

2023

# Climate Report

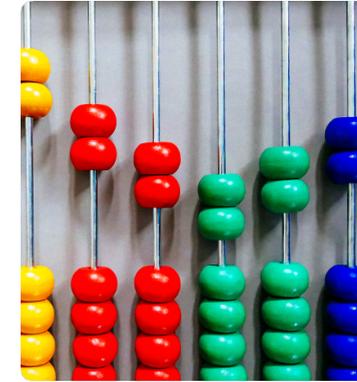
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# CEO Foreword

Climate change is a fact. Its effects are being felt all around us, with the world recently experiencing the hottest and longest heatwave ever recorded, while the ocean surface temperature is warmer now than any time in the past 150 years of measurement. It's no wonder that the United Nations secretary general warns that "climate change is out of control", and for many – myself included – it feels that the climate emergency has become 'everything everywhere all at once'. The world needs urgent collaborative action on climate change to slow it down, mitigate its worst effects and successfully adapt to what we can no longer avoid.

The latest climate science sends a clear warning that we only have a small window of opportunity still open to limit global warming to 1.5°C. Time may be running out, but I strongly believe that every step counts, every action is meaningful, and every tenth of a degree matters. We all – governments, NGOs, businesses and individuals – have a part to play, and we can all make the difference for present and future generations if we work together towards the same goals.

The financial sector has a major role in helping the world transition to a low-carbon economy and a sustainable future. At ING we take this role seriously, and we strive to be a banking leader in driving that transition. Although the systemic change required means no one can do it alone, our size and scope – playing an important role in the economy and supporting clients in many sectors and geographies – means we have the potential to make a big impact by focusing on the most carbon-intensive parts of our portfolio and striving to decrease the CO<sub>2</sub> emissions caused by those sectors. We do this with our Terra approach, which uses science-based and sector-agreed pathways for getting our in-scope sector portfolios in sync with reaching net zero by 2050, and guides us in making business decisions that aim to accelerate the transition. And as the science evolves and the available data improves, we dynamically update Terra so that we're using the latest insights and conclusions.

This report is just a snapshot in time, but provides me, my colleagues and our stakeholders with the opportunity to reflect on the progress we've been making, and to look ahead to the areas where we can strive to do more, aim to go faster, drive increased collaboration and call for greater guidance. Two areas I believe deserve particular attention are (1) the challenge of finding balance between the need for urgent action and the need for economic stability during an inclusive, responsible transition, and (2) the necessity for governments and regulators to more firmly guide the transition, helping the private sector with the answer to the question "what does 'good' look like?".

The achievement I most want to spotlight is how we've been integrating and embedding our climate action into the business – living up to our strategic ambition to put sustainability at the heart of what we do. For corporate clients and transactions in scope of Terra, climate considerations are now an integral part of our decision-making and approval processes. With these business-process enhancements we're changing the way we engage and do business with our clients.

I'm pleased to also highlight that we continue to make progress in steering the nine sectors in Terra's scope towards our net-zero-aligned intermediate (2030) targets. And with below-zero climate alignment scores for four sectors – power generation, upstream oil & gas (O&G), automotive and shipping – we show that we're currently moving faster along those net-zero pathways than the science requires. For the other sectors in scope we face challenges with bringing our portfolios into alignment with the relevant science-based pathways. Those challenges range from the long lead-time in scaling new technology solutions in sectors like cement and steel, to the lack of mainstream low-carbon fuel alternatives in aviation and shipping, to insufficient government guidance and incentives to influence customer behaviour in residential real estate. These challenges would be greatly reduced by concerted action by governments and regulators, whether it's accelerating the decarbonisation of the power-grid, investing in sustainable alternatives (e.g. accessible and affordable rail-travel and public transport), incentivising changes in customer behaviour, or phasing out subsidies to carbon-intensive sectors.

We don't let this clear need for greater government guidance and intervention, or other external challenges, prevent us from pressing forward and making progress. For the first time in this report we describe our own sector transition plans, aligned with the Net-Zero Banking Alliance (NZBA) framework and with the transparency expectations of regulators. These sector-specific plans show the tangible actions ING is taking in striving to meet our climate-related targets. Because while measurement and transparency drive progress, it's only with real action that we can make the difference. That's also why sustainability is not just my personal priority as CEO or the remit of a small group of passionate experts, but it's a business priority that's at the centre of ING's overall strategy.

We're proud of the progress we're making, and how we're using our financing to contribute to the transition of our customers, but we're also transparent about the fact that we still finance more activities that aren't sustainable. This is a reflection of the current economy and the lack of sustainable alternatives at-scale. It's also one of the main challenges I grapple with as CEO: balancing ING's responsibility to help drive economic progress and support an orderly and socially inclusive 'just transition' with the urgent need for everyone to do everything possible to mitigate and adapt to climate change.

ING's involvement in the fossil fuel sector is a relevant example. As a systemically important bank, we don't only finance what is already considered 'green' or sustainable, we're financing today's society – which is still dependent on fossil fuels for a range of economically crucial activities like transport, heating and power production. There's no denying the energy sector needs to urgently accelerate its efforts to decarbonise – balanced with ensuring stable and affordable supplies and protecting the right to universal energy access. ING, with the latest climate science to guide us, has already taken important steps, like reducing the financing of coal-fired power plants to close to zero by 2025 and stopping the dedicated project financing of new oil & gas fields. We've also restricted the financing of the mid-stream infrastructure that supports the development of those fields, which are unnecessary according to the International Energy Agency. These are important policy decisions, and just as important are the actions we take to steer our portfolio, with 2030 targets now in place for both the upstream and mid- & downstream parts of the value chain – and in this report you'll see that our upstream portfolio is well below the trend-line required to achieve the medium- and long-term targets for net zero by 2050 alignment. Trade & commodity finance will also be in scope when we publish next year's Climate Report, with the whole oil & gas value chain then being covered.

Yet we also play a role in helping to ensure that energy is accessible, affordable and securely supplied. What's clear is that the best way to decrease demand for fossil fuels is to increase the availability of renewable energy. This means a financing shift away from fossil fuels and into renewables, in line with the recommendations of the International Energy Association. Most of our new electricity-related financing now goes to renewable sources, with renewables making up the majority of our power-generation portfolio.

Nonetheless the experts agree that when it comes to climate change mitigation and adaptation the world is not moving fast enough. For ING, moving faster will mean being more rigorous in how we engage with corporate clients. Sustainability is now a fundamental consideration when making choices about which corporate clients we fund and which we don't. Our starting point is always inclusion-first: based on the belief that we can make the most impact by helping clients transition their businesses. Only when it becomes apparent that certain clients are unwilling or unable to make the transition, that's when we'll consider stepping away. Moving faster also requires that more alternative and new solutions are available at sufficient scale so that we can shift our sustainable and transition financing to those solutions.

Another challenge that's relevant to highlight in this report concerns data availability and data quality. Emissions and other climate-related data, whether at client or sector level, can be incomplete, out-of-date or otherwise patchy. ING calls for internationally aligned and harmonised standards, frameworks, guidelines and regulation that will improve how all parties measure and report their impact on the climate and the environment. Aligned and consistent climate-related disclosure standards and guidelines, as well as the introduction of relevant laws and regulations that guide business practices and customer behaviour, create a level playing-field that helps to drive action and ensure global impact. For example, better quality data leads to more reliable information from which to draw actionable insights. For financial institutions like ING, who are expected to fund and contribute to the acceleration of the low-carbon transition, those insights feed into more meaningful client engagement, better deal decisions, more

robust risk models and increased transparency in disclosures. These all support the tangible actions we strive to take as we aim to make positive climate impact and help steer our portfolios and our clients towards net zero by 2050.

Looking ahead, I expect our climate action approach to become ever-more interlinked with our growing focus on biodiversity, as well as our other sustainability-related priorities of respecting human rights and supporting a just transition. As the interdependencies of ecosystems, whether natural or manmade, become ever more apparent, these topics cannot be seen as separate from each other. And when it comes to managing climate and environmental risk, I want ING to continue to develop the expertise and experience necessary to be just as capable as we are in our credit risk management.

Going green isn't black and white. The economy and most of our clients are not yet aligned with net zero by 2050 goals, and therefore neither is our overall lending book. But we don't let this and the dilemmas, difficult decisions, imperfect data or other challenges hold us back. ING's commitment is to making progress, step by step. We do this by making climate a strategic business priority, striving to put sustainability at the heart of what we do. We do this by committing to the latest global climate-related targets and focusing on decreasing the emissions associated with the most carbon-intensive parts of our portfolio. We do this by mobilising billions of euros in finance that contributes to the transition of our clients. We do this by engaging with our clients, with an inclusion-first approach where we advise on and support their transition plans. We do this by collaborating, coalition-building and partnering with peers, industry bodies and international development organisations. We do this by working to reduce our own environmental footprint, and by engaging and inspiring our people to be agents of positive change.

In all of this, we have the ambition to play a leading role. This report shows the progress we've been making. I hope it inspires others. Because a sustainable future for all depends on urgent action by all.



**Steven van Rijswijk**  
CEO of ING

5 October 2023

A top-down photograph of a child's hands sifting through a large quantity of multi-colored beads (red, yellow, green, blue, purple, orange) on a green surface. The child is wearing a red long-sleeved shirt. A blue sieve is held over a blue bowl, and beads are falling into it. The scene is brightly lit, and the beads are scattered across the green surface.

Executive

summary

# Executive summary

The financial sector has a major role to play in acting on climate change and supporting the transition to a net-zero economy. We take this role seriously and want to be a banking leader in driving that transition. In this, our latest Climate Report, we share our progress on our path to net zero along with relevant developments in achieving other climate action objectives.

## Aiming for net zero in our own operations

Our climate action begins with managing our own environmental footprint, reducing the emissions associated with our operations and suppliers. Earlier in 2023 we adopted a new strategic framework for our Environmental Programme which encompasses net-zero buildings, sustainable procurement, sustainable tech & operations, and 'conscious working' (encouraging employees to be conscious of their climate impacts, in particular related to business travel).

For our buildings, we've adopted a new scenario to guide our investments in this area, with the aim to reach net-zero emissions by 2035. To drive this change, we've set a scope 1 and scope 2 target of a 90% reduction by 2030 (compared to 2014<sup>1</sup>). In 2022, the scope 1 and 2 emissions related to our buildings were 16 kilotonnes CO<sub>2</sub>e (a 78% reduction compared to 2014). Aiming for greater impact, we intend to update this 2030 target for scopes 1 & 2 to also include scope 3 for business travel.

