Preface



Key Performance Indicators

Energy Consumption within the Companies of Schwarz Group

	FY	Lidl	Kaufland	PreZero	Schwarz Produktion	Schwarz Dienstleistungen	Schwarz Group
Total energy consumption in MWh ^{1,2,3}	2020	6,363,509	2,967,565	426,656	459,412	68,046	10,285,187
	2021	7,044,475	3,103,458	461,798	479,205	77,546	11,166,481
	2022	7,836,676	3,062,612	1,574,811	516,844	83,497	13,074,441
from renewable sources	2020	3,278,802	329,001	78,847	1,285	231	3,688,166
	2021	4,645,134	455,124	84,603	2,714	117	5,187,691
	2022	6,227,174	2,271,982	408,170	320,999	38,460	9,266,786
from non-renewable sources	2020	3,084,707	2,638,564	347,808	458,127	67,815	6,597,021
	2021	2,399,341	2,648,333	377,195	476,491	77,429	5,978,790
	2022	1,609,501	790,630	1,166,641	195,845	45,038	3,807,655
Electricity	2020	5,247,782	2,211,663	237,607	298,165	40,226	8,035,442
	2021	5,802,596	2,270,256	172,543	299,943	46,201	8,591,539
	2022	6,232,177	2,281,513	431,248	323,767	38,661	9,307,366
from renewable sources	2020	3,278,802	329,001	78,847	1,285	231	3,688,166
	2021	4,645,134	455,124	52,282	2,714	117	5,155,371
	2022	6,226,508	2,271,640	348,196	320,999	38,460	9,205,803
Outsourcing	2020	3,190,939	324,764	78,847	0	0	3,594,551
	2021	4,503,064	448,811	52,282	0	0	5,004,157
	2022	6,004,360	2,261,638	274,800	317,331	11,891	8,870,020
Self-consumption from self-generation	2020	87,863	4,237	0	1,285	231	93,616
	2021	142,070	6,313	0	2,714	117	151,214
	2022	222,147	10,002	73,396	3,669	638	309,853

^{1 |} In principle, for reasons of control relevance, we report all energy key performance figures in the unit megawatt-hour (MWh).

^{3 |} Due to values being rounded, there may be slight discrepancies in the totals.



^{2 |} Discrepancies from the publication in the Sustainability Report FY 2020/21 are a result of retrospective corrections due to additional data availability.



	FY	Lidl	Kaufland	PreZero	Schwarz Produktion	Schwarz Dienstleistungen	Schwarz Group
from non-renewable sources	2020	1,968,980	1,882,661	158,759	296,881	39,995	4,347,276
	2021	1,157,462	1,815,132	120,260	297,230	46,084	3,436,168
	2022	5,669	9,872	83,052	2,768	202	101,564
Outsourcing	2020	1,968,980	1,882,661	158,759	293,684	39,995	4,344,080
	2021	1,157,462	1,812,805	120,260	294,751	46,084	3,431,362
	2022	5,669	3,553	24,548	0	202	33,972
Self-consumption from self-generation	2020	0	0	0	3,196	0	3,196
	2021	0	2,327	0	2,479	0	4,806
	2022	0	6,319	58,505	2,768	0	67,591
District heating	2020	76,928	90,192	285	0	1,667	169,073
	2021	83,648	96,079	1,385	0	4,049	185,161
	2022	80,756	85,384	3,782	0	5,677	175,599
Natural gas	2020	583,851	527,769	22,366	148,086	5,890	1,287,963
	2021	607,791	579,912	21,670	156,224	2,465	1,368,062
	2022	545,817	516,250	54,235	165,848	1,524	1,283,673
Other gases ⁴	2020	0	0	303	0	0	303
	2021	0	679	246	6,228	0	7,153
	2022	217	770	2,339	5,869	0	9,195
Heating oil⁵	2020	0	37,454	771	0	0	38,225
	2021	3,999	41,267	9,227	3,001	0	57,494
	2022	10,595	38,674	20,210	5,803	0	75,282
Wood pellets	2020	0	0	0	0	0	0
	2021	0	0	1,551	0	0	1,551
	2022	0	0	1,616	0	0	1,616

^{5 |} Conversion of liters into MWh with a combined factor from IPCC 2006 and GHG Protocol Cross Sector Tools (heating oil: 0.010561).



