Bertelsmann Environmental Report 2022

Environmental information referencing the Standards of the
Global Reporting Initiative (GRI)

BERTELSMANN

Corporate Profile

Bertelsmann operates in the core business fields of media, services and education in around 50 countries worldwide. The geographic core markets are Western Europe – in particular, Germany, France and the United Kingdom – and the United States. In addition, Bertelsmann is strengthening its involvement in growth markets such as Brazil, India and China. The Bertelsmann divisions are RTL Group (entertainment), Penguin Random House (books), BMG (music), Arvato Group (services), Bertelsmann Marketing Services (direct marketing and print activities), Bertelsmann Education Group (education) and Bertelsmann Investments (international network of funds).

Bertelsmann SE & Co. KGaA is a capital market-oriented but unlisted partnership limited by shares. As a group holding company, it exercises key corporate functions such as the definition and further development of group strategy, capital allocation, financing and management. Internal corporate management and reporting follow the Group's organizational structure, which consists of the operating divisions and Corporate.

RTL Group is one of the leading European entertainment groups in the broadcasting, streaming, content, publishing and digital business, with interests in 56 television channels, nine streaming platforms and 36 radio stations. RTL Group's television channels include RTL Television in Germany, M6 in France and the RTL channels in the Netherlands, Luxembourg and Hungary, as well as a stake in Atresmedia in Spain. The streaming services comprise RTL+ in Germany and Hungary, Videoland in the Netherlands and 6play in France. The content business, Fremantle, is one of the largest international creators, producers and distributors of scripted and unscripted content in the world. The streaming tech company Bedrock and the ad-tech company Smartclip are also part of RTL Group. RTL Group is a listed company and a member of the MDAX. As of January 1, 2022, Gruner + Jahr is no longer reported as an independent division. The German magazine businesses and brands have been part of the RTL Group division since the beginning of the year. The remaining Gruner + Jahr activities (particularly Territory, the AppLike Group, DDV Mediengruppe and the investment in the Spiegel Group) were allocated to the Bertelsmann Investments division.

Penguin Random House is, based on revenue, the world's largest trade book publisher, with more than 300 imprints and book brands across six continents. Its well-known imprints include Doubleday, Riverhead, Viking and Alfred A. Knopf (United States); Ebury, Hamish Hamilton and Jonathan Cape (United Kingdom); Goldmann and Heyne (Germany); Plaza & Janés and Alfaguara (Spain); Sudamericana (Argentina); and the international imprint Dorling Kindersley. Each year Penguin Random House publishes more than 16,000 new titles and sells around 700 million print books, e-books and audiobooks.

BMG is an international music company with 22 offices in 13 core music markets, now representing more than three million titles and recordings, including iconic catalogs and renowned artists and songwriters such as Jason Aldean, Kylie Minogue, Mick Jagger and Keith Richards, Lewis Capaldi, Bebe Rexha, No Angels, Rita Ora, Tina Turner and many more.

Arvato Group is an international service provider that develops and implements custom-made solutions for all kinds of business processes, for customers in a wide range of sectors in more than 40 countries. These include customer experience, logistics, financial and IT services. The customer experience company Majorel, in which Bertelsmann owns a stake of almost 40 percent, is listed on the stock market. In April 2023, Bertelsmann agreed to accept a contemplated takeover offer for its stake in Majorel by the French company Teleperformance. The transaction is subject to regulatory approval. In the same month, the service division "Arvato" was renamed into "Arvato Group" and the Solution Group "Arvato Supply Chain Solutions" into "Arvato."

Bertelsmann Marketing Services (formerly Bertelsmann Printing Group) unites Bertelsmann's printing and direct marketing activities. They include all the Group's gravure, offset and book printing companies in Germany, the United Kingdom and the United States as well as numerous direct marketing service providers and the storage media producer Sonopress. In April 2023, Bertelsmann Printing Group was repositioned and henceforth operate as Bertelsmann Marketing Services. In this context, the content agency Territory and the employer branding specialist Embrace were reallocated within the Bertelsmann Group portfolio. Territory was integrated into the Bertelsmann Marketing Services division, while Embrace brand was spun off from the agency and transferred to the Bertelsmann Investments division.

Bertelsmann Education Group comprises Bertelsmann's education activities. The group's companies focus on the healthcare sector, in particular education and training, and deliver innovative ways of teaching and learning for students and professionals, and performance management solutions for organizations. Portfolio companies include the US continuing education and workforce management solution provider Relias, the professional practice-oriented Alliant University, the Brazilian company Afya, a provider of medical education and training, as well as venture fund investments.

Bertelsmann Investments comprises Bertelsmann's global network of funds, the newly created unit Bertelsmann Next, and the Investments & Participations unit. Investments are largely made through the funds Bertelsmann Asia Investments (BAI), Bertelsmann India Investments (BII) and Bertelsmann Digital Media Investments (BDMI). Furthermore, Bertelsmann Investments also makes key direct and fund investments in the regions South-East Asia, Latin America, Europe and Africa. The Bertelsmann Next unit is driving the entrepreneurial development of new growth sectors and lines of business, in particular in the areas of digital health, app marketing and HR tech. The Investments & Participations unit includes Territory (from April 2023 part of Bertelsmann Marketing Services), DDV Mediengruppe and the stake in the Spiegel-Gruppe.

