

Transparent net-zero targets require courage

In short Large public interest entities (PIEs) are required to be transparent about net-zero targets. Their long-term nature is beset with challenges and uncertainties. PIEs are moving in the right direction towards substantiating their net-zero targets up to 2030 in their annual reports. However, the road to 2050 remains a blur. It requires courage; to be transparent, also about uncertainties. The AFM supports this with recommendations, good practices and a self-assessment.

1 PIEs are reasonably **transparent** about their net-zero targets by **2030**.

2 After 2030, the route to net zero becomes beset with many **challenges and uncertainties** such as technological and financial challenges and **risks due to climate change**. Companies are as yet still vague about their means of achieving net-zero by 2050. The **CSRD** demands **transparency** on this **as of 2024**.

3 To improve transparency, the AFM offers companies **recommendations, good practices** and a **self-assessment**.



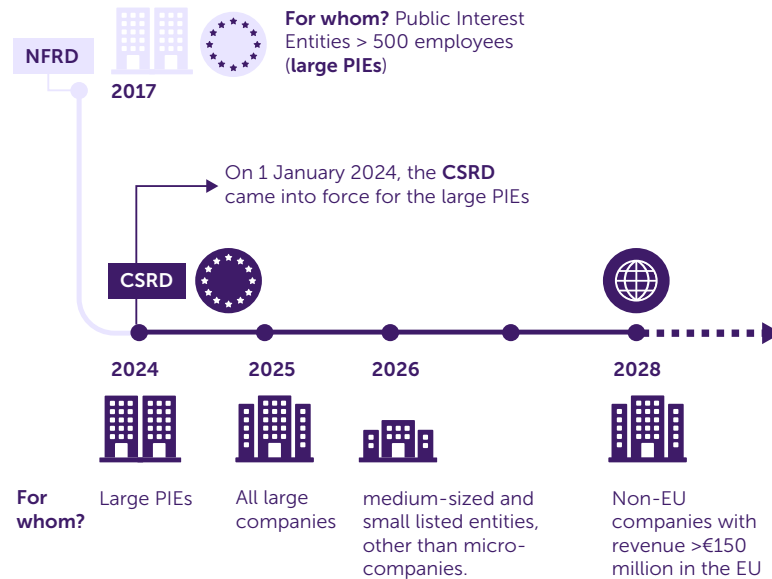
Inhoud

Summary	3
1. Introduction	6
2. How transparent do companies disclose the road to net-zero?	9
3. Insight into the data process contributes to transparency	18
4. Research methodology	20
5. Key terms	21
Appendix: Self-assessment	23

Summary

Good information on net-zero targets in reporting is a key factor in the sustainability transition

The AFM carried out a research into companies' transparency on net-zero targets in their reporting. These targets are a key factor in the transition to a sustainable society. Stakeholders, such as investors, governments and NGOs, increasingly insistent in their request for companies to be transparent about their impact on the environment, company-related social aspects, governance and the financial impact of these factors on the companies. The Corporate Sustainability Reporting Directive (CSRD) defines this by requiring companies to report detailed information on sustainability matters based on the European Sustainability Reporting Standards (ESRS).



The first CSRD reporting year

As of this year, large public interest entities with more than 500 employees will be covered by the CSRD's new reporting requirements. Consequently, companies face an extensive increase in sustainability-related information on which they are required to report.

The CSRD entered into force on 1 January and replaces the Non-Financial Reporting Directive (NFRD), implemented in the Netherlands in the Decree on the disclosure of non-financial information (BNFI). The scope of the CSRD will be further extended after this year to include other large non-PIEs in 2025 and small and medium-sized listed companies in 2026.

Research into the reporting on net-zero targets

Net-zero targets are a key factor in the transition to a sustainable society. This research involved the analysis of 27 companies that reported on net-zero targets in their 2022 management reports: one third of the population to which the BNFI applies. These companies are listed on the AEX, AMX or ASCX or are European-listed companies that have their head office in the Netherlands. We also held in-depth interviews with five of these companies.

Findings of the research including good practices and a self-assessment to get started with

Listed companies are moving in the right direction towards substantiating their net-zero targets up to 2030 in their annual reports. However, the road to 2050 remains a blur. About half of the companies analysed in this research clearly and transparently disclose the scope of the emission data and emission targets, and how these data are generated. Particularly scope 3 requires more transparency.

In addition to CO₂, there are other greenhouse gases that contribute to global warming. Where such other greenhouse gases produce significant emissions, it is important to also provide a transparent explanation of these greenhouse gas emissions. We see room for improvement in this area.

In order to assess the feasibility of net-zero targets, it is important to report on progress. We see companies reporting about their historical performance in terms of their emissions. Disclosing the historical performance in relation to the progress and feasibility of the emission targets is an area for improvement.

There are many challenges and uncertainties along the path of achieving the net-zero targets. Consider technological and financial challenges, as well as physical risks and transition risks due to climate change. The AFM expects transparent disclosures on the uncertainties and challenges recognised by companies.

In addition to emission reductions, companies also use carbon capture and storage (CCS) offset projects and carbon credits to arrive at net-zero. It is important to maintain critical awareness of the use of voluntary carbon credits and carbon-offset projects. IOSCO and the AFM have previously cast doubt on the quality of voluntary carbon credits. For instance, there is a risk that offsetting via these credits will hamper the much-needed focus on in-house emission reductions, and there are concerns about the integrity of the claims and the risk of greenwashing.^{1 2}

Companies make use of pilots, partnerships and other initiatives in achieving net-zero targets. The impact thereof on emission reduction is as yet often unclear. Despite the numerous uncertainties about the expected impact, transparent disclosures help users understand the feasibility of net-zero targets.

1 See the AFM's occasional paper on carbon credits: [occasional-paper-handel-in-co2.pdf](#)

2 See IOSCO's report on carbon credits: [CR06/2022 Voluntary Carbon Markets \(iosco.org\)](#)

Our research shows that most companies are transparent about the entities that form part of the sustainability reporting, and where discrepancies exist between sustainability reporting and financial reporting. We consider it important that these discrepancies are set out clearly in the annual reports.

The process of collecting, processing and managing sustainability data is often still at a development phase at many companies towards higher maturity levels of data quality. The reliability of the information about sustainability matters usually falls short of the level of financial information, which is partly due to limited access to data and uncertainties about the data, particularly for scope 3. Providing transparent disclosures on data quality is an important area of attention.

