GRI Report 2020

Bertelsmann Corporate Responsibility Information in accordance with the Global Reporting Initiative (GRI) Standards

Excerpt: GRI 300 Environmental Indicators

BERTELSMANN

About this Report

Since 2011, Bertelsmann's corporate responsibility (CR) reporting has followed the international standards of the Global Reporting Initiative (GRI), the world's leading framework for sustainability reporting by international companies and organizations, and known since 2016 as the „GRI Standards." This report was created in accordance with the GRI Standards: Core option. Supplementary information in conformity with the sector-specific "Media Sector Disclosures" (MSD) are also included. Hyperlinks lead to further information, facts and figures about the responsible conduct of Bertelsmann and its divisions on the corporate website. The report's content was selected based on a relevance analysis of corporate responsibility topics at Bertelsmann, which was carried out with in-house and external stakeholders.

Bertelsmann's GRI reporting also fulfills its obligation, as a UN Global Compact member, to produce an annual Communication on Progress. A separate column in the table highlights the relevant reporting content for each principle. In addition, the environmental data from Bertelsmann's carbon footprint have been fully integrated into its GRI reporting as of 2018.
In March 2021, Bertelsmann also published a <u>Combined Non-Financial Statement as part of its Combined Management Report 2020</u> (pp. 44-50), which complies with the CSR Directive Implementation Act in Germany.

GRI 300

Environmental

BERTELSMANN

GRI 300 Environmental

Bertelsmann aspires to achieve climate neutrality by 2030. With its long-term climate strategy, the company fulfills its responsibility to reduce and offset greenhouse gas emissions. Bertelsmann has joined the Science Based Targets Initiative and supports the goal of the Paris Climate Agreement to limit global warming to well below 2 degrees Celsius.

The recording and evaluation of environmental impacts along the relevant value chains is a key component of the Group-wide environmental commitment. A gradual expansion of transparency in cooperation with business partners supports the identification and minimization of negative environmental impacts. At the same time, this enables Bertelsmann to meet the increasing information requirements of its business customers and consumers.

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 100 percent green electricity (see **GRI 302**), Bertelsmann strives to ensure the sustainable procurement of paper (see **GRI 301**).

All Group-wide environmental efforts are coordinated by the Corporate Responsibility department under the supervision by the Chief Human Resources Officer. Cross-divisional coordination is handled by the Corporate Responsibility Council, which is chaired by the Chief HR Officer. Overall responsibility lies with the Bertelsmann Executive Board, which monitors the achievement of environmental goals annually as part of strategic planning. Operational responsibility for energy and environmental management lies with the managements of the individual Bertelsmann companies, which set and track their own targets for improving their environmental performance as part of local management systems.

The internationally staffed Bertelsmann "be green" Committee serves as a platform for cross-divisional environmental commitment. It is managed by the Corporate Responsibility department. Representatives from the Bertelsmann divisions – e.g., paper buyers, energy and environmental managers, logistics experts, and controllers – regularly coordinate on the latest environmental issues and measures. The experts in the "be green" Committee also coordinate the Group-wide collection and reporting of environmental data. Since 2008, Bertelsmann has compiled Group-wide environmental indicators on energy, greenhouse gas emissions, paper, water, effluents, and waste (see **GRI 301, 302, 303, 305, 306**). These indicators illustrate the development of the environmental impacts of Bertelsmann and its divisions.

The basis for environmental reporting is the Group-wide IT platform "green.screen". "green.screen" is 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 use "green screen" for their digital energy data management. 336 companies at 520 locations across all divisions were included in this latest data collection. All production and logistics sites, the company's own computer centers and most of its own and rented office sites were included in the data collection process. The environmental data for employees at the remaining office locations was calculated based on average consumption values.

