minimum

Carbon Accounting Methodology Report (2024)

SUSE FY2024

SUSE has used Minimum, an Enterprise Carbon Management Platform, to independently calculate its Greenhouse Gas (GHG) emissions for the CY2024 reporting period.

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General Methodology

Accounting methodology

The GHG emissions have been assessed following the GHG Protocol Corporate Accounting and Reporting Standard, Scope 2 Guidance and Corporate Value Chain (Scope 3) Accounting and Reporting Standard.

Reporting period

The reporting year shown is from 1st January 2024 to 31st December 2024. All emissions were calculated within this time frame.

Control approach

Minimum applied the **Operational control** approach to calculate the carbon inventory of SUSE.

Operational control, as defined by the GHG protocol, is when a company has control over an operation if the former or one if its subsidiaries have the full authority to introduce and implement its operating policies at the operation. Under the operational control approach, a company accounts for 100% of emissions from operations over which it or one of its subsidiaries has operational control.

38 SUSE physical entities across Americas, APJ and EMEA were within SUSE's operational control during the reporting period.

Emissions scope boundary

The emissions calculations for SUSE incorporate the following scopes

Scope 1 - direct emissions from assets under operational control

Scope 2 - indirect emissions from energy procurement form assets under operational control

> **Location based approach:** Location-based takes the average emissions intensity of the electricity supplied via the grid. Physically, there is no way of distinguishing the source of electricity consumed once it has passed through the grid and therefore the average is used for the location-based approach.
>
> **Market based approach:**
> In the market-based case, the contractual supply is taken into account, and an organisation can choose to procure renewable electricity from a supplier who has to demonstrate that this electricity is backed by Renewable Energy Certificates (RECs) or Renewable Energy Guarantee of Origin (REGO) certificates. The reasoning is that users get rewarded for making a specific choice of using renewable electricity, which drives demand for more renewable capacity.

Scope 3[1] **-** upstream and downstream emissions form a company's value chain

- Purchased goods and services
- Capital goods
- Fuel- and -Energy- related activities (not included in Scope 1 & 2)
- Business Travel

Relevant emissions activities

The following activities were identified as relevant within the emissions scope boundary of SUSE

Activity	Scope	Category	In Scope	Reason for exclusion
Company Vehicles	**1**	-	Yes	In Scope
Other Fuels	**1**	-	No	No other fuels recorded at SUSE operational entities
Natural Gas	**1**	-	Yes	In Scope
Refrigerants	**1**	-	No	Immaterial number of refrigerants consumed at data centres but no data available
Purchased Electricity	**2**	-	Yes	In Scope
Purchased steam, heating and cooling	**2**	-	Yes	In scope
Purchased goods and services	**3**	1	Yes	In Scope
Water	**3**	1	Yes	In Scope
Capital goods	**3**	2	Yes	In Scope
Fuel- and Energy-related activities	**3**	3	Yes	In Scope
Upstream Transport & Distribution	**3**	4	No	Not relevant to SUSE
Waste	**3**	5	Yes	In Scope
Waste water treatment	**3**	5	No	No data
Business Travel	**3**	6	Yes	In Scope
Employee Commuting	**3**	7	No	No data provided for employee commuting estimation
Upstream Leased assets	**3**	8	No	All co-working spaces captured in Scope 1 and 2
Downstream Transport & Distribution	**3**	9	No	Not relevant to SUSE
Processing of Sold Products	**3**	10	No	Not relevant to SUSE

[1] All other Scope 3 categories were not included in the assessment

Product in use	**3**	11	No	Not relevant to SUSE
End of life of sold product	**3**	12	No	Not relevant to SUSE
Downstream Leased Assets	**3**	13	No	Not relevant to SUSE
Franchises	**3**	14	No	Not relevant to SUSE
Investments	**3**	15	No	Not relevant to SUSE

All categories recognised as relevant but non-material to SUSE's 2024 footprint were not expected to meet the threshold for inclusion (cumulative 5% of total footprint).

Emission factors used

Activity	Geography (optional)	Emission factors source
Natural Gas	Global	UK Government GHG conversion factors (BEIS)
Mobile fuels	Global	UK Government GHG Conversion Factors
Electricity	Global	UK Government GHG Conversion Factors IEA Emission factors
Purchased Heat, Steam & Cooling	Global	US Environmental Protection Agency (EPA) 2024
Purchased goods and services	Global	EEIO World Input-Output Database (WIOD)
Capital goods	Global	EEIO World Input-Output Database (WIOD)
Fuel- and energy-related activities	Global	IEA Emission factors UK Government GHG conversion factors
Business Travel	Global	Reported emissions from SUSE supplier

Global warming potentials applied

GWP – AR6	100 Year GWP
CO2	1
CH4	27.9
N2O	273

Minimum applied the global warming potentials of the IPCC AR6 report, published in 2021.