The in-depth interviews show that companies have relevant information about net-zero targets that is not included in the management reports. The implementation of the CSRD narrows the gap between the information that is available and the information reported. Interviews also showed challenges in obtaining information from the value chain. Engagement of suppliers, among others, is essential to increase transparency on greenhouse gas emissions from the chain, which also requires courage.

Transparency about net-zero targets is key as it provides insight into the path and feasibility of achieving these targets. Transparency reduces the information asymmetry between companies and stakeholders. This is also vital in terms of greenwashing and greenwashing, such as the assumption that new technology is sure to solve all future problems. The road to net-zero is not an easy road to take, however, it is of paramount importance.

The messages in this report are to encourage listed companies to improve their sustainability reporting in terms of net-zero targets. We do so by including good practices, recommendations and a self-assessment.



The AFM offers companies a self-assessment. This self-assessment is a tool companies may use to check the robustness and transparency of the information about net-zero targets based on questions and enables them to define actions for improvements. The self-assessment is included as an appendix to this report and is also available online, where it can be downloaded separately from the news item on the AFM's website.

Transparent reporting requires courage

We encourage companies to make information about sustainability matters more robust and to apply new and existing regulations on sustainability in a correct and timely manner. This requires courage; to be transparent, also about uncertainties. Our research shows good examples on how to report in a transparent manner on net-zero targets. The room for improvement which resulted from our research leads to the following recommendations. These recommendations help companies prepare for the CSRD.

Concrete, properly substantiated and comprehensible

- Use plain language when it comes to targets, including longer-term ones.
- Disclose whether targets are science-based.
- Be transparent about collaborations, pilots and other initiatives and about the expected impact thereof on the net-zero targets.

Completeness

- Provide a clear, transparent disclosure on what is covered by scopes 1, 2 and 3.
- Include scope 3 in targets and disclose the challenges of this scope.
- State all relevant greenhouse gases, their sources and how these gases can be reduced.
- Be transparent about the entities that form part of the sustainability reporting, and about any discrepancies between sustainability reporting and financial reporting in terms of scope.

Progress, challenges, uncertainties and reliability

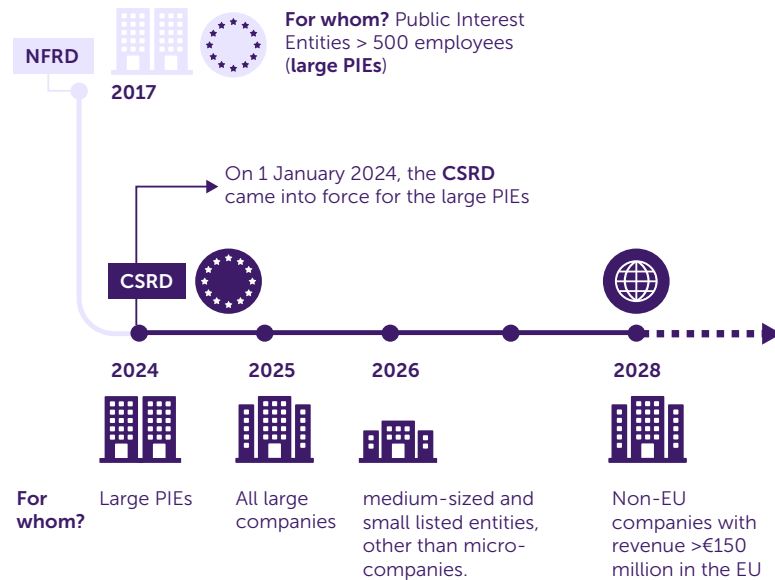
- Provide clarity on the progress of the climate targets. Report in a clear manner on historical performance in terms of emissions and on the effectiveness of policies and actions to achieve the targets pursued.
- Indicate the challenges and uncertainties and the possible impact thereof on achieving the emission reduction targets. Consider, for example, investments needed to achieve the targets and also indicate any negative impact that might be caused by these investments. Make use of scenario analyses to make the effects of uncertain outcomes transparent to users.
- Indicate the methods applied to achieve net-zero targets. These may include emission reduction, carbon capture, carbon storage, offset projects and carbon credits. Also specify their reliability and whether they are used for avoidable or non-avoidable emissions.
- Indicate the method of data collection, data processing and data management. Explain the extent to which data have been estimated and their level of certainty or uncertainty.

It is important to follow up the recommendations in creating transparency on the net-zero targets to be achieved by 2050.

1. Introduction

Companies' net-zero targets are a key factor in the transition to a sustainable society.

Europe aims to be climate neutral by 2050. Greenhouse gas emissions will thus have to be sharply reduced. This is one of the most important measures to promote a sustainable society. The Corporate Sustainability Reporting Directive (CSRD), among other things, resulting from the European Green Deal, is to contribute to this. The CSRD requires companies to report more extensively on information about sustainability matters and, in doing so, they need to apply the European Sustainability Reporting Standards (ESRS) in their reporting. External auditors must also provide limited level of assurance on the sustainability report first and (possibly) reasonable level of assurance at a later stage. From the 2024 financial year, the CSRD and ESRS apply to the large PIEs and many other entities will follow in the subsequent years.



Transparency on environmental and social aspects, results and financial impact have become increasingly important and have now been included in the CSRD. A company's stance on these aspects is relevant information for users of annual reports. Climate change, ecosystem destruction and human rights violations are all issues which companies can no longer ignore as these directly (such as loss of farmland), indirectly (for example due to court cases and/or pricing) or morally affect the company. That information is relevant to users, to determine, for example, whether investors want to or continue to want to invest in this company. The government, NGOs and investors can also assess whether companies sufficiently contribute to a more sustainable environment.

Transparent capital markets benefit from transparent reporting, which is exactly what the AFM promotes by its supervision of the reporting of listed companies. Sustainability is given priority in the 2023-2026 AFM Strategy. Following our broader exploratory research [No time to lose!](#), which was published in March 2023 as a prelude to the CSRD, this research focuses specifically on transparency on the road to net-zero targets in annual reports.

1.1 Our research

Research into net-zero targets in annual reports

The introduction of the CSRD and accompanying ESRS, the importance conferred by investors and other users on transparency on net-zero targets and the call from ESMA in its 2022 European Common Enforcement Priorities (ECEP) were all reasons for the AFM to initiate this research.

