Climate Responsibility 2020

Communication of measures to address our climate footprint





Climate Responsibility 2020

Communication of measures to address our climate footprint

© NewClimate Institute 2020



See more information about the **climate responsibility** approach and download the report http://newclimate.org/climateresponsibility/

Table of Contents

Tal	ble of Contents	İ
	erview of the Climate Responsibility approach	
	wClimate Institute's GHG emissions footprint	
	Maintaining an overview of GHG emissions	
2	Reducing our emissions	5
3	Imposing a carbon price signal	8
4	Supporting initiatives for climate change action	9
5	Mainstreaming emissions pricing in accounting processes	10
6	Documentation and transparent communication	11
Re	ferences	12



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, 2020). 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.

Our **climate responsibility** approach addresses our own climate footprint in a transparent and constructive way. We set out to do the following:

◀ Track emissions

Transparent

and encourage

of our approach.

communication

We transparently communicate

the details of this approach on a

regular basis, including challenges

and lessons learnt, in order to

identify and collaboratively

address issues, prompt discussion

amongst other organisations. We

solicit feedback to continuously

improve and ensure the relevance

replication

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, in order to plan and implement actions to reduce our own GHG emissions as far as possible.

Reduce emissions
We aim to reduce our own emissions as

We aim to reduce our own emissions as much as possible, with a vision of zero emissions as soon as possible.

Our climate responsibility approach

Mainstream pricing
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, who we encourage to recognise these costs in the same way.

Price emissions

We impose a price per unit of emissions, based on a price signal aligned with the objectives of the Paris Agreement, for our GHG emissions we cannot yet avoid. Based on this price level, we generate funds which represent the actual costs of this approach.

Support action

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

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.

NewClimate Institute's GHG emissions footprint

Figure 1 gives an overview of NewClimate Institute's emissions from travel and office energy use from 2014 to 2019. During this period, emissions from these two sources amounted to a total of approximately 660 tCO₂e. In 2019, total emissions from these sources was 245 tCO₂e, equivalent to approximately 10 tCO₂e per full time equivalent staff member.

The vast majority of NewClimate Institute's GHG emissions come from air travel. This amounted to emissions of approximately 600 tCO₂e, or 91% of our total emissions from travel and office energy use, in the 2014-2019 period.

Figure 1 shows that the considerable growth in emissions between 2016 and 2018 corresponds with a relatively fast rate of company growth, measured in terms of the number of full-time equivalent staff, over the same period. This period entailed an increase in the number of project activities that we worked on, to further pursue the objectives of the organisation.

The rate of emissions per full-time equivalent (FTE) staff member has been variable across the 2014-2019 period, ranging from below 4 tCO $_2$ e in 2016 to 10 tCO $_2$ e in 2019. This is mostly dependent on the projects that we work on, and the countries that we work with. In 2019, NewClimate supported the governments of Mongolia, Kenya, Argentina, and the Philippines, amongst other countries. Travel to those countries, for the purpose of supporting climate change mitigation, lead to higher emissions from air travel, compared to years in which we have worked with fewer governments in such distant countries. Our perception regarding the opportunity for impact is our main criteria in the identification of countries that we work with; new opportunities identified in South America and Asia could lead to a continuation of this trend and an increase in air travel emissions in future years.

Our approximate estimations indicate that our emissions from other travel modes, as well as office energy use, are also highly significant, accounting for approximately 18 tCO₂e in 2019, approximately 0.7 tCO₂e per full-time equivalent staff member. Energy for spatial heating in offices is the greatest contributor to this, while electricity consumption and train travel are also significant emission sources. Analysis of trends for these emission sources across years in the 2014-2019 period is not informative, since our estimations are based on the extrapolation of an estimate for these emissions in one single year (see section 1 for details). More accurate tracking and measurement of other emission sources in 2020 will allow for an analysis of trends in the next annual report.