As our priority is to reduce CO<sub>2</sub> in our operations, in 2022 we stopped the use of voluntary carbon credits. Our approach to addressing our unabated operational emissions now focuses on contributing to organisations that work to restore nature and develop carbon removal technologies.

## Steering our portfolios and engaging with clients for positive climate impact

ING's strategic priority to put 'sustainability at the heart of what we do' means that we strive to embed sustainability and climate-related considerations in our decision-making and business-as-usual processes. We've incorporated the climate dimension in the transaction approval process for corporate transactions, with ING's Green-Light Committee (GLC), the body that validates the fit and alignment of potential transactions with the bank's strategy and priorities, now also reviewing proposals from a climate-alignment perspective. The GLC assesses the information we've been able to collect on the (prospective) client's current climate performance, their net-zero targets and transition plans, and these climate-related factors are considered alongside other due diligence and acceptance criteria such as the assessment of risks and profitability of the transaction. We're also developing an online tool to collect and assess the transition plans and sustainability performance of (eventually) all corporate clients, which will enhance not only our climate-related decision-making processes but also how we generally engage with existing and prospective clients, facilitating more insightful and data-led discussions on opportunities and risks. These developments show how we're striving to change the way we do business with our clients<sup>2</sup>.

## Steering our portfolios along the path to net zero with Terra

Our climate action strategy, which aims to steer the most carbon-intensive parts of our portfolio to reach net zero by 2050, is operationalised through our Terra approach. We continue to refine and optimise Terra, dynamically incorporating developments in climate science, and have expanded our coverage to include the mid- and downstream parts of the oil & gas sector value chain, where previously only the upstream part of the value chain was in scope. We also now cover our global commercial real estate book, where previously we only covered the book for the Netherlands. And we're working to expand Terra to Business Banking clients, who account for approximately 18% of ING's total financed emissions – first focusing on small and medium-sized enterprises (SMEs) in the Netherlands active in the agriculture (especially dairy farming) and transportation (especially inland shipping and road transportation) sectors.

<sup>1</sup> Data related to the 2014 base year has been and may further be recalculated on a best effort basis aimed at ensuring consistency and relevance of reported data in case of: (1) structural (scope) changes in the organisation (for example because of acquisitions or divestments), changes in calculation methodology, improvement in the accuracy of emission factors or activity data; or (2) The discovery of required data or calculation improvements that materially impact the base-year emissions data, using a 3% threshold on the last two years.

<sup>2</sup> Internally and in our communications, ING uses the word 'client' to refer to corporate clients (in the scope of Wholesale Banking) and mid-corporates and small and medium-sized enterprises (in the scope of Business Banking). We use the word 'customer' to refer to private individuals (in the scope of Retail Banking). When referring to clients and customers together, we use the generic term 'customers'.

Looking at the progress of our climate alignment, our calculations show that we're currently on track to achieve our medium-term 2030 sector decarbonisation targets in four of our nine Terra sectors. Power generation, upstream oil & gas and automotive have shown particularly strong performance and improvement. Aviation, while not yet on track, has also significantly improved compared to the 2021 alignment score. Shipping is on track, and steel and cement are also within 5% of their alignment pathways. This leaves our commercial and residential real estate (mortgages) portfolios 'off track' compared to their respective sector alignment pathways. In these sectors the achievement of milestones and targets is heavily dependent on external factors like the decarbonisation of national power grids, international alignment on energy performance certificates, and changes in client and customer behaviour, and we once again make a strong call to governments and regulators to mandate and incentivise the changes necessary to accelerate the net zero transition in real estate and other sectors. For more detail on our per-sector Terra alignment performance, please see the [Metrics and targets](#) chapter.

This year we're publishing per-sector transition plans for the first time. These detail our current and intended actions in support of clients and customers, in collaboration with industry and the market, and in engagement with government and policy-makers.

## Engaging with, advising and financing clients for positive climate impact

To complement the portfolio-level impact we strive to make with our Terra approach, we also aim to play an important role at client level, by helping them to accelerate their transition to net zero by 2050. Our approach is built on the combination of ING's strong sector expertise with our growing (and sometimes market-leading) sustainable finance expertise. In addition to the financial support and incentives we provide, we help and advise clients by putting our sector expertise, international network, climate-action experience and other sustainability-related insights to work for them.

We continue to make impact with our financing. In 2022 we set the ambition to mobilise<sup>3</sup> an annual amount, by 2025, of €125 billion in financing that contributes to our corporate clients' transitions to more sustainable business models. In 2022 we mobilised €101 billion of financing, supported by a broad range of financial products linked to sustainability criteria. This is up from €88 billion in 2021. In the first half of 2023 we mobilised another €47 billion and with volumes usually higher in the second half of the year, we estimate that we're on track to achieve our target by 2025.

The total number of sustainability deals we supported in 2022 was 491, up nearly 20% from 411 in 2021. These deals included sustainability-linked loans and bonds, green loans and bonds, sustainable structured finance, social loans and bonds, and sustainable investments. And in the first half of 2023 we supported a further 232 sustainability deals.

The volume of financing we mobilise for corporate clients and the number of sustainability deals we support advances our aim to contribute to the transformation of our clients and society to a low-carbon economy. At the same time, we acknowledge that while we finance a lot of sustainable activities, we still finance more that's not. For more information on how we're progressing, please visit [ing.com/climate](https://ing.com/climate).

## Contributing to climate standard-setting

Building on our previous efforts to help develop methodologies that can be used by financial institutions and sector participants to benchmark their own alignment with net-zero goals - like the Poseidon Principles for the shipping sector and the Sustainable STEEL Principles for the steel sector - we're now collaborating with RMI's Center for Climate Aligned Finance and three banking peers on a new methodology for the aluminium sector. We also joined the Partnership for Carbon Accounting Financials (PCAF) and aim to contribute to the improvement of PCAF methodologies by supporting ongoing and new working groups that are helping financial institutions understand the impacts of products which are not yet covered.

## Managing climate and environmental risks

We've established a dedicated ESG Risk department as part of our risk organisation. The ESG Risk department is responsible for maintaining ING's ESG Risk Framework; setting ESG risk appetite; identifying, assessing, monitoring and reporting on ESG risk; and addressing the requirements of ESG risk regulations and supervisory guidance such as the European Central Bank's (ECB) Guide on climate-related and environmental (C&E) risks.

## Integrating sustainability into our governance structures

As reported in our 2022 Climate Report, concurrent with ING updating its overall strategy in March 2022 to make sustainability a priority, we updated our ESG governance approach. This update served to integrate and align ESG governance with the existing business-as-usual governance of the bank. This allows us to steer holistically across all ESG themes, and helps us maintain the overview on the interlinked topics of climate, biodiversity, human rights and financial health on which we focus. As a result, ESG is now a regular topic of discussion for ING's Management Board Banking (MBB), and was formally on the agenda of MBB meetings 24 times in 2022. And as we take steps to further integrate and embed climate action into the business, this means that many of the other topics on the MBB's regular meeting agenda have a sustainability angle.

<sup>3</sup> Volume mobilised for Wholesale Banking clients includes loan products, capital markets, derivatives and advisory propositions that support clients by financing their sustainable activities and contribute to their transition to a more sustainable business model. In cases where ING is appointed in an ESG lead role the pro-rata share of the transaction is included, otherwise ING's final take is included. See also [Annex: Finance mobilised definition](#)

In the past year we've also improved our business-level governance, particularly in Wholesale Banking (WB), where responsibility lies for the execution of sector transition plans. We've created a Wholesale Banking Sustainability Steering Committee, which assigns clear ownership, accountability and resources to help set and implement Wholesale Banking's sustainability commitments. Further internal coordination and steering is done by global sustainability leads representing each of the seven WB sector teams along with regional sustainability leads representing Asia-Pacific and the Americas.

For Retail Banking, the Retail Banking Sustainability Steering Committee oversees the development of new and innovative sustainable products and the progress of lending portfolios towards climate goals.

## Next steps

Approaches to managing climate risks and opportunities are evolving rapidly. We aim to make sure that we are actively contributing to, and up to date with, the latest methodologies and approaches in these areas. We plan to continue to expand our Terra approach to cover more of the carbon-intensive parts of our lending portfolio, with aluminium and food & agriculture (in particular dairy) next in line. We intend to continue to partner with expert organisations like the NZBA and sector working groups including those on shipping, steel, automotive and aluminium to help standardise the way banks measure their alignment with climate goals. And we aim to keep exploring ways to link and integrate biodiversity, human rights and the circular economy into our approach to climate action.

While we're committed to doing our part, we know achieving global net-zero goals requires everyone to play theirs. Governments need to direct and guide the changes needed to reach net zero by 2050, whether by regulation, policy or incentives. In addition to these, in our view critical, policy interventions, we would also like to see regulators working together with the financial industry in further supporting the international alignment and harmonisation of climate reporting requirements, particularly on climate impact measurement and target-setting. The availability and quality of climate risk and climate alignment data is critically important to the success of our climate approach. We count on, and are working with, third parties and clients to improve the datasets that we work with for climate portfolio steering and assessing climate risk.

