



Adtran

ESG report

2023



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Foreword from our CEO

Sustainability is not new to us. Product energy efficiency, energy reduction in our operations, elimination of hazardous substances, giving back to the communities, and strong corporate governance practices, have been focal points for us for decades. This is now complemented by our focus on the material environmental aspects of climate change and circular economy.

As a publicly traded global company, we believe in transparency and realize the importance of sharing information about our ESG efforts with our stakeholders. These efforts will help shape our success moving forward. It details our ESG efforts and sets goals for the future.

From our founding, we have had the mission to be a trusted provider of global communications solutions, to develop innovative technologies used to create products and services that make communications simpler and more affordable for people everywhere and to foster an entrepreneurial environment supported by enthusiastic employees who exhibit an unwavering commitment to personal integrity and support our customers beyond expectations. It is our belief that to achieve this mission, we must approach everything we do with a sustainable mindset. We must continually ask ourselves how we can improve communication to meet the needs of our customers without having a negative impact on the world around us.

The most relevant action in 2023 was the submission of our joint Net Zero targets to the Science Based Targets initiative, following Adtran's and ADVA's commitment there in late 2022. The related climate targets are ambitious, aiming at achieving the Net Zero status clearly before 2050, the target year of the Paris Agreement.

I look forward to sharing our progress with you moving forward. Sustainability is not something that can be achieved alone. It will take each of us doing our part to ensure the future of our planet for future generations.

Thomas R Stanton
Chairman and CEO
Adtran Holdings, Inc. group





The four chapters of this ESG report

Our 2023 ESG report is divided into four main chapters. Chapter 1 contains the Adtran Net-Zero Transition Plan, according to requirements from CDP. We report this voluntarily because we regard this aspect very relevant.

Chapter 2 contains the TCFD report, according to requirements from the TCFD. This is also voluntary reporting. We regard the TCFD report and its structure relevant. In addition, it adds the scenario analyses and a detailed climate-related risk assessment.

Chapter 3 comprises the combined separate non-financial report for Adtran Networks SE in accordance with section § 315b paragraph 3 of the German Commercial Code (HGB) and is referred to below as the “non-financial report” for the sake of simplicity. This non-financial report is prepared in accordance with §§ 315b and 315c, in conjunction with 289c to 289e HGB and serves to meet the requirements of the CSR Directive Implementation Act and is subject to a voluntary limited assurance in accordance with ISAE 3000 (Revised). Only the non-financial report in Chapter 3 and the EU taxonomy Regulation report in Chapter 4 are subject to this assurance engagement. All information in chapters 1 and 2 of the ESG report does not belong to the non-financial report and is not part of the limited assurance.

Chapter 3 contains the relevant environmental, social and governance information for Adtran.

Chapter 3 also includes voluntary information for the Adtran Holdings, Inc. group. This is true for certain indicated quantitative and qualitative information, which is not subject to the limited-assurance engagement. Qualitative statements are valid for both, Adtran Networks SE and Adtran Holdings, Inc. group, unless indicated otherwise.

Chapter 4 comprises the EU Taxonomy Regulation report for Adtran Networks SE. This report is part of the non-financial report and as such, subject to the limited-assurance engagement.

“We successfully followed and achieved highest energy efficiency in the ecodesign of our products since years. Now we balance it with resource efficiency, circularity where possible, and consideration of the optimum product lifetime.”

Christoph Glingener



1. Adtran Net-Zero Transition Plan

1.1 About us

Adtran develops, manufactures and sells solutions for a modern telecommunications infrastructure. As such, the group's products enable communication between people globally by constituting substantial parts of the backbone and the backhaul and access parts of one of today's most important and critical infrastructures.

Adtran has a globally distributed supply chain. Production focuses on the USA, the EU, and Asia. In addition to procurement and production, there are important process-based activities in the areas of SAFe (scaled agile framework), sales and marketing, quality assurance, compliance, sustainability, and IT.

Our products for the communication infrastructure address the UN Sustainable Development Goal (SDG) No. 9, Industry, innovation and infrastructure. In this way, we address key social aspects, including security against eavesdropping and physical failures of this infrastructure.

The telecommunications infrastructure is an important enabler for massive emission savings in other sectors such as energy networks, the transport sector or building technology. Our products thus indirectly serve the UN SDGs 7 and 11, Affordable and Clean Energy and Sustainable Cities and Communities, respectively. Moreover, SDG 13, Climate action, is also efficiently supported by the considerable emission-savings potential that is enabled by our products.

The group's addressable market encompasses several applications for fiber-optic transmission technology, Ethernet and passive-optical access and aggregation technology, solutions for network virtualization, encryption, synchronization and monitoring, and the

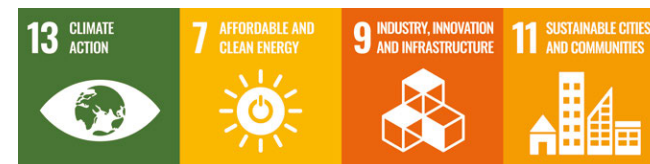
software that is required for save and secure networks operations. These markets are globally distributed, with a focus on the US and Europe.

We serve our customers both, directly and through OEM partners and value-added resellers (VARs). As an infrastructure-equipment provider, our customers are network and data-center operators and large enterprises with their own telecommunications infrastructure.

The business models range from the pure sale of the products, the sale of the products together with associated maintenance contracts, to the operation of products. It is a strategic company goal to expand the service share of sales.

The demand for the group's infrastructure solutions is driven by the global ICT (information and communication technology) trends including cloud computing, mobility (now 5G, in the future 6G), IoT/M2M (internet of things, machine-to-machine), Industry 4.0, big data and high-performance computing (HPC), AR/VR (augmented reality/virtual reality), as well as intelligent power grids and smart cities and buildings. IWe assume the demand for ICT infrastructure solutions, through both climate-change mitigation and adaptation will increase as a result of the Greening-by-ICT effects that are enabled.

Adtran operates more than 40 sites in 25 countries. The group runs major sites in the USA, Germany, Poland, the United Kingdom, Israel, and China.



SDGs addressed by Adtran

1.2 About this Plan

Following the successful Adtran-ADVA merger in early 2023, this Net Zero Transition Plan has been established.

The aim of this Net Zero Transition Plan is to provide Adtran's stakeholders with clarity around the actions Adtran intends to take towards achieving its Net Zero ambitions in between 2034 and 2048. It is not intended to be an update on progress made so far. Progress against this Net Zero Transition Plan will be detailed within Adtran's ESG Report and, from 2025, in the Annual Report.

The transition Plan is part of Adtran's long-term sustainability strategy. The company has announced its commitment to achieving Net Zero targets, and has submitted the detailed targets to the SBTi in 2023. As an intermediate step, we extend the older ADVA 1.5°C SBTi targets to the complete company. Meeting these targets will allow Adtran to achieve a balance between its activity and the conservation of the environment.

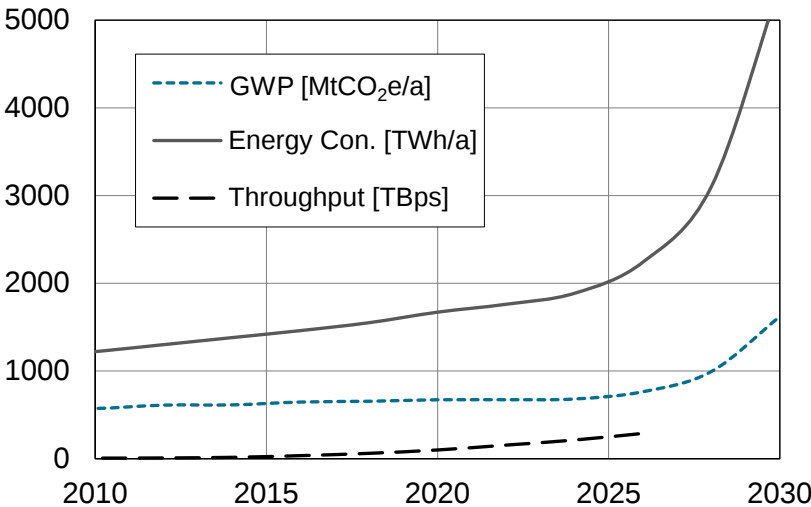
The main objective of Adtran's Transition Plan is to lay the foundations for achieving the Net Zero target in 2034 (Scopes 1 and 2) and 2048 (Scope 3), respectively. Moreover, we will promote the reduction of other emissions from stakeholders by working collaboratively with our value chain.

The transition Plan defines the programs, initiatives and specific projects to be implemented until 2034/2048 and assesses the contribution of each of the projects to the achievement of the global emissions reduction target.

The Transition Plan is a multi-year plan that is aligned with regulatory requirements at European level, objectives of the Paris Agreement, and the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD).

1.3 Our context

Adtran's products are part of the global Internet or ICT sector. They are therefore part of an industry that consumes more than 2% of the electricity generated worldwide, and the trend is rising. This increase is a result of the persistent rise in Internet bit rates. As a consequence of the electricity consumption, emissions from the ICT sector are also increasing. This is summarized in the diagram below.

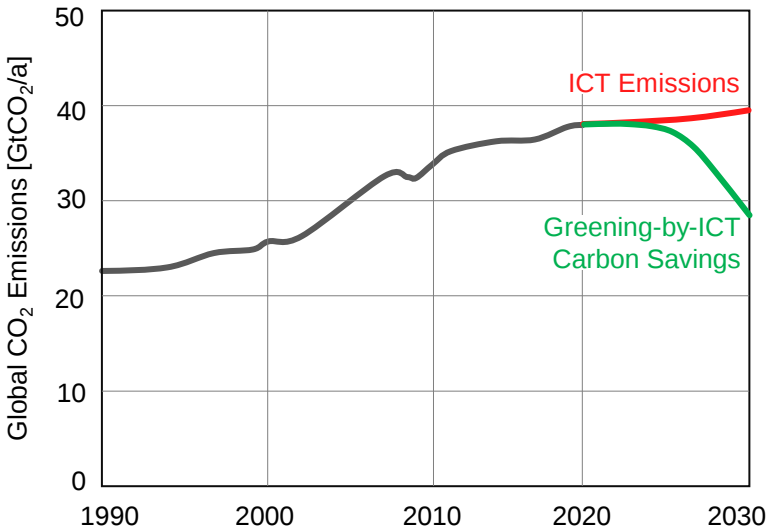


Internet throughput in terabytes per second (broken line, based on the Cisco VNI), projection of global ICT energy consumption in terawatt hours per year (solid black line, based on [Andrae, Feb. 2019, DOI: 10.13140/RG.2.2.25103.02724]) and the resulting CO₂ emissions (GWP, Global Warming Potential, red line).

From the diagram and the references used, a fundamental problem in the ICT sector can be derived: despite all efforts in terms of device efficiency, energy consumption and the associated CO₂ emissions are increasing. This is especially true for the network and data-center sub-areas, less so for the sub-area of ICT devices from private end customers. It is predicted that this growth will continue for the next few years.

This leads to the requirement of continuous improvements of the network equipment in terms of energy efficiency and emissions and is one of the main reasons for our focus on corresponding ecodesign and for Adtran's participation at the Science Based Targets initiative.

The ICT sector is one of the critical infrastructures. It enables the significant reduction of global greenhouse gas emissions in various other sectors such as transport and logistics, traffic, energy networks and agriculture. According to GeSI, the savings potential is up to 10 times higher than ICT's own emissions. This is sometimes referred to as Greening-by-ICT. It is one of the few known ways to significantly reduce global energy consumption and the associated emissions. This is shown below on the basis of global greenhouse-gas emissions.



Global greenhouse gas emissions according to [ourworldindata.org/co₂-and-other-greenhouse-gas-emissions] and the ICT emissions from the previous diagram as well as the possible emission savings according to #SMARTer2030 – ICT Solutions for 21st Century Challenges from GeSI.

Within the ICT wireline networks sector, Adtran ranks amongst the 10 largest suppliers globally in the sub-segments optical networking, access switching and passive optical access. Since the wireline-networks segment also contains routing and core switching, none of which is covered by the group's portfolio, the total impact of our products to the wireline-networks sub-segment is <10%. Likewise, Adtran's contribution to total global ICT emissions is less than 1%.

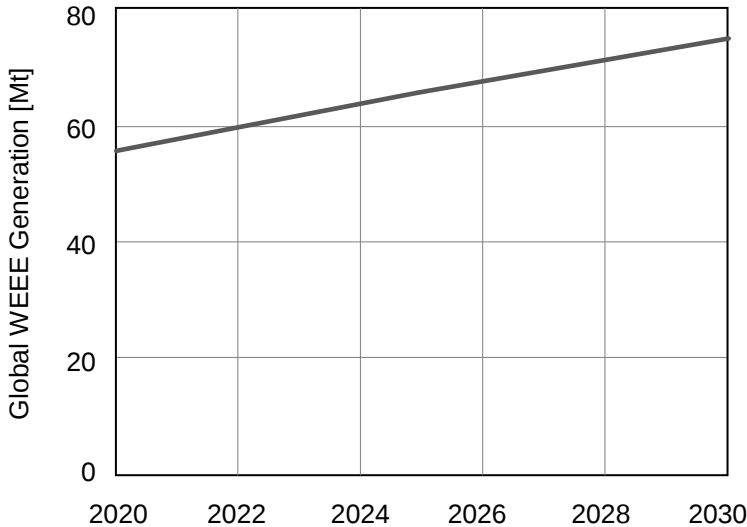
According to our materiality analysis of the non-financial report, our reporting on greenhouse-gas emissions, the combined context analysis of the environmental and energy management systems, and the comprehensive lifecycle assessments of our portfolio, energy consumption and the related emissions are the main environmental impacts of our ICT devices and our entire doing.

However, there are other environmental impacts. According to the analyses mentioned, the next most important effects are those that result from the raw-material consumption in the manufacture of the devices and the related generation of WEEE (Waste Electronic & Electrical Equipment). These can be positively influenced by appropriate mechanisms of circular economy.

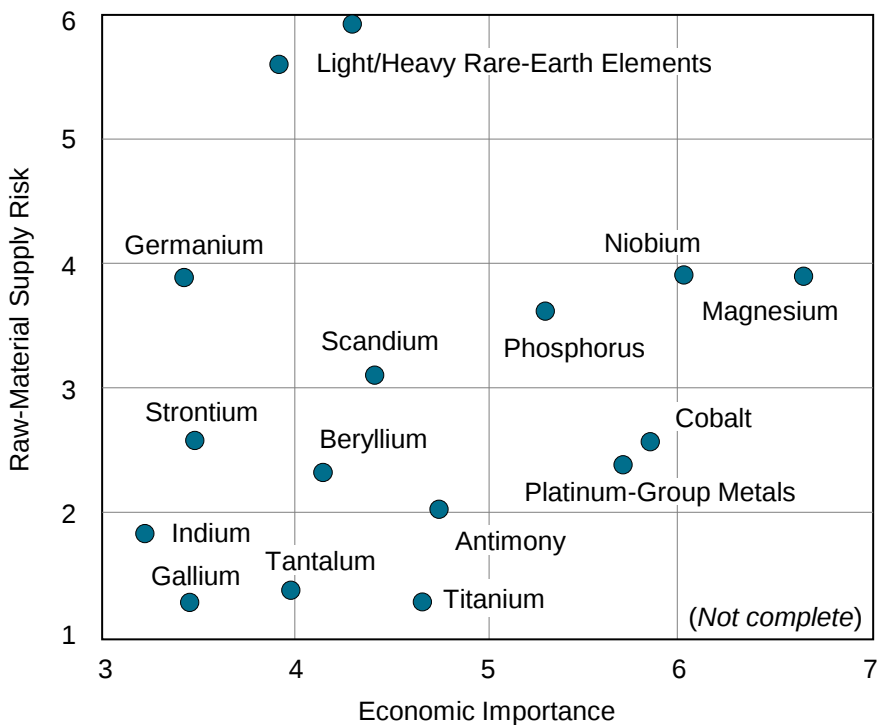


The forecast for global WEEE generation is shown below. The diagram shows that WEEE generation is expected to increase. In addition, WEEE has a complex material composition, which makes efficient recovery of valuable materials a challenging task.

This recovery is critical due to the raw-material situation. The EU list of critical raw materials from 2020 is shown in the next graph. Many of the critical raw materials are essential for the ICT sector, such as metals of the platinum group, rare earth elements, gallium, germanium, etc.



Global volume of electronic waste according to [O.S. Shittu, I.D. Williams, P.J. Shaw, "Global E-waste management: Can WEEE make a difference? A review of e-waste trends, legislation, contemporary issues and future challenges," Waste Management, Vol. 120, Feb. 2021, pp. 549-563, <https://doi.org/10.1016/j.wasman.2020.10.016>].



The EU 2020 Critical Raw Materials list.

Other ICT environmental impacts include (human, ecosystem) toxicity, water consumption and a few more. These are recorded in product lifecycle assessments but are only of secondary importance relative to energy consumption and the related emissions.

Finally, in connection with corporate social responsibility (CSR), there are the aspects of work, health and safety as well as some other aspects such as conflict minerals, modern slavery or corruption. Altogether, they necessitate a holistic approach to sustainability in ICT.

1.4 Governance

Adtran is organized according to the two-tier system. This means that in addition to the shareholders that are organized in the annual general meeting (AGM), it has

two organs of action: the management board as the executive body and the supervisory board as the supervisory body.

The management board is led by the CEO. The responsibility for ESG-related governance functions is with the VP Corporate Quality and Sustainability, who directly reports to the CEO. A Sr. Dir. Global Sustainability is reporting to the VP Corporate Quality and Sustainability and is responsible for the ESG matters and as such, for the environmental aspects of emissions and their reductions.

In addition to the management board, there is an international three-person ESG Committee in the supervisory board. The ESG Committee is also responsible for the review and endorsement of the



group's annual ESG report. As such, the supervisory board is the highest governance body to review the impact, risk and opportunity analyses, and the ESG strategy including their effectiveness.

Consultation of shareholders is organized via the AGM. Regular consultation of other relevant stakeholder groups (e.g., customers) is, e.g., done via a structured customer satisfaction survey. Where relevant, immediate customer or other stakeholder feedback is provided to the management board. In addition, members of the management board may also directly consult with dedicated stakeholders (e.g., strategic customers).

The review of emissions, other ESG aspects, and the impact, risk, opportunity and materiality analyses is performed regularly (at least once per year) and in line with defined management processes.

More details on governance can also be found on **page 19**.

1.5 Strategy and initiatives

Adtran's Transition Plan is deeply integrated into our business strategy. Most importantly, the aspects related to our Scope-3 targets are reflected in product ecodesign, including lifecycle assessments (LCA), which is strategic part of our product development. This is particularly relevant since the product-related Scope-3 emissions are our highest emissions contributions.

The product-related emissions-reduction activities can be split into targets which address emissions reductions and circular economy. The product-related targets are complemented by Scope-1 and Scope-2 Net Zero targets, which have been submitted to the SBTi in late 2023.

Circular-economy activities primarily look at material efficiency and indirectly support emissions reductions as well. Moreover, they include relevant parts of the value chain, namely customers and suppliers.

An overview on the most relevant targets, which constitute the core of our ESG strategy and are included in our business strategy, is given in the following table.

The emissions-related targets are complemented by a strategic energy-consumption reduction target. Here, we aim at the reduction of the total Adtran electricity consumption by 10 % in 2030, compared to 2022.

The targets cover the critical area of achieving carbon neutrality and cover the value chain and relevant circular-economy aspects. As such, they also cover Adtran departments like R&D, Operations, Facilities and, indirectly, Sales.

More details on the Net Zero and value-chain targets follow later in this Transition Plan.

1.6 Scenario analyses

Please refer to the chapter **“2.5 Scenario analyses” on page 13** of the TCFD report.

1.7 Finance planning and low-carbon products

More than 20% of the company's total revenue is generated with energy-efficient products. As eligibility criterion for product energy efficiency, we use the conformity of the respective products with the highest efficiency class according to relevant and credible telecommunications equipment energy-efficiency rating (TEEER) standards. Since these products fulfil the highest efficiency requirements, they qualify as low-carbon products.

Related to enabled mitigation activities – Greening-by-ICT in other sectors – Adtran claims a global share according to being one of the 10 largest manufacturers of telecommunications-infrastructure equipment in the world. A similar share related to enabled climate-change adaptation activities can be assigned to Adtran. Here, adaptation is enabled by the resilience, protection and restoration capabilities of our products.

These enabled activities are part of our low-carbon-products revenue.

Product development related to energy efficiency and low carbon emissions is a perpetual part of our OpEx. We estimate that a maximum of 2 million USD in 2023 can be assigned to these activities. This activity is ongoing, with no end date planned. In line with our business and product strategy, we plan to at least maintain that level of OpEx for energy-efficient and low-carbon products in the future. Following increasing regulatory and customers' requirements, it is likely that this amount will be increased near-term.

Own circular-economy activities include the respective share of circular-economy related ecodesign activities as well as the take-back and recycling process that we conduct at several locations.

Ecodesign for circular economy includes the sub-aspects design for disassembly, design for maintenance, design for longevity, guidelines for the use of plastic, and design for recycling. However, so far the focus of our ecodesign has been primarily on energy efficiency due to the dominance of the use phase of our products on their LCA. Therefore, it is not yet possible to estimate our expenditures for circular-economy-related ecodesign.

Our maintenance, return and recycling processes include the activities of (reverse) logistics, maintenance and repair, the analysis of products and their components as well as the creation and management of certain component stocks derived from them. Overall, several employees are bound by these activities. The operational costs for this amounted to ~15 million USD in 2023. This activity is ongoing, with no end date planned. In line with our business and product strategy, and with increasing customer require-

Environmental aspects and main targets

Aspect	Targets in more detail
Energy consumption, emissions, and climate change	SBTi near-term and Net Zero long-term targets Highest product-portfolio energy efficiency Strategic energy-consumption reduction target
Circular economy and value chain	Supplier response rate in IntegrityNext of >80 % (2025), >90 % (2030), >98 % (2035) Bilateral climate-change engagement with selected suppliers, 25 suppliers in 2024 LCA coverage of all new products



ments, we plan to extend this business and hence, the related operational cost.

The reuse of components also results in certain cost savings. As new and already used components cannot be compared to each other, these savings cannot be stated exactly.

1.8 Engagement

1.8.1 Value-chain engagement
(also see **chapter 1.5**)

Adtran engages with all players in its value chain. This holds for both sides, our customers and our suppliers. We are in bilateral discussions with several customers, figuring out ways for further emissions reductions in their networks or data centers or further increasing product and packaging material efficiency.

Similarly, we engage with our supply chain in an attempt to reducing our upstream Scope-3 emissions. For selected suppliers, this is done bilaterally, in general it is based on the platform IntegrityNext. We defined a related KPI for the emissions-related response rate for this platform. The respective response-rate targets are >80 % (2025), >90 % (2030), and >98 % (2035). A second KPI has been defined for the number of direct, bilateral supplier engagements. The respective numbers are 10 (starting in 2023) and 25 (2024).

A third KPI that addresses both, certain suppliers and customers, relates to the coverage of our portfolio with lifecycle assessments (LCA). LCAs are required by an increasing number of customers, helping them to understand the environmental impact of the products that they purchase. Calculating correct LCAs in various cases requires input data from the respective suppliers. The LCA-related KPI is recurring, it aims at providing LCAs for all new products.

LCA must also be regarded as the glue between value-chain engagement and internal product ecodesign. It helps optimizing products and their components, based on the data that is gathered from the suppliers.

1.8.2 Policy engagement

Adtran is involved in several activities that address policy makers or have influence on them. This is primarily based on ICT-specific industry associations, which in turn have the capability of influencing policy makers.

Our first engagement is with the Telecommunications Industry Association, TIA. The TIA is acting globally, it is best known as the standardization body for both, TL 9000 and SCS 9001. In the TIA, Adtran is chairing the Sustainability Working Group in continuation of engagement that was started by ADVA. The next engagement is with the Fiber Broadband Association, FBA. The FBA focuses on the US market, it is promoting broadband fiber access as the most sustainable and future-proof access technology. Again, Adtran is co-chairing the Sustainability Working Group. Current FBA SWG activities focus on the production of a sustainability white paper that addresses policy makers. Finally, Adtran is also engaged in the German information technology society's working group on photonic networks (ITG Fachgruppe 5.3.3, Photonische Netze). Similar to the other working groups, this one also addresses policy makers and is currently also preparing a white paper on ICT sustainability aspects.

Moreover, Adtran is actively engaged in international standardization bodies. In the emissions context, this is true with regard to the International Telecommunications Union, standardization sector, study group 5, question 7 (ITU-T Q7/5). The related standards are also used by policy makers.

1.9 Risks and opportunities

Please refer to the respective chapter in the TCFD report.

1.10 Emissions

1.10.1 Transition Plan overview

A summary of Adtran's Net Zero targets is given in the following table.

Overview on Adtran's Net Zero Transition Plan

Scope	Target year and target
Scopes 1+2 near-term	Down to 33% in 2032, compared to base year 2016. Based on existing SBTi 1.5°C targets.
Scopes 1+2 long-term	Down to <10% in 2034, compared to base year 2016. Covers 97% of total Scope 1+2.
Scope 3 near-term	Down to 60% in 2032, compared to base year 2016. Covers product use, based on SBTi 1.5°C targets.
Scope 3 long-term	Down to <5% in 2048, compared to base year 2016. Covers 98% of total Scope 3.