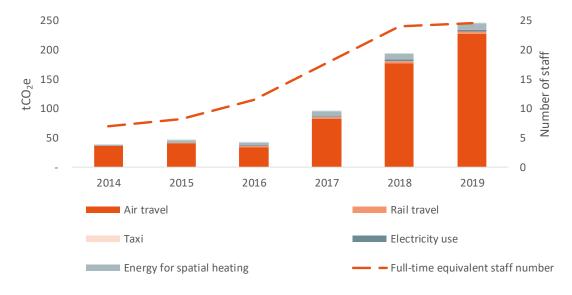


Figure 1: Overview of emissions from travel and office energy use between 2014 and 2019

1 Maintaining an overview of GHG 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 measures available to mitigate this.

Table 1 gives an overview of emission sources included in our assessment, for the period between 2014 and 2019. Details on the approach for estimating GHG emissions in the 2014-2019 period, and improvements identified for 2020, are outlined for each emissions source beneath the table.

Table 1: Scope of emissions accounting for the 2014-2019 period

Emissions sou	rce	Means of estimation* and scope clarifications
	Flights	Tracked and measured
	Rail	FTE factor
Staff travel	Taxi	FTE factor
	Staff commuting	Our accounting does not include private travel that is not controlled by NewClimate, such as commuting. We still put measures in place to address these emission sources (see section 2).
Non-staff travel		Tracked and measured. NewClimate takes responsibility for non-staff travel when this is arranged and paid for by the organisation. Our accounting does not include non-staff travel which is not arranged but partly initiated by NewClimate, for example through invitations to events, though we still identify measures to address this (see section 2).
Office analysis	Electricity	FTE factor
Office energy	Spatial heating	FTE factor
Procurement		Not quantitatively assessed for this period, but measures are pursued to reduce impact.
Waste		Not quantitatively assessed for this period, but measures are pursued to reduce impact.

^{*} Means of GHG emission estimation:

Tracked and measured - indicates that all activity is comprehensively tracked;

FTE factor - indicates that assumptions are made to derive an estimated emissions factor per FTE, without tracking all activity; Full details of estimation methodologies are given for each emission source in the following subsection.

Air travel

Our emissions from air travel are tracked through the travel expense report forms of all staff, where flight details are entered, and emissions calculated using the methodology from Atmosfair¹. 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 CO₂ emissions (Atmosfair, 2016).

Other travel

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 that factor across the remainder of staff for the period. From 2020, we will use staff travel expense report forms to more accurately track rail and taxi activity of all staff.

Despite the claim from the Deutsche Bahn to operate on 100% renewable electricity, we use the grid emissions factor as a basis for calculating our emissions from rail travel. In line with data from the German Federal Environment Agency (Umweltbundesamt, 2020) an emissions factor of 32 gCO₂/pkm was applied for rail travel, and 220.5 gCO₂/vkm for taxi use.

Office energy use

Due to the growth rate of the organisation in its initial years, several office spaces have been used in the 2014-2019 period, most of which were under rental conditions in which NewClimate Institute did not directly receive bills for energy use or data that could be used to determine energy consumption with a reasonable degree of accuracy.

For the 2014-2019 period, information from energy bills that were available at specific times has been used to estimate our average energy consumption per full time equivalent employee, which has been extrapolated to estimate the total energy consumption for the whole period. From 2020 onwards, detailed energy bills will be available and will be used to determine the energy consumption accurately.

NewClimate sources its office electricity supply from a carefully selected supplier – Elektrizitätswerke Schönau (EWS) – with its own investments in a particularly stringent renewable energy portfolio. We consider this to have a very positive impact for reducing the emissions associated with electricity supply (see section 2 for further details). Nevertheless, we recognise that this provision of support for reducing the emissions intensity of the electricity grid, does not necessarily lead to the procurement of zero-emission energy. For a conservative and objective calculation of emissions associated with our office energy use, we use the average electricity grid emission factor for Germany during the period of analysis.

Other emission sources

We recognise that emissions are incurred through other aspects of our business operations, including procurement activity and waste treatment, amongst others. 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 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 these emission sources and pursue measures to reduce them (see section 2).

¹ Available via https://www.atmosfair.de/en/offset/flight/

2 Reducing our emissions

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 zero GHG emissions as soon as possible.

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.

We derive an action plan for reducing emissions each year. The internal price 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 a dialogue on finding solutions for the future.

Travel

The successful execution of projects, as well as constructive dialogue and exchange amongst colleagues and project partners, requires that NewClimate Institute staff occasionally use flights. The majority of flights made by NewClimate Institute staff are to meet with the government representatives in the countries we work with. Another significant driver of flights 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 harmful effects of this travel and implement measures to limit flight activity.