The aim of this research is to gain insight into the transparency of the disclosures given in relation to net-zero targets. In view of the CSRD, we share this insight with the sector and ask the sector to show more courage by being transparent in disclosing net-zero targets. The research-questions centre on:

- The aim: have any intermediate and/or final targets (net-zero targets) been disclosed and have they been described in a clear manner and, if needed, demarcated? For example, scope 3 disclosed to a limited extent. And how has this target been defined, as a relative and/or absolute target?
- Transition plan: to what extent are relevant components from a transition plan for reducing emissions included in the sustainability report and is this scientifically substantiated?
- Progress: is the company transparent in its reporting on the progress of achieving climate goals?
- Uncertainties and challenges: is there clarity about possible uncertainties and challenges, e.g. in respect of technological developments, financial challenges and government rules and how does the company handle them?
- From gross to net targets: what role do carbon credits, offsets and carbon capture and storage (CCS) play?
- Collaboration: how do partnerships contribute to emission reduction?
- Demarcation: which entities did the company include in its reporting and has the possible impact been made clear?
- Data: what is the level of transparency of the disclosure on the reliability of data related to net-zero targets?

The research involved 27 listed companies

In this research, the AFM involved 27 companies who have set net-zero targets. These companies are listed on the AEX, AMX or AECX or are European-listed companies that have their head office in the Netherlands. The companies selected represent roughly a third of the companies whose reporting is subject to the supervision by the AFM (according to the BNFI). With the use of data analysis we arrived at a selection of over 40 companies with 2030, 2050 and net-zero targets. Based on criteria, we then selected 27 companies that have

climate as an important factor. We analysed the 2022 annual reports of these companies based on the abovementioned questions. Those questions correspond with the self-assessment for companies, which has been included as an appendix to this report. The analyses served to select five companies for in-depth interviews to better understand the background of their policies and reporting in the area of net-zero targets.

The research results are presented in qualitative terms. The table below shows the relationship between the qualitative terms and the findings at the 27 companies analysed.

Table 1. Qualitative terms

Qualitative term	Percentage of the 27 companies selected for the AFM research
A few	<20%
Some	<40%
About half	>40 – <60%
Most	>60%

It requires courage to disclose the net-zero targets in a concrete and clear manner

We urge companies to show courage and make information about sustainability more robust and apply new and existing regulations on sustainability in a correct and timely manner. This report serves to support listed companies in improving their transparency on net-zero targets. This requires courage; to be transparent, also about uncertainties. By means of recommendations and good practices, we support listed companies in taking big steps in order to be prepared, as required by the ESRs. Additionally, the self-assessment to this report helps companies to check their status and identify actions for improvement where necessary.

We call on companies to give timely and thorough attention to the implementation of the ESRS. For example, 'ESRS E1 climate' has concrete regulations on how disclosures are to be provided about net-zero targets, among other things.

Structure of this document

Chapter 2 describes the findings on the transparency of net-zero targets, including the scope of the targets, disclosures on the progress, on uncertainties and challenges, on carbon credits, offsets or removals and on partnerships. Chapter 3 focuses on the disclosure of possible differences in the scope between information about sustainability matters and financial information and the transparency regarding the availability and reliability of sustainability data. Chapter 4 describes the research methodology and Chapter 5 presents the key terms.

2. How transparent do companies disclose the road to net-zero?

Some companies are well underway, yet we do see that more transparency is needed with regard to net-zero targets towards 2050. It takes courage to identify the challenges and uncertainties, as required by CSRD.

In pursuit of the Paris climate target to limit global warming to 1.5°C, most companies have set targets to achieve net-zero greenhouse gas emissions. The net-zero targets are often set for the year 2050, in many cases preceded by an intermediate target to be achieved by 2030. In doing so, they follow the EU's policy on becoming climate neutral.

The ESRS that have come into effect as of the 2024 financial year include provisions on how companies need to disclose their net-zero targets. This information can be laid down in a transition plan. The ESRS set out the information from the company's transition plan that needs to be disclosed, such as the extent to which reduction targets relate to limiting climate change to 1.5 °C. Companies must also substantiate the emission reduction options they have identified, how these options are implemented and how financing and investments contribute to reducing emissions.

Research shows that many companies already disclose concrete targets, plans and actions to arrive at the intermediate target for 2030. Some companies clearly explain their plans to achieve net-zero final targets. However, we also see room for improvement in terms of substantiation. Consider challenges and uncertainties, the use and effect of carbon capture and storage and carbon credits, the scope and range of reported emissions, and the deployment and effects of investments.

The in-depth interviews show that certain companies have relevant information about net-zero targets that is not included in the management report. The CSRD, including the associated ESRS, requires companies to include relevant information. This reduces the information asymmetry between companies and stakeholders.

This chapter further addresses the findings.

2.1 Clear use of language contributes to transparency

Clear and plain use of language helps users of annual reports to form a good impression of the company and to better understand policies, performances and targets. This holds true in a general sense, but certainly also where the sustainability information in annual reports is concerned.

Our research shows that a few companies communicate in a very clear and plain manner. This makes information understandable and concrete and is essential for users to get a good understanding of actual performance.



Use clear language when it comes to targets, including longer-term ones.

We see vague or unclear use of language mostly in connection with long-term goals for 2040 or 2050. Needless to say, there are more uncertainties in the longer term. Still, it is important for users that companies are clearer about this.

2.2 Most companies are transparent up to 2030. Towards 2050, it becomes a blur

Concrete targets, plans and actions are mostly disclosed in terms of the intermediate net-zero targets up to 2030. About half of the companies have also substantiated and explained this intermediate goal based on current and historical performances in terms of emissions, a policy description and the appropriate measures and means used to achieve the 2030 target.

Some companies are also already transparent about their plans for achieving their net-zero final targets (mostly by 2050), in line with the required components of the transition plan from the future ESRS. They do so by disclosing clear, concrete plans and actions that show how goals are to be achieved and which tools, technological developments and investments are needed for this. They also, for example, disclose the extent to which targets are science-based and the extent to which the company's goals are compatible with the aim of limiting global warming to 1.5°C.

Generally speaking, the road between 2030 and 2050 is as yet a blur. Then again, the future is of course difficult to predict. Still, the AFM does see room for improvement in this area. It is important that companies provide greater clarity about how they plan to achieve their goals. They can, for example, do so by indicating how measures are integrated and aligned with the company's overall business strategy and financial planning.

