NEW CLIMATE INSTITU

# CLIMATE RESPONSIBILITY 2025

**Communication of measures to address our climate footprint**

DECEMBER 2025

# CLIMATE RESPONSIBILITY 2025

## Communication of measures to address our climate footprint

December 2025

**See more information about the Climate Responsibility approach and download the report:**

https://newclimate.org/climateresponsibility



NEW CLIMATE INSTITUTE

# TABLE OF CONTENTS

# LIST OF FIGURES



# LIST OF TABLES

# OUR CLIMATE RESPONSIBILITY APPROACH

## A new approach for organisations to take responsibility for their climate impact

**To address the climate crisis, rapid decarbonisation is urgently needed across all sectors.** Existing climate pledges and policies fall far short of what is needed to transition to sustainable, low-carbon economies (Climate Action Tracker, 2025). Organisations increasingly recognise that their activities are drivers of this problem and feel **compelled to step up and take responsibility for their impact on the climate.** Common approaches to address this responsibility – such as shadow carbon pricing or the concept of offsetting – are challenging to implement in a way that ensures transparency and effective climate impact in line with the Paris Agreement objectives.

We do not intend to offset our emissions and do not strive for carbon neutrality, based on offsets. We aim to create a transparent mechanism that reduces our direct climate impact and channels resources to initiatives that currently deliver real impact in addressing climate change or have great potential to do so in the future. In this document **we hope to outline a transparent mechanism that can be followed by others.**


## Our Climate Responsibility approach

### Step 1: Measure emissions

Maintain an overview of your GHG emissions on an annual basis and continuously strive to improve our understanding of the impact that your organisation has, in order to plan and implement actions to reduce your own GHG emissions as far as possible.

### Step 2: Reduce emissions

Reduce your own emissions as much as possible, with a vision of zero emissions as soon as possible.

### Step 3: Price emissions

Set a price per unit of emissions, based on a price signal aligned with the objectives of the Paris Agreement, for the ongoing GHG emissions your organisation cannot yet avoid. Based on this price level, you generate a contribution budget which represents the actual costs of this approach.

### Step 4: Support action

With the funds from step 3, support initiatives for transformational action to address climate change that advance progress towards achieving global goals. This includes initiatives that may not yet generate quantifiable emission reductions or credits, but which could have a transformational impact in the future.

### Step 5: Mainstream contributions

Mainstream the pricing of your climate impact through your accounting processes, to raise awareness and integrate these costs into decision making processes both internally, as well as with funders and partners, to encourage them to recognise these costs in the same way.

### Step 6: Communicate transparently

Transparently communicate the details of this approach on a regular basis, including challenges and lessons learnt, to identify and collaboratively address issues, prompt discussion and encourage replication amongst other organisations.

# STEP 1: MEASURE, AND STEP 2: REDUCE EMISSIONS

**Climate Responsibility step 1: We maintain an overview of our GHG emissions on an annual basis and continuously strive to improve our understanding of the impact that we have.**

NewClimate Institute performs a transparent ongoing analysis of the organisation's GHG emissions, reporting on an annual basis. The scope of the organisation's own emissions accounting is internally reviewed and publicly communicated every year, with the intention to continuously improve our understanding of our climate impact and to continuously take measures to reduce our impact.

The sub-sections below describe the approach taken for estimating and calculating activity and emission factors for each emission source. Full quantitative details on activity, emission factors and emissions for each emission source over the period 2014-2024 are included in → **Annex**.

**Climate Responsibility step 2: We aim to reduce our own emissions as much as possible, with a vision of zero emissions as soon as possible.**

NewClimate Institute has a vision to operate with real-zero GHG emissions as soon as possible. We wish to transparently stress that we do not claim to have, or to be on, a clear pathway to achieve this vision, due to the lack of decarbonisation options for key sources of emissions.

We regularly assess the options for reducing our own emissions from each emission source, based on the results from step 1 and taking account of the best available knowledge on emission reduction opportunities. The internal fee on carbon applied in step 3 of this approach also supports driving decision-making towards low-carbon solutions.

For significant sources of emissions where we cannot make substantial emission reductions in the near future, we transparently communicate the challenges we face in tackling those emission sources, to encourage dialogue on finding solutions for the future.

# OVERVIEW OF EMISSIONS

→ **Figure 1** and → **Table 1** give an overview of NewClimate Institute's emissions across all relevant scope 1, scope 2 and scope 3 emission sources from 2014 to 2024. Average annual emissions from these emission sources in this period amount to an estimated 137 $tCO_2e$, although with significant differences between years due to the growth of the organisation and the impacts of the COVID-19 pandemic. During this period, emissions from these sources amounted to an estimated 1,506 $tCO_2e$. Emissions in 2024, at 218 $tCO_2e$, were 31% lower than pre-pandemic levels and 17% lower than in 2023, mostly due to a reduced amount of business travel.

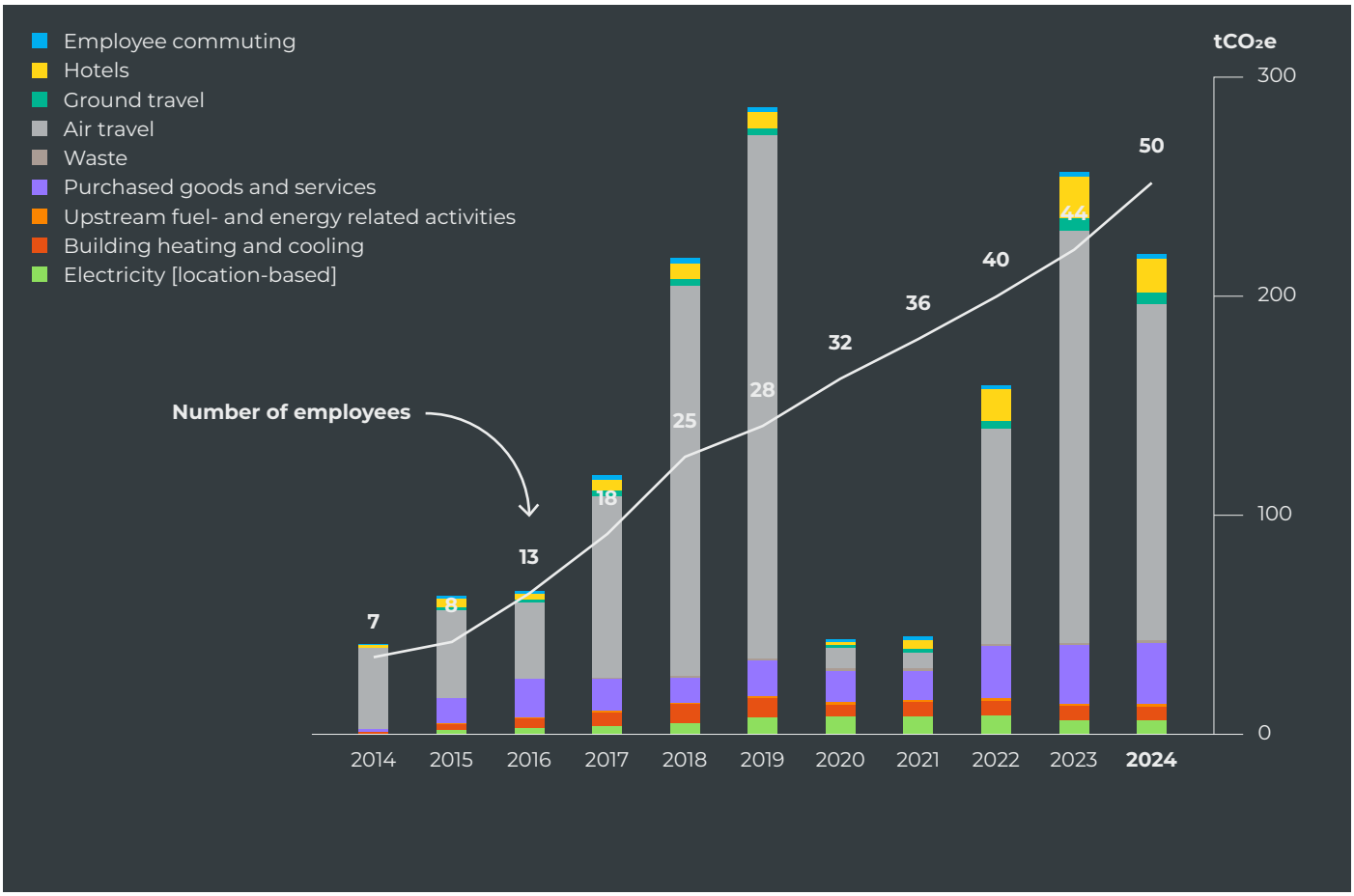
The majority (80%) of NewClimate Institute's GHG emissions in 2024 came from business travel. 88% of these emissions were derived from air travel, 3% from ground-based travel modes and an estimated 9% from hotel services. Our travel activity is a function of the projects that we work on and the countries that we work with. We choose the countries we work with based on an assessment of the potential climate change mitigation impact we can have through the project. Further considerations on this source of emissions can be found in the section Business travel emissions (scope 3.6).

Aside from business travel emissions, our most significant emission sources are emissions from purchased goods and services (scope 3.1) and emissions from purchased heat and electricity (scope 2), which accounted for approximately 12% and 8% of the organisation's average annual GHG emission footprint from 2014 to 2024 respectively. Emissions from purchased goods and services derive mostly from the procurement of IT equipment and office furnishings, for our office spaces in Berlin and Cologne.

Average emissions from employee commuting (scope 3.7) and waste (scope 3.5) are both in the order of 0.5% of our total emissions, although the estimates for these emission sources contain a considerable degree of uncertainty and are presented for transparency and orientation, rather than for meaningful analysis.

→ **Figure 1** and → **Table 1** show a clear trend of increasing non-travel-related emissions since 2014, corresponding to the growth of our organisation. This period of growth entails an increase in the number of project activities that we work on, to further pursue the objectives of the organisation. A more detailed description of emissions and measures to reduce emissions from each emission source can be found in the following sections.

**Fig. 1**
**Overview of GHG emission footprint [2014-2024]**



**Tab. 1**
**Overview of GHG emission footprint [2014-2024]**

| Scope | Emissions source | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scope 1 emissions** | | - | - | - | - | - | - | - | - | - | - | - |
| **Scope 1** | Stationary or mobile combustion and fugitive emissions | Emission source is not relevant for the organisation. No direct combustion or fugitive emissions. | | | | | | | | | | |
| **Scope 2 emissions** | | **1.1** | **4.8** | **7.3** | **10.1** | **13.9** | **16.4** | **13.7** | **14.7** | **15.2** | **13.1** | **12.9** |
| **Scope 2** | Emissions from purchased energy – Electricity [location based] | 0.7 | 1.9 | 2.9 | 3.9 | 5.2 | 8.0 | 8.1 | 8.0 | 8.5 | 6.6 | 6.4 |
| | Emissions from purchased energy – Building heating | 0.4 | 2.9 | 4.4 | 6.3 | 8.7 | 8.4 | 5.6 | 6.6 | 6.7 | 6.5 | 6.5 |
| **Scope 3 emissions [upstream]** | | **39.7** | **57.7** | **57.9** | **107.3** | **202.5** | **268.5** | **29.1** | **29.7** | **143.1** | **242.0** | **205.0** |
| **Scope 3.1** | Purchased goods & services | 1.2 | 11.2 | 17.4 | 14.7 | 11.1 | 16.2 | 14.2 | 13.3 | 24.0 | 26.6 | 27.7 |
| **Scope 3.2** | Capital goods | Emission source is not relevant for the organisation. No capital goods. | | | | | | | | | | |
| **Scope 3.3** | Fuel and energy related activities [not included in scope 1 or scope 2] | 0.1 | 0.3 | 0.4 | 0.5 | 0.7 | 1.1 | 1.2 | 1.1 | 1.1 | 1.0 | 0.9 |
| **Scope 3.4** | Upstream transportation | Emission source is not relevant for the organisation. No direct contracting of upstream transportation services. Transport-related emissions of purchased goods and services are included in scope 3.1 calculations. | | | | | | | | | | |
| **Scope 3.5** | Waste | 0.2 | 0.3 | 0.4 | 0.6 | 0.8 | 0.8 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| **Scope 3.6** | Business travel – Air travel | 36.7 | 39.9 | 34.2 | 82.2 | 176.8 | 237.3 | 9.5 | 7.3 | 97.2 | 187.1 | 153.0 |
| | Business travel – Ground travel | 0.2 | 1.2 | 1.7 | 2.6 | 3.5 | 3.5 | 1.0 | 1.9 | 3.9 | 5.9 | 5.1 |
| | Business travel – Hotels | 1.2 | 4.0 | 2.7 | 4.9 | 7.2 | 7.3 | 1.4 | 3.6 | 14.3 | 18.6 | 15.6 |
| **Scope 3.7** | Employee commuting | 0.1 | 0.8 | 1.1 | 1.7 | 2.3 | 2.2 | 0.9 | 1.6 | 2.8 | 3.1 | 1.7 |
| **Scope 3.8** | Upstream leased assets | Emission source is not relevant for the organisation. No leased assets. | | | | | | | | | | |
| **Scope 3 emissions [downstream]** | | - | - | - | - | - | - | - | - | - | - | - |
| **Scope 3.9** | Downstream transport and distribution | Downstream emission sources are not relevant for the organisation. The organisation has no downstream emissions associated with the services provided, nor any downstream leased assets, franchises or investments. | | | | | | | | | | |
| **Scope 3.10** | Processing of sold products | | | | | | | | | | | |
| **Scope 3.11** | Use of sold products | | | | | | | | | | | |
| **Scope 3.12** | End-of-life treatment of sold products | | | | | | | | | | | |
| **Scope 3.13** | Downstream leased assets | | | | | | | | | | | |
| **Scope 3.14** | Franchises | | | | | | | | | | | |
| **Scope 3.15** | Investments | | | | | | | | | | | |
| **Total** | | **40.8** | **62.5** | **65.2** | **117.4** | **216.3** | **284.9** | **42.8** | **44.3** | **158.4** | **255.1** | **217.9** |