# Snapshot: climate action

displayed data covers full-year 2022

## Terra sector alignment

Oil & Gas: Upstream	on track
Power Generation	on track
Automotive	on track
Shipping	on track
Steel	close to on track
Aviation	close to on track
Cement	close to on track
Residential Real Estate	not on track
Commercial Real Estate	n/a: new reporting scope
Oil & Gas: Mid- and Downstream	n/a: newly included

## Expanding Terra

- Oil & Gas: mid- & downstream
- Commercial Real Estate: global Wholesale Banking book
- Coming soon: Business Banking sub-sectors dairy farming, inland shipping, road transportation
- Coming soon: Trade and Commodity Finance, to cover full oil & gas value chain
- Coming soon: Aluminium sector

## Integrating in the business

- Climate considerations embedded in corporate client & transaction approval process
- Per sector transition plans to guide climate action
- Tool for assessing client transition plans

## Setting standards

- Contributing to sustainable aluminium principles
- Joined Partnership for Carbon Accounting Financials (PCAF)
- Leading NZBA working groups on steel & automotive

# €101 billion

financing volume mobilised\*

that contributes to clients' transitions

(target: €125 billion annually by 2025)

# 491 sustainability deals

supported in 2022

(increase of 20% versus 2021)

# 78%

reduction in scope 1 & 2 emissions

from ING buildings (vs. 2014)

(target: 90% reduction by 2030)

## Strengthening governance & risk management

- ESG topics frequently on management board agenda
- Improved business-level governance for Wholesale and Retail Banking
- ESG Risk department established as part of Risk function

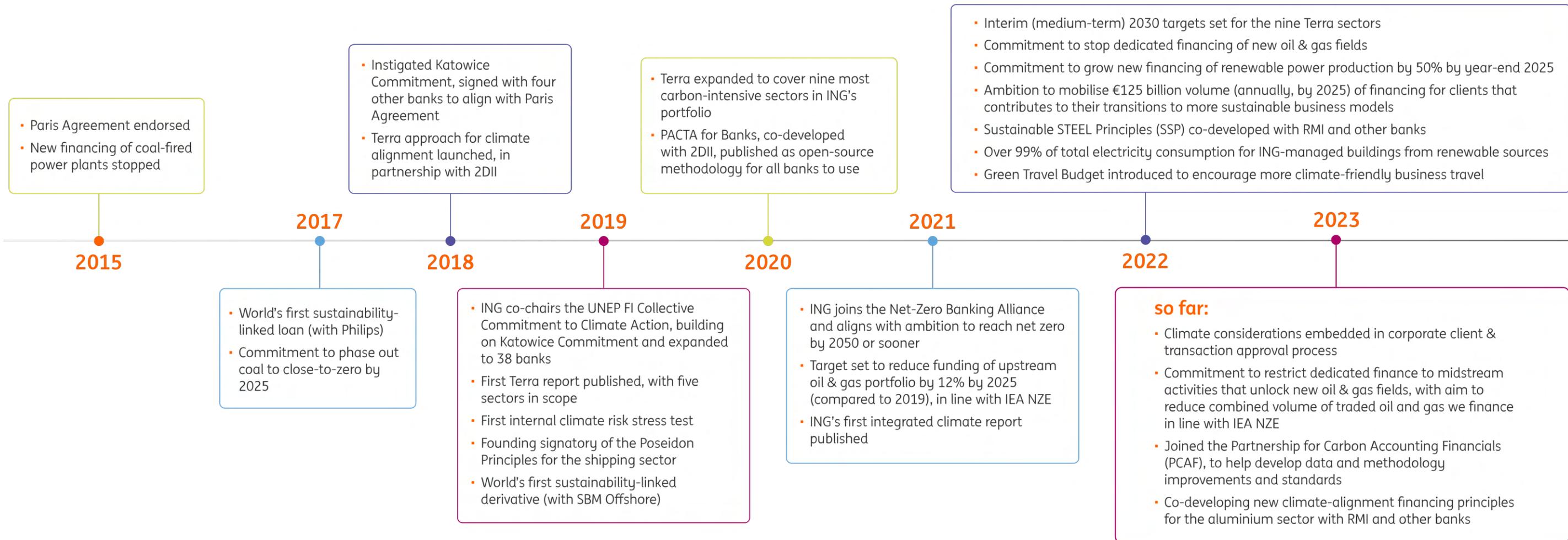
## New oil & gas policies

- Restriction of dedicated finance to midstream (infrastructure) activities that unlock new fields
- Aim to reduce the combined volume of traded oil & gas we finance

\* Volume mobilised for Wholesale Banking clients includes loan products, capital markets, derivatives and advisory propositions that support clients by financing their sustainable activities and contribute to their transition to a more sustainable business model. In cases where ING is appointed in an ESG lead role the pro-rata share of the transaction is included, otherwise ING's final take is included.

# Our climate action milestones

We've been taking action on climate for many years. For example, we launched our first Environmental and Social Risk (ESR) policy in 1997 and created the Groenbank in the Netherlands in 1998. Our climate journey has taken us through various phases of maturity. The first step being **commitment & ambition**: endorsing the Paris Climate Agreement, and then taking the lead in commitments (Katowice and the Collective Commitment to Climate Action) that laid the ground for the Net Zero Banking Alliance. The next step: a pioneering approach to **measurement**, with Terra and its toolbox of methodologies, shared for all to use. Measurement allows us to continue the journey by setting **targets**: first aligned with long-term global climate goals, then driving more immediate action with intermediate targets. With those targets to aim for we can then really focus on **steering**, related to which are our collaborations with peers and sectors on the financing principles needed to achieve net zero by 2050 goals. This timeline highlights the main milestones along our climate action journey.



# About this report

ING's 2023 Climate Report focuses on the progress we're continuing to make on our climate action objectives and priorities, including developments in our approach to climate risk, climate alignment and climate adaptation.

## Who this report is for

This report is intended to inform all of our stakeholders about ING's approach to climate action. These stakeholders include customers, investors and shareholders, regulators and supervisors, employees, government authorities, and non-governmental organisations. We aim to provide these stakeholders with an overview of ING's progress on climate action.

## Using the TCFD recommendations

ING has reported on our climate and environmental approach for many years. Since 2017, we have captured our progress on climate risks and opportunities according to the recommendations of the Financial Stability Board's (FSB) Task Force on Climate-related Financial Disclosures (TCFD) in our Annual Report. The TCFD was set up in 2015 to develop recommendations on the type of information that should be disclosed to appropriately assess and price risks and opportunities related to climate change. In addition, we have reported annually on our Terra progress since 2019, on climate risk since 2020, and combined these elements into an integrated report since 2021. In 2022 we further aligned our climate reporting structure with the TCFD format in order to support standardisation and comparability across the financial sector.

For this report we have used the TCFD recommendations to shape our climate-related disclosures. Accordingly, this report contains four main sections: [Governance](#); [Strategy](#); [Risk management](#); and [Metrics and targets](#). The Metrics and targets section contains information about how we aim to bring our business operations in line with net zero. It also discloses how we use our Terra approach to analyse the nine most carbon-intensive sectors in our portfolio and steer our loan book towards net zero. The Terra section of this report details our principles and the adopted methodologies, climate scenarios and data sets which provide the foundation for the Terra approach and the basis for measuring performance in the nine sectors covered: power generation, oil and gas, commercial real estate, residential real estate (mortgages), cement, steel, automotive, aviation and shipping.

In 2022 we signalled that we would publish a more detailed transition plan on how we reach net zero. The Terra section of this report also includes a detailed transition plan for each Terra sector.

We plan to continue adapting our approach to climate-related and environmental disclosures as we build on our expertise in measuring and quantifying climate metrics, dynamically incorporating the latest climate science and available data, and in line with evolving regulatory and methodological developments.

## Scope and boundaries

This report covers the period 1 January 2022 to 30 June 2023, unless otherwise specified (in this report). For the Terra-related measurement of performance against targets, data relates to year-end 2022, except for the shipping sector where the data relates to year-end 2021 (as per Poseidon Principles). The calculation of financed emissions is also based on data from year-end 2022.

The data and content in this report aims to provide an overview of ING's climate performance based on the methodologies and data-source explanations mentioned in this report, together with our own internal assessments and estimates. We've calculated our alignment with our target pathways based on the available data and the selected calculation methodologies and available scenarios. Our targets and alignment approach may be subject to change due to regulations, data availability and quality, pathway availability, methodology updates, changes (or lack thereof) in public policy and government action and/or other developments affecting our clients, the sectors in which they operate or society as a whole. Similarly, our internal calculations may be restated or recalculated as a result of changes in methodologies or baselines due to regulations, data availability and quality, available pathways, or other changes that may occur and impact our alignment scoring.

In compliance with the TCFD recommendations, we define our strategic time horizons as follows: short-term = 2025, medium-term = 2030 (and in certain cases 2035), and long-term = 2040 and beyond. The majority of our climate-related targets are aligned with these time horizons.

## Climate, biodiversity and human rights

The United Nations (UN) makes reference to a 'triple planetary crisis' to highlight the intricate connections between climate change, biodiversity loss and pollution. The triple planetary crisis negatively affects the environment and people alike. We recognise these interconnections, and believe that taking action on both climate change and biodiversity loss is necessary for human wellbeing and economic prosperity. In past years, in line with ING's stronger focus on biodiversity, we have increasingly disclosed our intended actions related to biodiversity in our climate reports. In this report you will however find reduced reference to this topic, as we intend to publish a separate update on our biodiversity approach.

We also support the view that putting human rights at the centre of addressing this triple planetary crisis is imperative for achieving the UN's Sustainable Development Goals<sup>4</sup> (SDGs) aimed at guaranteeing a healthy environment for current and future generations. ING has strengthened its human rights approach and reporting over the past several years, and we strive to be transparent about our approach, hoping to also encourage others to do the same. ING's most recent human rights review is available [here](#), and we're currently working on our next full human rights report, to be published in 2024. For this reason there is also reduced reference to human rights in this Climate Report, as we plan to explain our human rights approach in more detail in the separate report.

## Limited assurance of baselines and targets

ING is a member of the Net Zero Banking Alliance (NZBA) and a signatory to the Principles for Responsible Banking (PRB). In line with ING's NZBA commitment and the reporting requirements in the [NZBA Guidelines](#), ING is required to obtain a limited level of assurance on its Terra performance, Terra targets and Terra baselines within four years of signing the PRB. KPMG Accountants N.V. (KPMG) has performed limited assurance engagement procedures on the 'Terra-toolbox information' and 'the disclosures on Financed Emissions' as included in Appendix A of this report (hereafter: 'Information in the report').

In their qualified conclusion, KPMG states that, except for the matter described hereafter, nothing has come to their attention that causes them to believe that the information in the report is not prepared, in all material respects, in accordance with the reporting criteria. The matter resulting in KPMG's qualified conclusion relates to the observed limitations with regards to management's control over the accuracy and completeness of the data provided by third parties and consequently KPMG's inability to perform sufficient assurance procedures over the data reported by third-party data providers. Therefore an uncertainty remains regarding the reliability of the information in the report. KPMG's limited assurance report can be found on pages [91-93](#). [Appendix A](#) details the Terra and Financed Emissions measurement and reporting details that the report refers to. This includes information about data vendors, data quality and limitations.

Additional disclosures are available at <https://www.ing.com/Sustainability.htm>

We welcome reactions and views, which can be emailed to [sustainability@ing.com](mailto:sustainability@ing.com).