GRI	Disclosure	UNGC
GRI 301	**Materials**	

103	**Management approach (including GRI 103-1, 103-2, 103-3)**	**VII-VIII**

Bertelsmann uses a wide variety of materials in the production and logistics of physical products. Besides paper and cardboard, the materials used 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 a particular priority at Bertelsmann, representing the most important resource for the company's traditional print media business. Even in an increasingly digitized media landscape, printed books, magazines, brochures, and flyers continue to have their place. Therefore, sustainable forestry, resource conservation, climate protection, and waste avoidance play a major role for Bertelsmann across the entire paper value chain. To complement its **Environmental Policy**, Bertelsmann has issued a **Paper Policy**. It stipulates, for example, that no wood from primary or protected forests must be used in paper production. In addition to certified wood fiber, Bertelsmann companies also take care to ensure that the paper used contains the highest possible proportion of recycled materials.

Bertelsmann strives to raise the proportion of recycled paper and paper from certified, sustainable forestry to 100 percent. This new ambition replaces the target of 90 percent, which was already achieved in previous years. Recycled paper as well as papers of certified origin that meet FSC®, PEFC™, SFI® requirements or comparable standards are regarded as sustainably sourced paper.

The content businesses Penguin Random House, Gruner + Jahr, and BMG are increasingly working on resource-conserving product design, e.g., sustainably certified books and magazines and plastic-free packaging. In their function as providers of print services, the companies in Bertelsmann's service divisions offer their customers an extensive range of sustainably certified and climate-neutral print products.

For information on the general management approach for environmental matters: see **GRI 300**.

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

Material consumption
in tons

	2020	2019
Paper[1]	1,481,180	1,681,990
Other materials	60,090	57,530
Total materials	1,541,270	1,739,520

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

In the 2020 financial year, Bertelsmann's use of materials decreased by 11 percent. The volume of paper for print products, packaging paper and office paper declined by 12 percent, primarily due to the decline in the print business of the Bertelsmann Printing Group and Gruner + Jahr. In contrast, other materials such as printing inks, plastics, and packaging films increased by 4 percent year on year, in particular due to Arvato's growing logistics business.

Paper consumption by corporate division
in tons

	2020	2019
RTL Group	88	183
Penguin Random House	258,518	234,504
Gruner + Jahr	64,278	85,506
BMG	3	4
Arvato	21,979	18,558
Bertelsmann Printing Group	1,239,877	1,475,240
Bertelsmann Education Group	6	9
Bertelsmann Investments	1	1
Corporate	9	25
Total paper before consolidation	1,584,759	1,814,030
Consolidated	-103,541	-132,040
Total paper after consolidation	1,481,218	1,681,990

The development of volumes compared to the previous year varied from division to division. At Bertelsmann Printing Group and Gruner + Jahr, production-related decreases in paper volumes of approximately 260,000 tons were recorded. In contrast, Penguin Random House recorded an increase of nearly 24,000 tons in paper used due to the increase in book sales during the coronavirus pandemic. Arvato's logistics business saw an increase in packaging papers of around 3,000 tons due to increased online mail orders.

301-2	Recycled input materials used	VIII

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

	Total paper consumption	of which recycled	of which certified	of which other
RTL Group	88	26	48	14
Penguin Random House	258,518	3,163	249,566	5,789
Gruner + Jahr	64,278	14,364	49,040	874
BMG	3	1	0	2
Arvato	21,979	10,979	3,134	7,866
Bertelsmann Printing Group	1,239,877	224,426	705,534	309,917
Bertelsmann Education Group	6	4	0	2
Bertelsmann Investments	1	0	0	1
Corporate	9	8	0	1
Consolidated	-103,541	-442	-101,801	-1,298
Total	1,481,218	252,529	905,521	323,168

GRI	Disclosure	UNGC

In the 2020 financial year, 78 percent of the total amount of paper used was either recycled paper or certified "virgin" (fresh-fiber). Papers that meet the requirements of FSC®, PEFC™, SFI®, or similar standards are shown under certified quantities. The remaining 22 percent of the total amount of paper procured did not meet the above criteria. They are reported as "other", the majority of which were supplied by customers outside the Group for the printing of books, magazines, catalogs, and brochures ("provisions").

