

Axel Springer Corporate Carbon Footprint

Calculation methodology and principles
November 2024



axel springer —

This document sets out the principles and methodology used by Axel Springer SE to collect, analyze, and report the company’s sustainability data as part of the emissions reporting up to FY 2023. For reporting from FY 2024 onwards, the company will report in accordance with the CSRD. For this mandatory reporting we will implement new tools and processes.

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1. Underlying reporting principles

1.1 General principles

This document outlines the key principles and methodology employed by Axel Springer SE for the collection, analysis, and presentation of GHG emissions. Our commitment to transparent and accurate reporting is guided by the following principles:

- **Accuracy and Transparency:** All data and information presented in our reports are an accurate representation of our performance, ensuring a high level of transparency to instill confidence in the integrity of our reporting.
- **Clarity in Reporting:** We meticulously define the parameters, scope, and boundaries of our reporting, providing stakeholders with a clear understanding of the context within which our sustainability data is evaluated.
- **Emission Source Identification:** We meticulously identify and categorize emission sources within our operations, ensuring a comprehensive understanding of our carbon footprint.
- **Exclusion Transparency:** In instances where certain data is excluded due to gaps in information, these exclusions are explicitly disclosed. This ensures that readers are fully aware of any limitations in the reported data.
- **Assumption Acknowledgment:** Any assumptions made during the reporting process are explicitly stated. Additionally, we provide comprehensive explanations of the accounting and calculation methods applied, offering insight into the basis for our sustainability metrics.
- **Carbon Reduction Strategies:** Our reporting includes a discussion of strategies and initiatives implemented to reduce carbon emissions, demonstrating our proactive approach to environmental sustainability.
- **Verification:** The calculation model for emissions from digital products and the calculation model for print products have been independently tested and certified by [TÜV Nord \(see here and here\)](#)

By adhering to these principles, Axel Springer strives to set a benchmark for responsible and transparent sustainability reporting in the corporate landscape.

1.2 Reporting boundaries

Axel Springer SE, operating globally with a presence in over 40 countries, adopts a comprehensive approach to performance reporting conducted on a Group-wide scale. The delineation of our reporting boundaries aligns with established operational control parameters outlined in accordance with the Greenhouse Gas (GHG) protocol. In adherence to this protocol, associated companies that are not subject to full consolidation are deliberately excluded from the reporting boundary. These non-consolidated entities find consideration within Scope 3.15, specifically addressing investments through calculated estimates.

1.3 Use of estimates

We have exerted efforts to encompass all relevant data; however, achieving absolute comprehensiveness is neither feasible nor practical. In instances where practical constraints necessitate estimations, such instances are explicitly acknowledged within the defined criteria. Should deviations from these estimations occur, explanations will be provided within the relevant section of the calculation model. This commitment underscores our dedication to transparency and accountability in our reporting processes.

1.4 Roles, responsibilities and accountabilities

We adhere to a rigorous process aimed at maximizing the accuracy of our reported data, ensuring that any inquiries pertaining to the data are thoroughly addressed. The Corporate Sustainability team executes this process by gathering essential data from sources across the Axel Springer Group.

Subsequently, both central data and estimations are input into our CO₂ software tool Sphera. Within Sphera, a questionnaire is established for each emission cluster. This platform enables individuals from subsidiaries and individual office levels to input all decentralized information, facilitating a structured approach to data collection. This ensures the reliability of the data incorporated into our reporting mechanisms.

2. Calculation methodology

2.1 Greenhouse Gas (GHG) emissions

2.1.1 General remarks

The quantification of carbon dioxide equivalent (CO₂e) emissions resulting from energy consumption across our entire portfolio, encompassing office buildings, employee mobility, print and digital products, broadcasting, and all other procurement-related emissions, encompasses (among others) the gases carbon dioxide (CO₂), methane (CH₄), and nitrogen dioxide (N₂O). Our reporting aligns with the GHG protocol and is presented in accordance with its guidelines.