The Scope-1/2 emissions will further be reduced after 2034 (to zero), but 2034 is the official target year for the SBTi application.

The Scope-3 long-term target is further out in the future since it is mostly indirect downstream and that is, not under our direct control.



1.10.2 Details Scopes 1 and 2

SBTi Net Zero targets consist of near-term and long-term targets. Scope 1+2 targets must cover at least 95% of the combined Scope-1 plus Scope-2 emissions, and long-term must show a reduction of at least 90%. Near-term targets can be based on existing SBTi 1.5°C targets. This is the case for Adtran. We will first extend the existing, older 1.5°C targets from ADVA to Adtran, and then add the long-term targets. Target and base years and the reduction figures are listed in the table above. All emission figures are yearly reported on CDP and on EcoVadis. Hence, their development is fully transparent. 99% of our total emissions are externally validated according to credible standards (ISAE3000 (Revised), ISO 14046/GHGP).

1.10.3 Details Scope 3

Target requirements for Scope 3 are similar to Scope 1+2, with the exception that at least 90% of total Scope 3 must be covered. Again, the near-term target is based on an existing SBTi 1.5°C target, and it is complemented by a long-term target. From all applicable Scope-3 categories, we consider the two most relevant ones, product use phase and purchased components (the latter responsible for the vast majority of production emissions). These two categories cater for 98% of our total Scope-3 emissions. They also cover the value chain since use-phase emissions fall into our downstream (customer) domain, and purchased components fall into our upstream (suppliers) domain. Both categories are externally validated.

1.10.4 Other targets (ISO 50001, LCA)

In order to support our Net Zero targets and their ambition, we defined two supportive targets, which directly and indirectly support emissions reductions.

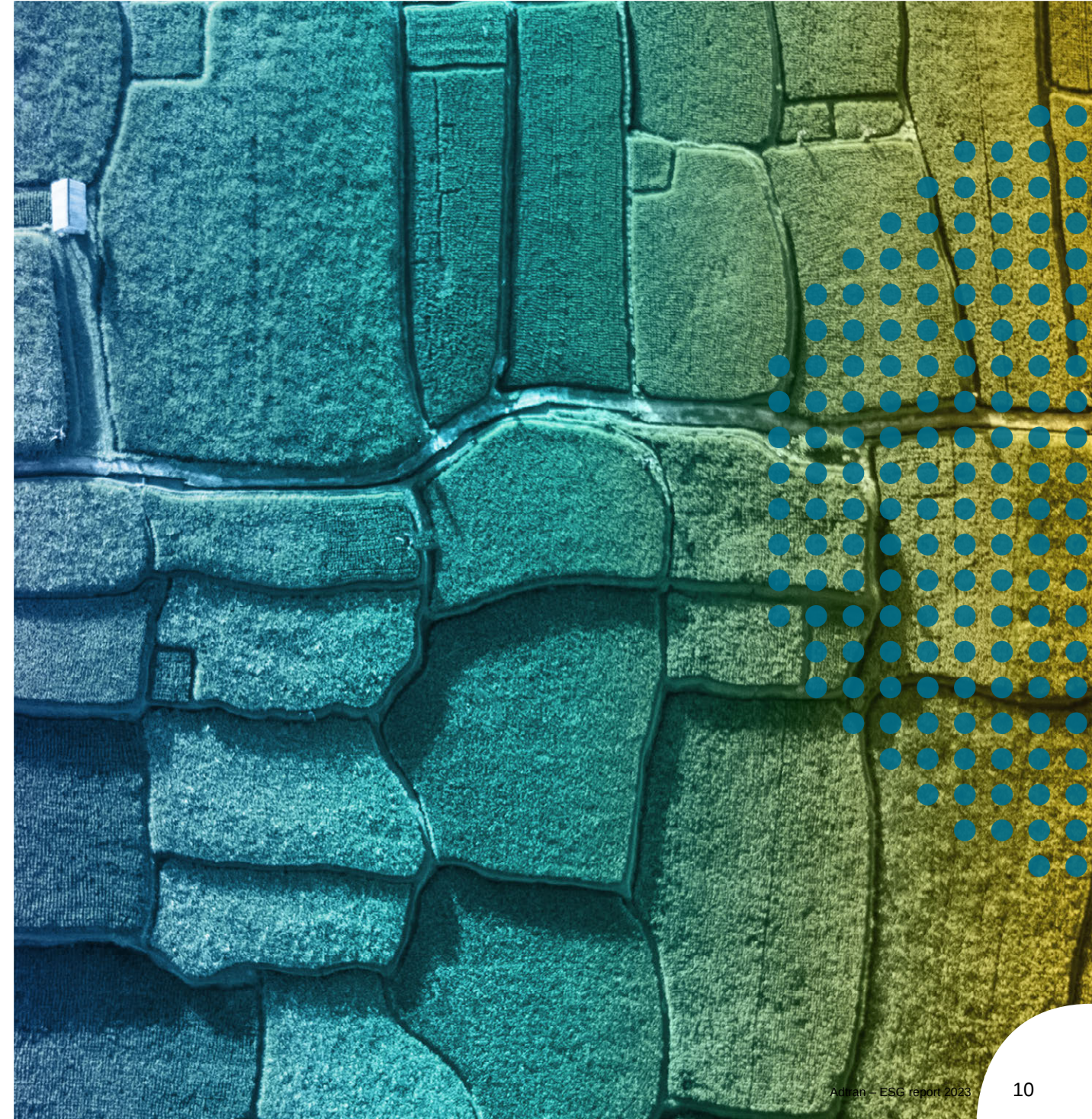
The first target is our ISO 50001 electricity-consumption reduction target. We already successfully and clearly reduced our total electricity consumption since 2005. Now, we commit to reduce the total consumption by 10% in 2030, compared to 2022. This target is externally validated via the ISO certification audits and via the validation of our ESG report, which states electricity consumption.

The second target relates to the lifecycle assessments (LCA) that we perform on our products. LCAs are relevant because they state the products' environmental footprint and can provide guidance, via ecodesign, for improvements. To that respect, LCAs are equally important to full carbon reporting or electricity metering.

The LCA target requires all new products to be covered by LCA. These LCAs shall be performed according to credible standards (ISO 14040/14044). This target is recurring.

1.10.5 Accounting and verification

Our emissions are annually reported on CDP and EcoVadis, including external, standards-based validation of ~99% of our total Scope-1 to Scope-3 emissions. The Scope-3 target and the related emissions is fully (100%) validated externally.





2. TCFD Report

The Task Force for Climate-related Financial Disclosure, TCFD, defines requirements for transparent reporting on climate-change-related financial risks and opportunities. These requirements cover the aspects of management, strategy, risk management as well as metrics and goals. All four aspects can be tracked and reported to different degrees.

2.1 Governance

Climate change is the major environmental aspect addressed by Adtran's ESG department. This department reports to the VP Corporate Quality and Sustainability who directly reports to the CEO. In addition, the VP Corporate Quality and Sustainability also regularly reports to the ESG Committee, which is one of the committees, with three named individuals, within the Board of Directors. Therefore, aspects and key figures that are relevant to the climate are regularly presented to and discussed with the highest governance layers of Adtran.

Climate-related risks and opportunities are assessed in the ESG department, as one part of the Adtran Enterprise Risk Management (ERM). The ERM also falls into the responsibilities of the VP Corporate Quality and Sustainability. Therefore, climate-related risks and opportunities are also regularly reviewed in Adtran's highest governance layers.

More details on governance can also be found on **page 19**.

2.2 Strategy

Operational emission reductions have been pursued at Adtran for a number of years. This applies both to the area of our ISO 50001 activities, i.e., electricity-related emissions, as well as to the area of transport and logistics, which is particularly about reducing air freight. The reductions are achieved through electricity savings or an increase in the share of renewable energy as well as the continuously followed goal of minimizing air freight. Details on this can be found in the chapter on CO₂ emissions in ESRS report, together with older ESG reports and CDP assessments.

Emission reductions are pursued strategically in Adtran. This started 2019, when ADVA's SBTi targets were officially approved after target submission in 2016. These targets were compatible with the 1.5°C target of maximum global warming compared to the pre-industrial state. Consequently, these targets were part of ADVA's strategic company goals. They covered Scopes 1 and 2, plus the Scope-3 emissions of the sold-products use phase. This approach to emission reductions was continued in 2022, when both, Adtran and ADVA committed to Net Zero targets. After the merger, detailed Net Zero targets were defined and submitted to the SBTi for approval in late 2023.

Investigations into the resilience of our company strategy under different climate scenarios have been conducted. These analyses lead to the expectation that the general infrastructure business is likely to increase due to the ICT-enabled climate-change mitigation (Greening-by-ICT) and adaptation activities in other areas. Furthermore, it is expected that production will be more local again in the future in order to reduce transport emissions and certain supply-chain disruptions.

2.3 Risk management and climate change

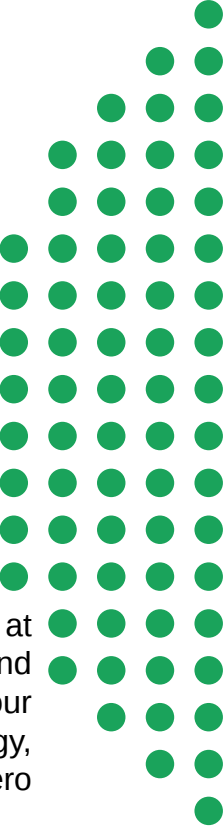
Climate-related risks and opportunities (opportunities where available) are regularly (at least once a year) and systematically examined at Adtran. This is done in two stages. First, an analysis of the climate risks and opportunities to be expected for Adtran is carried out. This is done in the ESG department and using relevant reference documents, such as the IPCC AR5 and AR6.

In accordance with the TCFD specifications, both, financial risks and opportunities in the transition phase and physical climate risks such as extreme-weather conditions etc. are considered. As far as necessary and sensible, this also extends to the supply chain. Climate scenario analyses are also carried out for selected relevant areas. Details are given later.

“

Investors are now heavily looking at our emissions-reduction actions and Net-Zero strategy. We address this our Global Energy Management Strategy, low-carbon products, and early Net-Zero target years.”

Uli Dopfer

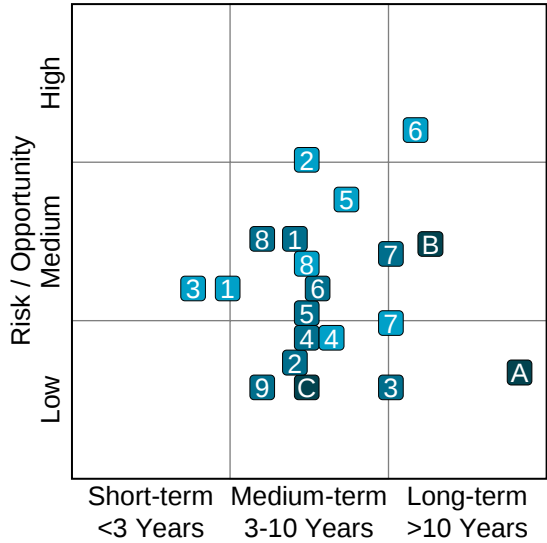




The following table summarizes the relevant aspects of the analysis that we have identified.

Physical climate risks	
A	Sea level rise 0.3-0.6 m (toward 2100, depending on scenario), especially at US west coast and in Asia
B	Extreme precipitation events, especially in Asia and parts of Europe
C	More consecutive hot days, soil-moisture decrease, higher risk of droughts in Europe and southern US
Transition risks	
1	High required ecodesign effort and cost
2	Higher ISO 50001 effort and cost
3	Fuel switching (buildings), cost and feasibility
4	Higher carbon taxes
5	Transport-mode shift, cost and feasibility
6	Cost and feasibility of extended circular economy
7	Effort and cost for any new regulations
8	Negative impact on company image
Transition opportunities	
1	(Government) cooperation and rewards
2	Increase investors' long-term investment
3	Positive company image
4	Carbon-tax savings
5	Revenue through very efficient products
6	Revenue through mitigation/adaptation-enabling ICT
7	Strengthen resilience (company, supply chain)
8	Save transportation/travel cost

The aspects listed here take into account the location of our sites as far as possible from today's perspective. The same is true for most of our suppliers' sites. The risks and opportunities are evaluated in the following diagram with regard to influence and the expected period of time for their occurrence.



Graphical representation of our climate-related risks and opportunities.
For the aspects presented here, see the table above for explanation.

In particular, the transition risk no. 1, expenditure on ecodesign, is accompanied by appropriate processes at Adtran.

In the second stage of assessing climate risks, they are integrated into the company-wide ERM if they meet the related requirements for being considered. To do this, they must meet certain criteria with regard to potential impact, probability of occurrence and time horizon. If this is the case, the relevant climate risks are also listed in the company report. Conversely, they are not listed there if they merely represent a comparatively lower risk. The risk report 2023-2025 lists climate change as one of the ESG (non-financial) risks.

Climate-related risks are mitigated depending on their potential impact. In addition, financial opportunities are seized as long as they do not result in consequential risks in other areas (compare the do-no-significant-

harm principle in the EU Taxonomy Regulation) and can be implemented promptly.

If a climate risk meets the criteria of company-wide risk management, its mitigation rules automatically apply. This includes the definition of responsibility, regular management reviews and dedicated, tracked countermeasures.

Climate risks are addressed, among other actions, through our SBTi participation, which in turn is part of the company strategy. The corresponding measures to reduce emissions are therefore subject to regular internal and external controls. Therefore, over time, appropriate countermeasures are initiated as soon as there are significant deviations from the emission reduction paths.

For the analyzes, we mainly used two relevant references with regard to the transitional and physical risks:

- OECD/IEA. 2017: Energy Technology Perspectives 2017, Catalysing Energy Technology Transformations
- IPCC, 2013: Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, 1535 pp.

The IEA reference describes above all measures that have to be taken to avoid dramatic climate change, IPCC AR5 describes regional and pathway-dependent climate and weather events to be expected.

For the 2023 assessment, AR5 was also complemented by IPCC AR6.

2.4 Metrics and Goals

As shown in “3.2 Environmental information” on page 31 in the ESRS report, we report all emissions that apply to Adtran, especially in Scope 3.

Adtran pursues science-based emission reduction targets in the SBTi, as described in the chapter “1.10.1 Transition Plan overview” on page 9 and “3.2 Environmental information” on page 31 in the ESRS report in more detail. These targets are part of the company strategy. They include Net Zero targets (approval pending).

Around 99% of all Scope-1, -2 and -3 emissions are validated externally. The SBTi targets are fully validated.

The metrics that are used to calculate climate-related risks and opportunities in the form of scenario analyses essentially come from two references that have already been listed before in “2.3 Risk management and climate change” on page 11. Both references (IEA, IPCC AR5) define several scenarios with which climate change can be mitigated to different extents. Of these scenarios, B2DS (IEA) and RCP2.6 (IPCC AR5) or RTS (IEA) and RCP6.0 fit well together, since they amount to roughly the same levels of global warming in 2100. In addition, the B2DS/RCP2.6 scenario fits well with our SBTi Net-Zero near-term targets.

The risks mentioned in the references (and opportunities in the case of considering the transition phase) are first assessed qualitatively, in particular whether they are relevant for Adtran at all.

For risks of the transition phase, we predominantly consider the cost (and cost savings) related to



emissions. An analysis of our emissions shows that it is primarily Scope-2 emissions and certain Scope-3 emissions that need to be considered. For Scope 2 and Scope 3, transportation, this results from the amount of emissions on the one hand and the risk of rising costs due to CO₂ tax on the other. The same holds for Scope 3, product use. The results are presented in section **“2.5 Scenario analyses” on page 13**. Other opportunities were also considered, see the previous section **“2.3 Risk management and climate change” on page 11**. However, these were not quantified further, as certain relevant parameters can only be quantified imprecisely.

The physical climate risks were examined for their relevance for Adtran with the help of the IPCC AR5. The supply chain was also considered. This results in the relatively high weighting of increasing drought on the one hand and extreme precipitation on the other hand in the corresponding regions. The increasing level of the world's oceans is only seen as a risk for the second half of the 21st century.

2.5 Scenario analyses

The TCFD recommends analyses using at least two climate scenarios from relevant references. We use the IEA and IPCC sources mentioned above. Two of the scenarios dealt with therein show good agreement. On the one hand, these are the Better-2°C Scenario (B2DS) of the IEA and the Representative Concentration Pathways 2.6 (RCP2.6) of the IPCC. Both describe a path to less than 2°C maximum global warming. This is also the path Adtran committed to with its SBTi Net-Zero targets. The second scenario is the Reference Technical Scenario of the IEA or the RCP6.0 from the IPCC. These describe a path that, despite certain measures, leads to global warming of more

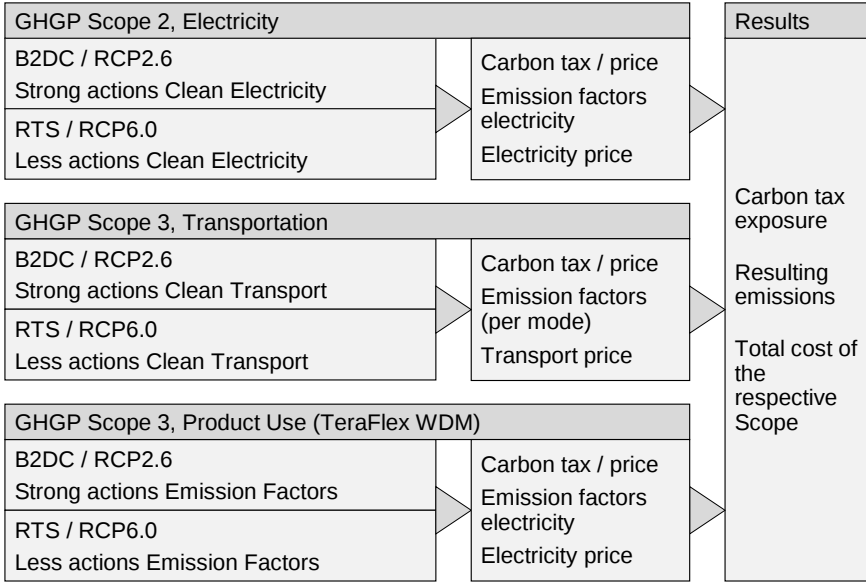
than 2°C. These measures are better than Business as Usual (BAU), but have proven to be insufficient for a target of below 2°C global warming.

We analyze risks and opportunities in the transition phase for three areas: costs, cost savings and emissions with regard to purchased electricity (Scope 2) and to Scope 3, transportation and product use, respectively.

This is shown graphically below.

The resulting emissions and costs are calculated for the three cases (electricity, transport, product use). Cost consist of the prices to be paid to the respective supplier and additional CO₂ taxes.

The best possible and realistic assumptions were made for all parameters – costs, taxes, emission factors, electricity consumption, tonnage volume, distribution of transport modes, product efficiency gain, etc., which are supported with references where possible. This inevitably leads to certain errors, but our analyses show clear trends that are retained even if the parameters vary greatly.

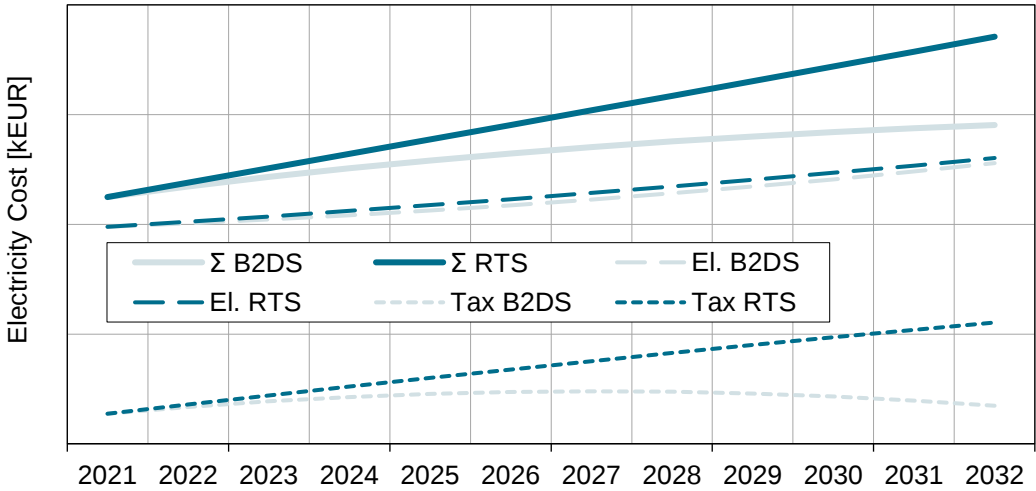


Three climate scenario analyzes. Risks and opportunities (potential costs, cost savings) in the transition phase in the areas of purchased electricity, transport and products use are examined. For this purpose, the scenarios B2DS/RCP2.6 or RTS/RCP6.0 according to IEA/IPCC are used



The quantitative result for costs and possible savings in relation to purchased electricity is shown below. The timeline runs until 2032, the target year for our SBTi

Net-Zero near-term goals. Costs are shown as a sum (Σ) and individually for CO₂ taxes and electricity costs for both scenarios, respectively.

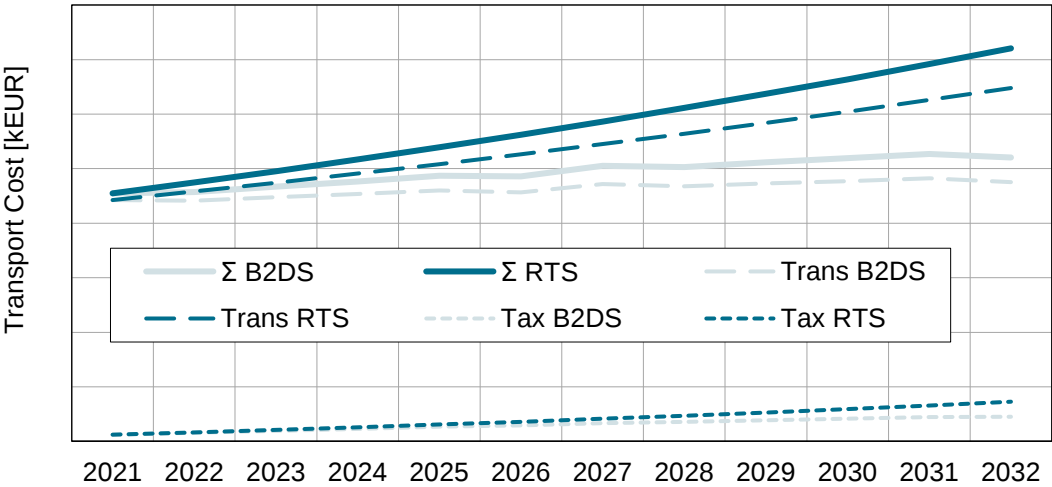


Scenario analysis of the costs for purchased electricity.

A stronger increase for the cost of green electricity was assumed, but at the same time a slight decrease in consumption as a result of more effective ISO 50001 measures. Therefore, the electricity costs over time are almost identical for both scenarios. There is an increasing difference in the CO₂ tax, which results from the reduction in this tax as a result of an increasing share of green electricity.

The quantitative results for the costs and possible savings in the area of transport are shown over time in the diagram below. For reasons of comparability, the time axis runs up to the year 2032, although transport emissions are not an SBTi target for Adtran. However, they are a significant Scope-3 contribution to our emissions. It is straightforward to show that the trends presented here would persist after 2032.

Overall, there is an increasing cost advantage for the B2DS/RCP2.6 scenario. This scenario will also achieve the SBTi Scope-2 target in 2032. This goal is not achieved by the RTS/RCP6.0 path, although a certain emission reduction is achieved here, too.



Scenario analysis of costs in the area of transport.

The diagram again shows transport costs, the related CO₂ taxes and the sum of the two components for the two climate scenarios described above. It should be noted that the ordinate range shown is exactly eight times as large as in the diagram shown above for purchased electricity.

Cost and emission savings are achieved for the B2DS/RCP2.6 path by changing the transport modes. Air freight is primarily to be reduced here. If applicable, this is supplemented by a certain shift of land transport to railway, as this has significantly better emission factors than road transport (difference of almost a factor of 10). Cost savings also result from reducing the CO₂ tax.

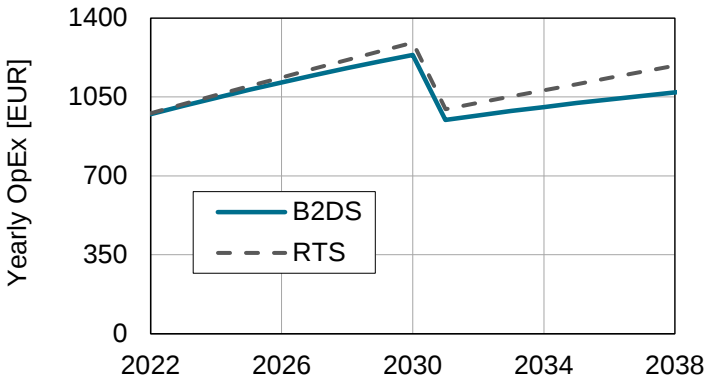
In total, the emissions for the B2DS/RCP2.6 path are reduced, in contrast to the RTS/RCP6.0 path, where emissions continue to rise. An annual increase in tonnage is assumed here. It is also assumed that, with the exception of rail transport, the emission factors of all other modes cannot be reduced significantly by 2032.