Share of sustainably sourced paper
in percent

	2020	2019
Share of recycled fibers	25	24
Share of certified fresh fibers	72	72
Total	97	96

For quantities of paper purchased by Bertelsmann companies on their own account and not provided by third parties, special attention is paid to the paper standards described above. Bertelsmann uses the proportions of recycled paper and certified virgin fiber paper in the total amount of paper purchased as indicators of responsible use of natural resources and protection of forests. The proportion of sustainably sourced papers for own account increased slightly to 97 percent in the 2020 financial year (previous year: 96 percent).

GRI 302	Energy

103	**Management approach (including GRI 103-1, 103-2, 103-3)**	**VII-IX**

Energy as a major factor influencing the achievement of Bertelsmann's climate target 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 renewables across all corporate divisions and among its external IT service providers. The Group-wide specifications on energy management are codified in the **Bertelsmann Energy and Climate Policy**.

As the most important lever for reducing its own emissions, Bertelsmann pursues the goal of procuring 100 percent of the electricity it buys from renewable sources. Beyond electricity purchasing, local on-site generation of own electricity and heat using renewable energies and, on a transitional basis, highly efficient natural gas-powered cogeneration plants, contribute to the transformation of local energy markets. Bertelsmann does not use lignite or anthracite in producing its own energy, 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 interaction and exchange between sites.

Information on general management approach to the environment: see **GRI 300**.

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

Use of fuels and propellants
in megawatt hours (MWh)

	2020	2019
Natural gas	1,064,000	1,117,000
Diesel	34,000	51,000
Gasoline	9,000	15,000
Heating oil	7,000	11,000
Other	8,600	11,000

In the 2020 financial year, a total of 1,064,000 MWh of natural gas were used for the company's own energy generation, reflecting a year-on-year decrease of close to 5 percent. Natural gas is used in highly efficient cogeneration 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. The volume decreased by another more than 36 percent compared with the previous year. 34,000 MWh of diesel were consumed for company vehicles as well as emergency power generators. The decrease by one-third is primarily due to the reduced mobility of employees during the coronavirus pandemic. This is also the reason for the 40-percent drop in gasoline consumption to 9 MWh. In accordance with the Bertelsmann Energy and Climate Policy, no coal is used in the in-house generation of energy. The remaining energy quantities are used for forklifts and company jets. The quantities subsumed under "other" include renewable fuels.

In addition to energy production from fuels and propellants, a small amount of energy is generated from renewable sources. Electricity generation from solar power increased from 3,200 MWh in 2019 to 8,000 MWh in 2020, with approximately half of this being consumed by the company itself and the remaining amount being fed into the power grid. The increase was achieved through higher electricity generation from photovoltaic systems at Arvato in the Netherlands, and at the Bertelsmann Printing Group in the United Kingdom.

Procurement of electricity and heat
in megawatt hours (MWh)

	2020	2019
Purchased electricity	475,300	527,600
of which from renewable sources	106,900	82,800
Purchased heat	117,400	129,800
of which from renewable sources	3,700	3,700
Total purchased energy	**592,700**	**657,400**

In addition to the fuels used, Bertelsmann reports the purchase of electricity and heat. Next to grid purchases, this also includes volumes from rented properties, which are provided by landlords. Bertelsmann was again able to increase its consumption of renewable energies with certificates of origin. The share of green electricity in its total purchased electricity rose to 22 percent (previous year: 16 percent). In the 2020 reporting year, the number of sites

GRI	Disclosure	UNGC

that purchase green electricity increased by eleven sites year on year, to 81 sites. These included RTL Group sites in Luxembourg, some Arvato logistics sites in Germany, and the Corporate Center in Germany.