# PURCHASED ENERGY [SCOPE 2 AND SCOPE 3.3]

### GHG emissions footprint

Purchased energy was a significant source of GHG emissions also in 2024, accounting for an estimated 13 $tCO_2e$ or 6% of NewClimate Institute's total emissions footprint that year. The proportion has remained approximately the same since travel has resumed post-pandemic. For comparison, purchased energy emissions accounted for an estimated 33% of the organisation's GHG emissions footprint in 2021 (due to reduced travel emissions during that year). NewClimate Institute's GHG emissions from purchased energy are classified into emissions associated with electricity and heat consumption (scope 2) and upstream energy emissions stemming from the same sources (scope 3.3).

**Activity tracking**

Since 2019, we calculate our emissions from office energy use based on measured and tracked energy consumption data for electricity and heat.

For spatial heating and cooling, the data we have obtained from building owners for 2020 to 2024 remain incomplete, leading us at least partially to preliminary estimates for these years, until further data are available.

For our Berlin office, we based preliminary estimates of spatial heating energy for 2022 to 2024. We will update our 2023 and 2024 activity data once we have further information that allows us to correct or improve these estimates. There are wide variations in the energy use data for the years 2020 to 2022, so we have replaced annual numbers with an average of the data available for all three years, until further clarification is possible. Information about the centralised cooling system and consumption data is still incomplete in NewClimate Institute's Berlin office, while a cooling effect can hardly be noticed. We are in contract with our landlord in Berlin to address these data gaps.

In Cologne, heating and cooling are delivered through a centralised ventilation system and thermal activation of building structures. This system is efficient but does not give the user full control to adjust supply to actual demand in all situations. It is, for example, not possible to switch off cooling or heating completely which leads to unnecessary consumption. We have only received data on the energy consumption of the centralised building heating system for 2021 and have used this data to make preliminary estimates for 2022, 2023 and 2024. Through

our in-office meters, we were able to track our additional cooling and heating demand beyond what the centralised ventilation system provided. Due to our energy-efficient behaviour, we have kept our cooling and heating demand very low and in 2022 to 2024, extra cooling (0 kWh) and heating (57 kWh) were used only to an insignificant extent. Responsible energy use and energy-efficient behaviour must also have led to below average energy use from the centralised system. However, this is not visible to us since the energy consumption is assigned to the different tenants based on square metre floor space and not based on actual consumption.

Due to the growth rate of the organisation in its initial years, NewClimate Institute has had various different office locations. For several of these locations, NewClimate Institute was a subletter or had contracts that did not directly provide bills for energy use or data that could be used to determine energy consumption with a reasonable degree of accuracy. For the 2015-2017 period, estimates are based on the average energy consumption per full-time-equivalent employee in 2018, 2019 and 2020, which has been extrapolated to estimate the total energy consumption for the whole period.

**Emission factors**

In 2024, we applied the 2023 emission factor of 388 $gCO_2e$/kWh to electricity consumption in both offices, 216 $gCO_2e$/kWh to district heating and cooling in Cologne and 219 $gCO_2e$/kWh to gas-fired heating and cooling in Berlin.

A gas-fired combined cooling, heat and power (CCHP) unit within the buildings of NewClimate Institute's office in Berlin supplies heating and cooling to the building and electricity to the grid. The cogeneration of electricity with cooling and heating increases the efficiency of energy generation. However, electricity generated is fed into the national grid under net-metering regulations and may therefore be considered to lead to marginal improvements in the emissions intensity of the electricity grid, rather than the energy delivered to the building's users. Accordingly, we conservatively apply the grid emission factor for electricity, alongside a standard emission factor for gas heating. Heating in Cologne was provided through a district heating connection.

In the absence of better information on the emissions factor of district heating from the city of Cologne up until 2021, we used a default value of 180 $gCO_2e$/kWh from the German

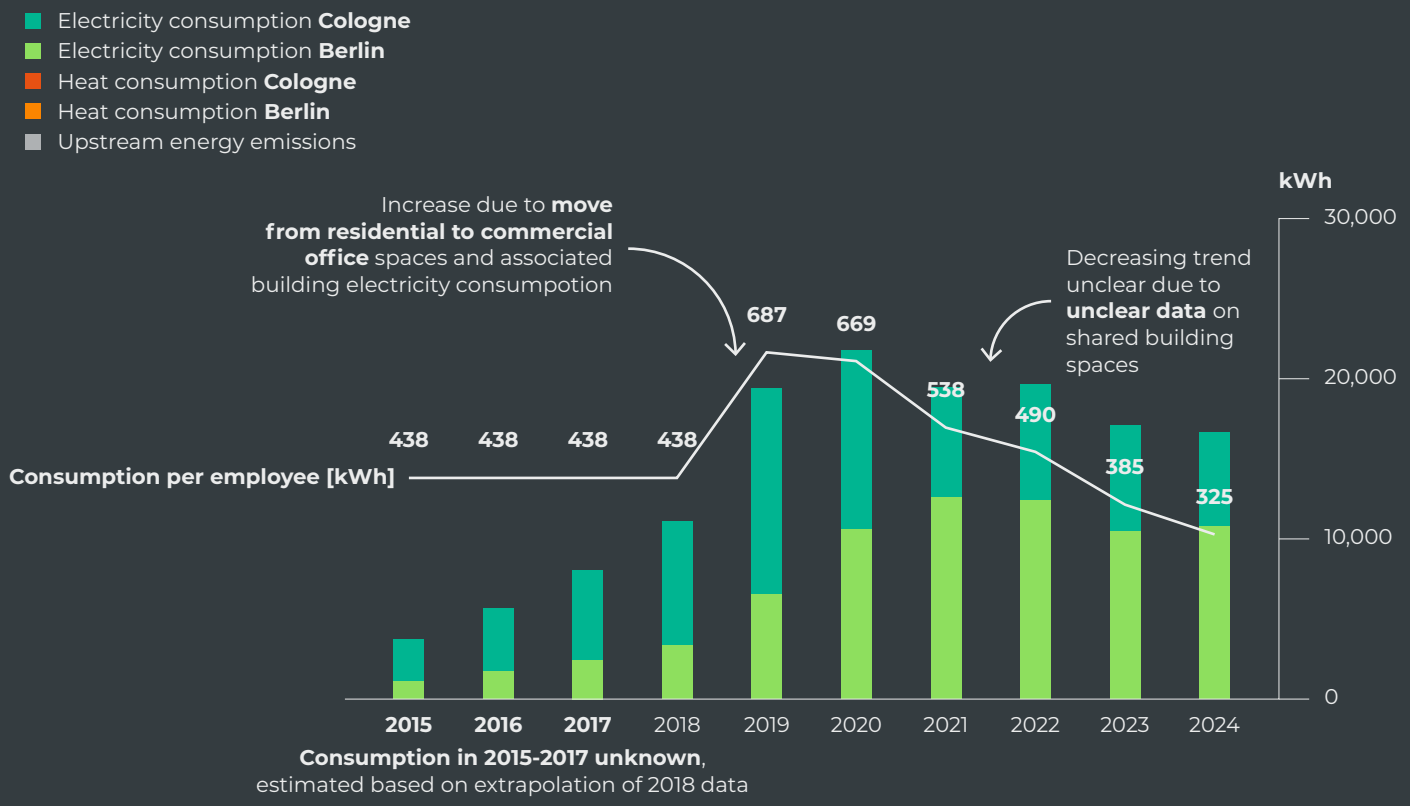
Building Energy Law (Gebäudeenergiegesetz Vom 8. August 2020 (BGBl. I S. 1728), Das Durch Artikel 18a Des Gesetzes Vom 20. Juli 2022 (BGBl. I S. 1237) Geändert Worden Ist 2022). The annual emissions factors for 2022 (229 $gCO_2e$/kWh), 2023 (215 $gCO_2e$/kWh) and 2024 (216 $gCO_2e$/kWh) were provided by the local energy provider RheinEnergie (RheinEnergie, n.d.). Since we do not currently know the specific details on the efficiency of the boilers in our Berlin office, we estimate and apply an emissions factor of 219 $gCO_2e$/kWh for gas heating and cooling in the 2014-2024 period, based on the general emission factor of natural gas combustion (Umweltbundesamt 2022) and a conservative assumption of 92% combustion efficiency, which represents the lower end of the typical range of modern gas boiler efficiencies (92-95%; IEA 2019).

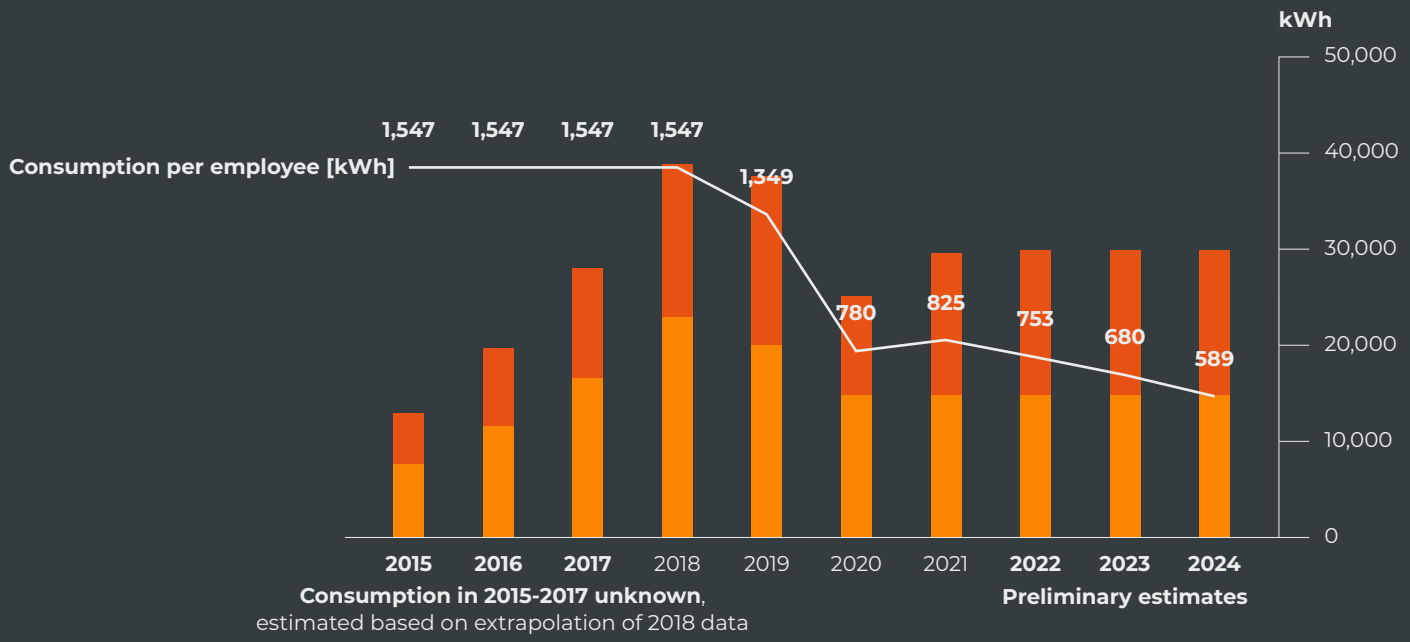
NewClimate Institute has carefully selected – ElektrizitätsWerk Schönau (EWS) – as its electricity supplier. EWS invests in its own renewable energy projects. We consider this to have a positive impact on the expansion of renewable electricity in Germany (see measures to reduce emissions below for further details). Nevertheless, we recognise that this does not result in zero emissions with regard to our own electricity consumption. For a conservative and objective calculation of emissions associated with our office energy use in 2024, we apply the location-based accounting method using the 2023 grid emission factor of 388 $gCO_2e$/kWh, as the estimated emission factor for 2024 was not yet published by the German Environment Agency (Umweltbundesamt 2024b).

