10.1071/AN23361

Animal Production Science

Supplementary Material

Trends in the environmental impacts of the Australian pork industry

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Table S1. Environmental impacts of Australian pork production from 1980 to 2022, reported per kilogram of liveweight

	Units	1980	1990	2000	2010	2020*	2022*
GHG emissions	kg CO_2-e	11.7	9.0	5.4	4.1	3.0	3.0
GHG emissions – LU and dLUC	kg CO_2-e	3.5	2.7	1.7	0.8	0.4	0.3
Total GHG emissions	kg CO_2-e	15.2	11.8	7.1	4.9	3.4	3.3
Fossil energy use	MJ	34.6	27.4	20.8	16.8	12.9	13.4
Freshwater consumption	L	505.9	398.3	281.8	167.6	93.8	52.5
Water stress	L H_2O-e	671.4	539.6	400.9	208.6	55.8	
Land occupation	m^2	21.9	18.2	13.7	13.3	12.0	12.7

**From Copley et al.(2024). Water stress results for 2020 and 2022 are presented as an average of the two time-periods as reported in Copley et al.(2024).

Total greenhouse gas emissions for the Australian pork industry 1980 – 2020

Total greenhouse gas emissions were calculated using the emission intensity of production in each decade and the total production in each year (ABS 1999, 2001, 2011, 2021, 2023). The total emissions are reported by gas in Table S2.

Table S2. Total greenhouse gas emissions (including land use and direct land use change emissions) for the Australian pork industry from 1980 to 2022

	Units	1980	1990	2000	2010	2020*	2022*
Carbon dioxide	t CO_2-e	733,074	845,909	735,014	544,388	546,676	604,030
Nitrous oxide	t CO_2-e	166,723	194,756	205,602	157,946	221,076	243,500
Methane	t CO_2-e	2,415,652	2,745,426	1,672,946	1,100,085	796,167	903,672
Other minor gases	t CO_2-e	4,120	5,346	5,504	4,363	3,145	3,431
Subtotal	t CO_2-e	*3,319,570*	*3,791,437*	*2,619,065*	*1,806,781*	*1,567,064*	*1,754,632*
Carbon dioxide - LU & dLUC	t CO_2-e	988,977	1,147,777	819,318	329,628	229,804	161,029
Total	t CO_2-e	**4,308,547**	**4,939,214**	**3,438,384**	**2,136,408**	**1,796,869**	**1,915,661**

*From Copley et al.(2024)

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