Energy consumption by corporate division

in megawatt hours (MWh)

	2020	2019
RTL Group	123,600	140,900
Penguin Random House	78,700	86,000
Gruner + Jahr	30,600	43,000
BMG	2,200	1,700
Arvato	309,900	337,000
Bertelsmann Printing Group	865,800	929,000
Bertelsmann Education Group	4,900	6,700
Bertelsmann Investments	300	300
Corporate	18,900	28,400
Total energy consumption	1,434,900	1,573,000

Bertelsmann's divisions differ in their energy consumption. Bertelsmann Printing Group accounted for by far the largest share of total consumption at 60 percent, followed by Arvato at around 22 percent and RTL Group at 9 percent. The remaining 9 percent was consumed in the other divisions. Energy consumption in 2020 was down year-on-year across nearly all business units. At around 60,000 MWh in each case, this decrease can be explained in equal parts by declines in production and the reduced use of office buildings across all divisions due to the coronavirus pandemic.

302-2	Energy consumption outside of the organization	VII-VIII

Mobility
in millions of kilometers

	2020	2019
Employee commutes	571	1,024
Business travel	72	280
Total mobility	643	1,304

The mobility of employees decreased significantly by nearly 51 percent in the 2020 fiscal year. Commuting accounted for the largest share of this figure (89 percent). Increased working from home due to the coronavirus pandemic reduced the distances commuted by 44 percent. The distances traveled on business trips fell even more sharply across the Group, by 74 percent. This was also due to the coronavirus pandemic, as a result of which business travel was greatly reduced and digital communication options were used more frequently instead.

302-3	Energy intensity	VIII

The energy intensity, the ratio of the sum of the reported energy-consumption values in megawatt hours to the total revenues reported in the consolidated financial statements (in

GRI	Disclosure	UNGC

millions of euros), was at 83 in 2020 fiscal year. Compared to the previous year (87), this represents a further decline by 5 percent.

302-4	**Reduction of energy consumption**	**VII-IX**

See **GRI 302-1**.

GRI 303	Water and Effluents	

103	**Management approach (including GRI 103-1, 103-2, 103-3)**	**VII-VIII**

Data on water consumption and wastewater are also recorded throughout the company 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. Due to the locally varying relevance and regulation of water management, these topics are predominantly handled by the local businesses.

Information on the management approach for water: see **GRI 300**.

303-1	**Interactions with water as a shared resource**	**VII-VIII**

See **GRI 303** Management approach.

303-2	**Management of water discharge-related impacts**	**VII-VIII**

See **GRI 303** Management approach.

303-3	**Water withdrawal**	**VII-VIII**

Water withdrawal by source
in thousands of cubic meters

	2020	2019
from public utilities	1,066	1,405
from groundwater	2,813	2,969
from rainwater storage tanks	12	5
Total water withdrawal	3,891	4,379

In the 2020 financial year, water withdrawal fell by 11 percent. The most significant decrease is in water withdrawal from public utilities. This figure fell by 24 percent, primarily because of the decreased use of offices due to the coronavirus pandemic. The use of groundwater from wells was down by 5 percent.

Water withdrawal by corporate division
in thousands of cubic meters

	2020	2019
RTL Group	2,167	2,381
Penguin Random House	93	123
Gruner + Jahr	42	90
BMG	4	5
Arvato	457	565

GRI	Disclosure	UNGC

Bertelsmann Printing Group	1,024	1,070	
Bertelsmann Education Group	79	110	
Bertelsmann Investments	0	0	
Corporate	25	35	
Total water withdrawal	**3,891**	**4,379**	

Water is used to varying degrees in the individual divisions. RTL Group accounted for more than half of the water withdrawals at just under 56 percent, Bertelsmann Printing Group for 26 percent, and Arvato for 12 percent. The other divisions accounted for 8 percent of total water withdrawal. All divisions recorded a decline in water withdrawals, primarily due to the increase in working from home.

