Annexe 1:

Reporting, Targets and Voluntary Accountability

Reading the Climate Targets

- Target declared with the Science Based Targets Initiative (SBTi)
- Individually set targets by the company

Normal text = Absolute emissions reduction target/No target

Italic text = Emissions intensity target

Table 1.1: Top 20 emitters from the European meat and dairy sector

Company	Sector	Emissions Reporting (scopes)	Climate Target (Absolute Target / Emissions Intensity Target)	Base-line	Target Year	Offsets	Last CDP Filing[170] / Science-based Target Initiative[171]	Third-party Verification[172] & Assurance Level[173]
1 **Groupe Lactalis** (France)	Dairy	—	None	—	—	—	No CDP filing until 2020, Submitted Forests 2021 (not scored, submissions not available)	—
2 **Arla** (Denmark)	Dairy	1,2,3[174] In their annual reports only	*30% emissions intensity reduction per kilo milk*	1990	2020	Yes, offsetting central element of Net Zero plan[175]; tree planting initiative in Uganda & forest conservation in Indonesia, biogas production from manure in Kenya, Tanzania and Uganda[176], carbon capture in farm soils[177]	No CDP filing	—
			30% absolute reduction of scope 1 & 2 emissions[178]	2015	2030		SBTi targets: target boundary includes biogenic emissions and removals from bioenergy feedstocks; consistent with reductions required for 2°C goal	
			30% reduction of scope 3 emissions per kilo raw milk	2015	2030			
			Carbon net-zero production ("sites to trucks")[179]		2050			
3 **Nestlé** (Switzerland)	Dairy	1,2,3[180]	*10% emissions intensity reduction in distribution operations*	2014	2020	Yes, "natural climate solutions" incl. agroforestry, restorations of forests and peatland, biogas digesters, soil carbon storage[181] Nestlé distinguishes between "insetting" & "offsetting". It calls carbon removals from its supplier farms "insetting" which excludes consumer use, what it calls "farm to store." However, offsetting is allowed for "farm to fork" which includes consumer use and packaging.[182]	CDP Filing on Climate Change, Forests and Water Security	Yes Assurance: scope 1 & 2 limited, scope 3 underway
			35% reduction of scope 1 & 2 emissions intensity per tonne of produce, for emission reduction in all manufacturing operations	2010	2020			
			8% absolute reduction of scope 3 emissions[183]	2014	2020		STBi targets: target boundary includes biogenic emissions and removals from bioenergy feedstocks; consistent with reductions required for 1.5°C goal; List of companies with business ambitions for 1.5°C	
			50% absolute reduction of scope 1, 2 & 3 emissions	2018	2030			
			25% absolute reduction of scope 1,2 & 3 emissions[184]	2018	2025			
			Corporate Net Zero ("farm to store")[185]		2050			
4 **Friesland Campina** (Netherlands)	Dairy	1,2,3 in annual reports only	Absolute emissions reduction to 2010 levels (12,307kt CO_2 eq)[186]	2010	2020	Yes, carbon capture in grasslands, biogas production from manure[187]	CDP Filings for 2021: Forests, Climate Change, Water Security (no scored submissions available)	—
			40% absolute reduction for scope 1 & 2 emissions	2015	2030			
			33% absolute reduction for scope 3 emissions[188]	2015	2030		STBi: status committed", no targets (2020)	
			Maximum emission level 9 Mt CO_2 eq (for Cooperative and Company together)[189]		2030			
5 **Danish Crown** (Denmark)	Beef Pork	1,2 3 (only emission intensity)[190]	*50% emissions intensity reduction per kilo meat produced*[191]	2005	2030	Yes, biogas production from manure[192], nature conservation and reforestation projects[193]	No CDP filing	—
			Climate neutrality[194]	—	2050		"plans to join" SBTi[195]	
6 **Tönnies** (Germany)	Beef Pork	—	Commits to a 50% emissions reduction target by 2030 compared to 2015 levels for road transport "per tour" only. It excludes emissions from container transport and limits this target to three operating plants in Germany.[196]	—	—	—	No CDP filing, no SBTi targets	—
7 **Vion Food** (Netherlands)	Beef Pork	1,2 3 (pilot project in 2019[197])	None	—	—	Yes, biogas production[198]	No CDP filing, no SBTi targets	—