Shareholder Structure

Bertelsmann SE & Co. KGaA is a capital market-oriented but unlisted partnership limited by shares. Three foundations (Bertelsmann Stiftung, Reinhard Mohn Stiftung and BVG-Stiftung) indirectly hold 80.9 percent of Bertelsmann SE & Co. KGaA shares, with the remaining 19.1 percent held indirectly by the Mohn family. Bertelsmann Verwaltungsgesellschaft (BVG) controls all voting rights at the General Meeting of Bertelsmann SE & Co. KGaA and Bertelsmann Management SE (general partner).

About this Report

Bertelsmann considers environmental protection to be an integral component of its corporate responsibility. In this annual Environmental Report, Bertelsmann reports on the effects of its activities and those of its divisions on both, environment and climate protection.

In this report, greenhouse gas emissions are presented in accordance with the Greenhouse Gas (GHG) Protocol. Environmental indicators for the 2022 financial year presented in this report reference the Global Reporting Initiative (GRI) Standards and the United Nations Global Compact (UNGC). Hyperlinks lead to further information, facts and figures about the responsible conduct of Bertelsmann and its corporate divisions on the Bertelsmann Website. Divisional data for 2021 financial year of RTL Group and Bertelsmann Investments was adjusted to reflect the discontinuation of Gruner + Jahr as an independent division. Divisional data for 2022 financial year of Bertelsmann Marketing Services (formerly Bertelsmann Printing Group) and Bertelsmann Investments refers to the group structure as of December 31, 2022, and does not reflect the changes occurred in April 2023 as described in the corporate profile. The renaming of the division "Arvato" into "Arvato Group" and the renaming of the Solution Group "Arvato Supply Chain Solutions" into "Arvato" have no implications for the presentation of the divisional environmental data in this report.

In March 2023, Bertelsmann also published a Combined Non-Financial Statement in the **Bertelsmann Annual Report 2022** (pp. 52-66), which complies with the German CSR Directive Implementation Act.

Introduction

Bertelsmann aspires to become climate neutral by 2030. With its long-term climate strategy "Bertelsmann Climate Neutral 2030," the company fulfills its responsibility to reduce and offset greenhouse gas emissions. Bertelsmann joined the Science Based Targets initiative (SBTi) in 2021 and supports the target of the Paris Climate Agreement to limit global warming to well below 2 degrees Celsius.

Supplementing the climate strategy, the company defined further strategic objectives and developed measures from those, as part of the Bertelsmann ESG Program (2021–2023). These objectives include strengthening the governance for climate and environmental protection and further developing environmental planning and reporting. In addition, the company intends to increase the share of renewable energies (green electricity, photovoltaics), implement new mobility concepts, advance energy efficiency, "Green IT," and the measurement of the digital footprint. Emissions from the print and digital products supply chains are to be presented in a transparent manner and reduced successively in a joint effort with business partners.

The **Bertelsmann Environmental Policy**, the **Bertelsmann Energy & Climate Policy**, and the **Bertelsmann Paper Policy** provide the framework for the Group's environmental management. In addition to climate neutrality (see **GRI 305**) and the shift to green electricity (see **GRI 302**), Bertelsmann strives to ensure the sustainable procurement of paper (see **GRI 301**).

Group-wide environmental efforts are coordinated by the Corporate Responsibility (CR) department under the supervision of the Chief Human Resources Officer (CHRO). Cross-divisional coordination is handled by the CR Council, which is chaired by the CHRO. Overall responsibility lies with the Bertelsmann Executive Board, which monitors the achievement of environmental targets annually as part of strategic planning. Operational responsibility for energy and environmental management lies with the managements of the individual Bertelsmann companies. The internationally staffed "be green" working group chaired by the Corporate Responsibility department serves as a platform for cross-divisional environmental engagement. Representatives from the Bertelsmann corporate divisions – e.g., paper buyers, energy and environmental managers, logistics experts, and controllers – regularly discuss current environmental topics and measures. The experts in the "be green" working group also coordinate the Group-wide collection and reporting of environmental data.

Since 2008, Bertelsmann has compiled Group-wide environmental indicators on paper, energy, water and effluents, greenhouse gas emissions, and waste (see **GRI 301, 302, 303, 305, 306**). These indicators illustrate the development of the environmental impacts of Bertelsmann and its sites, companies, and corporate divisions. Specific environmental footprint reports help to evaluate opportunities and risks and to report to business partners. They are also used as an information basis for ESG ratings. The basis for environmental reporting is the Group-wide IT platform "green.screen," a platform for the collection, processing, and analysis of environmental data at all levels of the organization. At the same time, more and more Bertelsmann companies are using "green.screen" for their digital energy data management. All production and logistics sites, the company's own computer centers, and most of its own and rented office sites were included in the latest data collection process. The environmental data for employees at the remaining office locations was calculated based on average consumption values.