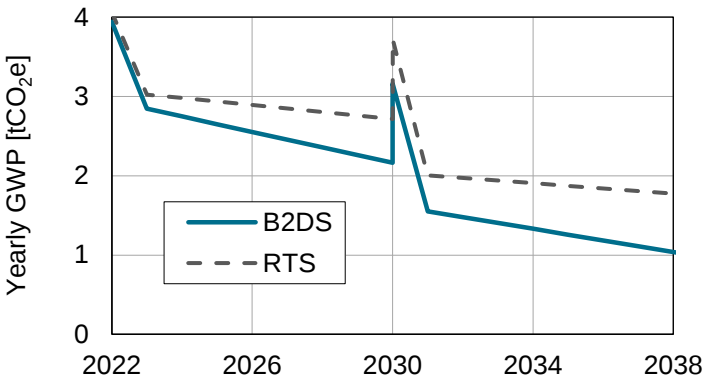
The third scenario analysis relates to the Scope-3 category product use-phase emissions and the related cost. Here, we considered a member of our high-end coherent WDM products and the development of operational cost and emissions over a long period, up to 2038. We used the same scenarios as before. In

addition, following lifetime-GWP optimization, we considered one product replacement with a more efficient successor product in the middle of the assessment period. The results for yearly cost and emissions (GWP) are shown below.

For both scenarios, yearly OpEx is increasing, whereas yearly GWP is decreasing. This is due to energy cost and CO₂ tax increasing and emission factors for the consumed energy decreasing, respectively. The step or peak in the middle of the assessment period results from the product replacement. It adds CapEx, but afterwards, OpEx is lower due to better energy efficiency. Likewise, it adds the production emissions of the successor unit (the peak in the middle), but afterwards, yearly emissions decrease slightly faster. Apparently, regarding emissions, the replacement makes sense. For both parameters (cost, emissions), the B2DS scenario performs better. We regard this scenario analysis as an opportunity (rather than risk) example. Combined with the aspect of Greening-by-ICT, products like the one assessed here will be required in the future.



Scenario analysis of operational costs in the area of product use.



Scenario analysis of GWP in the area of product use.

“The product strategy pursued by Adtran over the last 24 months has played a pivotal role in securing us as a market leader in environmentally friendly fiber access solutions. From the most energy efficient OLTs to our most sustainably produced Wi-Fi gateways, we are targeting every link in the end to end service chain.”

Jay Wilson



3. Combined separate non-financial report according to HGB

3.1 General information

General basis for preparation of the sustainability statements

The scope of this non-financial report is the Adtran Networks SE Group. In addition, qualitative statements are valid for the entire Adtran Holdings, Inc. group, unless indicated otherwise. Some quantitative statements are provided for both, Adtran Networks SE and Adtran Holdings, Inc. group. Statements regarding the Adtran Holdings, Inc. group are not part of the limited-assurance engagement performed by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC).

The statements, in particular the risk and materiality assessments, cover parts of the value chain. The supply chain is considered related to environmental and labor aspects. Customers are considered primarily related to their environmental requirements. In this context, climate change is the most relevant aspect. The materiality assessment has been conducted according to HGB requirements, not yet to European Sustainability Reporting Standards (ESRS) requirements to full extent.

No information was omitted due to intellectual property, know-how, or other reasons of confidentiality.

Disclosures in relation to specific circumstances

Time horizon

As medium-term time horizon, we consider a period of up to five years, the long-term time horizon is above five years. We chose these horizons since they are already aligned with the ESRS. In addition, we use

periods of three consecutive years in our risk management. In the context of the risk assessment, we regard this horizon most useful. It has been used in the past by both, legacy Adtran as well as legacy ADVA.

Value chain estimation

Relevant value-chain data refers to production emissions of the components that we purchase and the use-phase emissions, or electricity emission factors, for our sold products. For these emission data, we must use averaged emission factors since due to the high numbers of suppliers and customers, it is not possible to calculate with primary data in all cases. In both cases (purchased components, products' use phase), we use the emission factors as proposed for the ICT industry in ITU-T recommendation L.1470. For our customers, we regard these factors as appropriate since many customers run their networks and data centers with renewable energy already. The same holds for large parts of our suppliers. Here, the future plan is to increase the portion of primary data, e.g., through our supply-chain tool IntegrityNext.

Sources of estimation and outcome uncertainty

Generally, in our non-financial report, most data is precise. Averaged emission factors were already mentioned in the previous chapter. We regard their uncertainty low and decreasing over time. The environmental production impact can be calculated with lifecycle assessments. This leads to the uncertainty that is inherent to the data bases that must be used.

Changes in preparation or presentation of sustainability information

There are two changes in the preparation and presentation of sustainability information compared to previous reporting periods. The first change is that the

report at hand is the combined separate non-financial report for Adtran Networks SE, the former ADVA Optical Networking SE. Quantitative figures and qualitative statements material for reporting against the German Commercial Code (HGB) have been subject to a limited-assurance engagement performed by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC). In addition, we report quantitative figures for the Adtran Holdings, Inc. group as well. These are not part of the HGB reporting and not subject to the limited-assurance engagement.

The second change is that this year's non-financial report is based on the ESRS as a reporting framework. This has been done in preparation of future CSRD reporting obligations. However, the ESRS have not yet been applied to full extent.

Reporting errors in prior periods

No material prior-periods reporting errors have been identified in the meantime.

Disclosures stemming from local legislations or generally accepted sustainability reporting pronouncements

Adtran Networks SE is obliged to fully report against the German Commercial Code (HGB) requirements. We do this with references to the ESRS as a framework.

Incorporation by reference

No references were required.

General characteristics of the sustainability reporting of the undertaking

Report obligation and content

This chapter, contains a combined separate non-financial report of Adtran Networks SE and the Adtran Networks SE group in accordance with the German Commercial Code (HGB) according to Sect. 315b Para. 3, in conjunction with 289c to 289e, HGB. It is referred to as "non-financial report". This non-financial report consolidates the reports of Adtran Networks SE as the parent company as well as of the entire group. All quantitative and qualitative statements hold, without any restriction, for the entire group. This results since all material processes and management concepts, e.g., risk management, and material initiatives, e.g., emissions reduction, relate to the entire group indiscriminately.

All qualitative statements also hold for the entire Adtran Holdings, Inc. group, unless expressed otherwise explicitly. In addition, we report several KPIs for both, Adtran Networks SE and the Adtran Networks SE group, and the entire Adtran Holdings, Inc. group, respectively. This refers to emissions, energy-related and waste-treatment figures as well as for several own-workforce-related figures. To these respects, the report at hand also acts as the ESG report for Adtran Holdings, Inc. group. This applies to content that has been rated as material within the meaning of the German Commercial Code (HGB) but is not strictly required for HGB reporting.



Chapter 4 contains the report according to Regulation (EU) 2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 (hereinafter “EU Taxonomy Regulation” or “Taxonomy Regulation”) and aims at meeting the obligations of the German CSR Directive Implementation Act.

The non-financial report in Chapter 3 fulfills the reporting requirements of the German Commercial Code (HGB) and is subject to the limited-assurance engagement against these requirements. It has been compiled with reference to the July 2023 ESRS as a framework.

Chapter 4 strictly aligns with reporting requirements of the EU Taxonomy Regulation. This chapter is also subject to the limited-assurance engagement.

Report boundaries

We report on Adtran Networks SE and the Adtran Networks SE group with all its wholly-owned subsidiaries. In addition, certain ESG numbers are also reported for Adtran Holdings, Inc. group. These numbers are not subject to the limited-assurance engagement. Qualitative and text answers hold for both, Adtran Holdings, Inc. group and the Adtran Networks SE group, unless indicated otherwise.

This non-financial report follows our annual reporting structure and covers the period from January 1, 2023, to December 31, 2023. It contains data relating to Adtran Networks SE including all wholly-owned subsidiaries. Together, these are referred to, collectively, as “we”, “us”, “our”, “the company”, “the group”, “Adtran” or “Adtran Networks SE” hereinafter.

We report annually. The last sustainability report, which contained the non-financial report for ADVA Optical Networking SE, now Adtran Networks SE, was published in February 2023.

Material matters

The non-financial report is based on a materiality analysis. This analysis considers the requirements of the HGB. The identified material matters are discussed with regard to the related strategy, the most important initiatives, risks, opportunities and the achieved results.

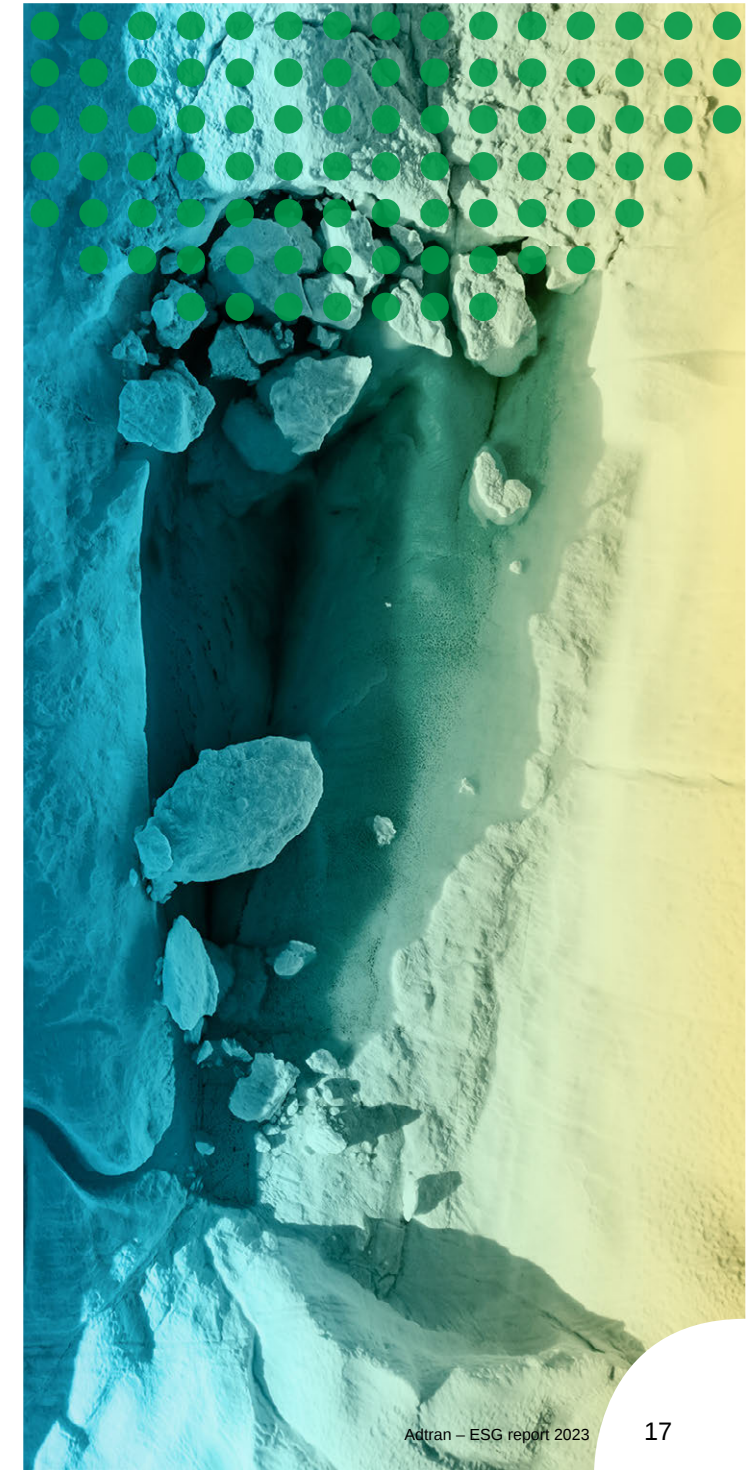
Specific amounts reported in annual financial statement

Within this sustainability report, there are no relations to specific amounts reported in the group's annual financial statements.

External assurance

The non-financial report of Adtran Networks SE is subject to a voluntary limited-assurance engagement by PricewaterhouseCoopers GmbH Wirtschaftsprüfungsgesellschaft (PwC) in accordance with ISAE 3000 (Revised). More information on the assurance engagement can be found in the independent practitioner's report at the end of this ESG report.

All references to information outside the annual report is continuative information, not part of the non-financial report and not subject to the assurance engagement.





Sector of activity

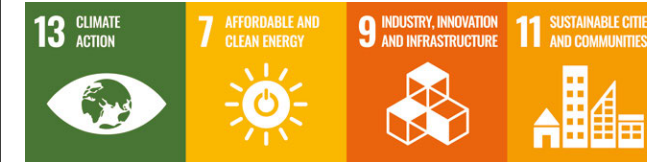
The Adtran Holdings, Inc. group develops, manufactures, sells and maintains solutions for a modern ICT (information and communication technology) infrastructure. Within this sector, our portfolio covers optical-networks, access and aggregation, and subscriber solutions, as shown in the following picture. Within this portfolio, Adtran Inc. covers access, aggregation and subscriber solutions, whereas the Adtran Networks SE Group covers optical-networks, access and aggregation solutions, respectively. Our products are the basis of one of the most important infrastructures; they enable communication between people all over the world.

The importance of this infrastructure is reflected in our portfolio, among other features, by the redundancy properties and encryption capabilities. These help to make the respective parts of the infrastructure less susceptible to, e.g., failures due to extreme-weather conditions or cyber-criminal attacks.

Our products for ICT infrastructures address the UN Sustainable Development Goal No. 9, Industry, Innovation and Infrastructure. Among other functionalities, they have encryption capabilities and mechanisms for restoring communication links. In this way, we address key social aspects and contribute to security against eavesdropping and physical failure of the telecommunications infrastructure.

In addition, the ICT infrastructure is an important enabler for massive emission savings in other sectors such as energy networks, the transport sector or building technology.

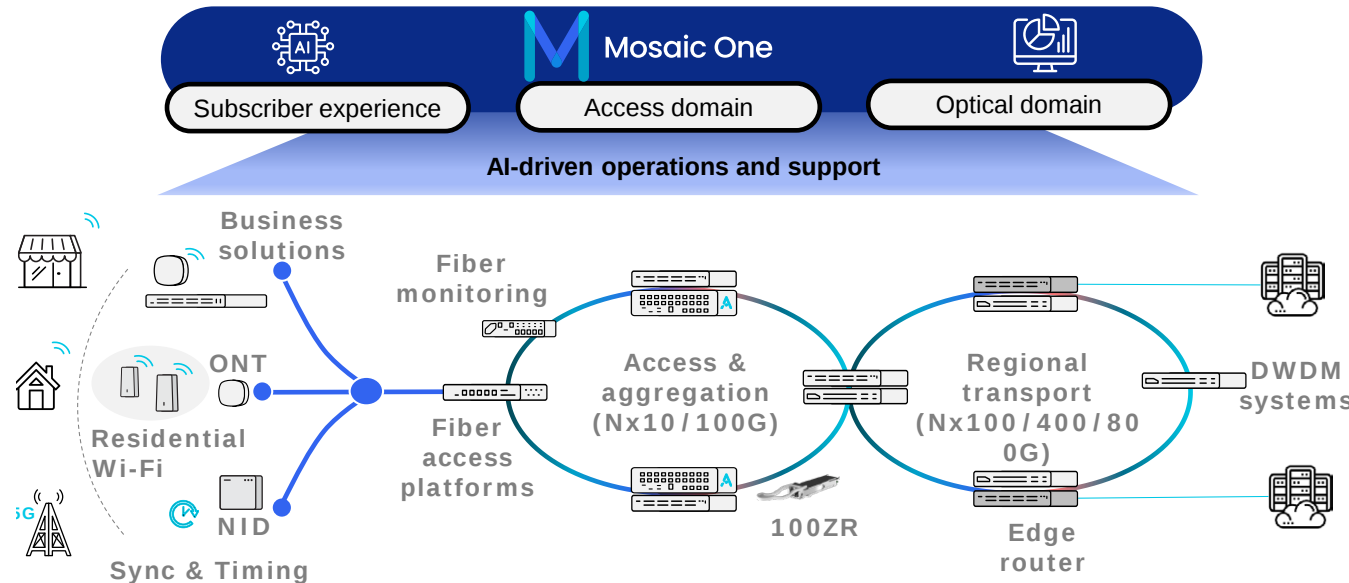
Our products thus indirectly serve the UN Sustainable Development Goals 7 and 11, Affordable and Clean Energy and Sustainable Cities and Communities. The UN Sustainable Development Goal 13, Climate Action, is also efficiently supported by the considerable enabled emission-savings potential.



SDGs addressed by Adtran

The demand for Adtran Holdings, Inc. group ICT solutions is driven by the global ICT trends cloud computing, mobility (previously 2G, 3G and 4G, now 5G, in the future 6G), IoT/M2M (internet of things, machine-to-machine), Industry 4.0, big data and high-performance computing (HPC), AI (artificial intelligence), AR/VR (augmented reality/virtual reality) as well as intelligent power grids and smart cities and buildings.

These drivers are assumed to sustain in the future, with no apparent sign of saturation or decrease whatsoever. In addition, we assume that the demand for ICT infrastructure solutions through both climate change mitigation and adaptation will increase as a result of the Greening-by-ICT effects that are enabled.

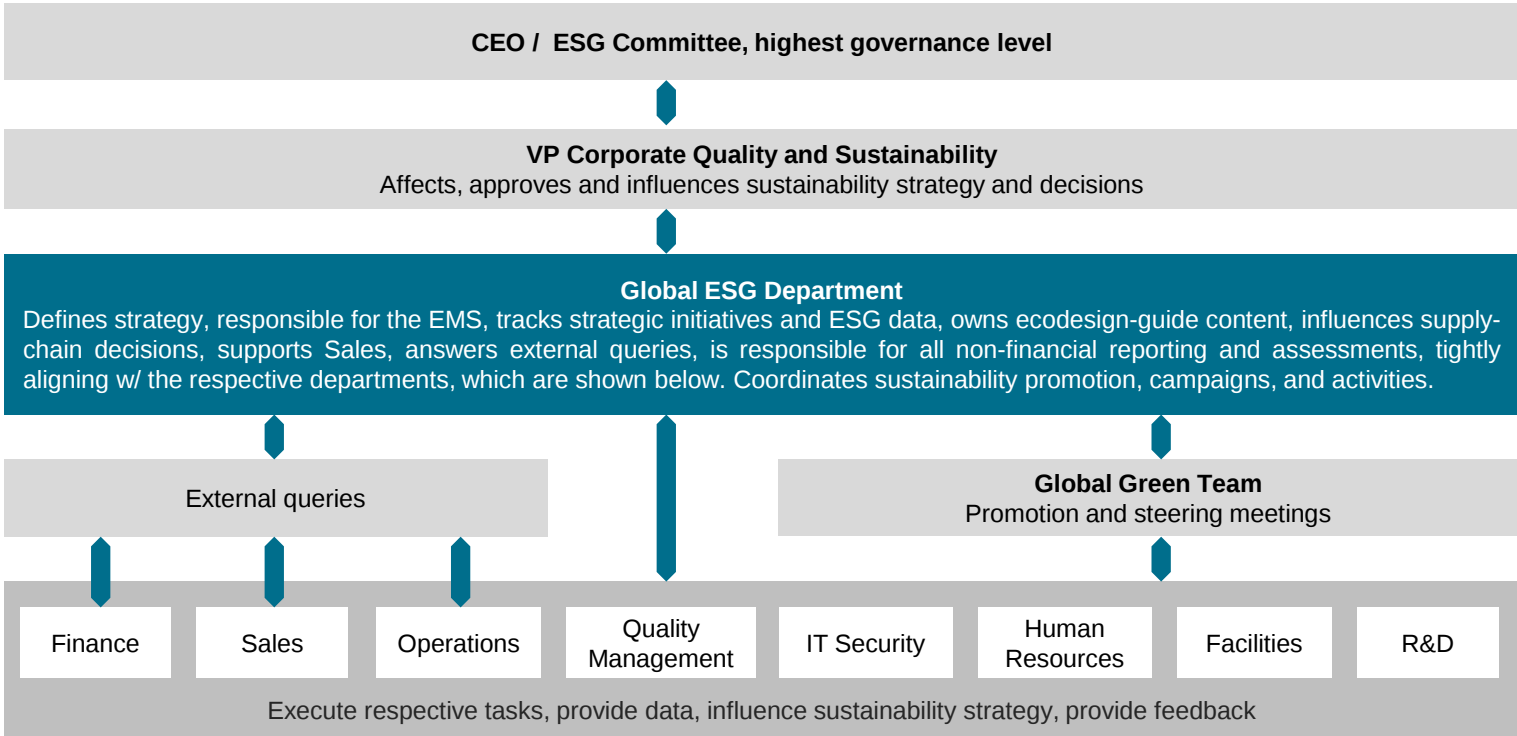


Adtran Holdings, Inc. group portfolio within the ICT sector

3.1.1 Governance

The roles of the administrative, management and supervisory bodies

An overview of Adtran Holdings, Inc. group ESG-related governance bodies is given by the following picture.



Adtran Holdings, Inc. group ESG governance bodies

At Adtran Holdings, Inc. group, including Adtran Networks SE, an ESG department takes care of main tasks like ESG reporting, compliance, materiality and risk assessments, related supply-chain aspects, ecodesign and others. The head of the ESG department reports to the VP Quality and Sustainability, who, as part of Adtran Holdings, Inc. group management team, is a direct report of the CEO and who also regularly reports on ESG aspects to the ESG Committee, which is a sub-group of the supervisory board. In the ESG Committee meetings,

material impacts are reviewed, and targets set and their progress tracked.

Together, the CEO, the ESG Committee, the VP Quality and Sustainability, and the ESG department are responsible for the ESG topics as stated in Adtran Holdings, Inc group related policies and strategy. The CEO is responsible for decisions with significant impact on operational cost, e.g., in the context of producing renewable energy. The ESG Committee supervises the

ESG actions and provides input on the ESG strategy and stakeholders' views.

All bodies have access to external expertise, e.g., via input from rating agencies or dedicated news channels. The ESG department, altogether, has 20+ years of experience in that space, with focus on carbon emissions, energy efficiency and lifecycle assessments. It participates in dedicated trainings, cooperates with (German) research institutions, actively participates in conferences, etc. These activities focus on two of the

relevant material aspects, climate change and circular economy so that respective risks can be mitigated and corrective action can be taken.

In both, the management team, which directly reports to the CEO, and the board of directors, 25% of the members are female each, respectively. This is true for Adtran Holdings, Inc. group. For Adtran Networks SE, 1/3 of the members of the supervisory board are female, and the executive board consists of two males only.

In this governance structure, long-term in-depth knowledge of ESG aspects in the ICT sector is given. This includes in-depth knowledge of the Adtran Holdings, Inc. group ICT products and their markets. It includes, where necessary, the geographic specificities. In addition, the different levels of the governance structure have access to various external sources, such as ESG experts fora, industry associations, standardization bodies, consulting firms, related data bases, etc.

Employees and other workers are represented by the HR department, whose SVP is a direct report to the CEO.

Information provided to and sustainability matters addressed by the undertaking's administrative, management and supervisory bodies

ESG topics are independently presented to, and discussed with, the CEO and the management team and also the board of directors, which is represented by the ESG Committee. This happens at least once in a quarter, and on demand, in case of material unexpected occurrences.

The respective meetings include material impact, risks and opportunities, and forward-looking actions.



In the ESG department, due diligence processes are implemented for all material aspects. Numerical targets are set only for the aspects with highest rating and where appropriate (climate change, energy). This, in turn, is reflected in policies and strategy. Due diligence itself uses all important input – stakeholders (most notable, customers, also investors), regulations and directives, market research, industry associations etc. So far both, the general due-diligence approach and the targets set, have proven appropriate to cope with the relevant stakeholders' and regulations' requirements.

ESG topics are part of the management review (CEO, management board, board of directors) and the company strategy, similar to topics from other areas. They are treated according to their risks, opportunities, impact and materiality relative to the other areas. This includes that in certain cases, compromises, e.g., between operational cost and degree of the mitigation of a given ESG risk, are made.

Specific topics reviewed by the management and supervisory bodies in 2023 include our SBTi Net Zero targets and the related process forward, our (2022) CDP and EcoVadis ratings, our recent ESG reporting and the related future plans including the switch to using ESRS as a framework, and most recently, in late 2023, the upcoming EU CBAM regulation and its implications.

The information provided in this sub-chapter is true for both, Adtran Holdings, Inc, group and Adtran Networks SE group.

Integration of sustainability-related performance in incentive schemes

In 2023, sustainability-related performance was not reflected in any incentive schemes in Adtran (Holding and Networks SE). We are working on the integration of climate-change-related targets in incentive schemes.

The legacy-ADVA scheme was limited to the management body. It comprised a portion of the variable pay and was approved by the supervisory board.

Statement on sustainability due diligence

All material aspects of the Adtran Holdings, Inc. group, the associated risks, opportunities and their impact are supported by respective due-diligence processes.

