# ethos

The Swedish Internet Foundation
Climate report 2023

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# 1.1 Executive summary (1/2)

## Background, methodology and scope

The Swedish Internet Foundation oversees the Swedish top-level domain .se and manages the top-level domain .nu. This climate report also includes data from its subsidiary MetaSolutions, in which the Foundation acquired a majority stake in 2020.

The report presents the climate data for both The Swedish Internet Foundation and MetaSolutions, measured in tonnes of carbon dioxide equivalents (tCO2e) for the 2023 reporting year, as well as tracking climate progress over time.

Prepared following the CENTR methodology, the calculation of greenhouse gas (GHG) emissions primarily adheres to the Greenhouse Gas Protocol (GHGP).



# 1.2 Executive summary (2/2)

## Key results

The Swedish Internet Foundation and MetaSolutions' largest share of GHG emissions are found in their value chain (scope 3 emissions) for the 2023 reporting year. These emissions account for 96 % of the total GHG emissions.

The total GHG emission according to CENTR methodology was 327,0 tCO2e. Total GHG emissions were 296,6 tCO2e when referring to the GHG Protocol.

The GHG emissions per headcount according to the CENTR methodology and the GHG Protocol were 2,9 tCO2e and 2,6 tCO2e, respectively.

The GHG emissions per active domain (.se and .nu) according to the CENTR methodology and the GHG Protocol were 191,3 gCO2e and 173,5 gCO2e, respectively.

## Rationale behind change in GHG emissions

Business travel increased, partly due to the resumption of travel post Covid-19, and better data quality from MetaSolutions.

Updated methodology for the category of mobility commuting has led to an increase in GHG emissions.

An increase in GHG emissions from energy consumption due to the application of updated emission factors.

Additionally, The Swedish Internet Foundation renovated one of its offices, which led to the purchase of a large amount of office and IT equipment during the reporting year.

# Introduction

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# 2.1 About this report

This climate report includes The Swedish Internet Foundation's and MetaSolutions' climate data for the reporting year 2023.

This report was prepared following the Greenhouse Gas Protocol (GHGP) Corporate Standard and Corporate Value Chain (Scope 3) Standard as well as the Council of European National Top-Level Registries (CENTR) methodology. The data presented in this report refers to the underlying supplier specific, activity data and spend based data used to calculate GHG emissions (tCO2e).

This is the tenth climate report published by the Swedish Internet Foundation. The 2023 climate report was prepared with support from Ethos and updated in June 2025 to include emissions from the conference 'Internetdagarna'.



**Council of European National Top-Level Registries (CENTR)** is the association of European country code top-level domain (ccTLD) registries.

The Swedish Internet Foundation actively participates in CENTR where national top-level domains collaborate on technical, legal, security and sustainability issues. While the organisation has a European focus, it also includes national top-level domains outside Europe as members.

# 2.2 Background

## About The Swedish Internet Foundation

The Swedish Internet Foundation is a private independent foundation that works for the positive development of the internet. The organisation is responsible for the Swedish top-level domain .se and the operation of the top-level domain .nu.

The Foundation ensures strong and secure infrastructure for Sweden's internet, as well as enables people to use the internet in the best way.

In 2020, The Swedish Internet Foundation acquired the majority stake in the subsidiary MetaSolutions, which is a software company that develops cloud-based solutions which support organisations to publish and manage data.

In 2023, The Swedish Internet Foundation had 1 709 726 active domains in total.

At the end of the 2023 reporting year, The Swedish Internet Foundation had 101 employees, while MetaSolutions had 11 employees.

[1] 1 478 955 active .se domains, and 230 771 active .nu domains

## Purpose of this report

The purpose of this report is to disclose the impact of The Swedish Internet Foundation, including MetaSolutions, on the climate for the 2023 reporting year. It also details the organization's progress over time.

The results of this report can be used by The Swedish Internet Foundation, MetaSolutions, and their stakeholders to assess their climate-related efforts.

## Corrections

This is an updated version of the of the 2023 climate report which was published in January 2025. In addition to minor adjustments and clarifications, the following changes have been made:

- Inclusion of emissions from the conference 'Internetdagarna' (e.g., p. 22)
- Correction of employee figures (p. 7)
- Adjustment of ICT hardware items and emissions (p.20)
- Removal of Office IT from 'Additional GHG emissions', since already covered under ICT hardware according to the CENTR method (e.g., p. 22)

# 2.3 Methodology and scope

## Methodology

The underlying activity data used to calculate the greenhouse gas (GHG) emissions for the 2023 reporting year have been reported in the software platform Atlas, developed by Ethos. When suppliers have been able to provide supplier-specific GHG emissions data, this data has taken precedence over activity-based data.

GHG emissions, reported in tonnes of carbon dioxide equivalents (tCO2e), were calculated in accordance with the Greenhouse Gas Protocol Corporate Standard and Corporate Value Chain (Scope 3) Standard. Office IT emissions have been calculated firstly using the CENTR methodology, under the impact category "Capital goods - ICT hardware" to enable benchmarking between registries, followed by the GHG Protocol under 'Purchased goods and services' Scope 3.1 to enable comparison with other, more general companies.

This report uses the CENTR methodology and the Greenhouse Gas Protocol for data collection, calculation, verification and compilation of the results.

## Scope of the calculations

The Greenhouse Gas (GHG) Protocol standards methodology assesses GHG emissions throughout a company's entire value chain. The standard defines three different scopes, which have been used to calculate the GHG emissions of The Swedish Internet Foundation and MetaSolutions.

The three scopes are :

- **Scope 1:** Direct GHG emissions from owned or controlled sources.
- **Scope 2:** Indirect GHG emissions from purchased energy.
- **Scope 3:** Indirect GHG emissions occurring upstream and downstream in the value chain, not already included in Scope 1 and Scope 2.

The impact categories, based on the CENTR methodology, are detailed on page 10. These categories are the main focus of this climate report.