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 both objectives, the climate impact overrules cost efficiency. This is a deviation from the German Travel Expense Act.

- Through our internal travel policy, we avoid air travel where suitable rail alternatives exist. This includes a strict avoidance of air travel within Germany and also internationally where there are rail connections available with less than a 6-hour duration, while staff are encouraged to also consider rail travel for longer connections. In some cases, night trains might be a suitable, climate friendlier and efficient alternative to air travel, and we encourage their use, 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.
- 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 to meet with project partners around the world.
- We invest in offices that are centrally and conveniently located, thereby reducing travel activity
 for daily commuting as well as from visitors, and enabling the use of public transport for that
 travel.

- NewClimate Institute provides colleagues with financial support for subscription to public transport tickets, incentivising the use of public transport for daily commuting as well as other personal travel outside of work.
- In 2020, we will produce 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. We will test these approaches and consider further
 improvements based on colleagues' experiences and feedback.

While we are confident that these measures have an impact in reducing travel emissions, we recognise that the large majority of our emissions still come from air travel, where we cannot identify further measures that can be taken by our organisation for reducing these emissions further in the short-term, despite a willingness to pay for alternative technology options if they would exist. 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 to accelerate research and development for less polluting aviation technologies. NewClimate will aim to increase dialogue on this issue in 2020, partially through raising awareness about the *willingness to pay* which is communicated by the Climate Responsibility approach generally, as well as through our ongoing work related to the evaluation of emission reduction programmes of the aviation sector.

Office energy use

NewClimate Institute and its staff remain conscious of the impact of daily business operations and investment decisions for office energy use. A culture is maintained whereby energy efficiency is strongly encouraged.

The following existing and planned measures are in place to reduce office energy use and associated emissions:

- In our two offices, staff have developed strong practices for limiting office energy use. We
 observe that staff generally apply a high level of effort to follow good procedures. Some of these
 practices and procedures are documented in internal guidelines. In 2020, we aim to further
 formalise and standardise those guidelines between our two offices.
- For procurement of new or replacement electrical equipment including all procurement areas
 ranging from desktop monitors, coffee machines and lighting we consider energy efficiency
 as the most important criterion for selection. All staff use laptop computers rather than desktop
 computers for reduced electricity consumption.
- All equipment with stand-by electricity consumption is connected via a switchable power strip.
 All staff are encouraged to avoid stand-by consumption when equipment is not used.
- We have carefully selected Elektrizitätswerke Schönau (EWS) as our electricity provider in Berlin. While we recognise that our electricity consumption places demand on the national grid, and conservatively apply the average grid emissions factor for estimation of our GHG emissions (see section 1), we understand that through EWS the revenues from our electricity consumption are 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 to compensate for the energy that they source from a range of fossil-fuel powered plants, while more ambitious suppliers use revenues directly for own investments in new renewable energy technology capacity installations. We are careful to choose a supplier who uses revenues from our electricity demand to invest in new renewable energy technology capacity installations, and who adopt a high level of stringency in maintaining their portfolios. We believe that EWS fulfil these high standards. For our office in Cologne, we

face the challenge that due to our connection to a higher voltage grid, and our contractual limitations in our existing office space, we do not have the opportunity to select the electricity provider for this office. We will continue to try to resolve this issue, also considering alternative office locations.

In 2020, we will implement and review these measures, and look to identify improvements for further reducing our office energy consumption in the future.

Aside from these measures, NewClimate Institute faces some limitations in the extent to which measures can be taken to reduce office energy use. Most significantly, organisations with a not-for-profit registration in Germany face considerable disadvantages from taxation policy for rental agreements in new buildings, restricting our ability to access modern and efficient office space.

Other measures

Although we have not quantitatively assessed the GHG emissions associated with our waste production and procurement, we recognise the importance of limiting our impact as far as possible.

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.

