

be green.

The environmental initiative of Bertelsmann



Bertelsmann Carbon Footprint and Environmental Indicators 2012

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Bertelsmann calculates its carbon footprint and key environmental indicators every two years. This data supports the in-house development of potential improvements and gives stakeholders an understanding of developments in the company's relevant material flows.

Method

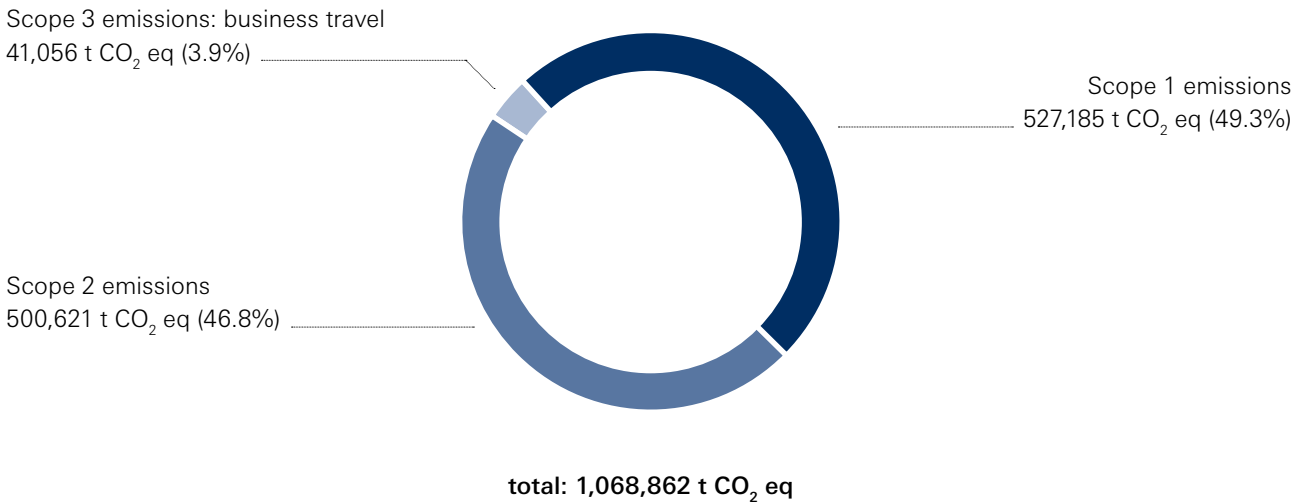
The carbon footprint specifies which greenhouse gas emissions can be ascribed to a company's business activities in a given period. Besides carbon dioxide (CO₂), other greenhouse gases such as methane (CH₄) were taken into account and assessed according to their impact on the climate. Therefore, the carbon footprint is reported in CO₂ equivalents (CO₂ eq). Bertelsmann calculates its greenhouse gas emissions in accordance with the internationally recognized Greenhouse Gas Protocol, which divides greenhouse gas emissions into three different "Scopes". These are used to differentiate emissions in the carbon footprint. Scope 1 includes all emissions generated directly on-site. This mainly involves emissions from heating systems, cogeneration plants, production processes and company vehicles. Scope 2 includes all indirect emissions associated with the purchase of electricity or district heating. In accordance with the Greenhouse Gas Protocol, Scope 3 includes all other indirect emissions generated by suppliers and service providers. Bertelsmann's carbon footprint shows all Scope 1 and Scope 2 emissions as well as indirect emissions (Scope 3) resulting from business travel.

PricewaterhouseCoopers conducted an audit to attain a limited assurance regarding the figures. Information audited by PricewaterhouseCoopers is indicated with a check mark (✓).