Table 1.1 (cont'd): Top 20 emitters from the European meat and dairy sector

Company	Sector	Emissions Reporting (scopes)	Climate Target (Absolute Target / Emissions Intensity Target)	Base-line	Target Year	Offsets	Last CDP Filing[169] / Science-based Target Initiative[170]	Third-party Verification[171] & Assurance Level[172]
8 **Danone** (France)	Dairy	1,2,3[197]	*50% reduction of scope 1,2 & 3 CO_2 emission intensity*	2015	2030	Yes, Livelihoods Carbon Fund (environmental restoration, agroforestry, rural energy projects), soil carbon sequestration,[198] biogas from manure[199]	CDP Filing on Climate Change, Forests and Water Security	Yes Limited Assurance for all 3 scopes
			30% absolute reduction of scope 1 & 2 emissions	2015	2030		SBTi targets: consistent with reductions required for 2°C goal	
			Carbon neutrality across the full value chain[200]		2050			
9 **Deutsches Milchkontor** (Germany)	Dairy	—	None	—	—	Biogas production[201]	No CDP filing, no SBTi targets	—
10 **Glanbia PLC Group** (Ireland)	Dairy	1,2[202]	PLC Group: 31% absolute reduction of scope 1 & 2 emissions	2018	2030	US Dairy Net Zero Initiative: carbon sequestration, manure biogas production, contribution to "ecosystem markets making more offsets available"[203]	CDP filing: Climate Change 2020 (D score), Water Security 2020 (B- score)	Yes Assurance underway for all 3 scopes
			PLC Group: 25% reduction of scope 3 emissions intensity from purchased goods and services per tonne of dairy produced[204]	2018	2030		SBTi targets: Glanbia Ireland – Committed Glanbia PLC: target includes biogenic emissions and removal from bioenergy feedstocks, scope 1 & 2 targets consistent with reductions required for 2°C goal	
			Glanbia Ireland: 30% absolute reduction of scope 1 & 2 emissions	None given	2030			
			Glanbia Ireland: 30% reduction of carbon intensity from milk production[205]					
			Net Zero		2050			
11 **Groupe Bigard SA** (France)	Beef Pork	—	None	—	—	—	No CDP filing, no SBTi targets	—
12 **ABP Food Group** (Ireland)	Beef	The company references emission reductions in public statements, however lacking public annual reports, there are no known publicly reported scope 1, 2 or 3 emissions.	27% absolute reduction of scope 1 & 2 emissions	2016	2030	Biogas production from manure[206]	No CDP filing, no SBTi targets	—
			17% absolute reduction of scope 3 emissions from purchased goods and services (raw materials & packaging)[207]	2016	2030		SBTi targets: consistent with reductions required for 2°C goal	
13 **Groupe Sodiaal** (France)	Dairy	Sodiaal has its own system of reporting in its annual report with a "Sodiaal specific" emissions factor[208] for its on farm emissions and provides combined "net" number for its total emissions that include scope 1 & 2.[209]	*7% reduction of net carbon footprint per liter of milk (farm & collection emissions)*[210]	2019	2026	French Low Carbon Label: carbon credits for soil carbon sequestration, planting orchards[211]	No CDP filing, no SBTi targets	—
14 **Müller Gruppe** (Germany)	Dairy	—	None	—	—	—	No CDP filing, no SBTi targets	-