<sup>4</sup> The International Energy Association's Net Zero Emissions by 2050 Scenario (NZE), which we use as part of our Terra toolkit, also supports the objectives of the United Nations' SDGs, specifically Goal 7 (Ensure access to affordable, reliable, sustainable and modern energy for all), as well as aiming to secure major improvements in air quality, which is linked to many of the UN's other SDGs



# Governance

# Introduction

ING put its climate governance structure in place in 2018, and since then we've continued to optimise the governance structure as an integral part of the business while focusing on climate-related risks, opportunities and disclosures.

## Our ESG governance approach

In March 2022, concurrent with ING updating its overall strategy to make sustainability a priority, we updated our ESG governance approach, integrating and aligning ESG governance with the existing business-as-usual governance of the bank. This allows us to steer holistically across all ESG (environmental, social and governance) themes, and helps us maintain the overview on the interlinked topics of climate, biodiversity, human rights and financial health on which we focus. As a result, ESG is now a regular subject on the agenda of ING's Management Board Banking (MBB), which includes the members of the Executive Board and is responsible for day-to-day management of the business and long-term strategy.

## Global Sustainability department

The Global Sustainability department is responsible for ING's overall sustainability approach and how that aligns with ING's global strategy. We take an holistic approach to sustainability, which means that climate change mitigation, climate adaptation, biodiversity, human rights, financial health, business ethics and other ESG-related topics are all in scope and supported by dedicated experts. These experts help develop ING's policies, programmes and targets on sustainability-related risks and opportunities, and are involved in measuring progress towards targets.

Stakeholder engagement is another responsibility, and the global team engages in dialogue with key external stakeholder groups, such as NGOs, governments, academics, sustainable research agencies, investors and international development organisations. Internal engagement is just as important, with the team developing global learning and upskilling programmes on ESG-related topics, also supporting ING departments in further integrating sustainability into their business.

Our global head of Sustainability reports directly to ING's CEO. Sustainability/ESG leads in major countries have a functional line to the global head of Sustainability to create a stronger connection between global and local actions and to benefit from sharing best practices and learnings.

## Board-level governance

ING's Supervisory Board (SB) is responsible for assessing, overseeing, monitoring, constructively challenging, scrutinising and discussing management performance and ING's strategy and business execution - and advises the Management Board (comprising the Executive Board and the Management Board Banking) accordingly. The Supervisory Board has four permanent committees: the Risk Committee, the Audit Committee, the Nomination & Corporate Governance Committee and the Remuneration Committee. In March 2022, the SB appointed an ad hoc ESG Committee from among its members to assist with overseeing ESG-related topics.

## ESG Committee

The Supervisory Board's ESG Committee assists the SB with matters relating to ESG, including, but not limited to, the development and integration of ESG across the company and its strategy. The ESG Committee also assists the SB by monitoring and advising on relevant ESG developments. To prevent an overlap between the ESG Committee and the other Supervisory Board committees, and to safeguard an aligned and common view on ESG, the ESG Committee consists of at least one member of each of the other committees<sup>5</sup>.

The ESG Committee met three times in 2022. An overview of the variety of topics discussed and supported can be found in ING's [2022 Annual Report](#), including how the board monitors and oversees progress against targets and performance. In addition to the regular meetings, in the first half of 2023 the ESG Committee participated in a full day of climate-focused training<sup>6</sup>, which included deep-dives on climate change, biodiversity and sustainable finance. The outside-in view and external inspiration was provided by a prominent climate academic from a leading Dutch university and the head of the UN's Environment Programme Finance Initiative (UNEP FI). And more recently, the ESG Committee participated in a social-focused training session, which included deep-dives on financial health and inclusion, human rights and Just Transition.

<sup>5</sup> The Terms of Reference for the ING Supervisory Board's ESG Committee (and all other Supervisory Board committees) can be found [here on ing.com](#)

<sup>6</sup> For training sessions organised for the ESG Committee, a standing invitation is also made to all other Supervisory Board and Management Board banking members.

## Executive Board and Management Board Banking

Sustainability is an overarching priority of ING's overall 'Making the difference' strategy, and sustainability and climate-related topics are therefore a regular item on the the Management Board Banking's (MBB) agenda. ESG was a formal agenda point in MBB meetings 24 times in 2022. In addition, as we take steps to further integrate and embed climate action into the business, many of the other topics on the MBB's regular meeting agenda have a sustainability angle. This means that the MBB is discussing and taking decisions on sustainability- and climate-related topics on a frequent basis. The MBB also has a role in the global ambition-setting and oversight of our Terra climate-alignment approach.

## Senior management-level governance

### ESG Change Board

For the integrated oversight of all ESG-related regulatory and change initiatives, and to verify consistency and efficiency of delivery in each of the involved domains, we've created an ESG Change Board. The ESG Change Board is comprised of representatives of all global ESG-related change and regulatory programmes alongside representatives from Data, Compliance and internal audit (CAS - Corporate Audit Services).

### Disclosure Committee

The Disclosure Committee (DisCom), which comprises various members of senior management and business and risk representatives, advises the Boards in fulfilling their responsibilities with respect to ING's periodic and ad-hoc disclosure obligations and activities, and aims to ensure that external presentations including sustainability information of ING are reviewed prior to public release.

### Steering Committees and Sounding Boards

For all major ESG-related regulatory programmes and/or opportunities, dedicated Steering Committees (SteerCos) have been set up with the aim to ensure that relevant ESG-related regulations and programmes are monitored, assessed and implemented. The ESG Sounding Board, comprised of around 15 senior leaders from across the organisation, helps guide the development and implementation of our strategy related to ESG topics, as well as monitoring and reporting on our progress.

## Business-level governance

### Wholesale Banking

In September 2022 ING created a Wholesale Banking Sustainability Steering Committee. The committee's main purpose is to assign clear ownership, accountability and resources within Wholesale Banking (WB) and relevant support functions to help set and implement WB's sustainability commitments.

In late 2022, each of the seven WB sector teams appointed a sector global sustainability lead, and regional sustainability leads were appointed for Asia-Pacific and the Americas, two key regions in our WB network. These nine leads, who have additional reporting lines directly to the head of Wholesale Banking and the head of Global Sustainability, drive, coordinate and implement WB's sustainability ambitions and related tasks at the sector/regional level, following a clear strategy and associated action plans.

For Wholesale Banking, responsibility for ING's sustainable finance business sits with the Sustainable Finance department, whose reporting line is via the head of Wholesale Banking Lending to ING's head of Wholesale Banking (a management board position). This team operates as a centre of expertise for engaging and advising corporate clients, and supports the execution of sustainability-linked transactions.

### Retail Banking

For Retail Banking - which from a governance and organisational perspective includes Business Banking<sup>7</sup> - the development of new and innovative sustainable products and the progress of lending portfolios towards climate goals are steered through the Retail Banking Sustainability Steering Committee, who cascade this responsibility to the relevant experts and country teams as needed. Sustainability/ESG leads in major countries have a functional line to the global head of Sustainability in order to create a stronger connection between global and local activities.

<sup>7</sup> ING's global head of Business Banking reports directly to the head of Retail, Market Leaders and Challengers & Growth Markets - a Management Board Banking position.

## Terra governance under the spotlight

ING's climate alignment strategy is guided by our [Terra approach](#). Terra is fundamental to our aim to steer the most carbon-intensive parts of our portfolio to net zero by 2050, which is why we highlight the governance for Terra and the associated sector targets and transition plans.

ING's MBB has responsibility for the global ambition-setting and oversight of our Terra approach. All Terra sector targets and the associated sector transition plans are owned by the business heads of the respective sectors (the Global Sector Heads). For Wholesale Banking this is governed by the WB Sustainability SteerCo along with the global heads of our energy; transport, logistics and automotive; real estate & infrastructure; food, agriculture and commodities; and construction sectors as part of corporate sector coverage. For Retail Banking, this is governed by our RB Sustainability SteerCo, which includes the global head of Retail Products and the heads of Retail from the Netherlands and Germany.

The execution of sector transition plans is the responsibility of the business (the sector teams), guided by the sector leads, sustainability leads and, where relevant, dedicated committees like the Net Zero Housing Committee, and with the support of other relevant departments (like Sustainable Finance, Research, and Risk). The Terra SteerCo and Global Sustainability provide advisory and implementation support.

# ESG risk governance

ESG risk, and in particular climate risk, is a systemic risk that is non-diversifiable and affects the likelihood and severity of existing risk categories / risk types, therefore the management of ESG risk is embedded within all risk types. The ESG Risk Framework outlines ING's approach to managing ESG risk as a driver of existing risk types.

## ESG Risk Framework

Following the initial implementation of supervisory requirements and guidance by the Climate Risk Initiative, ING established the ESG Risk Framework to manage ESG risks effectively. The ESG Risk Framework assists us in managing ESG risk effectively by applying the risk management process at varying levels and within specific ING business processes. The Framework aims to ensure that information about risks derived from the risk management process is adequately reported and used as a basis for decision-making at all organisational levels. It's also used to explain to external stakeholders how ING manages ESG risk.

## ESG Risk organisational structure

The governance of ESG risk is integrated and aligned with the existing Risk governance structure, in which the respective risk categories / risk types are functionally steered by the global risk domains. The ESG Risk department aims to ensure that the various risk domains adequately adapt and account for ESG risk.

## ESG Risk department

The head of ESG Risk reports to the head of Integrated Risk within the Risk organisation. The head of ESG Risk is responsible for the management of the ESG Risk department (previously the ESG Risk Centre of Expertise).

The ESG Risk department is responsible for:

- maintaining the ESG Risk Framework and related policies and mandatory instructions
- addressing the requirements of ESG risk regulations and supervisory guidance such as the European Central Bank's (ECB) Guide on climate-related and environmental (C&E) risks
- setting ESG risk appetite
- identifying and assessing ESG risk, and
- monitoring and reporting ING's ESG risk profile.

## Environmental and social risk

[Environmental and social risk](#) (ESR) is a Wholesale Banking risk function that's part of the second line of defence of ING (the first line being the business itself). The ESR team is responsible for developing policies and procedures regarding the identification, assessment and mitigation of environmental and social risks associated with the clients and transactions the bank finances. The department takes the lead in communicating our standards internally and in training internal stakeholders. The ESR team also has an advisory role to support the deal principals, senior credit officers and approval authorities on individual transactions. The degree of the ESR team engagement in transactions is dependent upon (1) the risk profile of the client, project or business engagement, (2) ING's exposure, and (3) the actual risks screened. In some locations an ESR-delegated adviser may be appointed if mutually agreed by the head of ESR and regional head. Such a role would support the senior credit officer (SCO), who is responsible for ESR in the region. Committees involved in managing environmental and social risks include the Global Credit & Trading Risk Policy Committee (GCTP) and the Global Credit Committee for Transaction Approvals (GCC-TA). The GCTP approves the policies, methodologies, and procedures related to ESR. The GCC-TA approves transactions that entail taking higher environmental and social risk.