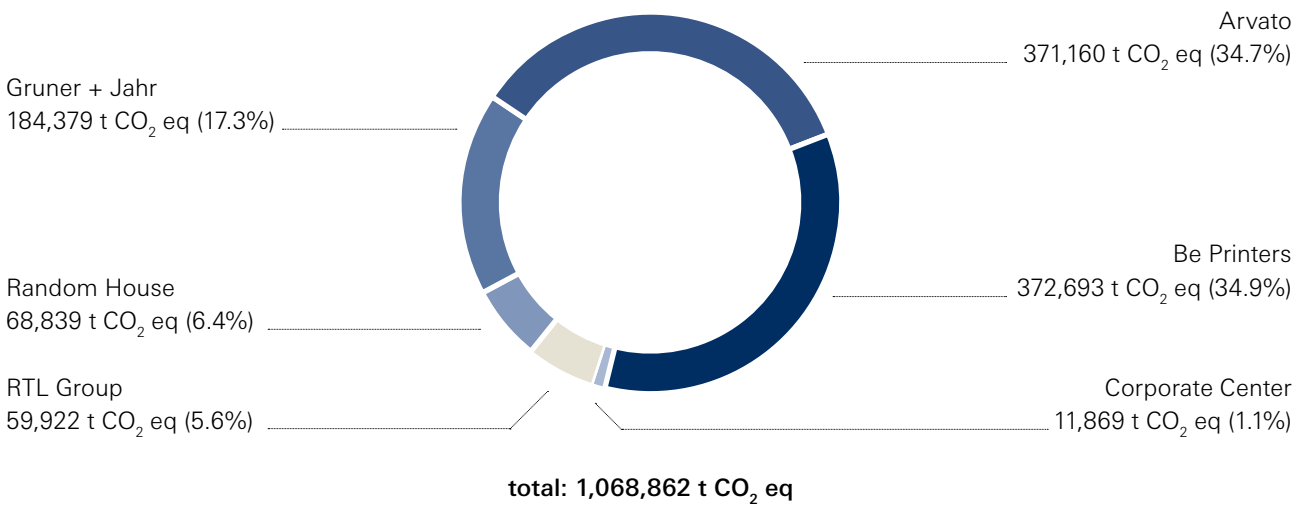
Results

Most of Bertelsmann's greenhouse gas emissions are due to the consumption of heat and electricity. In the case of electricity, one main driver is the proportionate share in the CO₂ emissions of the energy providers' power plants. At printing plants, power consumption has a major influence on the level of greenhouse gas emissions. In offices and administrative buildings, heating and air conditioning systems also have an impact on emission levels. Bertelsmann already began using cogeneration systems more than 20 years ago to maximize the efficiency of its fossil fuel consumption. Today, seven sites produce their own electricity and heat using in-house cogeneration plants. The surplus heat that inevitably arises during power generation is used for on-site heating and cooling. Business travel by air, car and train cause 3.9 percent of the calculated emissions.

Greenhouse Gas Emissions by Scope 2012 (√)



Carbon Footprint 2012 (√)



The Be Printers, Arvato and Gruner + Jahr divisions contribute the biggest share of Bertelsmann’s greenhouse gas emissions. Printing presses and other production facilities in these parts of the company use a lot of electricity, gas and heat, which is reflected in the carbon footprint.

Emissions have fallen significantly since 2008, when they amounted to 1.475 million t CO₂ eq. In 2010, the figure was 1.305 million t CO₂ eq. In 2012, emissions amounted to 1.068 million t CO₂ eq – an 18-percent reduction compared to 2010.

The reduction in greenhouse gas emissions results from sharp drops in energy consumption. These declines are mainly due to structural changes within the company, as well as energy savings. The print businesses are affected by the increasing redistribution of advertising budgets to digital channels, declining print runs and, in southern Europe, by the economic crisis as well.