GRI	Disclosure	UNGC

301	**Materials**	

Management approach

VII–VIII

Bertelsmann uses a wide variety of materials in the production and logistics of physical products. Besides paper and cardboard, these include, e.g., printing inks, coatings and adhesives, granulate for the production of CDs and DVDs, and plastic-based films and packaging. In addition, materials are procured as part of purchased goods and services.

Paper continues to be of particular relevance to Bertelsmann, representing the most important resource for the company's print business. Therefore, sustainable forestry, resource conservation, climate protection, and waste avoidance play a major role for Bertelsmann across the entire paper value chain. To protect forests that are valuable for climate and biodiversity, Bertelsmann has issued a **Paper Policy** for paper procurement to complement its **Environmental Policy**. It stipulates, e.g., that no wood from primary or protected forests can be used in paper production. Bertelsmann companies also need to ensure that the paper used has the highest possible proportion of recycled materials in addition to certified wood fibers.

Bertelsmann strives to raise the share of recycled paper and paper from certified, sustainable forestry to 100 percent. Recycled paper as well as paper of certified origin, complying with FSC®, PEFC™, SFI® requirements or comparable standards, are regarded as sustainably sourced paper.

Bertelsmann's media businesses have stepped up their efforts to produce content and products in a resource-conserving manner, e.g., with certified sustainable books and magazines, "green" TV productions, and plastic-free packaging. In their function as providers of print services, Bertelsmann companies in the service business offer their customers an extensive range of sustainably certified and climate-neutral print products.

Information on the general management approach for environmental matters: see **introduction**.

301-1	**Materials used by weight or volume**	VII–VIII

Material consumption
in tons

	2022	2021
Paper[1]	1,148,930	1,438,350
Other materials	76,800	73,750
Total materials	**1,225,730**	**1,512,100**

1) Including quantities procured via service providers and provided by third parties

In the 2022 financial year, Bertelsmann's total material use decreased by 19 percent. The amount of paper used for print products, packaging paper, and office paper diminished by 20 percent, primarily due to the decline in the print business. In contrast, the use of other materials increased by 4 percent year on year, in particular due to Arvato Group's growing logistics business.

GRI	**Disclosure**	**UNGC**

Paper consumption by division
in tons

	2022	2021 (adjusted)
RTL Group	25,006	26,920
Penguin Random House	291,267	298,280
BMG	2	1
Arvato Group	39,600	40,241
Bertelsmann Marketing Services	837,642	1,139,503
Bertelsmann Education Group	3	2
Bertelsmann Investments	13,331	11,831
Corporate	72	52
Total paper before consolidation	**1,206,923**	**1,516,830**
Consolidated	*-57,992*	*-78,480*
Total paper after consolidation	**1,148,931**	**1,438,350**

The year-on-year development of paper quantities used varied from division to division. Bertelsmann Marketing Services recorded declines in paper quantities of about 300,000 tons, primarily due to reduced sales of print products.

301-2	**Recycled input materials used**	**VIII**

Paper consumption and share of recycled and certified paper by division
in tons

	Total paper	of which recycled	of which certified	of which other
RTL Group	25,006	3,730	21,201	75
Penguin Random House	291,267	3,500	264,164	23,603
BMG	2	1	1	0
Arvato Group	39,600	15,121	11,625	12,853
Bertelsmann Marketing Services	837,642	191,302	533,585	112,755
Bertelsmann Education Group	3	1	0	2
Bertelsmann Investments	13,331	10,884	1,754	693
Corporate	72	40	20	12
Total paper before consolidation	**1,206,923**	**224,579**	**832,350**	**149,993**
Consolidated	*-57,992*	*0*	*-57,321*	*-671*
Total paper after consolidation	**1,148,931**	**224,579**	**775,029**	**149,322**

GRI	Disclosure	UNGC

In the 2022 financial year, 87 percent of the total paper quantities used was either recycled paper or certified fresh-fiber paper. Paper that meets the requirements of FSC®, PEFC™, SFI®, or similar standards is shown under "certified quantities." The remaining 13 percent of the total quantities of paper procured did not meet the above criteria and is reported as "other"; the majority of this was supplied by customers outside the Group for the printing of books, magazines, catalogs, and brochures ("provisions").

Share of sustainably sourced paper
in percent

	2022	2021
Share of recycled fibers	24	24
Share of certified fresh fibers	70	71
Total share	**94**	**95**

For quantities of paper purchased by Bertelsmann companies on their own account and not provided by third parties, Bertelsmann has set the target of sourcing 100 percent according to the paper standards described above. Bertelsmann uses the shares of recycled paper and certified fresh fiber paper in the total quantity of paper purchased as indicators of responsible use of natural resources and protection of forests. The share of sustainably sourced paper for own account decreased slightly from 95 to 94 percent in the 2022 financial year. This decrease is mainly attributable to Penguin Random House, where non-certified paper had to be increasingly purchased due to a difficult procurement market.