Table 1.1 (cont'd): Top 20 emitters from the European meat and dairy sector

Company	Sector	Emissions Reporting (scopes)	Climate Target (Absolute Target / Emissions Intensity Target)	Base-line	Target Year	Offsets	Last CDP Filing[169] / Science-based Target Initiative[170]	Third-party Verification[171] & Assurance Level[172]
15 Westfleisch (Germany)	Beef Pork	1,2 (only for 2012 – 2014)[212]	None	—	—	Yes, emissions reported in 2011 compensated by climate protection project "Wind energy in Yuntdag" in Turkey[213]	No CDP filing, no SBTi targets	—
16 Bongrain/ Savencia (France)	Dairy	—	Absolute reduction of "the carbon footprint of the volume of milk collected by 300,000 t CO_2 equivalent"[214] However, the company gives no reporting of its 2010 emissions or of subsequent years	2010	2025	Use of biogas of "local biogas producers"[215]	No CDP filing, no SBTi targets	—
			25% reduction of scope 1 & 2 emissions intensity of produce[216]	2015	2025			
17 Coren Group (Spain)	Pork	—	None	—	—	—	No CDP filing, no SBTi targets	—
18 JV Dawn Meats (Ireland)	Beef	—	30% reduction of scope 1 & 2 emissions[217]	2016	2030	Advocacy for inclusion of soil carbon sequestration into carbon footprint calculations of cattle production[218]	No CDP filing	—
			28% reduction of scope 3 emissions from purchased goods and services per tonne of finished product incl. Biogenic emissions from bioenergy feedstocks	2016	2030		STBi targets: target boundary includes biogenic emissions from bioenergy feedstocks; consistent with reductions required for 2°C goal	
19 Pini Italia Group (Italy)	Pork	—	—	—	—	—	No CDP filing, no SBTi targets	—
20 INALCA (Italy)	Beef	1,2[219]	None	—	—	Yes, plants of anaerobic digestion, self-produced biomass energy[220]	CDP Filing Forests, Climate Change 2021 (not scored, submission not available)	—
							No SBTi targets	

Table 1.2: Top five emitters from the European poultry sector*

Company	Sector	Emissions Reporting (scopes)	Climate Target (Absolute Target / Emissions Intensity Target)	Baseline	Target Year	Offsets	Last CDP Filing / Science-based Target Initiative	Third-party Verification & Assurance Level
1 LDC (France)	Poultry	1,2 (partly)[221]	None	—	—	Yes, methanisation, biomass boilers[222]	No CDP filing, no SBTi targets	—
2 Plukon Food Group (Netherlands)	Poultry	—	None	—	—	—	No CDP filing, no SBTi targets	—
3 Gruppo Veronesi (Italy)	Poultry	1,2[223]	None	—	—	Yes, anaerobic biogas digesters, biogas production[224]	No CDP filing, no SBTi targets	—
4 PHW Group (Germany)	Poultry	1,2,3 Emissions Intensity[225]	No specific targets. Claims to have already reached climate-neutrality at some production sites[226]	—	—	Yes, reforestation projects in Germany and the Peruvian Amazon,[227] clean cooking ovens in Ghana[228]	No CDP filing, no SBTi targets	—
5 2 Sisters Food Group (U.K.)	Poultry	—	No specific targets. But announced general intention to reach climate neutrality and become a net energy producer[229]	—	—	—	No CDP filing, no SBTi targets	—

* The top five emitters from the poultry sector are in addition to the top 20 emitters from the meat and dairy sector (see table 1.1)

Annexe 2:

GHG emissions of Europe's largest meat and dairy companies (by volume)

