

Carbon footprints result from livestock production in Poland based on NPC tools from CCCFarming project - limitations and perspectives

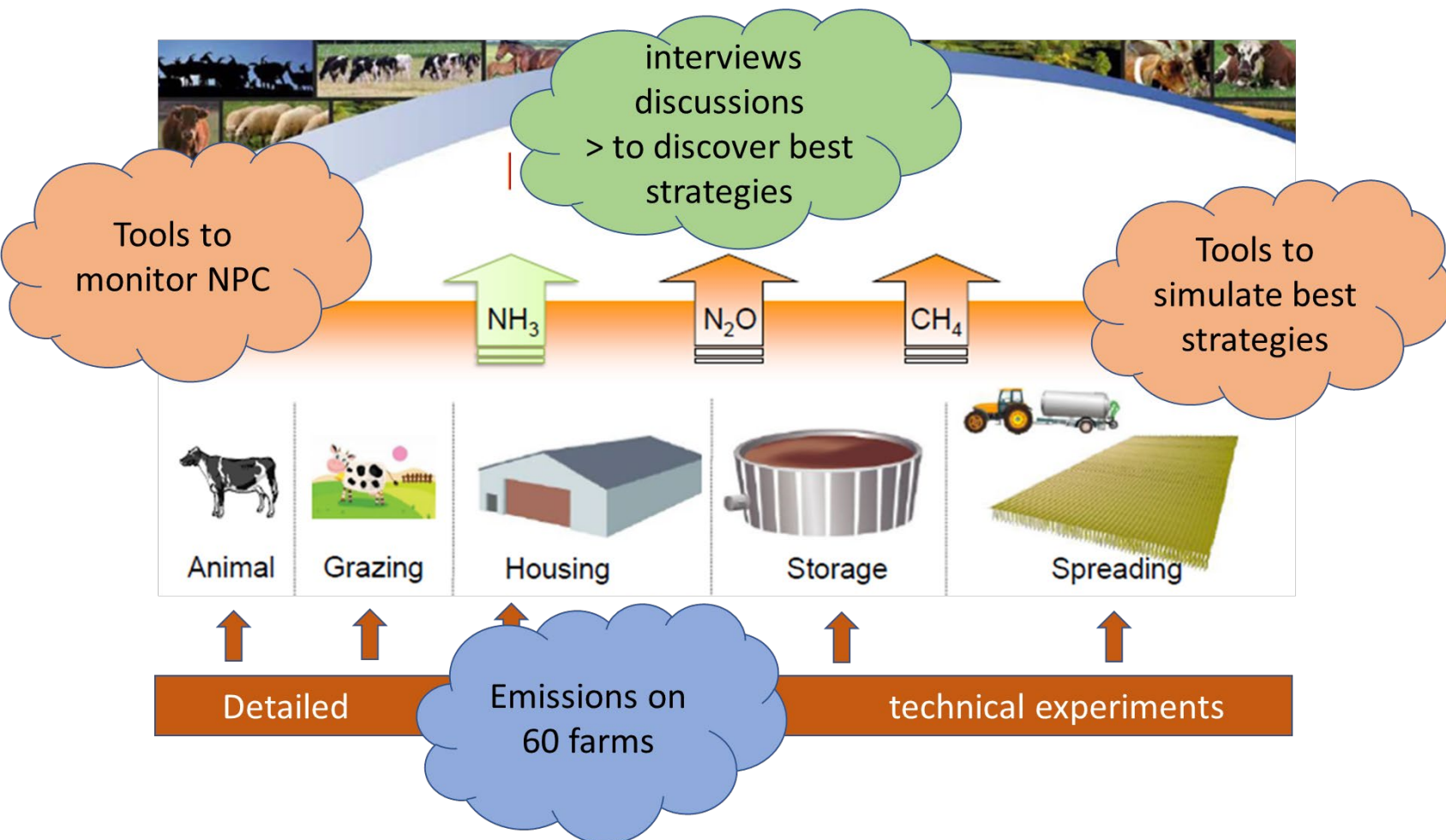
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1 January 2021 - 31 December 2023

CLIMATE CARE CATTLE FARMING



Countries:

- Netherlands
- Italy
- Latvia
- Germany
- Poland
- Lithuania
- United Kingdom
- France



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NPC tools

Annual Nutrient Cycling Assessment (ANCA)