Data collection process

Actual activity data has been collected where possible from all entities within the organisational boundary on an annual basis by SUSE. This data has been summarised, reviewed, and assessed by Minimum for its completeness and accuracy. The activity data is multiplied by an appropriate emission factor to calculate Scope 1, 2 & select Scope 3 emissions for SUSE

Estimations applied

Scope 1 – Company cars
Historically, SUSE have used the below estimation approach to calculate its Petrol based company vehicles. For the 2024 reporting period the estimation approach was expanded to Diesel, Hybrid and Electric vehicles. This has included the back calculations of diesel, hybrid and electric vehicles for previous reporting years that were not accounted for in previous footprints.

The document *'Fleet_Only_-_May_20_2025'* required several estimations to calculate the emissions associated with the fuel consumption of SUSE's company vehicles at the country level. Where data by fuel type (e.g., petrol, electric, etc.) was available, total fuel consumption was divided by the number of vehicles for each fuel type to derive an average fuel consumption intensity metric. This metric was then applied to estimate fuel consumption by fuel type in countries where direct data was unavailable.

Due to the data being split between CY 2024 January – July and August – December, with different fuel consumption and total number of vehicles totals between the two periods, individual proxies were created. All estimations are tagged within the Minimum platform, and the intensity proxies can be provided upon request.

Scope 1 & Scope 2 – Energy estimations (Natural gas, Electricity)
SUSE applied the following methodology to estimate natural gas and electricity consumption for sites that were unable to provide complete actual data for the 2024 reporting period:

- **Identify a reference site**: Select a site that closely resembles the one requiring estimation, using criteria such as country, office type (e.g., serviced office, data centre, or standard office). If no direct match is available, the geographically nearest site should be used.
- **Calculate an energy intensity proxy**: Divide the actual energy consumption of the reference site by its floor area to determine a kWh per square foot (or square meter) intensity value.
- **Apply the intensity proxy**: Multiply the intensity proxy by the floor area of the site requiring estimation.
- **Extrapolate across the reporting period**: Use the estimated energy value for all months during the 2024 reporting period where actual data is unavailable.

Clarifications & data improvements

The 2024 reporting period is the first in which SUSE has partnered with Minimum to calculate its organisational carbon footprint. Minimum provides enterprise-grade carbon accounting services through its calculation platform, leveraging industry-leading emissions factors and methodologies. The platform ensures full transparency throughout the calculation process, for auditability.

SUSE has transitioned from previous vendors to the Minimum platform for this reporting period. However, the organisation has maintained consistency in its overall reporting framework, including its organisational boundary and methodological approach. This continuity ensures comparability with prior reporting years.

Notably, SUSE has been able to incorporate a greater volume of actual data for the 2024 reporting year compared to previous reporting periods. This has contributed to improved accuracy in the emissions estimates presented.

All data submitted by SUSE for the CY2024 reporting period is accurate to the best of the organisation's knowledge. SUSE is committed to the continuous improvement of its data collection and reporting processes. Where updated or more precise data becomes available—particularly where actual data may replace previously estimated figures—SUSE will integrate these updates into its carbon footprint calculations as appropriate.

Methodologies

Scope 1

1.1 Activities:
Natural Gas

Description:
The quantity of fuel used is converted to emissions covering both direct and upstream emissions. This methodology is for assets owned or controlled by the footprinting entity, but if the asset is not under operational control when the fuel is burnt, the emissions will be allocated to Scope 3 upstream leased assets.

Required input parameters:

- Entity – The entity associated with this activity and its resulting emissions
- Fuel type – The specific fuel type combusted (e.g. Diesel, Natural gas, etc)
- Fuel Amount – The amount of fuel used during the period covered by the data submission
- Fuel unit – Unit of measure associated with the fuel amount
- Combustion type – The fuel use must be classified either as 'Mobile' or 'Stationary' combustion for reporting purposes
- Start/End date – Whether the activity took place while the entity was under operational control at the time of fuel consumption

Emissions calculations:

Scope 1

Fuel amount x Fuel direct emission factor (EPA) = Emissions ($kgCO_2e$)

Scope 3

Fuel amount x Fuel WTT emission factor (EPA) = Emissions ($kgCO_2e$)

In the case of SUSE's 2024 footprint calculation, all Scope 1 fuel-related calculations utilised the same methodology, as listed above. Consistent emissions factors were applied across all calculations, providing relevant geographical emissions calculations.

1.2 Activities:
Company vehicles

Description:
Quantity of fuel used is converted to emissions covering both direct and upstream emissions. This methodology is for assets owned or controlled by the footprinting entity, but if the asset is not under operational control when the fuel is burnt, the emissions will be allocated to Scope 3 upstream leased assets.