A few companies are open and transparent about the extent to which their targets are science-based and approved. The ESRS require companies to disclose whether their climate goals are science-based and whether they align with the aim of limiting global warming to 1.5 °C. This gives users insight into the reliability of the goals, plans and actions set in place by companies.

Among the companies analysed, it appears that most companies either refer to the Science Based Targets initiative (SBTi) or have joined this Initiative.



Explain whether targets are science-based.

Companies may commit to the SBTi targets, and subsequently have their set net-zero targets validated. Some companies already have so-called SBTi-validated targets. These validations often only see to the company's intermediate target, most commonly set for 2030, and do not yet comprise the net-zero final target, which is mostly set for 2050. We encourage companies to elaborate on the timeline for the validation of the net-zero final target by a scientific institution, such as SBTi.

2.3 Half of the companies are clear about the elements of scope 1, 2 and 3 that fall within the range of their climate goals

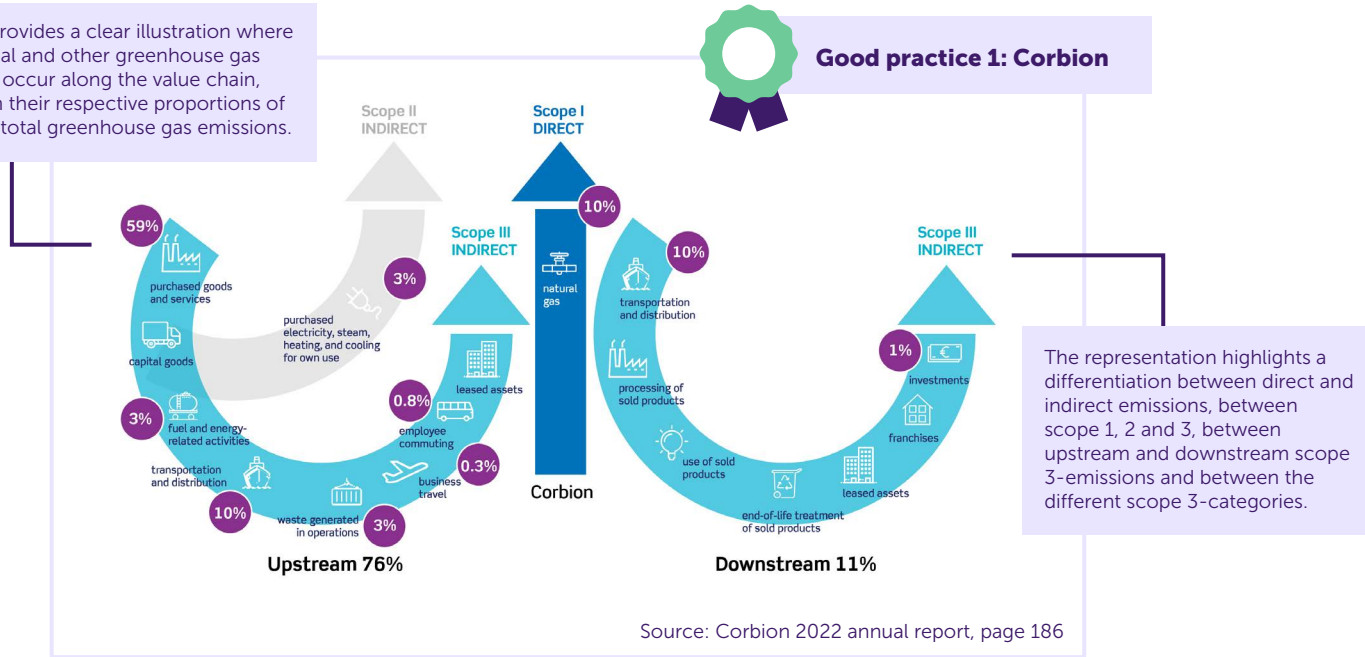
Scopes 1, 2 and 3 are terms used to categorise and express sources of greenhouse gas emissions.



Provide transparent disclosure on what is covered by scopes 1, 2 and 3 emissions.

About half of the analysed companies elaborate in a clear and transparent manner on the scope of the emission data and how these data are generated. For example, Corbion is clear on how CO₂ emissions per scope are distributed across the relevant categories.

Corbion provides a clear illustration where the material and other greenhouse gas emissions occur along the value chain, along with their respective proportions of Corbion's total greenhouse gas emissions.



The visualisation clearly illustrates where the material and other greenhouse gas emissions occur along the value chain, and the proportion of Corbion's total greenhouse gas emissions they represent.

The representation shows a distinction between direct and indirect emissions, between scopes 1, 2 and 3, between upstream and downstream scope 3 emissions, and between the different scope 3 categories. From this representation, it is evident that 76% of Corbion's emissions come from indirect upstream scope 3, and that more than half (59%) of the emissions from Corbion's value chain originate from purchased goods and services. This representation is in line with the Greenhouse Gas Protocol.

2.4 Half of the companies include scope 3 reduction targets in their net-zero target

The annual reports of companies that fully disclose their scope 3 emissions show that these emissions account for up to 95% of the total greenhouse gas emissions of the company and its value chain partners.³ It is a challenge for many companies to obtain reliable data for scope 3 in this phase of the transition process.



Include scope 3 in targets and explain the challenges of this scope.

³ See AFM report: [No time to lose!](#)

2.5 About half of the companies are transparent about other greenhouse gas emissions

In addition to CO₂, there are other greenhouse gases that contribute to global warming. Besides CO₂, the Greenhouse Gas Protocol lists the following greenhouse gases: methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), fluorocarbons (PFCs), sulphur hexafluoride (SF₆) and nitrogen trifluoride (NF₃). Usually, these greenhouse gases are converted to a CO₂ equivalent (CO₂eq) to arrive at a single measurable number for greenhouse gas emissions.

In the interest of transparency for users, it is essential that companies report on the greenhouse gases that are part of their emissions. In this context, it is important that companies elaborate on the greenhouse gases that they consider to be relevant, and what the source of these greenhouse gases is. This should make it clear to users of annual reports that a target concerns not just CO₂, but all relevant greenhouse gas emissions.



State all relevant greenhouse gases, their sources and how these gases can be reduced.

About half of the analysed companies specified the greenhouse gases that were included in the report, and how these are converted to CO₂eq. A few companies have disclosed targets for specific greenhouse gases and report on the progress thereof. As an example, TenneT clearly explained the highly toxic gas SF₆.