PL1SZEM

brief characteristics

FARM SYSTEM: conventional

TOTAL LAND: 64 ha

TOTAL NUMBER OF ANIMALS: 177

NO of DAIRY COWS: 54

MEAN HERD MILK PRODUCTION: 9500 kg/year

DOMINANT BREEDS: 95 % of HF, 5 % HF cross-breeds with Jersey or Red Swedish



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PL5PAR

brief characteristics

FARM SYSTEM: conventional

TOTAL LAND: 25 ha

TOTAL NUMBER OF ANIMALS: 24

NO of DAIRY COWS: 10

MEAN HERD MILK PRODUCTION: 5600 kg/year

DOMINANT BREEDS: 50 % HF, 50 % Charolaise

ADDITIONAL INFORMATION: The farmer rears
inconsiderable number of pigs (<10 heads)



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PL8JUCH

brief characteristics

FARM SYSTEM: organic/ecologic
TOTAL LAND: 1560 ha
TOTAL NUMBER OF ANIMALS: 617
NO of DAIRY COWS: 360
MEAN HERD MILK PRODUCTION: 5600 kg/year
DOMINANT BREEDS: 70 % HF, 30 % Swiss Brown



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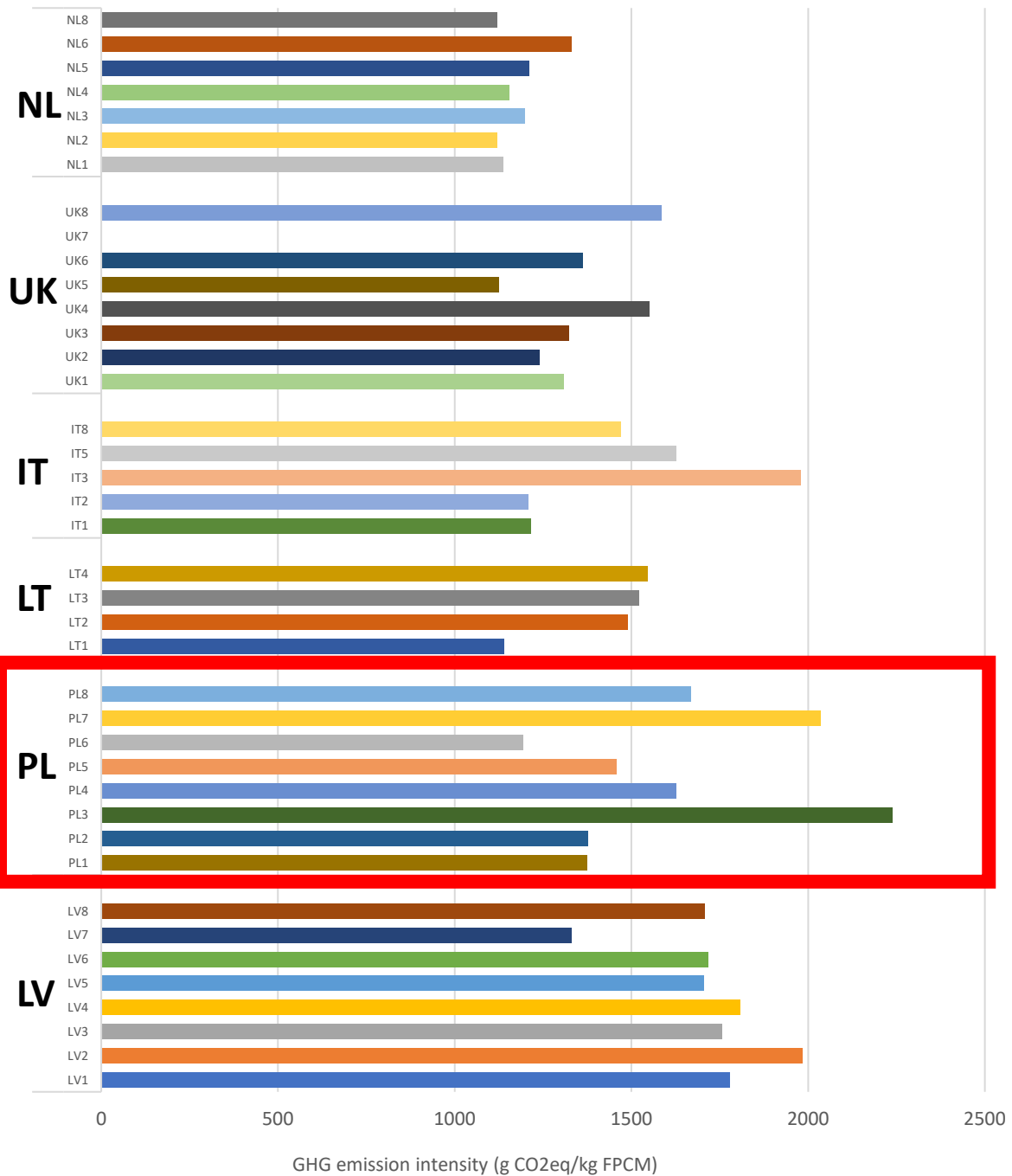
General overview of the 8 farms used for the calculations

