TenneT Holding B.V.

Additional CSR data

CSR data linked to Integrated Annual Report 2022

Introduction

In this additional CSR data document, we provide more details on the CSR performance of TenneT in 2022. Together with our employees, working in our offices in Germany, the Netherlands or at other locations, we aim to secure supply of energy for society and strive to make responsible choices in doing so. In our Integrated Annual Report 2022 (IAR2022), we report about topics that are most relevant to our internal and external stakeholders from a TenneT Holding B.V. perspective. Our corporate reporting is prepared in with reference to the sustainability guidelines set out in the Global Reporting Initiative Standards. The materiality process is fundamental to integrated reporting as it ensures we meet the level of transparency our stakeholders have the right to expect. More information about this is disclosed later in this document.

Our CSR policy and activities are not limited to topics resulting from the materiality analysis. Therefore, additional CSR data is reported in this document, to provide additional informationof the progress on TenneT's ambitions on how we aim to create sustainable value.

In our integrated annual report, most of our data is presented at TenneT Holding level. To give more insight in our operations, KPIs in this document are presented on TenneT Holdinglevel and on country level. We have presented the data in line with the structure of the integrated annual report.

For definitions of the reported KPIs please go to the CSR section of our website.

In case there are any additional questions considering CSR reporting, please send an email to CSR@tennet.eu.

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1. About TenneT

1.1. Our stakeholders

Through our activities as a TSO, we are continuously interacting with the world around us. Our activities could not take place without the often intensive co-operation with other key players within- and outside the energy sector. We aim to build and maintain good relationships with our stakeholders and co-operate with them in partnerships to deliver on our strategic objectives. We regularly request them to provide their views and input with respect to topics that relate to how we create long term value and that are deemed to be of material and of strategic importance to us.

In 2021, we reassessed our stakeholder landscape and identified the most important stakeholder groups, based on their influence on us- and our influence on them. We also engaged with these stakeholder groups to get their views on the Sustainable Development Goals (SDGs) that relate most to us as an organisation and the topics related to the impacts we as TenneT have on the world around us. In the table below, we have included the identified key stakeholders, the topics they consider to be the most relevant and how these are addressed in our annual report.

Stakeholder group	**Examples**	**Method of engagement**	**Key topics and concerns raised**	**Disclosed in IAR chapter**
Governments and policy-makers	• National and regional parliaments • (ministries, parliaments) • Local authorities • European Union	Informative, close involvement in variousareas and contractual agreements	• Financial health • Security of supply	• Deliver a high security of supply • Ensure critical infrastructure for society • Solve societal challenges with stakeholders and through partnerships
Employees	• Employees • Employee representatives • Labour unions	Close involvement; employee engagement; periodic meetings with employee representatives	• Security of supply Safety	• Strategy and value creation • Create a safe and inspiring workplace
Customers	• DSOs • Large industries	Informative; close involvement in various areas and contractual agreements	• Safety • Security of supply • TenneT's own environmental impact • Responsible supply chain • practices	• Deliver a high security of supply • Solve societal challenges with stakeholders and through partnerships
Shareholders and capital providers	• Dutch Ministry of Finance • Investors • Project shareholders • Relationship banks	Close involvement	• Financial health • Security of supply • Stakeholder engagement	• Strategy and value creation • Create a safe and inspiring workplace • Secure sustainable financial performanceand investor ratings
Suppliers	• Contractors • Suppliers • External Service Providers	Market consultations; pre-qualifications; negotiations; meetings	• Security of supply • Safety • Responsible supply chain practices • Strategic partnerships • Driving the energy transition	• Ensure critical infrastructure for society • Create value to transition to a climate neutral economy • Create a safe and inspiring workplace
Regulators	• ACER • BNetzA • ACM	Informative and close involvement	• Financial health • Security of supply • Driving the energy transition	• Secure sustainable financial performance and investor ratings • Ensure critical infrastructure for society • Deliver a high security of supply
NGOs	• Think tanks • Industry association • Other NGOs	Informative, cooperative, consulting and involvement on project level	• TenneT's own environmental impact • Driving the energy transition • Strategic partnerships • Stakeholder engagement	• Solve societal challenges with stakeholders and through partnerships • Create value to transition to a climate-neutral economy • Ensure critical infrastructure for society • Create a safe and inspiring workplace
Energy market participants	• Energy producers • Other TSOs and DSOs • Market parties	Close involvement	• Security of supply • Driving the energy transition	• Deliver a high security of supply • Solve societal challenges with stakeholders and through partnerships

1.2. Materiality analysis

TenneT reports in reference to the Global Reporting Initiative (GRI) standards. Following the updated GRI Standards (2021), we updated our materiality analysis in 2022. We performed an internal analysis to determine the significance of TenneT's economic, social and environmental impact, and included the views of our (external) stakeholders from earlier surveys and interactions in this analysis. This determined whether our impact on a topic is either high, medium or low. The outcome of this analysis was reviewed and validated by our highest governance body, being both the Executive Board and the Supervisory Board. The outcome of this was that the following four impacts are considered to be key material topics: safety, securing supply today and tomorrow, driving the energy transition and financial health. The materiality process is thoroughly embedded in the TenneT organisation. The results of the materiality analysis and how we deal with these topics in terms of reporting can be found in our IAR2022, p.200-201.

How we report on each of the material topics, can be found in the GRI Content Index on our website.

1.3. TenneT in the supply chain

In our annual report, we have disclosed information on how we are working with others in our supply chain and the way we do business with our suppliers. This includes making sure that the suppliers we work with meet our standards with respect to responsible supply chain practices, including sustainability and human rights. Supply chain management is embedded in our policies and procedures in various ways. An important element of this is related to our Supplier Code of Conduct (SCoC), in which we have integrated our view on sustainable business practices, including environmental impact, circularity and human rights requirements. For example, the SCoC includes principles based on UN Global Compact and the International Labour Organisation as well as the UN Guiding Principles on Business and Human Rights and the Organisation for Economic Cooperation and Development (OECD). All suppliers that we work with are expected to sign-off on and comply with the SCoC.