Related to climate change, emissions in all Scopes of the Greenhouse Gas Protocol are monitored as well as the related requirements of large customers. This is supported by our long-term Net Zero initiative. Related to energy, the Adtran Holdings, Inc. group has a reduction strategy, which is supported by large sites being managed under the ISO 50001 energy management system. Circular-economy requirements are tracked continuously. This led to two different processes. On the one hand, we instantiated first refurbished-products offerings, following similar older but less systematic approaches. Then, we increase our engagement with the supply chain. Over time, this aims at both, certain supply-chain-related emissions reductions as well as better cooperation in the context of the circular economy. Work-life balance and diversity and inclusion are somewhat newer material (social) aspects. They are supported via employee feedback, tracking turnover and certain diversity indicators and certain related initiatives.

These are described herein later, they are partially still under definition, which is expected to be finished in 2024.

Risk management and internal controls

Enterprise risk management (ERM) is a process within the Adtran Holdings, Inc. group that also covers ESG risks. It consists of continuous tracking of existing and potentially new risks with quarterly reporting to the CEO and the management boards. In the case of ESG risks, these are also reported regularly to and discussed with the ESG Committee within the board of directors. Risks are rated based on their monetary impact within a 3-years period and the probability of their occurrence. This covers effects of loss of customers, loss of business, etc. In turn, relevant risks lead to respective mitigation actions and/or processes. In 2023, the relevant ESG risks in the ERM were performance against climate-change requirements, risks related to circular economy, and the risks associated with the exponentially increasing number of ESG-related regulations, their complexity, which is increasing in an uncontrolled way, and the associated cost and other effort.





3.1.2 Strategy

Market position, strategy, business model(s) and value chain

Our portfolio of ICT network products includes fiber-optic (WDM) transmission technology, Ethernet access and aggregation technology, PON and DSL subscriber solutions, and solutions for the virtualization of network functions. In addition, the Adtran Holdings, Inc. group supplies technologies for Layer-1 and Layer-2 encryption, network synchronization and monitoring, as well as the software necessary for the safe and efficient operation of the networks. In addition, we offer maintenance and installation services, including the respective (reverse) logistics.

Our products are under ban, due to internal black-listing, for North Korea, Iran, Sudan, Venezuela, Belarus, and Russia.

Our markets are geographically distributed on all continents, with a focus on Europe and North America. Main groups of customers are tier-1 and tier-2 telecommunication networks operators, large enterprises with own (duplicated) data centers, and data-center and cloud operators. Adtran Networks SE did not sell consumer products in 2023 or before. Our supply chain consists of contract manufacturers, (photonic and/or electronic) components suppliers, and logistics-services providers. We serve our customers directly or indirectly, via resellers or OEM partners.

As of 31 December, 2023, the headcount of Adtran Networks SE (Adtran Holdings, Inc. group) employees splits 1.526 (1.793) EMEA, 359 (1.299) Americas and 281 (293) APAC, respectively.

Our total revenue of 614 MEUR (Adtran Networks SE, 1149 million USD for the complete Adtran Holdings, Inc. group) falls into the ICT sector exclusively. The

Adtran Holdings, Inc. group is not active in other sectors. Therefore, we also do not have any activities that relate to fossil fuel, chemicals production, controversial weapons, or the cultivation and production of tobacco.

In alignment with our materiality, risk/opportunity and ISO context assessments, our main sustainability-related goal for our products is highest-possible energy efficiency. It holds for all products, all regions and all customers. It directly serves customers and more indirectly (via the associated emissions) all other stakeholder groups as well. This is followed by circular-economy-related aspects like maintainability, modularity, ease of disassembly, and the likes. This is reflected in product strategy and by our ecodesign process, and it is supported by product lifecycle assessments. It holds for all products, is relevant for and applicable to all customer groups, and does not depend on geographical areas. The stakeholder groups with highest interest in these actions are our customers, resellers/OEM partners, and investors.

In the ICT network-equipment market, the Adtran Holdings, Inc. group is one of the mid-sized vendors. In relevant product segments (WDM, Ethernet access and aggregation, PON), we are amongst the top-10 vendors of each of these segments. We are therefore in a position to follow our product-related sustainability targets. In the recent past, this has been proven externally by related awards, e.g., a Layer123 award in the Network Transformation category. The product focus on energy efficiency and circular-economy aspects will persist over the next years (mid to long term). Energy efficiency will remain most relevant since it addresses the dominant products' use-phase emissions. Circular economy addresses the important aspects of raw material, waste, and production

emissions. In this context, a critical challenge, given the size and impact of the Adtran Holdings, Inc. group on our supply chain, is the decarbonization of the supply chain. The latter has been addressed in 2023 by kicking off dedicated bilateral engagement with selected supplies aiming at supporting their decarbonization. Near-term, we plan to extend this supply-chain initiative. We also plan to extend the circular-economy-related action regarding refurbished products and certain additions related to our ecodesign process, which is embedded in the product lifecycle process.

The main business role of the Adtran Holdings, Inc. group is the one of a systems integrator. We purchase opto-electronic components and integrate these into our self-developed products. In addition, a smaller amount of components is self-developed and self-produced. The products are then shipped to our customers, either directly via logistics providers, or indirectly via resellers or OEM partners. Some of our customers (network operators) serve residential or business end customers, the other customers are business end customers (like enterprises, data centers).

Sourcing of the components is dual-sourced for most relevant components. General components availability is constantly tracked. In case of global shortages, actions like dedicated buy-back programs are implemented.

Current and future benefits of our products, in terms of sustainability, include the fact that these products support enabled climate-change mitigation and adaptation activities in other sectors like transportation, buildings or agriculture. This is enabled by real-time, extensive observation of the respective (man-made) systems, the subsequent development of insights from

the collected data, and the use of those insights to drive process efficiency. In all these cases, data transport is required, which is the part supported (enabled) by the Adtran Holdings, Inc. group.

Interests and views of stakeholders

Regarding sustainability, relevant groups of stakeholders are those who have an interest in, influence on, or are influenced by the group's actions, strategy, or reputation in that area.



The following groups of stakeholders have been identified:

Stakeholder group	Type of interaction	Purpose of interaction	Outcome of interaction
Customers	Regularly, partially bilaterally, via CSAT Customer Satisfaction Survey (CSAT)	Collect relevant views and requirements, in particular environmental and social	Influence on climate-change actions
Shareholders, investors	Regularly, bilaterally		
Employees	see page 39	Feedback on employee satisfaction	Voluntary turnover rate
Suppliers, contract manufacturers, logistics and energy suppliers	Regularly, partially bilaterally	Engage primarily regarding improvement of environmental impact of value chain	Ongoing collection of Life cycle assessment (LCA) and other data
OEMs, VARs, service partners	Bilaterally		Provisioning of compliance data
Legal, government agencies	Purpose-driven	Collect upcoming requirements	Registrations, where applicable
Associations, alliances, NGOs	Purpose-driven, partially regularly	Collect requirements, actively engage regarding environmental aspects	Cooperation, e.g., on white papers
Communities	Partially regularly	Engage regarding social or environmental aspects	Charity events, social engagement

Since the Adtran Holdings, Inc. group does not have direct end-user access, end users are not listed. Their interest is communicated to us via our customers.

The group's approach to stakeholder engagement is to maintain a dialogue with the respective parties as regularly as possible. For certain stakeholders, e.g., strategic customers, dedicated investors, but also some associations and alliances, this happens regularly and frequently and as part of the daily business. Other stakeholders are served at least regularly or even non-periodically through special campaigns.

Examples include dedicated, on-demand activities with key customers and investors, customer (satisfaction) survey with high numbers of bilateral interviews, employee survey, and active engagement in industry associations like Telecommunications Industry Association and Fiber Broadband Association, where the Adtran Holdings, Inc. group in both cases chairs sustainability working groups.

This allows us precise knowledge of sustainability requirements with regard to the relevant interested parties, but it also gives us valuable feedback on their perspective and evaluation of our sustainability activities.

Relevant results are reported internally. This includes the management and supervisory bodies and is done on a regular basis.

If necessary from a risk/opportunity viewpoint, they lead to respective corrective actions.

The Adtran Holdings, Inc. group appreciates the views of our stakeholders, and their requirements are reflected in our materiality assessment and other processes. In the case of the materiality assessment, the composition of the internal participants in this assessment was recently chosen such that relevant stakeholders' input can be considered.

This is reflected in our most material aspects and the related processes to address them, most notably climate change. This aspect developed as the most

relevant over the last years following customers and investors input. It is now complemented by a stronger consideration of the aspect of circular economy, which is again due to customers' requests. This has re-started in 2023, we expect this to be ongoing without an endpoint. It will lead, over time, to an increase of refurbished-products business. According to the feedback we get, this supports our relationship with relevant stakeholders, most notable, key customers, but also certain components manufacturers.

The CEO, the management board and the board of directors are informed regularly and on demand. This happens in management review meetings and on demand, in case of relevant and urgent new input from certain stakeholders. This is true for both, Adtran Holdings, Inc. group and Adtran Networks SE.

Material impacts, risks and opportunities and their interaction with strategy and business model

The Adtran Holdings, Inc. group annual materiality-analysis process uses topics and sub-topics from the

ESRS. This reflects the reporting requirements according to the German Commercial Code (HGB). The structure of this report complies with the requirements of the German Commercial Code (HGB), which require disclosures on the topics listed in Section 289 c (2) HGB (irrespective of any deviating findings in our materiality assessment).

Consequently, the ESRS IROs have not yet been used in the materiality assessment. This is planned for the next report. In addition, each year, we consider whether Adtran-Holdings, Inc. group-specific topics need to be included. For 2023, this was not the case.

Participants from different departments conduct the annual assessment of the aspects in accordance with an internal process definition. The departments were chosen such that relevant stakeholders' views are integrated into the analysis.

The evaluations concern both dimensions of the analysis, business relevance and impact on the matters. We conduct SWOT analysis for business relevance.

Once the individual assessments are done, the results are averaged, and the materiality threshold is defined. This threshold definition aims at identifying aspects that are relevant for our strategy, processes and initiatives. Materiality is given if the threshold value is exceeded in one of the dimensions (relevance for the Adtran Holdings, Inc. group business, the Adtran Holdings, Inc. group influence on the matters). For graphical representation, this means that the non-material area in a two-dimensional diagram is given by the rectangle on the lower left.

Once finished, the analysis is submitted to the board for approval.

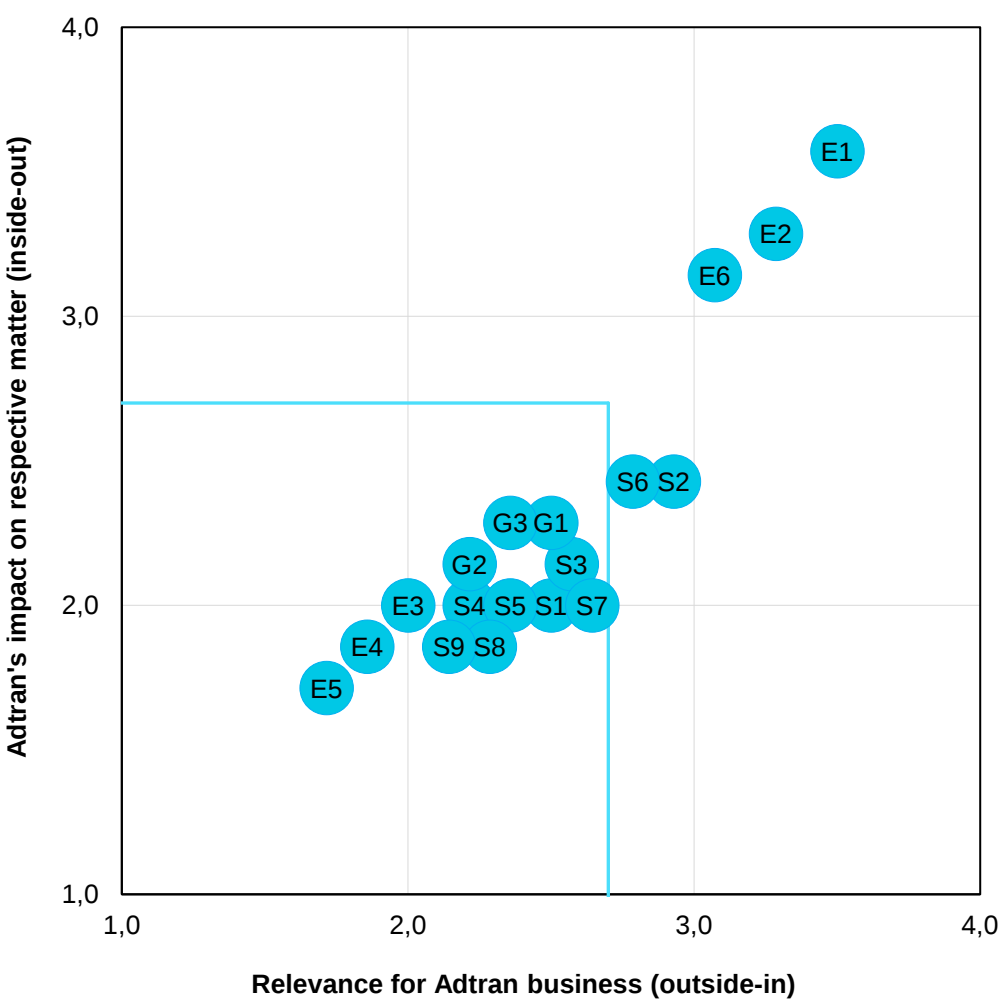


The topic list assessed for 2023 is shown in the table below. They show continuation of the aspects analyzed in the last legacy ADVA report. Due to similarities between the two legacy companies, they also reflect the matters and aspects relevant for legacy Adtran.

Assessed ESG aspects 2023

Environment	Climate change (emissions, risks, ...)	E1
	Energy (usage, mix, management, ...)	E2
	Water and marine resources	E3
	Pollution (air, water, soil)	E4
	Biodiversity & Ecosystems	E5
	Circular economy (incl. raw material use)	E6
Social	Occupational health and safety	S1
	Work-life balance	S2
	Harassment and discrimination	S3
	Fair remuneration, pay gap	S4
	Training & development	S5
	Diversity & inclusion	S6
	Workers in the value chain (incl. Modern Slavery)	S7
	Affected communities	S8
	Consumers and end users	S9
Governance	Prevention of corruption and bribery	G1
	Prevention of anti-competitive behavior	G2
	Political/policy engagement	G3

The following graph shows the material aspects for 2023. Material aspects lie outside the lower left rectangle with the light-blue border.



Graphic representation of the materiality analysis 2023

In our analysis, the environmental aspect of climate change clearly stands out from the other aspects. It is followed by the material matters energy management, circular economy, work-life balance, and diversity and inclusion, respectively.

This is the first Adtran post-merger materiality assessment. Therefore, comparison to former assessments will not be done. However, despite the

Adtran-ADVA merger, the materiality analysis shows a good degree of continuity compared to previous years for the environmental aspects. Regarding the material aspects, this holds for legacy Adtran as well, although no formal legacy-Adtran materiality assessment has been conducted. This can be derived, e.g., from legacy-Adtran environmental initiatives related to site energy consumption and product energy efficiency.

Climate change has a negative impact on people and the environment. Depending on the region, this negative impact already started (more consecutive hot days, heavy-precipitation events), see the TCFD chapter. Other effects like sea-level rise have a time horizon toward 2100.

The Adtran Holdings, Inc. group is involved with climate change, via the networks and data centers of our customers, negatively and positively. The negative impact is that our products contribute to the emissions of the global ICT sector. The positive impact, with the potential to overcompensate the negative impact, is that our products are enablers of climate-change mitigation and adaptation activities. This is described in more detail in the Context chapter in our Transition Plan. Negative and positive impact are connected to our strategy via persistently continued ecodesign in favor of highest energy efficiency.

We expect that the positive greening-by-ICT impact overall will have a positive financial impact, due to its potential of overcompensating the negative environmental impact. Changes of the related (ESG) product strategy are not planned, but the emissions-related ecodesign rather continued.



Energy use and management has negative environmental impact similar to the climate-change topic. It splits into two main aspects: The Adtran Holdings, Inc. group's own energy use and management, and the energy consumption of our products in the networks and data centers of our customers.

Negative financial impact of our own energy use consists of increased cost for both, the energy itself plus associated carbon tax, if applicable. This is analyzed in more detail in one of our scenarios in the TCFD chapter. Therefore, an ISO-50001-based energy-reduction strategy is, and will be, followed.

Negative financial impact of our products' use-phase energy consumption consists of associated cost for our customers and the risk of losing business in the case of uncompetitive products. Therefore, ecodesign in favor of lowest-possible energy consumption of our products is, and will remain, key part of our product (ESG) strategy.

Circular economy by itself does have almost no negative environmental impact. It counteracts the negative effects of raw-material consumption and scarcity, and waste generation, respectively. The latter have a mid- to long-term time horizon. Circular economy is connected to core business-model aspects like purchasing electronics components and selling, maintaining and potentially re-selling products.

Circular economy has a mid- to long-term time horizon. In ICT with its fast-paced components development, it has certain financial impact for two reasons. First, not responding to customers' circular-economy requirements might, over time, reduce revenue with said customers. The risk is comparatively low since some fast-paces ICT products do not lend themselves to all sorts of reuse. Second, certain circular-economy loops like components reuse or buy-back have the positive potential to lowering components cost. Again, this will not happen on largest scale, affecting all components.

For these reasons, the Adtran Holdings, Inc. group has increased its circular-economy activities over the last years considerably. Circular-economy aspects like design for maintenance and others are part of our ecodesign guidelines, and first components buy-back schemes and refurbished-products offerings have successfully been developed. We expect this to further gradually increase mid-term. Over time, this will complement our business model by more take-back, maintenance, and reused or refurbished products business.

In total, the aggregated financial impact of the material environmental risks and opportunities on the Adtran Holdings, Inc. group's business model is limited. Circular economy may, over time, lead to more used-products business and ultimately, to business models like (eco-) leasing. This will take time since, e.g., for some large

customers, leasing is no option yet. In case circular economy leads to shifts in the business model, the Adtran Holdings, Inc. group, our customers and at least our tier-1 suppliers are affected and need to adopt their mode of cooperation. Related financial risks and opportunities outweigh each other, as indicated earlier.

Work-life balance and **diversity and inclusion** can be jointly considered since they have similar impact and time horizon. Time horizons cover all terms, from short to long term. Reason is that it can already be challenging to attract new and retain talent, and this will not get better with the baby-boomer generation starting to retire mid-term.

Currently, no substantive financial risks are identified related to the social aspects. Mid-term, such risk might develop for the unlikely case of persistent insufficient company performance in the areas of work-life balance and diversity and inclusion. Financial risk primarily consists of increased cost to attract and retain talent.

Short-term, no changes of or complements to the company and own-work-force strategy are planned, and no impact on our business model is seen.

The financial position of the Adtran Holdings, Inc. group has not changed in the reporting period due to the material ESG impacts, risks and opportunities. It is not seen that this takes place near term.

The Adtran Holdings, Inc. group's resilience related to material ESG impacts and risks is equal to its resilience against any other relevant impact or risk. It does not depend on specific ESG risks, but rather on general economic conditions.

The Adtran Holdings, Inc. group regards its (ESG) strategy and its business model as resilient to the identified risks, impact, opportunities, and material aspects on a short- to mid-term time horizon. This is mainly due to the pace at which ESG risks, opportunities and stakeholders' requirements develop, and due to the fact that relevant mid- to long-term initiatives have already been started. Examples include our climate-change- and energy-related actions and initiatives.

A summary of the ESG risk impact is provided in the following table.



Interaction of risks and opportunities and the undertaking's strategy and business model

Influence of the risks (opportunities where applicable) on strategy and business model.

Risk according to ERM	Interaction with strategy and business model
Climate change	Climate change is considered in the Adtran Holdings, Inc. group's strategy. This holds for both, the product strategy and in general, which is reflected in the Adtran Holdings, Inc. group's Net Zero plans. Climate change has a certain potential as an opportunity, since the Adtran Holdings, Inc. group can sell low-carbon products, which at the same time can enable climate-change mitigation and adaptation activities in other sectors. Therefore, no change in the related strategy is seen. The same holds for the Adtran Holdings, Inc. group's business model.
Circular Economy	Circular economy got increasing influence on the Adtran Holdings, Inc. group's strategy in the last two years. It poses some risk, but also opportunities, as described earlier. This is reflected in the product strategy and certain additions to our main business model. Circular economy poses challenges for part of our portfolio with very fast development and improvement cycles. Nonetheless, we expect that mid-term, business with refurbished products will increase, and that the business model might be complemented by product and/or services leasing offerings
ESG regulations	New and upcoming ESG regulations potentially do influence the Adtran Holdings, Inc. group's strategy, in particular related to our products, as well as our business model. They pose a potentially significant risk since the number of ESG regulations grew exponentially in the past two decades, and the aggregated effort that is required to achieve compliance is already very high.
Attract and retain talent	Attracting and retaining talent (two separate risks in our ERM) are a risk for the Adtran Holdings, Inc. group as a company working in a highly competitive high-tech environment. It directly links to voluntary employee fluctuation and in worst case has the potential to slow down the successful implementation of our strategy and the business model. This is particularly true since mid-term, the baby-boomer part of our staff will start retiring.
Train and develop talent	Loss of knowledge and skills can be caused by dissatisfied employees and their fluctuation. In some cases it can lead to both, major operational and innovation problems. It must be addressed via actions regarding the aspect of employee satisfaction, which include training and (career) development. As an opportunity, it leads to motivated staff. This risk and opportunities aspect has impact on our strategy, by taking related strategic actions. Influence on the business model is low.

ESG risks are part of the Adtran Holdings, Inc. group's ERM, enterprise risk management, process.

3.1.3 Impacts, risk and opportunity management

Description of the processes to identify and assess material impacts, risks and opportunities

ESG risks are an integral part of the Adtran Holdings, Inc. group's enterprise risk management (ERM). They are treated like other risks, i.e., according to potential impact on the company and their probability of occurrence. Impact is aggregated for three successive years. Risks that cross the impact of impact-times-probability are listed in the ERM and presented to, and discussed with, the CEO and the management board. ESG risks are also presented to the ESG Committee. They are re-considered on a quarterly basis. Where applicable, opportunities are considered as well.

ESG risks are treated similar to all other risks, i.e., with a combination of probability of occurrence and potential monetary impact. This includes the ERM thresholds. Therefore, they can be consistently rated against other non-ESG risks. If (negative/positive) impact is fully non-financial, it is considered qualitatively only, without threshold. The thresholds are 3 Million EUR impact in three years, and a probability of higher than 50%.

Input parameters include customers' and investors' statements, credible sources regarding climate change (e.g., TCFD, IPCC) and own research. It is the nature of these considerations that they can only be estimates. External consultants so far have not been asked.

From 2022 to 2023, the material impacts, risks and opportunities assessment was improved by internally consulting a higher number (6) of departments, in order

to achieve a more balanced stakeholder consideration. The assessment will be refreshed in H2/2023.

In 2023, the basis for this process were the ESRS topics and sub-topics. This is complemented by the consideration whether the Adtran Holdings, Inc. group-specific topics need to be added. The individual (sub-) topics are rated by several departments, and the individual ratings are then linearly averaged.

In our assessments, adverse impacts are considered if relevant. In the ICT-equipment and energy-efficiency context, an example of a well-known adverse effect is the question whether more efficient equipment leads to savings via less energy consumption and associated emissions, or to higher use, thus compensating the saving effects.

Our ESG assessments primarily, but not exclusively, look at own activities and their impact, and how the Adtran Holdings, Inc. group is impacted. Where meaningful or necessary, we broaden this view to larger parts of or the entire value chain. Examples include circular economy, which must be considered at least for the Adtran-Holdings, Inc. group, its suppliers and its customers, or the enabled climate-change mitigation/adaptation activities (an opportunity), which must be considered as taking place via the networks and data centers of our customers. The assessments are not restricted to particular regions, products, customers or operations.

The climate-change risk/opportunity evaluation also uses, as input, results from the TCFD analyses, please see the chapter **“2.3 Risk management and climate change” on page 11.**

The materiality assessment and the IRO assessment consider the common aspects of climate change, circular economy and work-life balance with the associated risks of attracting and retaining talent. Energy is rated material but not considered a strong risk, and ESG regulations are considered a (financial) risk but not regarded material.

For this year, we do not report on any changes compared to last year due to the new, post-merger risk assessment.



Aspects covered by our sustainability statements

In our materiality analysis, the governance aspects have been rated non-material. This must be seen in comparison to the material aspects, most notably, the climate-change-related aspects. As can be seen from the diagram summarizing our materiality analysis on **page 23f**, the governance aspect prevention of corruption and bribery is close to the materiality threshold, followed by the other governance aspects. They are important to Adtran Holdings, Inc. group, and related processes and due diligence exist. However, compared to the material environmental and social aspects, we regard these as somewhat less important. Therefore, we voluntarily provide a brief description of our governance activities in chapter **“3.4 Governance information” on page 47**, according to HGB reporting requirements.

According to our materiality assessment, no material Adtran Holding, Inc. group-specific matters or aspects have been identified. Discussion of potential specific matters or aspects is part of our risk/opportunity and materiality assessments.