Good practice 2: Tennet

Tennet offers a transparent representation of the climate effects of SF6 releases. In line with the Greenhouse Gas Protocol, TenneT disclosed that the impact of the greenhouse gas SF6 is 23,500 times greater than one unit of CO2.

TenneT also disclosed the plans, actions and appropriate measures, such as internal pricing of this gas, to reduce the use thereof by two thirds by 2030.

Scope 1 (Direct own emissions)

SF₆ gas

For our transmission services, TenneT needs specialist insulating and fire-extinguishing protection for high-voltage stations and distribution systems. Sulphur hexafluoride (SF₆) is widely used by TSOs as a highly effective insulator and extinguisher in switching installations. But it is also a greenhouse gas, with one unit equivalent to over 23,500 units of CO₂. If the gas leaks, during installation, maintenance, or due to faulty equipment, it is extremely damaging for the environment. While SF₆ leakages currently only account for around 1% of our carbon footprint, we still aim to mitigate its impact as much as possible. We are working to find sustainable alternatives to SF₆ that provide similar safety properties without harmful emissions. We aim for two-thirds of our assets to be SF₆-free in 2030.

During 2022 we made significant progress in this regard, with new pilots to explore SF₆-free installations in the Netherlands and Germany. In the Netherlands, for a grid expansion project at the high-voltage substation Maasbracht 380 kV, for example, we challenged suppliers to propose SF₆-free solutions for gas-insulated lines and gas-insulated switchgear. We used an internal carbon price of EUR 100 /tonne CO₂ in the project tender to stimulate alternative solutions for SF₆.

To reach our SF₆ reduction goal, it is important to perform early testing of SF₆-free equipment. In 2022, we awarded the first contract for a fully SF₆-free 420 kV gas-insulated switchgear (GIS) for the TenneT grid in Erzhausen.

Source: TenneT Holding B.V. 2022 annual report, page 57

This disclosure provides a clear representation of the climate effects of SF6 releases. TenneT describes, in accordance with the Greenhouse Gas Protocol, in the explanation that the impact of the greenhouse gas SF6 is 23,500 times greater than one unit of CO₂.

Additionally, TenneT elaborates on plans, actions and appropriate measures, such as internal pricing of this gas, to reduce its usage by thirds by 2030.

2.6 In their reporting, most companies are clear about their historical performance in terms of emissions

Most companies demonstrate a clear picture of historical performance in terms of emissions. These presentations offer an important context for the set goals and their feasibility. It enables users of annual reports to gain an understanding of the progress towards the set goals. We note that companies often achieve the easier reductions first. The reductions that remain then require more effort to achieve. We encourage companies to be transparent about this in their disclosure on the progress to achieve the climate goals.



Provide clarity on the progress of the climate goals. Report in a clear manner on historical performance in terms of emissions and on the effectiveness of policies and actions in achieving emission targets.

Please see on the next page how Vopak explains its historical development.



Good practice 3: Vopak

Annual Report 2022 - divisions

In metric tons of CO ₂ equivalents	2022	2021	2020	2019	2018
Direct GHG emission (scope 1)	327,970	322,266	207,078	154,807	165,720
of which Americas	99,953	93,699	63,401	69,863	59,670
of which Asia & Middle East	20,662	19,763	21,652	27,386	29,369
of which China & North Asia	3,780	1,975	1,771	1,516	2,465
of which Europe & Africa	42,438	44,464	41,506	53,790	73,450
of which New Energy & LNG	161,061	162,306	78,660	2,098	764
of which Global HQ	76	59	88	154	2
Indirect GHG emission (scope 2)	189,040	254,751	237,072	253,668	251,689
of which Americas	39,132	48,866	18,847	19,008	22,820
of which Asia & Middle East	36,566	60,513	64,930	56,256	49,430
of which China & North Asia	53,853	56,335	47,204	47,327	46,845
of which Europe & Africa	4,898	28,591	40,688	54,124	75,253
of which New Energy & LNG	54,327	59,598	64,328	75,728	56,384
of which Global HQ	264	848	1,075	1,225	957
Total GHG emissions	517,010	577,017	444,150	408,475	417,409

Source: Vopak annual report 2022, page 111

Vopak provides an overview of the historical development of scope 1 and scope 2 emissions. These emissions are then split per business division.

Through the disclosure of emissions from the past five years, readers attain a good understanding of the historical development of Vopak's scope 1 and scope 2 emissions.

In its annual report, Vopak provides an overview of the scope 1 and scope 2 emissions over the past five years. Additionally, the emissions are broken down by business division. This gives the reader a good understanding of the historical development of both Vopak's total scope 1 and scope 2 emissions and those of the various business divisions.

2.7 Some companies disclose challenges and uncertainties about the feasibility of their emission targets

For a clear understanding of the feasibility of emission targets, it is also important that companies are transparent about the challenges

and uncertainties they observe and the possible impact thereof on achieving the emission targets. These challenges and uncertainties could be of a technological or financial nature, or entail market-driven challenges such as scarcity of certain raw materials. Government regulations, or the absence thereof, may also be a factor that can lead to challenges and uncertainties. In addition, there are physical risks and transitional risks due to climate change.

Some companies are transparent about the challenges and uncertainties relating to technological developments to be able to achieve their emission targets. Most companies require improvements. Financial challenges and uncertainties are often disclosed to a limited extent, such as the costs of the appropriate measures taken to achieve the emission targets or the costs ensuing from CO₂ pricing and the way in which investments are included in the strategy.



Indicate the challenges and uncertainties and the possible impact thereof on achieving the emission targets. Also indicate any negative impact that might be caused. Make use of scenario analysis to make the effects of uncertain outcomes transparent to users.

Emission reduction measures can have adverse side effects, creating new challenges. Consider the use of materials that help the emission reduction, but which are associated with other negative aspects, such as environmental pollution or human rights violations. Another example is the use of crop-based biofuel (such as palm oil, sugar beet, or maize) that requires extensive land and may involve deforestation and loss of biodiversity. The annual reports analysed for this research disclose adverse side effects to a limited extent. We encourage companies to disclose any adverse side effects of emission abatement measures, so that users may get a clear understanding of the actual impact of the activities.