For upstream electricity emissions (scope 3.3), including fugitive emissions and those associated with transmission and distribution losses, we apply an emissions factor of 57 $gCO_2e$/kWh, estimated by the German Environment Agency (Umweltbundesamt 2024b).

**Trends**

→ **Figure 2** presents trends from 2015 to 2024 for electricity consumption, heat consumption and GHG emissions. **This information is presented for the purpose of full transparency, but has limited value for analytical interpretation due to severe limitations in the currently available data**, as outlined above. Against the backdrop of the incomplete available data, it is difficult to determine what effect the pandemic has had on consumption levels between 2020 and 2022 and whether our observations represent meaningful trends.



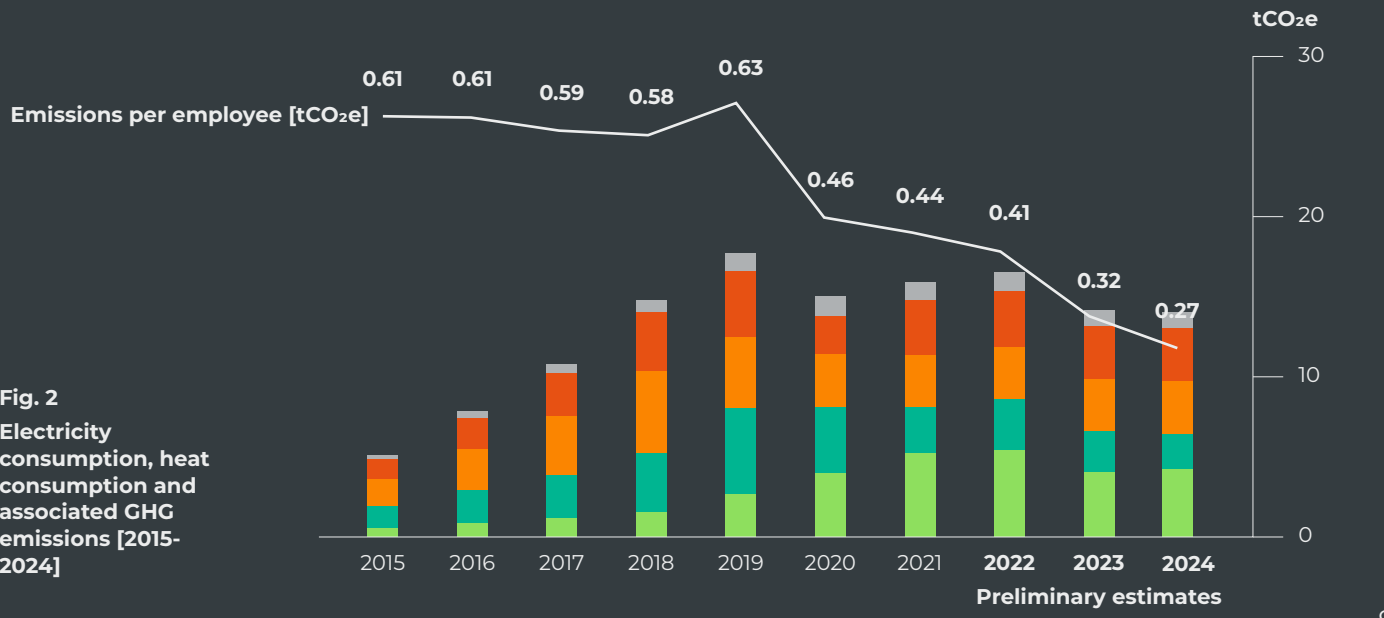




**Fig. 2**
**Electricity consumption, heat consumption and associated GHG emissions [2015-2024]**

Nevertheless, a clear trend is that emissions from purchased energy have increased throughout the period from 2015 to 2024, as the organisation grew from 7 to 50 staff and moved to increasingly professionally equipped office buildings in commercial spaces. Our emissions from purchased energy have plateaued or decreased slightly since 2020, but the lack of clear data and use of estimates makes it hard to determine if this is due to data gaps or if reductions can be attributed to efficiency measures. We also expanded our Cologne office space in 2025, so we expect that our emissions from purchased energy will increase once again in the coming years. However, we hope to continue seeing a clear trend of decreasing emissions per employee as we continue to take actions to improve the efficiency of our energy consumption in these buildings.

**Measures to reduce emissions**

**Use of efficient buildings**

For office moves in Berlin in 2019 and Cologne in 2021, we invested a significant amount of time to find spaces that meet our requirements and high energy efficiency standards. This has been especially difficult in Cologne due to the generally old age of the commercial building stock, as well as limited incentives and interest for landlords to invest in energy efficiency. The new office spaces represent a significant improvement in the energy efficiency performance compared to our previous offices but have almost doubled our rent expenses. The current policy environment and commercial building stock in Germany pose significant challenges for some organisations to proactively address energy efficiency in their office spaces. Most significantly, not-for-profit organisations in Germany face considerable tax disadvantages with regard to rental contracts in new buildings, restricting the ability of not-for-profit organisations to access modern and energy-efficient office space. There is an urgent need for policy reform to provide incentives to retrofit commercial building stock to ensure that it is not prohibitively time- and cost-intensive for other organisations to take similar actions and decisions. NewClimate Institute initiated and facilitated a multi-year dialogue between the Cologne Mayor's office, the communal business development agency and other organisations in Cologne facing similar barriers to access energy-efficient office space. Even though the initiative seemed promising over a long period of time, the city of Cologne's interest seems to have come to a standstill. It is therefore currently not being pursued further.

**Photovoltaic installation**

We initiated a process for a rooftop solar photovoltaic installation at our Berlin office location. In 2022 we concretely entered into contract negotiations with the landlord and selected a contractor to carry out the first assessment. Subsequently, we were informed by the landlord in 2023 that they intend to pursue the installation of rooftop solar photovoltaic themselves, which we had been encouraging them to do, as we consider this the more economically sustainable model.

**Electricity procurement**

We have selected ElektrizitätsWerk Schönau (EWS) as our electricity provider in Berlin and Cologne. While we recognise that our electricity consumption places demand on the national grid and conservatively apply the average grid emission factor for the quantification of our GHG emissions, we understand that through EWS, some of the revenue from our electricity consumption is used to support investments in renewable energy technologies. Our careful selection of EWS as our electricity provider takes into account that there are very significant differences between the services of different suppliers of 'green energy' – some suppliers acquire Renewable Energy Certificates, or in the EU 'Guarantees of Origin' (Herkunftsnachweise) to compensate for the energy that they source from a range of fossil-fuel-powered plants. More ambitious suppliers use revenues directly to invest in their own renewable energy projects. We are careful to choose a supplier that uses revenues from our electricity demand to directly invest in new renewable energy technology capacity installations, and that adopts a high level of stringency in maintaining its portfolios. We believe that EWS fulfils these high standards.

**Equipment efficiency**

In 2022 we replaced all fluorescent ceiling lamps in our Berlin office with LED lamps. This investment reduced our consumption of electricity for lighting in Berlin by approximately two-thirds. We have deactivated rather than replaced the inefficient electric water heaters in our Berlin office, where we only use cold water. The water heater for the shower may be turned on for use but is also set to cold by default.

In Cologne, we moved into our new office space in February 2021. Since then, we have implemented several efficiency measures, including a complete overhaul of the equipment in the server room, decommissioning of unnecessary equipment and timer installation for remaining equipment (switched off outside office hours). Electric water heaters and decentralised air

conditioning system were switched off. These measures already led to a halving the electricity consumption compared to the previous tenant in the same office space. We have no access to the general settings of the centralised heating, cooling and ventilation system. We tried to convince the landlord to make certain changes and wrote detailed instructions for staff to adapt the individual behaviour to ensure efficient use of the office. In early 2023, we replaced all remaining energy-saving lamps with 50% more efficient LEDs.

For the procurement of new or replacement electrical equipment in both offices – including all procurement areas ranging from desktop monitors, coffee machines and lighting – we consider energy efficiency as the most important criterion for selection.

All equipment with standby electricity consumption is connected via a switchable power strip. All staff are encouraged to avoid standby consumption when equipment is not used.

We have purchased portable power meters to detect unexpectedly high power consumption of certain devices. We have offered and recommended that employees borrow these devices to test their own devices at home. This led some colleagues to decide to invest in more efficient equipment at home.

**Behavioural policies**

In our two offices, NewClimate Institute has a number of policies for behaviour and office use to minimise energy use. The staff guidelines for both offices were updated in 2021. The guidelines include policies, procedures and responsibilities for the reduction of energy consumption for appliances, lighting and heating, as well as the reduction and recycling of waste.

**Home office**

The significant increase in home office during the COVID-19 pandemic has created new challenges with regard to the energy efficiency of our office space. The energy consumption of staff in their working spaces at home was likely a significant source of emissions in 2020 and 2021, though this is not an emissions source that we monitored during that period. Although the organisation allows for some flexibility, the default work location remains the office. We will continue to review this situation to derive a responsible approach that is in line with our future working modalities.

# PURCHASED GOODS AND SERVICES [SCOPE 3.1]

### GHG emissions footprint

Purchased goods and services have accounted for an estimated 12% of NewClimate Institute's accumulated emissions footprint between 2014 and 2024. In 2024, it amounted to an estimated 27.75 $tCO_2e$. Under this category, we estimate the emissions arising from the procurement of laptops, mobile phones, other electronic equipment, office furnishings, office supplies and equipment, IT services, food and beverage consumption and company bicycles.

**Activity tracking**

We track the procurement of electronic devices, furniture, office supplies, external IT services, food and beverages, and bicycles in order to estimate the GHG emissions associated with the supply chains for producing those materials. We collect different information, depending on the data that is available. Where suppliers provide their own estimate of the life-cycle emissions associated with the product or service, then we track this; where possible, we collect information on the weight or number of the procured materials; and, in all cases, we track information on expenditure on all procured materials. We also track the condition of the equipment purchased, since we prefer to procure refurbished equipment, where possible, to reduce the associated climate impact.

We recognise that emissions are incurred through other aspects of our business operations, including through contracts with other external service providers, such as legal and banking services. Due to the unavailability of data from service providers and a high range of methodological uncertainty in the literature assessed, we do not consider a quantitative estimate of these other emissions to be a useful indicator at this stage. As such, we do not yet quantitatively assess these emissions, but we still recognise the importance of their sources and pursue measures to reduce them.

**Emission factors**

The approach for calculation depends on the information that can be obtained about the procured materials and services. In the case where the supplier provides an estimate of life-cycle emissions, we take this value directly; this is the case, for example, for the procurement of much of our electronic equipment including computers and mobile phones. Where we procure refurbished equipment, we apply a discount rate to the emissions factor (0.75 for laptops and 0.5 for other electrical