Policies adopted to manage material sustainability matters

The Adtran Holdings, Inc. group has compiled a main policy document that covers the environmental aspects of emissions, energy and raw-material consumption and waste generation, respectively. This holds for our operations as well as throughout the lifecycle of our products. The policy also covers the environmental aspects of water protection, biodiversity and pollution minimization. The document is valid for both, Adtran Holdings, Inc. group and Adtran Networks SE.

Related to emissions, it covers their reduction in line with science-based targets (SBTi). This includes product- and operations-related emissions. Both are addressed by improving energy performance. In addition, operations are addressed by renewable energy.

Related to circular economy, the policy contains the transition to a circular economy and the conservation of natural resources. Again, this covers our operations as well as our products.

Related to social aspects, it addresses health, safety and welfare of our employees and others affected by our undertakings, as well as the aspect of diversity.

In addition, the topics quality, information security and business continuity are covered.

The scope of this policy is the entire Adtran Holdings, Inc. group, including all subsidiaries. As such, Adtran Networks SE is covered. This includes all operations and the entire lifecycle of our products. Consequently, the policy is not restricted to any particular region or activity of the Adtran Holdings, Inc. group. The policy was approved by our CEO. It is valid until end of September 2025.

The policy is on display at the Adtran Holdings, Inc. group sites and available in our intranet.

The policy covers, where applicable, the extension into our supply chain. This holds, amongst others, for the procurement of environmentally friendly products and services, as well as renewable energy.

In addition to the main policy document, the Adtran Holdings, Inc. group has a more-detailed handbook. This handbook is available in our intranet, it is revised regularly and is approved by the CEO.

Our policies are managed with respective management approaches and processes that are briefly described hereinafter.

According to our ESG materiality assessment, material aspects fall into the environmental and social matters. This leads to respective policies, targets, processes and initiatives, which are described in more detail under **“Actions and resources in relation to material sustainability matters” on page 28** and **“Tracking effectiveness of policies and actions through targets” on page 29**.

Currently, we do not expect a near-term change of this.

The environmental matter is served via the respective ISO management systems (ISO 14001 EMS, ISO 50001 EnMS). This is supported by emissions- and energy-consumption-related reduction targets. For other environmental areas such as water or waste, no externally communicated targets have been defined. This is due to the much lower impact the group has in these areas, compared to emissions. However, both areas are continuously monitored and reported. Moreover, there is steady reduction in our water consumption and discharge. The material environmental aspects fall under the responsibility of the VP Quality and Sustainability (emissions), the SVP

Global Operations (circular economy) and the SVP Finance and CFO (energy), respectively.

For the social area, we did not have an externally certified ISO 45001 system, however, we implemented many parts of it internally. Moreover, aspects like compliance with national preventive fire protection regulations are audited externally regularly. This is supported by tools like Workday (own workforce) and IntegrityNext (supply chain). The material social aspects are related to our own workforce and hence fall under the responsibility of the SVP Global Human Resources.

In all cases, the highest governance responsibility is with the CEO.

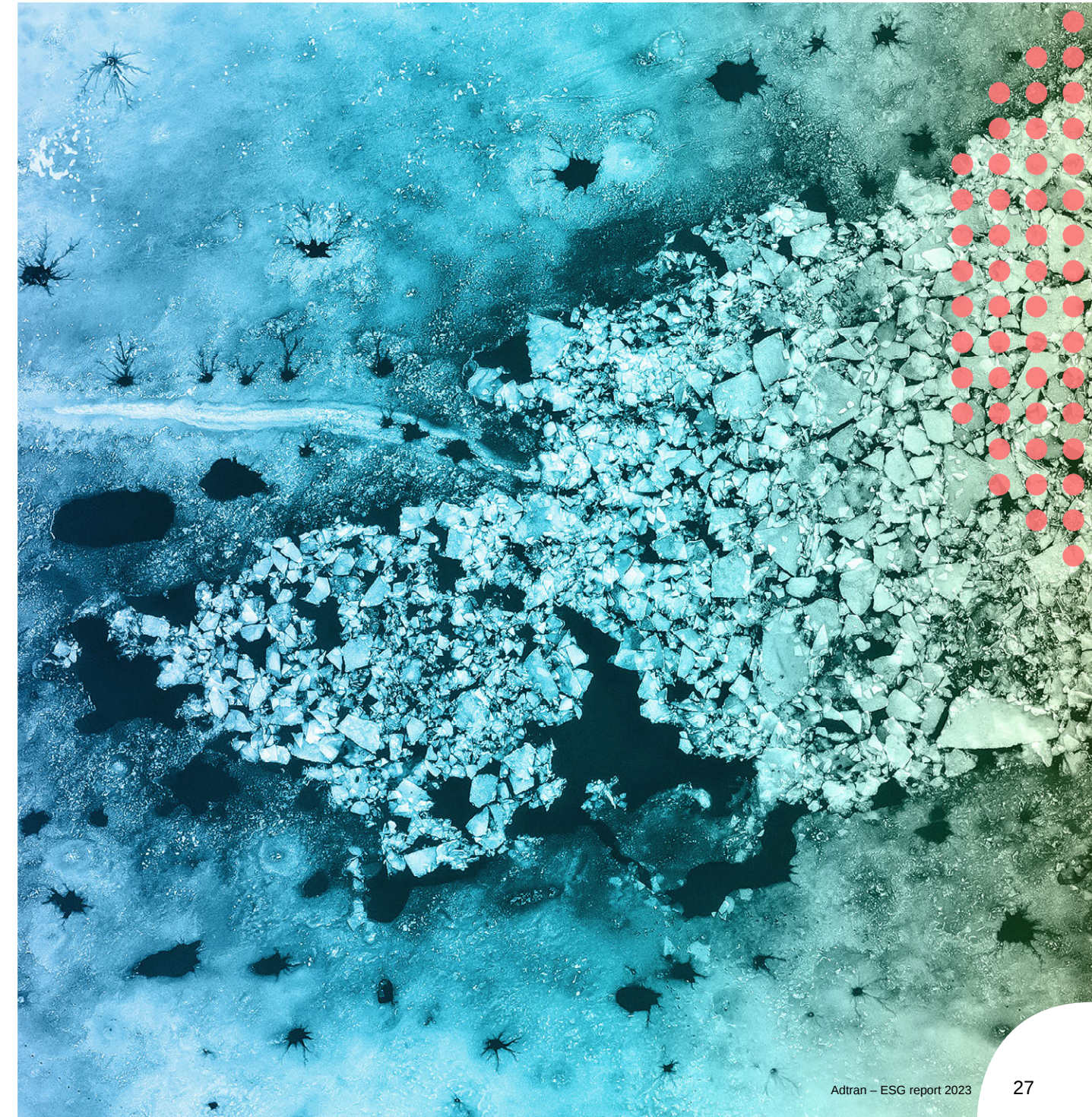


The processes and management approaches include assignment of responsibilities and dedicated staff. They are evaluated externally, at least, on a yearly basis, through assessments (CDP, EcoVadis, Avetta) and audits (ISO audits, validation of this report) and accompanying internal audits and analyses. Moreover, social aspects were assessed in employee satisfaction surveys in the past. Near-term, we plan to get to a regular biennial mode for this survey.

Corrective actions are taken in particular in cases of deviations from the targets and when aspects have undergone new internal rating. This comprises root-cause analyses and the identification and implementation of improvement actions. As an example, we increased our emissions-reduction ambitions with our SBTi Net Zero targets, which we officially submitted in late 2023.

Management of most environmental and social aspects applies company-wide, to all regions and across all product families. The EnMS (ISO 50001) refers to large locations with ICT laboratories only. This covers more than 80% of the total electricity consumption.

So far, our management approaches have proven to be effective and have been confirmed by the external assessments. We expect that due to the increasing number of related regulations and customer requirements, our targets and related initiatives will further increase mid- to long-term.





Actions and resources in relation to material sustainability matters

Resources are primarily OpEx, in the form of necessary personnel. Quantitative details cannot be given due to overlap with other activities, which cannot be separated from each other. Added cost may also result from an increasing amount of purchased renewable energy. This depends on the development of the price of renewable energy and carbon tax, which again cannot

be predicted precisely. Details on this can be found in the respective scenario analysis in the TCFD chapter. Massive increase of expenditures for the key initiatives depends on related (governmental) funding and the overall development of the ICT market. Therefore, predictions for the future will not be made, and precise values for budgeting cannot be provided.

CapEx mainly occurs in the form of expenditures for renewable energy. For the reporting year, this can be

found in the “EU Taxonomy Regulation Disclosures” on page 50.

Action plan, resources, targets

Aspect	Key objectives	Targets in more detail	Key initiatives/actions	Resources
Climate change	Decrease of the global Adtran CO ₂ footprint	Six (6) SBTi Net-Zero targets (3 each near term and long term), targets have long-term scope	Getting SBTi Net Zero-targets approved (started in 2023, near- to mid-term) Emissions-related supply-chain initiative (started in 2023, mid-to long-term)	Resources budgeted for Scope-1/2 targets (responsible: Facility) and Scope-3 targets (responsible: R&D, Operations, ESG)
Energy	Decrease of the global Adtran energy consumption	10 % reduction of total Adtran Holdings, Inc. group energy consumption in 2030, compared to 2022 ISO 50001 Huntsville extension in 2024	Global Energy Strategy Management (final version November 2023) Adtran Huntsville ISO 50001 certification	Budgeted (responsible: Facility), partially subject to availability of renewable energy (beyond the Adtran Holdings, Inc. group control)
Circular economy (CE)	Increase/scale CE business Improve cooperation with the supply chain	Implementation of refurbished-products offering during 2024 ESG risk assessment covers >70 % (2024), >80 % (2025), >95 % (2026) active manufacturers and distributors Increase supply-chain-initiative candidates to 25 in 2024	Extend take-back, maintenance and refurbishment, attract first pilot projects (started in 2023, near- to long-term) Intensified use of IntegrityNext (do.) Broaden emissions-related supply-chain initiative (do.)	Resources budgeted in Operations (as responsible department), with support from ESG and Sales
Work-life balance	Implement a global flexible working model in 2024	Align our new policy in all regions we operate	Monitor progress across regions Report on progress	Resources budgeted (responsible: HR)
Diversity and inclusion	Attract new and retain talent	Definition of related targets in detail in 2024	New vacation policy for the US implemented in 2023, valid for near- to mid-term future	



3.1.4 Metrics and targets

Tracking effectiveness of policies and actions through targets

The Adtran Holdings, Inc. group uses different mechanisms to track the effectiveness of our policies and targets. These include the results of the external CDP and EcoVadis assessments and input from customers. The latter consists of proprietary customer ratings and the result from our own CSAT. This is complemented by our own internal and external ESG audits (ISO 14001, ISO 50001). In the 2023 CDP climate-change assessment, the legacy-Adtran result improved to B minus, and the legacy-ADVA result stayed at A minus. These mechanisms point toward our focus on targets related to the reduction of emissions.

The targets in the previous table are new, post-merger targets. Regarding this table, there are no comparable quantitative targets for both, legacy Adtran and legacy ADVA. Therefore, we do not provide a comparative description of the targets. The exception is the

description of the status of legacy ADVA's SBTi 1.5°C targets, since these will be re-used for the merged Adtran Holdings, Inc. group SBTi Net-Zero targets. For all other targets, we provide their state as of the end of 2023. In future reports, targets will then be described in a comparative way.

Climate change

The Adtran Holdings, Inc. group's emission-related targets are the 6 SBTi Net-Zero targets, which were submitted in 2023 but still due for approval. These consist of 3 near-term and 3 corresponding long-term targets, respectively. The 3 targets cover combined (total) Scope 1 plus Scope 2 and the two Scope-3 categories purchased goods (components) and products' use-phase emissions. As SBTi targets, they are science-based and align with the 1.5°C target.

The basis for these Net-Zero targets are the existing approved legacy-ADVA's SBTi 1.5°C targets. In continuity of last years' reporting, their status is reported hereinafter.

The old 1.5°C targets were complemented by the Scope-3 purchased-components target and long-term targets in late 2023. We will report on the progress of these targets in future reports, on CDP and on EcoVadis.

For all targets (existing 1.5°C targets, new Net Zero targets), effects of company growth, new technologies leading to improved energy efficiency and development of average electricity emission factors have been considered. Main levers for emission reductions are conversion of the car fleet to e-mobility (Scope 1), purchasing and installing renewable energy (Scope 2), and persistent work on highest-possible energy efficiency of our products (Scope 3).

Energy

Energy-related targets are the reduction target as stated in the table on **page 28** and the ISO 50001 extension to our site in Huntsville. The energy-reduction target was newly defined in 2023, it holds for the entire Adtran Holdings, Inc. group, including Adtran Networks SE. For Adtran Networks SE, it can be regarded as a continuation of the formerly existing ISO 50001 energy-reduction target of 1.5% per year. It is defined toward 2030.

Since 2005, significant savings of >49% have been achieved for the Huntsville site (which dominates the consumption of the Holding) in 2023. Moreover, the Huntsville site achieved DOE 50001 readiness status in 2023. For 2024, a first ISO 50001 certification is targeted.

Circular economy

Circular-economy-related targets are the realization of refurbished-products offerings, an increase of the supplier response rate in IntegrityNext, and an increase of the candidates for our supply-chain initiative to 25.

The refurbished-products target was newly defined in 2023. It is a qualitative target since at the time being, the acceptance rate in our customer base is not yet clear. It is possible that this target will be developed into a quantitative target in the future. The target is ongoing, with no end date defined. It is not restricted to any region, but likely to start in Europe. It will be implemented in close cooperation with interested customers.

The IntegrityNext target is a successor of the legacy-ADVA target. Both companies, legacy Adtran and ADVA, introduced IntegrityNext in the last 2-3 years. The target rate will be increased in the future, for details see the table on **page 28**.

Engaging with dedicated customers in a bilateral way on environmental aspects is an initiative that was newly started in Adtran in 2023. We started with nine suppliers that are environmentally relevant, which can be tracked, e.g., via LCA. The target for 2024 is 25 suppliers. Mid-term, this number will be further increased.

Status of the SBTi 1.5°C targets of Adtran Networks SE group

	2016* Base	2032 Target		2023 Target	2023 Status
	GWP [tCO ₂ e]		[%]	GWP [tCO ₂ e]	
Scope 1	1,162	381	-67 %	820	809
Scope 2	5,511	1,808	-67 %	3,891	7,094
Scope 3 (products' use phase)	322,000	311,696	-3 %	317,492	203,342

*) The emission figures for the year 2016 are not covered by the voluntary assurance of the non-financial report.



Work-life balance

Work-life balance for our employees is of importance for Adtran. We have valued it historically, but in 2024, we have ranked it as a material topic for focus. The work-life balance-related target is to implement a global flexible working model across the regions in which we operate. Our Human Resources team is leading this initiative and will monitor our implementation process, reporting progress towards our goal.

Diversity and inclusion

Diversity and inclusion has also been rated material for the first time. Consistent targets (for Adtran Networks SE and Holding) are still to be defined in 2024. They can be reported in our next ESG report.



3.2 Environmental information

Related to the environment, the aspects of climate change, energy and circular economy have been rated material. Climate change and energy are reported hereinafter together since energy is connected to climate change. Circular economy is reported in a later sub-chapter. These all relate to the HGB aspect of environmental matters.

Climate change and energy

Policies related to climate change mitigation and adaptation and energy

Climate change and energy are part of the material impacts and risks that are addressed on Adtran Holdings, Inc. group's main company-wide policy document („Adtran Management System Policy“). For climate change, this primarily relates to mitigation, less so to adaptation. According to our TCFD analyses, mitigation (or the acute physical and transitional aspects) bears higher risk compared to adaptation. In addition, Adtran Holdings, Inc. group's positive inside-out impact is higher when it comes to mitigation, rather than adaptation.

For more information on our policies, please refer to chapter **“Policies adopted to manage material sustainability matters” on page 26.**

Actions and resources in relation to climate change and energy policies

Please also refer to the transition-plan chapter at the beginning of the report at hand.

The Adtran Holdings, Inc. group climate-change (mitigation) actions can be summarized as:

1. Achievement of SBTi near-term and Net Zero long-term targets, started 2020 with legacy-ADVA's

1.5°C targets, the Net Zero targets have target years of 2034 (Scope 1+2) and 2048 (Scope 3 purchased products and sold-products use-phase emissions), respectively

2. Highest product-portfolio energy efficiency, ongoing without end date
3. ISO 50001 energy-consumption reduction target, ongoing, defined until 2030
4. Bilateral climate-change engagement with selected suppliers, started 2023 with 9 suppliers, to be increased to 25 suppliers in 2024
5. Supplier response rate in IntegrityNext, see table on **page 28** for timing details
6. LCA coverage of all new products, started 2023, ongoing without end date

These actions require different resources in terms of labor input and operational expenses. Highest effort has to go into the development of best-possible energy efficiency of our products across the entire portfolio. This target must be followed persistently since improvements in energy efficiency are compensated by the ever-increasing internet bitrates. It is part of our R&D work and as such, fully resourced. It addresses the related SBTi Scope-3 climate-change-mitigation target.

The energy-consumption target (3) addresses the SBTi Scope-2 target. It is supported by extending our ISO 50001 scope to the Huntsville site. Necessary resources are available in our Facility department, the related effort helps reducing energy cost. The target was already listed in the table on **page 28**. It consists of a reduction of the Adtran Holdings, Inc. group's site-related energy consumption by 10% in 2030, compared to 2022. It is an absolute target.

The supplier-engagement and supplier-response-rate targets (4, 5) address both, climate change (supplier emissions are a substantive part of our Scope-3 emissions) and circular-economy aspects. Supplier engagement requires effort, which is shared between several departments. Therefore, suitable resources are available.

LCA also requires substantive labor input. The Adtran Holdings, Inc. group has the resources to conduct LCA, in addition we expect the degree of LCA automation to increase over time, thus gradually reducing the required effort.

Regarding due-diligence processes and the involvement of the CEO, the management board and the board of directors, please see the respective sub-chapters in the **“3.4 Governance information” on page 47.**

3.2.1 Metrics and targets

Qualitative climate-change targets were already listed in chapter Actions and resources in relation to climate change and energy policies. Here, we report quantitative targets.

Targets related to climate change and energy

No quantitative targets related to climate-change adaptation have been defined. Our climate-change mitigation targets consist of our SBTi Net Zero targets (which have already been reported herein) and the target from our energy strategy. The latter was defined company-wide at the end of 2023 and consists of a reduction of Adtran's site-related energy consumption by 10% in 2030, compared to 2022. This target is a consolidated extension of the legacy Adtran targets related to the Huntsville site, and the legacy ADVA ISO 50001 targets and holds for the entire Adtran Holdings, Inc. group, including Adtran Networks SE.

In addition to these targets we have numerical supply-chain targets that support decarbonization of the supply chain and the production of our products. They have been stated in the previous chapter and the table on **page 28** already.

Effectiveness of policies and actions through targets has been described in chapter Tracking effectiveness of policies and actions through targets already.



Energy consumption and mix

Energy-related data for 2023 for Adtran Networks SE group and Adtran Holdings, Inc. group is provided in the following table. The data for Adtran Holdings, Inc. group, with light-gray background, is not subject to the limited-assurance engagement.

Energy consumption and mix	Adtran Networks SE group	Adtran Holdings, Inc. group
(1) Fuel consumption from coal and coal products [MWh]	0	0
(2) Fuel consumption from crude oil and petroleum products [MWh]	0	0
(3) Fuel consumption from natural gas [MWh]	1,427	1,936
(4) Fuel consumption from other non-renewable sources [MWh]	2,063	2,470
(5) Consumption from nuclear products [MWh]	N/A	N/A
(6) Consumption of purchased electricity, heat, steam, and cooling from non-renewable sources [MWh]	10,072	21,000
(7) Total non-renewable energy consumption [MWh] (calculated as the sum of lines 1 to 6)	13,562	25,406
Share of non-renewable sources in total energy consumption (%)	71 %	55.5 %
(8) Fuel consumption for renewable sources (including biomass, biogas, non-fossil fuel waste, renewable hydrogen, etc.) [MWh]	0	0
(9) Consumption of purchased or acquired electricity, heat, steam, and cooling from renewable sources [MWh]	5,530	20,324
(10) The consumption of self-generated non-fuel renewable energy [MWh]	0	0
(11) Total renewable energy consumption [MWh](calculated as the sum of lines 8 to 10)	5,530	20,324
Share of renewable sources in total energy consumption (%) Total energy consumption [MWh] (calculated as the sum of lines 7 and 11)	29 %	44.4 %

The following table states the amount of renewable energy in 2023 for both, Adtran Networks SE group and Adtran Holdings, Inc. group.

Energy	Adtran Networks SE group	Adtran Holdings, Inc. group
Non-Renewable [MWh]	13,562	25,406
Renewable [MWh]	5,530	20,324
Total [MWh]	19,092	45,731
Renewable Share [%]	29.0 %	44.4 %

“Our EU Taxonomy Regulation report does not fully reflect our revenue with low-carbon products and our expenditures for reducing our emissions. We are eligible to several Taxonomy categories, but proving Taxonomy alignment is impossible in most practical cases.”

Uli Dopfer



Gross Scopes 1, 2, 3 and Total GHG emissions

The total GHG emissions disaggregated by Scopes 1 and 2 and applicable Scope 3 are presented for Adtran Networks SE group and Adtran Holdings, Inc. group in the tables below, respectively.

Gross Scopes 1, 2, 3 and Total GHG emissions 2023 (Adtran Networks SE group).
Note that the emission figures for the year 2016 are not covered by the limited-assurance engagement of the non-financial report.

	Retrospective		Milestones and target years			
	Base year (SBTi) 2016	2023	2032 (SBTi)	2034 (SBTi)	2048 (SBTi)	Annual % target/ Base year
Scope 1 GHG emissions						
Gross Scope 1 GHG emissions [tCO ₂ e]	1,162	809	381	See next table (Adtran Holdings, Inc. group)		4.2 %
Percentage of Scope 1 GHG emissions from regulated emission trading schemes (%)		0				
Scope 2 GHG emissions						
Gross location-based Scope 2 GHG emissions [tCO ₂ e]	5,511	7,849		See next table (Adtran Holdings, Inc. group)		
Gross market-based Scope 2 GHG emissions [tCO ₂ e]		7,094	1,808			4.2 %
Significant scope 3 GHG emissions						
Total Gross indirect (Scope 3) GHG emissions [tCO ₂ e]	388,145	276,693		See next table (Adtran Holdings, Inc. group)		
Purchased goods and services [tCO ₂ e]	41,697	58,084				
Capital goods [tCO ₂ e]	4,500	5,755				
Fuel and energy-related activities [tCO ₂ e]	281	802				
Waste generated in operations [tCO ₂ e]	5.7	125				
Use of sold products [tCO ₂ e]	322,000	203,342	311,696			0.02 %
End-of-life treatment of sold products [tCO ₂ e]	1,260	49				
Upstream transportation and distribution [tCO ₂ e]	7,795	3,946				
Downstream transportation and distribution [tCO ₂ e]	3,794	2,400				
Business travels [tCO ₂ e]	3,462	890				
By air [tCO ₂ e]		867				
By car [tCO ₂ e]		23				
By train [tCO ₂ e]		0				
Employee commuting [tCO ₂ e]	3,450	1,300				
Total GHG emissions [tCO ₂ e]						
Total GHG emissions (location-based) [tCO ₂ e]	394,818	285,351				
Total GHG emissions (market-based) [tCO ₂ e]	388,185	284,596				



Gross Scopes 1, 2, 3 and Total GHG emissions 2023 (Adtran Holdings, Inc. group). The data in this table is not subject to the limited-assurance engagement.

	Retrospective		Milestones and target years			
	Base year (SBTi) 2016	2023	2032 (SBTi)	2034 (SBTi)	2048 (SBTi)	Annual % target/ Base year
Scope 1 GHG emissions						
Gross Scope 1 GHG emissions [tCO ₂ e]	1,280	1,038	10,264 S1+S2 combined	3,129 S1+S2 combined		4.2 %
Percentage of Scope 1 GHG emissions from regulated emission trading schemes (%)		0				
Scope 2 GHG emissions						
Gross location-based Scope 2 GHG emissions [tCO ₂ e]	30,012	17,198	See Scope 1, combined S1+S2			
Gross market-based Scope 2 GHG emissions [tCO ₂ e]		11,982				4.2 %
Significant scope 3 GHG emissions						
Total Gross indirect (Scope 3) GHG emissions [tCO ₂ e]	1,165,117	928,407				
Purchased goods and services [tCO ₂ e]	72,029	101,373	43,217		3,601	2.5 %
Capital goods [tCO ₂ e]	4,673	6,206				
Fuel and energy-related activities [tCO ₂ e]	1,171	1,620				
Waste generated in operations [tCO ₂ e]	91	290				
Use of sold products [tCO ₂ e]	1,056,362	797,178	633,817		52,818	2.5 %
End-of-life treatment of sold products [tCO ₂ e]	1,560	192				
Upstream transportation and distribution [tCO ₂ e]	10,473	7,661				
Downstream transportation and distribution [tCO ₂ e]	4,043	10,219				
Business travels [tCO ₂ e]	8,351	1,668				
By air [tCO ₂ e]						
By car [tCO ₂ e]						
By train [tCO ₂ e]						
Employee commuting [tCO ₂ e]	6,364	2,000				
Total GHG emissions [tCO ₂ e]						
Total GHG emissions (location-based) [tCO ₂ e]	1,196,409	946,646				
Total GHG emissions (market-based) [tCO ₂ e]	1,165,117	941,427				



The GHG intensity based on net revenue is presented in the following table. Again, only the value for Adtran Networks SE has been subject to the limited-assurance engagement.