	MEAN	<min.; max.>
TOTAL LAND (ha)	749	<28; 2428>
TOTAL NUMBER OF ANIMALS	656	<24; 2600>
NO of DAIRY COWS	307	<10; 1437>
MEAN HERD MILK PRODUCTION (kg/year)	9871	<5600; 15000>

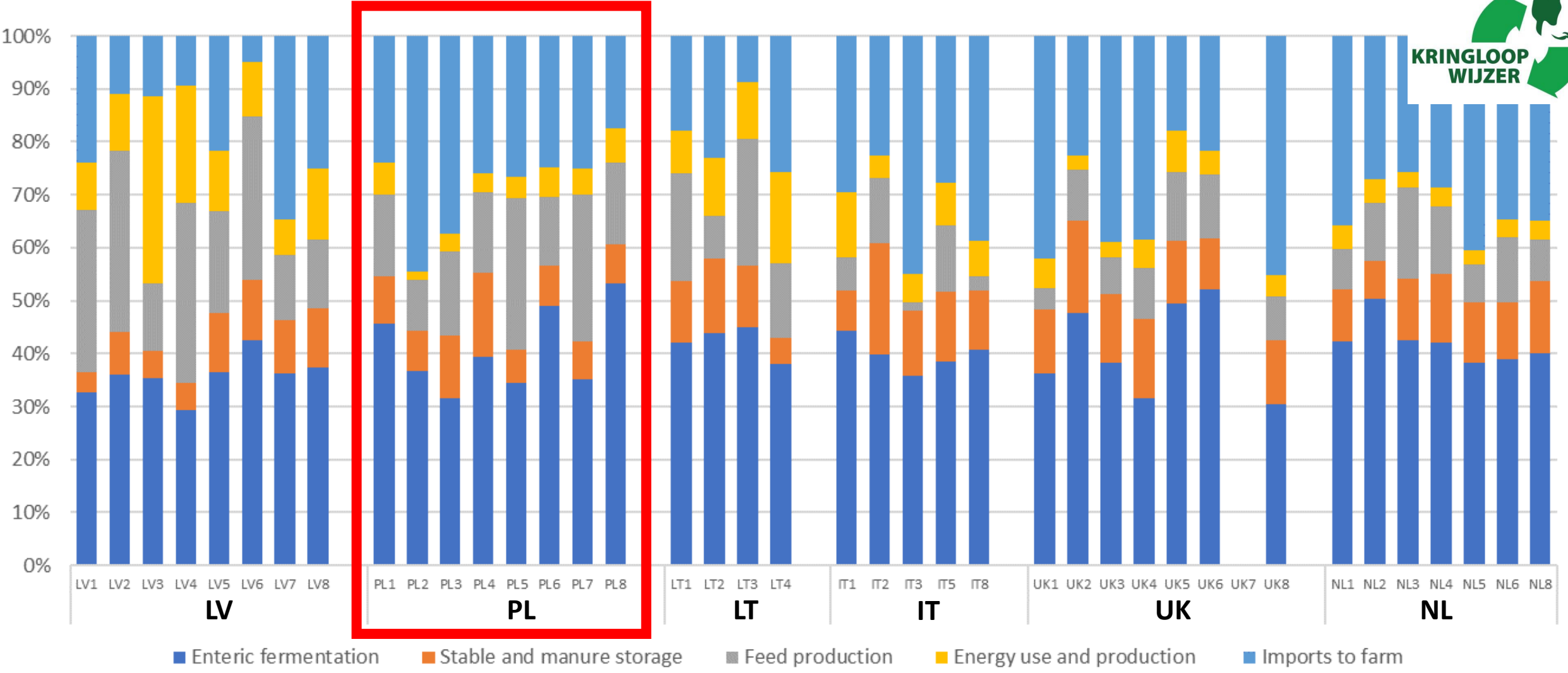


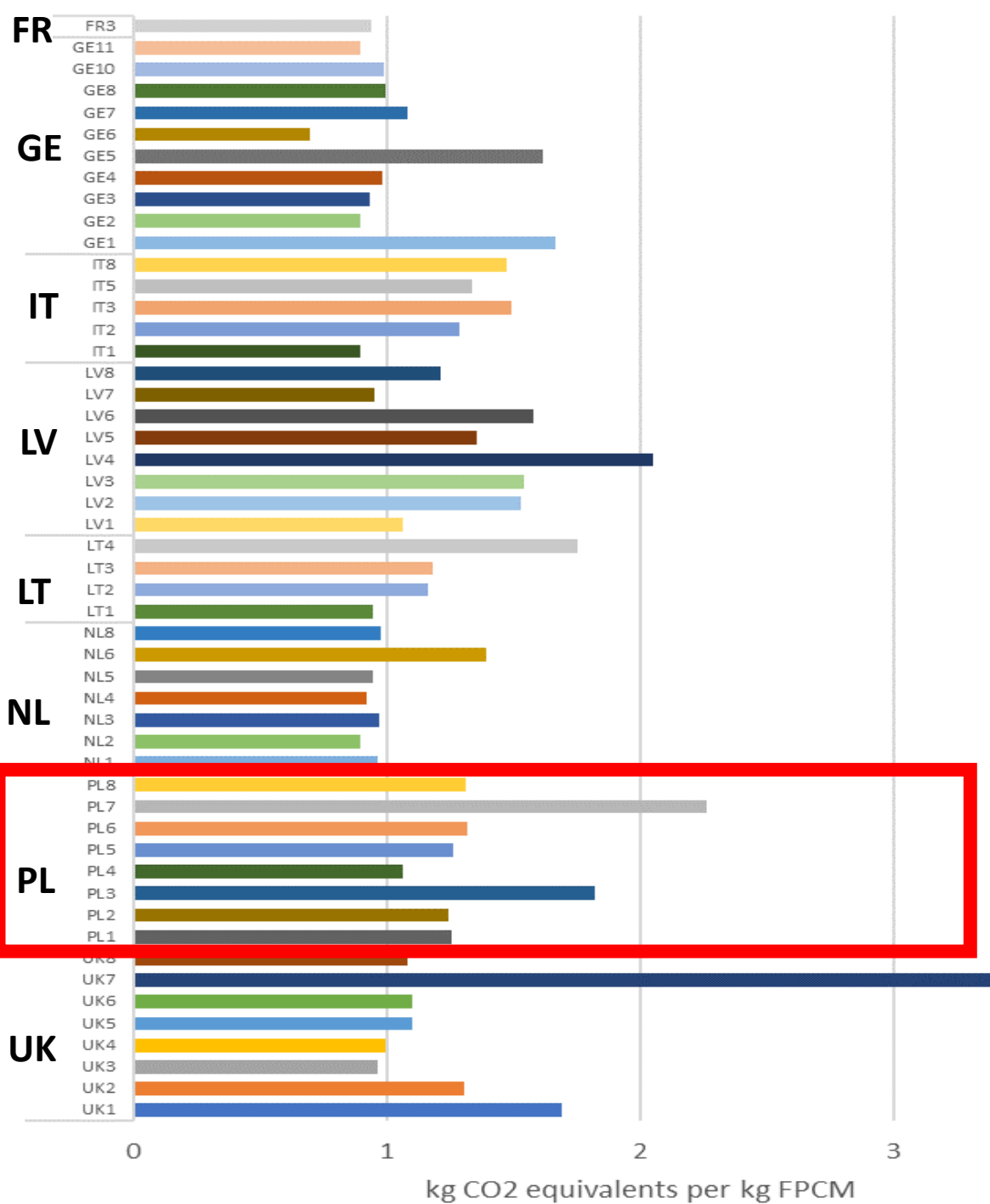