To us, being a responsible grid operator doesn't mean that we just focus on what occurs within our own organisational boundaries. We aim to work together with our suppliers in our ambition to take on more and more responsibility in our supply chain over time. Compliance with the SCoC is a minimum requirement and we monitor whether suppliers have complied with this this when we tender for goods and services. In addition, we perform supplier visits to prevent and mitigate potential misconduct that does not meet our standards with respect to quality, environmental and social performance. This is internally recorded and monitored, and we report our performance in this area in our Integrated Annual Report. Based on these supplier visits, suppliers are informed that they are either accepted, given the opportunity to make improvements or not accepted. New suppliers are informed about the results and whether they are accepted as a supplier, before they are allowed to provide goods and services to us. If non-compliance occurs, our policy is to reach out to the respective supplier to discuss this matter and how this can be resolved.

By sharing our views and standards with respect to sustainable business practices, we aim to bring this to a higher level, also for our business partners in the supply chain. In the next years, we strive to further develop our policies and procedures in this area, and we will communicate our progress on this in our annual reporting.

1.4. How we create value

In our annual report, we describe how we aim to create long term value, from inputs to outputs and outcomes/impacts. Our aim is to continuously work on creating value by minimising negative outcomes/impacts and maximising the positive outcomes/impacts. Therefore it is not a linear process but an iterative, where we aim to gain insights, learn and steer based on our outputs, outcomes and impacts. Determining the outcomes/impacts of an organisation is something that we have been working on and are still further developing to provide our stakeholders with more insights on TenneT's societal impact.

Using the concept of value creation as described by the International Integrated Reporting Council (IIRC), we developed a value creation model (IAR2022, p.18-19) based on the six capitals: financial, manufactured, intellectual, human, social & relationship and natural. In this model we show how each of these capitals are impacted by our purpose, strategic goals, principles from the balancing act, and

our core activities, and how this leads to outputs, outcomes and impacts. Outputs of the respective capitals are measured by means of key performance indicators.

This provides us with some key insights on performance and can have an effect on the input, as we strive to reduce our negative impacts and increase our positive impact. We do this by evaluating the results of our policies and actions via the committees and boards which are mentioned in the 'Governance of CSR' section in IAR2022, page 205.

In our value creation model, we explain how the aforementioned inputs lead to outcomes and impacts for society. A few examples to illustrate how this works for certain capitals:

- Input capitals such as intellectual capital and produced capital helps us to ensure a critical infrastructure and deliver a high security of electricity supply for society. Our assets combined with the collective knowledge of and experience with operating the system and integrating energy markets are influenced by for instance our strategic ambitions, policies and action plans, which helps us create these outputs. Our view on an integrated European energy system and the development of interconnections are examples of how we create value on these two capitals. As a result and together with the other input capitals, TenneT is able to secure supply now and in the future, by having a high grid availability today and reinforcing our grid and increasingly connecting more and more renewable energy sources to our grid to ensure we are able to do so in a greener energy landscape. With this, society is enabled to create value and impact by having access to a secure supply of electricity. The choices we make impact this in the short and long run.

- Our human capital, the skilled and motivated employees working for and at TenneT, are impacted by our (HR) strategy, our principles, policies and the work processes. How we ensure safety for our workforce, the training and other facilities we offer, helps to create a safe and inspiring workplace,. This results in investments in human capital in a monetary sense but also in hours trained and to less and ideally no incidents occurring at the workplace. Both on the short as the long run, the impact it has are more satisfied employees and a better developed workforce. As our business involves working with high-voltage, potential negative impacts could occur for instance due to safety incidents. The decisions we make can impact the way our workforce is and feels safe and energised on a daily basis, and are therefore a key part of our strategy. To deliver on our strategic ambitions in this area, we ensure that our workforce is able to do so now and in the future. In addition, it also contributes to being an employer of choice for our future colleagues.

- A final example relates to the financial input capital. Our choices, strategic ambitions and actions lead to certain financial outputs and outcomes such as revenue, costs and earnings before interest and tax. If we for instance decide to do certain investments or hire more staff due to the energy transition, this has a financial effect. For society, this can both have a positive impact, such as the societal benefits. Examples include salary payments for society, being either employees, suppliers or the taxes we pay. Considering that TenneT is a regulated company, the other side of it is that it can also lead to expenditures and societal costs. It is a delicate balancing act which we use in also considering the affordability for society.

To take a next step in showing how we create value in the longer run, we started in 2020 with quantifying the outcomes/impacts of our societal impact that we as TenneT have on the people that live in the areas we serve and sometimes even beyond. In the end, we believe that although impacts are usually linked to a certain capital, to us this is not merely the consequence of one capital. For example: the societal impact we have by the availability of our grid is not only enabled by our intellectual capital, but it requires other capitals as well, such as produced capital or financial capital. That is why as of IAR2021, we have also connected them to the SDGs and linked our impacts to all capitals.

The SDGs we have included currently in our assessment are SDG13 (Climate action), SDG7 (Affordable and clean energy) and SDG9 (Industry, innovation and infrastructure). These are the SDGs most closely related to our core business and therefore where we believe we can make the most impact on.

Societal value of the availability of our grid

Our main societal impact is related to our core task: transmitting electricity and securing high grid availability. With this, we power and empower society, together with others in the electricity supply chain, such as electricity generating companies and DSOs. This relates to SDG 9 and specifically target 9.1: Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being.

Being able to supply electricity has a certain value, based on research performed by the SEO economic research organisation. In their research 'The value of supply security: The costs of power interruptions: Economic input for damage reduction and investment in networks' (De Nooij, M, Koopmans, C and Bijvoet, C, 2006) the researchers state that ‘electricity not delivered’ also has a certain value. This is based on the economic value diminished, due to power outages and interruptions, from the total gross domestic product. It also relates to the value diminished for consumers that are not being able to enjoy leisure time. Based on interviews conducted with one of the authors, the same value can be applied for electricity that has been supplied. This is our basis for estimating the societal value due to the availability of our grid.

Our first assessments were focused on our Dutch operations, as the research was focused on the Netherlands. To make this estimation more accurate, we have updated the calculation models used by the researchers with the most recent available) data from the Centraal Bureau voor de Statistiek and used the 2021 data available from our own systems to estimate the societal value due to the availability of or grid. The result of this estimation is that the total value exceeds the Dutch gross domestic product, which has also been validated with the co-author of the study.