- **Scope 1 (direct) emissions from energy used in company-owned or controlled facilities and corporate vehicles. This includes vehicles fuel, natural gas and oil for heating, as well as cooling agents.**
- **Scope 2 (indirect) location-based emissions from purchased electricity, steam, heating, and cooling for own use.**
- **Scope 2 (indirect) market-based emissions from purchased electricity, steam, heating, and cooling for own use.**
- **Scope 3 (indirect) emissions include purchased goods and services, fuel- and energy- related activities (not included in Scope 1 and 2), upstream transportation and distribution of print products, waste generated in operations, business travel, employee commuting, downstream transportation and distribution, use of sold products, end-of-life treatment of sold products, and investments.**
- **GHG intensity defines the total absolute Scope 1, 2 and 3 emissions (tonnes CO₂e) divided by the total number of employees at Axel Springer including all subsidiaries.**

The **reporting timeframe** spans from January 1, 2022, to December 31, 2022, and remains consistent across all other reporting years. The **unit of measurement** for reporting is in tonnes of carbon dioxide equivalent (CO₂e).

2.1.2 Method Scope 1 and 2

The following parameters are reported in Scope 1 and 2 covering all fully consolidated entities from the Axel Springer SE.

Scope 1 Emissions

- 1.1 Heating (without District Heating) [t CO₂e]
- 1.2 Cooling [t CO₂e]
- 1.3 Corporate vehicle fleet [t CO₂e]

Scope 2 Emissions (market-based)

- 2.1 Electricity (market-based) [t CO₂e]
- 2.2 Heating (only District Heating) (market-based) [t CO₂e]

Scope 2 Emissions (location-based)

- 2.1 Electricity (location-based) [t CO₂e]
- 2.2 Heating (only District Heating) (location-based) [t CO₂e]

To calculate all parameters in Scope 1 and 2, both building-related as well as mobility-related activity data is required.

2.1.2.1 Building-related Scope 1 and 2 emissions

For **building-related emissions** in Scope 1 and 2 we calculate all emissions associated with Axel Springer's buildings, encompassing electricity, heating and cooling. We primarily looked at consumption values that are either provided *centrally by the Group function* or by collecting data from our subsidiaries in a questionnaire via our sustainability software **Sphera** (until FY 2023).

Estimations serve as substitutes for offices unable to provide precise activity data. In various instances, estimation factors are utilized to fill data gaps or convert financial data into activity data. For offices which are unable to provide activity-based consumption data, we estimate based on cost [Euro] and number of FTEs per office. If no data is available, we estimate based on average consumption per FTE across the group e.g. kWh/FTE or kg/FTE.

Category	Activity data	Emission factor sets (EF)
Heating	Specific energy consumption in [kWh] of <ul style="list-style-type: none"> a) Natural gas b) Heating oil c) Diesel for heating d) District heat 	Source: MLC (formerly GaBi) v15.1 (04/2023) Scope 1 <ul style="list-style-type: none"> a) EU-28: Natural gas supplied and combusted in gas turbine (direct) Sphera b) EU-28: Thermal energy from light fuel oil (LFO) (residential heating system) (direct) c) EU-28: Diesel fuel supplied and combusted in diesel generator (direct) Scope 2

		d) EU-28: District heating mix (direct) Sphera and DE: District heating mix (direct) Sphera
Electricity	Electricity consumption in [kWh] a) purchased non-green electricity (which is assumed to be a residual mix) b) average grid-mix electricity c) purchased 100 % green certified electricity and know the electricity consumption	Source: MLC (formerly GaBi) v15.1 (04/2023) Scope 2 (market-based) a) Residual mixes: o USA: Green-e Residual Mix o EAM (and country-specific): AIB 2022 o Others: MLC (formerly GaBi) v15.1 (04/2023) b) Grid-mix: o MLC (formerly GaBi) v15.1 (04/2023) , e.g. EU-28: Electricity grid mix (average power plants) (direct) c) Based on supplier specific emission factors Scope 2 (location-based) b) Grid-mix: o , e.g. EU-28: Electricity grid mix (average power plants) (direct)
Refrigerants	Refilled refrigerant [kg]	Source: Defra v11 (09/2022) Scope 1: <ul style="list-style-type: none"> CFC-12/R12 = dichlorodifluoromethane HFC-134a HCFC-22/R22 = chlorodifluoromethane R404A, R407C, R408A, R410A, R507A

2.1.2.2 Mobility-related Scope 1 and 2 emissions

For mobility-related emissions in Scope 1 we encompass all emissions associated with Axel Springer's fuel consumption of the corporate vehicle fleet.