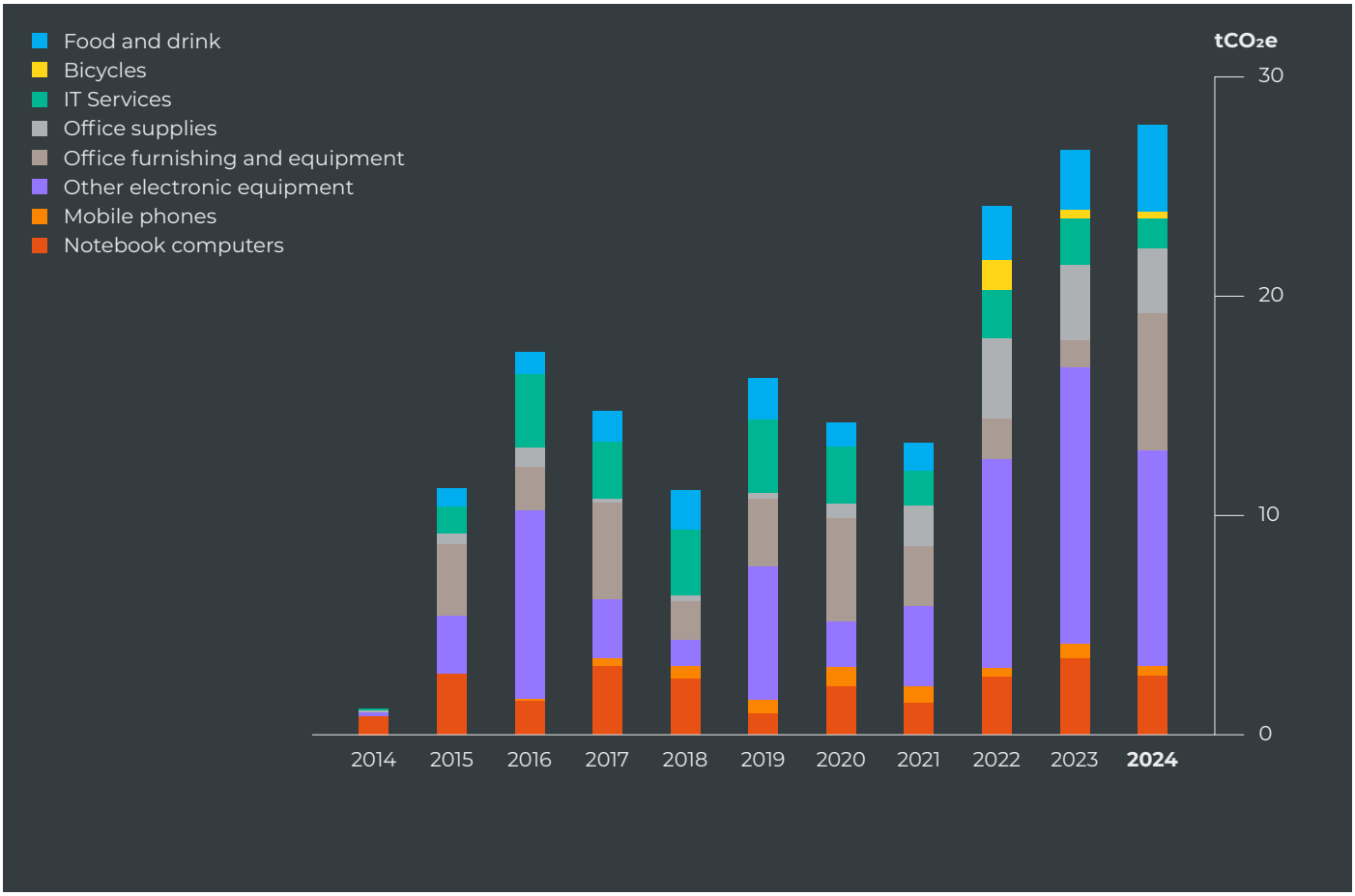
equipment). This reflects that we are not responsible for the full emissions of production and provides a further incentive to pursue this more responsible procurement behaviour. Where this is not available, we apply an emissions factor per euro of expenditure on procured material. For the expenditure-based estimation method, we apply global factors from the GHG Protocol Quantis Scope 3 Evaluator (WRI GHG Protocol, n.d.), adjusted to 2020 prices. We recognise that there is considerable uncertainty with the emissions estimated through this approach. Depending on the source taken for emission factors then the estimated emissions can vary significantly. For food and beverage emission factors, we used life-cycle assessment studies from Poore and Nemecek's study on food emissions (Poore and Nemecek 2018).

**Trends**

→ **Figure 3** presents trends from 2014 to 2024 for purchased goods and services. Emissions related to office furnishings and electronics have been largely associated with our organisational growth and our moves to new office locations, and the relevance of these emission sources may decrease in the future as we are now established in longer-term contracts for professionally equipped offices.

We see a considerable uptick in emissions from purchased goods and services in 2022 but emissions stabilised by 2024. This was caused by the return to the office following the COVID-19 pandemic and the need to equip and furnish the office to accommodate the growth of the organisation that took place during the years of the pandemic. In 2024, emissions from office furnishings and equipment grew due to the expansion of office space in Cologne. We expect these emissions to plateau or decrease in the coming years.

**Fig. 3**
**Emissions from purchased goods and services [2014-2024]**




## Measures to reduce emissions

**Extend equipment lifetime**

We prefer hardware that can be repaired to extend its lifetime. For laptops and docking stations we mostly procure refurbished equipment to avoid significant emissions and resource consumption during production processes. 69% of laptop computers procured between 2014 and 2024 were refurbished models.

**Conscious procurement**

We aim to purchase laptops from manufacturers that publish GHG life-cycle assessments for the specific models, in order to ensure that we can be steered by this information in our selection.

Coffee, tea and fruit that are provided by NewClimate Institute to its employees come from responsible sources, taking into account organic farming, local providers or fair-trade rules.

We procure office supplies, food and drinks from suppliers who can offer low-carbon delivery options, minimal packaging and reusable containers. We are moving away from consuming dairy milk in both offices, replacing it with oat milk.

**Reduce material use**

We avoid printing wherever possible. All paper products procured by NewClimate Institute are 100% based on recycled paper (including toilet and hygiene paper).

**IT services**

We take active measures to limit the storage space we use in cloud services through our policies for data archiving, retention and deletion, despite the low cost of storage space and the proportionally high cost of investing time in those actions. Where possible and as far as compliant with data protection regulations, we select data centres and IT services from geographical locations with lower grid emission factors.

**Vegetarian meals**

We serve only vegetarian or vegan meals at internal and external events hosted and financed by NewClimate Institute.

## WASTE [SCOPE 3.5]

### GHG emissions footprint

We estimate – with a considerable degree of uncertainty – that emissions from waste may account for about 0.5% of NewClimate Institute's emissions between 2014 and 2024. In previous years, we did not quantitatively assess these emissions, due to the poor availability of activity data as well as emission factors for waste treatment in Cologne and Berlin. Since the availability of this information did not change in the past year, we have decided to develop high-level estimates for the sake of orientation and transparency, on the understanding that these are high-level estimates with a considerable degree of uncertainty, and that these calculations will be revised again in the future when better information is available. Despite the uncertainties, we still recognise the importance of emissions from waste and pursue measures to reduce our impact.

**Activity tracking**

The amount of general waste disposed of is not tracked precisely on an office basis. We make a highly conservative estimate that we dispose of a maximum of 80 litres of general household waste per office per week, on the basis that our 80-litre bins

are emptied once per week. In reality, the waste containers are not necessarily filled to 100% capacity before every collection. This leads to an estimated disposal of 8,320 litres, equivalent to approximately 0.82 tonnes, per year in our current office locations. For previous years, we have extrapolated the trend of disposed quantities per employee to derive a high-level indicative estimate.

**Emission factors**

Due to regulation, no general waste in the cities of Berlin or Cologne goes untreated to landfill. Currently, there is a lack of consensus in the literature on appropriate emission factors to apply to incinerated waste and other treatment options, with suggestions ranging from zero-impact to even negative emission balances, depending on the assumptions made. In the absence of more definitive guidance on suitable emission factors we used the SWM-GHG Calculator developed by IFEU Heidelberg to derive an estimated emissions factor of 1.125 $tCO_2e$ per tonne of disposed general waste, based on our estimate of the composition of our general waste.

**Trends**

Due to the high degree of uncertainty in the current estimation approach, as well as the approach to extrapolate trends to historical years in line with organisational growth, there is no significant trend to be interpreted from our historical waste emission estimates. This emission source is tracked and represented in the overview of emissions for transparency and orientation, and we will strive to improve on this approach in order to better analyse trends in the future.

### Measures to reduce emissions

**Separating waste**

There are several challenges that we face as an organisation to reducing emissions from waste. Most notably, we experience that many commercial buildings in Germany do not have adequate provisions for the separation of waste, compared to the waste separation facilities that are provided to the residential sector. We invest time to discuss and seek solutions to problems with our cleaning service providers and the organisations responsible for servicing the buildings in which we have our office spaces, in order to improve the provision for waste separation.

Within the office spaces, we provide colleagues with the means to reduce and separate waste, by providing separated waste bins.

**Reusable containers**

We provide reusable containers for employees to transport their food from restaurants to our office during lunch breaks, to avoid the use of single-use food packaging.

**Equipment lifetimes**

We consciously choose to purchase high-quality and durable equipment that will meet our requirements for as long as possible in the future.

Wherever possible, we repair rather than dispose of faulty equipment. Where possible we ask the manufacturer of equipment to repair according to high standards, although this is sometimes more expensive than the remaining value of the equipment.

Wherever possible, we look to identify new owners for equipment that can no longer be used by the organisation, rather than simply dispose of it, even when it is not necessarily economically viable for us to invest time in that process.

When disposal is not avoidable, we send electronic equipment (e.g. phones and laptops) at our own cost to a responsible IT recycling provider where electronic scrap is dismantled, sorted by fractions and sent for recycling.

## BUSINESS TRAVEL [SCOPE 3.6]

### GHG emissions footprint

The vast majority of NewClimate Institute's GHG emissions derive from business travel, in particular air travel. Business travel-related emissions accounted for 80% of our GHG footprint in 2024.

Between 2014 and 2024, on average, 91% of our accumulated business travel emissions derive from air travel, 3% from ground-based travel modes and an estimated 7% from hotel services.

Our travel activity is a function of the projects that we work on and the countries that we work with. We choose the countries we work with based on an assessment of the potential climate change mitigation impact we can have through the project.

**Activity tracking**

Our emissions from air travel, rail, long-distance bus and car are tracked through the travel expense report forms of all staff and non-staff travel when this is paid for by the organisation. The required travel details are entered directly by staff and reviewed

by our accounting staff. Shorter-term cancellations of flight bookings by staff are treated as if the flight had been taken. This is based on the assumption that plane seats remain empty in such cases.

Ground-based travel emissions have only been tracked in this way since 2020. For the 2014-2019 period, travel activity from rail and taxi was estimated by collecting data from a sample of 11 employees in 2019 and extrapolating this factor across the remainder of staff for the period.

For hotel services, we started to collect specific details on the number of nights stayed in hotels in specific countries in 2021. For the period before 2021, we have estimated these inputs assuming that each business trip over that period resulted in a hotel stay of an average of three nights.

**Emission factors**

Flight emissions are calculated using the methodology from atmosfair. This methodology for the estimation of GHG emissions includes the estimated equivalent climate impact of non-carbon climate forcers from aviation, such as condensation trails, ice clouds and ozone generated by nitrogen oxides, and results in emission estimates approximately three times greater than if calculating only direct $CO_2$ emissions (atmosfair 2016).

Although some of our rail travel crosses international borders, we currently base our emissions calculation on the emissions intensity of rail travel within Germany, which accounts for the vast majority of our rail travel. Despite Deutsche Bahn's claim to operate on 100% renewable electricity, we take the German grid emission factor as a basis for calculating our emissions from rail travel. We apply transport emission factors from the German Federal Environment Agency (Umweltbundesamt 2024a). For 2024, we apply the factors from 2023 which is the most recent data: 26 $gCO_2$/pkm was applied for rail travel, 26 $gCO_2$/pkm for long-distance buses and 230 $gCO_2$/pkm for taxi and car (sharing) use. The 2020 and 2021 emissions factors for rail were unusually high compared with the trend in previous years; this was reduced in 2023.

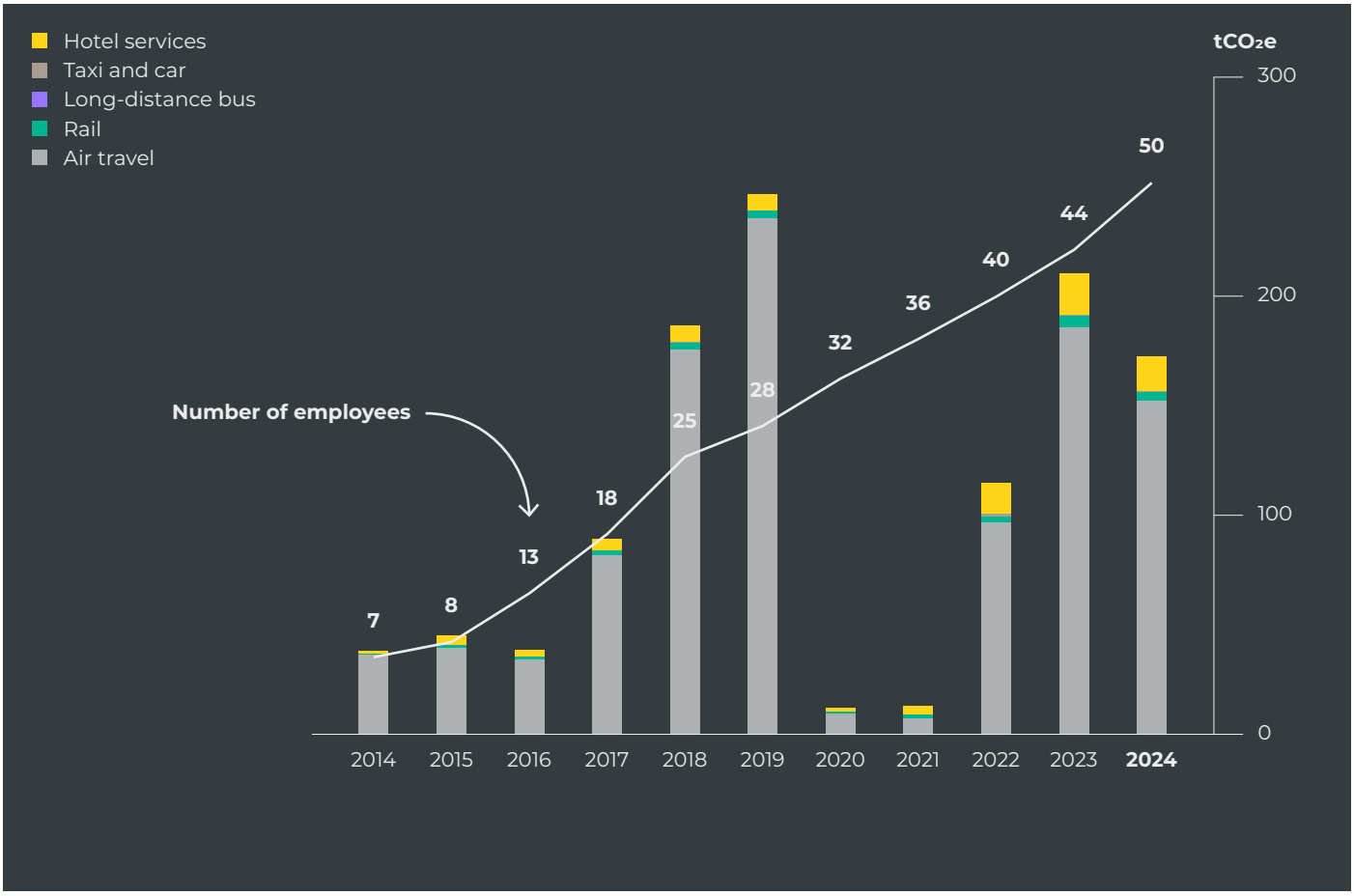
Hotel-specific emission factors are not available. We derive indicative estimates using the suggested emission factors of the UK Government GHG Conversion Factors for Company Reporting, which are updated yearly. This database provides suggested emission factors per night for hotel stays in specific