303-4	Water discharge	VII-VIII

Water discharge by destination

in thousands of cubic meters

	2020	2019
into public sewage systems or to third parties	1,105	1,410
into surface water, receiving waters or own wastewater treatment plants	2,129	2,340
Total water discharge	3,234	3,750

In the 2020 financial year, total water discharge fell by 14 percent compared to 2019. The most significant reduction, amounting to almost 22 percent, was in wastewater discharged to the public sewage system or to third parties. This was mainly due to lower consumption of fresh water as a result of reduced use of office space. Discharges to surface water, receiving water bodies, or the company's own wastewater treatment plants fell by 9 percent compared with the previous year.

GRI 305	Emissions	

103	Management approach (including GRI 103-1, 103-2, 103-3)	VII-IX

Bertelsmann supports the international community's goal of limiting global warming to well below 2°C in line with the Paris Agreement on climate change. Bertelsmann will become climate neutral by 2030. To this end, the greenhouse gas emissions generated from its own sites, employee business travel, and the manufacture of its own products are to be reduced significantly by 2030, and the remaining emissions offset. The total emissions from the above causes amounted to 1.1 million tons of CO_2 equivalents (CO_2e) in the 2020 financial year. This represents a 15 percent reduction compared to 2018 (1.3 million tons of CO_2e). At the same time, Bertelsmann is pursuing the reduction target of cutting absolute greenhouse gas emissions by 50 percent by 2030 as compared to 2018. In addition to emissions from sites, employees, and own products, this includes all other emissions covered in the carbon footprint. This reduction target was validated by the Science Based Targets Initiative in March 2021.

The climate protection strategy prioritizes measures to avoid and reduce emissions – ahead of offsetting remaining emissions. It is substantiated by specific action plans for the

GRI	Disclosure	UNGC

individual divisions. The Executive Board follows up on target achievement yearly, based on uniform Group-wide milestones and indicators. Unavoidable emissions are offset by means of emissions compensation from a portfolio of voluntary climate-protection projects. Projects are carefully selected on the basis of defined criteria. These include projects that bind CO_2 emissions from the atmosphere over the long term ("removals") and thus actually compensate for the volume of emissions caused by Bertelsmann. In the 2020 financial year, certificates for more than 14,000 tons were offset by the reforestation project in Brazil, exclusively supported by Bertelsmann.

Greenhouse gas emissions are accounted for in accordance with the "Corporate Accounting and Reporting Standard" and "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 accordance with the GHG Protocol and in CO_2e. In accordance with the GHG Protocol, emissions are reported in three different categories. Scope 1 refers to Bertelsmann's direct emissions, which for instance result from its own (on-site) power generation and the operation of printing machines. Scope 2 covers indirect emissions from the generation of purchased electricity and district heating, or heat provided by landlords. In accordance with the GHG Protocol Scope 2 Guidance, Bertelsmann reports both market-based and location-based emissions in the overview of key indicators.

As part of developing the Climate Neutrality target, the data collection methods for indirect emissions (Scope 3) were updated and the emission sources included in the balance sheet were expanded. Significant changes include the inclusion of supplier-specific emissions data – particularly in the area of paper production and printing services – and a more detailed recording of emissions from commutes. In addition, further emission sources such as refrigerant losses, overnight hotel stays, transport and distribution, and waste logistics were included across the Group. These changes resulted in a retroactively adjusted data basis for the years 2018 and 2019.

305-1	Direct (Scope 1) GHG emissions	VII-VIII

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

	2020	2019
Scope 1	236,900	246,400
Scope 2[1]	148,400	185,500
Scope 1 and 2 total	385,300	431,900

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 200,600 metric tons of CO_2e (previous year: 239,800 metric tons).

The sum of direct (Scope 1) and energy-related indirect (Scope 2) greenhouse gas emissions in 2020 was 385,300 metric tons of CO2e, equaling a decrease of 11 percent compared with the previous year. Scope 1 emissions stem primarily from the combustion of fossil fuels such as natural gas and, to a lesser extent, from the use of fuels and coolants. These emissions fell by nearly 4 percent in the reporting year. Greenhouse gas emissions from purchased electricity and heat (Scope 2) decreased significantly by 20 percent due to lower energy consumption and increased use of green electricity.