This is just the first part of our analysis to estimate this value, as next steps are still to be taken, such as determining the value that also includes the German part of our grid. We invite others to share their thoughts in further developing this.

Societal impact we create by driving the energy transition
As TenneT, we are aware that we have an impact on the environment when building, maintaining and operating the grid. Impacts relate to our carbon footprint and on the biodiversity of the areas our assets are built. We are investigating how we can further quantify these impacts.

Our impact on natural capital also relate to the (positive) impacts we have by connecting more renewable energy to the grid. In IAR2022, we included the outcome/impact in two ways with respect to this, being the equivalent number of households that in theory would have been able to switch to 100% renewable electricity and the carbon emissions that we have been able to help avoid, by connecting renewable energy sources to our grid.
The basis of both indicators is related to the amount of renewable electricity sources we have been able to connect to our grid. The total of this has been divided by the consumption of an average household in the respective part of our service area for the equivalent number of householdsthat have been able to switch to 100% renewable electricity. For the avoided emissions, we have multiplied the aforementioned total with the most recent average grid mix in the Netherlands and Germany available at the time of reporting this information internally and externally via our IAR2022.

By avoiding emissions, we contribute to SDG13, target 13.2(.2), which we have chosen to not report the output indicator being the total greenhouse gas emissions here (which we do reporting in IAR2022 and in this document), but the emissions we help to avoid by connecting green electricity to our grid (i.e. via our offshore connections). The equivalent number of households that in theory would have been able to switch to 100% renewable electricity directly connects to SDG 7, target 7.2: By 2030, increase substantially the share of renewable energy in the global energy mix. We express this in a theoretical equivalent number of households.

Our societal financial impact on households in our serving area
To measure our societal impact in terms from a financial perspective, we added a societal impact metric in 2021. This metric (related to target 7.1 ‘By 2030, ensure universal access to affordable, reliable and modern energy services’) measures the percentage of our costs as part of the electricity bill of an average household. As we are a regulated company and our revenue consists of regulated income, it is important for us to make responsible financial choices and keep in mind the impact of financial decisions on stakeholders like our shareholder, the Dutch Ministry of Finance and the people that live in the area’s we serve. We have calculated our societal financial impact on households in our service area by calculating the share of TenneT’s cost on an electricity bill of a ‘typical’ three-person Dutch and German household. We gathered data on the financial components of an electricity bill for such a household, for example the retail price of electricity, taxes and levies and (DSO) grid fees. We were then able to determine how big the share of TenneT’s grid fees is on the electricity bill of a typical Dutch- or German household. In Germany, we made use of 2022 data in the *BDEW Strompreisanalyse.* In the Netherlands, we used the most recent available data from CBS.

1.5. Social charters

TenneT has committed itself to certain public charters. For example we are a signatory member of the UN Global Compact and report our progress in a Communication on Progress (COP), which can be found on our website. This also relates to the OECD (Organisation for Economic Development) guidelines. In the table below we have included a reference to the chapters in our annual report where we provide more information on these themes.

OECD themes	**Chapter IAR2022**
Disclosure	More transparency with respect to our policies and activities is disclosed in various parts of our reporting, such as IAR2022, GFR2022 and our website www.tennet.eu.
Human rights	• About TenneT; Our supply chain
Employment and industrial relations	• About TenneT; Our supply chain • Create a safe and inspiring workplace
Environment	• Create value to transition to a climate neutral economy • Green Finance Report 2022 • Additional CSR Data Document 2022
Combating bribery, bribe solicitations and extortion	• Compliance and integrity • https://www.tennet.eu/compliance-and-integrity
Consumer interests	• Solve societal challenges with stakeholders and through partnerships

OECD themes	Chapter IAR2022
Science and technology	• Solve societal challenges with stakeholders and through partnerships • Deliver a high security of supply • Ensure critical infrastructure for society
Competition	• Secure sustainable financial performance and investor ratings • Governance and Risk Management • Consolidated financial statements
Taxation	• Consolidated financial statements

2. Our performance in 2022

2.1. Deliver a high security of supply

As a European TSO, our main task is to secure supply of electricity for the people that live in our service area. TenneT's track record in grid availability is among the best in the world. We work hard toguarantee a reliable electricity grid, a task that is complicated by several factors including increasing congestion and the volatility of renewable energy. This is one of the main elements of how we as a company create value. Our key performance indicator with respect to this important output is related to the availability of our grid.

2.1.1. Grid availability

In the table below, our onshore grid availability is presented:

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Grid availability	99.99963%	100.0000%	99.99963%	99.99998%	100.00000%	99.99999%	99.9999%	100.0000%	99.9999%
110/150 kV									
Interuptions	10	N/A	10	3	N/A	3	3	N/A	3
Energy not transported (MWh)	358	N/A	358	4	N/A	4	17	N/A	17
220/380 kV									
Interuptions	1	-	1	-	-	-	-	-	-
Energy not transported	3	-	3	-	-	-	-	-	-

Our total onshore grid availability (ASIDI) is reported as the sum of the availability on the national grids, thereby underestimating the availability for TenneT as a whole. The industry has defined two standard KPIs for grid availability reporting. The SAIDI (System Average Interruption Duration Index)is the average outage duration for each customer served. The ASIDI (Average System Interruption Duration Index) is the average outage duration for interrupted active power flow. Since 2017 TenneTprepares its reporting by using the GRI Standards, which provides guidance to report on the identified materials themes. For grid availability this means that we have reported the SAIDI and ASIDI since 2017.

	2022		2021		2020	
	NL	D	NL	D	NL	D
SAIDI						
110/150 kV	1.93	N/A	0.07	N/A	0.27	N/A
220/380 kV	0.000015	N/A	-	N/A	-	N/A
ASIDI						
110/150 kV	N/A	N/A	N/A	N/A	N/A	N/A
220/380 kV	-	-	-	-	-	-

2.2. Ensure a critical infrastructure for society

To ensure that we can keep a high level of grid availability, we are working hard to maintain our current grid and design and build on a daily basis to help shape the future energy system. Despite supply chain disruptions and the energy crisis, we were able to stay on track with our key projects and were able to meet our grid investment targets. This contributes to building the critical infrastructure we are operating 24 hours a day, 365 days a year.