GHG intensity per net revenue	Adtran Networks SE group	Adtran Holdings, Inc. group
Total GHG emissions (location-based) per net revenue	0.000465 (tCO ₂ e/EUR)	0.000824 (tCO ₂ e/USD)

GHG removals and GHG mitigation projects financed through carbon credits

In 2023, there have been no GHG-removal projects within the complete Adtran Holdings, Inc. group, including Adtran Networks SE.

However, for 2023, Adtran Holdings, Inc. group has purchased RECs from its energy supplier TVA in Huntsville, equaling 9,000 MWh. This equaled 43% of TVA's total delivery to Huntsville, and approximately 20% of total Adtran consumption in that year. The RECs were Green-e certified.

For 2024, the same amount of RECs (equaling 9,000 MWh) has already been ordered.

Internal carbon pricing

In 2023, we continued the internal carbon pricing that we started in the previous year. We apply a shadow price on purchased electricity, transportation emissions, and sold-products use-phase emissions, respectively. This supports our Net-Zero activities and is also used in our TCFD scenario analyses.

The shadow price is based on the German carbon tax. This tax started in 2021 with 25 EUR/tCO₂. Toward 2026, it is projected to linearly increase to 65 EUR/tCO₂. This also means that for 2023, the shadow price was 41 EUR/tCO₂. Applied to the total electricity, transportation, and sold-products use-phase emissions, respectively, this leads to an overestimation, since German carbon tax is relatively high. Also, effects like customers already running their networks with 100%

renewable energy are not considered. Consequently, an upper bound of carbon cost is derived, which is relevant for risk considerations. For the same reason, the shadow price is applied to the total emissions. The latter have already been stated in the previous tables.

Potential financial effects from material physical and transition risks and potential climate-related opportunities

Please also refer to the chapter ***“Material impacts, risks and opportunities and their interaction with strategy and business model” on page 22.***

Potential financial effects mainly refer to transition risks and climate-related opportunities, as per our TCFD Report until year-end 2023, we did not identify material climate-related physical risks. This is due to the locations of our main sites as well as of key suppliers. We did identify extreme-precipitation events and more consecutive hot days as potential physical climate risks, but do not see immediate financial risk here. Obviously, there are no physical climate-related opportunities.

Transition poses both, risks and opportunities. It is impossible to provide precise quantization. For some scenarios, again please refer to the TCFD report.

Transition risks mainly comprise even higher OpEx for additionally required ecodesign, higher carbon tax, and potential cost to comply with more and even more-complex regulations. The latter is a serious risk for the Adtran Holdings, Inc. group as a mid-sized company. It may lead to the necessity to increase the ESG staff.

Increased necessary amount of ecodesign potentially has the highest financial impact. R&D already leads to material OpEx, and within hardware development, ecodesign already plays a substantive role. This is a risk since most customers are not willing to participate in the higher cost for environmentally even friendlier products.

All these risks mainly have a mid-term horizon.

In addition, indirect negative financial effects can arise from any climate-related negative impact on the company image.

Transition opportunities mainly comprise added revenue through highly-efficient, low-carbon products as well as the climate-change-mitigation capability of our products (Greening-by-ICT). There is also some smaller potential savings through transportation mode change away from air freight and somewhat better, climate-related loan conditions, respectively.

In addition, indirect positive financial effects can result from climate-related (government) cooperations and positive company image.

Again, it is impossible to quantize the opportunities. We expect, however, that the opportunities will balance the risks.



3.2.2 Pollution, Water and marine resources, and Biodiversity and ecosystems

The matters pollution, water and marine resources, and biodiversity and ecosystems have not been assessed as material and are therefore not subject to the limited-assurance engagement.

The Adtran Holdings, Inc. group itself does not produce any dedicated pollution (into soil, water or the air). Likewise, we do not have any severe impact on water and marine resources, and biodiversity and ecosystems, respectively. These aspects are tracked via our EMS. In particular, we closely track our water consumption, which steadily decreased for both, Adtran Networks SE and Adtran Holdings, Inc. group, over the last years.

In addition, no severe related risks are seen throughout our value chain. This is in line with research findings that say that ICT environmental impact is centered around the use phase (energy consumption and generation of emissions), and resource usage and WEEE generation. The latter are considered via the circular-economy matter.

3.2.3 Circular economy

Policies related to circular economy

The Adtran Holdings, Inc. group has compiled a main policy document that covers the environmental aspects of emissions, the transition to a circular economy and the conservation of natural resources, energy and raw-material consumption and waste generation, respectively. This covers our operations as well as our products. The policy also covers, where applicable, the extension into our supply chain.

For more details on our policies, please refer to chapter ***“Policies adopted to manage material sustainability matters” on page 26.***

Actions and resources related to circular economy

An overview on key actions and resources related to the Adtran Holdings, Inc. group’s material aspects is given in Chapter ***“Actions and resources in relation to material sustainability matters” on page 28.*** Obviously, this action list addresses key aspects of our main policy document. We expect that these actions are constructive related to our material aspects and their associated targets.

Related to circular economy, the actions address our customers and own operations (extended business offerings), and engagement with suppliers, respectively. There are no restrictions with regard to specific products, regions, customers or suppliers. The time horizon of these activities covers all terms. They started already, and they will be maintained well into the long-term future.

In 2023, we started with refurbished-products offerings for a first large lead customer in Europe. How this extends to more customers must be tracked in the future. One challenge is that not all products are equally well suited to lifetime extension via refurbishment. We also started a dedicated environment-related supply-chain initiative with the first nine key suppliers in 2023. This initiative will be extended near-term to a target number of 25. Mid-term, it shall be extended to cover all relevant parts of our purchased goods and services.

So far, the operations-related activities did not require significant (additional) OpEx or CapEx, respectively. We do not expect this to change near-term. Related to

our products, circular economy is one of the aspects that falls under our ecodesign process and activities.

Ecodesign is part of our R&D (OpEx) activities and as such, requires substantial amounts of resources.

The exact portion of our R&D spent cannot be calculated, we estimate that ecodesign requires up to 10% of our total R&D OpEx.

The circular-economy-related ecodesign focuses on the preparation for reuse, where applicable, and recycling. Reuse is addressed, e.g., by modularity of most of our products and generally long product lifetime (the latter being also supported by maintenance). Recycling is addressed, amongst others, by design for manual disassembly, avoidance, where possible, of hazardous substances, and others. In addition, prevention (of material consumption and waste) is addressed by the ongoing development toward miniaturization of parts of our product portfolio.

In 2022, we already started activities that aim at optimizing the total-lifetime environmental footprint of our products. These activities consist of analyses related to optimum product lifetime. This is relevant for ICT network equipment like the one Adtran Holdings, Inc. group is producing since due to quick development cycles, there are substantive improvements in product energy efficiency, which is measured in energy or power consumption per throughput (the latter being measured in Gbps, gigabit per second). In these analyses, we calculate whether lifetime extension after several years of use is really advisable in terms of total-lifetime environmental impact. This, of course, considers the production impact of any successor products for cases where the original products are replaced after a certain use period by a more-efficient successor product. These analyses reveal that for some of the Adtran Holdings, Inc. group’s products,

e.g., coherent high-speed WDM, replacement is advisable in order to avoid adverse effects on global warming. The analyses hence can be used for the EU Taxonomy Regulation’s requirement for the so-called do-no-significant-harm check. This is true in cases where circular-economy-related activities, aiming at enabling lifetime extension, have to undergo this check. The analyses indicate whether reuse and refurbishment are beneficial for specific products, or whether these products should be maintained (repaired) within a certain nominal lifetime and then be recycled. In 2023, we brought these analyses into ITU-T standardization, where they are currently (2024) followed in Question 7/5 under draft recommendation ITU-T L. UPR10.

Moreover, repurpose is no option for the products of the Adtran Holdings, Inc. group’s portfolio.

Further circular-economy actions relate to optimization of packaging, including its reuse, in order to minimize downstream waste generation. Moreover, packaging that is not reused anymore goes into material-specific recycling. This is supported by reducing plastic in packing.

Regarding due-diligence processes and the involvement of the CEO, the management board and the board of directors, please see the respective sub-chapters in the ***“3.4 Governance information” on page 47***

Regarding the identification and assessment of material impacts, risks and opportunities, please refer to the respective chapter on ***page 25.***



Targets related to circular economy

Our main circular-economy-related target is the creation of refurbished-products offerings. Remanufacturing or repurposing are not in scope. This is driven by customer requests. The target also addresses our company policy (“transition to a circular economy”), and the EU circular-economy action plan. For 2023, this has been a qualitative target. It is not restricted to specific regions, however, we plan to start the introduction of refurbished-products offerings for WDM products and extend this later to other product lines.

So far, no significant business with refurbished products has been made. There were several early pilot projects, but their relative revenue was negligible. Therefore, we use the year 2022 as base year for future evaluation. The target replaces a similar, older, legacy-ADVA target that aimed at the introduction of PSS (product-service systems) leasing offerings. It has long-term scope since from 2023’s perspective, customers’ interest in PSS has still been low.

The target has been achieved for 2023 in that a first related offering has been compiled for a large customer. The near- to mid-term plan is to monitor customers’ interest and see how such offerings can be scaled up. As of 2023, no quantitative prediction can be made, since so far, customers’ interest has been heterogenous. In terms of operational reverse logistics, maintenance and refurbishment capabilities, no additions are required in that period. Whether we define a quantitative target related to relative revenue in the future is not yet clear.

The target has no impact on circularity design or waste management. Product design – modularity, longevity, maintainability – already supports this target, and end-of-life treatment in the form of WEEE recycling remains the same.

One limitation for using refurbished products has been identified. It has been described in the chapter **“Actions and resources related to circular economy” on page 36** already and is given by optimum product lifetime. Above a certain – product-specific – use phase, further lifetime extension may not be advisable and can lead to adverse environmental impact. This must be considered for the refurbished-products offerings.

Highest-level responsibility for circular economy within the Adtran Holdings, Inc. group is with the SVP Global Operations, who reports to the CEO.

Supportive targets are the ones on supplier engagement, either directly or via IntegrityNext. The primarily address emissions, but can be used to extend the circular economy in the supply chain. As pointed out earlier, the targets themselves are on coverage of the supplier base with IntegrityNext and the number of customers for dedicated bilateral engagement. Over time, this aims at supply-chain decarbonization and better cooperation in terms of the circular economy. This outcome is qualitative for now, metrics for quantitative tracking still have to be developed.

Aspects like use of recycled materials and recyclability are part of our ecodesign guidelines.

Effectiveness of policies and actions through targets has been described in chapter **“Tracking effectiveness of policies and actions through targets” on page 29** already.

Resources inflows and outflows

There is no reporting obligation according to the EU Circular Economy Action Plan 2020. We do not manufacture ICT products that are in scope of this action plan.

So far, only mobile phones, tablets and laptops are in scope, eventually to be complemented by printers and their consumables.

In addition, our waste generation and the material flows are not rated material.

In general, the products of the Adtran Holdings, Inc. group have a long lifetime (which can exceed 10 years), which is only limited by functional or energy-efficiency obsolescence. The lifetime is supported by product modularity, maintainability and the related maintenance services. Precise data for industry average lifetime is not available. We believe that, e.g., consumer-equipment lifetime (ONTs, RGWs in our case) is determined by customer behavior rather than technical lifetime.

Recycled content in our products is <50% (in terms of weight), which is solely determined by the portion of recycled metal in the chassis. Recycled content in packaging is higher, driven by recycled cardboard. In addition, we eliminate plastic in packing where possible from the viewpoint of g-force protection.

However, the Adtran Holdings, Inc. group wishes to report on waste generation and the related treatment. This is done hereinafter.

Waste

Waste generation and disposal for Adtran (Networks SE group and Holdings, Inc. group) is shown in the following table. The data for Adtran Holdings, Inc. group, with light-gray background, is not subject to the limited-assurance engagement.



Waste disposal and GWP 2023 (options not shown were not used, i.e., only recycling occur). WEEE: waste electrical and electronic equipment.

Waste disposal	Adtran Networks SE group 2023				Adtran Holdings, Inc. group 2023			
	Incineration		Recycling		Incineration		Recycling	
	Weight [t]	GWP [tCO ₂ e]	Weight [t]	GWP [tCO ₂ e]	Weight [t]	GWP [tCO ₂ e]	Weight [t]	GWP [tCO ₂ e]
Hazardous waste	0	0	0	0	0	0	0	0
Radioactive waste	0	0	0	0	0	0	0	0
Cardboard	0	0	207	6.2	0	0	215	6.5
Plastic	0	0	134	29.6	0	0	135	29.8
WEEE	0	0	18.6	0.4	0	0	40.3	0.8
Other	0	0	634.6	89	0	0	1,443	252.5
Total waste [t]	994.2				1,833.3			
Total amount of non-recycled waste [t]	0				0			
Percentage of non-recycled waste	0%				0%			

As an ICT-equipment manufacturer, the Adtran Holdings, Inc. group has three sector-specific waste streams. These are WEEE (waste electrical and electronics equipment), cardboard from used packaging, and plastic (mostly also from packaging). Packaging plastic in most cases consists of PE foam and PU foam. WEEE contains, amongst others, precious metal, rare-earth metal, aluminum, steel, non-metallic minerals like phosphorus, and plastic. The latter in most cases consists of low- and high-density PE and PP. WEEE also contains batteries.

Potential financial effects from circular economy-related impacts, risks and opportunities

Circular economy poses both, financial risks and opportunities. Both cannot be quantized precisely. The tendency is that opportunities (over-) compensate the risks. We see this to happen on a mid-term horizon.

Financial risks primarily result from the potential cannibalization of our market with second-life products

that generate less revenue. This holds true when our savings in primary-components cost do not compensate the reduced revenue. This is likely to happen since critical components like, e.g., ASICs, have limited lifetime since they become obsolete quickly and may have to be replaced for refurbished products. In turn, extending the lifetime of such ASICs also poses the environmental risk of increased total-lifetime emissions.

Opportunities related to circular economy result from additional revenue from products that otherwise would already have been taken out of service and recycled. Short-term, this is not seen as an opportunity. It can develop mid-term. This includes both, an increasing related customer base and related business models. The potentially more-interesting opportunity is given by (eco-) leasing services. These enable recurring revenue streams and better long-term customer relationships. We only see this on the long-term horizon.

In the context of circular economy, we consider several relevant aspects. These include reverse logistics, stocks for (refurbished) components, lifetime limitations due to efficiency and functional obsolescence, characteristics of our electronic components (e.g., lifetime limitation due to electromigration), size of customer and its geographical dispersion, maintenance and refurbishment cost, potential revenues and potential new business models. Part of these considerations include the customers as well as our suppliers.

Of course we also consider that the Adtran Holdings, Inc. group has already implemented reverse logistics, maintenance services, take-back, stocks for refurbished components, etc.

Uncertainty primarily results from the uptake rate of circular-economy offerings by our customers. In the recent past, this uptake has been below expectations.

Uncertainty also results because not all product lines lend themselves equally well to circular-economy offering, mainly for reasons of functional and efficiency obsolescence. Both cannot be addressed arbitrarily good by ecodesign for certain classes of ICT goods.



3.3 Social information

Related to social information, the aspects of work-life balance and diversity and inclusion have been rated material. These relate to the HGB aspects of employee-related and social matters.

3.3.1 Own workforce

Impacts, risks and opportunities management

Material impacts, risks and opportunities and their interaction with strategy and business model have been described in the chapter **“3.1.2 Strategy” on page 21**. Inclusion of stakeholders, including our employees has also been described there. Processes for engaging with our employees are described in more detail hereinafter.

Policies related to own workforce

Material aspects in the social area and related to our own workers comprise work-life balance and diversity and inclusion, respectively. Related risks, according to the Adtran Holdings, Inc. group ERM, are the potential inability to attract, retain, train and develop talent, respectively. These material aspects, risks and their potential impact are managed via related policies, processes and initiatives, please also refer to the chapters **“Policies adopted to manage material sustainability matters” on page 26** and **“Actions and resources in relation to material sustainability matters” on page 28**. These policies, processes and initiatives hold for all employees, all sites and all regions.

Our policies and processes are based on, and comply with, relevant international standards, including but not limited to the United Nations Universal Declaration of Human Rights, the fundamental Conventions developed by the International Labour Organization,

and the United Nations Guiding Principles on Business and Human Rights. The Adtran Holdings, Inc. group further actively pursues conformance to the Responsible Business Alliance Code of Conduct and the guidance established by ISO 26000:2010.

Related to human rights, human trafficking and forced and/or child labor, we follow a zero-tolerance policy. This is also in compliance with the UK Modern Slavery Act, California Transparency in Supply Chain Act and similar requirements. The current company declaration on modern slavery can be viewed on our website at www.adtran.com/en/about-us/esg.

Our policies and actions further cover the area of work health and safety. This includes the UK Health and Safety Policy together with safe working practices and similar provisions in the other (EMEA, US, rest of world) locations. As such, we also track incidents, which are reported hereinafter **“Incidents, complaints and severe human rights impacts and incidents” on page 45**.

The Adtran Holdings, Inc. group further follows a zero-tolerance policy concerning any forms of discrimination and harassment, as well as the promotion of equal opportunities and diversity and inclusion, respectively. This is reflected in our related diversity, equity and inclusion (DEI) policies and in our Code of Conduct, respectively. This is complemented by our transparent Workday-based recruitment process. Our non-discrimination and anti-harassment policy covers several grounds for potential discrimination like racial and ethnic origin, sex, sexual orientation, disability, age, and religion.

We put focus on the aspect of diversity and inclusion, confer the materiality and risk assessments. This led to transparent recruitment activities and a related recruitment training program for managers and those

involved in the recruitment process. Recruitment aims at improving diversity in our teams. This is supported by employee education to raise awareness of our DEI policies on a global level. Further, we conduct pulse/engagement surveys to proactively identify and address gaps/concerns.

There are no specific governmental obligations related to inclusion and assistance measures for specific vulnerable groups within our own employees.

Policies and related actions and achievements are regularly reviewed in order to ensure our inclusive approach.

Cases of policy violations can be reported via a hotline that is managed by WhistleB Reporting, a third-party provider that allows employees to anonymously report concerns of potential improper activities within the workplace. Any concerns regarding potential or actual violations of policies should be reported to WhistleB Reporting through one of the following means: online <https://report.whistleb.com/en/adtran> (Client code: 453581), phone 1.800.218.8954 (available 24 hours a day, 7 days a week).

Processes for engaging with own workers and workers’ representatives about impacts

The Adtran Holdings, Inc. group runs several processes and policies for engaging with our workers and workers’ representatives about impacts. This includes both, direct engagement with our workers and feedback from the AWC (Adtran workers council), where applicable. The latter holds for the Adtran Networks SE.

Our engagement comprises an HR open-door policy, which is true also for substantive parts of our leadership team. It further comprises employee-satisfaction surveys. After several years without an employee-satisfaction survey (owed to the Covid years and, later,

our migration activities), such a survey is again planned for the Adtran Holdings, Inc. group in 2024. The mid-term rate of these surveys has not been set yet. This is complemented by Town-Hall meetings, Round Tables (smaller groups of employees with executive lead), departmental meetings, and last but not least a multitude of employee-manager one-on-one meetings. The latter include our scheduled half-yearly process based on Workday, which also aims at collecting employee feedback. Altogether, these meetings occur regularly, scheduled, or on an ad-hoc basis as required.

In addition to the meetings listed above, there were also regular workers meetings, organized by the workers council, and with attendance of members of the management team. This is complemented by regular consultation hours offered by the workers council, where employees can raise work-related concerns.

Our engagement with employees, including the assessment of its effectiveness, includes all employees and as such, potentially vulnerable groups. The effectiveness of engagement is tracked via the voluntary turnover rate.

Responsibility for these policies and processes is with the SVP Global HR and the CEO (who also participates in some of the townhall meetings).

We regard the processes and activities sufficient and successful.



Processes to remediate negative impacts and channels for own workers to raise concerns

The Adtran Holdings, Inc. group both requires and encourages its employees to report actual or potential violations. If employees are aware of conduct that may violate the Code of Conduct, employees are encouraged to report the violation. Reporting a potential violation demonstrates the sense of commitment, responsibility and fairness to Adtran Holdings, Inc. group's customers, shareholders, business associates and your fellow employees. The Adtran Holdings, Inc. group also offers an Ethics and Compliance Hotline to report potential violations. The hotline is managed by WhistleB Reporting, a third-party provider that allows employees to report concerns of potential improper activities within the workplace. Any concerns regarding potential violations should be reported in WhistleB. These include, but are not limited to:

- Fraudulent activity/theft
- Misconduct
- Unethical behavior
- Health and/or safety violations
- Data privacy concerns
- Discrimination/harassment

Anyone can report a concern also anonymously through the following means:

- Online – <https://report.whistleb.com/adtran>
- Phone – WhistleB 1.800.218.8954 (Client code is 453581)
- In Person – to the supervisor, HR or Compliance Department, or Internal Audit

Whenever potential violations are investigated, employees must cooperate completely and provide full, accurate, timely and truthful information to the involved neutral department(s) leading the investigation. At the end of an investigation, the Adtran Holdings, Inc. group will decide on prompt and consistent actions, which may require external disclosure of the violation or legal actions. Action may also include termination of employment for employees, and termination of the business relationship with business partners. Unsubstantiated allegations reported in good faith will not have any effect.

The reporting channel is published for employees in the Code of Conduct and trainings. External stakeholders are made aware about the reporting channel on the website <https://investors.adtran.com/corporate-governance/default.aspx>.

Non-Retaliation

Adtran Holdings, Inc. group's employees will not experience any form of retaliation for raising concerns. All employees should be comfortable in raising questions or concerns. The Adtran Holdings, Inc. group strictly prohibits any form of retaliation against any individual making a report based on a reasonable belief of a violation of its Code of conduct or the policies. The Non-Retaliation policy is set forth in the Code of Conduct, chapter Non-Retaliation. This policy is the incorporation of the EU Directive 2019/1937 on the protection of persons who report breaches of Union law and other national legislation around victimization/retaliation.

More details on governance can be found in the chapter **“3.4 Governance information” on page 47.**

Taking action on material impacts on own workforce, and approaches to mitigating material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions

Related to our own employees, the material aspects are work-life balance and diversity and inclusion. Both aspects are managed by our HR department, which is led by the SVP Global HR who reports directly to the CEO. Related due diligence consists of the several ways of engaging with our employees, as explained before and tracking the voluntary turnover rate. In addition, there is an external hotline, as explained in the previous chapter. HR aspects are also part of our regular management reviews. Resources for actions and initiatives are available, with headcount of >20 (Adtran Networks SE) and >30 (entire Adtran Holdings, Inc. group) in 2023, respectively.

Measures for supporting the work-life balance in 2023 included the mobile-working policy (for the entire Adtran Holdings, Inc. group) and an additional vacation day for Adtran Networks SE. In 2024, this will be continued by another additional vacation day for Adtran Networks SE and an unlimited-vacation policy for all US-based employees (entire Adtran Holdings, Inc. group).

The concept of diversity and inclusion is internally promoted, as well as equal opportunities. This is underpinned by respective policies, our transparent recruitment process, and tracking several diversity indicators, which are reported hereinafter. The aspect of diversity and inclusion has been rated material in 2023 for the first time. In addition, the definition of targets is planned for 2024. Therefore, we cannot report on the development compared to 2022.

Material negative impact on our workers can result from any internal or external events or actions that increase our ERM risk of inability to attract, retain, train and develop talent, respectively. This is addressed by several ongoing actions, processes and related targets, which have partially been described already. This comprises, e.g., our engagement surveys and other feedback mechanisms. The effectiveness of all these activities is partially tracked via the engagement processes explained in the chapter **“Processes for engaging with own workers and workers’ representatives about impacts” on page 39.** This can lead to dedicated initiatives for, e.g., attracting new talent in specific regions. We regard this approach sufficient since in the past, voluntary attrition has been close to the corporate target figure.

In addition, we started considering the EU Taxonomy Regulation's do-no-significant-harm principle in the ESG area. It can be applied to other actions and practices, not only for Taxonomy reporting. It then provides a “sanity” check, whether these actions and practices cause harm in other areas, in this case, on our workforce. The specifics of these checks depend on the specific actions and practices and their context.