Results





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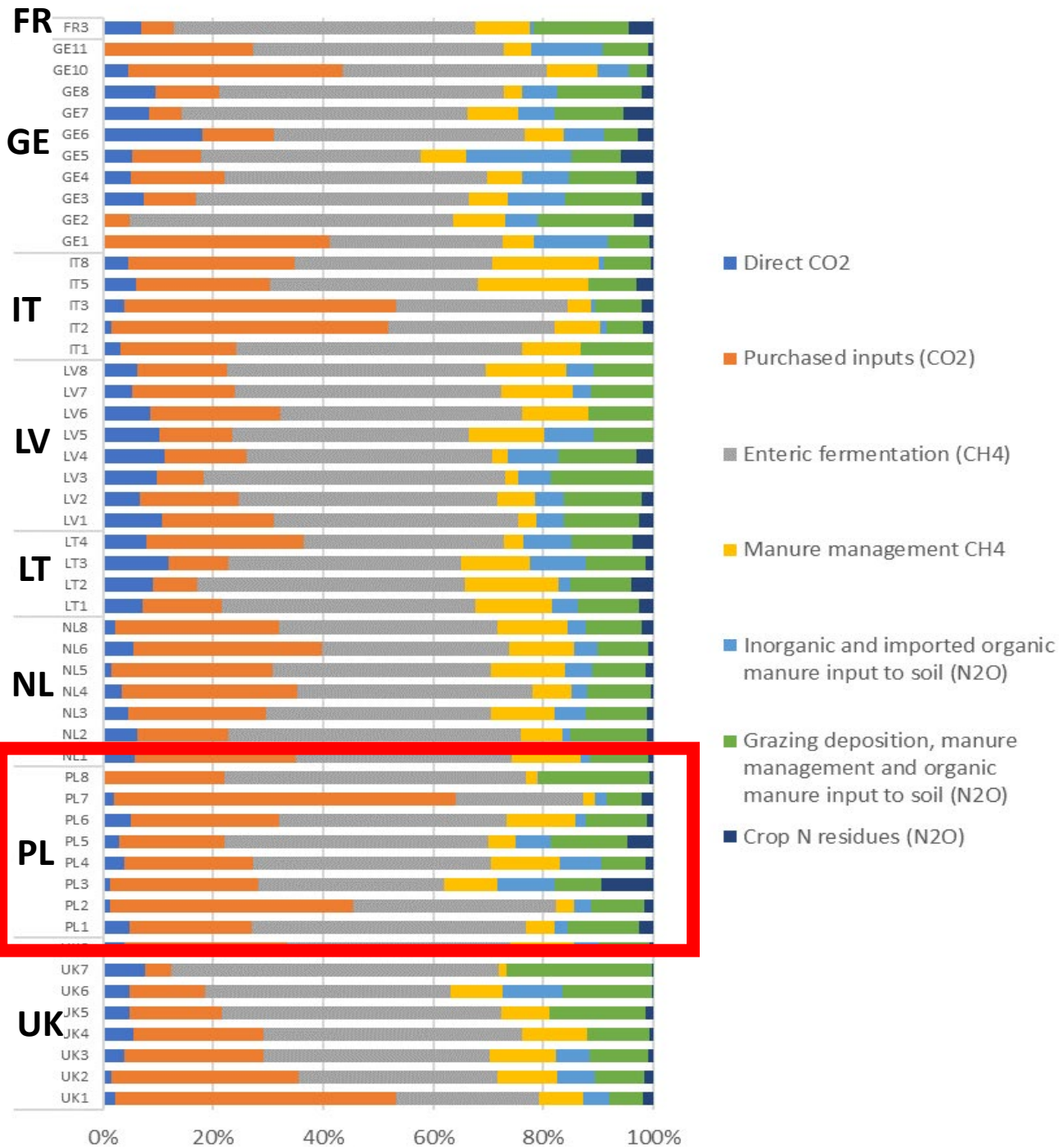