2.2.1. Technical data

In the table below, we have included more information with respect to the critical infrastructure we have realised and are maintaining.

	2022			2021			2020		
Technical data	NL	D	Total	NL	D	Total	NL	D	Total
Number of substations:									
110/150 kV	289	5	294	289	5	294	289	5	294
220/380 kV	53	131	184	50	132	182	46	128	174
Total number of substations	**342**	**136**	**478**	**339**	**137**	**476**	**335**	**133**	**468**
HVDC converter stations	3	19	22	3	19	22	3	18	21
Circuit length:									
Underground total	3,011	2,878	5,889	2,794	2,851	5,645	2,708	2,221	4,929
Overhead total	8,119	11,001	19,120	8,165	10,708	18,873	8,166	10,771	18,937
Total	**11,130**	**13,879**	**25,009**	**10,959**	**13,559**	**24,518**	**10,874**	**12,992**	**23,866**
150/300/450 kV DC	583	2,119	2,702	583	2,117	2,700	583	1,494	2,077
220/380 kV	3,504	11,042	14,546	3,337	10,727	14,064	3,334	10,782	14,116
110/150 kV	7,043	718	7,761	7,039	715	7,754	6,957	716	7,673
Total	**11,130**	**13,879**	**25,009**	**10,959**	**13,559**	**24,518**	**10,874**	**12,992**	**23,866**

2.3. Create a safe and inspiring workplace

We consider TenneT's employees to be our most valuable asset. Our critical infrastructure on land and at sea is the result of the combined efforts, teamwork and commitment of people across our organisation – and others working with us – to achieve our strategic goals. Almost 8,000 colleagues contribute to our mission to provide a secure and reliable supply of electricity, 24 hours a day, 365 days a year. This includes TenneT's own employees, but also our contractors who help us in realising our projects. In the tables below additional data regarding FTE, headcount, permanent/temporary contracts, CAO/function contracts, male/female ratios, age distribution, inflow/outflow, management/non-management, full-time/part-time employees and education costs is presented. Furthermore, as it is our strategy to promote a safe and inclusive working environment, the tables below provide more insight on our diversity and safety focus areas.

2.3.1. Employee data

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
FTE (end of period)									
FTE internal	2,347	3,319	5,667	2,045	2,894	4,939	1,723	2,417	4,140
FTE external	890	378	1,268	903	357	1,260	869	357	1,226
Total	**3,237**	**3,698**	**6,935**	**2,948**	**3,251**	**6,199**	**2,592**	**2,774**	**5,366**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Headcount (end of period)									
Headcount internal	2,434	3,496	5,930	2,122	3,046	5,168	1,789	2,532	4,321
Headcount external	1,083	384	1,467	1,088	364	1,452	1,038	363	1,401
Total	**3,517**	**3,880**	**7,397**	**3,210**	**3,410**	**6,620**	**2,827**	**2,895**	**5,722**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Internal headcount (end of period)									
Permanent contract	2,235	3,026	5,261	1,797	2,591	4,388	1,549	2,166	3,715
Temporary contract	199	470	669	325	455	780	240	366	606
Total	**2,434**	**3,496**	**5,930**	**2,122**	**3,046**	**5,168**	**1,789**	**2,532**	**4,321**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Permanent contract									
Permanent contract male	1.704	2.274	3.978	1.377	2.000	3.377	1.200	1.713	2.913
Permanent contract female	531	752	1.283	420	591	1.011	349	453	802
Total	**2.235**	**3.026**	**5.261**	**1.797**	**2.591**	**4.388**	**1.549**	**2.166**	**3.715**
% male	**76%**	**75%**	**76%**	**77%**	**77%**	**77%**	**77%**	**79%**	**78%**
% female	**24%**	**25%**	**24%**	**23%**	**23%**	**23%**	**23%**	**21%**	**22%**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Temporary contract									
Temporary contract male	133	263	396	238	261	499	178	194	372
Temporary contract female	66	207	273	87	194	281	62	172	234
Total	**199**	**470**	**669**	**325**	**455**	**780**	**240**	**366**	**606**
% male	**67%**	**56%**	**59%**	**73%**	**57%**	**64%**	**74%**	**53%**	**61%**
% female	**33%**	**44%**	**41%**	**27%**	**43%**	**36%**	**26%**	**47%**	**39%**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Headcount internal by contract type									
Collective labour contracts	2.131	2.911	5.042	1.830	2.530	4.360	1.517	2.089	3.606
Function contracts	303	301	604	268	256	524	252	237	489
Other contracts	0	284	284	24	260	284	20	206	226
Total	**2.434**	**3.496**	**5.930**	**2.122**	**3.046**	**5.168**	**1.789**	**2.532**	**4.321**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Headcount internal by gender									
Male	1,837	2,537	4,374	1,615	2,261	3,876	1,378	1,907	3,285
Female	597	959	1,556	507	785	1,292	411	625	1,036
Total	**2,434**	**3,496**	**5,930**	**2,122**	**3,046**	**5,168**	**1,789**	**2,532**	**4,321**
% male	**75%**	**73%**	**74%**	**76%**	**74%**	**75%**	**77%**	**75%**	**76%**
% female	**25%**	**27%**	**26%**	**24%**	**26%**	**25%**	**23%**	**25%**	**24%**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Headcount internal by age									
Under 20 years	2	34	36	4	41	45	1	33	34
20-30 years	205	734	939	193	678	871	134	524	658
30-40 years	603	1,350	1,953	494	1,142	1,636	393	932	1,325
40-50 years	745	730	1,475	670	613	1,283	583	522	1,105
50-60 years	639	524	1,163	544	466	1,010	485	438	923
Over 60 years	240	124	364	217	106	323	193	83	276
Total	**2,434**	**3,496**	**5,930**	**2,122**	**3,046**	**5,168**	**1,789**	**2,532**	**4,321**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Headcount internal inflow									
Male	352	445	797	332	461	793	233	314	547
Female	135	259	394	124	226	350	84	187	271
Total	**487**	**704**	**1,191**	**456**	**687**	**1,143**	**317**	**501**	**818**
% male	**72%**	**63%**	**67%**	**73%**	**67%**	**69%**	**74%**	**63%**	**67%**
% female	**28%**	**37%**	**33%**	**27%**	**33%**	**31%**	**26%**	**37%**	**33%**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Headcount internal outflow									
Male	124	161	285	95	109	204	78	95	173
Female	51	80	131	28	62	90	30	64	94
Total	**175**	**241**	**416**	**123**	**171**	**294**	**108**	**159**	**267**
% male	**71%**	**67%**	**69%**	**77%**	**64%**	**69%**	**72%**	**60%**	**65%**
% female	**29%**	**33%**	**31%**	**23%**	**36%**	**31%**	**28%**	**40%**	**35%**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Headcount internal management									
Male	146	57	203	128	54	182	128	47	175
Female	51	11	62	41	9	50	41	10	51
Total	**197**	**68**	**265**	**169**	**63**	**232**	**169**	**57**	**226**
% male	**74%**	**84%**	**77%**	**76%**	**86%**	**78%**	**76%**	**82%**	**77%**
% female	**26%**	**16%**	**23%**	**24%**	**14%**	**22%**	**24%**	**18%**	**23%**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Headcount internal non-management									
Male	1,691	2,480	4,171	1,487	2,207	3,694	1,250	1,860	3,110
Female	546	948	1,494	466	776	1,242	370	615	985
Total	**2,237**	**3,428**	**5,665**	**1,953**	**2,983**	**4,936**	**1,620**	**2,475**	**4,095**
% male	**76%**	**72%**	**74%**	**76%**	**74%**	**75%**	**77%**	**75%**	**76%**
% female	**24%**	**28%**	**26%**	**24%**	**26%**	**25%**	**23%**	**25%**	**24%**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Headcount internal full-time									
Male	1,657	2,359	4,016	1,468	2,124	3,592	1,256	1,796	3,052
Female	269	678	947	229	544	773	166	440	606
Total	**1,926**	**3,037**	**4,963**	**1,697**	**2,668**	**4,365**	**1,422**	**2,236**	**3,658**
% male	**86%**	**78%**	**81%**	**87%**	**80%**	**82%**	**88%**	**80%**	**83%**
% female	**14%**	**22%**	**19%**	**13%**	**20%**	**18%**	**12%**	**20%**	**17%**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Headcount internal part-time									
Male	180	178	358	147	137	284	122	111	233
Female	328	281	609	278	241	519	245	185	430
Total	**508**	**459**	**967**	**425**	**378**	**803**	**367**	**296**	**663**
% male	**35%**	**39%**	**37%**	**35%**	**36%**	**35%**	**33%**	**38%**	**35%**
% female	**65%**	**61%**	**63%**	**65%**	**64%**	**65%**	**67%**	**63%**	**65%**