countries. For example, the database suggests an emissions factor of 13.2 kg$CO_2$e per night for a hotel in Germany in 2024, which accounts for approximately half of our hotel stays.

**Trends**

→ **Figure 4** presents trends from 2014 to 2024 for business travel emissions. Travel restrictions related to the COVID-19 pandemic stopped all business travel in March 2020, which resulted in a comparatively low level of travel emissions in 2020 and 2021. This brought challenges for activities that had previously relied on physical attendance at meetings, conferences and in partner countries; travel increased again in 2022 and 2023 as restrictions eased. However, the restrictions also led to new working arrangements with some international partners and emissions from business travel have not reached pre-pandemic levels despite NewClimate continuing to grow.

**Fig. 4**
**Business travel emissions [2014-2024]**



**Measures to reduce emissions**

The successful execution of projects, as well as constructive dialogue and exchange between colleagues and project partners, requires that NewClimate Institute staff fly occasionally. The majority of flights made by NewClimate Institute staff are to meet with the government representatives in the countries we work in. Another significant driver is travel to important events and conferences. Since the intention of this travel is to support the countries and the people that we work with to enhance their capability for climate change mitigation planning and ambition raising, we hope that the benefits for the climate associated with those activities justify the flight activity. Nevertheless, we are very conscious of the substantial climate impact of this travel and implement measures to limit flight activity.

The travel restrictions associated with the COVID-19 pandemic reduced our travel to minimal levels in 2020 and 2021. While the travel restrictions created challenges for many projects that rely on the presence of our staff in our partner countries or at international meetings, the situation has also led to the development of alternative modes of international collaboration. Online video conferencing has become the norm for events and meetings that sometimes previously could only be held in person. In many cases, this has led not only to reduced travel but also to an increased frequency of meetings and more efficient collaboration with some international partners. Nevertheless, we have found that online collaboration cannot yet address all of the reasons for travel, and this remains our major source of emissions.

In 2020, we produced a more thorough internal travel policy for travel-related issues, in order to support travel planning decisions that are driven more by consideration of the climate impact than by cost efficiency considerations. NewClimate Institute employs measures to **avoid** travel activity to the extent possible for the successful execution of our project activities and to **shift** travel activity to lower emission transport modes where possible. Transport planning decisions must consider cost efficiency and climate effects. In case of conflicts between the two objectives, the climate impact overrules cost efficiency. In 2025, we introduced a new travel approval procedure that will take into account both travel costs and associated climate costs. We hope that these combined measures will lead to a continued trend of decreasing business travel emissions.

**Avoiding travel** — We invest in high-quality video-conferencing equipment to reduce the need for travel. This significantly reduces the need for travel between our two offices in Berlin and Cologne, as well as for meetings with project partners around the world.

**Prioritise rail** — Through our internal travel policy, we avoid air travel where suitable rail alternatives exist. This includes a strict prohibition of air travel within Germany and also internationally where there are rail connections available with less than a 6-hour duration.

Staff are encouraged to also consider rail travel for longer connections. In some cases, night trains or an overnight stay en route might be a suitable, climate-friendlier and efficient alternative to air travel, which we encourage, despite usually being associated with higher costs.

If flying is unavoidable, we avoid business class seats, to avoid the additional climate impact associated with the additional space. Although airfares are sometimes offered at a cheaper rate if booked as a return journey, we only book return flights if we are sure that we will make use of both journeys.

**New solutions**

While we are confident that these measures have an impact on reducing travel emissions, we recognise that the large majority of our emissions still come from air travel, where we cannot identify measures that can be taken by our organisation to completely mitigate these emissions in the short term, despite a willingness to pay for alternative technology options if they existed. This issue can benefit from a more transparent dialogue; we think that an enhanced understanding of businesses' willingness to pay for cleaner options can play an important role in accelerating research and development for less polluting aviation technologies. NewClimate Institute aims to increase dialogue on this issue, partially through raising awareness about the willingness to pay that is communicated by the Climate Responsibility approach generally. Furthermore, we continue with various workstreams on policies and investment criteria for Paris alignment in the transport sector, notably the analysis of the International Civil Aviation Organization (ICAO)'s Carbon and Reduction Scheme for International Aviation and engagement with multilateral, bilateral and national development banks on their transport lending activities.

See also measures to reduce emissions from employee commuting in the next section.

# EMPLOYEE COMMUTING [SCOPE 3.7]

### GHG emissions footprint

We estimate – with a considerable degree of uncertainty – that emissions from employee commuting accounted for about 0.5% of NewClimate Institute's emissions between 2014 and 2024. We estimate emissions from employee travel, including private vehicle use and public transportation.

**Activity tracking**

Activity has been estimated for the period 2014 to 2021. We broadly estimated, based on discussions with colleagues that approximately 75% of staff commuting journeys are taken with public transport and approximately 25% by bicycle or on foot. To produce more accurate estimates, we conducted a first employee survey at the end of 2022. We found that just under 50% commutes by public transportation and just under 50% were by bicycle or on foot. A little less than 1% of commutes were by means of private cars or electric scooters. A more detailed survey was conducted in 2025 to estimate daily commuting for 2024. Such a survey will be sent out every year going forward. We found that commuting was done 55% by bicycle or on foot, 42% by public transport, 2% by e-bike and 1% by petrol car. We believe that this is likely to be a result of the programme that we introduced to provide bicycles to staff for use in daily commuting (see below).

**Emission factors**

We applied 2023 transport emissions factors from the German Federal Environment Agency for the calculation of our employee commuting in 2024 (Umweltbundesamt 2024a). 50 $gCO_2$/pkm was applied for inner-city rail transport and 92 $gCO_2$/pkm for bus transport.

**Trends**

While we sought to improve the approach to calculating employee commuting emissions in 2025, the approach to extrapolating trends to historical years in line with organisational growth means that there is not a significant trend to be interpreted from our employee commuting emission estimates. This emission source is tracked and represented in the overview of emissions for transparency and orientation and we will be better able to analyse trends in the future as we continue rolling out the more detailed transport survey developed in 2025.

## Measures to reduce emissions

**Facilitating public transport**

NewClimate Institute has provided employees with growing financial support for subscriptions to public transport tickets ('Jobtickets'), incentivising the use of public transport for daily commuting as well as other personal travel outside of work. Since 2023, when the Germany-wide public transportation ticket was introduced ('Deutschlandticket'), NewClimate Institute has provided this ticket to its employees at no additional costs. The positive impact of this decision is an increase in the use of public transport and general support for this ticket approach.

We invest in offices that are centrally and conveniently located, thereby reducing travel activity for daily commuting as well as for visitors and enabling the use of public transport for that travel.

**Facilitating bicycle use**

In 2022, we initiated a programme to provide high-quality company bicycles for our long-serving staff to use when commuting to the office. The provision of bicycles includes their regular servicing and repair.

Since 2021, we have provided bike storage in the garage in both of our offices in Berlin and Cologne to further facilitate daily commuting by bicycle. In addition, both offices have been chosen and equipped to provide a shower facility for those in need after a long bike ride.

# STEP 3: PRICE EMISSIONS

**Climate Responsibility Approach step 3: We impose a carbon fee per unit of emissions, based on a price signal informed by the social cost of carbon, for our GHG emissions that we cannot yet avoid.**

NewClimate Institute aims to operate at real-zero emissions as soon as possible. However, even with a robust climate strategy, we acknowledge that the activities of our organisation will keep generating indirect emissions along our decarbonisation journey. For example, heating offices, commuting, travelling to conferences, purchasing and using equipment are all activities that are associated with the consumption of energy and raw materials that generate greenhouse gases in their production and use processes. We refer to this as our 'ongoing emissions'.

To take responsibility for these ongoing emissions, NewClimate Institute has adopted a 'money-for-tonne' approach: we raise money in proportion to our emissions, by applying a voluntary carbon fee to each tonne of GHG measured in step 1. This approach allows us to internalise environmental costs, take responsibility for our emissions and incentivise internal emissions reduction.

Tonne-for-tonne approach: method by which an organisation takes responsibility for its ongoing emissions by purchasing an equivalent amount of carbon credits. Not to be confused with the money-for-ton and the money-for-money approaches.

The money-for-tonne approach differs from the 'tonne-for-tonne' approach applied in many other organisations' net-zero strategies, based on the notion of offsetting or neutralisation. In the tonne-for-tonne approach, each tonne of $CO_2$ emitted is matched by a carbon credit indicating a tonne of $CO_2$ removed or reduced, regardless of their real cost to society. However, multiple issues have been raised regarding the use of carbon credits for neutralisation claims, undermining the credibility of this approach. Neutrality claims are often misleading, since they distract from the reality that organisations keep emitting greenhouse gases into the atmosphere to run their activities, which implies not only environmental costs but also significant regulatory, legal and financial risks for companies and investors.

In 2025, NewClimate Institute applied a carbon fee of EUR 120/t$CO_2$e. The level of the fee is guided by the social cost of carbon The social cost of carbon estimates the monetary value of the economic damages caused to society by each additional tonne of $CO_2$ emitted into the atmosphere. It reflects the long-term impact of carbon emissions on both present and future generations. We believe it is the most effective tool for estimating the cost of the damage caused by our ongoing emissions.

Estimates vary slightly. According to an official report from the EU Commission, "The highest auction price in 2023 of EUR 96.33 was reached on 28 February" (European Commission 2024). According to an official report from the European Securities and Exchange Agency, "The price of EUAs overall declined in 2023 after breaching the EUR 100 per tonne of $CO_2$-equivalent emissions (/t$CO_2$) mark for the first time in February 2023" (European Securities and Exchange Agency 2024).

However, the value for the social cost of carbon in Germany, where NewClimate Institute operates, was found to range from EUR 300/t$CO_2$ in 2024 (with a 1% discount rate) to EUR 880/t$CO_2$ (with a 0% discount rate) in 2024 (Umweltbundesamt 2024c). This level is far beyond NewClimate Institute's financial capacity. Therefore, we decided to apply a value that is high enough to demonstrate our ambition: EUR 120/t$CO_2$e is a much higher price than the average traded value of carbon credit on the voluntary carbon market (EUR 6.34/t$CO_2$ in 2024 according to Ecosystem Marketplace (2025). This carbon fee is also even higher than the all-time high of the European carbon market (around EUR 100/t$CO_2$). This means that our voluntary carbon fee goes beyond the level of ambition set by a compliance market supported

by the European Union. This price is also consistent with the evidence found in the global academic literature, as reviewed by the IPCC, which supports a social cost of carbon above USD 100/$tCO_2$ (Rogelj et al. 2018).

NewClimate Institute is committed to reviewing and raising the carbon fee level regularly to adapt to inflation rates and new scientific evidence. The carbon fee was already increased from EUR 100/$tCO_2e$, applied from 2014-2022 to EUR 120/$tCO_2e$, applied from 2023 onwards.