302	Energy

Management approach   **VII–IX**

Energy, as a major factor influencing the "Bertelsmann Climate Neutral 2030" climate strategy, is a focus topic for the Group. Although increasing digitalization lowers the company's dependency on finite natural resources, it simultaneously leads to a higher energy consumption caused by data use. Besides improving its energy efficiency, Bertelsmann relies on increasing the use of renewable energies across all corporate divisions and among its external IT service providers. The Group-wide specifications on energy management are codified in the **Bertelsmann Energy & Climate Policy**.

As the most important lever for reducing its own emissions, Bertelsmann pursues the target of procuring 100 percent of the electricity purchased from renewable sources. Alongside electricity purchasing, local on-site generation of own electricity and heat using renewable energies still makes up only a small share but is to be expanded and contribute to the transformation of local energy markets. Bertelsmann does not use lignite or anthracite in its own energy generation and expects its energy suppliers to gradually phase out fossil fuels. Increasing transparency about energy consumption thanks to the "green.screen" IT platform supports energy data management at site level and enables cross-site exchange. At this point, energy data collected during the year at more than 100 national and international sites is compiled and visualized in "green.screen."

Information on the general management approach for environmental matters: see **introduction**.

GRI	Disclosure	UNGC
302-1	**Energy consumption within the organization**	VII–VIII

Use of fuels and propellants
in megawatt hours (MWh)

	2022	2021
Natural gas	834,900	954,000
Diesel	29,000	33,500
Gasoline	10,400	10,000
Heating oil	6,700	7,100
Other	16,200	10,600

In the 2022 financial year, a total of 834,900 MWh of natural gas were used for the company's own energy generation, reflecting a year-on-year decrease of 12 percent. Natural gas is used in combined heat and power plants to produce electricity and heat to generate process heat in printing plants and in heating systems for the company's own heat generation. Only a small proportion of heat is generated using heating oil. There was a slight decrease in the volume used as compared to the previous year. In the 2022 financial year, 29,000 MWh of diesel were consumed, equivalent to a 13-percent decrease compared to the previous year. 94 percent of the diesel was used for company cars, with the remainder used for emergency generators and forklifts. Gasoline consumption by company cars increased by 4 percent. The remaining energy quantities subsumed under "other" comprise fuels for fleet vehicles, company jets, and renewable fuels. Here, a 53-percent increase occurred, primarily due to the fact that Arvato (formerly Arvato Supply Chain Solutions) has used 5,000 MWh of biogas in Germany for the first time. In accordance with the Bertelsmann Energy & Climate Policy, no coal is used in the in-house generation of energy.

In addition to energy generation from fossil fuels and propellants, Bertelsmann also generates a small amount of energy from renewable sources. Electricity generation from solar power increased from 10,800 MWh in 2021 to 16,900 MWh in the 2022 financial year. About half of this was consumed by the company itself and the remaining amount was fed into the power grid. The increase was achieved primarily through higher solar power generation at logistic sites from Arvato (formerly Arvato Supply Chain Solutions) in Germany and the Netherlands as well as from Penguin Random House UK.

Procurement of electricity and heat
in megawatt hours (MWh)

	2022	2021
Purchased electricity	446,600	477,100
of which from renewable sources	*337,900*	*211,600*
Purchased heat	91,100	103,200
of which from renewable sources	*5,500*	*4,700*
Total purchased energy	**537,700**	**580,300**

In addition to the fuels and propellants used, Bertelsmann records the procurement of electricity and heat. Besides grid purchases, this also includes energy volumes at rented properties that are provided by landlords. Purchased energy decreased by 7 percent in the 2022 financial year, while Bertelsmann was able to significantly increase its consumption of renewable energies with certificates of origin. The share of green electricity in total purchased electricity increased to 76 percent (previous year: 44 percent).

Bertelsmann has defined mandatory criteria and recommendations for the renewable electricity purchases of its sites worldwide. These criteria cover exclusivity, periodicity, regionality, additionality and renewable technologies with reference to the technical criteria of RE100. Bertelsmann is not a member of RE100 but acknowledges the work of the initiative that aims to grow corporate demand for renewable energy and to accelerate the transition to a zero-emission economy. In the 2022 financial year, about 95 percent of green energy purchases of Bertelsmann sites were aligned with RE100 technical requirements. In 13 African and Asian countries no local sourcing solutions were available and renewable energy certificates were not considered in other grid-connected or nearby countries instead.

In the 2022 financial year, the number of sites using green electricity increased significantly from 181 to 378 sites compared to the previous year. This mainly included Bertelsmann Marketing Services sites in Germany and Majorel sites worldwide.