agrecalc



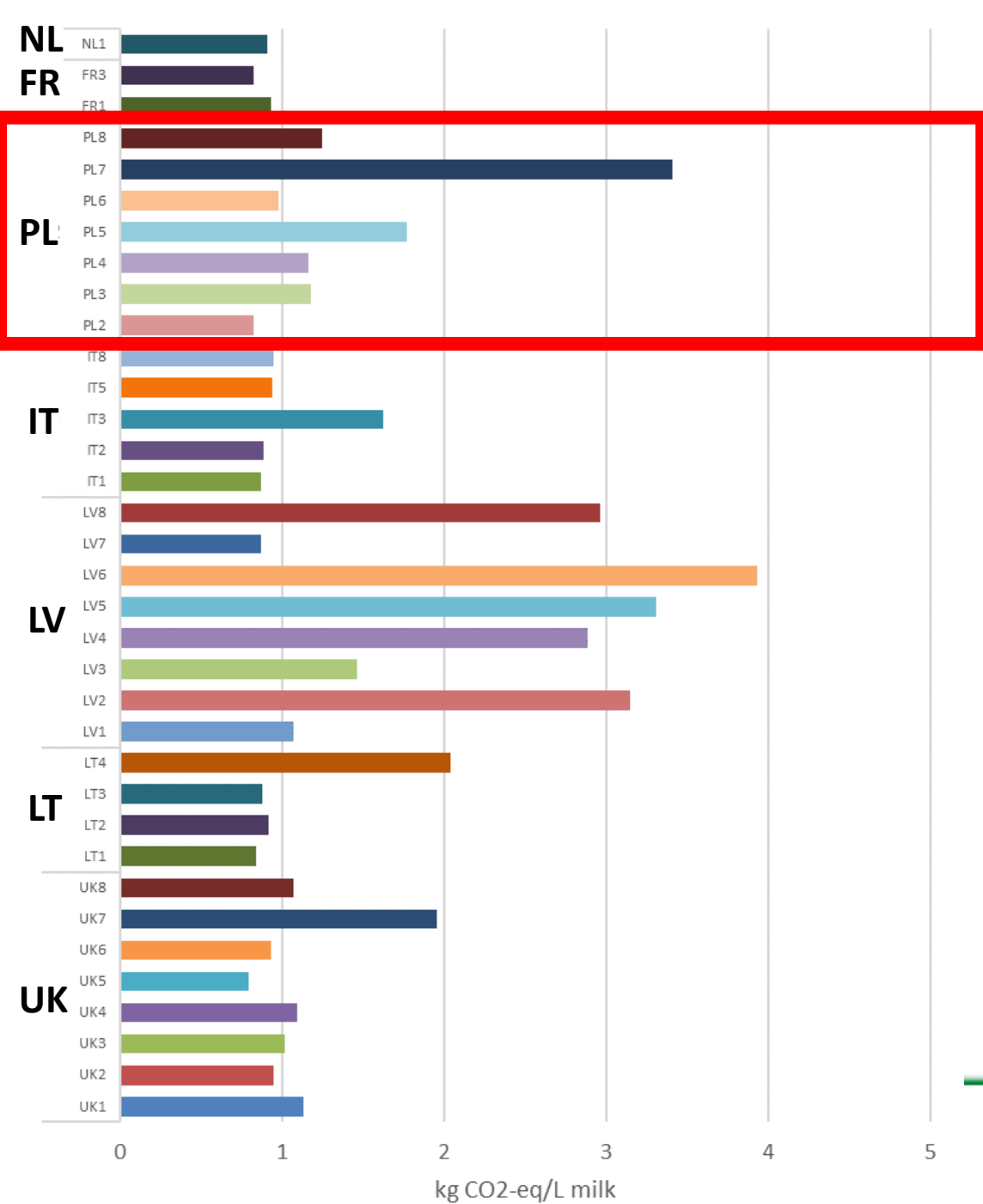
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agrecalc