The ESR function encompasses the following activities:

- Create and maintain policies for sensitive industry sectors
- Assess transactions for environmental and social risk
- Monitor high-risk clients to assess compliance with sustainability criteria
- Raise ESR awareness throughout ING
- Participate in European and global advisory groups (e.g. OECD advisory group, steering committee to the Equator Principles, Thun Group of Banks) to help promote a level playing-field while improving standards.

## ESG-linked remuneration

ING aims to align its remuneration policy with its risk profile and considers the broader interests of all stakeholders. To that end, targets in areas such as customer centricity, risk & regulations, sustainability and people are just as important as financial results. At least 50% of our Executive Board's variable remuneration targets<sup>8</sup> are based on non-financial performance criteria, including ESG-related targets.

We've created an ESG-linked variable remuneration target area that incorporates sustainability, climate & environmental risk, and social metrics. In 2023 this was given additional weight compared to 2022, increasing from 12.5% to 15%.

In 2023 the following sustainability target areas are taken into account for the assessment of the performance of the Executive Board and related variable remuneration:

### Environment:

- Increase volume mobilised of financing that contributes to our clients' transitions to more sustainable business models
- Reduce emissions to move towards net zero for ING's own footprint
- Prepare for CSRD disclosure requirements
- Further enhance the climate and environmental risk framework

### Social:

- Strengthen organisational health with a focus on four priority areas: strategic clarity, role clarity, customer focus, operationally disciplined
- Increase gender balance in ING's leadership cadre

Supervisory Board members do not receive variable remuneration in order for them to remain independent and so that they can provide objective stewardship of ING, thereby contributing to the long-term performance of the company. For all other eligible staff, variable remuneration can be discretionary or collective and is awarded based on criteria for overall group performance, business line and individual performance. At least half of these targets must be non-financial. A considerable part of the variable remuneration is awarded based on collective agreements.

<sup>8</sup> for the full overview of the Executive Board's 2023 remuneration target areas and percentage weightings, please ING's [2022 Annual Report](#), pg. 93

A close-up photograph of a wooden board game. On the right, a wooden board with a grid of circular holes is visible. Several colorful, smooth, spherical pieces are placed in the holes. The pieces are in various colors: blue, yellow, red, green, black, white, and brown. On the left, a wooden tray is filled with a large quantity of these same colorful pieces, some of which are slightly out of focus. The lighting is warm, highlighting the textures of the wood and the smooth surfaces of the pieces.

# Strategy

# Our approach to climate action

Climate change is accelerating. Mitigating the worst effects and successfully adapting to what we can no longer avoid requires a rapid transition to a low-carbon society. As a bank, we recognise the integral role we play in financing the economy of today and we aim to continue to play this role in the low-carbon economy of the future.

We have the ambition to empower our clients and business to reach net zero by 2050. To achieve this, we need to carefully manage the risks and potential impacts on our business, while making the most of the opportunities that come with supporting our customers in making their transitions. Our approach focuses on taking action at both portfolio level and client level with the aim of making positive climate impact.

We've made sustainability an integral element of our business strategy, striving to put it at the heart of what we do, because steering our financing and other activities to meet net zero by 2050 is what good business looks like. And while we believe our biggest impact comes from focusing on climate action, our climate action approach incorporates biodiversity and human rights and recognises the interdependencies. Climate change is accelerating biodiversity loss and negatively impacting human rights. Taking measures to safeguard and foster biodiversity supports climate mitigation, while taking an inclusive approach to the climate transition helps to protect human rights.

To be successful, and make the difference for people and the planet, we take a dynamic approach to climate action: we follow the latest climate science and actively seek guidance from governments and regulators in how to assess and manage climate risks while supporting a smooth and inclusive transition. We work closely with reputable third parties to translate climate science into climate pathways, scenarios and frameworks that guide our actions, aimed at delivering near- and medium-term emissions reductions in our portfolios on the path to net zero by 2050.

We're taking action to achieve the ambitious targets we've set, yet the achievement of targets is also dependent on factors which are outside of ING's direct influence. If a particular sector is unable to align with net zero by 2050 targets because of, for example, a lack of scalable alternative technologies or insufficient incentives to encourage the necessary changes in customer behaviour, then as a result we may struggle to steer our portfolios along the relevant net-zero pathways.

## Climate action targets

	short-term	medium-term	long-term
<b>Environmental Programme</b>			
Net zero in all our buildings (owned and rented) worldwide		2035	
Scope 1 and scope 2 reduction of 90% (vs 2014)		2030	
Reduce CO <sub>2</sub> e emissions by 75% (vs 2014) for scope 1, scope 2 and scope 3 business travel	2025		
<b>Terra: steering our portfolios along path to net zero</b>			
Alignment of all (sub)sectors in Terra scope with net zero by 2050 (long-term target for power generation is 2040)		2030	2050
Upstream oil & gas sector portfolio reduction target	2025	2030	2050
Oil & gas mid- and downstream sector operational emissions intensity reduction target in line with the IEA's NZE scenario		2030	2050
<b>Sustainable finance</b>			
Wholesale Banking: €125 billion annual volume of financing mobilised that contributes to clients' transitions to more sustainable business models	2025		
Business Banking: €2 billion of new annual production volume in sustainable finance	2025		
<b>Retail Banking</b>			
Sustainable alternatives for main retail products in all markets	2025		
<b>Energy policy</b>			
Restrict financing of coal-fired power generation to close to zero	2025		

We need policy interventions, supporting regulation, mandatory norms and public investments per sector by governments to accelerate the global transition to a low-carbon economy. Specific material factors are explained per sector in the [Metrics and targets](#) chapter.

Integrity matters, and transparency drives accountability and accelerates action. ING is committed to sharing the progress on our targets and the actions we're taking in our efforts to meet them, and wholeheartedly supports organisations and alliances that promote transparency, clarity and uniformity in reporting. We're eager to see further international alignment and harmonisation of reporting requirements, including those focused on climate impact measurement and target-setting, as well as public sector endorsement of science-based sectoral pathways. And we continue to call for more concrete guidance from governments and regulators on climate risk and climate adaptation. These improvements help to provide clarity to our clients, whose choices impact the real economy.

## Our climate action objectives

ING has the following strategic priorities to drive its climate action, comprising our integrated climate approach, translated into our objectives and core initiatives, and supported by enabling activities:

1. Aim to reach net zero in our own operations
2. Steer our portfolios and engage with clients for positive climate impact
3. Manage climate and environmental risks

We highlight developments and progress on each of these strategic priorities in turn, where relevant making reference to short-term (2025), medium-term (2030) and long-term (2040 and beyond) targets and the actions we're taking and aim to take to reach those targets. Further detail can be found in the [Metrics and targets](#) chapter of this report.

**Our ambition**

**Empower our clients and business to reach net zero by 2050 or sooner**

**Our climate convictions**



Climate change is a major threat to the environment and biodiversity



It can impact human rights and wellbeing



It's also a business imperative and opportunity



A major transition is required to reach net zero



An inclusive and proactive approach is needed to change the real economy

**Our objectives**



Aim for net zero in our own operations



Steer our portfolios and engage with clients for positive climate impact



Manage climate risks for ING and our clients

**Core initiatives**

- Environmental Programme

- Terra approach
- Sector transition plans
- Sustainable finance & advisory, incl. circular economy & value chain solutions
- Contribute to climate standard-setting

- Environmental & Social Risk Framework
- ESG Risk management

**Our enablers**



Effective climate governance & performance culture



Upskilling & empowering our organisation



Faster innovation on sustainable products & services



Collaborating for joint climate impact



Improved climate data analytics & operational integration

# Aiming for net zero in our own operations

We aim to play a role in the necessary transition to a net-zero society, and this begins with our own operations. This means bringing our buildings, data centres and business travel in line with the net-zero economy of the future. We measure and steer our progress towards this goal through our Environmental Programme.

## Our Environmental Programme

Our climate action begins with managing our own environmental footprint, reducing the emissions associated with our operations and suppliers. ING's Environmental Programme has management board-level accountability, with both the chief operations officer (COO) and chief technology officer (CTO) being members of the steering committee along with our chief procurement officer, head of Corporate Real Estate and global head of People Services. The committee oversees target-setting, initiatives to reduce negative impacts, and the monitoring of results.

Earlier in 2023 we adopted a new strategic framework for our Environmental Programme which is composed of four pillars:

- net-zero buildings
- sustainable procurement
- sustainable tech & operations; and
- 'conscious working'

### Net-zero buildings

Our ambition for our buildings worldwide – both owned and rented – is to reach net zero by 2035. To achieve this we focus on improving energy efficiency, using space more efficiently, and moving towards lower-carbon heating systems (e.g. district and electrified heating systems) where available. We also continue to improve the integrity of our renewable electricity sourcing and reporting.

In 2023 we adopted a new scenario to guide our investments in this area, with the aim to reach net-zero emissions by 2035. To drive this change, we've set a scope 1 and scope 2 target of a 90% reduction by 2030 (compared to 2014). In 2022, the scope 1 and 2 emissions related to our buildings were 16 kilotonnes CO<sub>2</sub>e (a 78% reduction compared to 2014).

Aiming for greater impact, we intend to update this 2030 target for scopes 1 & 2 to also include scope 3 for business travel. This updated target will then serve to extend the already-in-place short-term (2025) target to limit our scope 1, 2 and 3 (business travel) CO<sub>2</sub>e emissions by 75% (compared to our 2014 baseline) - thereby setting a new medium-term milestone.

### Sustainable procurement

We endeavour to embed a procurement approach that is sustainable and contributes to our net-zero goals, by striving to make sure that our suppliers share our commitment to fighting climate change and protecting human rights. This includes processes that encourage our suppliers around the world to act responsibly. At the purchasing level, we also review the sustainability of our suppliers and their products and are guiding our business towards more sustainable options.

### Sustainable tech & operations

Our technology-related approach covers initiatives that strive to reduce the CO<sub>2</sub> and materials impacts of our data centres, technology infrastructure, end-user devices and applications. On the operations side, we're analysing our business processes and looking for ways to make these as efficient as possible, with the goal of reducing the use of materials like paper.

