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## Greenhouse Gas inventory of TÜV SÜD

Year of reporting 2021

# Foreword

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A provider of technical services, TÜV SÜD operates on the global TIC market (testing, inspection, certification). The services we provide span testing and certification, inspection, auditing, system certification, and training. Our employees design solutions for individual customers as well as for industry, retail, trade, and the public sector worldwide. They optimize technology, systems, and know-how, always keeping the full extent of the value chain in view.

Over 25,000 employees work at 1,000 locations worldwide. Since its foundation over 150 years ago, TÜV SÜD and its highly qualified and dedicated workforce have been guided by its pledge to enable progress by protecting people, the environment, and assets from technology-related risks. However, the tasks associated with this objective have changed constantly over the years. Today, climate change is one of the biggest threats to the natural world, and thus to humanity and its wellbeing.

As a company upholding social responsibility as a core value, TÜV SÜD addresses the ecological impacts of its business activity. Group-wide quantification of the greenhouse gas emissions caused by TÜV SÜD's operations plays a significant role in this context. This report represents the first Corporate Carbon Footprint (CCF) of TÜV SÜD in summarized form. This first greenhouse gas report aims at systematically quantifying the greenhouse gas emissions within the organization, pointing out key emission sources. The report has been the starting-point for far-reaching action: Considering building operations and business travel to be the most important levers of decarbonization, the TÜV SÜD Group has now drawn up an action plan that is particularly effective in those areas of activity offering the highest GHG reduction potential.

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Further information on sustainability at TÜV SÜD is available in our [online Sustainability Report](#).

## Approach & organizational boundaries

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The figures presented in this Corporate Carbon Footprint (CCF) include direct and indirect greenhouse gas emissions (hereinafter "emissions") from Scopes 1, 2, and 3, expressed as CO<sub>2</sub> equivalents (CO<sub>2</sub>e). The underlying reporting boundary refers to all fully-consolidated subsidiaries of TÜV SÜD in Germany, Italy, Spain, UK, the USA, India, Singapore, China, Japan, and South Korea. Our reporting thus covers around 90 percent of our revenue volume and our workforce. With our Group-wide climate target in mind, we plan to continually improve and systematically expand our recording activities to take in further subsidiaries in the coming years.

TÜV SÜD uses the control approach for data collection and emission reporting. All significant companies and entities over which the Group has control within the meaning of the International Financial Reporting Standard (IFRS) 10, and which are thus considered in financial reporting as at 31 December, 2021, are also fully included in GHG reporting. This applies to TÜV SÜD companies over which TÜV SÜD AG exercises financial control, usually on the basis of a holding of more than 50 percent. These companies are fully consolidated and 100 percent of their emissions are included in the GHG inventory.

The GHG inventory is based on the ISO 14064-1 standard, the GHG Protocol, and the standards of the Global Reporting Initiative on energy (GRI 302) and emissions (GRI 305). The TÜV SÜD CCF follows the requirements of these standards without striving for full compliance. On the road to verification of our carbon footprint in accordance with ISO 14064-3, we launched an internal audit this year. In step 2, we plan to have our CCF verified by third parties.

Emissions of TÜV SÜD in Germany are calculated using the market-based method in accordance with the GHG Protocol. At international level, emissions are calculated using the location-based method. Year-on-year discrepancies in the most recent figures are due to revised methods and new findings, particularly the implementation of energy data management software, which allowed energy consumption for Germany to be calculated with greater accuracy.

## TÜV SÜD greenhouse-gas inventory

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In 2021, emissions by the countries covered by the reporting system totaled approximately 74,458 t CO<sub>2</sub>e, corresponding to 3.3 t CO<sub>2</sub>e per employee or 30.3 t CO<sub>2</sub>e per EUR 1 million in revenue. Around 30,246 t CO<sub>2</sub>e (prior year: 25,416 t CO<sub>2</sub>e) of this was produced by fully consolidated subsidiaries located in Germany, giving the equivalent of 2.3 t CO<sub>2</sub>e per employee and 17.0 t CO<sub>2</sub>e per EUR 1 million of revenue generated in Germany.

TÜV SÜD's business activities in Germany thus accounted for 40.6 percent of the carbon footprint shown here for 2021 (prior year: 39.3 percent).