^{4 |} Includes propane and LPG.



	FY	Lidl	Kaufland	PreZero	Schwarz Produktion	Schwarz Dienstleistungen	Schwarz Group
Emergency power systems and sprinkler	2020	0	0	0	0	0	0
systems - heating oil	2021	0	0	0	0	0	0
	2022	4,355	3,953	0	0	0	8,308
Emergency power systems and sprinkler	2020	0	0	0	0	0	0
systems – diesel	2021	0	0	0	0	0	0
	2022	15,988	2,914	33	0	0	18,936
Emergency power systems and sprinkler	2020	0	0	0	0	0	0
systems – biodiesel	2021	0	0	0	0	0	0
	2022	667	342	0	0	0	1,009
Emergency power systems and sprinkler	2020	0	0	0	0	0	0
systems – HVO	2021	0	0	0	0	0	0
	2022	0	0	0	0	0	0
Hard coal	2020	0	0	0	0	0	0
	2021	0	0	403	0	0	403
	2022	0	0	924	0	0	924
Mobile combustion 6,7,8	2020	454,947	100,487	165,323	13,160	20,262	754,181
	2021	546,441	115,264	254,773	13,810	24,831	955,119
	2022	946,103	132,813	1,060,424	15,557	37,635	2,192,532
from renewable sources	2020	0	0	0	0	0	0
	2021	0	0	30,769	0	0	30,769
	2022	0	0	58,358	0	0	58,358
from non-renewable sources	2020	454,947	100,487	165,323	13,160	20,262	754,181
	2021	546,441	115,264	224,004	13,810	24,831	924,349
	2022	946,103	132,813	1,002,065	15,557	37,635	2,134,174

^{8 |} Conversion of kg into MWh with combined factor from IPCC 2006, GHG Protocol Cross Sector Tools, CDP Technical Note: Conversion of fuel data to MWh and DEFRA 2021 (CNG/LNG: 0.01481/LPG: 0.014599).



^{6 |} Fuels for own company cars and internal logistics.

^{7 |} Conversion of liters into MWh with combined factor from IPCC 2006, GHG Protocol Cross Sector Tools and CDP Technical Note: Conversion of fuel data to MWh (gasoline: 0.009585/Diesel: 0.010561/Biodiesel: 0.006711).





Percentage of Renewable Energy¹

FY	Lidl	Kaufland	PreZero	Schwarz Produktion	Schwarz Dienstleistungen	Schwarz Group
2020	62.5 %	14.9%	33.2 %	0.4%	0.6 %	45.9 %
2021	80.1 %	20.0 %	30.3 %	0.9 %	0.3%	60.0%
2022	99.9 %	99.6 %	80.7 %	99.1 %	99.5 %	98.9 %

1 | The data shows the percentage in regard to total electricity consumed (incl. self-generated electricity from combined heat and power plant), not just the percentage in regard to total electricity purchased.

Total Energy Consumption per Employee

in MWh/employee

FY	Lidl	Kaufland	PreZero	Schwarz Produktion	Schwarz Dienstleistungen	Schwarz Group
2020	19	22	102	132	12	21
2021	19	22	39	125	12	21
2022	20	20	58	126	10	23

Self-generation of Renewable Energies from Photovoltaic Systems

Schwarz Group	Unit	2020	2021	2022	2021/22 delta
Buildings with photovoltaic systems	Number	1,305	1,886	2,485	+31.8%
Photovoltaic systems area	m²	988,768	1,608,018	2,442,361	+51.9%
corresponds to soccer pitches ¹	Number	138	225	342	+51.9%
Photovoltaic systems performance ²	kWp	-	271,834	485,471	+78.6%
Buildings with solar power systems for heat generation	Number	113	120	126	+5.0 %
Electricity self-generated renewable energies from PV systems ³	MWh	129,443	194,869	295,769	+51.8%
of which renewable energies fed into electricity grid	MWh	35,828	43,655	213,070	+388.1 %

- 1 | When converting the area into the comparison figure of equivalent soccer pitches, an average soccer pitch area of 7,150 m² was used for the calculation.
- 2 | Was collected for the first time for FY 21. Therefore, there are no values for FY 20.
- 3 | Incl. generation of electricity from biogas plant.