For an overview of the actions, resources and targets, please refer to the chapter **“Actions and resources in relation to material sustainability matters” on page 28.**



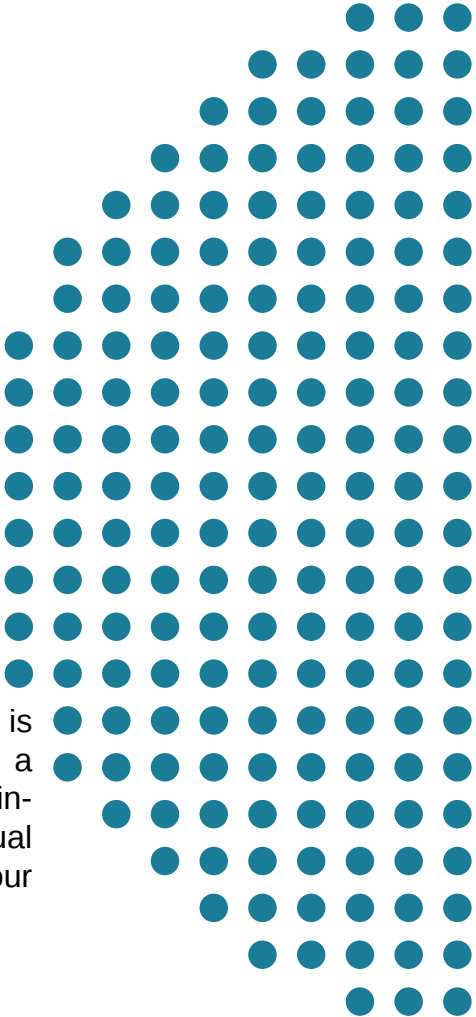
3.3.2 Metrics and targets

Characteristics of the undertaking's employees

Following, employee characteristics are presented, broken down into both, Adtran Networks SE group and the entire Adtran Holdings, Inc. group, and into gender, region, and contract type, respectively. The data for the combined separate non-financial report includes all employee classifications, including students and temporary employees. All data is as of December 31, 2023. Data for Adtran Holdings, Inc. group is not subject to the limited-assurance engagement. This data is highlighted in light gray.

“Sustainable supply-chain engagement is a complex task. We address this by a balanced mix of tool-based supply-chain-management automation and individual supplier engagement, in order to help our suppliers on their way to decarbonization.”

Paulus Bucher





Employee headcount by gender

Number of employees (headcount as of Dec. 31, 2023)		
Gender	Adtran Networks SE group	Adtran Holdings, Inc. group
Male	1,680	2,587
Female	483	790
Other*	0	0
Not declared	3	8
Total Employees	2,166	3,385

*) Gender as specified by the employees themselves

Employee headcount in countries with at least 50 employees

Number of employees (headcount as of Dec. 31, 2023)		
Country	Adtran Networks SE group	Adtran Holdings, Inc. group
United States of America	329	1,259
Germany	628	847
Poland	534	535
India	186	186
United Kingdom	115	144
Israel	107	110
China	63	63

Employees by contract type, broken down by gender

As of December 31, 2023	Female	Male	Other*	Not declared	Total
Number of employees (headcount)					
Adtran Networks SE group	483	1,680	-	3	2,166
Adtran Holdings, Inc. group	790	2,587	-	8	3,385
Number of permanent employees (headcount)					
Adtran Networks SE group	455	1,622	-	3	2,080
Adtran Holdings, Inc. group	759	2,527	-	8	3,294
Number of temporary employees (headcount)					
Adtran Networks SE group	28	58	-	0	86
Adtran Holdings, Inc. group	31	60	-	0	91
Number of full-time employees (headcount)					
Adtran Networks SE group	384	1,617	-	3	2,004
Adtran Holdings, Inc. group	678	2,508	-	8	3,194
Number of part-time employees (headcount)					
Adtran Networks SE group	99	63	-	0	162
Adtran Holdings, Inc. group	112	79	-	0	191

*) Gender as specified by the employees themselves.



Employees by contract type, broken down by region

As of December 31, 2023	Region EMEA	Region Americas	Region APAC	Total
Number of employees (headcount)				
Adtran Networks SE group	1,526	359	281	2,166
Adtran Holdings, Inc. group	1,793	1,299	293	3,385
Number of permanent employees (headcount)				
Adtran Networks SE group	1,442	359	279	2,080
Adtran Holdings, Inc. group	1,706	1,297	291	3,294
Number of temporary employees (headcount)				
Adtran Networks SE group	84	0	2	86
Adtran Holdings, Inc. group	87	2	2	91
Number of full-time employees (headcount)				
Adtran Networks SE group	1,368	355	281	2,004
Adtran Holdings, Inc. group	1,614	1,287	293	3,194
Number of part-time employees (headcount)				
Adtran Networks SE group	158	4	0	162
Adtran Holdings, Inc. group	179	12	0	191

Characteristics of non-employee workers in the undertaking's own workforce

The number of non-employee workers at year end 2023 is shown in the following table for Adtran Networks SE group and Adtran Holdings, Inc. group, respectively, broken down into the applicable departments. Data for Adtran Holdings, Inc. group is not subject to the limited-assurance engagement. This data is highlighted in light gray.

Headcount	Adtran Networks SE group	Adtran Holdings, Inc. group
Agency Workers	18	49
CIO	0	1
CTO	8	20
Operations	10	19
Services	0	9
Contractors	80	143
ANS	1	1
CFO	25	32
CIO	8	9
CRO	1	12
CTO	40	75
Operations	0	6
Services	4	7
Other	1	1
Grand Total	98	192

Collective bargaining coverage

As of December 31, 2023, Adtran Networks SE group had 91 employees in Switzerland, France, Italy, Finland and Spain that were subject to collective bargaining agreements of different associations. None of our other employees are subject to collective bargaining agreements. Therefore, the percentage of all Adtran Networks SE group employees that are covered by such agreements is 4.2%. The related percentage outside the EEA is 0. This data was not subject to the limited-assurance engagement.



Diversity metrics

Following, diversity indicators are presented, broken down into both, Adtran Networks SE group and the entire Adtran Holdings, Inc. group, and into total employees vs. employees in management, gender and age, respectively. During 2024, we will continue our actions on diversity and inclusion, which will include more detailed target definitions. All data presented here is as of December 31, 2023. Data for Adtran Holdings, Inc. group is highlighted in light gray, it was not subject to the limited-assurance engagement.

	Adtran Networks SE group 2023		Adtran Holdings, Inc. group 2023	
	Headcount	%	Headcount	%
Males total	1,680	77.6	2,587	76.4
Males in management	338	15.6	493	14.6
Females total	483	22.3	790	23.3
Females in management	55	2.5	94	2.8
Not declared total	3	0.1	8	0.2
Not declared in management	0	0	1	0.03

Management	Adtran Networks SE group 2023	Adtran Holdings, Inc. group 2023
Males not in management	1,342	2,094
Females not in management	428	696
Not declared not in management	3	7
Total not in management	1,773	2,797
Males in management	338	493
Females in management	55	94
Not declared in management	0	1
Total in management	393	588

Gender	Age group	Adtran Networks SE group 2023	Adtran Holdings, Inc. Group 2023
Male	<30 years	246	325
	30-50 years	904	1,206
	>50 years	530	1,056
Male total		1,680	2,587
Female	<30 years	85	105
	30-50 years	280	389
	>50 years	118	296
Female total		483	790
Not declared	<30 years	0	1
	30-50 years	3	6
	>50 years	0	1
Not declared total		3	8
Employees total		2,166	3,385

The topics adequate wages, pay gap and total remuneration, social protection, persons with disabilities, training and skills development and health and safety indicators have not been rated material and were not subject to the limited-assurance engagement.



Adequate wages

Both, Adtran Networks SE and Adtran Holdings, Inc. group, pay adequate wages to all workers in our workforce, according to EU definitions. This is also reflected in at least yearly reviews of the wages.

Pay gap and total remuneration

This aspect has not been rated material, though explicitly having been assessed, refer to the table on **page 28**. We conclude that this information is not needed for disclosure.

Social protection

All workers of Adtran Networks SE are covered by social protection, albeit with different entitlement according to local regulations.

Persons with disabilities

The percentage, as of December 31, 2023, of persons with disabilities in our own workforce is 1.4% for Adtran Networks SE group and 1.2% for Adtran Holdings, Inc. group. The respective numbers for our employees, subject to legal restrictions on the collection of data, are 1.4% (Adtran Networks SE group) and 1.3% (Adtran Holdings, Inc. group).

Training and skills development indicators

All Adtran Networks SE group and Adtran Holdings, Inc. group employees participated in performance and career development reviews. This holds for permanent full- and part-time employees. The review is managed via the common platform Workday, which was implemented for the complete company (Holding) in early 2023.

Trainings are tracked via our Human Resources Information System. In 2023, a total of 8,552 hours of trainings were taken in Adtran Networks SE group, equaling an average of ~4 hours per employee. In Adtran Holdings, Inc. group, a total of 17,880 hours of training were taken, leading to an average of ~5.3 hours per employee. Duration per training was between 30 minutes and a full week (5 days). There were no substantive differences between the genders.

Health and safety indicators

Relevant OHS indicators are summarized in the following table for Adtran Networks SE and Adtran Holdings, Inc. group, respectively. Our health and safety management system is not externally certified. However, we do perform internal audits, and certain aspects of the management system, e.g., fire-protection procedures, are externally validated.

Formal joint management-worker health and safety committees operate on a per-site level.

OHS indicators as of December 31, 2023	Adtran Networks SE group	Adtran Holdings, Inc. group
Percentage of own workers covered OHS management system	100 %	100 %
Number of fatalities as a result of work-related injuries or ill health (including other workers working at our sites)	0	0
Number and rate of recordable work-related accidents	5, including 1 on way to work	10
Number of recordable cases of work-related ill health	0	0
Number of days lost to work-related injuries and ill health	0	241

Work-life balance indicators

All own workers of the Adtran Holdings, Inc. group are entitled to family-related leaves through our social policies. Work-life balance is further supported by our mobile-working policy. In addition, we increased the number of vacation days in Germany in 2023, and changed to an unlimited vacation policy for US-based employees, also refer to the chapter **“Taking action on material impacts on own workforce, and approaches to mitigating material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions” on page 40**.

Incidents, complaints and severe human rights impacts and incidents

During 2023, one (1) compliance complaint was received based on harassment. An employee complained that he had been harassed by his line manager through telephone calls during his holiday and lacked personnel support for his sales region. Following the complaint, a compliance investigation was initiated and interviews were conducted with the employees involved. The complaint was ultimately found to be unfounded as the calls were justified by urgent operational needs and could have been avoided by sufficient handover. Regarding the complaint of a lack of support, the situation was mitigated by contracting an external consultant and an additional position will be hired in 2024 for the sales region.

In 2023 no incidents with severe human rights impacts occurred. No material fines, penalties, and compensation for damages were asserted.



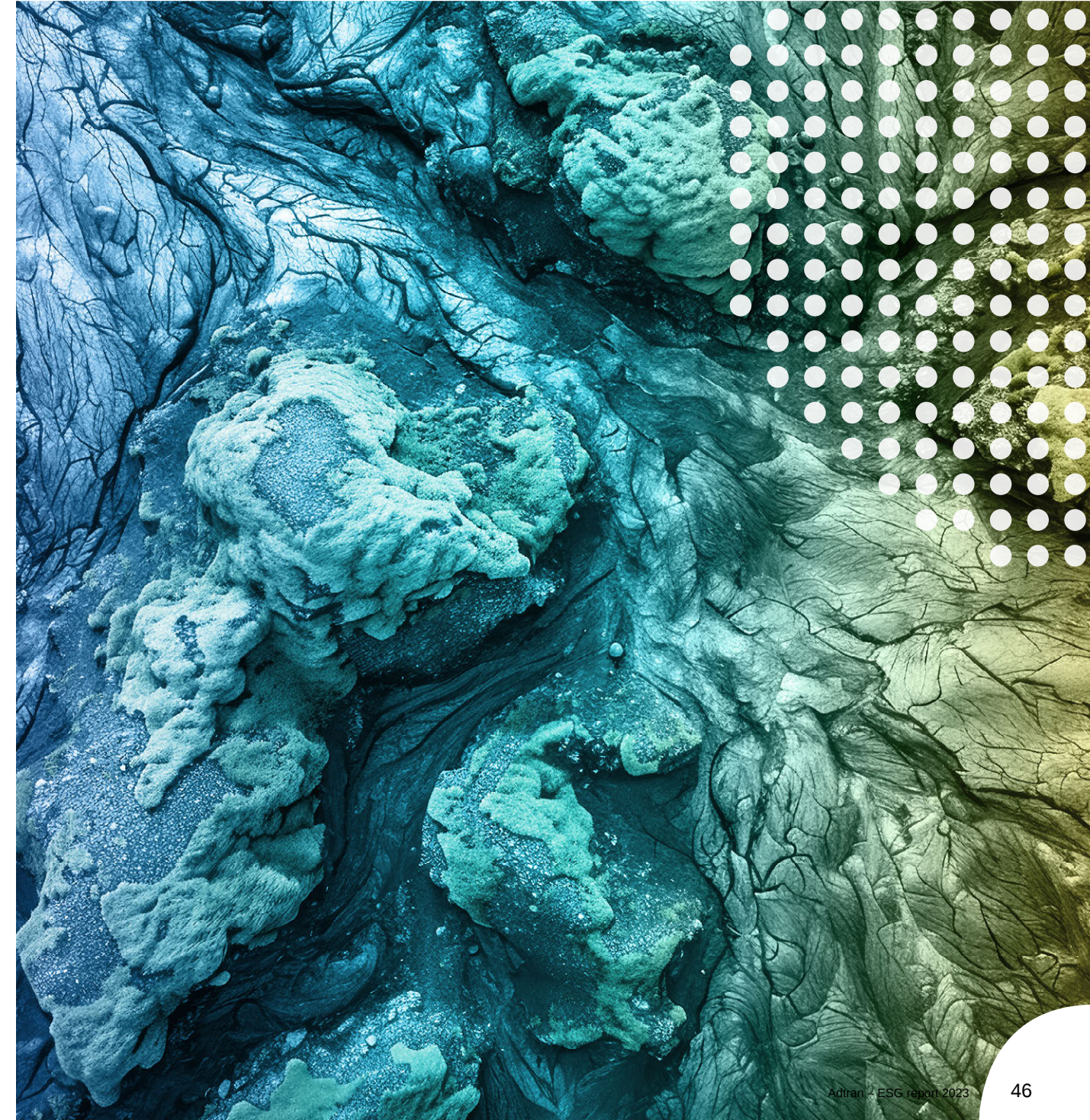
3.3.3 Workers in the value chain, affected communities, consumers and end-users

The matters workers in the value chain, affected communities, and consumers and end-users have not been assessed as material.

The Adtran Holdings, Inc. group works in the ICT space and regularly monitors and audits its suppliers. It does not regard the labor conditions of the workers in its supply chain a severe risk. The same is true for the downstream in our value chain, the customers.

Similarly, our communities and end-users do not pose severe risks according to our ERM. There are several positive opportunities associated with them. The Adtran Holdings, Inc. group is a relevant employer at locations with larger sites. This is complemented by many charity and similar activities we conduct at these sites. Moreover, we indirectly, via our B2B customers, serve end-users with telecommunications services. This is seen very positive, with hardly any associated risk for the end-users.

Therefore, in comparison with the aspects that we rated material, these three matters are rated less important (less impact, less risk) and will not be reported herein. The omission of the respective information does not prevent a true and fair view of the development and performance of the business, the results of operations, the position of the corporation and the impact of its activities.





3.4 Governance information

According to our materiality assessment, no governance aspects have been rated material. Nonetheless, governance aspects are followed with several policies and processes and have to be reported against HGB requirements. These relate to the HGB aspects combating corruption and bribery as well as respect for human rights.

3.4.1 Impacts, risk and opportunity management

Corporate culture and business conduct policies

Adtran Networks SE follows a zero-tolerance policy against all major violations related to respect of human rights and combating corruption and bribery. This is defined in our Group Code of Conduct and our Supplier Code of Conduct. We further expect our suppliers to follow our Supplier Code of Conduct. Both codes of conduct are revised on a yearly basis. Our Supplier Code of Conduct addresses specific points for our suppliers and is modeled on the framework of the Responsible Business Alliance (RBA). We do not tolerate any violations of the ILO labor standards.

Adtran Networks SE both requires and encourages to report actual or potential violations of the Code of Conduct. Reporting a potential violation demonstrates the sense of commitment, responsibility, and fairness to Adtran Holdings, Inc. group's customers, shareholders, business associates, and fellow employees. Adtran Networks SE offers an Ethics and Compliance Hotline to report potential violations. The hotline is managed by WhistleB Reporting, a third-party provider that allows employees and external people to anonymously report concerns of potential improper activities within the workplace. Any concerns regarding potential or actual violations of the Policy should be reported to WhistleB Reporting through one of the following means: online

<https://report.whistleb.com/en/adtran> (Client code: 453581), or phone 1.800.218.8954 (available 24 hours a day, 7 days a week).

In the event that any corrupt activities are determined to have been attempted or accomplished in violation of any applicable laws, the Chief Compliance Officer (CCO) will conduct an investigation and is responsible for promptly conducting a thorough review of the nature, extent, origins, and consequences of the misconduct. At the end of an investigation, Adtran Networks SE will decide on prompt and consistent actions, which may require external disclosure of the violation or legal actions. Action may also include termination of employment for employees, and termination of the business relationship with business partners. Unsubstantiated allegations reported in good faith will not have any effect.

All reported violations and complaints will be kept confidential to the extent permitted by law and by the company's need to investigate the situation. All investigations will be conducted by appropriate personnel, in an ethical manner and in compliance with the law and applicable processes. Adtran Networks SE prohibits any form of retaliation against employees who submit reports, participate in the investigation of violations, raise complaints or concerns, or ask questions. Retaliation can take many forms from being ignored to being unfairly dismissed. Retaliation might also involve being bullied with the aim of stopping an employee from reporting a potential violation. All claims of retaliation are taken seriously.

Specific and customized anti-corruption trainings are provided to ensure proper adherence to the outlined documented procedures. For efficiency reasons as well as in order to support overall understanding, such trainings are typically combined with general

compliance trainings. These compliance trainings have to be taken by all employees on a yearly basis. In addition, process specific trainings, e.g., on Adtran Holdings, Inc. group's business partners' due diligence requirements are offered as live training or web-based trainings.

All governance activities related to respect of human rights and combating corruption and bribery are coordinated by the CCO, who reports to the CFO and the board of directors. This is true for both, Adtran Networks SE and Adtran Holdings, Inc. group.

Management of relationships with suppliers

To ensure conformity, with focus on environmental, employee and human-rights matters, we take multiple actions.

Risk assessment for new suppliers. In order to ensure compliance with our Supplier CoC, the Adtran Holdings, Inc. group has implemented a supplier assessment process. It intends to uncover risks and non-compliances and to address them. This process consists of a supplier survey, a risk assessment performed by us, and finally onsite supplier audits. Our risk assessment includes the type of product or service as well as the location of the business partner. Consequences in the case of persistent serious violations can lead to termination of the supplier relationship.

Screening, qualification and contracting. The Adtran Holdings, Inc. group implemented screening, qualification and contracting processes for strategic suppliers and other selected business partners. Our measures include standardized questionnaires, technical and operational support, and contracting according to pre-defined master purchasing agreements that require compliance with our ethical values and applicable laws

or regulations. These screening, qualification and contracting processes are applied continuously.

Audits and monitoring. In addition to new suppliers, already existing suppliers are periodically newly evaluated. The respective period depends on the suppliers' relevance and any specific risks that have been identified. In 2023, one supplier of Adtran Networks SE was re-audited on site against sustainability aspects. Based on the audit results, non-conformities were found, further specific improvements were required, but no business relationships were terminated. However, corrective measures from the previous audits were followed up. For this we use a supplier corrective-action tracker. The actions and processes described here consider environmental matters as well as those of employees and human rights in the supply chain. The latter includes modern slavery.

No other violations related to respect of human rights and combating corruption and bribery have been identified in 2023.

The Adtran Holdings, Inc. group tries to ensure that modern slavery does not occur in any part of our business or our supply chain. The actions and processes described above are used to address slavery and human trafficking in areas where they can occur. This is also done in compliance with the requirements of the Modern Slavery Act of the United Kingdom of 2015, the California Transparency in Supply Chains Act of 2010 (SB 657) and similar laws.

The current company declaration on modern slavery can be viewed on our website at www.adtran.com/de/de/about-us/esg/reports-and-policies.



Prevention and detection of corruption or bribery

Integrity determines our actions. We strive to meet our ethical standards, which are anchored in our values and documented in our Code of Conduct. All employees must comply with these standards. Although the aspects of corruption and bribery among our own employees and related to business partners are not strictly rated material, they are thoroughly addressed by our compliance management system (CMS) and have to be reported against HGB requirements. Our long-term target is to maintain our positive performance related to combating corruption and bribery with the measures described hereinafter.

Adtran Networks SE's CMS is supported by a central compliance department located in Munich, Germany, and six regional compliance officers (RCOs) that support compliance in addition to their regular function in the company. The RCOs strengthen Adtran Networks SE's local culture of compliance, erase any potential boundaries that prevent employees from reporting concerns, and contribute their specific functional expertise to the CMS. Their activities are coordinated by the CCO who reports to the chief finance officer (CFO) and the supervisory board. Whenever employees have questions or suggestions related to compliance or suspect incidents of non-compliance, they are encouraged to speak up. Besides a variety of clearly defined and actively communicated internal points of contact, an external ombudsman and an externally operated Ethics and Compliance Helpline enable confidential and anonymous reporting.

Our compliance activities are evaluated and assessed both internally as well as externally (EcoVadis, specific customers or the group's auditors). Depending on the type of review, different timelines do apply. While some of the reviews are conducted annually and/or

continuously, others may apply only once in several years. Whenever there are material findings, corrective actions are taken.

The aim of our CMS is the complete avoidance of corruption and bribery in the entire company. Accordingly, the CMS is applied to all employees and at all locations. It is the Adtran Holdings, Inc. group's aim to train all employees on a regular basis. The implementation of this takes place based on a defined process and is supported and tracked by the Adtran Holdings, Inc. groups HR department. This is true for Adtran Networks SE and Adtran Holdings, Inc. group.

Our commitment to compliance extends to our sales partners, distributors and service providers ("business partners"). Since we buy a wide variety of products and services, including hardware components and expert services to manufacture, maintain or dispose of our products, we have a broad supplier base. We therefore see a certain risk level in our supply chain for both, environmental and employee matters.

Our supply chain is managed with various processes. This includes processes for risk analysis and evaluation of new suppliers, for (re-) auditing, contract templates and finally a compliance management system.

In order to enable precise and risk based due diligence for these business partners before entering into a business relationship, certain business partner categories and corresponding financial thresholds were defined. Based on this, a three-step approach ensures effective risk reduction. Firstly, risk-based due diligence is carried out for new business partners and updated periodically for existing business partners. Then, detailed framework agreements with stringent compliance obligations are negotiated with all new business partners. Finally, risk-based monitoring enables the corresponding compliance risks to be

further reduced. Apart from non-disclosure agreements (NDAs), The Adtran Holdings, Inc. group's aim is to not enter into a contractual relationship without first completing the necessary due-diligence activities. Like all internal processes, business-partner due diligence is also subject to regular internal assessments. This is also coordinated by the CCO, so that in turn the CFO is responsible at the highest level.

Accordingly, various goals were set for this area, such as an increased response rate for the supply-chain management software IntegrityNext and an increase in the number of full-material declarations for the components we procure. These processes and management approaches include the employees responsible for this and the responsibility at the highest level on the part of the SVP Global Operations. The management approaches are checked at least once a year through external assessments (EcoVadis) and audits (ISO audits, validation of the sustainability report) as well as accompanying internal risk analysis and assessment. Measures are taken in particular in the event of – imminent – deviations from the goals, but also in the event of a revaluation of the aspects. This includes analyses of causes (if key figures are not achieved) as well as the identification and implementation of improvement measures. So far, our management approaches have proven to be effective. Massive violations of conformity could not be determined.



3.4.2 Metrics and targets

Confirmed incidents of corruption or bribery

Since, for Adtran Networks SE, no confirmed cases of corruption or bribery have been reported or corresponding allegations have been made now for several consecutive years and including 2023, we consider our management approach to be sufficient.

The topics political influence and lobbying activities and payment practices have not been rated material and were not subject to the limited-assurance engagement.

Political influence and lobbying activities

The Adtran Holdings, Inc. group does not make political contributions – neither in cash nor in kind, and does not reimburse private political contributions. Any outside employment, board membership or political activity that involves customers, competitors or business partners of the Adtran Holdings, Inc. group or otherwise has the potential for creating a conflict of interest and requires approval by the Adtran Holdings, Inc. group ‘s compliance department.

Payment practices

The Adtran Holdings, Inc. group agrees with suppliers in supply contracts subject to the Supplier Terms and Conditions to payment terms of 90 days. The prices and discounts shall be mutually agreed upon in writing by the parties for products and/or services. Prices exclude, and supplier is responsible for, all taxes that suppliers are obligated to pay. Undisputed payment is due no less than 90 days after the inspection period and acceptance, provided that the Adtran Holdings, Inc. group may set off any liability of the Adtran Holdings, Inc. group to the supplier against any liability of the supplier to the Adtran Holdings, Inc. group.

Currently, ca. 55 % of the suppliers are subject to these Supplier Terms and Conditions. With the main suppliers, payment terms with an average of 75 days are agreed. Our company has a payable outstanding ratio, consolidated for Q3 2023, of 59 days. There are no legal proceedings currently outstanding for late payments.