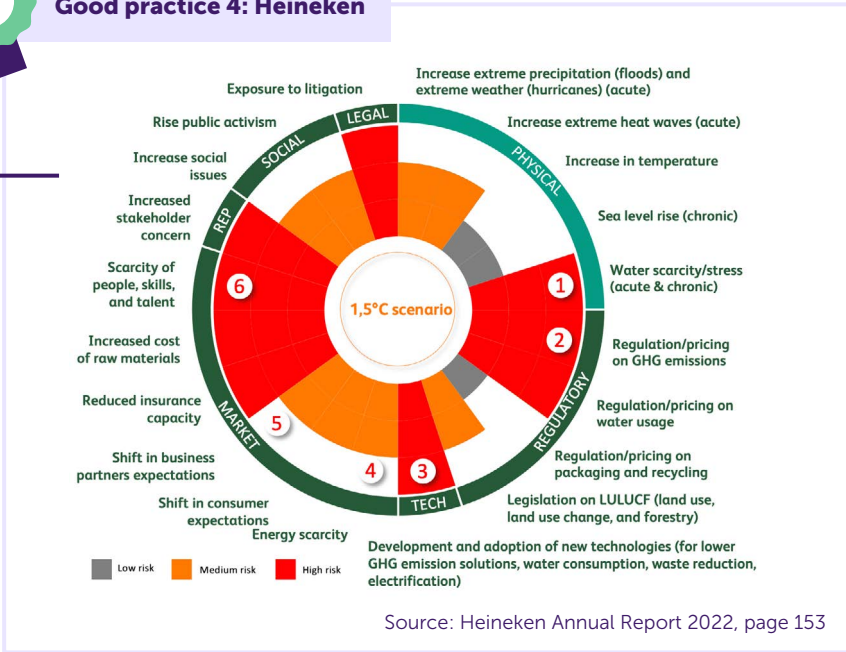
As previously emphasised in the [No time to lose!](#) report, we urge the use of scenario analyses to identify various uncertainties, and to indicate the impact of different scenarios on the company. For example, scenarios estimating the consequences of a rise in temperature of 1.5, 2 or 3 °C for a company. Consider implications for companies' physical assets, transport, resource availability and levels of carbon prices. A few companies disclose the outcomes of such scenario analyses, such as Heineken.



Good practice 4: Heineken

Heineken illustrates the risks they see in a scenario in which the temperature were to increase by 1.5°C, in addition to a similar graphic representation in the annual report of risks in a scenario of 3 to 4°C warming.

The annual report of Heineken describes risks in relation to these scenarios in greater detail, for example, regarding the quality and yield of barley harvests – an important ingredient in beer. It presents both the impact and implications of the scenarios outlined in the annual report (1.5 °C vs 3-4 °C global warming) and outlines Heineken’s strategic response to these challenges.



In this presentation, Heineken illustrates the risks it perceives in a scenario where the temperature rises by 1.5 °C, in addition to a similar graphic representation in the annual report of the risks in a 3 to 4 °C scenario. Heineken identifies several risks across 7 categories and also indicates the severity of each risk. For its scenario analysis, Heineken utilized the recommendations of the Taskforce on Climate-Related Financial Disclosures (TCFD). In the annual report, Heineken elaborates on risks associated with these scenarios in greater detail. For instance, concerning the quality and yield of barley harvests (a key ingredient in beer), outlining the impact and implications of the two outlined scenarios (1.5 °C vs. 3-4 °C warming), and how Heineken’s strategy addresses them.

2.8 Some companies provide a transparent disclosure of greenhouse gas removals, offset projects and carbon credits

In addition to emission reductions, companies also use carbon capture and storage (CCS), offset projects and carbon credits to arrive at net-zero. These methods are used to store or compensate those emissions that are not or cannot be reduced. Information on the impact, reliability and the relative share of these types of methods give further context to the feasibility of the targets and the effectiveness of the methods and appropriate measures selected.

It is important to maintain critical awareness of the use of voluntary carbon credits and carbon-offset projects. IOSCO and the AFM have previously cast doubt on the quality of voluntary carbon credits.^{4 5} The aim of the Paris Agreement is to prioritise the reduction of emissions as much as possible. There is a risk that offsetting via carbon credits could hamper the necessary focus on emission reduction. It is important to explain whether these types of credits are deployed only to compensate unavoidable emissions, or whether they are deployed on a wider scale instead of emission reduction. There are also concerns about the reliability of these types of credits; for example, whether they actually lead to a CO₂ reduction that would not have been achieved without them. It is thus essential that companies elaborate on the use, the reliability and the effect of these types of credits in a transparent manner.

- ✓ Indicate the methods applied to achieve net-zero targets. These may include emission reduction, carbon capture, carbon storage, offset projects and carbon credits. Also, specify their reliability and whether they are used for avoidable or non-avoidable emissions.

Our research shows that some companies are already transparent about the use of carbon capture and storage (CCS), offset projects and carbon credits. They disclose the manner in which these types of methods are deployed as well as their effectiveness. A few companies also clearly disclose which emissions are unavoidable, they disclose the number of emissions actually being reduced and how each of the methods mentioned contributed to this.

Furthermore, we see that some of the analysed companies provide relevant information about the reliability of compensation methods outside their own value chain, such as the funding of carbon-offset projects.

2.9 A few companies are specific about the effects that pilots and partnerships have on their emission targets and transition measures

Our research shows that a few companies' annual reports disclose the use of a wide range of pilots, collaborations and other initiatives that form part of the companies' sustainability strategy and transition plan. A few companies disclosed the details involving such collaborations in a transparent manner. These pilots and collaborations may be very useful for companies, for example, where collaborative action could be taken within a sector to address a sector-specific problem. Collaboration may also take place with scientific institutions for the development and application of certain technical or other solutions, or with governments regarding large infrastructure projects that are relevant to achieving a company's climate goals.

- ✓ Be transparent about collaborations, pilots and other initiatives and about the expected impact thereof on the net-zero targets.

4 See the AFM's occasional paper on carbon credits (available in Dutch only): https://www.afm.nl/~/_profmedia/files/rapporten/2023/occasionao2.pdf-paper-handel-in-c

5 See IOSCO's report on carbon credits: [CR06/2022 Voluntary Carbon Markets \(iosco.org\)](https://www.iosco.org/CR06/2022-Voluntary-Carbon-Markets)

3. Insight into the data process contributes to transparency

Some companies are transparent about their process on information about sustainability matters.