## Greenhouse gas emissions<sup>1</sup>

IN t CO <sub>2</sub> e	2021	Thereof Germany <sup>2</sup>	2020	Thereof Germany <sup>2</sup>	2019	Thereof Germany <sup>2</sup>
<b>Scope 1</b>	<b>18,552</b>	<b>14,859</b>	<b>19,789</b>	<b>15,813</b>	<b>21,655</b>	<b>16,795</b>
Vehicle fleet	13,291	10,697	12,324	9,649	13,886	10,540
Heating	5,261	4,162	7,465	6,164	7,768	6,254
<b>Scope 2</b>	<b>40,603</b>	<b>7,490</b>	<b>31,520</b>	<b>2,727</b>	<b>34,926</b>	<b>3,144</b>
Electricity	35,131	2,018	30,737	1,944	34,049	2,267
Heat	5,472	5,472	783	783	877	877
<b>Scope 3</b>	<b>15,303</b>	<b>7,897</b>	<b>13,482</b>	<b>6,876</b>	<b>30,936</b>	<b>17,057</b>
Business travel	14,819	7,697	12,882	6,668	30,276	16,813
Paper and water	484.1	200	600	208	660	244
<b>Total</b>	<b>74,458</b>	<b>30,246</b>	<b>64,791</b>	<b>25,415</b>	<b>87,516</b>	<b>36,996</b>
<b>Intensity of GHG emissions</b>						
Per employee (headcount)	3.3	2.3	2.9	1.9	4.0	2.8
Per employee (FTEs)	3.7	2.6	3.3	2.2	4.4	3.3

1 \_ Data from all fully consolidated subsidiaries in Germany, Italy, Spain, UK, USA, India, Singapore, China, Japan, and South Korea.

2 \_ Market-based emissions calculation.

## Rise in energy consumption

In 2021, TÜV SÜD noted total energy consumption of 148,955 MWh in the form of electricity and heat (Scopes 1 & 2). Over 60 percent of this was accounted for by electricity (Scope 2). This gives an energy consumption of 60.7 MWh per EUR 1 million in revenue in 2021 for all locations covered by the greenhouse gas inventory (prior year: 57.5 MWh/EUR 1 million in revenue). In Germany, energy consumption totaled 50.0 MWh per EUR 1 million in revenue (prior year: 45.2 MWh/EUR 1 million in revenue). The reduced personal presence of our workforce in our buildings during the Covid-19 pandemic made little impact on consumption.

As the majority of our carbon footprint is accounted for by our energy consumption and the associated greenhouse gas emissions, our actions to mitigate the climate impact of our business operations accordingly focus on this area (page 4 ff). Last year, we introduced energy data management software enabling us to monitor and control actual energy consumption within a climate and energy management system. The type and scope of data collected by the energy data management system is based on the ISO 50001 and ISO 14064-1 standards. Since 2021, all energy data from German locations have been recorded by the energy data management software, can be accessed there directly, and have thus also been directly included in emissions calculations. In the next step, the energy data management software will also be implemented at our international locations.

**2021:**  
**86 % green power  
in Germany**

In 2021, emissions from heating accounted for a total of approximately 14 percent of the Corporate Carbon Footprint. Wherever possible, our heating energy is drawn from renewable sources. The large number of new buildings and building refurbishments planned over the coming years offers opportunities for sustainability improvements. Our Munich headquarters – which is also our largest office building – has been supplied with district heat from the local utility company for years.

## Business travel and consumption of other resources

Scope 3 covers all other emissions from upstream and downstream processes. TÜV SÜD's greenhouse gas inventory includes emissions from business travel beyond those caused by travel by our leased vehicle fleet. This covers business

travel by hired and private car, rail, or air. This CCF also records emissions from some purchased goods, such as emissions from purchased paper for printers and photocopiers and water consumption. Consideration of further sources of emission was not possible at the time of data collection. We are currently working on extending the boundaries of reporting.

### Business travel

Emissions from our employees' business travel play a key role in climate management at TÜV SÜD. The workforce at TÜV SÜD is characterized by a high level of mobility. Personal on-the-spot presence is essential for performing testing of industrial plants and systems, cable cars, amusement park facilities, elevators, and other systems. Our employees traveled a total of almost 192 million kilometers on business in 2021, either driving (company, private, or hired car), by rail, or by air. This amounts to over 8,500 kilometers per employee in the companies included in this report. Clearly, a significant part of our carbon footprint is taken up by our employees' travel and the direct and indirect emissions associated with it.