				GHG emissions – Total*	% of total EU28 beef sector emissions	% of total EU28 pork sector emissions	% of total EU28 dairy sector emissions	% of total EU28 poultry sector emissions	% of total EU28 meat & dairy sector emissions
Reference Year					2018	2018	2018	2018	2018
Unit	Company	Headquarters	Sector	CO_2-eq (t)					
1	Lactalis	France	Dairy	30,962,960	—	—	13.13%	—	4.66%
2	Arla Foods	Denmark/Sweden	Dairy	21,958,426	—	—	9.32%	—	3.31%
3	Nestlé	Switzerland	Dairy	21,642,477	—	—	9.18%	—	3.26%
4	FrieslandCampina	Netherlands	Dairy	21,484,503	—	—	9.11%	—	3.23%
5	Danish Crown	Denmark	Beef/Pork	16,836,179	2.16%	7.21%	—	—	2.53%
6	Tönnies	Germany	Beef/Pork	14,232,523	1.39%	6.52%	—	—	2.14%
7	VION Food Group	Netherlands	Beef/Pork	13,878,667	2.89%	4.86%	—	—	2.09%
8	Danone	France	Dairy	13,585,789	—	—	5.76%	—	2.05%
9	Deutsches Milchkontor DMK	Germany	Dairy	12,795,917	—	—	5.43%	—	1.93%
10	Glanbia Group	Ireland/U.S./others	Dairy	10,268,329	—	—	4.36%	—	1.55%
11	Groupe Bigard SA	France	Beef/Pork	9,942,634	4.11%	1.47%	—	—	1.50%
12	ABP Food Group	Ireland	Beef	7,830,610	4.42%	—	—	—	1.18%
13	Groupe Sodiaal	France	Dairy	7,740,740	—	—	3.28%	—	1.17%
14	Müller	Germany	Dairy	7,266,817	—	—	3.08%	—	1.09%
15	Westfleisch	Germany	Beef/Pork	6,878,520	1.36%	2.48%	—	—	1.04%
16	Bongrain/Savencia	France/others	Dairy	6,476,946	—	—	2.75%	—	0.97%
17	Coren Group	Spain	Pork	5,657,345	—	3.13%	—	—	0.85%
18	JV Dawn Meat and Dunbia	U.K., Ireland	Beef	5,602,832	3.17%	—	—	—	0.84%
19	Pini Group	Italy	Pork	5,107,388	—	2.83%	—	—	0.77%
20	INALCA	Italy	Beef	3,837,348	2.17%	—	—	—	0.58%
21	LDC	France	Poultry	3,745,058	—	—	—	5.27%	0.56%
22	Grupo Jorge	Spain	Pork	3,450,980	—	1.91%	—	—	0.52%
23	Cooperl Arc Atlantique	France	Pork	3,226,417	—	1.79%	—	—	0.49%
24	Plukon Food Group	Netherlands	Poultry	2,950,651	—	—	—	4.16%	0.44%
25	Grupo Vall Companys	Spain	Pork	2,471,128	—	1.37%	—	—	0.37%
26	Gruppo Veronesi	Italy	Poultry	2,421,970	—	—	—	3.41%	0.36%
27	PHW Group	Germany	Poultry	2,421,970	—	—	—	3.41%	0.36%
28	Elivia	France	Beef	2,416,740	1.37%	—	—	—	0.36%
29	2 Sisters Food Group	U.K.	Poultry	2,235,132	—	—	—	3.15%	0.34%
30	Moy Park Ltd - Subsidiary of JBS	U.K.	Poultry	2,159,013	—	—	—	3.04%	0.33%
31	Müller Gruppe	Germany	Beef	1,904,963	1.08%	—	—	—	0.29%
32	Amadori	Italy	Poultry	1,729,979	—	—	—	2.44%	0.26%
33	Avara	U.K.	Poultry	1,439,342	—	—	—	2.03%	0.22%
34	Cedrob	Poland	Poultry	1,321,704	—	—	—	1.86%	0.20%
35	Rothkötter Mischfutterwerk GmbH	Germany	Poultry	1,314,784	—	—	—	1.85%	0.20%
		Total (top 35)		**279,196,781**	**24.11%**	**33.56%**	**65.41%**	**30.61%**	**42.03%**
		Total (top 20)		**243,986,950**	**21.67%**	**28.49%**	**65.41%**	**0.00%**	**36.73%**

Notes

- Reference year for dairy companies' GHG emissions is **2017**; **2018** for beef and pork companies; **2019** for poultry companies.
- Aggregate EU28 meat and dairy sector emissions are calculated based on Table 1.5 in the primary dataset (https://bit.ly/309bVxP).
- See Table 1.9.1 in the primary dataset (https://bit.ly/309bVxP) for emissions estimates for the top 20.

