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CORRECTION

Correction: Ex-ante life cycle assessment of commercial-scale cultivated meat production in 2030

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Due to a copy paste error in transferring data from the LCA software to the spreadsheet where the figures and tables for the article were made, the environmental burdens and benefits of two wastewater treatment processes were included for cultivated meat (CM) production, instead of one. This error was discovered by one of the authors and corrected accordingly. It affects the CM results in Table 2, Fig. 3 and Fig. 4. The results for conventional meats in the article and all results (both CM and conventional meats) in the Supplementary Materials are unaffected. The impact of this error is generally very small, but significant for CM results for blue water use shown in for Fig. 4.

The additional inclusion of the wastewater treatment process resulted in higher environmental scores for CM on all indicators reported in the article except blue water use. The reason for this is that after waste water treatment, water is released back to the environment, and therefore this has a positive environmental effect (process: Wastewater from potato starch production {CH}| treatment of, capacity 1.1E10l/year | Cut-off). Due to the error, 2.5 times more wastewater was treated than which was produced at the CM facility.

After correction, CM has a 0% to 1% lower score for all indicators except blue water use (Table 2, Fig. 3 and Fig. 4). This does not alter any interpretation or conclusions. For blue water use, this results in an increase of the water footprint of CM of 19 liters to 86 liters. This impacts the comparative ranking of the ambitious benchmarks of CM and conventional meats presented in the article (Fig. 4). Blue water use for CM is 1.3, 1.9 and 1.2 times higher than chicken, pork and beef from dairy cattle respectively, and 3 times lower than beef from beef cattle.

Following from this, the discussion of blue water use results needs to be amended in two places in the text:

- Fourth paragraph of section 3.2 should state 'Blue water use (surface and groundwater) in CM production is higher for chicken, pork, and beef from dairy cattle, and lower for beef from beef cattle. This result is sensitive to internal water recycling at the facility (in this ambitious benchmark, the recycling percentage is 75%)'. The following should be disregarded: 'Blue water use (surface and groundwater) in CM production is lower, but this result is highly sensitive to internal water recycling at the facility (in this ambitious benchmark, the recycling percentage is 75%)'.
- Fourth paragraph of section 4.1 should state 'Looking at blue water use alone, CM scores higher than chicken, pork and beef from dairy cattle, when 75% water is recycled at the facility. Further reduction of the blue water footprint of CM is possible through further increasing recycling at the facility (which is in theory well possible within a controlled environment (Yang et al. 2011; Wang et al. 2012), and efforts in the supply chain, for example by reducing water use for production of culture medium ingredients'. The following should be disregarded: 'Looking at blue water use alone, CM scores lower than chicken and pork only if sufficient water is recycled (in this study 75% within the facility is assumed), which is in theory well possible within a controlled environment (Yang et al. 2011; see e.g. Wang et al. 2012)'.

The correct values are shown in Table 2, Fig. 3 and Fig. 4.

The original article can be found online at https://doi.org/10.1007/s11367-022-02128-8.

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Table 2 Comparison of carbon footprint and greenhouse gas emission profiles of CM and conventional meats

Meat	**System**	**Total**	**Contribution of GHG to carbon footprint**[b]					**Source**
		kg CO_2-eq.	*CO_2*	*CH_4*	*N_2O*	*dLUC*	*Other*	
Cultivated meat 2030	2030 ambitious benchmark	2.8	84%	10%	5%	0%	1%	This study
Baseline model + energy scenarios	Renewable Scope 1 & 2	4.0	86%	9%	4%	0%	1%	This study
	Global average energy	14.3	91%	7%	2%	0%	0%	This study
Cultivated meat 2030 Sensitivity analyses best and worst case	Sensitivity analysis best case 2030 ambitious benchmark + passive cooling	2.2	83%	10%	6%	0%	1%	This study
	Sensitivity analysis worst case Global average energy + high medium scenario	24.8	90%	8%	2%	0%	0%	This study
Chicken	2030 ambitious benchmark	2.7	58%	9%	21%	13%	0%	This study
	Current ambitious benchmark	6.0	34%	4%	9%	52%	0%	Agri-Footprint 5.0
	2018 Global average	9.0	n.a.	n.a.	n.a.	n.a.	n.a.	Poore and Nemecek (2018)
Pork	2030 ambitious benchmark	5.1	35%	31%	23%	11%	0%	This study
	Current ambitious benchmark	6.9	34%	23%	17%	26%	0%	Agri-Footprint 5.0
	2018 Global average	11.4	n.a.	n.a.	n.a.	n.a.	n.a.	Poore and Nemecek (2018)
Beef (dairy cattle)	2030 ambitious benchmark	8.8	16%	54%	27%	2%	0%	This study
	Current ambitious benchmark	11.0	18%	49%	22%	11%	0%	Agri-Footprint 5.0
	2018 Global average	32.4	n.a.	n.a.	n.a.	n.a.	n.a.	Poore and Nemecek (2018)
Beef (beef cattle)	2030 ambitious benchmark	34.9	16%	46%	37%	1%	0%	This study
	Current ambitious benchmark	39.8	17%	46%	32%	5%	0%	Agri-Footprint 5.0
	2018 global average	98.6	n.a.	n.a.	n.a.	n.a.	n.a.	Poore and Nemecek (2018)

[a]Scope 3 processes that use renewable energy are the (bio)chemical production of medium ingredients (not the agricultural feedstock production), scaffolds and microfiltration filters