Environmental Indicators (√)

Input streams	2010	2012	Δ
Raw materials, total	3,972,696 t	2,780,607 t	-30%
of which printing/office paper	3,837,232 t	2,187,301 t	-43%
of which recycling paper	not measured t	533,031 t	
of which ink and varnish	70,181 t	60,268 t	-14%
of which plastic materials	31,664 t	8,629 t	-73%
Auxiliary materials, total	102,399 t	58,846 t	-43%
Operating materials, total	10,204 t	8,410 t	-18%
Water, total	4,448,879 m³	5,828,894 m³	-¹
Water, own wells	2,517,679 m ³	2,179,326 m ³	- ¹
Water, public supply	1,931,201 m ³	3,649,568 m ³	- ¹
Energy used			
Heat and combustible materials	3,230,125,252 MJ	2,281,954,909 MJ	-29%
Electricity	1,435,000 MWh	1,208,551 MWh	-16%
Fuels	246,002,753 MJ	336,543,242 MJ	37%
Business travel, total	198,258,885 km	189,443,295 km	-4%
Air travel	149,447,920 km	148,979,055 km	-0.3%
Rail travel	28,730,245 km	23,199,860 km	-19%
Car rental	20,080,720 km	17,264,379 km	-14%
Output streams	2010	2012	Δ
Waste, total	525,876 t	293,277 t	-44%
Waste for deposit	16,259 t	13,708 t	-16%
of which industrial waste	13,214 t	10,590 t	-20%
of which hazardous waste	3,045 t	3,118 t	2%
Waste for recycling	509,617 t	279,569 t	-45%
of which plastics	9,762 ² t	1,082 t	-89%
of which paper	464,072 ² t	245,358 t	-47%
Wastewater, total	1,940,323 m³	2,900,148 m³	-¹
Indirect discharge	1,940,323 m ³	2,802,906 m ³	- ¹
Direct discharge	not measured m ³	97,242 m ³	
Emissions to air³			
Carbon dioxide	1,223,320 t	1,012,358 t	-17%
Nitrogen oxide	2,567 t	2,377 t	-7%
Sulfur dioxide	1,209 t	914 t	-24%
Volatile organic compound	3,431 t	2,583 t	-25%
Particulate matter	135 t	86 t	-36%

¹ Due to improved data quality, the 2012 figure is not comparable to the 2010 figure.

² Adjusted figures.

³ The figures for air emissions include indirect air emissions under Scope 2 and from business travel by airplane, rental car and rail. All other figures shown in the table are direct inputs or outputs.

Paper use at printing plants (t)

Division	Paper use t	Recycled paper
Arvato	514,529 t	145,729 t 28.3%
Be Printers	1,280,483 t	366,905 t 28.7%
Gruner + Jahr (print)	345,368 t	13,057 t 3.8%
Printing plants total	2,140,380 t	525,690 t 24.6%

The digital transformation of Bertelsmann's businesses is also evident in the environmental indicators for raw materials. Compared to 2010, paper consumption has fallen by 1,649,931 tons (down 43 percent) to 2,187,301 tons. Nevertheless, in absolute terms Bertelsmann still uses a lot of paper. Therefore, in line with the Bertelsmann Paper Policy, paper with the highest possible proportion of recycled content is preferred. Considerable progress has been made since 2010: the use of recycled paper has increased by approximately 50,000 tons (up 10 percent). The share of recycled paper used at the printing plants is 24.6 percent (compared to 13 percent in 2010).

In addition, the Bertelsmann Paper Policy states the preference for paper made from fibrous material originating from certified sustainable forestry. For example, Gruner + Jahr already uses 97.5 percent FSC- or PEFC-certified paper in its magazines. Verlagsgruppe Random House Germany exclusively uses FSC-certified paper.

Certifications (t)

	Number	FSC certified	PEFC certified
Printing plants ¹	29	23	15
Share in relation to total number of printing plants	100%	79%	52%

¹ Includes digital printing facilities at Arvato.

For print products to be labeled FSC or PEFC, not only must the appropriate paper grades be purchased, but the printing plants must also be certified. This involves, for example, taking measures to ensure that certified and non-certified paper are not mixed. Seventy-nine percent of Bertelsmann's printing plants are certified for processing and distributing FSC products, and 52 percent are PEFC certified.

