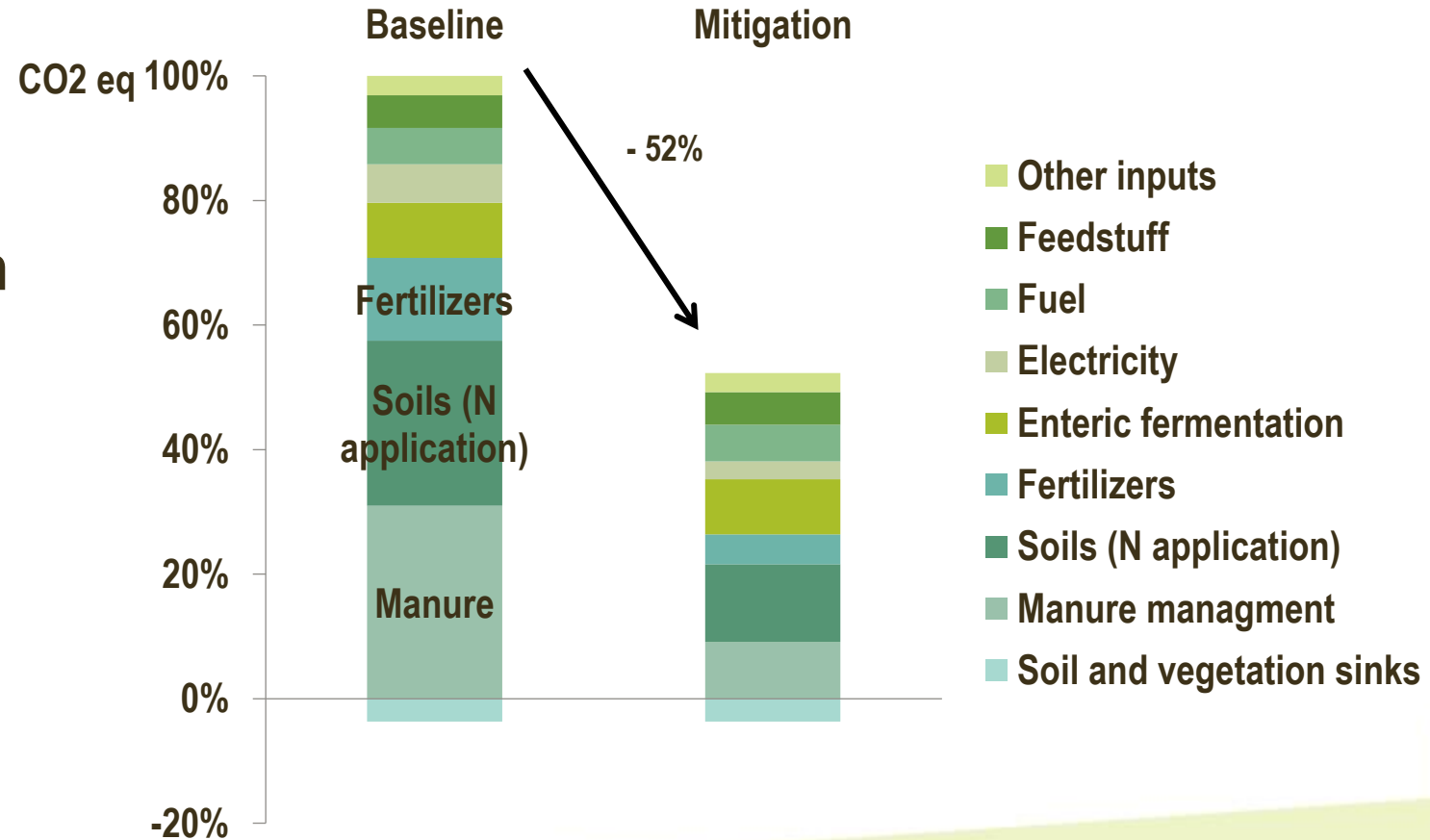


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What can it look like at farm level?

Mitigation measures

- biogas plant – degrades manure into methane that is used for electricity production on farm.
- decreases emissions from manure and electricity.
- the solid fraction of the digestion is used as fertilizer, reducing the emissions from soils and fertilizers.



Case study adapted from Life *AgriClimateChange*

Thank you for your attention!

**There will be questions and answers
after the next speakers.**



EIP-AGRI workshop

Towards carbon neutral agriculture

Online 24-25 March 2021

All information about the workshop available on

www.eip-agri.eu

on the event webpage

<https://ec.europa.eu/eip/agriculture/en/event/eip-agri-workshop-%E2%80%98towards-carbon-neutral>



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