Energy consumption by division

in megawatt hours (MWh)

	2022	2021 (adjusted)
RTL Group	110,900	131,300
Penguin Random House	92,400	89,300
BMG	2,700	2,100
Arvato Group	323,400	321,500
Bertelsmann Marketing Services	877,600	1,020,600
Bertelsmann Education Group	5,000	4,000
Bertelsmann Investments	12,900	13,600
Corporate	18,200	17,000
Total energy consumption	**1,443,100**	**1,599,400**

Total energy consumption includes the fuels and propellants used, self-generated energy, and energy volumes purchased. In the 2022 financial year, Bertelsmann Marketing Services accounted for by far the largest share of total consumption at 61 percent, followed by Arvato Group at 22 percent, and RTL Group at 8 percent. The remaining 9 percent was distributed among the other corporate divisions. Total energy consumption decreased by around 10 percent compared to the previous year. Due to production declines at Bertelsmann Marketing Services, total energy consumption fell by 156,300 MWh.

The decrease at RTL Group is mainly driven by the divestment of RTL Croatia and RTL Belgium. In contrast, there was an increase at Penguin Random House due to the new logistic centers at Hampstead in the United States which was in full operation in the 2022 financial year.

GRI	Disclosure	UNGC
302-2	**Energy consumption outside of the organization**	**VII–VIII**

Mobility
in millions of kilometers

	2022	2021
Employee commutes	637	502
Business travel	122	46
Total mobility	**759**	**548**

The mobility of employees increased in the 2022 financial year, particularly after lifting of coronavirus restrictions. The number of kilometers traveled by employees commuting to work and on business trips increased by 39 percent compared to the previous year. At 84 percent, employee commutes to their place of work accounted for the largest share of distance traveled. Increased working from office throughout the year raised this share by 27 percent. Likewise, the number of kilometers traveled on business trips increased by 165 percent. The reason for higher mobility shares is the lifting of coronavirus restrictions which led to more frequent working from offices and business travel.

GRI	Disclosure	UNGC
302-3	**Energy intensity**	**VIII**

The energy intensity, the ratio of the sum of the recorded total energy consumption values in megawatt hours to the total revenues reported in the consolidated financial statements (in millions of euros), was at 71 in the 2022 financial year. Compared to the previous year (86), this represents a further decline by 17 percent.

GRI	Disclosure	UNGC
302-4	**Reduction of energy consumption**	**VII–IX**

See **GRI 302-1**.

303	**Water and Effluents**	

Management approach

Data on water consumption and effluents are also recorded Group-wide as part of the annual environmental data survey, using the "green.screen" IT platform. Based on this data, trends can be discerned and potential for improvement identified. Regarding the regulation of water management, these topics are predominantly handled by the local businesses.

Information on the general management approach for environmental matters: see **introduction**.

VII–VIII

GRI	Disclosure	UNGC
303-1	**Interactions with water as a shared resource**	**VII–VIII**

See **GRI 303 Management approach**.

GRI	Disclosure	UNGC
303-2	**Management of water discharge-related impacts**	**VII–VIII**

See **GRI 303 Management approach**.

GRI	Disclosure	UNGC
303-3	**Water withdrawal**	**VII–VIII**

GRI	Disclosure	UNGC

Water withdrawal by source

in thousands of cubic meters

	2022	2021
from public utilities	1,144	1,092
from groundwater	2,682	2,694
from rainwater storage tanks	2	4
Total water withdrawal	**3,828**	**3,790**

In the 2022 financial year, total water withdrawal slightly increased by 1 percent compared to the previous year. The water withdrawals from public utilities increased by 5 percent, mainly due to the increased use of water by Mohn Media in Germany. In contrast, the use of groundwater from wells was decreased by a trivial amount.

Water withdrawal by division

in thousands of cubic meters

	2022	2021 (adjusted)
RTL Group	2,172	2,129
Penguin Random House	97	84
BMG	31	7
Arvato Group	617	584
Bertelsmann Marketing Services	854	939
Bertelsmann Education Group	9	8
Bertelsmann Investments	16	13
Corporate	32	26
Total water withdrawal	**3,828**	**3,790**

Water is used to varying degrees in the individual corporate divisions. In the 2022 financial year, there was a decrease in consumption of water by Bertelsmann Marketing Services due to a decline in business. However, there was a rise in water consumption by Arvato Group due to growth of Majorel. RTL Group accounted for more than half of the water withdrawals at 57 percent, predominantly required for energy-saving cooling of buildings from well systems. Bertelsmann Marketing Services accounted for another 22 percent and Arvato Group for 16 percent. The other corporate divisions accounted for 5 percent of total water withdrawal.

303-4	Water discharge	VII–VIII

Water discharge by destination

in thousands of cubic meters

	2022	2021
into public sewage systems or to third parties	1,260	1,199
into surface water, receiving waters, or own	2,097	2,066

GRI	Disclosure			UNGC

wastewater treatment plants			
Total water discharge	3,357	3,265	

In the 2022 financial year, water discharge increased slightly as compared to the previous year. Discharge into surface water, receiving waters, or own wastewater treatment plants increased by 2 percent, derived from the above-mentioned increase in well water withdrawal. Water discharged into the public sewerage system or to third parties increased by 5 percent, primarily due to the above-mentioned reasons for increased water withdrawal.