### Conscious working

By 'conscious working' we refer to the promotion of work practices that encourage employees to be conscious of their climate impacts. In particular we focus on business travel and are striving to reduce our business travel through the use of CO<sub>2</sub> budgets, the continued use of video-conferencing tools, and policies designed to encourage the use of rail for short-haul travel. We're also working to increase the sourcing of sustainable aviation fuels (SAFs) to further mitigate the impact of our flights. And to reduce the impact from our car travel we're working to electrify our fleet of leased cars through policies and incentives.

## Contributions

Our priority is to reduce CO<sub>2</sub> in our operations. We also take accountability for our unabated emissions and look for ways to contribute to impactful projects that can mitigate climate change outside of our value chain. In 2022, we stopped the use of voluntary carbon credits. Our approach now focuses on contributing to organisations that work to restore nature and develop carbon removal technologies. We intend to continue this approach in the future using a contribution model rather than carbon credits and will not use the environmental impact of any current or future projects for any claims related to carbon neutrality.

## Next steps

We're exploring data and methodologies for the potential inclusion of additional categories of scope 3 emissions such as purchased goods and services, emissions from waste, and franchises. Further details on our Environmental Programme can be found on [ING's website](#) and in the [Metrics and targets](#) chapter of this report, where associated targets, performance and progress are described.

# Steering our portfolios and engaging with clients for positive climate impact

ING has long been aware that the biggest climate impact we can make is with our financing. We still finance more activities that aren't green than are, but having officially endorsed the Paris Agreement in 2015, we're committed to steering our portfolios in line with climate goals. We strive to do that at both portfolio-level – using our Terra climate alignment approach to address the most carbon-intensive parts of our overall portfolio and steer those to net zero by 2050 or sooner – and at client-level, by putting our financing, sector expertise, international network and climate-action experience to work in helping to accelerate our clients' transitions to a low-carbon economy.

## Steering our portfolios along the path to net zero with Terra

We use our Terra approach to steer the most carbon-intensive parts of our loan book towards net zero by 2050. The sectors in scope are power generation, oil & gas, automotive, shipping, aviation, steel, cement, residential mortgages and commercial real estate. For each sector, we apply what we consider to be the best-fit methodology to measure the transition that needs to happen in the economy (our 'toolbox' approach) and use that methodology to set the targets we are required meet to achieve emissions reductions and to steer our portfolio. We then disclose our progress on a yearly basis in this report.

Since our endorsement of the Paris Agreement and the set-up of the Terra approach a lot has changed. First, climate science is continuously evolving, and therefore so is our approach. For example, last year we set intermediate 2030 targets for all the nine sectors covered by Terra, in addition to the already established 2050 targets – but we don't stop there. To align with scientific updates to the decarbonisation pathways aimed at keeping global temperature rises within the necessary limits for a sustainable future, we take a dynamic approach to incorporating the latest climate science into Terra by updating our methodologies, scenarios and targets on a recurring basis. We also follow the regulatory developments and international policy updates on climate reporting, target-setting and climate scenarios as they may have an impact on ING's intermediate (medium-term) and 2050 (long-term) targets.

As a tangible example of how we're evolving and integrating climate action into business-as-usual, earlier this year we enhanced our credit approval process. For new corporate<sup>9</sup> transactions which fall in the scope of Terra, an assessment from a Terra and climate-alignment perspective is now mandatory. Climate considerations are now as integral to the commercial decision-making process as due diligence and acceptance criteria such as the client's financial standing and our mandatory ESR screening<sup>10</sup>. To support this process, we've been developing tooling and dashboards that refresh ING's portfolio data on a monthly basis. And, to strengthen our climate action, we've put in place transition plans for each Terra sector that outline the client- and portfolio-level actions that ING is taking and aims to take in the future to steer towards net zero, as well as the actions necessary from other parts of society in order to make the transition (see '[Specific action plans for portfolio-level impact](#)' below).

We're committed to progress and improvement, and we continue to explore ways to expand our Terra approach to other sectors and products. For example, in previous years our oil & gas sector coverage in Terra focused on the upstream part of the value chain, in line with the PACTA methodology. As of this year we also cover the mid- and downstream part of the value chain, with a new indicator and associated net-zero target. And we've started a multi-bank working group to develop a methodology to expand oil & gas Terra coverage to Trade and Commodity Finance – meaning that the full value chain of oil & gas will be covered once the methodology is finalised.

This year, we've also expanded our Terra approach to cover our global commercial real estate (CRE) book, now covering about 73% of the in-scope financing, while previously we were only covering the Business Banking CRE book for the Netherlands. And we're working to expand coverage to the other parts of our Business Banking book, which covers clients classified as self-employed, micro-companies, small and medium-sized enterprises (SMEs) and mid-corporates. For now we're focusing on including the agriculture, inland shipping and road transportation sectors, working together with global and local partners such as the 2° Investing Initiative (2DII), as we believe collaboration is key to success.

As standardisation and transparent reporting for the whole financial industry is an important factor in supporting society as a whole to meet climate goals, we strive to align with stakeholders and drive new best practices to allow the industry to accelerate its transition journey. More specifically, to leverage our impact in tackling climate change, we're actively involved in strategic partnerships and other initiatives that contribute to climate standard-setting. For example, we've been working on a new methodology for the aluminium sector together with RMI's Center for Climate Aligned Finance (CCAF) and three other

<sup>9</sup> for Wholesale Banking clients and some mid-corporates in-scope of Terra, but not (yet) the self-employed, micro-companies, or small and medium-sized enterprises (SMEs)

<sup>10</sup> As new EU rules on due diligence are in the making, we shall amend our ESR screening process accordingly

banks, and expect to formally launch the guidance and framework in the coming months. We aim to disclose our target and the performance towards that target in our next Climate Report. By developing this methodology together with other banks, climate experts, NGOs, industry associations and other stakeholders, we aim to provide financial institutions and industry players with a methodology that can be used by all relevant parties to measure and steer towards climate goals – with the intention that the methodology becomes a reliable and comparable market best practice, as we've done in the past with the Poseidon Principles for shipping and the Sustainable STEEL Principles.

Transparency in our disclosures is very important to us – and that's not only in how we measure and report our progress towards meeting our targets, but also in how we show that progress in a clear and understandable way. In our previous Climate Report we introduced new visualisations to show how our sector profiles evolve from year to year. With these new disclosures, we aimed to provide clarity to our stakeholders on how we are transitioning. In this year's report we continue with visualising our progress in the same way, and provide such information for more sectors, in support of consistency and comparability. We hope this method of showing climate-pathway alignment and progress stimulates our peers to adopt the same reporting approach, and that it becomes an industry standard.

We believe that transparent, clear and uniform reporting supports accountability and leads to action, and we welcome regulation on climate alignment, which helps to harmonise reporting standards and ensures the robustness of data disclosures. As part of our efforts to standardise and improve, we've recently joined the Partnership for Carbon Accounting Financials (PCAF). Being part of this global network will help us further enhance our measurement of financed emissions by working with other financial institutions on data and methodology improvements and standards.

For more on Terra, including its guiding principles, and the adopted methodologies, climate scenarios and data sets which provide the basis for measuring our performance in the sectors covered, see the [Terra section](#) of the Metrics and targets chapter.

## Specific action plans for portfolio-level impact

We're devising transition plans for each of the sectors in scope of Terra, to translate sector strategies and targets into tangible actions and drive portfolio-level alignment with net zero by 2050 pathways. These plans are tailored to each sector, and will take into account the specific conditions, opportunities and challenges of that industry, but are consistent in that they all strive to create alignment, drive action and make impact at three levels: with clients, with the market/industry (and our peers active in the respective industries), and with governments and policy-makers – with a fourth element being the upskilling of our colleagues.

These guiding actions at client and portfolio level are common to each sector transition plan:

- Maintain a high level of awareness and understanding among ING colleagues about the latest Terra updates and how we're embedding targets in the business. Train colleagues in the use of the in-development tooling that assesses clients' transition plans, and increase the awareness of relationship and transaction managers about transactions that will have the biggest impact in moving our portfolio and the respective sector closer towards climate targets.
- Assess the emissions intensity and climate impact of all new corporate<sup>11</sup> transactions as part of our credit approval process, using dedicated tooling.
- Collect, assess and monitor the publicly disclosed climate transition plans of our clients (including where possible scope 1, 2 and 3 emissions, targets and investment plans) via an in-house-developed online platform.
- Engage with clients in strategic discussions about their transition strategies, seeking opportunities to support them with advice and tailored financing and investment solutions, also identifying climate-related risks and supporting clients with their mitigation of and adaptation to those risks.
- Identify and seek to engage with prospective clients that are already in transition and/or already pursuing low-carbon models, and explore opportunities for ING to help accelerate their transitions.

Learn more about the sector-specific actions we aim to take in in the near-term in the [sector sections](#) of the Metrics and targets chapter.

## Engaging with, advising and financing clients for positive climate impact

As a large commercial bank, with billions of euros flowing through our balance sheet, ING aims to play an important role in accelerating our clients' transitions to net zero by 2050. Our approach is built on the combination of ING's strong sector expertise with our growing (and sometimes market-leading) sustainable finance expertise. In addition to the financial support and incentives we provide, we help and advise clients by putting our sector expertise, international network, and climate-action experience and other sustainability-related insights to work for them. This includes using our Terra approach to provide our client-facing colleagues with actionable data-driven insights on the emissions of our clients, benchmarked against their sector's climate pathway – with the purpose of supporting their decarbonisation journey. We also strive to develop innovative new products that anticipate and meet the needs of our clients in support of their climate action and transitions.

<sup>11</sup> for Wholesale Banking clients and some mid-corporates in-scope of Terra, but not (yet) the self-employed, micro-companies, or small and medium-sized enterprises (SMEs)

To improve how we advise and finance clients in support of their transitions, we're increasingly incorporating sustainability- and climate-related considerations into our decision-making processes. For example, ING's Green-Light Committee (GLC), the body that validates the fit and alignment of potential transactions with the bank's strategy and priorities, now also reviews transaction proposals from a climate-alignment perspective. The GLC assesses information on the (prospective) client's current climate performance, their net-zero targets and transition plans, and these climate-related factors are considered alongside other due diligence and acceptance criteria such as the client's financial standing and our mandatory ESR screening.