We primarily looked at consumption values that are provided centrally by the Group and collected by our subsidiaries in a questionnaire via our sustainability software Sphera.

Estimations serve as substitutes for offices unable to provide precise activity data. In various instances, estimation factors are utilized to fill data gaps or convert financial data into activity data. For offices which are unable to provide fuel consumption data, we estimate based on cost [Euro] and number of FTEs per company. If no data is available we estimate based on average fuel consumption per FTE across the group e.g. MJ/FTE.

Category	Activity data	Emission factor sets
Corporate car fleet fuels	amount of fuels in [l]: a) Diesel b) Petrol c) Hybrid CNG amount of fuels in [kWh]: d) Electric car	Scope 1: Defra v11 (09/2022) a) Scope 1 Diesel (average biofuel blend) (volume) (direct) b) Petrol (100% mineral petrol) (volume) (direct) c) CNG (mass) (direct) Scope 2: MLC (formerly GaBi) v15.1 (04/2023) d) Residual mixes:

		<ul style="list-style-type: none"> • USA: Green-e Residual Mix • EAM (and country-specific): AIB 2022 • Others: MLC (formerly GaBi) v15.1 (04/2023)
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2.1.3 Method Scope 3

The following parameters are reported in Scope 3 covering all fully consolidated entities from Axel Springer SE.

2.1.3.1 Overview of Scope 3 Emissions

- **3.1 Purchased goods and services [t CO2e] are relevant (see Scope 3 emissions from other purchases)**
- **3.2 Capital goods [t CO2e] are not relevant as Axel Springer does not own significant capital goods. We rent almost all buildings and the only valuable machines are printing machines (which are included in the print model as part of category 3.1). All purchased goods are considered in 3.1 Purchased goods and services.**
- **3.3 Fuel and energy-related activities [t CO2e] are relevant as part of Scope 3 emissions from buildings**
- **3.4 Upstream transportation and distribution [t CO2e] are relevant for print products**
- **3.5 Waste generated in operations [t CO2e] are relevant as part of Scope 3 emissions from buildings**
- **3.6 Business travel [t CO2e] are relevant as part of Scope 3 emissions from mobility**
- **3.7 Employee Commuting [t CO2e] are relevant as part of Scope 3 emissions from mobility**
- **3.8 Upstream leased assets [t CO2e]: not relevant as Axel Springer includes all upstream leased assets in Scope 1 and 2.**
- **3.9 Downstream transportation and distribution [t CO2e] are relevant for print products**
- **3.10 Processing of sold products [t CO2e] are not relevant as Axel Springer does not sell any products that require further processing.**
- **3.11 Use of sold products [t CO2e] are relevant for digital products and broadcasting**
- **3.12 End-of-life treatment of sold products [t CO2e] are relevant for print products**
- **3.13 Downstream leased assets [t CO2e] were deemed not relevant in the screening of emissions**
- **3.14 Franchises [t CO2e] are not relevant as Axel Springer does not have any franchise businesses.**
- **3.15 Investments [t CO2e] are relevant and included in “Scope 3 Emissions from Investments”**

To calculate all parameters in Scope 3 the data from the following paragraphs is required:

2.1.3.2 Building-related Scope 3 emissions

Category	Activity data	Emission factor sets (EF)
Heating	specific energy consumption in [kWh] of <ul style="list-style-type: none"> a) Natural gas b) Heating oil c) Diesel for heating d) District heat 	Source: MLC (formerly GaBi) v15.1 (04/2023) <ul style="list-style-type: none"> a) EU-28: Natural gas supplied and combusted in gas turbine (indirect) b) EU-28: Thermal energy from light fuel oil (LFO) (residential heating system) (indirect), c) EU-28: Diesel fuel supplied and combusted in diesel generator (indirect) d) EU-28: District heating mix (indirect) Sphera and DE: District heating mix (indirect)
Electricity	Electricity consumption in [kWh] <ul style="list-style-type: none"> a) purchased non-green electricity (which is assumed to be a residual mix) b) average grid-mix electricity c) purchased 100 % green certified electricity and know the electricity consumption 	Source: MLC (formerly GaBi) v15.1 (04/2023) <ul style="list-style-type: none"> a) + b) MLC (formerly GaBi) v15.1 (04/2023), e.g. EU-28: Electricity grid mix (average power plants) (indirect) c) EU-28: MLC (formerly GaBi) v15.1 (04/2023), Electricity from photovoltaic Sphera