Required input parameters:

- Entity – The entity associated with this activity and its resulting emissions
- Fuel type – The specific fuel type combusted (e.g. diesel, natural gas, etc)
- Fuel amount – The amount of fuel used during the period covered by the data submission
- Fuel unit – Unit of measure associated with fuel amount
- Combustion type – The fuel use must be classified either as “Mobile” or “Stationary” combustion for reporting purposes
- Start/End date – Whether the activity took place while the entity was under operational control at the time of fuel consumption

Emissions calculations:

Scope 1

Fuel amount x EF vehicle fuel direct = Emissions ($kgCO_2e$)

Scope 2

EV consumption amount x EF EV vehicle electricity direct = Emissions ($kgCO_2e$)

Scope 3

Fuel amount x EF vehicle fuel Indirect = Emissions ($kgCO_2e$)

Scope 3

EV consumption amount x EF EV vehicle electricity Indirect = Emissions ($kgCO_2e$)

Scope 2

2.1 Activities:
Electricity

Description:
Electricity consumption is primarily available from direct meter data. This methodology covers both Location-based and Market-based Scope 2 emissions, as well as upstream impacts, whereas the appropriate residual EF is applied to all other tariffs. Location-based emission factors for the US can be specified at grid sub-region or state level.

Required input parameters:

- Electricity amount – Quantity of electricity consumed between start and end date of a submission
- Electricity unit – Unit of measure to the electricity consumption
- Country – Country in which electricity is consumed
- State/E-Grid code – Either eGRID code (for USA) or State (for Canada)
- Start/End date – Whether the activity took place while the entity was under operational control at the time of fuel consumption

Emissions calculations

Scope 2

*Electricity amount (MWh) x Fuel direct emission factor **Location** (EPA) = Emissions ($kgCO_2e$)*

Scope 2

*Electricity amount (MWh) x Fuel direct emission factor **Market** (EPA) = Emissions ($kgCO_2e$)*

Scope 3

*Electricity amount (MWh) x Fuel direct emission factor **upstream** (EPA) = Emissions ($kgCO_2e$)*

Scope 3

3.1 Activities:
Purchased goods and services

Description:
Purchased goods and services are typically a major contributor to an organisations carbon footprint. Nevertheless, the volume of products and their suppliers usually involved makes it impractical to gather sufficiently detailed data for an accurate carbon footprint. As a result, the default approach for procurement is to use spend data categorised according to different economic sectors and apply environmentally enhanced economic input output (EEIO) factors that associate GHG emissions with every USD spent in that sector.

Required input parameters:

- Spend amount – Spend value against a single transaction, supplier or economic sector during the data submission period
- Economic sector – Economic sector associated with the spend value
- Country – Country where the purchase order is placed
- Currency – Currency unit of the spend value
- Capex – Is this capital expenditure (YN)?
- Start/End date – Whether the activity took place while the entity was under operational control at the time of salt procurement

Emissions calculations

Scope 3

Spend value (USD) x WIOD EEIO EF= Emissions ($kgCO_2e$)

3.2 Activities:
Capital goods

Description:
Capital goods are typically a major contributor to an organisation's carbon footprint. Nevertheless, the large volume of products and their suppliers usually involved makes it impractical to gather sufficiently detailed data for an accurate carbon footprint. As a result, the default approach for procurement is to use spend data categorised according to different economic sectors and apply it to spend data categorised according to different economic sectors and apply environmentally-enhanced economic input output (EEIO) factors that associate GHG emissions with every dollar spend figure on specific commodities.

Required input parameters:

- Spend value – Spend value against a single transaction, supplier or economic sector during the data submission period
- Economic sector – Economic sector associated with the spend value
- Country – Country where the purchase order is places
- Currency – Currency unit of the spend value
- Capex – Is this capital expenditure (Y/N)?
- Start/End date – Whether the activity took place while the entity was under operational control at the time of salt procurement

Emissions calculations

Scope 3

Spend amount (USD) x WIOD EEIO EF (EPA) = Emissions ($kgCO_2e$)

3.5 Activities:
Waste

Description:
Disposal of waste arising in operations can result in emissions during transport from site to treatment facility, as well as through the treatment itself. Most common examples include landfill gas from decomposable materials (food, paper, card, etc) in landfill, incineration of plastics without energy recovery or farm waste deposited in a slurry put. This methodology captures both transport and process emissions by using UK Government and US EPA EFs based on the waste type and treatment method where known, or average default values where unknown.

Required input parameters:

- Waste type – Type of waste disposed (assumed to be 'general waste')
- Waste units – Unit of measure for volume of waste disposed (default is tonnes)
- Waste amount – Quantity of waste disposed
- Waste treatment type – End-of-life treatment of disposed waste (assumed to be 'Unknown)
- Start/End date – Whether the activity took place while the entity was under operational control at the time of waste disposal

Emissions calculations

Scope 3

Waste amount x Waste EF = Emissions ($kgCO_2e$)

3.6 Activities:
Business Travel

Description:
Conversion of employee expenses claims for business travel by ground-based public transport including taxis, rail, rental vehicles and flights. Public transport expense claims are converted to passenger-kilometres based on reports of average costs per km, the resulting figures are then multiplied by the corresponding emission factor. This methodology has very low quality as there can be a wide variability in the cost per kilometre within each transport mode.

Required input parameters:

- N/A

Emissions calculations

Scope 3
N/A

Reported emissions
In the case of business travel for SUSE's 2024 reporting period, actual emissions data was collected by its business travel provider meaning that no calculation was required by the Minimum platform. Minimum ingested the emissions already calculated by the service provider into the platform and will require evidence in the form of a methodology document or certificate.