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# 2.4 Scope-based emissions

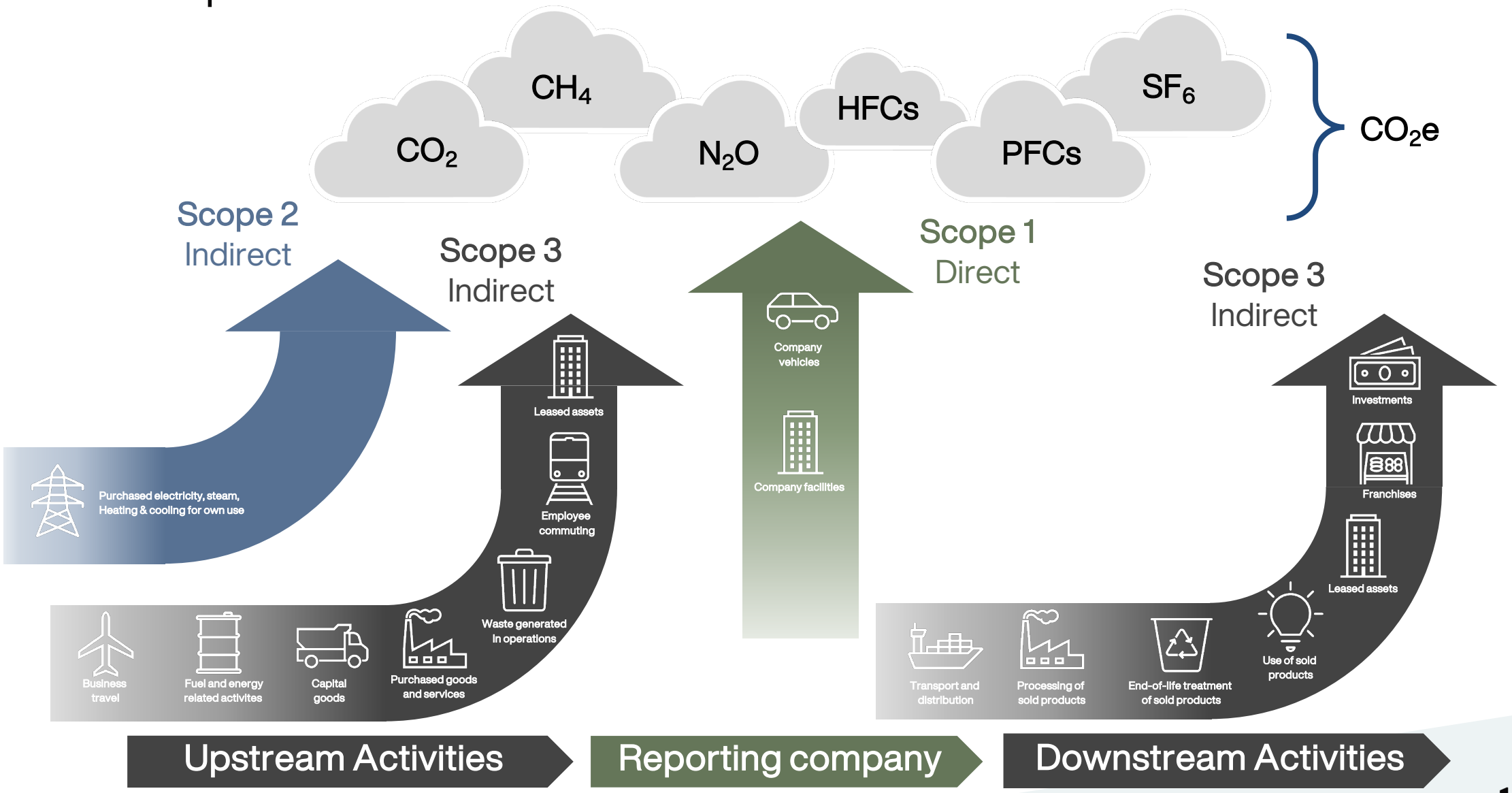



Figure courtesy: The Greenhouse Gas Protocol.

# 2.5 Impact categories according to CENTR

The impact categories according to the CENTR methodology are outlined in Table 1.

The underlying activity data used to calculate GHG emissions have been collected in accordance with CENTR methodology, with the following reservations:

- Electricity from the secondary nameservers (.nu and .se) and third-party suppliers is missing from this report. However, the secondary name servers and third-party supplier did provide direct GHG emission data.
- Mobility (commuting): Calculated based on an average means of transportation.
- Business travel (flights): The data was reported in supplier-specific CO2e.
- Business travel (car): Underlying activity data has been reported in kilometres.
- Capital goods (company cars): Neither The Swedish Internet Foundation nor MetaSolutions have purchased or own any company cars.
- Refrigerants (cooling system): Data has not been collected for the 2023 reporting year as it was assumed that neither The Swedish Internet Foundation nor MetaSolutions had any GHG emissions associated with refrigerants.

| Impact categories according to CENTR | | Unit |
|---|---|---|
| Energy | Electricity office | kWh/year |
| | Electricity data centre | kWh/year |
| | Heating | kWh/year, litres fuel |
| Inputs | Paper | kg/year |
| Waste | Paper | kg/year |
| Mobility (commuting) | Car | km/year |
| | Train | passenger km/year |
| | Bus | passenger km/year |
| Business travel | Airplane travel | km/year by type of flight |
| | Car | litres fuel |
| | Train | km/year |
| Capital goods | Buildings (optional but required for climate compensation) | $m^2$ floor surface area |
| | Parking area (optional but required for climate compensation) | $m^2$ parking area |
| | ICT hardware | number of computers and ICT equipment |
| | Company cars | amount of cars converted in weight kg |
| Refrigerants | Cooling systems | cooling power (kW) |

Table 1: Impact categories according to CENTR

# 2.6 Additional GHG emission sources

In addition to the categories defined by CENTR methodology, the following categories defined by the sources of GHG Protocol are presented as:

- **Scope 3.1[1]:** Purchased goods and services.
  - Food and beverages
  - Office materials and packaging
  - Other office equipment and electrical items (not ICT hardware)
  - Furniture
  - Other purchases and the conference 'Internetdagarna'
- **Scope 3.3[1]**: Fuel- and energy-related activities not included in Scope 1 or 2, e.g., generation of energy, transmission and distribution losses.
- **Scope 3.6[1]**: Hotel nights.
- **Scope 3.7[1]:** Energy used by employees working from home.

[1] According to the GHG Protocol Corporate Standard, Corporate Value Chain (Scope 3) Standard.