In addition to our engagement with individual clients, we also strive to make connections and support collaboration both within particular value chains and across them. We do this in different ways, with a focus both on the circular economy and on innovative approaches to the broader energy ecosystem. See the '[Enhancing collaboration within and across value chains](#)' section later in this chapter for more detail.

## Client engagement

How does (corporate) client engagement at ING work? Our approach takes into account both the opportunities that come with supporting the transition to a low-carbon economy and the risks of clients being unable or unwilling to make the transition. Our guiding principle is inclusion first. Simply reducing our exposure to emissions-intensive clients or exiting polluting sectors altogether is not how we intend to reach net zero, because divestment or limiting our exposure will not promote the necessary decarbonisation of the real economy - unless this is in line with the latest climate scenarios. Instead, it's our priority to finance and support existing and prospective clients who have ambitions to decarbonise their activities in line with net zero targets by 2050.

We do however say “no” to certain financing activities to align with the latest climate science and stay on track with our decarbonisation pathways. At the portfolio level, for example, in 2017, we pledged to exit coal-fired power plants by 2025 and have since decreased our exposure by more than 80%. In March 2022, we announced our decision to stop the dedicated upstream financing of new oil and gas fields approved for development after 31 December 2021, aligned with the IEA's Net-Zero Emissions by 2050 Roadmap. And in March 2023 we updated our approach, expanding to other parts of the oil and gas value-chain by restricting dedicated finance to 'midstream' (oil & gas infrastructure) activities that unlock new oil and gas fields, also aiming to reduce the volumes of the traded oil and gas we finance. We similarly say “no” to particular clients and transactions if these do not conform to our Environmental & Social Risk (ESR) considerations or if the client is deemed to have high exposure to climate risks but is unwilling to take the steps necessary to mitigate those risks.

ING's Sustainable Finance team is at the forefront of our engagement approach to corporate clients. The team works in collaboration with ING's front-office relationship managers to advise clients on translating their climate and sustainability ambitions into their financing through innovative sustainability-linked structures and 'use of proceeds' solutions like green and social financing, also providing advice on ESG

ratings and other ESG-related topics. And because some innovative technologies, business models or client propositions have a higher risk profile that is not yet suitable for a standard financing solution, ING Sustainable Investments can help clients by providing more risk-bearing capital through a wide range of tailor-made financial solutions, including equity (investments) and subordinated debt. Our Sustainable Structured Finance team also helps drive the necessary net-zero-supporting innovation by functioning as a laboratory for new sustainable technologies and business models in need of financing within the EMEA region, with a focus on circular economy, bio-chemicals, waste & water, and other sustainable development projects. To learn more about the products and services offered by ING's Sustainable Finance team, please visit [ingwb.com/en/sustainable-finance](https://ingwb.com/en/sustainable-finance).

Sustainability-linked loans – where the sustainability performance of the company (as measured by specific KPIs derived from the client's overall sustainability strategy and/or ESG rating) is connected to the interest margin of the loan – are one of the key products offered by ING. ING is the creator of the sustainability-linked loan - pioneering it in 2017 for Philips. The original loan was linked to the improvement of Philips' Sustainalytics ESG rating and later converted into a KPI-linked loan with KPIs aligned with Philips' sustainability goals for lives improved, lives improved in underserved communities, circular revenues, and operational carbon footprint. In 2022, sustainability-linked loans accounted for nearly 40% of the financing volume mobilised by ING that contributes to our clients' transitions to more sustainable business models.

To provide insight into what the client engagement process looks like at ING, we walk through the typical structuring process of a sustainability-linked loan (SLL) for a corporate client.

The first step in engagement is dialogue: through regular client dialogue, we discuss and advise on the company's climate and sustainability transition ambitions, and we explore how best to meet their financing needs with sustainable financing solutions. We are currently designing and implementing an online tool to assess the transition plans for our clients, to identify opportunities and get a better understanding of the potential risk in our own portfolio, and to support our front-office colleagues in having discussions linked to a client's transition pathway.

We pitch sustainable solutions to clients, highlighting our experience and global expertise and presenting them with a holistic review of their sustainability strategy and transformation approach. As part of this pitch, we suggest a long-list of key performance indicators (KPI) relevant for their business, or we identify potential green assets related to green use-of-proceeds financings. Assuming those initial conversations result in our appointment as Sustainability Coordinator, we then present a more in-depth and data-rich proposal, making use of internal and external information about the client sourced from the likes of CDP and SBTi. Here we strive to ensure a robust approach to target-setting that's in line with industry benchmarks like the Sustainability Linked Loan Principles, hereby supporting clients to decide on the most suitable and ambitious structure for the sustainable finance product.

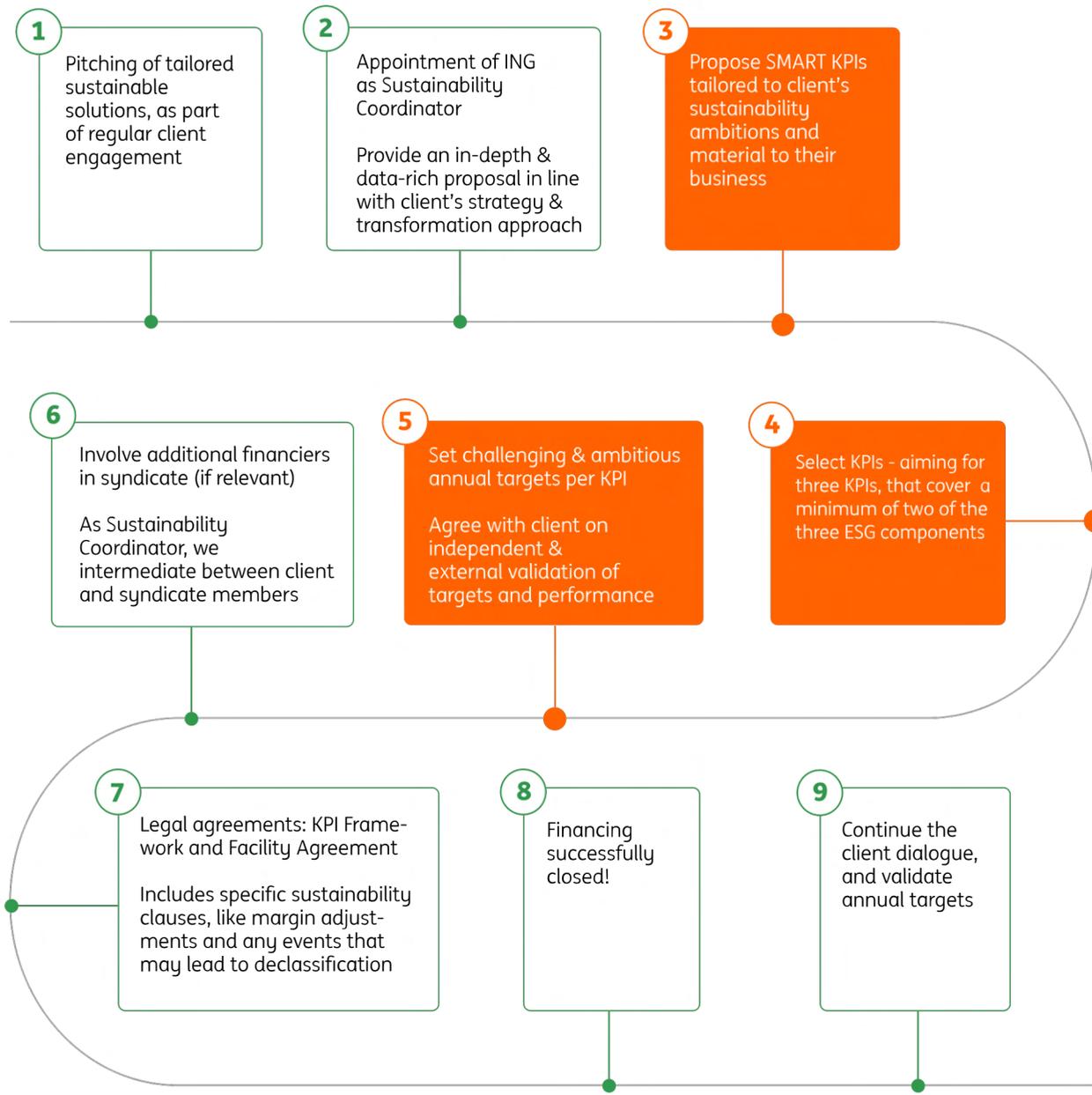


Figure 1: typical structuring process of a sustainability-linked loan (SLL)

The most impactful part of the process (shown as orange in figure 1) is the selection of KPIs and associated ambitious annualised sustainability performance targets, tailored to the company's sustainability strategy and profile, and covering environmental as well as social and governance topics. We strive to agree indicators with the client that are SMART:

- **Specific:** the overarching strategic and material topic linked to the KPI is quantifiable.
- **Measurable:** in collaboration with the client we develop a consistent methodological basis and set the scope. A relevant baseline is set by the company based on the company's own performance or linked to relevant taxonomies and industry standards. When taking GHG emissions as an example, we encourage clients to follow the IEA's reduction profile for sectors closely and use the GHG protocol as a methodology for accounting for greenhouse gases.
- **Ambitious:** we aim to agree on targets that materially contribute to the transition of our clients and our ultimate goal of net zero. In the example of target related to the reducing greenhouse gas emissions, ING always tries to link emission reduction targets to science-based initiatives, to let science decide for our clients what adequate emission reduction levels are to reach 1.5°C goals.
- **Realistic:** we understand that the economy is in transition, and we do not propose targets to a client that are not in line with their sustainability strategy nor do we propose KPIs that are not material to their business.
- **Timely:** to validate if a client is on track with the KPI in the loan agreement, the client needs to agree to annual targets per KPI, which need independent and external validation each year.

After going through this process of KPI selection, we end up with a set of relevant KPIs from which we strive to select at least three, which cover a minimum two out of three ESG-related topic areas. We ask our clients to externally verify sustainability performance targets in line with Loan Market Association (LMA) guidance. We believe that through the annual check-in on targets and continuous client dialogue, we have the chance to support our clients' transitions from up close, thereby also delivering on our own strategy.

### Enhancing collaboration within and across value chains

Our portfolio-level climate alignment under Terra is sector-based, with sector-specific transition plans in place to guide our actions in aligning with the relevant net-zero pathway for each sector. We also work across sectors to better identify opportunities and risks, and to harness innovation and disruptive technologies that have the potential to accelerate the transition of our clients and our portfolio to net zero.