2.1.3.3 Mobility-related Scope 3 emissions

Emission types	Category	Explanations	Emission factor sets (EF)
Business trips: travel [t CO ₂ e]	3.6	Includes all work-related trips, minus the company-owned corporate fleet and minus the regular commuting to work (see row 'Commuting' in this table). It includes rental cars, train and air travel. Information is provided in emissions [tCO ₂ eq] or in traveled distances in (persons-)kilometers [km], spend values [Euro] can be provided, if no activity data is available <ul style="list-style-type: none"> a) Car travel (rental cars and taxi) [tCO₂eq or km] b) Rail travel [tCO₂eq or km] c) Air travel [tCO₂eq or km] 	Source: Defra v11 (09/2022) <ul style="list-style-type: none"> a) E.g. Taxi - Regular taxi (passenger kilometer) b) E.g. Rail - International rail (Eurostar) (passenger kilometer) c) E.g. International to/from non-UK - Average (With RF)

Business trips: accommodation [t CO2e]	3.6	a) net hotel stay costs [Euro], nights spent in hotels/other accommodations [-], information on which country/continent the overnight stay took place [-]	Source: Defra v11 (09/2022) a) Hotel stay – ‘country specific’,
Home office [t CO2e]	3.7	We use the home office percentage [%] and estimate the energy use when employees work from home in order to calculate the emissions. a) Heating b) Electricity	MLC (formerly GaBi) v15.1 (04/2023) a) EU-28: Natural gas supplied and combusted in gas turbine (indirect) b) Residual mixes: c) USA: Green-e Residual Mix d) EAM (and country-specific): AIB 2022 e) Others: MLC (formerly GaBi) v15.1 (04/2023)
Commuting [t CO2e]	3.7	We use the average commuting distance [km] as well as the percentage of employees taking... a) ... the car b) ... the public transport c) ... their bike d) ... a walk ...to work to calculate the commuting emissions.	Source: Defra v11 (09/2022) a) Taxi - Regular taxi (passenger kilometer) b) Rail - Light rail and tram (passenger kilometer)

2.1.3.4 Scope 3 emissions from Digital Products

Emission types	Category	Explanations	Emission factor sets
Data centers [t CO2e]	3.1	To estimate data center emissions, a cost-based approach is utilized. Information on costs and emissions for providers is sourced from the Corporate Procurement Tool Sievo. Specifically, category 2C 'Infrastructure Solutions' within the broader 2 Communication & Infrastructure Solutions is examined, encompassing eight subcategories involving expenditures on various provider services, including Content Storage, Ad Network Services, Web and App Hosting, Load Balancing, CDN Origin and Caching Services, User Analytics Services, among others. The section 'Data Centers' also encompasses emissions stemming from the Ad-Tech supply chain. The Emission calculations are sourced from the provider Scope3.	Here we either use the Exiobase emission factor for the respective procurement category or the Scope 1 to 3 data from the sustainability reports of our data Centre providers.
Internet Network Infrastructure [t CO2e]	3.11	The model estimates the energy consumption of the internet network during the usage phase of the considered digital products, considering emissions arising from internet infrastructure	The Network infrastructure activity data are measured in

		activities by using fixed-line and cellular line as well as networking equipment like modems and Wi-Fi. The calculation is based on analytics information (e.g. from adobe analytics) and collected from all subsidiaries through a questionnaire via Sphera.	electricity usage in [kWh]. We assume the electricity EAM residual mix from the source residual mixes 10.0 (12/2022).
End-user-devices [t CO2e]	3.11	Calculation of energy use for each device type in [kWh]: tablet, laptop, desktop and smartphone.	The user device activity data are measured in electricity usage in [kWh]. We assume the EAM residual mix from the source residual mixes 10.0 (12/2022).