# Climate data 2023

# 03

# 3.1 Energy use - Offices

## Activity data

The Swedish Internet Foundation has offices located in Stockholm, Malmö, and Linköping. MetaSolutions has an office in Stockholm.

The energy consumption in these offices is categorized into electricity, district heating, and district cooling. Only The Swedish Internet Foundation's office in Stockholm uses district cooling, with no office location using steam.

In total, 98 % of the energy purchased in 2023 is from renewable sources.

## Climate data

The GHG emissions in CO2e have been calculated according to the market-based approach, making it a total of 10,81 tCO2e.

The emission factors used are from IEA (2023), which is an update compared to previous years when AIB European Residual Mixes where used. The update of emission factors has resulted in an increase in emissions compared to last year.

| **The Swedish Internet Foundation**<br>Offices | kWh | tCO2e |
|---|---|---|
| Electricity | 186 862 | 0,21 |
| District heating | 197 701 | 9,05 |
| District cooling | 32 646 | 0,31 |
| **Total** | **417 209** | **9,57** |

| **MetaSolutions**<br>Offices | kWh | tCO2e |
|---|---|---|
| Electricity | 5 840 | 0 |
| District heating | 27 000 | 1,24 |
| District cooling | 0 | 0 |
| **Total** | **32 840** | **1,24** |

*The tables show the energy consumption for each energy type and the corresponding GHG emissions according to the market-based approach (in metric tonnes CO2e) for 2023. GHG emissions according to the location-based approach are 15,89 tCO2e. For 2023, GHG emissions from the production of energy are reported in Scope 3.3, see page 22. Note that the data may include rounding differences.*

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# 3.2 Energy use –Data centres – own co-located servers

## Activity data

The Swedish Internet Foundation does not own any data centers but operates a number of own co-located servers at third-party data centers.

The underlying data was collected by the third-party suppliers in kilowatt-hours (kWh). During 2023, 74 715 kWh were consumed. Supplier-specific greenhouse gas (GHG) emissions were reported this year.

MetaSolutions did not have any own co-located servers.

## Climate data

The co-located servers use renewable energy, therefore the GHG emissions are zero.

| **The Swedish Internet Foundation**<br>Own co-located servers | kWh | tCO2e |
|---|---|---|
| Third party supplier 1 | 37 993 | 0 |
| Third party supplier 2 | 36 722 | 0 |
| **Total** | **74 715** | **0** |

*Note that the data may include rounding differences.*

# 3.3 Energy use-Data centres – cloud services and secondary name servers

## Activity data

The Swedish Internet Foundation utilizes cloud services and secondary name servers for the .se and .nu domains in its operations. MetaSolutions also uses cloud services. Due to lack of data from suppliers, The Swedish Internet Foundation could not report energy use for the secondary name servers or the third-party suppliers. However, supplier-specific greenhouse gas (GHG) emissions were reported.

Last year, the third-party supplier 3's GHG emissions were calculated based on energy use, which increased the GHG emission. When comparing with the supplier-specific GHG emissions for 2022, the emissions were 0,485 tCO2e (tonnes of CO2 equivalent).

The data for MetaSolutions' cloud services were collected based on spenditure.

## Climate data

The GHG emissions for data centres total 3,74 tCO2e.

The source of the emission factor is based on internal calculations based on benchmarks performed by Ethos as well as AIB European Production Mixes 2022 (2023).

| **The Swedish Internet Foundation**<br>Cloud services and secondary name servers | tCO2e |
|---|---|
| Secondary nameserver (.se and .nu) | 0,00004 |
| Third party supplier 3 | 0,041 |
| Third party supplier 4 | 0,211 |
| **Total** | **0,25** |

| **MetaSolutions**<br>Cloud services | tCO2e |
|---|---|
| Third party supplier A | 1,69 |
| Third party supplier B | 0,9 |
| Third party supplier C | 0,9 |
| **Total** | **3,49** |

*The tables above show the GHG emission in tonnes for each third-party supplier. Note that the data may include rounding differences.*

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# 3.4 Inputs paper

## Activity data

The Swedish Internet Foundation reported a total of 2804 kg of paper purchased in 2023.

The GHG emissions are reported under the category Scope 3.1 Purchased goods and services, see page 22.

MetaSolutions did not report data related to paper consumption.

## Climate data

The total GHG emissions were 2,55 tCO2e.

The source of the emission factor is DEFRA (2023).

| **The Swedish Internet Foundation**<br>Inputs - paper | Kg | tCO2e |
|---|---|---|
| Office paper | 4 | 0,0036 |
| Paper to printer and copy machines | 2800 | 2,55 |
| **Total** | **2804** | **2,55** |

*Note that the data may include rounding differences*

# 3.5 Waste paper

## Activity data

To calculate the greenhouse gas (GHG) emissions from paper waste, it was assumed that all the paper purchased by The Swedish Internet Foundation in the reporting year 2023 was sent for recycling.

| The Swedish Internet Foundation<br>Waste - paper | Kg | tCO2e |
|---|---|---|
| Office paper | 4 | 0,00 |
| Paper to printer and copy machines | 2800 | 0,06 |
| **Total** | **2804** | **0,06** |

*Note that the data may include rounding differences*

## Climate data

The total GHG emission was 0,06 tCO2e.

The source of the emission factor is DEFRA (2023).

# 3.6 Mobility- Commuting

## Activity data

Previously, The Swedish Internet Foundation undertook a survey to determine how many days their employees worked remotely and their means of transportation. This year a new method has been used to calculate the GHG emissions from employee commute and remote work.

The calculating method takes into account the average number of working days in a reporting year, the average percentage of work done from home and the share of workspace located in cities.  The method is based on statistics on Swedish commuting habits by Trafikanalys.This has led to a reported increase in GHG emissions from employee commutes and remote work.

## Climate data

The total GHG emission for employee commute equals to 24,2 tCO2e.

The source for the emission factors used depending on different commuting options, such as car and public transport, are from DEFRA.

| **The Swedish Internet Foundation**<br>Mobility - commuting | tCO2e |
|---|---|
| Employee commute | 22,67 |
| **Total** | **22,67** |

| **MetaSolutions**<br>Mobility - commuting | tCO2e |
|---|---|
| Employee commute | 1,52 |
| **Total** | **1,52** |

*Note that the data may include rounding differences.*

# 3.7 Business travel

## Activity data

The Swedish Internet Foundation has conducted business travel by air, train and car (taxi) during the 2023 reporting year.