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	NL
Average education costs per employee	1,723	2,387	2,114	2,335	2,181	2,245	2,355	1,766	2,010

2.3.2. Health

We help our people to live healthy and active lives and find a stimulating work-life balance. We encourage all employees to join the Always Energy programme, which includes classes, trainings and challenges to promote mental and physical health. The activities can take place online, at home, at the office or outside, depending on the type of activity. In 2022, we again offered dozens of activities to our employees, related to running, hiking, cycling, yoga, mental health trainings and other activities. This also includes online workshops and webinars, which were attended by approximately 400 of our employees. Furthermore virtual challenges were organised, where around 2,200 participants were motivated to make healthy choices such as a daily walk or attending events to remain connected with other team members. In total, almost 3,500 participants took part in the Always Energy programme.

2.3.3. Safety

Ensuring a safe working environment for the people working for and with us, is a key prerequisite in our work, every day. It is the foundation for everything we do for our workforce as none of this matters if they do not return home safely. We are keenly aware of the risks associated with our activities. Safety has multiple aspects, in the physical sense as well as from a psychological sense. Our aim regarding safety at TenneT is simple: we want all people working for TenneT to come home safe every day and aim for Zero Harm in the workplace.

TenneT promotes "8 Life Saving Rules" that all employees, in the office and on project sites, are regularly made aware of. These rules relate to the main safety hazards, such as working with electrical installations or working at height and promote the use of protective gear and following safety guidelines. Work-related hazards within specific departments are determined through risk assessments. A risk assessment identifies and evaluates risks related to work-related activities in that department. It also establishes guidelines on how to manage these risks and how to report on (potential) incidents. All incidents are recorded in our incident reporting system, Zenya. All actual and potential severe and fatal incidents require a mandatory investigation.

Our safety department also reports on situations with an increased likelihood of incidents such as the location of the incident, the department involved or the time of day. Based on insights from incident investigations, measures are defined and implemented to prevent future incidents.

Our safety performance is presented in the tables below,which includes (potential) incidents related to employees and contractors and is presented on group level as well as per country.

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
LTIF	0.7	4.0	2.4	1.2	5.3	3.1	2.0	5.8	3.2
TRIR	2.0	6.6	4.4	3.2	8.7	5.8	1.0	6.5	4.1
High consequence incidents	2	2	4	1	5	6			
Fatalities	-	2	2	-	3	3	-	2	2

2.4. Create value to transition to a climate neutral economy

As a European TSO, TenneT creates value for society by driving the energy transition and delivering a future-proof electricity system. We contribute to this through our assets, knowledge and innovations to build a reliable and affordable future-proof grid that supports society's net zero ambitions. In addition to this, we want to act as a green and responsible grid operator. Through our nature, climate and circularity ambitions, we aim to shape what we believe is necessary for a responsible growth path. With these ambitions, we can take ownership for our impact and show leadership.