For issues that are more directly within our control, we take the following measures to reduce our impact from waste and procurement:

- We prefer hardware that can be repaired to extend its lifetime. For laptops and docking stations
 we mostly procure refurbished equipment to avoid significant emission and resource
 consumption during production processes.
- We avoid printing wherever possible. All paper products procured by NewClimate are 100% based on recycled paper (incl. toilet and hygiene paper).
- Within the office spaces, we provide colleagues with the means to reduce and separate waste, by providing separated waste bins, and reusable containers for employees to transport their food from restaurants to our office during lunch breaks. Through the latter, we expect that the amount of waste avoided by NewClimate staff is significant. However, this is not accepted by all restaurants and canteens due to hygiene rules. Restaurants that accept or provide reusable containers or provide low waste alternatives are preferred.
- We serve only vegetarian meals at internal and external events hosted and financed by NewClimate Institute.
- Coffee, tea and fruit that is provided by NewClimate to its employees comes from responsible sources, taking into account organic farming, local providers or fair trade rules.

In 2020, the positive practices employed by staff in both offices for reducing impact from waste and procurement will be further formalised and standardised in internal organisation guidelines.

3 Imposing a carbon price signal

Climate responsibility step 3: We impose a price per unit of emissions, based on a price signal aligned with the objectives of the Paris Agreement, for our GHG emissions we cannot yet avoid.

Although our vision is to operate at zero emissions as soon as possible, there are technical and economic reasons why it is not yet feasible for NewClimate Institute to reduce all of our emissions to zero. In particular, alternative technologies do not yet exist commercially to significantly reduce emissions from flight activity.

We consider the concept of "offsetting" emissions to have limitations against the objectives of the Paris Agreement, and not an attractive option for an organisation that understands the need to move towards full decarbonisation in the first half of the century. As such, we do not seek to offset our emissions or to claim "carbon neutrality".

Rather, we apply a price per unit of emissions, to the GHG emissions that we determine in Step 1. We determine the price level based on the best available scientific evidence on the carbon price signal required for alignment with the Paris Agreement objectives. We review this price level each year in the light of new evidence.

NewClimate Institute's determination of the price level for its *Climate Responsibility* approach is informed by the carbon price signal required to put the transformation of the global economy on a pathway compatible with the Paris Agreement temperature objectives.

The High-Level Commission on Carbon Prices surveyed the available scientific literature, concluding that the explicit carbon-price level consistent with the Paris Agreement temperature objectives is at least US\$40−80/tCO₂ by 2020, provided that a supportive policy environment is in place (High-Level Commission on Carbon Prices, 2017). Informed by this report and allowing for its uncertainties, NewClimate Institute has imposed a price level of EUR 100/tCO₂e for the 2014-2019 period. This is also in-line with the central estimate of *climate change avoidance costs* over the period to 2030 used in the European Commission's 2019 Handbook on the External Costs of Transport (European Commission, 2019).

An alternative approach for the determination of an appropriate price signal could be to reflect the *social cost of carbon*; that is, the estimated cost of damages entailed by anthropogenic climate change, per unit of emissions. An issue with this approach is that it is difficult to objectively define a scope of what qualifies as a social cost, since the impacts of climate change are so far reaching and include indirect impacts and feedback loops. Uncertainties related to the extent of climate impacts, as well as subjective valuations of the economic costs associated with those damages, mean that the range of estimates for the social cost of carbon in the literature span several different orders of magnitude.

The determination of a price signal required to put the transformation of the global economy on a pathway compatible with the Paris Agreement temperature objectives is also not without its challenges. The scientific literature surveyed by the High-Level Commission on Carbon Prices is not uniform in its definition of pathways that are aligned with the Paris Agreement temperature goal. NewClimate Institute considers that compatibility with the Paris Agreement temperature objectives would require decarbonisation to net-zero by 2050, while it is known that some of the studies underpinning the report from the High-Level Commission on Carbon Prices adopt a less stringent interpretation. Likewise, the different assumptions made by the studies related to the appropriate role of technology options for achieving those pathways, particularly related to negative emission technologies, are not necessarily aligned with NewClimate Institute's views. Further research and analysis on different pathways, along with enhanced transparency in the assumptions that underpin those scenarios, could support an improved determination of an appropriate price signal in the future.

4 Supporting initiatives for climate change action

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

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 markets, 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 crediting programmes, to consider new approaches that can address this current gap in the market.