The travel agency Egencia provided the GHG emission data for air travel. Taxi Stockholm provided GHG emission data for any travel by taxi. GHG emissions from travel via train has been provided by SJ.

MetaSolutions provided activity-based emissions, which were then calculated to GHG emissions.

## Climate data

The total GHG emission was 187,9 tCO2e

Since The Swedish Internet Foundation could provide supplier-specific GHG emission these factors have been used. The GHG emissions data for MetaSolutions have been calculated by using emission factors from DEFRA (2023).

| **The Swedish Internet Foundation**<br>Mode of business travel | tCO2e |
|---|---|
| Air | 177,34 |
| Car (taxi)[1] | 0,176 |
| Train | 0,0292 |
| **Total** | **179, 72** |

| **MetaSolutions[2]**<br>Mode of business travel | tCO2e |
|---|---|
| Air | 7,516 |
| Car (taxi)[1] | 0,0479 |
| Train | 0,3118 |
| **Total** | **8,20** |

*The table show the mode of business travel and the corresponding GHG emissions for 2023. Note that the data may include rounding differences.*

[1]Include taxis running on hybrid, gas, and diesel .
*[2]MetaSolutions activity data corresponds to 36 000 passenger kilometres via air, 280 kilometres via car (taxi) , and 14 000 passenger kilometres via train.*

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# 3.8 Capital goods- ICT hardware

## Activity data

During the 2023 reporting year, The Swedish Internet Foundation acquired various ICT hardware. According to the CENTR methodology, the GHG emissions from these purchases are depreciated, which deviates from the Greenhouse Gas Protocol[1]. The depreciation period is three years for computers, laptops, mobile phones, screens, and servers, and five years for printers.

GHG emission for ICT hardware purchased during 2023 will be depreciated until 2025 and 2027. Hardware purchased during previous reporting years, 2021 and 2022, will be depreciated until 2023 respectively 2024 and 2026.

MetaSolutions did not purchase any ICT hardware during 2023.

## Climate data

The total GHG emission was 31,21 tCO2e.

The emission factors used are from DEFRA (2023) as well as product environmental reports from DELL and Apple.

[1]GHG Protocol Corporate Standard, Corporate Value Chain (Scope 3) Standard.

| **The Swedish Internet Foundation**<br>Purchases of ICT hardware by type | 2023, items | 2022, items | 2023, tCO2e |
|---|---|---|---|
| Computer/laptops | 53 | 47 | 11,27 |
| Mobile phones | 14 | 38 | 1,58 |
| Printers | 1 | 3 | 2,47 |
| Servers | 12 | 8 | 1,73 |
| Screens | 101 | 2 | 14,15 |
| **Total** | **181** | **98** | **31,21** |

*The table shows the number of ICT hardware purchased during 2023 and 2022, and the corresponding GHG emissions (in tonnes CO2e) for 2023. The GHG emissions represent purchases made during 2021, 2022 and 2023, taking the depreciated time for each ICT hardware into consideration. Note that the data may include rounding differences.*

*ICT hardware purchased in 2021 and 2022 represents 12,53 tCO2e.*

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# 3.9 Capital goods- Buildings and parking area

## Activity data

The Swedish Internet Foundation and MetaSolutions leases office spaces, and The Swedish Internet Foundation also leases one parking area.

According to the CENTR method office space and parking area are optional to report on. By disclosing the categories, the comparability between other registries reporting in line with the CENTR methodology increases. Reporting on these categories is a deviation from the Greenhouse Gas Protocol.

As outlined within the CENTR methodology, the depreciation period for leased buildings and parking areas is 40 years.

## Climate data

The GHG emission in tCO2e makes up 66,73 tonnes.

The emission factor used is CENTR.

[1]GHG Protocol Corporate Standard, Corporate Value Chain (Scope 3) Standard.

| **The Swedish Internet Foundation**<br>Leased space | $m^2$ | tCO2e |
|---|---|---|
| Office space | 3 859 | 62,90 |
| Parking area | 11,67 | 0,16 |
| **Total** | **3870,67** | **63,06** |

| **MetaSolutions**<br>Leased space | $m^2$ | tCO2e |
|---|---|---|
| Office space | 226 | 3,67 |
| Parking area | 0 | 0 |
| **Total** | **226** | **3,67** |

*The tables show the number of square meters of leased office and parking space and the corresponding GHG emissions (in tonnes CO2e) for 2023. The depreciation time is 40 years according to the CENTR methodology. Note that the data may include rounding differences.*

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# 3.10 Additional GHG emissions sources

## Activity data

The Swedish Internet Foundation and MetaSolutions have reported on additional GHG emission sources for the reporting period of 2023 in accordance with the Greenhouse Gas Protocol[1] . This includes the following sources:

- Purchased goods and services (**Scope 3.1**), which includes purchased food and beverages, office equipment and electrical items, furniture and the conference 'Internetdagarna'.
- Fuel- and energy-related activities not included in Scope 1 or 2 (**Scope 3.3**),
- Remote work including energy used by employees working from home (**Scope 3.7**), and
- Hotel nights (**Scope 3.6**) (emissions provided by travel agency Egencia)

## Climate data

The GHG emission in tCO2e makes up 14,4 tonnes.

The emission factor used is DEFRA (2023).