[b]Percentages may not add up to 100% due to rounding

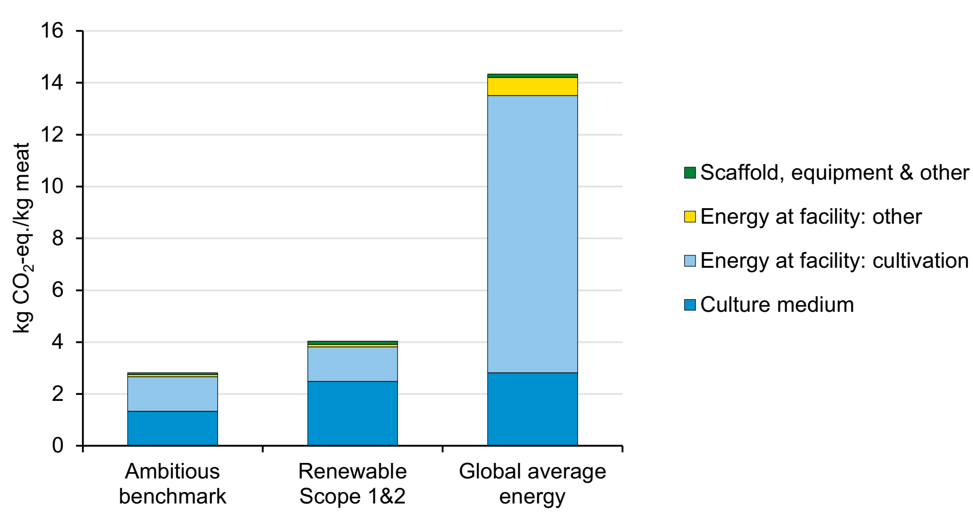

Fig. 3 Carbon footprint of cultivated meat in 2030, baseline scenario with different energy mixes

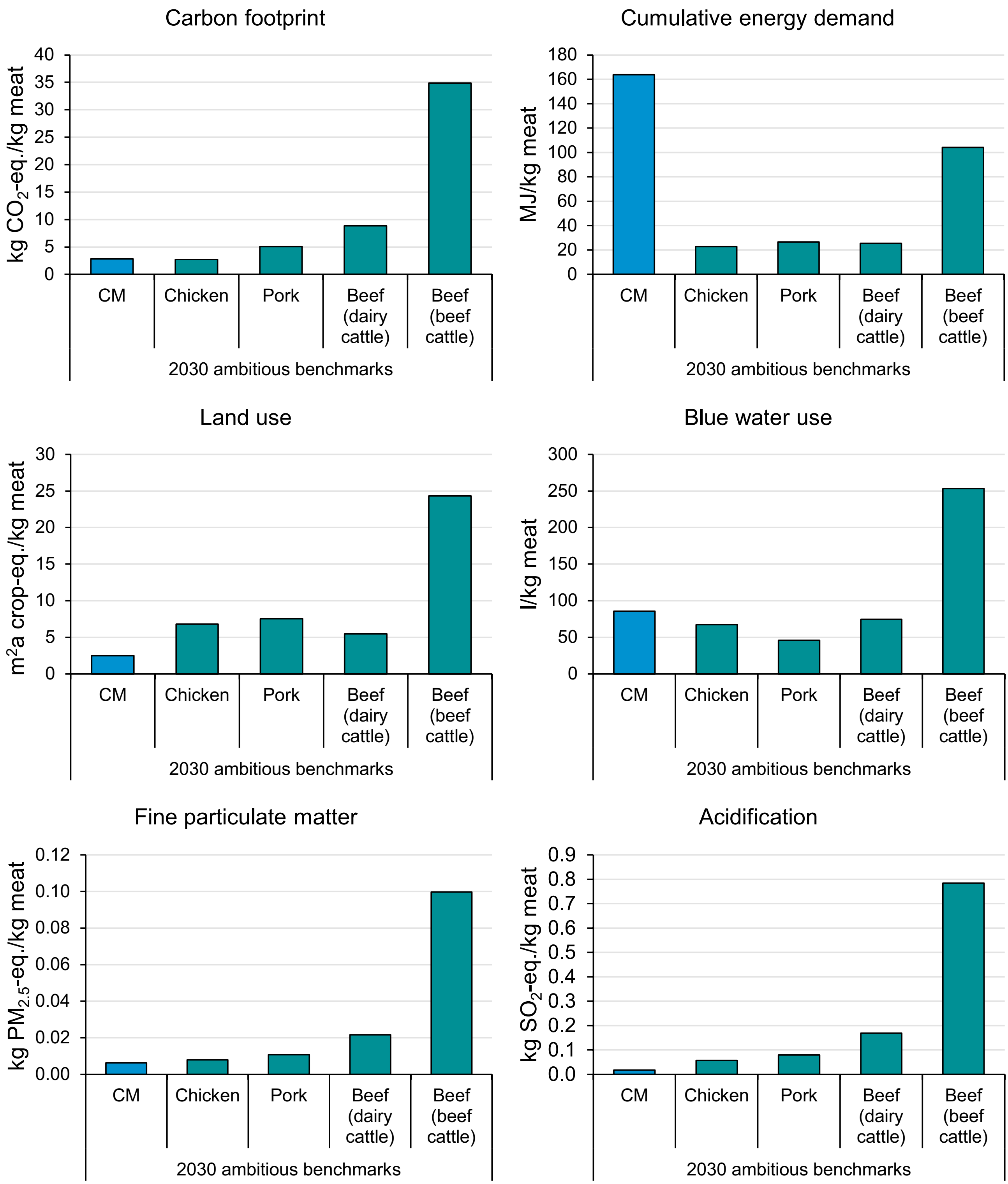

Fig. 4 Comparison of ambitious benchmarks of cultivated meat and conventional meats for 2030

Additionally, a typo was discovered in Table 4: 'B1: Higher cell density (x4: 7.1E7 cells/ml)' should read 'B1: Higher cell density (x1.4: 7.1E7 cells/ml)'.

The original article has been corrected.