Annexe 3:

Largest meat and dairy producing countries in the EU28

Top Nine EU Countries + United Kingdom

Bovine meat production			Pig meat production			Poultry meat production			Combined meat production (beef, pork, poultry)			Total Meat as % of total EU28 meat prod.	Dairy Production			Dairy as % of total EU28 dairy prod.
Reference Year		2018	Reference Year		2018	Reference Year		2019					Reference Year		2017	
Unit		Carcass (t)	Unit		Carcass (t)	Unit		Carcass (t)	Unit		Carcass (t)	%	Unit		FPCM (t)	%
EU28		**7,931,690**	**EU28**		**23,846,360**	**EU28**		**15,327,930**	**EU28**		**47,105,980**	**100%**	**EU28**		**155,922,380**	**100%**
1	France	1,460,000	1	Germany	5,343,000	1	Poland	2,593,460	1	Germany	8,029,000	17.0%	1	Germany	31,937,020	20.5%
2	Germany	1,102,000	2	Spain	4,530,490	2	U.K.	1,899,010	2	Spain	6,904,690	14.7%	2	France	24,596,750	15.8%
3	U.K.	922,710	3	France	2,181,550	3	Spain	1,705,190	3	France	5,339,550	11.3%	3	U.K.	15,144,670	9.7%
4	Italy	809,230	4	Poland	2,082,450	4	France	1,698,000	4	Poland	5,240,640	11.1%	4	Netherlands	14,296,000	9.2%
5	Spain	669,010	5	Denmark	1,581,300	5	Germany	1,584,000	5	U.K.	3,748,450	8.0%	5	Italy	11,902,240	7.6%
6	Ireland	622,560	6	Netherlands	1,535,930	6	Italy	1,365,870	6	Italy	3,645,770	7.7%	6	Poland	11,646,050	7.5%
7	Poland	564,730	7	Italy	1,470,670	7	Netherlands	1,036,360	7	Netherlands	3,031,500	6.4%	7	Ireland	7,480,400	4.8%
8	Netherlands	459,210	8	Belgium	1,073,110	8	Hungary	533,040	8	Belgium	1,798,240	3.8%	8	Spain	7,027,670	4.5%
9	Belgium	277,330	9	U.K.	926,730	9	Romania	482,280	9	Denmark	1,710,500	3.6%	9	Denmark	5,506,300	3.5%
10	Austria	233,460	10	Austria	509,530	10	Belgium	447,800	10	Ireland	1,092,870	2.3%	10	Belgium	4,025,420	2.6%
Total top 9+U.K.		**7,120,240**	**Total top 9+U.K.**		**21,234,760**	**Total top 9+U.K.**		**13,345,010**	**Total top 9+U.K.**		**40,541,210**	**86.1%**	**Total top 9+U.K.**		**133,562,520**	**85.7%**
Source		(a)			(a)			(a)			(a)				(a.1)	

Sources:

(a) Eurostat – online data code: APRO_MT_PWGTM (November 2020)

(a.1) Eurostat – online data code: APRO_MK_POBTA (November 2020); see also Tables 1.1 – 1.3 in the primary dataset (https://bit.ly/309bVxP)

Annexe 4:

GHG emissions from the top 10 beef, pork, poultry and dairy corporations

		GHG emissions	% of total EU28 emissions	% of Top 9 countries + U.K. emissions	% of Top 10 livestock producing countries (EU27) emissions
	Reference Year	2018	2018	2018	2018
Sector	Unit	CO_2-eq (t)			
Dairy		154,182,905	3.65%	4.85%	5.89%
Pork		60,589,566	1.43%	1.91%	2.31%
Beef		42,684,708	1.01%	1.34%	1.63%
Poultry		21,739,603	0.51%	0.68%	0.83%
Total		**279,196,781**	**6.61%**	**8.79%**	**10.66%**

Notes:

- Reference year for dairy companies' GHG emissions is **2017**; **2018** for beef and pork companies; **2019** for poultry companies.
- Calculations based on Tables 1.4 and 1.7 in the primary dataset (https://bit.ly/309bVxP).

Endnotes

1 See calculation in the full dataset for the report, link in the methodology section.

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