Bertelsmann's consumption of plastic has fallen even more sharply than its paper consumption. This is mainly due to falling production volumes of storage media such as CDs and DVDs, which are increasingly being replaced by download and streaming services.

Another important resource for Bertelsmann is fresh water. Water consumption totaled about 5.8 million cubic meters in 2012. In addition to the consumption of water for daily use in offices and production buildings, the largest share is incurred at the printing plants. One driver for water consumption in rotogravure printing is the recycling of toluene: the solvent is adsorbed from the exhaust fumes using steam and activated carbon filters, and then re-used in the printing process.

Details on the calculation and reporting boundaries

The German Institute for Energy and Environmental Research (IFEU) in Heidelberg supported Bertelsmann in collecting the data.

The figures for the 2012 financial year relate to all companies in which Bertelsmann SE & Co. KGaA and its divisions (RTL Group, Random House, Gruner + Jahr, Arvato, Be Printers) own a more than 50-percent stake. The Prinovis companies are considered as a subsection of Be Printers. The data for the remaining Direct Group companies was attributed to the Corporate Center. In the case of majority shareholdings, the volumes were taken into account entirely instead of proportionally. For non-producing sites (e.g. offices), besides energy consumption and business travel, only the relevant input and output streams were considered. These are office paper, printer cartridges and toner as well as detergents, water, wastewater and relevant waste.

In collaboration with the IFEU, an internal guideline for compiling the indicators was developed. It contains specifications on responsibilities, the collection process and the reporting boundaries.

Direct greenhouse gas emissions from in-house production facilities, boilers and vehicles, indirect emissions from purchased electricity as well as emissions from business travel (air, rail, car rentals) were taken into account.

The initial values for direct greenhouse gas emissions were the annual consumption of natural gas, domestic fuel oil, fuels, etc. in 2012. The resultant emissions were calculated using factors currently available to the IFEU (in accordance with GEMIS and TREMOD, among others). The conversion factors of the Intergovernmental Panel on Climate Change (IPCC 2013) were applied to convert the global warming potential into CO₂ equivalents.

The respective national energy mix is taken into account when calculating indirect greenhouse gas emissions from electricity consumption. The calculations were based on internationally recognized emission factors (IFEU, weighted according to GEMIS, in accordance with IEA national data).

Independent Assurance Report

To Bertelsmann SE & Co. KGaA, Gütersloh

We have been employed to perform a limited assurance engagement on selected greenhouse gas emissions and environmental indicators for the "Carbon Footprint and Environmental Indicators 2012" report for Bertelsmann SE & Co. KGaA, Gütersloh (hereinafter: the "Company"), for the business year from 1 January to 31 December 2012 (hereinafter: the "carbon footprint"). The greenhouse gas emission data and environmental indicators that have been selected by the Company and evaluated by us are marked with the symbol (✓) in the carbon footprint.

Management's Responsibility

The Company's Board of Managing Directors is responsible for the proper preparation of the carbon footprint in accordance with the criteria presented on pages 8 and 9 of the publication "A Corporate Accounting and Reporting Standard – Revised Edition" of the Greenhouse Gas Protocol Initiative:

- relevance,
- completeness,
- consistency,
- transparency, and
- accuracy (hereinafter: GHG Protocol criteria).

This responsibility includes the selection and application of appropriate methods to prepare the carbon footprint and the use of assumptions and estimates for individual greenhouse gas emissions and environmental indicators which are reasonable in the circumstances. Furthermore, the responsibility includes designing, implementing and maintaining systems and processes relevant for the preparation of the carbon footprint.

Practitioner's Responsibility

Our responsibility is to express a conclusion based on our work performed as to whether anything has come to our attention that causes us to believe that the greenhouse gas emissions and the environmental indicators marked with

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