2.1.3.5 Scope 3 Emissions from Print Products

Emission type	Category	Explanations	Emission factor sets
In-bound logistics [t CO2e]	3.4	Logistics of paper, aluminium, ink, other printing materials and additional products to the printing facilities	Supplier-specific data and estimations
Paper total emissions [t CO2e]	3.1	Emissions from manufacturing of paper	Supplier-specific data
Aluminum emissions [t CO2e]	3.1	Emissions from manufacturing of aluminium	Supplier-specific data
Ink total emissions [t CO2e]	3.1	Emissions from manufacturing of ink	Supplier-specific data
Other printing materials [t CO2e]	3.1	Emissions from other printing materials, e.g. fountain solutions	Supplier-specific data
Additional products emissions [t CO2e]	3.1	Emissions from additional products such as CDs, magnetic boards or other magazine goodies	Supplier-specific data
Third-party print site electricity	3.1	Emissions from the used energy for printing at third-party sites (electricity at Axel-Springer owned sites is considered as part of Scope 3)	MLC (formerly GaBi) v15.1 (04/2023) German grid mix is applied on the total electricity consumption of third-party print sites
Out-bound logistics	3.9	Logistics of transporting the newspapers from the printing facilities to the customers	Source: Defra v11 (09/2022) (average value of 0.0129 kg CO2/newspaper)
End-of-life	3.12	End-of-life of newspapers	Source: Defra v11 (09/2022) waste disposal, considering the regional recycling rate

2.1.3.6 Scope 3 Emissions from Broadcasting

Due to a lack of data availability, a high-level model is used to estimate emissions. This model is a priority for refinement for the coming reporting year. An energy intensity factor for the energy consumption per device-hour from a BBC whitepaper is used as a proxy. We use our viewer-hours and the co-viewing factor for our TV channels and use a triangulation to arrive at final results.

Emission types	Category	Explanations	Emission factor sets
Broadcasting emissions from production [t CO2e]	3.1	Production hours per year in [h/a]	The emissions intensity of news production was taken from the Albert Annual Review
Emissions from broadcasting (user devices) [t CO2e]	3.11	We use the total viewer-hours divided by the co-viewing factor (shows how many people on average view TV channel at the same time on the same device) to calculate the “net device-hours”. These are multiplied by the average infrastructure and device emissions per device-hour that are taken from a BBC whitepaper and is on average [0.11 kWh/device-hour].	German residual mix is applied on the total electricity consumption of all user devices

2.1.3.7 Scope 3 Emissions from other purchased goods and services

For the calculation of spend-related purchased goods and services we work with the [Sievo](#) CO2 Analytics tool. Sievo is our corporate procurement software solution for which we have implemented an addition for the CO2e calculation. All calculations are performed according to the GHG protocol. Sievo CO2 Analytics extracts directly from our ERPs, maps our spend data with emission data and calculates emissions automatically.

Within the spend analytics section of Sievo, all spend is classified into categories. The definition of classification is harmonizing all purchasing transactions to a single taxonomy, enabling us to gain visibility to global spending.

The quantity or spend from your purchasing data is multiplied either with EcolInvent or Exiobase database emissions information. EcolInvent data is available based on quantity, where as Exiobase is covering a larger part of economy, and is monetary based.

- **[EcolInvent](#)**
 - **Quantity-based database with emission factors based on mass, volume, energy content, etc.**
 - **Mostly used for material level mappings with sufficient unit of measures (kg, m3, MJ, etc.)**
- **[Exiobase](#)**
 - **Monetary-based database with emissions factors based on monetary value (€)**
 - **Emission factor is being mapped to each Sievo category.**

- **Emission factors supplier specific emission factors**
- **Some categories are already included in other calculation models and are therefore excluded (see table below)**

Category	EF (CO2 kg / EUR)	Comment
General Sustainability		Not relevant, costs for climate protection and offsetting
Climate protection		Not relevant, costs for climate protection and offsetting
Digital Advertising	0,10	
Legal & Consulting	0,15	
Learning & Development	0,14	
Insurance & Benefits	0,13	
HR services	0,12	
Workforce Management & Services	0,10	
Parcel & Express	0,15	
Press Shipments / Press Logistics	0,13	Not relevant, included in print emissions model
Broadcast	0,21	
Workplace solutions	0,15	
Infrastructure Solutions	0,15	Not relevant, included in digital emissions model
Communication services	0,09	
Not relevant for Procurement /Undefined		Not relevant, because there are no physical resources involved anywhere
Donations		Not relevant, because there are no physical resources involved anywhere
Governmental and membership fees, taxes		Not relevant, because there are no physical resources involved anywhere
Energy and Utilities	0,56	Not relevant, included in buildings emissions model
Office Equipment	0,44	
Facility management	0,12	
External office rent	0,09	
Building Construction & refurbishments	0,08	
Emerging technology	0,35	
Business Solutions	0,18	
IT Solutions and development	0,16	
Analytics solutions	0,13	
Give Aways & merchandise	0,44	
Trademarks and royalties	0,30	
Lead Acquisition	0,21	
Traditional Advertising	0,18	
Events	0,17	
Agencies	0,16	
Office Equipment	0,25	
External Services (Offices, Travel & Mobility)	0,18	Not relevant, included in mobility emissions model
Travel & Mobility	0,17	
Undefined/Undefined	0,21	