GRI	Disclosure		UNGC

Scope 1 and 2 emissions by corporate division

in tons of CO_2 equivalents (CO_2e)

	2020	2019
RTL Group	21,600	33,200
Penguin Random House	11,400	14,500
Gruner + Jahr	5,700	10,000
BMG	700	500
Arvato	87,500	97,500
Bertelsmann Printing Group	253,100	267,600
Bertelsmann Education Group	1,900	2,600
Bertelsmann Investments	100	0
Corporate	3,300	6,300
Scope 1 and 2 total	385,300	431,900

Bertelsmann Printing Group and Arvato accounted for the largest share of Bertelsmann's Scope 1 and Scope 2 emissions. This can be attributed to the consumption of electricity, natural gas and heat by the printing presses at Bertelsmann Printing Group, and the operation of materials handling equipment at Arvato's logistics sites.

Nearly all divisions significantly reduced their Scope 1 and Scope 2 emissions year on year. The coronavirus pandemic in particular contributed to a decrease in emissions, as many sites temporarily switched to working from home. Accordingly, consumption of electricity and heat fell significantly, although production volumes and revenues increased at Penguin Random House and Arvato. In absolute terms, this corresponds to a decrease of around 20,000 tons of CO_2e. Production declines at the printing plants resulted in approximately 15,000 tons less CO_2e being emitted than in the previous year. Another 15,000 metric tons of CO_2e were saved by RTL Group, Arvato, and Corporate shifting to green electricity.

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)

	2020	2019
Materials and services	1,240,000	1,315,100
Energy-related emissions	55,000	69,300
Upstream transports	159,300	170,100
Business travel	18,500	73,500
Commuting by employees	76,800	125,400
Downstream transports	210,400	245,000
Other	27,400	30,400
Scope 3 total before consolidation	1,787,400	2,028,800
Consolidation	-145,700	-152,800

GRI	Disclosure			UNGC
	Scope 3 total	1,641,700	1,876,000	

The total direct and indirect greenhouse gas emissions (Scope 1, 2 and 3) accounted for in 2020 amounted to 2.03 million metric tons of CO_2e – of which 81 percent were attributable to indirect emissions along the value chain (Scope 3).

Within the Scope 3 categories, indirect greenhouse gas emissions from materials and services accounted for the largest share at 75 percent (before consolidation). These include emissions from paper purchasing, printing materials used, external services, and the production of TV content. Downstream transport emissions from the distribution of products accounted for just under 13 percent of emissions in 2020, while upstream transport accounted for over 9 percent of Scope 3 emissions. Commuting by employees accounted for 5 percent of emissions. Other sources include upstream energy-related emissions (outside Scope 1 and Scope 2), business travel, and emissions from waste logistics and the end-of-life of Bertelsmann's own products.

Scope 3 emissions decreased by 12 percent in the fiscal year. This was largely due to reduced production volumes and the restricted mobility of employees as a result of the coronavirus pandemic.

Scope 3 emissions by division

in tons of CO_2 equivalents (CO_2e)

	2020	2019
RTL Group	138,200	187,200
Penguin Random House	483,200	477,800
Gruner + Jahr	80,400	115,300
BMG	7,000	9,900
Arvato	184,100	240,400
Bertelsmann Printing Group	889,400	985,000
Bertelsmann Education Group	2,400	5,100
Bertelsmann Investments	300	800
Corporate	2,400	7,300
Consolidation	-145,700	-152,800
Scope 3 total	1,641,700	1,876,000

At 54 percent, Bertelsmann Printing Group had the largest share of Scope 3 emissions, followed by Penguin Random House with 29 percent. Arvato also contributed a double-digit share with 11 percent, and RTL Group accounted for 8 percent. Gruner + Jahr generated 5 percent of the remaining emissions, as did the other divisions.