2.4.1. Climate

We present our gross CO_2 footprint for 2022, 2021 and 2020 in three scopes: direct emissions from our own operations; indirect emissions related to purchased energy; and indirect emissions related topurchased goods and services . Our net carbon footprint takes into account our measures to green our impact using carbon offsets or guarantees of origin. Our calculations are based on the *CO_2 Footprint Network Operators Manual of the Association of Energy Network Operators* in the Netherlands, and conversion factors from CO_2 emissiefactoren[1] and the "Entwicklung der spezifischen Kohlendioxid- Emissionen des deutschen Strommix in den Jahren 1990 bis 2021"[2]. The detailed carbon footprint of 2022 is presented below. The adjusted 2021 and 2020 figures can be found in the Appendix.

[1] https://www.co2emissiefactoren.nl/lijst-emissiefactoren/
[2] https://www.umweltbundesamt.de/publikationen/entwicklung-der-spezifischen-kohlendioxid-8

2022						
Scope 1			**conversionfactor**		**emissions in tonnes CO_2e**	**net emissions in tonnes CO_2e**
Lease						
22,398,067	km	DE	0.000145	tonne CO_2e/km	3,248	3,248
16,143,254	km	NL	0.000145	tonne CO_2e/km	2,341	2,341
Total Lease					**5,588**	**5,588**
Gas use offices						
4.15	GWh	DE	182.4	tonnes CO_2e/GWh	757	
289,397.00	m3	NL	0.001782	tonne CO_2e/m^3	516	-
Total energy use office					**1,273**	**-**
SF6 leakage						
74.30	kg	DE	23.5	tonne CO_2e/kg SF_6	1,746	1,746
887.80	kg	NL	23.5	tonne CO_2e/kg SF_6	20,863	15,274
Total SF6 leakage					**22,609**	**17,020**
Total Scope 1					**29,471**	**22,609**
Scope 2						
Electricity use offices						
2.16	GWh	DE	420	tonne CO_2e/GWh	907	
7.67	GWh	NL	396	tonne CO_2e/GWh	3,037	-
Total Electricity use offices					**3,943**	**-**
Grid losses						
4,243.00	GWh	DE	420	tonne CO_2e/GWh	1,782,060	1,626,792
1,588.91	GWh	NL	396	tonne CO_2e/GWh	629,208	-
Total grid losses					**2,411,268**	**1,626,792**
Electricity use stations						
201	GWh	DE	420	tonne CO_2e/GWh	84,529	
21	GWh	NL	396	tonne CO_2e/GWh	8,158	-
Total Electricity use stations					**92,687**	**-**
Total Scope 2					**2,507,899**	**1,626,792**
Scope 3						
Business and commute						
4,850,000	km	DE	0.000145	tonne CO_2e/km	703	703
5,435,583	km	NL	0.000145	tonne CO_2e/km	788	788
Total business and commute					**1,491**	**1,491**
Air travel						
3,294,912	km	DE	0.000202	tonne CO_2e/km	666	666
3,512,456	km	NL	0.000202	tonne CO_2e/km	710	710
Total air travel					**1,375**	**1,375**
Train						
6,172,484	km	DE	0.000002	tonne CO_2e/km	12	12
1,699,403	km	NL	0.000002	tonne CO_2e/km	3	3
Total Train					**16**	**16**
Offshore transport						
Helicopters						
710,340	l	DE	0.002507	tonne CO_2e/l	1,781	1,781
Supply vessels						
-	l	DE		tonne CO_2	5,280	5,280
Total offshore transport					**7,061**	**7,061**
Total Scope 3					**9,943**	**9,943**
Total					**2,547,312**	**1,659,344**

Grid losses

TenneT's main impact with respect to climate is related to grid losses. Around 95% of our carbon footprint is related to this. Grid losses are calculated as the difference between the amounts of the electricity produced entering our transmission system and the amount that leaves our system for consumption. The grid losses presented per country and voltage level can be found in the table below.

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
110/150 kV									
Grid losses (GWh)	314	N/A	314	317	N/A	317	375	N/A	375
Transported (GWh)	77,596	N/A	77,596	80,814	N/A	80,814	82,791	N/A	82,791
% grid losses of transported GWh	0.40%	**N/A**	0.40%	0.39%	**N/A**	0.39%	**0.45%**	**N/A**	**0.45%**
220/380 kV									
Grid losses (GWh)	1,181	4,243	5,424	1,162	4,126	5,288	952	4,209	5,161
Transported GWh	74,271	178,867	253,138	78,686	180,905	259,591	71,457	173,023	244,480
% grid losses of transported GWh	1.59%	2.37%	2.14%	1.48%	2.28%	2.04%	**1.33%**	**2.43%**	**2.11%**
Grid losses interconnections (GWh)	95		95						
Total grid losses (GWh)	1,590	4,243	5,833	1,479	4,126	5,605	**1,327**	**4,209**	**5,536**

SF_6

SF_6 is used in high-voltage equipment on substations because it is an excellent electrical insulator and necessary for interrupting currents in circuit breakers. However, SF_6 is a strong contributor to greenhouse gas emissions, as it is over 23,000 times more polluting than CO_2. Below the leaked and banked amounts are reported.

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
SF_6 leaked (kg)	888	74	962	883	116	999	995	102	1,097
SF_6 banked (kg)	192,589	290,257	482,846	183,423	268,032	451,455	175,696	272,373	448,069
SF_6 leaked %	**0.46%**	**0.03%**	**0.20%**	**0.48%**	**0.04%**	**0.22%**	**0.57%**	**0.04%**	**0.24%**

2.4.2. Circularity

As part of our strategy to drive the energy transition and lead as a green grid operator, we have included our ambition to minimise use of scarce materials, reusing materials and reducing waste in our operations. To this extent, we are currently working on obtaining more insights in the materials we use by means of obtaining material passports from our suppliers and identifying all sources of waste.
Based on the insights currently available, we have estimated a range for both metrics. For waste, thisrelates to the available 2022 data of our offices, onshore- and offshore operations and onshore projects. In the coming years, we aim to improve data quality and gain more data, for example on ouroffshore projects. For virgin copper, we gained more insight this year into raw material passports obtained from suppliers, and on the use of virgin copper in our transformers and cables. We aim to reduce both the use of virgin copper, as well as non-recyclable waste with 25% by 2025 compared to2020.