305	Emissions

Management approach   **VII–IX**

Bertelsmann supports the international community's target of limiting global warming to well below 2 degrees Celsius in line with the Paris Climate Agreement. Bertelsmann aspires to become climate neutral by 2030. The Group aims to significantly reduce greenhouse gas emissions generated at its own sites, business travels by its employees, and in the manufacture of its products by 2030, and to offset all remaining emissions. The total emissions from the above causes amounted to 1.1 million tons of CO_2 equivalents (CO_2e) in the 2022 financial year. This represents a 19-percent reduction compared to the 2018 baseline (1.3 million tons of CO_2e). The Group-wide target of cutting recorded greenhouse gas emissions by 50 percent compared to 2018 includes besides emissions from sites, employees, and own products, also all other emissions covered in the carbon footprint. This reduction target was validated by the Science Based Targets initiative (SBTi) in 2021.

The "Bertelsmann Climate Neutral 2030" climate strategy prioritizes measures to avoid and reduce emissions – ahead of offsetting remaining emissions. Based on the climate strategy, own targets for corporate divisions of Bertelsmann were derived, and relevant measures were identified. The achievement of these division-specific targets is discussed as part of annual strategy meetings between the Executive Board and divisional heads. In addition, the company defined further strategic objectives and developed measures from those, as part of the Bertelsmann ESG Program (2021–2023).

Unavoidable emissions are offset via a voluntary climate protection project. Further projects are to be added in the years ahead and together form a project portfolio. Projects are carefully selected on the basis of defined criteria. For example, the projects must have a long-term orientation and ensure as best as possible that compensated CO_2 emissions are not returned to the atmosphere. In the 2022 financial year, certificates for more than 47,000 tons were offset by a reforestation project in Brazil that is exclusively supported by Bertelsmann.

Greenhouse gas emissions are accounted for in accordance with the Corporate Accounting and Reporting Standard, the Scope 2 Guidance, and in line with the Corporate Value Chain (Scope 3) Standard of the Greenhouse Gas Protocol (GHG Protocol). Greenhouse gas emissions are reported in CO_2 equivalents (CO_2e). In accordance with the GHG Protocol, emissions are reported in three different categories: Scope 1 refers to Bertelsmann's direct emissions, which e.g., result from its own on-site power generation and the operation of printing plants. Scope 2 covers indirect emissions from the generation of purchased electricity and district heating or heat provided by landlords. In accordance with the Scope 2 Guidance of the GHG Protocol, Bertelsmann reports both market-based and site-based emissions in the overview of key indicators. In addition, all relevant indirect emissions

GRI	Disclosure	UNGC

(Scope 3) from the value chain are accounted for. In accordance with the Corporate Value Chain (Scope 3) Standard, this includes upstream emission sources such as the purchase and transport of materials and the mobility of employees as well as downstream emissions such as the distribution of products.

Information on the general management approach for environmental matters: see **introduction**.

305-1 **Direct (Scope 1) GHG emissions**

VII–VIII

Scope 1 and 2 emissions
in tons of CO_2 equivalents (CO_2e)

	2022	2021
Scope 1 emissions	191,100	215,800
Scope 2 emissions[1]	70,700	124,400
Scope 1 and 2 total	**261,800**	**340,200**

1) Scope 2 emissions were calculated using the market-based method as indicated in the Scope 2 Guidance of the GHG Protocol. According to the site-based method, Scope 2 emissions amounted to 171,500 tons of CO_2e (previous year: 191,200 tons of CO_2e).

The sum of direct (Scope 1) and energy-related indirect (Scope 2) greenhouse gas emissions in the 2022 financial year amounted to 261,800 tons of CO_2e, a decrease of 23 percent compared to the previous year (340,200 tons of CO_2e). Scope 1 emissions at Bertelsmann stem primarily from the combustion of fossil fuels such as natural gas. These emissions fell by 11 percent in the 2022 financial year, in particular due to declines in business at Bertelsmann Marketing Services as well as savings of natural gas consumption at various locations in Europe. Scope 2 emissions from the purchase of electricity and heat were reduced by 43 percent, due to the increased use of green electricity.

Scope 1 and 2 emissions by division
in tons of CO_2 equivalents (CO_2e)

	2022	2021 (adjusted)
RTL Group	11,800	15,500
Penguin Random House	14,100	14,200
BMG	500	600
Arvato Group	49,900	70,600
Bertelsmann Marketing Services	178,700	230,400
Bertelsmann Education Group	800	2,000
Bertelsmann Investments	2,100	3,300
Corporate	3,900	3,600
Scope 1 and 2 total	**261,800**	**340,200**

Bertelsmann Marketing Services and Arvato Group accounted for the largest share of Bertelsmann's Scope 1 and Scope 2 emissions in the 2022 financial year. This can be attributed to the consumption of electricity, natural gas, and heat by the printing plants at Bertelsmann Marketing Services and the operation of Arvatos' logistics sites.