Volumes of Greenhouse Gas Emissions¹⁻⁵

		FY	Lidl	Kaufland	PreZero	Schwarz Produktion	Schwarz Dienstleistungen	Schwarz Group ⁶
		2020	122,497,672	33,647,255	959,195	1,620,319	461,526	159,185,967
Total	Gross volume of GHG emissions in tons of CO ₂ equivalent	2021	125,136,389	33,823,862	2,096,148	1,717,156	380,594	163,154,150
	2 - 1 - 1 - 1 - 1 - 2 - 2 - 4 - 1 - 1 - 1 - 1	2022	127,560,353	34,242,781	3,012,193	2,005,294	303,894	165,323,139
		2020	400,598	403,467	322,091	32,314	6,774	1,165,244
	Direct GHG emissions in tons of CO ₂ equivalent (scope 1)	2021	435,420	405,507	411,105	36,053	8,389	1,296,473
	CO ₂ equivalent (coops 1)	2022	547,589	400,569	1,005,784	36,835	9,778	2,000,556
	Volatile gases	2020	169,624	269,590	100,910	133	0	540,257
		2021	174,382	256,490	155,646	2,129	0	588,647
0 1		2022	157,518	260,975	214,569	70	0	633,131
Scope 1		2020	116,093	26,460	42,854	3,375	5,700	194,482
	Mobile combustion	2021	141,257	31,018	55,682	3,543	7,940	239,440
		2022	280,504	33,724	250,900	3,981	9,501	578,609
		2020	114,881	107,417	178,327	28,806	1,074	430,505
	Stationary combustion	2021	119,781	118,000	199,776	30,380	449	468,386
		2022	109,568	105,871	540,316	32,783	278	788,815

^{7 |} Scope-2 emissions according to the market-based approach were used for the total calculation of (operational) GHG emissions.



^{1 |} Analyzed sources for the emission factors: International organizations (e.g., IEA, IPCC), LCA databases (e.g., Ecoinvent), diff. national institutions (e.g., DBEIS/DEFRA), and industrial associations and organizations (e.g., PlasticsEurope, FEFCO).

^{2 |} Discrepancies in the climate footprint 2020 and 2021 from the Sustainability Report FY 2020/21 are a result of retrospective corrections due to additional data availability.

^{3 |} Due to values being rounded, there may be slight discrepancies in the totals.

^{4 |} Due to immateriality, the emissions of GHG categories 3.8, 3.13, 3.14, and 3.15 are not accounted.

^{5 |} Due to the inorganic growth of the companies of Schwarz Group and methodological adjustments, we are currently working on a new calculation for our base year FY 2019 and the previous years (FY 2020–2021). A direct comparison with the previous years therefore can currently not be undertaken.

^{6 |} In order to avoid duplicate accounting of emissions in the joint carbon footprint of the companies of Schwarz Group, the product emissions for products from Schwarz Produktion that appear both in the Schwarz Produktion carbon footprint and in the retail divisions' carbon footprints are only considered once for aggregation into the group carbon footprint. This also means that the individual totals of the divisions do not correspond to the values of Schwarz Group in the corresponding categories.