Paper sorts	1,78	Not relevant, included in Print model
Printing consumables & aids	1,04	
Printing equipment & spare parts	0,40	
External workforce printing facilities	0,18	
Printing services	0,18	

2.1.3.8 Scope 3 Emissions from Investments

To calculate emissions from investments, a full list of the Axel Springer Group's investments was used. This included the percentage share and total revenue of each invested company. The percentage share and total sales revenue were multiplied by the stake owned by the Axel Springer Group. We calculated the emissions from the top ten companies by their revenue and Axel Springer Group's stake, covering 81% of the total share of Axel Springer Group's revenue from the full list of investments. Emission factors were sourced from DEFRA: Supply chain emission factors for spending on products (2023).

2.2 Reporting process

We adhere to the subsequent procedure to guarantee the collation and highly accurate reporting of the received data.

The reporting process is fundamentally structured to initially gather central data at the corporate level and distribute it within the respective Excel workbooks in the format required for data collection and reporting (see section FTE Master). These activity data are then uploaded into Sphera, where the responsible data collectors from subsidiary companies can input additional data into Sphera that is not accessible centrally (see figure 1).

Sphera serves as our Sustainability Tool, where we input central data and gather decentralized information from subsidiary companies. Based on these activity data, emissions are calculated. The only exceptions to this are the Digital Products model and the Other Emissions model, where calculated emissions are directly uploaded into Sphera.

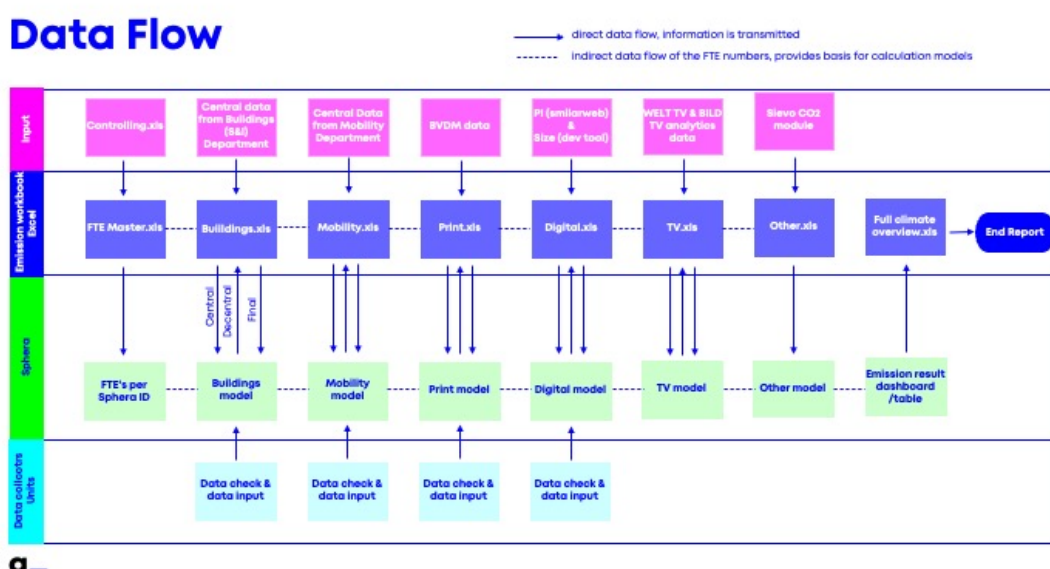


Figure 1 Data Flow and Reporting Process

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