/ /\

# STEP 4: SUPPORT ACTION

**Climate Responsibility step 4: With the proceeds of our internal pricing of emissions, we support initiatives for transformational climate change action that advance progress towards the achievement of the Paris Agreement objectives for mitigation and adaptation.**

## APPROACH FOR PROJECT IDENTIFICATION AND SUPPORT PROVISION

The proceeds from our internal pricing of emissions are used to support high-impact projects for climate change action, with a particular focus on mitigation and adaptation, through grant donations.

We engage in dialogue with other stakeholders, including existing platforms within the voluntary carbon market, to identify and continuously improve the available options to channel our resources in line with our objectives. We believe there is a significant role for existing voluntary carbon market actors, including those that have previously administered offsetting programmes, to consider new approaches that can address this current gap in the market.

We follow the following principles in the selection of projects:

- We aim to support a broad approach to climate action, currently placing a primary focus on mitigation and adaptation activities while not ruling out other forms of support.
- We aim to target our support at geographies and technologies where government resources are most limited.
- Since we do not claim to 'offset' or 'achieve carbon neutrality', we do not see 'certainty of resulting in emission reductions' as the most important selection criteria. Rather, we recognise that some of the activities with the highest transformation potential and worthiness of support carry a significant risk of not eventually resulting in attributable emission reductions.
- We are interested in supporting projects that may be in less advanced stages of development but entail considerable potential for transformational change.

NewClimate Institute has partnered with atmosfair to identify projects and channel finance. atmosfair, a non-profit organisation based in Germany, has a strong long-standing reputation for helping ambitious organisations and individuals to compensate for their emissions, following a principle of reducing and limiting emissions before compensating for them. Through their existing climate change project portfolio and their exploratory work, we look forward to working together with atmosfair to identify ambitious emission reduction projects. We aim to continually enhance our ability to identify transformational projects that are aligned with our objectives. We also hope to explore together the development of a platform for other organisations that adopt the Climate Responsibility approach in the future.

**Tab. 2**
**Overview of donations and relation to estimated emissions**

* The donation that was originally allocated for this project was be reallocated in full to a new project at a nursery school in Mongolia (see 2022).

| | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
|---|---|---|---|---|---|---|
| **Donation sum** | **EUR 67,500** | **EUR 13,000** | **EUR 14,200** | **EUR 30,880** | **EUR 26,400** | **EUR 22,200** |
| **Emissions covered** | **675 $tCO_2e$, including:**<br><br>First estimate of all quantified emission sources for 2014-2019 period.<br><br>Travel-based emissions from 2020. | **130 $tCO_2e$, including:**<br><br>Updated estimate of all quantified emission sources for 2020, excl. travel-based emissions already covered in 2020 [46 $tCO_2e$].<br><br>Balance to cover an update to the estimated emissions for 2014-2019 period [+75 $tCO_2e$].<br><br>Travel-based emissions from 2021 [9 $tCO_2e$]. | **142 $tCO_2e$, including:**<br><br>Emissions from 2021, excl. travel-based emissions already covered in the 2021 donation [36 $tCO_2e$].<br><br>Balance to cover an update to the estimated emissions for 2014-2020 period [+44 $tCO_2e$].<br><br>Travel-based emissions from 2022 [62 $tCO_2e$]. | **76 $tCO_2e$ priced at EUR 100/$tCO_2e$, including:**<br><br>Emissions from 2022, excl. travel-based emissions already covered in the 2022 donation [101 $tCO_2e$].<br><br>Balance to cover an update to the estimated emissions for 2014-2021 period [-25 $tCO_2e$].<br><br>**194 $tCO_2e$ priced at EUR 120/$tCO_2e$, including:**<br><br>Travel-based emissions from 2023 [194 $tCO_2e$]. | **220 $tCO_2e$ priced at EUR 120/$tCO_2e$, including:**<br><br>Emissions from 2023, excl. travel-based emissions already covered in the 2023 donation [46 $tCO_2e$].<br><br>Balance to cover an update to the estimated emissions for 2014-2022 period [+15 $tCO_2e$].<br><br>Travel-based emissions from 2024 [159 $tCO_2e$]. | **185 $tCO_2e$ priced at EUR 120/tCO2e, including:**<br><br>Emissions from 2024, excl. travel-based emissions already covered in the 2024 donation [59 $tCO_2e$].<br><br>Balance to cover an update to the estimated emissions for 2014-2024 period [-9 $tCO_2e$].<br><br>Travel-based emissions from 2025 [135 $tCO_2e$]. |
| **Donation project recipient** | Renewable power and heat for Bayanbulag school in Mongolia. **[Project cancelled*]** | E-bike Taxis in Jinja, Uganda. **[Project implemented]** | Renewable power and heat for a nursery school in Mongolia. **[Project implemented]** | The donation sum for 2023 and 2024 is currently held by atmosfair to be pooled with the 2025 donation. The project to be supported has not been confirmed yet. | | |

# RENEWABLE HEAT FOR A NURSERY SCHOOL IN ULAANBAATAR, MONGOLIA [2022]

In 2022, NewClimate Institute made a donation of EUR 14,200 – in addition to the reallocation of our EUR 67,500 donation to a different project cancelled in 2020 – to support a pilot project for solar-assisted 'air-to-air' heat pumps (SAHP) at a nursery school in Ulaanbaatar, Mongolia. The heating system was installed in August 2023 by the contractor kraftBoxx GmbH, which remains responsible for the operation and technical monitoring of the project over a 10-year period. The heating system is owned by the Kindergarten 200, and all proceeds from energy savings accrue to them.

kraftBoxx provides an annual operational report over the course of the pilot project with data on the electricity and heat production of the system based on smart meter readings. In the first two years, data on the temperature of all heated rooms in the building were digitally measured and reported to facilitate monitoring and evaluation of project outcomes.

In 2025, the project demonstrated that solar-assisted heat pumps are a promising technology to heat building using renewable energy. However, the local context of the project also proved challenging and required adjustments, which are currently being implemented.

**The challenge of heating in Ulaanbaatar**

Mongolia experiences extremely harsh winters where temperatures can drop to the range of - 15°C to - 30°C in the winter months. Heating systems (both individual and district-level) in the country are predominantly based on domestically produced coal, which is associated with high local pollution levels and public health issues. In addition, most buildings and heating systems are energyinefficient.

**The project system – solar-powered two-stage heat pumps**

Solar-assisted heat pumps may have the potential to reduce dependency on coal-based heating systems in Mongolia, given the country's abundant solar resources and the possibility of integration into existing district or centralised heating infrastructure. They also work as a decentralised heating solution, which has great potential for application in Mongolia's informal settlements ('Gers'), where much of the pollution from heating is currently concentrated.

Kindergarten 200 was previously functioning with centralised heat and water supply from the nearby coal-fired power plant for its two buildings. The intention of the project was to replace this with a 70 kWp solar system, accompanied by two heating systems: an electric coil and PCM heat storage for one kindergarten and 19 two-stage split air-to-air heat pumps for the second kindergarten. A smart meter system for at least hourly online real-time monitoring was also installed. The solar PV system is intended to cover the annual electricity demand of the heating system over the course of the year, although daily and seasonal variability means that, in reality, the PV system provides part of the electricity for the heat pumps, while the rest of the electricity comes from the local grid.

This pilot project represented great potential to provide proof of the technical and economic feasibility of using solar-powered heat pumps at kindergartens and schools in harsh subarctic conditions, in addition to illustrating the environmental and social benefits of such systems.

In addition, the project requires a review of the current thermal energy efficiency of the buildings and the creation of a roadmap to improve it through simple but effective measures, such as sealing windows and adding thermal insulation.

**Emission reduction potential**

Any emissions reduction that is calculated from this project should be counted towards the emission inventories of Ulaanbaatar and Mongolia. None of the project implementing partners – including NewClimate Institute, atmosfair, kraftBoxx and other contractors – will claim the emissions reduction outcomes towards the neutralisation of their own emissions, nor should any other potential support providers in the future. This means that no carbon credits will be generated from the project and transferred to the project implementing partners or other parties, now or in the future.

Since the accounting of any emission reduction impacts remains within Mongolia, the project – and other replicating projects that follow the same support model – could support Mongolia in raising the ambition of its climate change mitigation targets in the future. By identifying and implementing solutions in areas that are outside the reach of the national government, such projects unlock additional mitigation potential that can be reflected in national climate targets. The exact emissions reduction potential has not been determined for this project.

**Successful demonstration of the technology in the local climate context**

The solar-electric heating systems for the nursery school were fully commissioned in January 2024, and the total 70 kWp solar system works as expected, covering some of the electricity demand for heating and exporting temporal excess electricity to the Mongolian national grid. The heating systems were able to completely cover the heating demand of the buildings, which have not used coal heat since January 2024. The heating systems were therefore able to successfully perform at temperatures as low as- 35°C during winter. Potential improvements in efficiency were identified, and issues are being addressed. The performance of the system is monitored via a remote monitoring platform, so that energy efficiency can be observed and improved.

In 2023 and 2024, the SAHP technology was fully operational, and the technology was proven to function in subarctic environments. The solar-assisted heat pump system initially proved a success, as the kindergarten stopped importing coal-powered heat from the grid for some months and started to export electricity produced by the solar panels to the grid at a feed-in tariff of approximately EUR 0.08/kWh – reducing their electricity bill by a proportional amount.

In the first instance, some technical and operational room for improvement was identified. In particular, the system was found to be oversized for the kindergarten, causing more cost than needed. In addition, users heated the building at high temperatures at night when it was not in use. To address these two issues, the

project partners selected a remote-control system to help users better manage the AC systems to control temperatures in the buildings and limit electricity costs. A need for additional insulation was also identified to limit the noise from the heat pumps.

**Local barriers for the continued regular operation of the project**

While the project had been successfully implemented for a period of time, the regular operation of the system has been hindered by local barriers in 2024 and 2025.

Beyond technical improvements, the project has also faced some setbacks due to the local context. In early 2025, meter reports revealed that the kindergarten had switched back to mainly coal-powered heating in the last semester of 2024, without notifying the project partners. The local coal-powered plant – which was also providing fresh water to the kindergarten – did not agree to reduce the amount it was charging the kindergarten, even if the kindergarten was only using fresh water and not heating, since both are run in closely connected pipes to prevent freezing. The plant also argued that it would have to shut down without the kindergarten's energy demand and therefore would cut off the heat supply to a nearby residential building. As subsidised coal-powered heat remains cheaper than electric heating in Mongolia, and to avoid paying double bills to the local coal plant, the kindergarten progressively turned away from the SAHP system. In the process of switching systems, storage water tanks were damaged, requiring fixes amounting to several thousand euros.

NewClimate Institute and Atmosfair actively engaged with their partners to find a solution that would allow the kindergarten to operate the SAHP system at full scale. Suggestions were made to set up an independent water heating system in 2026 to cut dependency on the coal-powered plant. Atmosfair and its partner sought an agreement with the city of Ulaanbaatar to share the operational costs of the system and the repairs and ensure that the kindergarten would fully switch back to the SAHP system. However, the kindergarten finally communicated that it would only operate the SAHP system in spring and autumn seasons and keep using coal-powered heat in winter. Unfortunately, this solution is not viable for the system.

As of November 2025, NewClimate Institute, Atmosfair and their partners are planning to relocate the SAHP system to a new site in Mongolia that is not affected by this specific local barrier, and where it can be operated consistently across the whole heating season. The heat pumps will be transferred, preferably to another institutional building such as a kindergarten. This would help avoid extra non-technical issues and focus on demonstrating that this technical solution is successful in this specific climatic environment. As the solar system will stay on the initial site, a share of the feed-in tariff will be paid to the first kindergarten in compensation for the use of their land. The rest will be used to pay for the transfer of the heat pumps to another site.

Overall, the SAHP has demonstrated its technical and economic potential, but key parameters of the project can still be optimised, such as improving the sizing of the system to the site, training users in temperature management and enhancing communication between partners. We hope that relocating the project will help address these challenges.

In addition, this project also demonstrates the relevance of climate contributions to support non-mature technologies. When technologies are new with limited real-life applications, the success of their implementation is uncertain. Because they do not reward companies with carbon credits certifying mitigation results, climate contributions are better suited to supporting these breakthrough technologies and providing room for exploration and experimentation, while assuming potential risks such as project re-evaluation or adjustment.

## E-BIKE TAXIS IN JINJA, UGANDA [2021]

In 2021, NewClimate Institute donated EUR 13,000 to support a pilot project for e-bike taxis in Jinja, Uganda. The European Institute for Sustainable Travel (EURIST e.V) in partnership with First African Bicycle Information Organisation (FABIO) delivered a total of 12 e-bikes to Jinja, Uganda (in two shipments in February and August 2022) as part of a pilot project that will last 7 years. The project is still being funded by atmosfair and ongoing.

Predominatly the e-bikes are planned to be used as taxis in this project, but e-bikes may also be a potential solution for other mobility solutions in similar contexts, such as the provision of ambulance services, medicine deliveries or to transport water. During the pilot phase GPS data, income generated by the taxi drivers and reductions in $CO_2$ emissions is being recorded to ascertain how successful the project is, to consider the potential for scaling up the project in other regions of Africa.