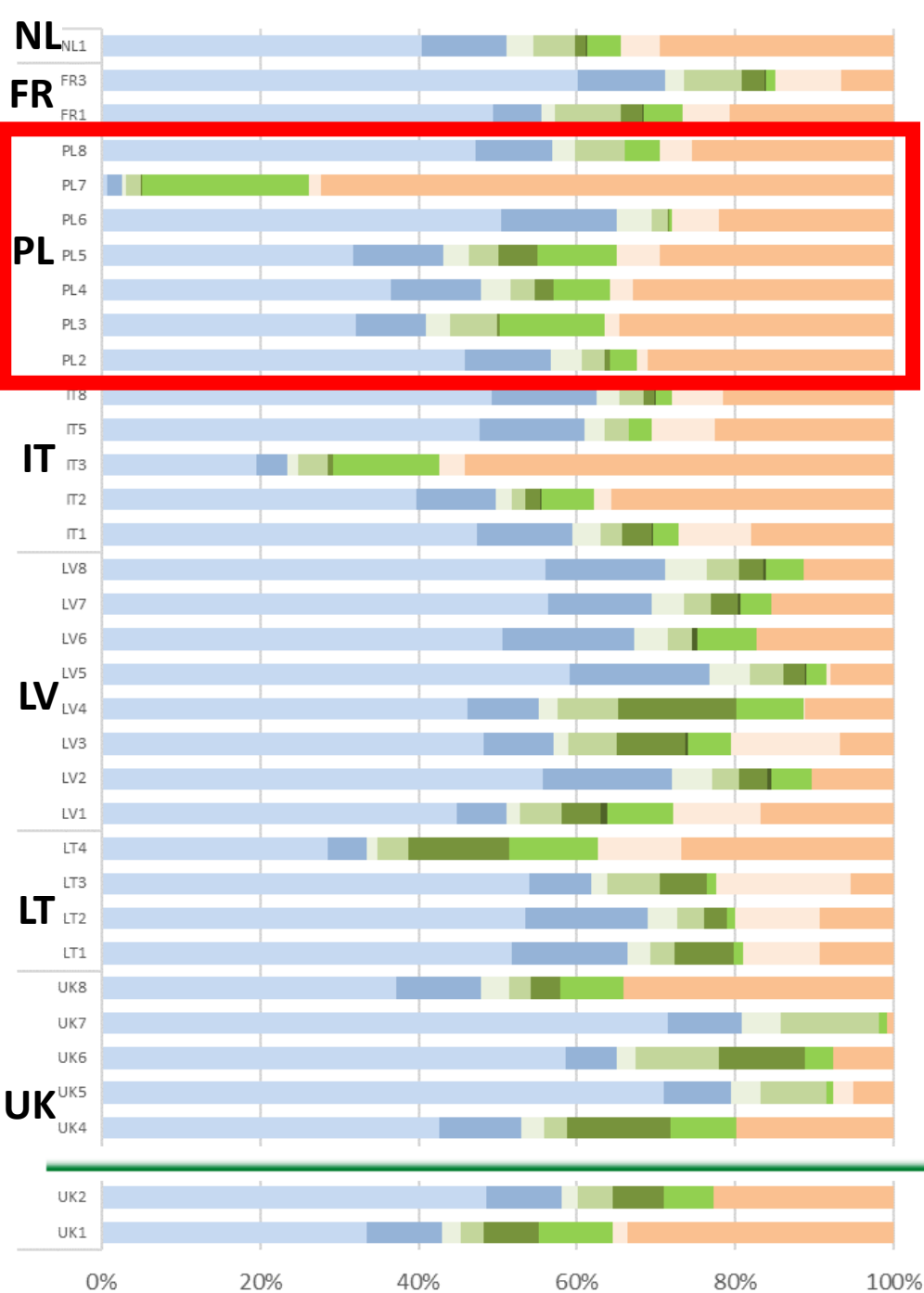
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CAP'2ER[®]



1 January 2021 - 31 December 2023



- CH4 Enteric
- CH4 manure
- N2O barn and storage
- N2O organic manure spreading and grazing
- N2O mineral fertilizer spreading
- N2O Crop residues, tillage
- N2O Indirect
- Direct CO2
- Indirect CO2