[1]GHG Protocol Corporate Standard, Corporate Value Chain (Scope 3) Standard.

| **The Swedish Internet Foundation**<br>Additional GHG emission sources | **tCO2e** |
|---|---|
| **Scope 3.1 Purchased goods and services** | **7,27** |
| *Of which food and beverages* | 4,7 |
| *Of which other office equipment and electrical items (not ICT hardware)* | 0,57 |
| *Of which furniture* | 0 |
| *Of the conference "Internetdagarna"* | 2,0 |
| **Scope 3.3 Fuel- and energy-related activities not included in Scope 1 or 2, e.g., generation of energy and transmission and distribution losses** | **3,6** |
| **Scope 3.6 Hotel nights** | **2,18** |
| **Scope 3.7 Energy from working from home** | **0,42** |

| **MetaSolutions**<br>Additional GHG emission sources | **tCO2e** |
|---|---|
| **Scope 3.3 Fuel- and energy-related activities not included in Scope 1 or 2, e.g., generation of energy and transmission and distribution losses** | **0,22** |
| **Scope 3.6 Hotel nights** | **0,33** |
| **Scope 3.7 Energy from working from home** | **0,38** |

*Note that the data may include rounding differences.*

# Analysis and results

# 04

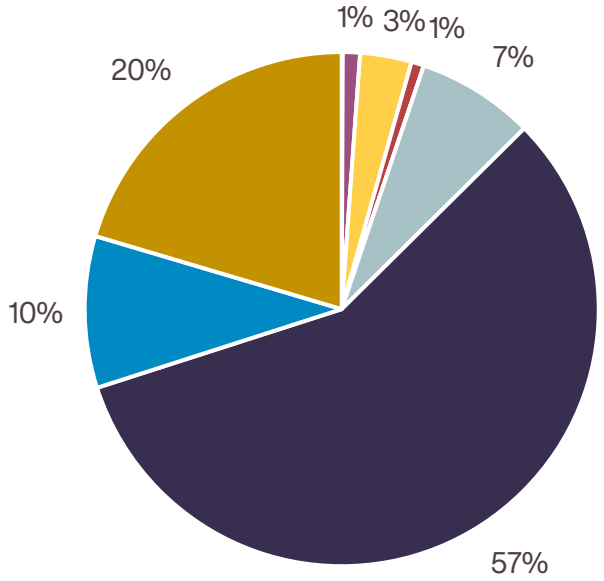
# 4.1 Overview of greenhouse gas emissions for 2023

## According to CENTR methodology

The diagram shows the distribution of GHG emissions for The Swedish Internet Foundation and MetaSolutions based on CENTR's impact categories for the 2023 reporting period.

Business travel and Capital goods - buildings and parking areas constitute the largest share of GHG emissions. Both categories has increased compared to previous year, where business travel have seen the largest increase.

The impact categories- energy from offices and data centres and waste - paper are not displayed in the diagram as they make up less than 1 % of GHG emissions.




**The GHG emissions per active domain 2023:** 191,3 gCO2e

**The GHG emissions per headcount 2023:** 2,9 tCO2e

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# 4.2 Overview of greenhouse gas emissions for 2023

## According to CENTR methodology

The table provides an overview of the GHG emissions for the 2023 reporting year, for each impact category as defined by the CENTR methodology (in tCO2e).

The table also shows the GHG emissions per active .se and .nu domain[1] (in gCO2e).

| Impact category according to CENTR | Total CO2e (tCO2e) | CO2e per active domain (gC02e) |
|---|---|---|
| Energy- electricity offices | 0,2 | 0,12 |
| Energy-data centres* | 3,5 | 2,07 |
| Energy- heating (and cooling) | 10,6 | 6,19 |
| Inputs paper | 2,6 | 1,52 |
| Waste-paper | 0,0 | 0,00 |
| Mobility-commuting- train, bus and car | 24,2 | 14,15 |
| Business travels- train, air and car | 187,9 | 109,92 |
| Capital goods- ICT hardware | 31,2 | 18,25 |
| Capital goods- buildings and parking area | 66,7 | 39,03 |
| **Total** | **327,0** | **191,26** |

**Including own co-located servers, cloud services and secondary name servers.*

1. Active domains in 2023: 1 478 955 active .se domains, and 230 771 active .nu domains.

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# 4.3 Overview of greenhouse gas emissions for 2023

## According to Greenhouse Gas Protocol

The diagram shows the distribution of GHG emissions for The Swedish Internet Foundation and MetaSolutions based on the Greenhouse Gas Protocol for the reporting period 2023

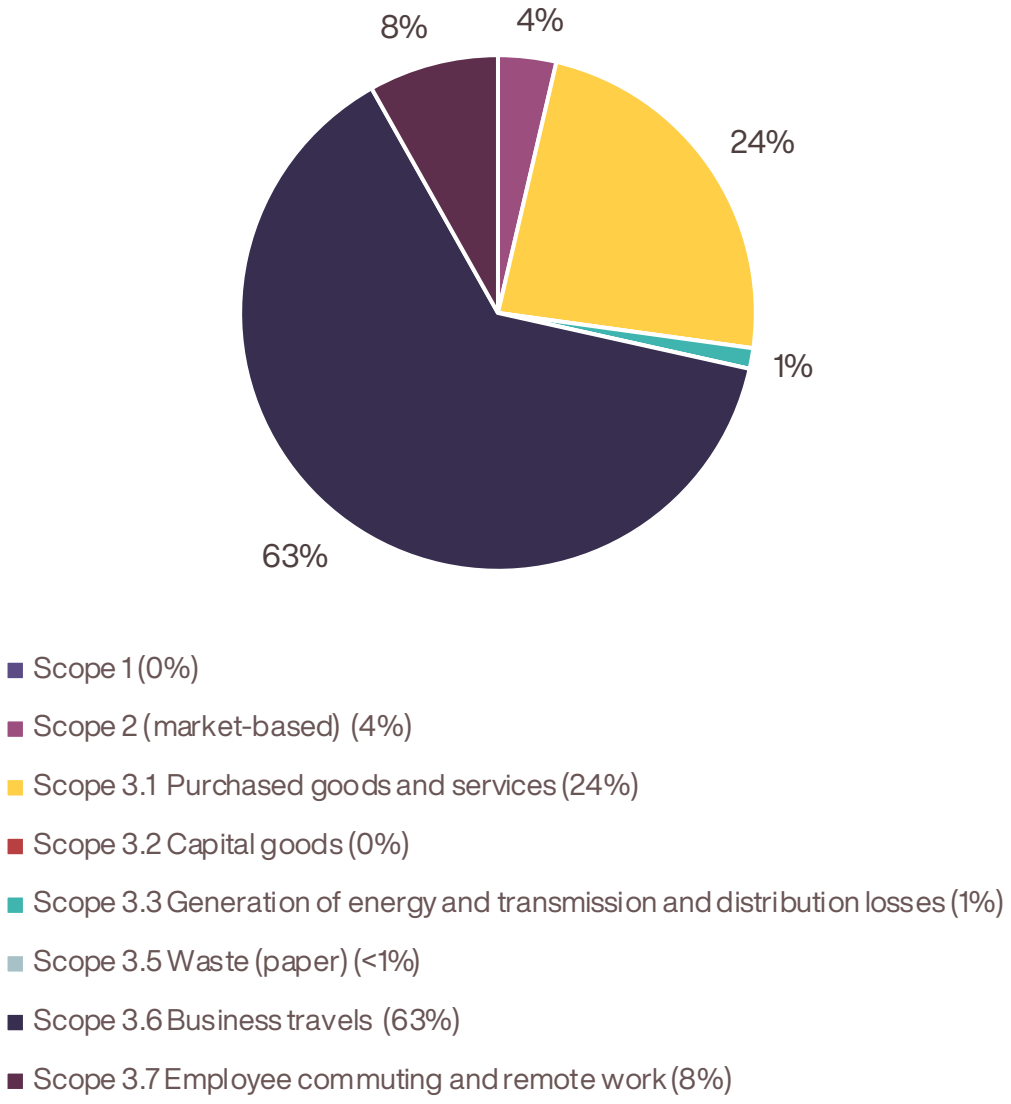
Business travels ( scope 3.6) and Purchased goods and services (scope 3.1) make up the largest shares of GHG emissions. Note that Office IT is reported in Purchased goods and services (scope 3.1.) instead of capital goods according to the CENTR method.