Imposing a price of EUR 100/tCO₂e on total estimated emissions of 660 tCO₂e over the 2014-2019 period, NewClimate Institute intends to make a total investment of EUR 66,000 to support projects for climate change action in 2020. We currently orientate ourselves along the following guidelines for the identification of projects:

- We aim to support a broad approach to climate action, currently placing a primary focus on mitigation and adaptation activities but not ruling out other support.
- We aim to target our support to 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 to support projects that may be in less advanced stages of development but entail considerable potential for transformational change.

For this investment, NewClimate Institute has partnered with Atmosfair to support the identification of projects and the channelling of finance. Atmosfair, a non-profit organisation based in Germany, have 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 which are aligned with our objectives. We also hope to explore together the development of a platform for other organisations who adopt the Climate Responsibility approach in the future.

In the next iteration of the annual implementation report, we will provide details on the projects identified and supported during 2020.

5 Mainstreaming emissions pricing in accounting processes

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.

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 from 2020:

- Emissions from project specific activities, such as project-related travel, are attributed as cost items to the project numbers of the projects that they refer to.
- Staff travel expense reports include the costs of the emissions related with the travel, alongside
 the quantification of the climate impact from flights. This serves to raise awareness and also
 provide evidence of our costs that can be made available to clients.
- We aim to communicate GHG emissions that can be attributed to specific projects, and their
 associated costs, to clients, and also 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.
- 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 with 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.

In future iterations of the annual Climate Responsibility implementation report, we will report on our experiences in the attempted implementation of these measures, along with the identification of new measures for enhanced mainstreaming in accounting processes.

6 Documentation and transparent communication

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 learnt in order to identify and address issues that can support enhanced action and accelerated decarbonisation.

Through our communication, we aim to prompt discussion and encourage replication amongst other organisations. We solicit feedback to continuously improve and ensure the relevance of our approach.

NewClimate regularly documents the details of the Climate Responsibility approach and its implementation. Table 2 gives an overview of how the various components of the Climate Responsibility implementation have been documented for the 2014-2019 period.

Table 2: Checklist for documentation of Climate Responsibility implementation

Component	Documentation for 2014-2019 period
Overview of the organisation's GHG emissions	Introductory section of this report
Scope of emissions accounting	Section 1 of this report
Methodological assumptions for emissions accounting	Section 1 of this report
Details of actions for reducing own emissions in 2020	Section 2 of this report
Determination of price signal aligned with the Paris Agreement objectives	Section 3 of this report
Details on how the funds have been used to support climate change action	Section 4 of this report
Details of measures to be taken to improve mainstreaming of emissions pricing in accounting processes	Section 5 of this report
Report on challenges experienced in implementing each of the Climate Responsibility steps	This will be discussed in each section of the annual report after the first year of implementation of the Climate Responsibility approach.

References

Atmosfair (2016) *Atmosfair Flight Emissions Calculator*. Available at: https://www.atmosfair.de/wp-content/uploads/atmosfair-flight-emissions-calculator-englisch-1.pdf.

European Commission (2019) *Handbook on the external costs of transport: Version 2019.* Brussels: European Commission (EC). doi: 10.2832/27212.

High-Level Commission on Carbon Prices (2017) *Report of the High-Level Commission on Carbon Prices*. Washington D.C. Available at:

https://static1.squarespace.com/static/54ff9c5ce4b0a53decccfb4c/t/59244eed17bffc0ac256cf16/1495551740633/CarbonPricing_Final_May29.pdf.

Umweltbundesamt (2020) 'Vergleich der durchschnittlichen Emissionen einzelner Verkehrsmittel'. TREMOD. Available at:

https://www.umweltbundesamt.de/sites/default/files/medien/366/bilder/dateien/vergleich_der_durchsch nittlichen_emissionen_einzelner_verkehrsmittel_im_personenverkehr_bezugsjahr_2018_tabelle_0.pdf.





NewClimate - Institute for Climate Policy and Global Sustainability gGmbH

Cologne Office Clever Straße 13-15 50668 Cologne

Germany

T +49 (0) 221 999833-00 F +49 (0) 221 999833-19 **Berlin Office**

Schönhauser Allee 10-11 10119 Berlin Germany

E <u>info@newclimate.org</u> <u>www.newclimate.org</u>