2.4.3. Nature

Environmental incidents and oil leakages

With our operations we have an impact on nature. We recognise that we have a responsibility to care for the well-being of the natural environment and are therefore transparent about our negative environmental impacts. We measure the number of environmental incidents and the litres of oil leaked from our cables. Unlike our newer onshore and offshore assets, cables from older parts of the onshore grid, especially in the Netherlands, are more prone to leak oil. We regret these instances where oil was leaked and always monitor our assets closely to learn from the root causes and take appropriate measures to prevent leakage or mitigate the impact of the leakage.

	2022			2021			2020		
	NL	D	Total	NL	D	Total	NL	D	Total
Oil Leaked (litres)	2,866	-	2,866	1,798	-	1,798	5,391	-	5,391
Environmental incidents	49	52	101	40	41	81	29	28	57

2.5. Safeguard sustainable financial performance and investor ratings

We notice that there is a growing interest from the investor community with respect to our Environmental Social and Governance (ESG) policies and performance. This growing interest is also visible when it comes to our green bonds and other forms of green financing.

In 2022, Standard & Poor's has performed an ESG evaluation, an assessment of its ability to operate successfully, now and in the future. Standard & Poor's awarded TenneT with a score of 86 out of 100, and ‘Strong’ classification. For more information with respect to this ESG evaluation, please read the full report. In 2021, Sustainalytics performed their ESG evaluation and ranked us in the 'low risk' categories, amongst the frontrunners in our sector.

To finance its renewable energy activities, TenneT has developed a Green Financing Framework, which is aligned to the ICMA Green Bond Principles published in June 2018 and the LMA Green Loan Principles published in December 2018. As part of this framework, we have committed ourselves to report on certain performance data with respect to our green financing instruments issued. That is why we publish our Green Finance Report on an annual basis. Here we provide information on the advancement of proceeds and projects, as well as performance information regarding the projects included in the Green Finance portfolio such as the environmental and safety performance of these projects. Our 2022 Green Finance Report is available on our website.

2.6. Solve societal challenges with stakeholders and through partnerships

We believe in the power of partnerships and that these are crucial in achieving our goals with respect to the future energy landscape and helping society transition to a low carbon economy. We are working with many stakeholders to find solutions and solve these societal challenges. As we have many partnerships, we have highlighted a selection of this in the overview below.

Partner	Logo	Description
Drive the energy transition		
North Sea Wind Power Hub		A partnership together with Energinet, Gasunie and the Port of Rotterdam to evaluate and develop technical concepts for an internationally coordinated roll out of 'hub-and-spoke' powerhubs in the North Sea to help shape a more integrated European energy market.
Groene Netten coalition	MVO NEDERLAND	An initiative of MVO Nederland is the Groene Netten coalition. Here key infrastructure companies are working together with the aim to accelerate aspects with respect to sustainable practices, such as circularity and energy reduction. https://www.groenenetten.org/groene-netten/home/
Equigy	EQUIGY	TenneT has teamed up with other TSOs in Italy and Switzerland to create a European crowd-balancing joint-venture, called Equigy. This platform uses blockchain technology to register and validate a multitude of transactions with owners of distributed energy sources. It gives TSOs visibility of the flexible capacity offered by home-storage devices and allows them to manage the transactions securely. So far, Equigy has been launched in the Netherlands, Germany, Italy, and Switzerland, but it is a platform designed to accommodate a bigger scale. The plan is for it to progressively roll out in other European countries and discussions with other TSOs and partners (manufacturers of electric appliances and aggregators) are ongoing. For more information on Equigy: www.equigy.com.
GOPACS	GOPACS	A partnership with the Dutch Distribution System Operators (DSOs) to launch a new smart solution to reduce congestion in the electricity grid by using flexible power from the market.
Cigre, workgroup corridor management	cigré INTERNATIONAL COUNCIL ON LARGE ELECTRIC SYSTEMS	Cigre is an international non-profit association for promoting collaboration with experts from all around the world by sharing knowledge and joining forces to improve electric power systems of today and tomorrow. One of the working groups focusses on biodiversity and landscape to have effective corridor management.
Secure supply, today and tomorrow		
Innosys 2030	InnoSys 2030	TenneT is working with partners to find new solutions to help shape the future energy landscape. This programme was initiated by the German government and the four German TSOs to find innovative solutions to boost grid flexibility and automation, thereby allowing existing grid networks to handle greater capacity while ensuring security of supply and preventing system failure. InnoSys aims to design future-proof electricity systems, optimised for the complexities of renewable energy in the years ahead.
ENTSO-E	entsoe	TenneT works together with other TSOs in the European Network of Transmission System Operators for Electricity (ENTSO-E). This is a collaboration of 39 TSOs from 35 countries working together in key areas including establishing technical and market-related network codes, coordinating plans to develop European infrastructure and promoting technical cooperation between TSOs. As a member of ENTSO-E, TenneT is helping to build a more integrated European electricity market, contributing to a sustainable energy landscape, and ensuring electricity in Europe is affordable, sustainable and secure.
Netbeheer Nederland	Netbeheer Nederland	TenneT is a member of Netbeheer Nederland, the association of electricity and gas grid operators in the Netherlands. Netbeheer Nederland aims to facilitate cooperation between these grid operators representing the interests of its members in conversations with other stakeholders.
Energise our people and organisation		
Refugee Talent Hub	Refugee Talent Hub	To find qualified refugee talents in the Netherlands, TenneT partnered up with the Refugee Talent Hub and TENT Partnership – both initiatives linking refugee talent and employers, with paid employment as the goal. The Refugee Talent Hub and TENT Partnership provide a network, bringing affiliated employers into contact with job-seeking newcomers through small-scale, customised meet & greet meetings.
TENT	TENT	

Partner	Logo	Description
Integrated High Voltage Laboratory with TU Delft		TenneT is working together with TU Delft via the Integrated High-Voltage Laboratory at TU Delft. Through this, TenneT can gain insight into the latest knowledge and research undertaken by Masters and PhD, who are the talent of the future.
Safeguard our financial health		
Cooperation with co-investors		To finance the expansion of offshore grid connections, TenneT cooperates with external co-investors such as Copenhagen Infrastructure Partners (CIP) and Chubu Electric Power. Via separate legal entities the co-investors contribute equity and receive economic participation rights in return. Their contribution helps to ensure adequate financial ratios. Furthermore their participation strengthens TenneT's interest in a reliable and stable regulatory framework as reasonable co-investors interests are communicated towards policy makers and regulators.
Cooperation related to our Revolving Credit Facility		ABN AMRO, BNG, BNP Paribas, Commerzbank, Deutsche Bank, HSBC, ING, Rabobank, NatWest, Santander, UniCredit and SMBC are participating in our sustainable Revolving Credit Facility (RCF). The majority of these house banks also participated in TenneT's 2009 RCF, showing our commitment to long-term relationships.