305-4	**GHG emissions intensity**	**VIII**

Specific greenhouse gas emissions (Scope 1 and Scope 2) fell from 24.0 metric tons of CO_2e per 1 million euros of Group revenue in 2019 to 22.1 metric tons of CO_2e per 1 million euros of Group revenue in the 2020 financial year.

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

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

GRI	Disclosure	UNGC

Change in GHG Emissions compared with the base year
in tons of CO_2 equivalents (CO_2e)

	2020	2018
Scope 1 emissions	236,900	258,200
Scope 2 emissions	148,400	205,700
Scope 3 emissions	1,641,700	2,001,100
Total	2,027,000	2,465,000

Bertelsmann aims to reduce its reported greenhouse gas emissions by 50 percent by 2030 as compared to 2018 (see **GRI 305 Management approach**). In the base year, a small proportion of the emissions (19 percent) were generated at Bertelsmann's own sites (Scope 1 and Scope 2) and, accordingly, the largest share of 81 percent was generated along the value chain (Scope 3). The main source of Scope 1 and Scope 2 emissions is the combustion of natural gas and the purchase of electricity at Bertelsmann's own sites. The majority of Scope 3 emissions are attributable to the value chain of print products.

In fiscal years 2019 and 2020, total emissions have already been reduced by 18 percent compared to the base year 2018. These reductions are primarily due to production decreases in the print business. At Bertelsmann Printing Group and Gruner + Jahr, around 220,000 metric tons of CO_2e were saved in this way. Restrictions on mobility due to the coronavirus pandemic resulted in savings of around 90,000 metric tons of CO_2e across all divisions through increased working from home and significantly reduced business travel. The shift to 100 percent green electricity at Bertelsmann's own sites, particularly at Penguin Random House and RTL Group, saved around 50,000 tons of CO_2e. In addition, further savings were realized through increased energy efficiency at the company's own sites and through reduced emissions in content production. The latter resulted both from Corona-related restrictions on production and from specific reduction measures.

GRI 306	Effluents and Waste

103 | **Management approach (including GRI 103-1, 103-2, 103-3)** | **VIII**

Data on waste generation is also recorded across the Group during the annual environmental data collection with the IT platform "green screen". Based on this data, trends can be discerned and potential for improvement identified. Due to the varying local relevance and regulation of waste management, these topics are predominantly handled by the local businesses.

Information on the management approach for water: see **GRI 303**.

306-2 | **Waste by type and disposal method** | **VIII**

Waste by type of disposal
in tons

	2020	2019
for recycling	247,400	284,200
for disposal	11,500	11,800
of which hazardous	1,600	1,600
Total waste	258,900	296,000

In the 2020 reporting year, the amount of recyclable waste was reduced to 247,400 tons, which corresponds to a decrease of 13 percent compared to the previous year. This resulted in particular from production declines at Bertelsmann Printing Group and increased working from home due to the coronavirus pandemic. As in the previous year, waste for recycling accounted for 96 percent of total waste. Waste for recycling refers to waste that was either returned to the resource cycle or incinerated. Waste for disposal accounted for 4 percent of total waste, as in the previous year, and the volume was down by nearly 3 percent year on year. Hazardous waste totaled 1,600 tons, the same amount as in 2019.

Total waste

in tons

	2020	2019
RTL Group	1,050	1,900
Penguin Random House	22,150	31,100
Gruner + Jahr	1,940	9,000
BMG	40	70
Arvato	39,680	38,000
Bertelsmann Printing Group	193,610	215,100
Bertelsmann Education Group	20	40
Bertelsmann Investments	0	0
Corporate	440	790
Total waste	258,930	296,000

The recorded waste volumes across the Group plummeted by 13 percent in the 2020 financial year. At 75 percent, Bertelsmann Printing Group's printing plants generated the largest share of total waste. Waste volumes were down by 22,000 tons compared to the previous year, in particular due to declining production volumes. In contrast, waste volumes from the logistics business increased by 2,000 tons, attributable to increased business activity. The remaining reductions are attributable to increased working from home across all divisions.