2020: ~ 192 m km business travel ~ 28,110 tCO <sub>2</sub> e
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In 2021, travel by car accounted for the largest share of business travel, viz. 64.8 percent of total kilometers. A large part of this, in turn, was taken up by TÜV SÜD's leased vehicle fleet (Scope 1), with almost 3000 passenger cars. The Covid-19 pandemic had little effect on the level of use of these passenger cars. The greenhouse gas emissions from business travel in 2021 accounted for around 37.8 percent of our corporate carbon footprint, while in Germany, business travel notched up as much as 60.8 percent of the carbon footprint.

### Indirect emissions from the consumption of other resources

**Paper consumption:** In 2021, TÜV SÜD's use of paper for printers and photocopiers throughout all TÜV SÜD locations globally was estimated at 345 tonnes, around 45 percent of which was accounted for by Germany. In Germany, we use only FSC-certified paper from sustainably managed forests.

**Water consumption:** In 2021, freshwater consumption by TÜV SÜD's global operations totaled 270,000 m<sup>3</sup>, equivalent to 12.0 m<sup>3</sup> per employee. Around 88,000 m<sup>3</sup> of this total was accounted for by our German companies, equivalent to annual water consumption of approximately 6.6 m<sup>3</sup> per capita. At TÜV SÜD, water is infrequently used in testing processes; the majority of consumption involves service water at office premises. At our laboratories and technical service centers, where testing processes can contaminate water, oil separators and other cleaning methods are used. Once cleaned, the water passes into the sewerage system and returns to the water cycle. In order to include emissions from wastewater production and treatment, the volume of wastewater is estimated with the help of freshwater volumes and thus included in the GHG inventory or CCF.

## Knowledge into action

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This year's more detailed GHG inventory within the scope of the CCF has confirmed our assumptions regarding the largest sources of emissions and, at the same time, delivered starting-points for focusing and reinforcing our action. On the basis of the collected data, existing measures are compared to the targets aspired to and readjusted accordingly, or new actions are launched.

### Our goals and targets

From 2025, we aim to reduce our global Scope 1, Scope 2, and Scope 3 emissions from business travel, water consumption, and paper consumption to net zero. To do this, we will first avoid generating emissions wherever possible and reduce consumption of resources. Any residual emissions will then be compensated for by supporting certified and recognized compensation projects. In 2021, we clarified this target in more concrete terms and included the following performance indicators:

- Continuous reduction of our annual greenhouse gas emissions
- Annual reduction of our energy use, measured in MWh as a proportion of revenue
- We will continue to promote energy from renewable sources and continuously increase its use (in %) in total electricity consumption at TÜV SÜD.

As well as defining further performance indicators and reduction strategies for specific areas, we are currently working on a long-term climate objective and establishing a climate strategy extending beyond the 2025 timeframe. Our goal is to reduce TÜV SÜD's greenhouse gas emissions to an unavoidable minimum. To balance out these unavoidable emissions, we are planning to gradually phase out our support of carbon compensation measures and replace them with carbon capture and removal projects. As with our compensation measures, we will only choose projects that are in compliance with recognized standards. We are also currently exploring participation in international climate action initiatives.

## Our actions

### Efficient and sustainable building management

We began to drive **efficiency enhancement and modernization programs** in our Real Estate function many years ago. These programs are compared with the available data, continued, and stepped up. In addition, we are working on the development of a concept exploring energy-efficient refurbishment and the replacement of heating systems based on fossil fuels by heating systems using energy from renewable sources.

The **energy data management system** established in Germany will also be implemented at our international locations and companies as early as next year. All relevant data concerning energy and resource use will be collected automatically at regular intervals, enabling monitoring of consumption and emissions to be improved. The data collected include electricity and heat consumption, energy consumption by our fleet, and other mobility activities by our employees, as well as data on the consumption of other resources such as water. It will also cover wastewater, and – in the long term – also waste.

The use of green power is to be expanded, even if the share of green power in Germany can only be expanded to a limited extent. Facility Management will amend the relevant contracts wherever possible. 'Energy consumption' has been included in the catalog of criteria. Beyond the above, we will explore which of our existing buildings are suitable for installation of **photovoltaic** systems. First projects have delivered very positive results.

Numerous technical service centers (TSCs) for periodic vehicle inspections have been modernized in recent years, with measures including efficient infrared "dark radiators." At international level, TÜV SÜD has moved into two new regional headquarters, including one in Singapore. The new building houses modern offices and laboratories for some 600 employees. It complies with the Green Mark Platinum Standard – the sustainability standard of Singapore Building and Construction Authority (BCA) – in terms of energy efficiency and sustainability, enabling energy consumption there to be roughly halved.