Indirect GHG emissions in tons of CO₂ equivalent (scope 2)	Schwarz Produktion 138,132 137,472 0 117,885 102,072 99,229 0 0	Schwarz Dienstleistungen 10,249 10,535 1,449 16,464 16,954 13,285	1,431,887 1,255,284 65,738 2,743,830 2,660,675 2,551,857
Indirect GHG emissions in tons of CO₂ equivalent (scope 2) including electricity acc, to market-based approach 2022 17,207 21,783 25,299 Indirect GHG emissions in tons of CO₂ equivalent (scope 2) including electricity acc, to location-based approach 2020 1,614,048 961,771 33,663 961,771 33,663 40,135 40,13	137,472 0 117,885 102,072 99,229	10,535 1,449 16,464 16,954 13,285	1,255,284 65,738 2,743,830 2,660,675 2,551,857
including electricity acc, to market-based approach 2022 17,207 21,783 25,299 Indirect GHG emissions in tons of CO ₂ equivalent (scope 2) including electricity acc, to location-based approach 2020 1,614,048 961,771 33,663 41,898 41,898 2021 1,607,305 892,446 41,898 10cation-based approach 2022 1,549,862 801,726 87,755	0 117,885 102,072 99,229	1,449 16,464 16,954 13,285	65,738 2,743,830 2,660,675 2,551,857
market-based approach 2022 17,207 21,783 25,299 Indirect GHG emissions in tons of CO₂ equivalent (scope 2) including electricity acc, to location-based approach 2020 1,614,048 961,771 33,663 2021 1,607,305 892,446 41,898 41,898 41,898 41,898 2020 15,49,862 801,726 87,755	117,885 102,072 99,229	16,464 16,954 13,285	2,743,830 2,660,675 2,551,857
indirect GHG emissions in tons of CO ₂ equivalent (scope 2) including electricity acc, to location-based approach 2021 1,607,305 892,446 41,898 41,898 87,755 2020 16,122 22,169 112	102,072 99,229	16,954 13,285 410	2,660,675 2,551,857
including electricity acc, to location-based approach 2022 1,549,862 801,726 87,755 2020 16,122 22,169 112	99,229	13,285 410	2,551,857
location-based approach 2022 1,549,862 801,726 87,755 2020 16,122 22,169 112	0	410	
Scope 2			38,813
Scope 2	0		
District heating 2021 16,782 23,616 340	U	995	41,734
2022 16,420 20,987 930	0	1,395	39,733
2020 544,788 675,392 24,924	138,132	9,839	1,393,074
Electricity acc, to market-based 2021 484,259 542,486 39,794 approach	137,472	9,539	1,213,550
2022 787 796 24,370	0	53	26,006
2020 1,597,926 939,602 33,551	117,885	16,054	2,705,017
Electricity acc, to loca- 2021 1,590,523 868,829 41,557 tion-based approach	102,072	15,959	2,618,941
2022 1,533,442 780,738 86,826	99,229	11,890	2,512,125
2020 961,507 1,101,028 347,127	170,446	17,022	2,597,131
Direct & indirect GHG Scope 1 and 2 emissions in tons of CO ₂ 2021 936,461 971,609 451,239	173,524	18,924	2,551,757
equivalent (scope 1 & 2) 7 2022 564,796 422,353 1,031,084	36,835	11,227	2,066,294

^{7 |} Scope-2 emissions according to the market-based approach were used for the total calculation of (operational) GHG emissions.



^{1 |} Analyzed sources for the emission factors: International organizations (e.g., IEA, IPCC), LCA databases (e.g., Ecoinvent), diff. national institutions (e.g., DBEIS/DEFRA), and industrial associations and organizations (e.g., PlasticsEurope, FEFCO).

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		FY	Lidl	Kaufland	PreZero	Schwarz Produktion	Schwarz Dienstleistungen	Schwarz Group ⁶
	Indirect GHG emissions	2020	121,536,165	32,546,227	612,068	1,449,873	444,503	155,012,438
	in tons of CO ₂ equivalent	2021	124,199,928	32,852,253	1,644,909	1,543,632	361,670	158,736,778
	(scope 3)	2022	126,995,557	33,820,429	1,981,109	1,968,460	292,667	163,256,845
		2020	106,511,793	28,054,956	21,208	1,179,892	172,379	134,365,302
	Cat. 3.1 Purchased goods and services	2021	103,302,743	28,270,516	42,563	1,237,528	172,139	131,161,551
	unu 00.71000	2022	104,374,649	28,824,608	63,618	1,671,808	143,726	133,279,045
		2020	0	0	84,262	0	0	84,262
	Cat. 3.2 Capital goods	2021	0	0	85,066	0	0	85,066
Scope 3		2022	0	0	146,491	0	0	146,491
•		2020	544,706	288,762	18,706	39,738	5,680	897,593
	Cat. 3.3 Fuel and energy-relat- ed emissions	2021	555,533	281,513	28,174	37,623	6,202	909,046
		2022	592,520	266,224	85,173	39,458	5,614	988,989
		2020	3,519,008	2,081,843	21,454	218,353	0	5,840,657
	Cat. 3.4 Upstream transporta- tion and distribution	2021	6,991,819	1,948,915	29,459	255,098	0	9,225,291
		2022	6,923,733	2,082,850	59,443	242,479	0	9,308,505
		2020	273,263	84,854	0	5,171	0	363,288
	Cat. 3.5 Waste generated in operations	2021	280,927	82,832	0	5,192	0	368,951
	- F	2022	279,334	74,571	0	5,000	0	358,905