For users to understand sustainability reporting, it is of key interest for companies to be clear about the entities that are part of sustainability reporting in relation to financial reporting. Furthermore, it is relevant to set out how information about sustainability matters is generated. By explicitly reporting on the steps taken and the quality and uncertainties of sustainability data, companies provide a solid foundation for increasing trust and understanding among users and stakeholders.

3.1 Most companies disclose differences in scope between information about sustainability matters and financial information

To facilitate users' understanding, it is important to explicitly indicate whether sustainability reporting has the same scope as financial reporting or whether, for example, certain entities are excluded from sustainability reporting. This will lead to a better understanding of the relationship between sustainability-related performance and financial results for stakeholders.

Our research shows that most companies are transparent about the entities that form part of the sustainability reporting, and where discrepancies exist between sustainability reporting and financial reporting.



Be transparent about the entities that form part of the sustainability reporting, and about any discrepancies between sustainability reporting and financial reporting.

3.2 Some companies provide detailed disclosure of the steps in collecting, processing and managing sustainability data

The process of collecting, processing and managing sustainability data is often still in a development phase at many companies towards higher maturity levels of data quality. Our research shows that some companies specifically report on their data collection, data processing and data management. In so doing, these companies offer insight into the quality of sustainability data and related uncertainties. These disclosures contribute to an understanding of the reliability of the information provided, thereby significantly improving the insight into uncertainties in relation to the feasibility of the net-zero plans. The interviews clearly reveal challenges in obtaining information from the value chain. Engagement of suppliers, among others, helps to increase transparency on greenhouse gas emissions from the chain. In this engagement, too, it is key to show courage.



Indicate the method of data collection, data processing and data management and list any uncertainties in the data process.

3.3 Some companies provide a more elaborate disclosure on estimates in data, particularly when it comes to scope 3

Annual reports often lack clarity on the level of estimates and uncertainties in reported sustainability data. Companies use different methods, and not every method is as robust. About half of the companies are transparent on methods used. This is particularly important for the methods and estimates used for scope 3 emission data. Transparent reporting contributes to a deeper understanding of the reliability of the information provided about net-zero targets and the route towards achieving them.



Explain the extent to which data have been estimated and their level of certainty or uncertainty.

In its annual report, ASML sets out the scope of the information on sustainability matters, among other things, and ASML also proves to be a good practice in terms of explaining the data process.

Below, the table describes the scope of the reported data per theme and explains where the scope of the provided data differs from the scope of the report's contents. Additionally, ASML outlines the methodologies used for all material subjects it reports on in the section 'About the non-financial information'. They discuss uncertainties, including the 'time lag', which involves an estimation where 9 months of collected data is supplemented with 3 months of estimated data. In this chapter, they also specify the databases used for various subjects.



Good practice 5: ASML

ASML describes the scope of the data reported by theme.

Reporting scope table

The below table clarifies the scope of the data reported per theme and explains where the scope of the data provided differs from the scope of the report's content. Companies excluded in the scope below do not have data available for certain subchapters.

(Sub)chapter Annual Report	Scope
Our company	
How we innovate	ASML worldwide
Customer intimacy	ASML worldwide, excluding Cymer and Berliner Glas (ASML Berlin GmbH) NOTE: Techinsights ASML only
Financial performance	
Financial performance indicators	ASML worldwide
Energy efficiency and climate action	
Energy management and carbon footprint (scope 1 and 2)	ASML locations above 250 FTE, excluding Berliner Glas (ASML Berlin GmbH)
Energy management and carbon footprint (scope 3)	ASML worldwide: except category 8,9,10,13,14 and 15
Energy management and carbon footprint: Product use at our customers	ASML Products that reached a certain stage of maturity and have been measured

It also explains where the scope of the data provided differs from the scope of the contents of the report.

Source: ASML annual report 2022, page 270

4. Research methodology

In our research, we focused on the climate targets of companies:

- Analysing 27 annual reports of companies who have defined a net-zero target, based on a pre-prepared questionnaire.
- Holding and analysing five interviews with representatives of the companies selected, which representatives completed a self-assessment prior to the interview.

The questionnaire applied by the AFM to analyse the annual reports and the self-assessments filled in by the companies prior to the interviews are consistent with the self-assessment as included as an appendix to this report.

4.1 Findings of the research

The research was primarily exploratory in nature to gain insight into the transparency of net-zero targets and the plans to achieve these targets partly in light of the ESRS requirements from CSRD, which enter into force as of the 2024 financial year.

This research gave us an insight into the extent to which net-zero targets are substantiated, such as transparency about the scope and timing of targets, transparency about challenges and uncertainties in relation to set goals, and transparency about the collection and processing of reported data.

The research led to observations that companies can use to further improve their reporting on net-zero climate targets.

4.2 Reporting on the outcomes of the research

The research findings have been separated from any information that is traceable to individual companies or persons, with the exception of the good practices set out in this report, where reference is made to specific companies.

4.3 The AFM acknowledges the limitations of its research

There are inherent limitations due to the manner in which the research was conducted, including the conclusions that can be drawn from the findings.

We did not conduct a comprehensive research of all aspects of the annual report. The findings stated in this report should be seen in this context. The absence of comments or remarks should therefore not be understood to mean that no other omissions may exist.

We have not performed statistical sampling. We draw no conclusions on annual reports of companies other than those we have analysed.

We did not exhaustively explore the extent to which the climate targets examined were actually feasible. The focus of this research is on transparency and substantiation of the set climate goals.

We did not exhaustively explore the extent to which the reporting analysed for non-financial information was in compliance with CSRD/ESRS. These regulations were not yet in force in 2022. We analysed the companies in light of the BNFI.