Capital goods (scope 3.2) and waste (scope 3.5) account for less than 1 % each and are therefore not illustrated in the diagram.

Neither The Swedish Internet Foundation nor MetaSolutions have any scope 1 emissions.

**The GHG emissions per active domain 2023:** 173,5 gCO2e

**The GHG emissions per headcount 2023:** 2,6 tCO2e




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# 4.4 Changes in emissions over time for Scope 1, 2 and 3

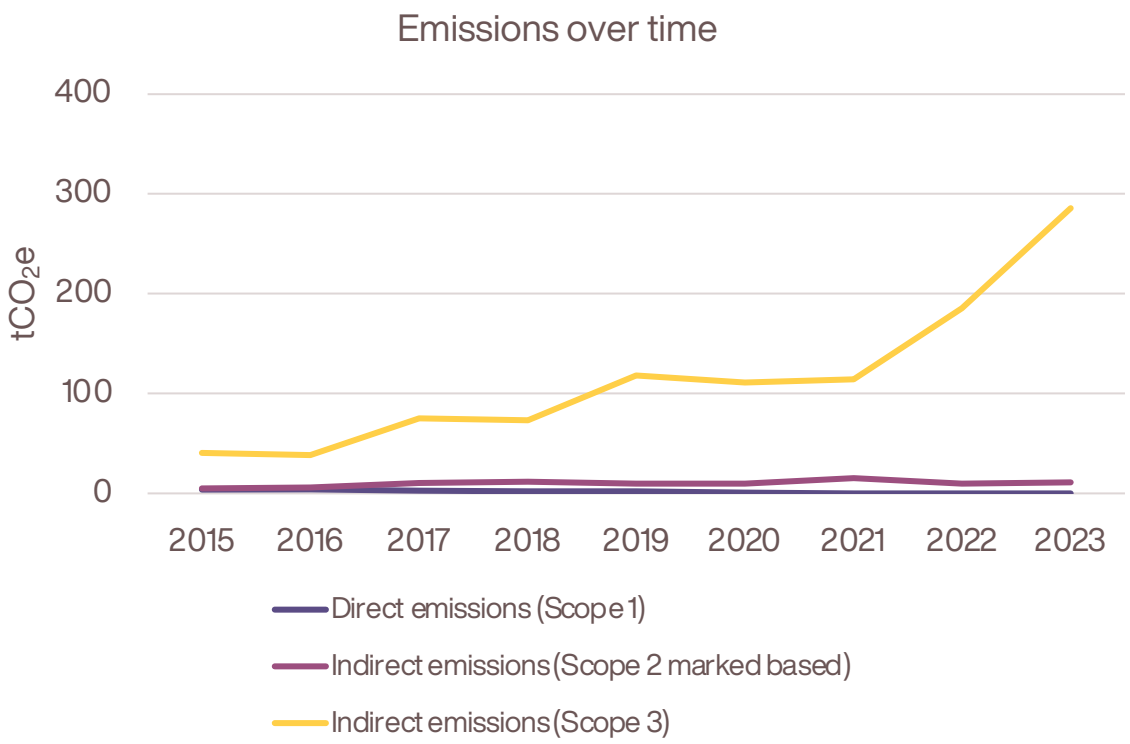
## According to the Greenhouse Gas Protocol

The diagram illustrates The Swedish Internet Foundation's and MetaSolutions' GHG emissions across Scope 1, 2, and 3 between 2015 to 2023 according to the GHG Protocol. Due to improved data coverage and quality over the years, the ability to accurately compare GHG emissions over time is reduced.

**Scope 3 emissions increased** compared to 2022 and is mainly due to:

- A significant increase in business travel during 2023 compared to 2022, partly due to more international conferences.
- Purchased goods and Services (scope 3.1) increased due to the renovation of one of The Swedish Internet Foundation's offices.
- Updated methodology for estimating employee commute has led to an increase in reported GHG emissions.

**Scope 2 emissions (market-based) increased** compared to 2022. This is mainly due to updates in the emission factors used. A slight increase in electricity and consumption also contributed to the reported increase.



# Summary

05

# 5.1 Summary of the climate report 2023

This climate report details the greenhouse gas (GHG) emissions (in tCO2e) for The Swedish Internet Foundation and MetaSolutions for the 2023 reporting year. The report follows the CENTR methodology, with GHG emissions calculated primarily according to the Greenhouse Gas Protocol Corporate Standard and Corporate Value Chain (Scope 3) Standard.

**Key findings in the report:**

The GHG emissions **increased** in 2023 compared to 2022 mainly because of:

Business travel increased partly due to the resumption of travel post-COVID-19 and improved data quality from MetaSolutions.

Updated methodology for the mobility commuting category has led to an increase in GHG emissions. Further refinement of reporting methodologies within the mobility commuting area also contributed to this rise in emissions as the accuracy of reported data improved.

Additionally, there was an increase in GHG emissions from energy consumption due to the application of updated emission factors.