**The challenge of mobility in Jinja**

A lack of infrastructure for safe transportation remains a challenge in Jinja. Walking is the common mode of transport to provide access to schools, markets and hospitals. People use these footpaths to transport water and agricultural products between the farm, home and markets, carrying these heavy goods on their backs and heads. As a result, boda-boda motorcycles are established in rural and urban areas as a form of mobility service. They cost more than twice as much as a minibus (which run infrequently) and contribute heavily to $CO_2$ emissions and local air pollution.

**The project system – e-bike taxis with solar e-hub**

E-bikes can be utilised as taxis, with passengers are transported on the luggage carrier seat of the e-bike. Replacing the traditional fossil fuel boda-bodas in Uganda

with sustainable transport, results in a reduction of $CO_2$ emissions, in addition to reducing noise and air pollution.

The e-bikes use a 460 Wh lithium battery with a range of 50km. The batteries are charged at an e-hub, which also acts as a service station for the e-bikes. During the day the hub is powered by solar power and at night by mainly hydropower.

FABIO is responsible for the distribution and service of the e-bikes and has also set up training courses for mechanics and beneficiaries. The e-bikes are leased at a reduced cost or purchased in instalments by the taxi drivers. EURIST provides a product warranty of at least seven years for the e-bikes and receive additional support from BODAWERK on battery recycling and solar technology. BODAWERK is a Ugandan social enterprise that develops the innovative solutions in the area of lithium-ion batteries. A message is sent from the built-in GPS tracker communicating when the battery is faulty or no longer functional. The GPS system also provides important information on how the e-bikes are used and this information will help facilitate future enhancements.

The e-bikes have been adapted to the rural roads of Uganda, as the terrain makes it difficult for traditional bikes to travel. To accommodate this, the e-bike has reinforced frames, thicker spokes, fatter tyres and a sturdy luggage rack. Besides the motor, all parts can be repaired with local spare parts.

**Emission reduction potential**

During this pilot stage it was estimated that each bike would lead to an annual emission reduction of 1 $tCO_2e$, at a marginal abatement cost of approximately EUR 120/$tCO_2e$ by replacing the consumption of fossil fuels required for the boda-bodas. One of the main objectives of the pilot was to carry out a survey to better understand the impacts both in terms of climate and otherwise and to evaluate whether there is the potential to scale this up in more regions across Africa.

We gathered the first results about the climate impacts. Initial monitoring from the v1 e-bikes indicates that they were driven, on average, 36 km per day, resulting in an estimated annual reduction of 0.7 $tCO_2$ per bike, assuming full substitution of conventional motorcycle trips. A second generation of e-bikes, with a larger battery, a stronger motor and a more robust frame will be introduced in the first half of 2026 for a second pilot phase. It is estimated that these updated models will enhance the emission reduction potential, although possibly maintaining a similar cost per $tCO_2$ because of increased production costs.

The comparably high marginal abatement cost of the project, coupled with the uncertainty of how suitable and sustainable a project of this kind would be in the Ugandan context, demonstrates the barriers for such exploration. However, the project has the potential for high replication, in both urban and rural Uganda supporting a modal shift, thereby reducing the reliance on fossil fuel imports.

Any emission reduction that is calculated from this project should be counted towards the emission inventories of Jinja and Uganda. None of the project implementing partners – including NewClimate Institute, Atmosfair, FABIO, EURIST and other contractors – will claim the emission reduction outcomes towards the neutralisation of their own emissions, nor should any other potential support providers in the future. This means that no carbon credits will be generated from the project and transferred to the project implementing partners or other parties, now or in the future.

Since the accounting of any emissions reduction impacts remains within Uganda, the project – and other replicating projects that follow the same support model – could support Uganda in raising the ambition of its climate change mitigation targets in the future. By identifying and implementing solutions in areas that are outside the reach of the national government, such projects unlock additional mitigation potential that can be reflected in national climate targets.

## RENEWABLE POWER AND HEAT FOR BAYANBULAG SCHOOL IN MONGOLIA [2020]

NewClimate Institute made a donation of EUR 67,500 in 2020 to support the development of a project for renewable heating and power at a rural school in Mongolia, using an innovative solar co-generation system combined with a low-maintenance wind turbine. The project represented a high-hanging fruit, with great potential to unlock a hard-to-abate emission source; the innovative technology could overcome traditional barriers to renewable heating in harsh subarctic conditions.

Unfortunately, the project was cancelled due to issues faced by the project implementers during the COVID-19 pandemic. The technology providers faced challenges with supply chains for essential components and were also not able to follow through with their plans to establish a permanent physical presence in East Asia. The latter fundamentally affected the long-term viability of this demonstration project, since the regional presence of the technology provider was essential to provide any necessary maintenance and repair services to the installation, as well as to train local technicians to provide those services. The technology provider plans to focus, for now, on further demonstrating its technology within Europe.

The donation that was originally allocated for this project was reallocated in full to a project at another nursery school in Mongolia in 2022 (presented above).

# STEP 5: MAINSTREAM CONTRIBUTIONS

**Climate Responsibility step 5: We aim to mainstream the pricing of our climate impact through our accounting processes, to raise awareness and integrate these costs into decision making processes both internally, as well as with funders and partners. In addition, we continue to advocate for climate contributions and the Climate Responsibility approach.**

To improve the mainstreaming of emissions pricing in accounting processes, internally and with our funders and partners, NewClimate Institute aims to implement the following measures:

- Since 2020, NewClimate travel expense reports include the costs of the emissions related tothe travel, alongside the quantification of the climate impact from flights and other modes of transportation. This serves to raise awareness and provide evidence of our costs that can be made available to clients.
- Emissions from project-specific activities, such as project-related travel, will be attributed as cost items to the project numbers of the projects that they refer to. In 2020, we developed and agreed upon an approach to implement this that is in line with tax regulations. However, due to the temporary pause in project-related travel during the COVID-19 pandemic, we applied this measure only from 2021.
- We aim to communicate GHG emissions that can be attributed to specific projects, and their associated costs, to funders and aim to include them in the costs that we report to the client for the payment of our services or reimbursement of our expenses. We anticipate that some of our clients may not initially agree to cover these costs, but through our communication we attempt to raise awareness and convince them to adopt climate-responsible procurement practices. Due to the insignificant volume of project-related travel during the COVID-19 pandemic in 2020 and 2021, we were not able to apply this measure immediately, but started to do so when project-related travel slowly resumed in the course of 2022. Several funders and clients already reacted constructively and were willing to officially accept these costs. Important discussions on the necessity of certain travel activities where triggered. We aim to increase the share of funders with whom we have this conversation in line with the assumed increase in travel activity.
- We attempt to foresee costs associated with our climate impact and aim to include them in our proposals for new projects. We aim to raise awareness among our funders of the need to recognise and seek to address climate impacts associated with their service procurement to minimise the risk of eroding our cost competitiveness. Likewise, we will attempt to have the recognition of these costs included in new contracts with clients and partners.

Since many of these measures were planned to begin in 2020 and have been affected by the drop in travel-related emissions during the COVID-19 pandemic, we have just started to gain significant feedback or experience from colleagues and funders with regard to the implementation of these measures since 2022. We have observed

that all funders accept that we include costs related to travel emissions in our project budgets, when travel is covered by the project. GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit) now includes a budget line in its project proposals for the climate costs associated with travel.

**The Climate Contribution Hub**

In November 2025, NewClimate Institute developed and published the Climate Contribution Hub, an open-access platform to help mainstream the Climate Responsibility Approach among smaller organisations. This website aims to provide step-by-step guidance to help businesses and civil society organisations (e.g. NGOs, foundations and trade unions) measure and reduce their greenhouse gas emissions and implement a climate contribution approach to take responsibility for their ongoing emissions.

We received support from the Allianz Foundation and contributions from a panel of experts from partner organisations.

# STEP 6: COMMUNICATE TRANSPARENTLY

**Climate Responsibility step 6: We transparently communicate the details of this approach and its implementation on a regular basis.**

Transparent communication is a key foundation of this approach. Constructive collaborative dialogue is required to overcome challenges and share lessons learned to identify and address issues that can support enhanced action and accelerated decarbonisation.

Through our communication, we aim to prompt discussion and encourage replication among other organisations. We note that a growing number of organisations have taken the Climate Responsibility Approach as a blueprint for their own strategies. We solicit feedback on our own Climate Responsibility Approach to continuously improve it and ensure its relevance.

NewClimate Institute regularly documents the details of the Climate Responsibility Approach and its implementation. → **Table 3** gives an overview of how the various components of the Climate Responsibility implementation have been documented for the 2025 reporting period.

**Tab. 3**
**Checklist for documentation of Climate Responsibility implementation**

| Component | Documentation for 2025 |
|---|---|
| Overview of the organisation's GHG emissions | **Introductory section** of this report |
| Scope of emissions accounting | → **Step 1: Measure**, and → **Step 2: Reduce emissions** |
| Methodological assumptions for emissions accounting | → **Step 1: Measure**, and → **Step 2: Reduce emissions** |
| Details of actions for reducing own emissions in 2023 | → **Step 2: Reduce emissions** |
| Determination of price signal aligned with the Paris Agreement objectives | → **Step 3: Price emissions** |
| Details on how the funds have been used to support climate change action | → **Step 4: Support action** |
| Details of measures to be taken to improve mainstreaming of emissions pricing in accounting processes | → **Step 5: Mainstream contributions** |
| Report on challenges experienced in implementing each of the Climate Responsibility steps | Discussed in **each step** of this report |

# ANNEX: GHG EMISSION FOOTPRINT CALCULATION

**Tab. 4**
**Detail of emission data for emission sources**

| Scope | Emissions source | Indicator | Unit | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scope 1 emissions** | | | | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Scope 1** | Stationary or mobile combustion and fugitive emissions | GHG emissions | $tCO_2e$ | Emission source is not relevant for the organisation. No direct combustion or fugitive emissions. | | | | | | | | | |
| **Scope 2 emissions** | | | | **4.8** | **7.3** | **10.1** | **13.9** | **16.4** | **13.7** | **14.7** | **15.2** | **13.1** | **12.9** |
| **Scope 2** | Electricity (location based) | GHG emissions | $tCO_2e$ | 1.9 | 2.9 | 3.9 | 5.2 | 8.0 | 8.1 | 8.0 | 8.5 | 6.6 | 6.4 |
| | Building heating and cooling | GHG emissions | $tCO_2e$ | 2.9 | 4.4 | 6.7 | 8.7 | 8.4 | 5.6 | 6.6 | 6.7 | 6.5 | 6.5 |
| **Scope 3 emissions [upstream]** | | | | **57.7** | **57.9** | **107.3** | **202.4** | **268.5** | **29.1** | **29.7** | **143.1** | **242.0** | **205.0** |
| **Scope 3.1** | Purchased goods & services | GHG emissions | $tCO_2e$ | 11.2 | 17.4 | 14.7 | 11.1 | 16.2 | 14.2 | 13.3 | 24.0 | 26.6 | 27.7 |
| **Scope 3.2** | Capital goods | | | Emission source is not relevant for the organisation. No capital goods. | | | | | | | | | |
| **Scope 3.3** | Upstream fuel and energy | GHG emissions | $tCO_2e$ | 0.1 | 0.3 | 0.4 | 0.5 | 0.7 | 1.1 | 1.1 | 1.1 | 1.0 | 0.9 |
| **Scope 3.4** | Upstream transportation | GHG emissions | $tCO_2e$ | Emission source is not relevant for the organisation. No direct contracting of upstream transportation services. Transport-related emissions of purchased goods and services are included in scope 3.1 calculations. | | | | | | | | | |
| **Scope 3.5** | Waste | GHG emissions | $tCO_2e$ | 0.3 | 0.4 | 0.6 | 0.8 | 0.8 | 0.9 | 0.9 | 0.9 | 0.9 | 0.9 |
| **Scope 3.6** | Business travel – Air travel | GHG emissions | $tCO_2e$ | 39.9 | 34.2 | 82.2 | 176.8 | 237.3 | 9.5 | 7.3 | 97.2 | 187.1 | 153.0 |
| | Business travel – Ground travel | GHG emissions | $tCO_2e$ | 1.2 | 1.7 | 2.6 | 3.5 | 3.5 | 1.0 | 1.9 | 3.9 | 5.9 | 5.1 |
| | Business travel – Hotels | GHG emissions | $tCO_2e$ | 4.0 | 2.7 | 4.9 | 7.2 | 7.3 | 1.4 | 3.6 | 14.3 | 18.6 | 15.6 |
| **Scope 3.7** | Employee commuting | GHG emissions | $tCO_2e$ | 0.8 | 1.1 | 1.7 | 2.3 | 2.2 | 0.9 | 1.6 | 2.8 | 3.1 | 1.7 |
| **Scope 3.8** | Upstream leased assets | GHG emissions | $tCO_2e$ | Emission source is not relevant for the organisation. No leased assets. | | | | | | | | | |
| **Scope 3 emissions [downstream]** | | | | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** | **0** |
| **Scope 3.9** | Downstream transport and distribution | GHG emissions | $tCO_2e$ | Downstream emission sources are not relevant for the organisation.The organisation has no downstream emissions associated with the services provided, nor any downstream leased assets. | | | | | | | | | |
| **Scope 3.10** | Processing of sold products | GHG emissions | $tCO_2e$ | | | | | | | | | | |
| **Scope 3.11** | Use of sold products | GHG emissions | $tCO_2e$ | | | | | | | | | | |
| **Scope 3.12** | End-of-life treatment of sold products | GHG emissions | $tCO_2e$ | | | | | | | | | | |
| **Scope 3.13** | Downstream leased assets | GHG emissions | $tCO_2e$ | | | | | | | | | | |
| **Scope 3.14** | Franchises | GHG emissions | $tCO_2e$ | Emission source is not relevant for the organisation. The organisation has no franchises. | | | | | | | | | |
| **Scope 3.15** | Investments | GHG emissions | $tCO_2e$ | Emission source is not relevant for the organisation. The organisation has no investments. | | | | | | | | | |
| **Total** | | **GHG emissions** | **$tCO_2e$** | **63.2** | **66.2** | **117.4** | **216.3** | **284.9** | **42.8** | **44.3** | **158.4** | **255.1** | **217.87** |