GRI	Disclosure	UNGC

The year-on-year development of Scope 1 and Scope 2 emissions varied across the corporate divisions. At Bertelsmann Marketing Services, 51,700 tons less CO_2e were emitted than in the previous year, due in part to declines in production. RTL Group and Arvato Group saw a decrease in emissions due to divestments of RTL Group and the switch to renewable electricity procurement at Arvato (formerly Arvato Supply Chain Solutions) and Majorel. Meanwhile, emissions at Bertelsmann Corporate slightly increased due to a more frequent use of company jets.

305-2	**Energy indirect (Scope 2) GHG emissions**	**VII–VIII**
	See **GRI 305-1**.	

305-3	**Other indirect (Scope 3) GHG emissions**	**VII–VIII**

Scope 3 emissions

in tons of CO_2 equivalents (CO_2e)

	2022	2021
Materials and services	1,221,400	1,301,800
Energy-related emissions	56,100	70,100
Upstream transports	140,900	162,100
Business travel	32,900	12,900
Commuting by employees	90,900	55,000
Downstream transports	180,300	219,000
Other	27,400	23,800
Scope 3 total before consolidation	**1,749,900**	**1,844,700**
Consolidated	*-104,800*	*-71,200*
Scope 3 total after consolidation	**1,645,100**	**1,773,500**

Within the Scope 3 categories, indirect greenhouse gas emissions from materials and services accounted for the largest share in the 2022 financial year at 70 percent (before consolidation), remaining almost the same compared to the previous year. This included, among other things, emissions from paper procurement, printing materials used, external services, and the production of TV content.

Downstream transports from the distribution of products accounted for just over 10 percent of Scope 3 emissions, while upstream transports accounted for 8 percent. Other sources include upstream energy-related emissions (outside Scope 1 and Scope 2), such as commuting by employees, business travel, and emissions from waste logistics and the end-of-life cycle of Bertelsmann's own products.

Scope 3 emissions (after consolidation) decreased by 7 percent in the 2022 financial year. There was a decline in the material- and transport-related emissions due to declining print business, and decreased sales from Penguin Random House. However, there was a rise in the amount related to sound recording of BMG. Energy-related emissions decreased by 20 percent primarily due to the switch to green electricity. In contrast, commuting by employees-related Scope 3 emissions increased by 35,900 tons of CO_2e due to the uplifting of coronavirus restrictions.

GRI	Disclosure	UNGC

Scope 3 emissions by division

in tons of CO_2 equivalents (CO_2e)

	2022	2021 (adjusted)
RTL Group	167,700	173,100
Penguin Random House	548,600	572,700
BMG	13,000	8,600
Arvato Group	265,000	224,500
Bertelsmann Marketing Services	732,700	847,000
Bertelsmann Education Group	2,800	1,100
Bertelsmann Investments	17,400	15,800
Corporate	2,700	1,900
Scope 3 total before consolidation	**1,749,900**	**1,844,700**
Consolidated	*-104,800*	*-71,200*
Scope 3 total after consolidation	**1,645,100**	**1,773,500**

In the 2022 financial year, Bertelsmann Marketing Services accounted for the largest share of Scope 3 emissions at 42 percent (before consolidation), followed by Penguin Random House at 31 percent, and Arvato Group at 15 percent. The other corporate divisions accounted for the remaining 12 percent.

Overview of total GHG emissions

in tons of CO_2 equivalents (CO_2e)

	2022	2021
Scope 1 emissions	191,100	215,800
Scope 2 emissions	70,700	124,400
Scope 3 emissions	1,645,100	1,773,500
Scope 1, 2 and 3 total	**1,906,900**	**2,113,700**

In the 2022 financial year, the total direct and indirect greenhouse gas emissions (Scope 1, 2 and 3) accounted for was 1.9 million tons of CO_2e, of which 86 percent stemmed from indirect emissions along the value chain (Scope 3).

305-4	**GHG emissions intensity**	VIII

Specific greenhouse gas emissions (Scope 1 and Scope 2) fell from 18.2 tons of CO_2e per 1 million euros of Group revenue in the 2021 financial year to 12.9 tons of CO_2e per 1 million euros of Group revenue in the 2022 financial year. Compared to the previous year, this represents a decline by 29 percent.

305-5	**Reduction of GHG emissions**	VII–VIII

Change in GHG Emissions compared to the base year

Bertelsmann aims to cut its recorded greenhouse gas emissions by 50 percent compared to the 2018 baseline by 2030 (see **GRI 305 Management approach**). In the 2018 baseline, a small proportion of the total 2.5 million tons of CO_2e (19 percent) was generated at Bertelsmann's own sites (Scope 1 and Scope 2) and, accordingly, the largest

GRI	Disclosure	UNGC

proportion of 81 percent was generated along the value chain (Scope 3). One major source of Scope 1 and Scope 2 emissions is the combustion of natural gas/the purchase of electricity at Bertelsmann's own sites. The majority of Scope 3 emissions are attributable to the value chain of print products.