Moreover, The Swedish Internet Foundation renovated one of its offices, which resulted in the purchase of a significant amount of office and IT equipment during the reporting year.

**Total emissions for the reporting year 2023 according to CENTR methodology**: 327 tCO2e.

**Total emissions according to the Greenhouse Gas Protocol, in Scope 1, 2 and 3**: 297 tCO2e.

# Appendix

# 06

# 6.1 Limitations in the report

The Swedish Internet Foundation and MetaSolutions have reported the underlying supplier-specific and activity-based data for each impact category defined by CENTR, as well as the underlying data for additional GHG emission sources defined by the Greenhouse Gas Protocol.

Ethos verified this activity data to assess its completeness and quality. However, the data has not undergone third-party assurance. Therefore, Ethos cannot guarantee the absence of errors in the data presented in this climate report.

# 6.2 Comparison between 2022-2023 – CENTR method

The GHG emission in tCO2e between 2022 and 2023. The total GHG emissions increased in 2023 compared to 2022, mainly due to:

- Significantly increased business travel during 2023.
- Updated methodology for estimating mobility employee commute.
- Renovation of one office has led to a large increase in the category of Capital goods- ICT hardware.
- Note that for the reporting year 2022, employees were reported in FTE. However, in 2023, employees were reported in headcount to align with the financial report. It therefore becomes misleading to compare between the years.

| Comparison 2022-2023 (tCO2e) | | | |
|---|---|---|---|
| **Impact category** | **2022** | **2023** | **Change** |
| *Energy use offices* | 10 | 10,8 | -40% |
| *Energy – data centres (own co-located servers, cloud services and secondary name servers)* | 18 | 3,5 | -80% |
| *Inputs – paper* | 0 | 2,6 | - |
| *Waste – paper* | 0 | 0 | - |
| Mobility – commuting - train, bus and car | 5 | 24,2 | 384% |
| Business travels – train, car and air | 54 | 187,9 | 248% |
| Capital goods – ICT hardware | 13 | 31,2 | 140% |
| Capital goods – buildings and parking area | 67 | 66,7 | -0,4% |
| **Total tonnes CO2e** | **167** | **327** | **96%** |
| *GHG emissions per active domain (gCO2e)* | *96,4* | *191,3* | 98% |
| *GHG emisisons per FTE/ HC* | *1,4* | *2,9* | 105% |
| Additional GHG emission sources | 28 | 14 | -49% |
| **Total tonnes CO2e** | **195** | **341** | **75%** |
| *GHG emissions per active domain (gCO2e)* | *113,0* | *199,7* | 77% |
| *GHG emissions per FTE / HC* | *1,7* | *3,0* | 79% |

*Rounding differences may occur in this table compared to the data presented in chapter chapter 3.*

# 6.2 Comparison between 2022-2023 – GHG Protocol

The GHG emission in tCO2e between 2022 and 2023. The total GHG emissions increased in 2023 compared to 2022, mainly due to:

- Significantly increased business travel during 2023.
- Updated methodology for estimating mobility employee commute.
- Renovation of one office has led to a large increase in the category of Purchased goods, related to purchases of office IT.
- Note that for the reporting year 2022, employees were reported in FTE. However, in 2023, employees were reported in headcount to align with the financial report. It therefore becomes misleading to compare between the years.

| Comparison 2022-2023 (tCO2e) | | | |
|---|---|---|---|
| **Scope kategori** | **2022** | **2023** | **Change** |
| Scope 1 | 0,00 | 0,00 | - |
| Scope 2 Market-based | 9,75 | 10,80 | 11% |
| Scope 3.1 Purchased goods and services | 42,05 | 66,09 | 57% |
| [Optional sub-category: Cloud computing and data centre services | - | 3,75 | - |
| Scope 3.2 Capital goods | 79,07 | 0,00 | -100% |
| Scope 3.3 Fuel and energy-related activities (not included in Scope1 or Scope 2) | 3,00 | 3,83 | 28% |
| Scope 3.5 Waste generated in operations | 0,01 | 0,01 | 0% |
| Scope 3.6. Business travel | 55,93 | 187,93 | 236% |
| Scope 3.7 Employee commute | 5,57 | 24,19 | 334% |
| **Total ton CO2e** | **195,4** | **296,6** | **52%** |
| *Per domain (gCO2e)* | **113** | **173,4** | 54% |
| *Per FTE in 2022 and HC in 2023 including employees, workers and non-guranteed hours employees (Internetstiftelsen & MetaSolutions)* | **1,7** | **2,6** | 56% |

*Rounding differences may occur in this table compared to the data presented in chapter chapter 3.*

# 6.3 Methodology for estimating energy consumption from data traffic and data storage

The data traffic and data storage for secondary name servers (.se and .nu). The energy consumption has been estimated to kilowatt-hours (kWh) by applying the conversion factors outlined in the table below.

These conversion factors are collected from the peer reviewed study conducted by Malmodin, J. et al. (2014) Life Cycle Assessment of ICT. Journal of industrial ecology. [Online] 18 (6), 829–845.

| Data | Conversion factor | Unit |
|---|---|---|
| Data traffic | 1 | kWh/GB |
| Data storage | 0,08 | kWh/GB |

# 6.3 Activity data - Additional GHG emission sources

## Scope 3.1 Purchased goods and services

The table shows the activity data used to calculate GHG emissions in Scope 3.1. This is the second year The Swedish Internet Foundation collects data for this category.

| **Purchased goods and services**<br>**The Swedish Internet Foundation** | **Unit** | **Amount** |
|---|---|---|
| Food and beverages[1]<br>*Includes coffee, milk, fruit and other food purchased to the offices and to event during the report year.* | kg | 1 271,4 |
| Other office equipment and electrical items (not ICT hardware)<br>Includes lights, lamps and small batteries to the office purchased during the reporting year. | kg | 102 |
| Furniture[2]<br>Includes various furniture such as office chairs and desks purchased to the offices during the reporting year. | number of items | 0 |
| Other purchases<br>Includes plastics for packaging | kg | 0,5 |
| The conference “Internetdagarna”[3] | tCO2e | 2,0 |

[1] The food and beverages was calculated based on a cost average per portion and per serving of beverage.
[2] Not furniture was purchased during 2023.
[3] Emissions from ‘Internetdagarna’ were calculated by ZeroMission.