Appendix

Adjusted 2021						
Scope 1			conversionfactor		emissions in tonnes CO_2e	net emissions in tonnes CO_2e
Lease						
14,688,260	km	DE	0.000145	tonne CO_2e/km	2,130	2,130
13,916,028	km	NL	0.000145	tonne CO_2e/km	2,018	2,018
Total Lease					**4,148**	**4,148**
Gas use offices						
6.42	GWh	DE	182.4	tonnes CO_2e/GWh	1,171	
324,825.00	m3	NL	0.001782	tonne CO_2e/m^3	579	-
Total energy use office					**1,750**	**-**
SF6 leakage						
116.38	kg	DE	23.5	tonne CO_2e/kg SF_6	2,735	2,735
883.00	kg	NL	23.5	tonne CO_2e/kg SF_6	20,751	20,751
Total SF6 leakage					**23,485**	**23,485**
Total Scope 1					**29,383**	**27,633**
Scope 2						
Electricity use offices						
3.83	GWh	DE	420	tonne CO_2e/GWh	1,609	
6.50	GWh	NL	396	tonne CO_2e/GWh	2,574	-
Total Electricity use offices					**4,183**	**-**
Grid losses						
4,125.88	GWh	DE	420	tonne CO_2e/GWh	1,732,870	779,791
1,479.00	GWh	NL	396	tonne CO_2e/GWh	585,684	-
Total grid losses					**2,318,554**	**779,791**
Electricity use stations						
215	GWh	DE	420	tonne CO_2e/GWh	90,300	
20	GWh	NL	396	tonne CO_2e/GWh	7,920	-
Total Electricity use stations					**98,220**	**-**
Total Scope 2					**2,420,956**	**779,791**
Scope 3						
Business and commute						
4,262,500	km	DE	0.000145	tonne CO_2e/km	618	618
3,962,131	km	NL	0.000145	tonne CO_2e/km	575	575
Total business and commute					**1,193**	**1,193**
Air travel						
492,483	km	DE	0.000202	tonne CO_2e/km	99	99
3,375,876	km	NL	0.000202	tonne CO_2e/km	682	682
Total air travel					**781**	**781**
Train						
1,295,075	km	DE	0.000002	tonne CO_2e/km	3	3
641,040	km	NL	0.000002	tonne CO_2e/km	1	1
Total Train					**4**	**4**
Offshore transport						
Helicopters						
613,983	l	DE	0.002507	tonne CO_2e/l	1,539	1,539
Supply vessels						
1,717,250	l	DE	0.002719	tonne CO_2e/l	4,669	4,669
Total offshore transport					**6,208**	**6,208**
Total Scope 3					**8,186**	**8,186**
Total					**2,458,525**	**815,611**
					tonne CO_2e	tonne CO_2e

Adjusted 2020							
Scope 1			**conversionfactor**			**emissions in tonnes CO_2e**	**net emissions in tonnes CO_2e**
Lease							
14,049,895	km	DE	0.000145	tonne CO_2e/km		2,037	2,037
12,758,727	km	NL	0.000145	tonne CO_2e/km		1,850	1,850
Total Lease						**3,887**	**3,887**
Gas use offices							
7.17	GWh	DE	182.4	tonnes CO_2e/GWh		1,308	1,308
133,934.50	m3	NL	0.001782	tonne CO_2e/m^3		239	-
Total energy use office						**1,547**	**1,308**
SF6 leakage							
102.11	kg	DE	23.5	tonne CO_2e/kg SF_6		2,400	2,400
994.86	kg	NL	23.5	tonne CO_2e/kg SF_6		23,379	23,379
Total SF6 leakage						**25,779**	**25,779**
Total Scope 1						**31,213**	**30,974**
Scope 2							
Electricity use offices							
4.35	GWh	DE	420	tonne CO_2e/GWh		1,827	-
6.35	GWh	NL	396	tonne CO_2e/GWh		2,515	-
Total Electricity use offices						**4,342**	**-**
Grid losses							
4,208.00	GWh	DE	420	tonne CO_2e/GWh		1,767,360	795,312
1,321.69	GWh	NL	396	tonne CO_2e/GWh		523,389	-
Total grid losses						**2,290,749**	**795,312**
Electricity use stations							
197	GWh	DE	420	tonne CO_2e/GWh		82,740	
20	GWh	NL	396	tonne CO_2e/GWh		7,831	-
Total Electricity use stations						**90,571**	**-**
Total Scope 2						**2,385,662**	**795,312**
Scope 3							
Business and commute							
14,475,000	km	DE	0.000145	tonne CO_2e/km		2,099	2,099
8,194,361	km	NL	0.000145	tonne CO_2e/km		1,188	1,188
Total business and commute						**3,287**	**3,287**
Air travel							
703,396	km	DE	0.000202	tonne CO_2e/km		142	142
2,502,177	km	NL	0.000202	tonne CO_2e/km		505	505
Total air travel						**647**	**647**
Train							
1,385,011	km	DE	0.000002	tonne CO_2e/km		3	3
823,779	km	NL	0.000002	tonne CO_2e/km		2	2
Total Train						**5**	**5**
Offshore transport							
Helicopters							
613,983	l	DE	0.002507	tonne CO_2e/l		1,539	1,539
Supply vessels							
1,717,250	l	DE	0.002719	tonne CO_2e/l		4,669	4,669
Total offshore transport						**6,208**	**6,208**
Total Scope 3						**10,147**	**10,147**
Total						**2,427,022**	**836,433**
						tonne CO_2e	tonne CO_2e