CAP'2ER®



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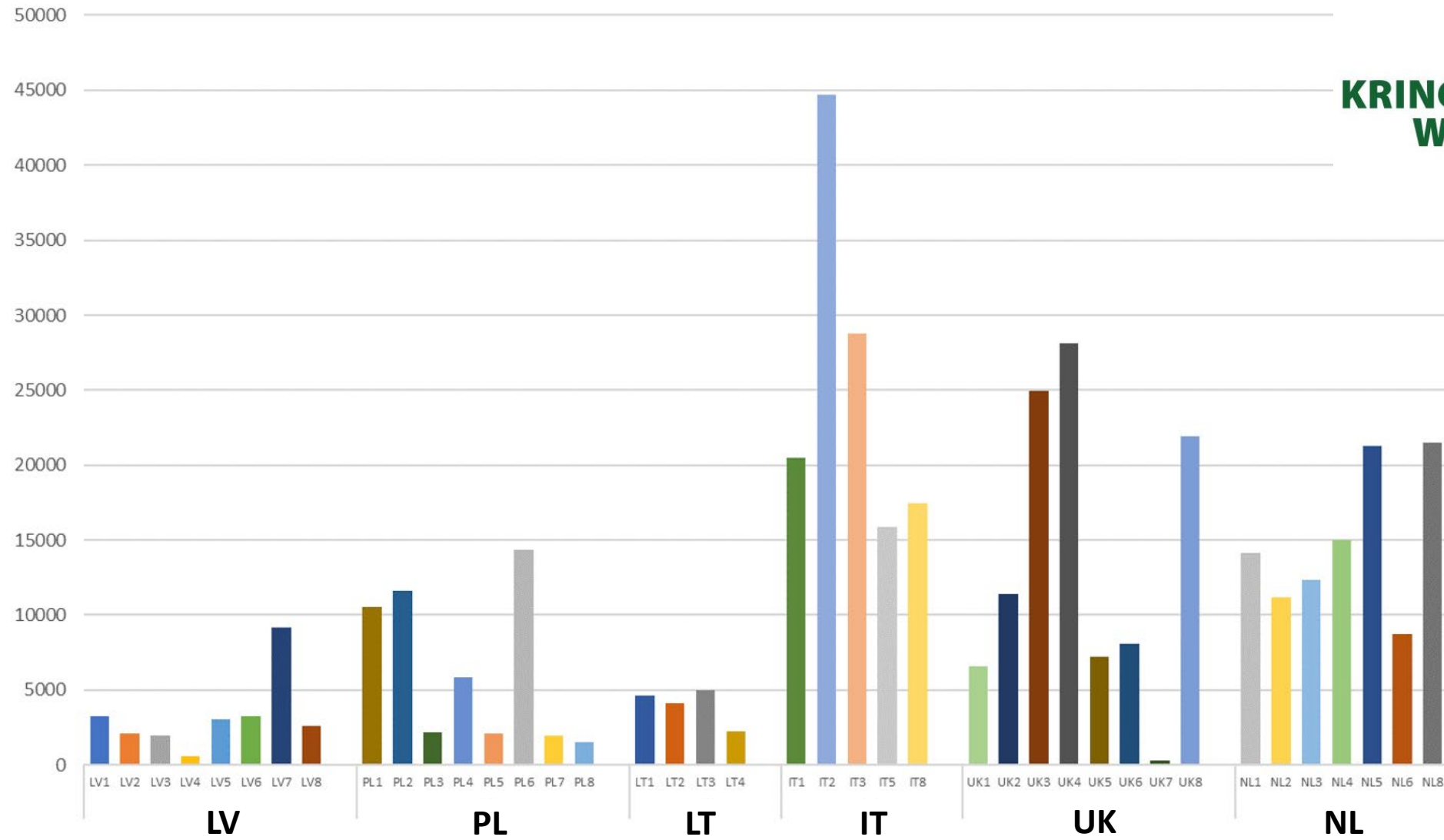


Greenhouse gas emission intensity:

- 1,12 - 2,24 kg CO₂eq/kg FPCM – ANCA,
- 0,70 - 3,39 kg CO₂eq/kg FPCM – Agrecalc
- 0,79 - 3,93 kg CO₂eq/L milk – CAP'2ER.



Milk production per ha (kg/ha)



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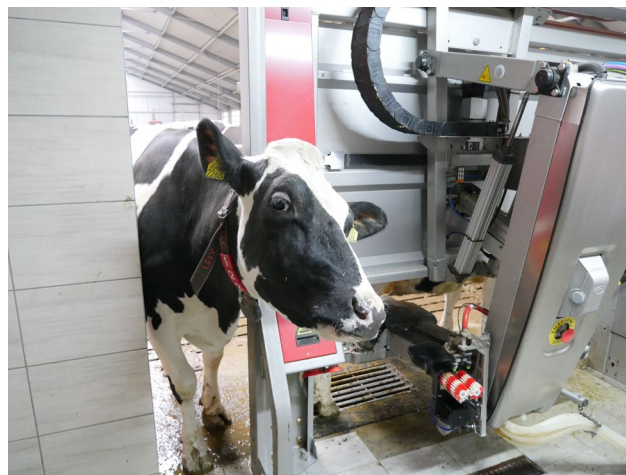


Conclusion

- The project results gave us only a general overview of the emissions
- Polish farms had one of the highest value of CO₂eq/kg FPCM
 - 2,24 kg CO₂eq/kg FPCM – ANCA (PL3)
 - 3,39 kg CO₂eq/kg FPCM – Agrecalc (PL7) (the highest was UK7 - 3,39)
 - 3,51 kg CO₂eq/L milk – CAP'2ER (PL7) (the highest was LV6 - 3,93)
- Results do not represent countries' national dairy farm population
- An emission calculator for Polish conditions is needed immediately!



Thank you for your attention!



Acknowledgements:

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For more information: www.CCCfarming.eu