^{7 |} Scope-2 emissions according to the market-based approach were used for the total calculation of (operational) GHG emissions.



^{1 |} Analyzed sources for the emission factors: International organizations (e.g., IEA, IPCC), LCA databases (e.g., Ecoinvent), diff. national institutions (e.g., DBEIS/DEFRA), and industrial associations and organizations (e.g., PlasticsEurope, FEFCO).

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		FY	Lidl	Kaufland	PreZero	Schwarz Produktion	Schwarz Dienstleistungen	Schwarz Group ⁶
		2020	43,704	12,772	5,119	1,061	3,555	66,212
	Cat. 3.6 Business travel	2021	62,957	22,990	5,866	1,921	5,783	99,517
		2022	95,301	22,324	14,470	2,819	10,526	145,440
		2020	409,703	163,734	7,595	4,172	6,821	592,025
	Cat. 3.7 Employee commuting	2021	444,720	172,447	14,214	4,597	7,931	643,909
		2022	463,876	179,612	32,550	4,872	9,895	690,805
	Cat. 3.9 Downstream transportation and distribution	2020	34,210	0	7,163	0	0	41,373
		2021	41,056	0	237	0	0	41,292
Scope 3	tation and distribution	2022	34,229	625	168	0	0	35,022
•		2020	0	0	63,539	0	0	63,539
	Cat. 3.10 Processing of sold products	2021	0	0	84,443	0	0	84,443
	Cora producto	2022	0	0	110,931	0	0	110,931
		2020	10,048,568	1,825,405	4	0	256,069	12,130,046
	Cat. 3.11 Use of sold products	2021	12,369,050	2,036,629	0	0	169,616	14,575,295
	p.oddoto	2022	14,082,145	2,343,700	3,148	0	122,906	16,551,899
		2020	151,210	33,901	383,018	1,486	0	568,143
	Cat. 3.12 End-of-life treatment of sold products	2021	151,123	36,410	1,354,887	1,672	0	1,542,417
	trouting to cold products	2022	149,771	25,913	1,465,117	2,023	0	1,640,813

^{7 |} Scope-2 emissions according to the market-based approach were used for the total calculation of (operational) GHG emissions.



^{1 |} Analyzed sources for the emission factors: International organizations (e.g., IEA, IPCC), LCA databases (e.g., Ecoinvent), diff. national institutions (e.g., DBEIS/DEFRA), and industrial associations and organizations (e.g., PlasticsEurope, FEFCO).

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Emissions Intensity of the Companies of Schwarz Group

	FY	Lidl	Kaufland	PreZero	Schwarz Produktion	Schwarz Dienstleistungen	Schwarz Group
Total emissions in t of CO ₂	2020	359	247	228	466	81	324
equivalent per employee	2021	336	235	177	448	58	303
	2022	330	229	111	489	37	287
Total emissions in t CO ₂	2020	9.9	6.9	-	-	-	-
equivalent per m² sales area	2021	9.7	6.6	-	-	-	-
	2022	9.5	6.2	-	-	-	-

Water Consumption within the Companies of Schwarz Group in Cubic Meters

	2020	2021	2022	2021/22 delta
Total water consumption	11,204,916	12,658,586	14,603,761	+15.4%
Water consumption per employee	22.8	23.5	25.4	+7.9%