**Tab. 5**

**Detail of activity data for relevant emission sources**

*
We only started to collect detailed activity indicators for rail, long distance bus and private car (taxis) in recent years. Emissions for previous years for these emission sources were estimated through different means (see step 1, Business travel).

| Scope | Emissions source | Indicator | Unit | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scope 2 emissions** | | | | | | | | | | | | | |
| | Electricity - Cologne | Consumption | kWh | 2,558 | 3,898 | 5,542 | 7,674 | 12,715 | 11,032 | 6,786 | 7,136 | 6,527 | 5,764 |
| | Electricity - Berlin | Consumption | kWh | 1,117 | 1,703 | 2,421 | 3,352 | 6,510 | 10,578 | 12,526 | 12,327 | 10,391 | 10,768 |
| | Building heating and cooling - Cologne | Consumption | kWh | 5,281 | 8,047 | 11,442 | 15,843 | 17,603 | 10,321 | 14,749 | 15,033 | 15,033 | 15,033 |
| | Building heating and cooling - Berlin | Consumption | kWh | 7,710 | 11,749 | 16,706 | 23,131 | 20,181 | 11,181 | 23,510 | 14,880 | 14,880 | 14,880 |
| **Scope 3 emissions [upstream]** | | | | | | | | | | | | | |
| **Scope 3.1** | Notebook computers | # of units purchased | # | 11 | 7 | 13 | 11 | 6 | 14 | 8 | 16 | 17 | 15 |
| | Mobile phones | # of units purchased | # | 0 | 0 | 4 | 7 | 10 | 10 | 12 | 5 | 13 | 10 |
| | Other electronic equipment | Expenditure | EUR | 4,280 | 12,519 | 4,243 | 2,721 | 7,389 | 3,542 | 3,076 | 15,252 | 20,607 | 16,335 |
| | Office furnishing and equipment | Expenditure | EUR | 10,208 | 6,263 | 13,712 | 4,823 | 9,251 | 10,441 | 526 | 6,809 | 5,029 | 25,986 |
| | Office supplies | Expenditure | EUR | 132 | 696 | 141 | 365 | 978 | 1,413 | 5,531 | 6,657 | 6,202 | 5,158 |
| | IT Services | Expenditure | EUR | 4,551 | 11,897 | 9,139 | 10,660 | 11,830 | 9,264 | 7,262 | 9,459 | 9,224 | 6,209 |
| | Bicycles | # of units purchased | # | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 14 | 4 | 3 |
| | Food | Mass | Kg | 535 | 540 | 552 | 563 | 564 | 371 | 546 | 580 | 588 | 623 |
| | Drink | Volume | Litres | 76 | 107 | 165 | 222 | 228 | 129 | 138 | 314 | 354 | 490 |
| **Scope 3.3** | Upstream fuel and energy | Consumption | kWh | 3,675 | 5,601 | 7.963 | 11,026 | 19,225 | 21,610 | 19,312 | 19,464 | 16,918 | 16,532 |
| **Scope 3.5** | Waste | Mass | tonnes | 0.2 | 0.3 | 0.5 | 0.7 | 0.7 | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| **Scope 3.6** | Business travel – Air travel | Number of journeys | # | 51 | 52 | 46 | 61 | 73 | 4 | 4 | 33 | 55 | 44 |
| | Business travel – Rail* | Distance travelled | km | - | - | - | - | - | 20,154 | 38,519 | 91,175 | 188,757 | 175,797 |
| | Business travel – Long distance bus* | Distance travelled | km | - | - | - | - | - | - | 15 | 862 | 1,672 | 51 |
| | Business travel – Private car (taxis)* | Distance travelled | km | - | - | - | - | - | 38 | 446 | 4,350 | 4,112 | 2,086 |
| | Business travel – Hotels | Hotel nights | # | 196 | 148 | 160 | 192 | 212 | 72 | 127 | 457 | 614 | 567 |
| **Scope 3.7** | Employee commuting – Personal motorised vehicle | Distance travelled | km | - | - | - | - | - | - | - | - | - | 527 |
| | Employee commuting – Public transport | Distance travelled | km | 13,530 | 18,975 | 29,370 | 39,600 | 40,590 | 11,468 | 19,661 | 44,214 | 49,833 | 34.144 |
| | Employee commuting – Non-motorised transport | Distance travelled | km | 4,510 | 6,325 | 9,790 | 13,200 | 13,530 | 3,823 | 6,554 | 26,329 | 29,676 | 41,560 |

**Data sources:** see activity data sections of step 1: Measure, and step 2: Reduce emissions.

**Tab. 6**
**Detail of emission intensity data for emission sources**

| Scope | Emissions source | Indicator | Unit | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Scope 2 emissions** | | | | | | | | | | | | | |
| | Electricity - Cologne | Emissions intensity | $gCO_2e$ / kWh | 527 | 523 | 485 | 473 | 411 | 369 | 410 | 434 | 388 | 388 |
| | Electricity - Berlin | Emissions intensity | $gCO_2e$ / kWh | 527 | 523 | 485 | 473 | 411 | 369 | 410 | 434 | 388 | 388 |
| | Building heating and cooling - Cologne | Emissions intensity | $gCO_2e$ / kWh | 180 | 180 | 180 | 180 | 180 | 180 | 180 | 229 | 215 | 216 |
| | Building heating and cooling - Berlin | Emissions intensity | $gCO_2e$ / kWh | 219 | 219 | 219 | 219 | 219 | 219 | 219 | 219 | 219 | 219 |
| **Scope 3 emissions [upstream]** | | | | | | | | | | | | | |
| **Scope 3.1** | Purchased goods and services | | | Emission factors obtained for electronic equipment from manufacturers where available or estimated. | | | | | | | | | |
| **Scope 3.3** | Upstream fuel and energy | Emissions intensity | $gCO_2e$ / kWh | 73 | 72 | 68 | 65 | 57 | 56 | 57 | 59 | 57 | 57 |
| **Scope 3.5** | Waste | Emissions intensity | $gCO_2e$ / kg | 1125 | 1125 | 1125 | 1125 | 1125 | 1125 | 1125 | 1125 | 1125 | 1125 |
| **Scope 3.6** | Business travel – Air travel | | | Emission intensity variable depending on flight. Calculated using the atmosfair calculator. | | | | | | | | | |
| | Business travel – Rail | Emissions intensity | $gCO_2e$ / pkm | 32 | 32 | 32 | 32 | 29 | 50 | 46 | 31 | 26 | 26 |
| | Business travel – Long distance bus | Emissions intensity | $gCO_2e$ / pkm | 29 | 29 | 29 | 29 | 29 | 27 | 37 | 31 | 30 | 30 |
| | Business travel – Private car | Emissions intensity | $gCO_2e$ / pkm | 214.5 | 214.5 | 214.5 | 214.5 | 231 | 228 | 226.8 | 232.4 | 232.4 | 232.4 |
| | Business travel – Hotels | | | Emission intensity variable per country. | | | | | | | | | |
| **Scope 3.7** | Employee commuting – Public transport | | | 58 | 58 | 58 | 58 | 55 | 75 | 80 | 63 | 63 | 71 |

**Data sources:** see full details in the emission factors sections of step 1: Measure, and step 2: Reduce emissions.

# REFERENCES


## A

atmosfair. 2016. atmosfair Flight Emissions Calculator. no. September. atmosfair gGmbH.

## C

Climate Action Tracker. 2025. Little change in warming outlook for four years; new 2035 climate targets make no difference. NewClimate Institute, Climate Analytics, IESR. https://climateactiontracker.org/documents/1348/CAT_2025-11-13_GlobalUpdate_COP30.pdf

## E

Ecosystem Marketplace. 2025. 2025 State of the Voluntary Carbon Market (SOVCM). https://www.ecosystemmarketplace.com/publications/2025-state-of-the-voluntary-carbon-market-sovcm/.

European Commission. 2024. REPORT FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL on the Functioning of the European Carbon Market in 2023. COM(2024) 538 final. European Commission. https://climate.ec.europa.eu/document/download/92ec0ab3-24cf-4814-ad59-81c15e310bea_en?filename=2024_carbon_market_report_en.pdf.

European Securities and Exchange Agency. 2024. EU Carbon Markets 2024. Nos ESMA50-43599798–10379. European Securities and Exchange Agency. https://www.esma.europa.eu/sites/default/files/2024-10/ESMA50-43599798-10379_Carbon_markets_report_2024.pdf.

## G

Gebäudeenergiegesetz Vom 8. August 2020 (BGBl. I S. 1728), Das Durch Artikel 18a Des Gesetzes Vom 20. Juli 2022 (BGBl. I S. 1237) Geändert Worden Ist (2022).

## I

IEA. 2019. Heating and Cooling Strategies in the Clean Energy Transition.

## P

Poore, J., and T. Nemecek. 2018. 'Reducing Food's Environmental Impacts through Producers and Consumers'. Science 360 (6392): 987–92. https://doi.org/10.1126/science.aaq0216.

## R

RheinEnergie. n.d. 'Fernwärme in Köln Beziehen'. Accessed 17 December 2024. https://www.rheinenergie.com/de/privatkunden/waerme___wasser/waerme/fernwaerme_beziehen/fernwaerme_beziehen.html.

## R

Rogelj, Joeri, D. Shindell, K. Jiang, et al. 2018. 'Mitigation Pathways Compatible with 1.5°C in the Context of Sustainable Development - Supplementary Material'. In Global Warming of 1.5°C. An IPCC Special Report on the Impacts of Global Warming of 1.5°C above Pre-Industrial Levels and Related Global Greenhouse Gas Emission Pathways, in the Context of Strengthening the Global Response to the Threat of Climate Change, edited by V. Masson-Delmotte, P. Zhai, H. O. Pörtner, et al. Intergovernmental Panel on Climate Change. https://www.ipcc.ch/site/assets/uploads/sites/2/2018/12/2SM_V19_for_web.pdf https://www.ipcc.ch/sr15/chapter/chapter-2/.

## U

Umweltbundesamt. 2020. 'Vergleich Der Durchschnittlichen Emissionen Einzelner Verkehrsmittel'. Preprint, TREMOD.

Umweltbundesamt. 2022. $CO_2$ Emission Factors for Fossil Fuels: Update 2022. Umweltbundesamt (UBA).

Umweltbundesamt. 2024a. 'Emissionsdaten 2022'. Umweltbundesamt. https://www.umweltbundesamt.de/themen/verkehr/emissionsdaten#hbefa.

Umweltbundesamt. 2024b. Entwicklung Der Spezifischen Treibhausgas-Emissionen Des Deutschen Strommix in Den Jahren 1990 - 2023. Umweltbundesamt (UBA).

Umweltbundesamt. 2024c. Gesellschaftliche Kosten von Umweltbelastungen. November 26.

## W

WRI GHG Protocol. n.d. 'The GHG Emissions Calculation Tool'. https://ghgprotocol.org/ghg-emissions-calculation-tool.

**NewClimate – Institute for Climate Policy and Global Sustainability gGmbH**

Cologne Office
Waidmarkt 11a
50676 Cologne, Germany

Berlin Office
Schönhauser Allee 10-11
10119 Berlin, Germany

Phone: +49 221 999 83 300
Email: info@newclimate.org
Website: www.newclimate.org