“So far, product use-phase emissions were most relevant for us. Now, with emission factors improving worldwide, the emissions embedded in the components that we purchase get more relevant. That’s why we instantiated offerings for refurbished products. We complement this by analyses of the optimum product lifetime with regard to the total resulting environmental footprint.”

Paulus Bucher



4. EU Taxonomy Regulation Disclosures

The EU Taxonomy Regulation is a classification system for sustainable economic activities. It aims at mobilizing private capital spending that is required to achieve climate neutrality until 2050.

Adtran Networks SE is obliged to release a non-financial group report in accordance with section § 315b paragraph 3 of the German Commercial Code (HGB). For the business year 2023, we report for the third time how and to which extent our operations relate to economic activities that can be classified as environmentally sustainable according to the EU Taxonomy Regulation.

Article 8 of the EU Taxonomy Regulation requires, the disclosure of expenses (CapEx, OpEx) or turnover that are linked to activities, products or services that are related to Taxonomy-eligible and Taxonomy-aligned economic activities. These activities (potentially) contribute to one of the following six objectives:

- Climate-change mitigation
- Climate-change adaptation
- The sustainable use and protection of water and marine resources
- The transition to a circular economy
- Pollution prevention and control
- The protection and restoration of biodiversity and ecosystems.

For all new activities, i.e., the activities of the Environmental Delegated Act contributing potentially to environmental objectives 3-6 and all newly added

activities in the Climate Delegated Act, only the portion of Taxonomy-eligible activities needs to be disclosed.

Our economic activities

The Adtran Holdings, Inc. group has assessed all its business activities according to the climate delegated act as well as the new environmental delegated act. This was done using the respective activity descriptions and the potentially applicable NACE-sector methodologies provided in the Taxonomy Regulation documents.

A detailed analysis of our business activities revealed that many activities are not eligible to or aligned with the Taxonomy Regulation, respectively. Activities that are eligible are discussed hereinafter. Adtran Networks SE has no economic activities in the area of fossil gas and nuclear energy (*see page 56*).

Accounting Policy

Article 8 of the EU Taxonomy Regulation defines three key performance indicators (KPI): turnover KPI, OpEx KPI and CapEx KPI, respectively. These KPIs are derived according to Annex I of the delegated act regarding article 8 of the EU Taxonomy Regulation and, at balance sheet date, on the basis of the International Financial Reporting Standards (IFRS) of the International Accounting Standard Board (IASB), also considering the interpretations of the IFRS IC (IFRIC)

CapEx KPI

The CapEx KPI is defined as CapEx eligible and compliant to the Taxonomy Regulation (numerator), divided by our total CapEx (denominator). For the numerator, please see the explanations hereinafter.

The denominator shall cover additions to tangible and intangible assets during the financial year considered before depreciation, amortization and any re-

measurements, including those resulting from revaluations and impairments, for the relevant financial year and excluding fair value changes. The denominator shall also cover additions to tangible and intangible assets resulting from business combinations. For non-financial undertakings applying international financial reporting standards (IFRS) as adopted by Regulation (EC) No 1126/2008, CapEx shall cover costs that are accounted based on property, plant and equipment, intangible assets, investment property, and IFRS 16 leases.

More detail on our accounting procedures for our capital expenditures can be found in the notes section of our [Annual Report 2023](#) under note 4, recognition and measurement.

Our total CapEx can be aligned with our consolidated financial statement, refer to the notes section of our [Annual Report 2023](#), note 13, fixed assets. It is the sum of all ingress of tangible and intangible assets and usufruct of immovable property.

The numerator equals to the part of the capital expenditure included in the denominator that is any of the following:

- a. related to assets or processes that are associated with Taxonomy-aligned economic activities;
- b. part of a plan to expand Taxonomy-aligned economic activities or to allow Taxonomy-eligible economic activities to become Taxonomy-aligned;
- c. related to the purchase of output from Taxonomy-aligned economic activities and individual measures enabling the target activities to become low-carbon or to lead to greenhouse gas reductions, notably activities listed in points 7.3 to 7.6 of Annex I to the Climate Delegated Act, as well as other economic activities listed in the delegated

acts adopted pursuant to Article 10(3), Article 11(3), Article 12(2), Article 13(2), Article 14(2) and Article 15(2) of Regulation (EU) 2020/852 and provided that such measures are implemented and operational within 18 months.

For the CapEx numerator, we identified the following economic activities as being eligible/aligned:

- CCM 6.5. Transport by motorbikes, passenger cars and light commercial vehicles (additions to right of use assets, IFRS 16, car leasing, eligible)
- CCM 7.6. Installation, maintenance and repair of renewable energy technologies (additions to PPE, IAS 16, photovoltaic installation, aligned)
- CCM 7.7. Acquisition and ownership of buildings (additions to right of use assets, IFRS 16, building leases, eligible)
- CE 5.1. Repair, refurbishment and remanufacturing (additions to PPE, IAS 16, technical equipment and machinery, eligible)

One climate-change-mitigation activity in 2023 was categorized as eligible and aligned to the Taxonomy Regulation. This activity consists of the CapEx that is incurred with the activity CCM 7.6, installation, maintenance and repair of renewable energy technologies. This activity took place in 2023 at our new extension building in Meiningen. According to the Commission Delegated Regulation (EU) 2021/2139, this activity qualifies as contributing substantially to climate-change mitigation. This activity is not eligible for climate-change adaptation. We regard the requirements related to the do-no-significant-harm (DNSH) principle and minimum safeguard as fulfilled.

With regard to companies' compliance with the minimum safeguard requirements, the EU Taxonomy



Regulation calls for the OECD Guidelines, the United Nations Guiding Principles, the International Human Rights Charta and the ILO Core Labor Standards to be followed. In our business activities, we have verified compliance with these principles and standards with regard to human and labor rights (including health and safety at work, freedom of association, prohibition of child labor) and combating corruption and bribery. In addition, fair competition and taxes are also considered. We have come to the conclusion that the minimum protection required by the EU Taxonomy Regulation is complied with throughout the entire Adtran Holdings, Inc. group, which includes the Adtran Networks SE group. The framework conditions and systems established throughout the Adtran Holdings, Inc. group along the entire value chain, the applicable instructions and guidelines as well as the whistleblowing system and various systems such as employee representation, ensure that minimum protection is assured and violations are prevented, and that any violations that, contrary to expectations, do occur can be identified and countermeasures initiated quickly.

Related to climate-change adaptation, only one acute-physical risk can apply due to the location of the affected building, namely heavy precipitation in the form of very heavy hail. However, this risk is assessed as medium only in the long term, see the TCFD climate-change risk assessment. Hence, no adaptation solutions that reduce this risk have been implemented yet. Moreover, the photovoltaic installation can withstand hailstone diameters of 3 cm. This activity also does not adversely affect the adaptation efforts or the level of resilience to physical climate risks of other people, other assets, other activities, or of nature.

The activity described here belongs to category (c) of the list above.

Related to circular economy, we identified the CapEx associated with activity CE 5.1, repair, refurbishment and remanufacturing. According to the Commission Delegated Regulation (EU) 2021/2139, it qualifies as contributing substantially to the transition to a circular economy since it prolongs the use of products through reuse, disassembly, and repair. Minimum safeguard is given since all related activities take place in our own logistics hubs. Likewise, and with the exception of some limited transportation, no negative impact to the other environmental objectives was identified.

No CapEx activities were identified related to climate-change adaptation, the sustainable use and protection of water and marine resources, pollution prevention and control, and the protection and restoration of biodiversity and ecosystems.

Turnover KPI

The portion of economic activities that are eligible and compliant to the Taxonomy Regulation, related to our total revenues, is calculated as that part of the net revenue that results from products and services in the context of economic activities that are eligible and compliant to the Taxonomy Regulation (numerator), divided by the net revenue (denominator). The denominator of the revenue KPI is based on our consolidated net revenue in accordance with IAS 1.82(a). More details on our accounting procedures for our consolidated net revenue can be found in the annex of our [Annual Report 2023](#) in the explanations to the profit and loss statement under paragraph 21, revenues.

Our consolidated net revenue can be aligned with our consolidated financial statement, refer to the profit and loss statement in the chapter IFRS consolidated income statement of our [Annual Report 2023](#), revenues.

For eligible revenue, and related to climate-change mitigation, we identified revenue according to activity CCM 8.2, data-driven solutions for GHG emissions reductions according to Commission Delegated Regulation (EU) 2021/2139. This holds for revenue with our FSP 3000 F8 products. This products aims at the provision of data enabling GHG emission reductions.

This product line has use-phase emissions (where use phase dominates according to LCA) that correspond to the best performance in our industry and therefore qualifies as contributing substantially to climate change mitigation.

Related to circular economy, we regard revenue from repair, refurbishment and remanufacturing (CE 5.1) as Taxonomy-eligible. It qualifies as contributing substantially to the transition to a circular economy since it prolongs the use of products through reuse, disassembly, and repair. Here, what we already said related to minimum safeguard and the DNSH principle is true as well.

No turnover activities were identified related to climate-change adaptation, the sustainable use and protection of water and marine resources, pollution prevention and control, and the protection and restoration of biodiversity and ecosystems.

OpEx KPI

The OpEx KPI is defined as OpEx that is eligible and compliant to the Taxonomy Regulation (numerator), divided by our total OpEx (denominator).

The denominator shall cover direct non-capitalized costs that relate to research and development, building renovation measures, short-term lease, maintenance and repair, and any other direct expenditures relating to the day-to-day servicing of assets of property, plant and equipment by the undertaking or third party to whom activities are outsourced that are necessary to ensure the continued and effective functioning of such assets. These include:

- Expenditures for R&D that are captured in the profit and loss statement for the reporting period as operating expense (refer to page 88 of our [Annual Report 2023](#)). In accordance with our consolidated financial statement (IAS 38.126), this comprises all non-capitalized expenses that can directly be assigned to research and development activities.
- The amount of non-capitalized lease was derived according to IFRS 16. It contains expenses for short-term or immaterial lease (refer to page 72 of our [Annual Report 2023](#)).
- Maintenance and repair costs as well as other direct expenses in the context of daily service of tangible assets were compiled on the basis of the maintenance and repair cost assigned to our internal cost centers. The respective cost items can be found within different items of our profit and loss statement. This includes production cost (service in operations), distribution cost (servicing logistics), and administrative expenses (e.g., service of IT systems), as well as expenses for building restoration.



The numerator equals to the part of the operating expenditure included in the denominator that is any of the following:

- related to assets or processes associated with Taxonomy-aligned economic activities, including training and other human resources adaptation needs, and direct non-capitalized costs that represent research and development;
- part of a plan to expand Taxonomy-aligned economic activities or allow Taxonomy-eligible economic activities to become Taxonomy-aligned within a predefined timeframe;
- related to the purchase of output from Taxonomy-aligned economic activities and to individual measures enabling the target activities to become low-carbon or to lead to greenhouse gas reductions as well as individual building renovation measures as identified in the delegated acts adopted pursuant to Article 10(3), Article 11(3), Article 12(2), Article 13(2), Article 14(2) or Article 15(2) of Regulation (EU) 2020/852 and provided that such measures are implemented and operational within 18 months.

For eligible OpEx, and related to climate-change mitigation, we identified the respective OpEx for developing the FSP 3000 F8 products, refer to the related revenue KPI. The explanations regarding the substantial contribution to climate-change mitigation (CCM 8.2, data-driven solutions for GHG emissions reductions), minimum safeguard and the DNSH principle are similar to the one given for the related revenue KPI. Since this activity consists of research and development, it belongs to category (a) of the list above.

Related to circular economy, we regard third-party COGS and own expenses for maintenance and repair services as Taxonomy-eligible (again, CE 5.1, repair, refurbishment and remanufacturing). It qualifies as contributing substantially to the transition to a circular economy since it prolongs the use of products through reuse, disassembly, and repair. For the explanations regarding minimum safeguard and the DNSH principle, please refer to the related revenue and CapEx KPIs.

No OpEx activities were identified related to climate-change adaptation, the sustainable use and protection of water and marine resources, pollution prevention and control, and the protection and restoration of biodiversity and ecosystems.

We see no risk of duplicate counting of the economic activities stated.





Adtran Network SE KPIs

As explained in the preceding chapter, our economic activities in 2023 were partly eligible for the EU Taxonomy Regulation, see the following tables.

Proportion of turnover from products or services associated with Taxonomy-aligned economic activities – disclosure covering year 2023

Financial year 2023	Year			Substantial contribution criteria						DNSH criteria									
Economic activities (1)	Code (2)	Turnover (3)	Proportion of turnover, 2023 (4)	Climate-change mitigation (5)	Climate-change adaptation (6)	Water and marine resources (7)	Circular economy (8)	Pollution (9)	Biodiversity and ecosystems (10)	Climate-change mitigation (11)	Climate-change adaptation (12)	Water and marine resources (13)	Circular economy (14)	Pollution (15)	Biodiversity and ecosystems (Y16)	Minimum safeguard (17)	Proportion of Taxonomy aligned (A.1) or eligible (A.2) turnover, 2022 (18)	Category enabling activity (19)	Category transitional activity (20)
		KEUR	%	Y; N; N/EL						Y/N						Y/N	%	E	T
A. Taxonomy-eligible activities																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
		0	0																
		0	0																
Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)		0	0																
Of which enabling		0	0															0	
Of which transition		0	0																0
A.2. Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
				EL; N/EL															
Data-driven solutions for GHG emissions reductions	CCM 8.2	143,582	23.4 %	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0 %		
Repair, refurbishment and remanufacturing	CE 5.1	88,708	14.5 %	N/EL	N/EL	N/EL	EL	N/EL	N/EL								0 %		
		0	0																
Turnover of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		232,290	37.9 %																
Taxonomy-eligible turnover (A.1+A.2)		232,290	37.9 %														0 %		
B. Taxonomy-non-eligible activities																			
Turnover of Taxonomy-non-eligible activities		381,381	62.1 %																
Total (A + B)		613,671	100 %																



Proportion of CapEx from products or services associated with Taxonomy-aligned economic activities – disclosure covering year 2023

Financial year 2023	Year			Substantial contribution criteria						DNSH criteria									
Economic activities (1)	Code (2)	CapEx (3)	Proportion of CapEx, 2023 (4)	Climate-change mitigation (5)	Climate-change adaptation (6)	Water and marine resources (7)	Circular economy (8)	Pollution (9)	Biodiversity and ecosystems (10)	Climate-change mitigation (11)	Climate-change adaptation (12)	Water and marine resources (13)	Circular economy (14)	Pollution (15)	Biodiversity and ecosystems (16)	Minimum safeguard (17)	Proportion of Taxonomy aligned (A.1.) or eligible (A.2.) CapEx, 2022 (18)	Category enabling activity (19)	Category transitional activity (20)
		KEUR	%	Y; N; N/EL						Y/N						Y/N	%	E	T
A. Taxonomy-eligible activities																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
Electricity generation using solar photovoltaic technology, and storage of electricity	CCM 7.6	441.6	0.5%	Y	N/EL	N/EL	N/EL	N/EL	N/EL		Y	Y	Y	Y	Y	Y	0%		
		0	0																
CapEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		441.6	0.5%																
Of which enabling		0	0															0	
Of which transition		0	0																0
A.2. Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
				EL; N/EL															
Repair, refurbishment and remanufacturing	CE 5.1	771.6	0.9%	N/EL	N/EL	N/EL	EL	N/EL	N/EL								0%		
Acquisition and ownership of buildings	CCM 7.7	17,047	19.7%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0%		
Transport by motorbikes, passenger cars and light commercial vehicles	CCM 6.5	1,470	1.7%	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0%		
CapEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		19,289	22.2%																
Taxonomy-eligible CapEx (A.1+A.2)		19,730	22.7%														0%		
B. Taxonomy-non-eligible activities																			
CapEx of Taxonomy-non-eligible activities		67,010	77.3%																
Total (A + B)		86,740	100%																



Proportion of OpEx from products or services associated with Taxonomy-aligned economic activities – disclosure covering year 2023

Financial year 2023	Year			Substantial contribution criteria						DNSH criteria									
Economic activities (1)	Code (2)	OpEx (3)	Proportion of OpEx, 2023 (4)	Climate-change mitigation (5)	Climate-change adaptation (6)	Water and marine resources (7)	Circular economy (8)	Pollution (9)	Biodiversity and ecosystems (10)	Climate-change mitigation (11)	Climate-change adaptation (12)	Water and marine resources (13)	Circular economy (14)	Pollution (15)	Biodiversity and ecosystems (16)	Minimum safeguard (17)	Proportion of Taxonomy aligned (A.1.) or eligible (A.2.) OpEx, 2022 (18)	Category enabling activity (19)	Category transitional activity (20)
		kEUR	%	Y; N; N/EL						Y/N						Y/N	%	E	T
A. Taxonomy-eligible activities																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
		0	0																
		0	0																
OpEx of environmentally sustainable activities (Taxonomy-aligned) (A.1)		0	0																
Of which enabling		0	0															0	
Of which transition		0	0																0
A.2. Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
				EL; N/EL															
Data-driven solutions for GHG emissions reductions	CCM 8.2	2,180	2.0 %	EL	N/EL	N/EL	N/EL	N/EL	N/EL								0 %		
Repair, refurbishment and remanufacturing	CE 5.1	19,614	18.4 %	N/EL	N/EL	N/EL	EL	N/EL	N/EL								0 %		
		0	0																
OpEx of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		21,794	20.4 %																
Taxonomy-eligible OpEx (A.1+A.2)		21,794	20.4 %														0 %		
B. Taxonomy-non-eligible activities																			
OpEx of Taxonomy-non-eligible activities		84,827	79.6 %																
Total (A + B)		106,621	100 %																



Nuclear and fossil gas related activities

Nuclear energy related activities		
1	The undertaking carries out, funds or has exposures to research, development, demonstration and deployment of innovative electricity generation facilities that produce energy from nuclear processes with minimal waste from the fuel cycle.	No
2	The undertaking carries out, funds or has exposures to construction and safe operation of new nuclear installations to produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production, as well as their safety upgrades, using best available technologies.	No
3	The undertaking carries out, funds or has exposures to safe operation of existing nuclear installations that produce electricity or process heat, including for the purposes of district heating or industrial processes such as hydrogen production from nuclear energy, as well as their safety upgrades.	No
Fossil gas related activities		
4	The undertaking carries out, funds or has exposures to construction or operation of electricity generation facilities that produce electricity using fossil gaseous fuels.	No
5	The undertaking carries out, funds or has exposures to construction, refurbishment, and operation of combined heat/cool and power generation facilities using fossil gaseous fuels.	No
6	The undertaking carries out, funds or has exposures to construction, refurbishment and operation of heat generation facilities that produce heat/cool using fossil gaseous fuels.	No



Independent Practitioner's Report on a Limited Assurance Engagement on Non-financial Reporting

To Adtran Networks SE, Meiningen-Dreißigacker

We have performed a limited assurance engagement on the combined separate non-financial report of Adtran Networks SE, Meiningen-Dreißigacker, (hereinafter the "Company") for the period from 1 January to 31 December 2023 (hereinafter the "Combined Separate Non-financial Report").

Not subject to our assurance engagement are the external sources of documentation or expert opinions mentioned in the Combined Separate Non-financial Report as well as the disclosures marked as "not subject to the limited-assurance engagement" in the Combined Separate Nonfinancial Report.

Responsibility of the Executive Directors

The executive directors of the Company are responsible for the preparation of the Combined Separate Non-financial Report in accordance with §§ (Articles) 315c in conjunction with 289c to 289e HGB ("Handelsgesetzbuch": "German Commercial Code") and Article 8 of REG-ULATION (EU) 2020/852 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 June 2020 on establishing a framework to facilitate sustainable investment and amending Regulation (EU) 2019/2088 (hereinafter the "EU Taxonomy Regulation") and the Delegated Acts adopted thereunder, as well as for making their own interpretation of the wording and terms contained in the EU Taxonomy Regulation and the Delegated Acts adopted thereunder, as set out in section "4. EU Taxonomy Regulation Disclosures" of the Combined Separate Non-financial Report.

This responsibility includes the selection and application of appropriate non-financial reporting methods and making assumptions and estimates about

individual non-financial disclosures of the Company that are reasonable in the circumstances. Furthermore, the executive directors are responsible for such internal control as the executive directors consider necessary to enable the preparation of a Combined Separate Non-financial Report that is free from material misstatement whether due to fraud or error.

The EU Taxonomy Regulation and the Delegated Acts issued thereunder contain wording and terms that are still subject to considerable interpretation uncertainties and for which clarifications have not yet been published in every case. Therefore, the executive directors have disclosed their interpretation of the EU Taxonomy Regulation and the Delegated Acts adopted thereunder in section "4. EU Taxonomy Regulation Disclosures" of the Combined Separate Non-financial Report. They are responsible for the defensibility of this interpretation. Due to the immanent risk that indeterminate legal terms may be interpreted differently, the legal conformity of the interpretation is subject to uncertainties.

Audit Firm's Independence and Quality Management

We have complied with the German professional provisions regarding independence as well as other ethical requirements. Our audit firm applies the national legal requirements and professional standards – in particular the Professional Code for German Public Auditors and German Chartered Auditors ("Berufssatzung für Wirtschaftsprüfer und vereidigte Buchprüfer": "BS WP/vBP") as well as the Standard on Quality Management 1 published by the Institut der Wirtschaftsprüfer (Institute of Public Auditors in Germany; IDW): Requirements to quality management for audit firms (IDW Qualitätsmanagementstandard 1:

Anforderungen an das Qualitätsmanagement in der Wirtschaftsprüferpraxis - IDW QMS 1 (09.2022)), which requires the audit firm to design, implement and operate a system of quality management that complies with the applicable legal requirements and professional standards.

Responsibility of the Assurance Practitioner

Our responsibility is to express a conclusion with limited assurance on the Combined Separate Nonfinancial Report based on our assurance engagement.

We conducted our assurance engagement in accordance with International Standard on Assurance Engagements (ISAE) 3000 (Revised): Assurance Engagements other than Audits or Reviews of Historical Financial Information, issued by the IAASB. This Standard requires that we plan and perform the assurance engagement to obtain limited assurance about whether any matters have come to our attention that cause us to believe that the Company's Combined Separate Non-financial Report, other than the external sources of documentation or expert opinions mentioned in the Combined Separate Non-financial Report, are not prepared, in all material respects, in accordance with §§ 315c in conjunction with 289c to 289e HGB and the EU Taxonomy Regulation and the Delegated Acts issued thereunder as well as the interpretation by the executive directors disclosed in section "4. EU Taxonomy Regulation Disclosures" of the Combined Separate Non-financial Report. In a limited assurance engagement the procedures performed are less extensive than in a reasonable assurance engagement, and accordingly a substantially lower level of assurance is obtained. The selection of the assurance procedures

is subject to the professional judgement of the assurance practitioner.

In the course of our assurance engagement, we have, amongst other things, performed the following assurance procedures and other activities:

- Gain an understanding of the structure of the sustainability organisation and stakeholder engagement
- Inquiries of the executive directors and relevant employees involved in the preparation of the Combined Separate Non-financial Report about the preparation process, about the internal control system relating to this process and about disclosures in the Combined Separate Nonfinancial Report
- Identification of likely risks of material misstatement in the Combined Separate Non-financial Report
- Analytical procedures on selected disclosures in the Combined Separate Non-financial Report
- Reconciliation of selected disclosures with the corresponding data in the consolidated financial statements and combined management report
- Evaluation of the presentation of the the Combined Separate Non-financial Report
- Evaluation of the process to identify taxonomy-eligible and taxonomy-aligned economic activities and the corresponding disclosures in the Combined Separate Non-financial Report
- Inquiries on the relevance of climate-risks

In determining the disclosures in accordance with Article 8 of the EU Taxonomy Regulation, the executive



directors are required to interpret undefined legal terms. Due to the immanent risk that undefined legal terms may be interpreted differently, the legal conformity of their interpretation and, accordingly, our assurance engagement thereon are subject to uncertainties.

Assurance Opinion

Based on the assurance procedures performed and evidence obtained, nothing has come to our attention that causes us to believe that the Combined Separate Non-financial Report of the Company for the period from 1 January to 31 December 2023 is not prepared, in all material respects, in accordance with §§ 315c in conjunction with 289c to 289e HGB] and the EU Taxonomy Regulation and the Delegated Acts issued thereunder as well as the interpretation by the executive directors disclosed in section “4. EU Taxonomy Regulation Disclosures” of the Combined Separate Nonfinancial Report.

We do not express an assurance opinion on the external sources of documentation or expert opinions mentioned in the Combined Separate Non-financial Report nor on the disclosures marked as “not subject to the limited-assurance engagement” in the Combined Separate Non-financial Report.

Restriction of Use

We draw attention to the fact that the assurance engagement was conducted for the Company’s purposes and that the report is intended solely to inform the Company about the result of the assurance engagement. Consequently, it may not be suitable for any other purpose than the aforementioned. Accordingly, the report is not intended to be used by third parties for making (financial) decisions based on it. Our responsibility is to the Company. We do not accept any responsibility to third parties. Our assurance opinion is not modified in this respect.

Munich, 16 April 2024

PricewaterhouseCoopers GmbH
Wirtschaftsprüfungsgesellschaft

Hendrik Fink
Wirtschaftsprüfer
[German public auditor]

ppa. Felix Wandel
Wirtschaftsprüfer
[German public auditor]