5. Key terms

Term/Abbreviation	Explanation
Absolute / relative target	<p><i>Absolute</i> reduction targets aim to reduce emissions by a set amount (either in tonnes of CO₂eq, or as a percentage) in a given year, relative to a baseline year. For example, a 50% emission reduction target of CO₂eq in 2030, relative to 2020.</p> <p>A <i>relative</i> reduction target is an intensity target. Intensity targets are expressed as a ratio of greenhouse gas emissions to a unit of physical activity or economic output. For example, by 2025, a 40% reduction in CO₂eq per million euros of sales, relative to the 2015 baseline year.</p>
Paris Agreement	An international treaty (2015) to curb global warming. The Paris Agreement established the upper limit of 2°C global warming relative to pre-industrial levels, for the first time, in a binding agreement. The Agreement also laid down the aim to pursue efforts to limit the temperature increase to 1.5°C.
Decree on the disclosure of non-financial information (BNFI)	The predecessor of the CSRD implemented in the Netherlands in the Decree on the disclosure of non-financial information (BNFI).
Greenhouse gases	Often abbreviated to GHG. Greenhouse gases are those gases that contribute to global warming; the greenhouse effect. These gases are carbon dioxide (CO ₂), methane (CH ₄), nitrous oxide (N ₂ O), sulphur hexafluoride (SF ₆), nitrogen trifluoride (NF ₃), hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs).
Carbon capture and storage (CCS)	The capture and storage of CO ₂ . This thus refers to a company's emissions that are not reduced. Storage, also known as sequestration, can take place by injecting captured CO ₂ into an old gas field, for example.
CO ₂ eq	The universal unit of measurement to indicate the global warming potential (GWP) of each greenhouse gas, expressed in terms of the GWP of one unit of carbon dioxide. This unit is used to evaluate releasing (or avoiding releasing) different greenhouse gases on a common basis.
Corporate Sustainability Reporting Directive (CSRD)	European directive obliging companies to report on sustainability with effect from the 2024 financial year.
European Securities and Markets Authority (ESMA)	The European Securities and Markets Authority, an EU supervisory authority.
European Sustainability Reporting Standards (ESRS)	European reporting rules that companies have to apply for their sustainability reporting in accordance with the CSRD.
Greenhouse Gas (GHG) Protocol	A globally recognised standard for measuring and reporting on greenhouse gas emissions.

Term/Abbreviation	Explanation
Net zero	A net-zero target, climate neutrality. In practice, this entails: 1. Achieving value-chain emission reductions consistent with the depth of abatement required to reach the point of global net-zero on 1.5 °C pathways, and 2. Neutralising the impact of residual emissions (after a greenhouse gas emission reduction of around 90-95%, with the possibility for justified sectoral differences in line with a recognised sectoral pathway) by permanently removing an equivalent volume of CO ₂ .
Non-financial information (NFI)	For the purpose of this research, NFI means information relating to ecology, social matters and governance (ESG).
Non-Financial Reporting Directive (NFRD)	The predecessor of the CSRD.
Science-Based Targets initiative (SBTi)	SBTi is an international organisation which companies may join. The organisation's goals include the promotion of net-zero targets in line with climate science. Companies may commit to SBTi by setting a science-based target. Once a science-based target has been developed, SBTi validates the target, and the target can be reported as SBTi-approved.
Scopes 1, 2 and 3	<ul style="list-style-type: none"> • Scope 1: direct emissions from sources owned or managed by the issuer, as when using fossil fuels gas, oil, or coal. • Scope 2: indirect greenhouse gas emissions from purchased energy, such as electricity, heating or air conditioning, generated outside the issuer and used by the issuer. The emissions are not released in the use of the electricity; they arise from the generation of the electricity by, for example, burning fossil fuels at the power station. • Scope 3: indirect emissions other than those in scope 2 that arise in the company's value chain: the upstream and downstream emissions. For example, emissions released during the extraction and transport of raw materials. The GHG protocol comprises a subdivision into 15 scope 3 categories.
Stakeholder	An interested party. By this we mean stakeholders affected by a company's activities. This can be either in a positive or negative sense. Stakeholders also include users of sustainability reporting; consider investors, lenders, business relations, NGOs, and governments, among others.
Value chain	The value chain of a company. Value chain is the full range of activities, resources and relationships related to the undertaking's business model(s) and the external environment in which it operates. A value chain encompasses both its own activities as well as the supply chain, distribution, and the sale and supply of products and services.

Appendix: Self-assessment

Please use this self-assessment as a tool to identify key elements of your climate targets.

Use the comment boxes to provide required actions.

Disclaimer: This self-assessment is intended as a tool only. Filling out this questionnaire will not suffice for compliance purposes.

Questions

Concrete, properly substantiated and comprehensible	Answer	Required actions
If you have developed a climate-related intermediate or final target, do you report on this target in the management report?	Yes No	
Do you report on your emission reduction targets as relative intensity targets, absolute targets, or both?	Intensity Absolute Both	
Do you report on the protocols or frameworks used to calculate your greenhouse gas emissions (e.g. the GHG Protocol)?	Yes No	
If your targets are science-based (e.g. validated by SBTi), do you report on the temperature target pathway committed to and on whether mid-term and long-term targets have been set for this?	Yes No	
If you made concrete collaborative agreements with other organisations on emission reduction, do you report on the the expected impact of the collaboration on your emission reduction?	Yes No	

Completeness	Answer		Required actions
Do you report on the range of emission scopes 1, 2 and 3? For example, which of the scope 3 categories are in scope for your sustainability reporting.	Yes	No	
Do you report on materiality-related scope 3 information and do you indicate the challenges and uncertainties that play a role in this scope?	Yes	No	
Do you report on the appropriate measures taken to reduce scope 1, 2 and 3 emissions?	Yes	No	
Apart from CO ₂ , do you also report on other greenhouse gases relevant to your company and do you state their source and set out how these could be reduced?	Yes	No	
Are the same entities part of sustainability reporting as of financial reporting and, in case of any discrepancies in terms of range, have these discrepancies been explained?	Yes	No	
Progress, challenges, uncertainties and reliability	Answer		Required actions
Do you report on the current and historical emissions in relation to the progress of your emission reduction targets?	Yes	No	
Do you report on the risks, challenges and uncertainties in relation to your emission reduction targets? For example, risks due to climate change, technological challenges, financial challenges, potential shortage of raw materials.	Yes	No	

Progress, challenges, uncertainties and reliability	Answer		Required actions
Do you report on adverse side effects resulting from appropriate measures to achieve your climate targets?	Yes	No	
Do you report on the methods applied, besides emissions reductions, to achieve net-zero targets, such as emission reduction, carbon capture, carbon storage, offset projects and carbon credits?	Yes	No	
Do you report on the reliability of these types of methods and/or are carbon credits deployed for avoidable or non-avoidable emissions.	Yes	No	
Do you report on the data collection process with regard to scope 1, 2 and 3 data?	Yes	No	
Do you report on any uncertainties you may observe with regard to the reliability of information, and on how to handle such uncertainties?	Yes	No	