Since the 2018 baseline, total emissions have already been reduced by 24 percent to 1.9 million tons of CO_2e despite rising revenues. The shift to green electricity at the company's own sites at all corporate divisions led to a saving of about 130,000 tons of CO_2e. Despite increasing mobility activities in the reporting year, there is still a reduction of 70,000 tons of CO_2e due to increased remote work and reduced business travel. Much of the savings is attributable to production declines in the printing business, which reduced the emissions at Bertelsmann Marketing Services by around 400,000 tons of CO_2e and at the publishing business of RTL Group by more than 30,000 tons of CO_2e.

In addition, further reductions were realized through increased energy efficiency at the company's own sites and through reduced emissions in content production. Meanwhile, increases were observed in the growth businesses of Penguin Random House and Arvato (formerly Arvato Supply Chain Solutions) (Scope 3 in particular). These resulted in an increase of about 110,000 tons of CO_2e since the 2018 baseline. An increase in emissions was also observed at suppliers in the upstream value chain of physical products.

See **GRI 305-1**, **305-3**.

306	Waste	

Management approach   **VIII**

The material quantities of waste at Bertelsmann are generated in the printing services and logistics business and consist largely of raw material paper. This primarily includes paper waste from the printing process, or waste paper from books and magazines, as well as packaging paper in the logistics. Further waste from synthetic raw materials, such as metals and chemicals, is generated in the printing and production processes. In the logistics, waste is also generated from transport materials made of wood and plastic. In addition, small quantities of waste are generated at the office sites.

In addition to the waste generated at the company's own sites, waste is also generated at the end of the lifecycle of its own products. This is mainly waste from raw material paper, which to a high degree is recyclable and, depending on the local disposal infrastructure, is in fact already largely recycled.

Data on waste generation is also recorded Group-wide as part of the annual environmental data survey, using the IT platform "green.screen." Based on this data, trends can be discerned and potential for improvement identified. Bertelsmann's businesses strive to maximize the recycling of materials. Waste is generally recycled and disposed by private or municipal disposal companies outside the sites. Disposal is handled very differently from region to region and is the operational responsibility of the local management of Bertelsmann companies. At some sites, such as Corporate and Arvato Systems, discarded IT equipment is collected and given to a social services provider for reprocessing.

Information on the general management approach for environmental matters: see **introduction**.

GRI	Disclosure	UNGC
306-1	**Waste generation and significant waste-related impacts**	**VIII**
	See **GRI 306 Management approach**.	
306-2	**Management of significant waste-related impacts**	**VIII**
	See **GRI 306 Management approach**.	
306-3	**Waste generated**	**VIII**

Waste by type of disposal

in tons

	2022	2021
for recycling	204,330	243,650
for energy recovery	13,540	4,480
for incineration	950	1,110
for landfill and other	6,710	9,440
of which classified as hazardous	*1,400*	*1,720*
Total waste	**225,530**	**258,680**

In the 2022 financial year, the volume of waste decreased by 33,150 tons compared to the previous year. 91 percent of the waste was recycled for materials and 6 percent for energy. The remaining 3 percent was either incinerated without energy recovery or sent to landfill and other disposal methods. From the total 225,530 tons of waste, 1,400 was classified as hazardous; as in the previous year, the share was less than 1 percent.

Waste by type of material

in tons

	2022	2021
Paper	183,550	197,810
Plastics	3,460	3,610
Metals	1,640	4,200
Printing inks and other chemicals	1,260	1,510
Wood	3,230	3,960
Mixed waste	6,680	6,710
Other	25,710	40,880
Total waste	**225,530**	**258,680**

In the 2022 financial year, about 81 percent of the waste consisted of paper, e.g., from the printing processes of books and magazines. Metals and chemicals from the printing and production processes accounted for 1 percent of the waste. The wood and plastic waste for the transport of products or materials comprised 3 percent of the waste. Mixed waste, such as residual waste, or unclassified other waste accounted for the remainder. There is generally no differentiated reporting on this at the office sites.

GRI	Disclosure			UNGC

Total waste

in tons

	2022	2021 (adjusted)
RTL Group	1,270	1,570
Penguin Random House	19,020	20,570
BMG	40	20
Arvato Group	52,370	42,340
Bertelsmann Marketing Services	150,600	191,920
Bertelsmann Education Group	10	10
Bertelsmann Investments	1,800	1,800
Corporate	420	450
Total waste	**225,530**	**258,680**

The recorded waste volumes differed from division to division. At 67 percent, Bertelsmann Marketing Services' printing plants generated the largest share of total waste in the 2022 financial year. Total waste volumes went down by 33,150 tons compared to the previous year, in particular due to declining production volumes at Bertelsmann Marketing Services. Around a 10,000-ton increase in waste volumes from the Arvato Group is attributable to the growth of logistics business. The remaining divisions generated 10 percent of the recorded waste.

GRI	Disclosure	UNGC
306-4	**Waste diverted from disposal** See **GRI 306-3**.	VIII
306-5	**Waste directed to disposal** See **GRI 306-3**.	VIII