Another example of an ultramodern energy-efficient new building is our cable car test center in Austria, which was awarded BREEAM Gold certification for its environmentally relevant measures including installation of a heat pump system and landscaping of the grounds.

By 2024, we will also be able to terminate many of the small-scale property rentals near our Munich headquarters. The expansion of our corporate headquarters with the addition of a new, modern building will create space for around 600 workplaces. This new building is aimed at gaining sustainability certification in accordance with the '**DGNB Platinum**' standard. In addition, from 2023 onward, around 350 workspaces will be rented in an office complex currently under construction in the direct vicinity of our headquarters. Thus, almost all administrative staff at the headquarters of TÜV SÜD Group will be able to move from nearby rented buildings into highly energy-efficient buildings.

## Promoting new mobility

As early as 2018, we passed a Works Agreement driving the continuous **expansion of e-charging points** at our locations and thus providing free electric vehicle charging for our employees. By 2020, electric vehicle charging stations had been installed at TÜV SÜD's six largest locations. We plan to vigorously expand this infrastructure in the future. 100 e-charging points are planned to go into operation at German locations this year.

TÜV SÜD's leased vehicle fleet accounts for a considerable share of total GHG emissions at TÜV SÜD. To reduce these emissions, the Human Resources (HR) corporate function developed a **new Car & Mobility Policy**, which came into effect on August 1, 2021. The policy supports the ongoing addition of lower-emission vehicle models to the company car fleet and incentivizes employees' choice of such models. The HR function has developed a reward and penalty scheme under which TÜV SÜD contributes a higher share of the leasing rate if employees choose particularly low-emission models (<100 g CO<sub>2</sub>/km), but a lower share in case of higher-emission models (<126 g CO<sub>2</sub>/km).

Since October 2021, new fuel cards coupling fuel consumption to **CO<sub>2</sub> compensation** have been issued to all holders of leased vehicles. In other words, thanks to use of this fuel card, all travel in vehicles from our leased fleet is carbon neutral. TÜV SÜD is aware of the debate surrounding the issue of CO<sub>2</sub> compensation and continues to aim for overall reduction in travel and emissions.

Beyond our own leased vehicle fleet, TÜV SÜD employees use all available means of transport to travel to their customers' premises and inspection destinations. To also curb emissions in this area, TÜV SÜD's environmental policy stipulates the **reduction of business travel** in the future as a fundamental principle. All employees are called upon to question whether business travel is really necessary and **give priority to online calls and meetings**. In business travel, public transport should be used to travel to and from conurbations and airports wherever possible. Rail travel should be preferred over air travel as a general principle. The environmental policy developed by the Real Estate corporate function will be revised annually.

TÜV SÜD is aware that business travel does not cover all aspects of mobility. To date, surveying the emissions caused by employees' commuting has not been possible due to lack of data. A range of options has long been available to allow our employees to **keep emissions as low as possible when commuting** between home and work. Our employees have been eligible for reduced-rate public transport tickets for Greater Munich since 2006, and for the DB national rail network since 2007. TÜV Hessen likewise offers reduced-rate public transport tickets for the city of Darmstadt. In 2017, TÜV SÜD further launched a cycle-to-work scheme under which all employees in Germany can lease a **company bike**. TÜV SÜD plans to extend and step up its promotion of these offers.

## Sustainable value chain

The Procurement corporate function at TÜV SÜD has revised the **TÜV SÜD Supplier Code of Conduct**, taking the United Nations' Sustainable Development Goals (SDGs) as guidance. The existing Procurement policy was complemented with the addition of specific ecological and social aspects that will have an emission-reduction impact. Effective immediately, the new TÜV SÜD Supplier Code of Conduct forms a constituent part of supplier relations and procurement processes.

TÜV SÜD is working specifically to significantly improve and expand its monitoring of material use while at the same time striving to **reduce resource consumption**. Processes are increasingly being digitalized in order to achieve further savings in areas such as paper consumption.

## Raising employee awareness and motivation

It is TÜV SÜD's firm belief that transformation toward a more sustainable world is feasible. By keeping employees informed and motivated, the effectiveness of actions, both planned and already initiated, may be further improved. Given this, TÜV SÜD has stepped up internal communication in the area of sustainability, providing regular information on the Intranet, in the internal web magazine, in newsletters, and on social media platforms, thereby raising employee awareness and motivation. To round off these actions, **mandatory sustainability and compliance training** has been rolled out to all employees worldwide since May 2022.