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# 6.4 Activity data - Additional GHG emission sources

## Scope 3.6 Hotel nights

The table shows the activity data used to calculate GHG emissions in Scope 3.6. The Swedish Internet Foundation had hotel nights in Europe, North America, and Asia. MetaSolutions had hotel nights in Europe during 2023.

| Hotel nights | Unit | Amount |
|---|---|---|
| The Swedish Internet Foundation | number of nights | 284 |
| MetaSolutions | number of nights | 25 |

# 6.5 Sources of emission factors (1/3)

| Categories | | Sources of emission factors |
|---|---|---|
| Energy | Electricity office | • **Market-based approach – electricity**: a total of 9,75 tCO2e. The emission factors used are from the International Energy Agency IEA: IEA, Emissions Factors 2023, IEA, Paris https://www.iea.org/data-and-statistics/data-product/emissions-factors-2023, Licence: Terms of Use for Non-CC Material), which is an update compared to previous years when AIB European Residual Mixes where used. The update of emission factors has resulted in an increase in emissions compared to last year.<br>• **Location-based approach – electricity**: : a total of 14,5 tCO2e. The emission factors used are from the International Energy Agency IEA: IEA, Emissions Factors 2023, IEA, Paris https://www.iea.org/data-and-statistics/data-product/emissions-factors-2023, Licence: Terms of Use for Non-CC Material), which is an update compared to previous years when AIB European Residual Mixes where used. The update of emission factors has resulted in an increase in emissions compared to last year. |
| | Electricity data centre | • **Own co-located servers**: 0 kgCO2e/kWh due to the use of renewable energy.<br>• **Cloud services and secondary name servers:** CO2e emissions provided by supplier A and B (applied for The Swedish Internet Foundation), emission factor used for MetaSolutions is based on spend and developed by Ethos. |
| | Heating and cooling | • **Market based and location-based approach – district heating**: Emission factors used from Energiföretagen (2023).<br>• **Market based and location-based approach – district cooling**: Emission factors used from District cooling EPD (2022) by Norsus as a proxy for The Swedish Internet Foundation's office in Stockholm. |
| **Inputs** | Paper | • 0,9105 kgCO2e / kg collected from DEFRA 2023. |
| **Waste** | Paper | • 0,0213 kgCO2e / kg collected from DEFRA 2023. |

# 6.6 Sources of emission factors (2/3)

| Categories | | Sources of emission factors |
|---|---|---|
| Mobility (commuting) | | • The calculating method takes into account the average number of working days in a reporting year, the average percentage of work done from home and the share of workspace located in cities. The method is based on statistics on Swedish commuting habits by Trafikanalys.<br>• The source for the emission factors used depending on different commuting options, such as car and public transport, are from DEFRA. |
| Business travel | Air | • CO2e emissions are collected directly from the travel agency Egencia (applied for The Swedish Internet Foundation).<br>• 0,18592 kgCO2e/passenger.km (well-to-tank) and 0,02286 kgCO2e/passenger.km (tank-to-wheal) collected from DEFRA 2023, (applied for MetaSolutions). |
| | Car | • CO2e emissions are collected directly from the travel agency Taxi Stockholm (applied for The Swedish Internet Foundation).<br>• 0,1178 kgCO2e/km (hybrid) and 0,1698 (diesel) collected from DEFRA 2023, (applied for MetaSolutions). |
| | Train | • CO2e emissions are directly collected from from SJ as well as travel agency Egencia, (applied for The Swedish Internet Foundation).<br>• National train: 0,003546 kgCO2e/passenger.km (well-to-tank) and 0,000897 kgCO2e/passenger.km (tank-to-wheal) collected from DEFRA 2023, (applied for MetaSolutions).<br>• International train: 0,004459 kgCO2e/passenger.km (well-to-tank) and 0,00117 kgCO2e/passenger.km (tank-to-wheal) collected from DEFRA 2023, (applied for MetaSolutions). |

# 6.7 Sources of emission factors (3/3)

| Categories | | Sources of emission factors |
|---|---|---|
| Capital goods | Buildings | • 650 kg CO2e per m2 collected from CENTR. Depreciation time 40 years. |
| | Parking area | • 13,925 kg CO2e per m2 collected from CENTR. Depreciation time 40 years. |
| | ICT hardware | • **Mobile phones:** Apple 2022. Depreciation time: 3 years.<br>• **Laptops**: DELL 2019. Depreciation time: 3 years.<br>• **Screens**:. DELL 2019. Depreciation time: 3 years.<br>• **Servers**: 133 kgCO2e/piece collected from CENTR. Depreciation time: 3 years.<br>• **Printers**: 588 kgCO2e/piece collected from CENTR. Depreciation time: 5 years. |
| Additional sources | Purchased goods and services | • **Food and beverages**: Average food and average drink 3,7014 kgCO2e/kg collected from DEFRA 2023..<br>• **Other office equipment and electrical items other than ICT hardware**: 5,6479 kgCO2e/kg (small electrical items); 5,6479 kgCO2e/kg (batteries lithium ion); 4,6334 kgCO2e/kg (batteries alkaline) collected from DEFRA 2023..<br>• **Furniture**: 72 kgCO2e/piece (office chair); 35 kgCO2e/piece (office desk); 90 kgCO2e/piece (sofa); 50,83 kgCO2e/piece (average furniture) collected from FIRA International Ltd (2011).<br>• **Other purchases**: 3,10244 kgCO2e/kg (average plastic) collected from DEFRA 2023..<br>• **Conference 'Internetdagarna'**: Emissions calculated by ZeroMission. |
| | Hotel nights | • CO2e emissions are collected directly from the travel agency Egencia (applied for The Swedish Internet Foundation).<br>• 13,11 kgCO2e/night (Europe) collected from DEFRA 2023, (applied for MetaSolutions). |
| | Energy from working from home | • The emission factors used are from the International Energy Agency IEA: IEA, Emissions Factors 2023, IEA, Paris https://www.iea.org/data-and-statistics/data-product/emissions-factors-2023, Licence: Terms of Use for Non-CC Material), which is an update compared to previous years when AIB European Residual Mixes where used. |

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# For questions, please contact:

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