OUR CONSUMPTION AND OUR EMISSION

This overview shows the development of our consumption and the associated equivalent emissions. The data is updated to 31 December 2023.

See our full Sustainability Report for more information.

OUR DIRECT AND INDIRECT CONSUMPTION

Direct and indirect energy consumption (GJ) [1]	**2021**	**2022**	**2023**
Direct energy consumption *	**135.307**	**112.512**	**113.755**
Natural gas	113.912	89.669	91.267
Diesel	19.837	20.792	19.637
Gasoline	1.457	1.792	2.610
Methane	101	260	219
LPG	-	-	22
Indirect energy consumption	**101.468**	**117.248**	**116.485**
Electricity from non-renewable sources	59.530	55.985	50.876
Electricity from certified green energy (GO)	40.323	59.609	63.920
Electricity from own solar panels	1.615	1.654	1.689
% Renewable energy	41%	52%	56%
Total	**236.775**	**229.761**	**230.240**

* Not including the helicopter

1. The calculations are based on primary mapped consumption data. When precise figures were not available, consumption was estimated considering the type of factory, the floor area, the country and the number of months open/closed. The consumption estimate was calculated using the CURB database.

OUR PROCUREMENT TYPES

Breakdown per procurement type per Country (MWh)	**2023**	**2023**	**Composition certified renewable sources**		
	energy from non-renewable sources	energy from certified renewable sources	bundled RECs	contract with supplier	self-generation
EUROPE					
Italy	888	**12.912**	2%	94%	4%
France	309	**2.563**	0%	100%	0%
Germany	7	**850**	95%	5%	0%
United Kingdom	149	**649**	22%	78%	0%
Netherlands	391	**311**	0%	100%	0%
Spain	99	**452**	0%	100%	0%
Switzerland	39	**228**	100%	0%	0%
Austria	25	**116**	100%	0%	0%
Belgium	8	**123**	0%	100%	0%
Denmark	77	**0**	0%	0%	0%
Portugal	61	**0**	0%	0%	0%
Ireland	43	**0**	0%	0%	0%
Sweden	10	**21**	0%	100%	0%
GREATER CHINA					
China	1.592	**0**	0%	0%	0%
Hong Kong	453	**0**	0%	0%	0%
Macau	74	**0**	0%	0%	0%
Singapore	67	**0**	0%	0%	0%
Taiwan	56	**0**	0%	0%	0%
INDIA					
India	343	**0**	0%	0%	0%
JAPAN					
Japan	6.065	**0**	0%	0%	0%
NORTH AMERICA					
United States	2.934	**0**	0%	0%	0%
Canada	223	**0**	0%	0%	0%
SOUTH KOREA					
South Korea	217	**0**	0%	0%	0%

OUR EMISSIONS

Scope 1 and 2 greenhouse gas emissions (tonnes of CO_2 eq)[2]	2021	2022	**2023**
Scope 1	7.678	6.065	**6.131**
Natural gas	6.257	4.547	4.638
Diesel	1.305	1.393	1.304
Gasoline	93	113	161
Methane	5	13	11
LPG	-	-	1
Helicopter	17	17	16
Scope 2			
Scope 2 -Market Based	6.581	6.476	**6.247**
Scope 2 - Location Based	9.747	11.092	**11.163**

Scope 2 emission intensity indicators	2021	2022	**2023**
Scope 2			
g CO_2eq/kWh Market	233	199	193
g CO_2eq/kWh Location	346	341	345
g CO_2eq/sqm Market	30	19	18
g CO_2eq/sqm Location	45	32	32

2. The CO_2eq calculation (which includes CH4, NO2, HFC, PFC, SF6 and NF3 emissions when present) was executed following the GHG Protocol. CO2eq emissions were calculated using emission factors sourced from: AIB (Association of Issuing Bodies), UK Department for Environment Food & Rural Affairs and Department for Business, Energy & Industrial Strategy, Eurostat database, CURB database, Pcaf database, Ecoinvent database, international Life Cycle Assessment (LCA) studies and documents, environmental product declarations (EPD) and the IEA 2023 database (International Energy Agency).

It was not possible to include the emissions generated by the restocking of Refrigerant Gases in the Scope 1 calculation, as no precise data have been made available to date.

Scope 1 and 2 greenhouse gas emissions per Region (tonnes of CO_2 eq)	**2023**
Scope 1	**6.131**
Europe	4.980
Japan	842
Greater China	50
North America	206
South Korea	51
India	2
Asia	1
Scope 2 - Market Based	**6.247**
Europe	795
Japan	2.760
Greater China	1.283
North America	1.054
South Korea	95
India	243
Asia	17

Scope 3 greenhouse gas emission[3] (tonnes of CO_2 eq)	**2021**	**2022**	**2023**
Scope 3			
1. Purchased Goods and Service[4]	252.109	273.953	**240.696**
2. Capital goods	8.789	13.876	**44.258**
3. Fuel and energy-related activities	2.188	2.242	**2.585**
4. – 9. Upstream and downstream transportation and distribution[5]	17.134	23.860	**23.783**
5. Waste generated in operations	611	1.128	**308**
6. Business Travel	390	928	**1.583**
7. Employee Commuting	12.345	16.357	**18.081**
11. Use of sold products	58.409	62.004	**56.351**
12. End-of-life treatment of sold products	8.065	9.092	**7.046**
14. Franchises	2.374	2.285	**2.610**
15. Investments	10.203	16.326	**14.979**

3. When data were not available, estimates agreed with the relevant functions were used.
4. Scope 3 emissions were recalculated with respect to 2022, to unify the method used to collect data among the Group Production Hubs. Specifically, the calculation of emissions from the assembly of products (Category 1 - Purchased goods and services), from the use of products issued by the Group (Category 11 - Use of sold products) and from product end-of-life (Category 12 - End-of-life treatment of sold products) was updated. Within Scope 3, the calculation of Franchise emissions (Category 14) included emissions from the use of both natural gas and electricity. Finally, the data of categories 4 and 9 from the previous years (2022, 2021) were aligned with the methodology applied for 2023.
5. As in previous years, Category 4 emissions. Upstream transportation and distribution and Category 9 emissions. Downstream transportation and distribution are shown together, given that until 2023 the OTB Group mapped all transportation without immediately distinguishing between upstream and downstream. Furthermore, in 2023 transportation directly managed by OTB was calculated using the TMS and Greenrouter, applying the Glec emission factors. To ensure a basis for comparison, the emissions of the two previous years were recalculated using the Glec emission factors.