The Sustainable Finance team collaborates with our global sector coverage colleagues to achieve this, complemented by teams and centres of expertise dedicated to particular emerging themes. For example, the Sustainable Value Chains team, created in May 2023, aims to investigate and capitalise on new business opportunities that cut across existing and new value chains. And ING's New Energy Technology Initiative (NETI) has been established to harness innovation and disruption in the energy sector, by

assessing the most impactful emerging technologies<sup>12</sup> in the energy value chain - battery storage, carbon capture utilisation & storage (CCUS), and green hydrogen - and building up our knowledge and advisory expertise on these technologies. Using the battery & charging value chain as an example, via the Sustainable Value Chains team we bring together our metals & mining knowledge in developing and sourcing battery raw materials, our experience of financing battery cell and module production in energy, and our knowledge of end-customers in the automotive sector. By coordinating activities across these sectors, and complementing these with advisory and product expertise (including Sustainable Finance, Sustainable Structured Finance and Sustainable Investment), we aim to provide bespoke and fit-for-purpose financing solutions that work in support of the opportunities across the entirety of this emerging value chain.

In addition to our collaborative approach to achieving synergies and leveraging opportunities **across** sectors, we also support collaboration between the different parts of the value chain **within** sectors, with the focus on circularity.

### Circular economy

Adopting a circular approach to production and consumption – with the focus on reducing consumption, using fewer materials in production, and reusing products and materials as much as possible - has a materially positive effect on emissions, while also limiting pollution and other harmful effects that impact biodiversity and human health. Unfortunately today's world is far from circular and the trend is negative to neutral at best. According to Circle Economy's annual Circularity Gap Report, our global economy in 2023 is marginally circular – with only 7.2% of our resources cycled back into the economy (compared to 8.6% in 2021).

Circular approaches play an important role in reducing a company's scope 3 emissions. This can be achieved through resource reduction (using less, and replacing virgin materials with secondary materials), reduction of waste during both the manufacturing phase and at end-of-life, and through optimising the product use phase (such as extending the product's lifetime, or optimising its use through sharing). This requires intensive value chain collaboration. Replacing virgin resources with secondary materials in the production of new products requires strong collection, sorting and recycling capacity. It also needs products to be designed in such a way that they can be recycled when they reach their end-of-life.

Circularity is a fundamental element in ING's integrated climate approach. We aim to actively support clients in transitioning their business models from a linear economy to a circular one - with financing solutions like green bonds and green loans where use of proceeds are allocated to circular activities, and sustainability-linked loans and bonds with KPIs connected to circular ambitions. We also offer tailor-made solutions (sustainable structured finance and sustainable investments) to finance new circular business

<sup>12</sup> for ING's latest economic and financial analysis on new energy technologies, please see the ING THINK article ['The growth in renewables, batteries, CCS and hydrogen infrastructure'](#)

<sup>13</sup> Due to the evolving disclosure regulations on sustainability reporting in the EU, including CSRD and the Pillar III requirements of the European Banking Authority, our sustainability reporting will be shaped by these regulatory requirements and may be subject to change.

<sup>14</sup> There is no uniform definition of greenwashing. The European Supervisory Agencies (ESAs) have formulated a common understanding of greenwashing whereby it is defined as: a practice where sustainability-related statements, declarations, actions, or communications do not clearly and fairly reflect the underlying sustainability profile of an entity, a financial product, or financial services.

models. And we support parties throughout the value chain who connect and form new partnerships, using sustainable structured finance solutions and/or sustainable investments to, for example, scale up new recycling technologies.

We primarily focus on value chains where both resource consumption and the potential for circularity is high, such as plastics, packaging, textiles, construction, electronics & ICT, batteries and vehicles. As an example, our commitment to supporting circularity in plastic is illustrated by our active participation in the UNEP FI Finance Leadership Group on Plastic, which gives input from a financial industry perspective on the development of a legally binding treaty to end plastic pollution in UN member states. In general, policy actions translated into law and regulations will definitely help to create a more level playing-field between the circular economy and the current economy, as commercial incentives to go circular are currently limited.

### Developments in sustainable finance regulation

The sustainable finance landscape has evolved considerably in recent years, with changes driven by increasing regulation and stricter disclosure requirements related to the sustainable performance of our clients. For example, the EU Taxonomy serves as a common system for classifying 'environmentally sustainable' activities, and ING uses the official technical screening criteria to identify green loan opportunities. With technical screening criteria for four additional environmental objectives now adopted by the European Commission, we plan to incorporate these new thresholds in our own screening and identification processes, in line with our dynamic approach to following the latest climate science, regulations and disclosure guidelines.

In terms of disclosure, the Corporate Sustainability Reporting Directive (CSRD), which entered into force in January 2023, will significantly expand the number of EU and non-EU companies subject to the EU's sustainability reporting framework<sup>13</sup>. The reporting framework aims to ensure that companies publicly disclose adequate information about their sustainability risks and opportunities, as well as their impact on people and the environment – which is a positive development for ING (and other banks and investors), as the sustainability performance of our clients will become more transparent, leading to more actionable engagement with them on opportunities and risks, also providing for additional inputs into our credit approval processes, risk models and investment decisions. The online tool we're designing and implementing to assess the transition plans for our clients will help prepare for these changes. The financial sector is developing guidelines to prevent greenwashing<sup>14</sup> and to make sure that sustainability-linked instruments make the impact they are intended to. These include market-led standards from the International Capital Market Association (ICMA), the Loan Market Association (LMA)

and the Loan Syndications and Trading Association (LSTA), and greenwashing guidance from supervisors like the European Securities and Markets Authority (ESMA) and the Dutch Authority for the Financial Markets (AFM). An important development earlier in 2023 was the update to the Sustainability-Linked Loan Principles. The update provides stricter guidance on defining relevant KPIs and targets that address the most material ESG topics of clients. In addition, the LMA has helped standardisation efforts by providing legal wording that all banks should use when describing SLL structures in loan documentation.

The improved standards and guidelines support us in having more focused discussions with our clients regarding defining KPIs and targets that are genuinely ambitious and net-zero aligned. Also as a result of these changes, peer banks participating in sustainable finance syndication now work with stricter (internal) sustainability acceptance rules. As the originator of the sustainability-linked loan, we strive to keep standards for the use of sustainability-linked instruments high and welcome all initiatives to strengthen and protect the credibility of the sustainability-linked loan market.

## Contributing to climate standard-setting

With the development of new methodologies in collaboration with the RMI's Center for Climate Aligned Finance (CCAF), which ING became an official strategic partner of in 2022, and with our contribution to several other initiatives, we strive to contribute to climate standard-setting and support the faster adoption and implementation of net-zero strategies by other financial institutions and our own clients.

We work with peers and clients to standardise the methodologies that banks and their client companies use to measure progress towards net-zero targets. Achieving this standardisation goal would allow for proper comparison across companies in the same industry as well as with financial institutions' portfolios, providing a shared understanding of where the decarbonisation efforts should focus on for maximum impact.

For example, we are leading working groups as part of the Net-Zero Banking Alliance (NZBA), such as the sectoral working groups for the automotive and steel sectors, with the aim to support our peers with guidance on target-setting, and also host knowledge sharing-sessions. In collaboration with the CCAF, we've also helped to develop methodologies - like the Poseidon Principles for the shipping sector and the Sustainable STEEL Principles for the steel sector - which can be used by financial institutions and sector participants alike to benchmark their own alignment with net-zero goals. We're now collaborating on a new methodology and framework for the aluminium sector, which we expect to be published (and adopted by ING) in the fourth quarter of 2023.

We've also recently joined the Partnership for Carbon Accounting Financials (PCAF) to contribute to the improvement of PCAF methodologies by supporting ongoing and new working groups that are working to help financial institutions understand the impacts of products which are not yet covered.

# Managing climate risks

Managing our climate (and other environmental) risks is a key element of our climate approach and ING's overall strategy. We have invested a significant amount of time and resources in developing our capabilities and expertise in this emerging and fast-developing area of risk, and strive for continuous improvement.

ING's integrated climate approach considers how we can mitigate climate change through our financing as well as how climate change may adversely impact our business. We're working to become more resilient to climate risk, and have the ambition to become as expert in managing and mitigating these risks as we are in managing credit and other forms of financial risk.

As a bank, we consider both physical risks, such as the risk of property damage on our mortgages portfolio, and transition risks, such as the loss in value of assets and/or markets that are no longer part of a more sustainable world. Climate risk can impact the macro-economy, businesses, and individual households. Ultimately, physical and transition risks could impact our balance sheet and profitability. Our approach is focused on consistently embedding climate risk considerations across our global organisation, aiming to make it an integral part of how we do business.

Over the near-term time horizon, we plan to continue refining our methodologies to evaluate climate risks and opportunities. We're working on putting into practice quantitative methodologies for climate and environmental (C&E) risk identification, materiality assessment and risk appetite setting. This is supported by the integration of C&E risk considerations in risk policies and procedures, our ESG Risk Framework, as well as the global ESG data management plan we are developing.

Going forward we aim to further enhance our climate and environmental risk management by:

- Continuing to address the expectations of the European Central Bank (ECB) Guide on climate-related and environmental risk.
- Continuing to close the gaps on climate risk data.
- Improving our understanding and assessment of the impact of other environmental factors such as biodiversity.
- Identifying opportunities to support our customers who face transition or physical climate risks.
- Building up capacity and upskilling colleagues to understand and deal with the impacts of climate and environmental risks.

## Meeting ECB expectations

The European Central Bank (ECB) expects all banks to be aligned with the 13 expectations outlined in the ECB's Guide on climate-related and environmental risk. We are currently addressing these, and aim to be aligned with the ECB's expectations by the end-of-2024 deadline.

## Continuing to close data gaps

Climate-related data is essential to fully understand and manage climate and environmental (C&E) risks and to report in line with current and upcoming regulation on ESG disclosures, such as the European Banking Authority's (EBA) Pillar 3 disclosures. To keep improving our assessment methods for both physical and transition risk, we need detailed data from our counterparties; including data on specific assets and regions, their vulnerability to risks, and the actions they are taking to mitigate these risks. We have partnered with various external data providers and have launched internal initiatives to source data directly from our clients and suppliers. Data quality poses a universal challenge for companies and financial institutions managing climate and environmental risk.

## Understanding and assessing interlinkages and dependencies

Biodiversity loss is inextricably linked to climate change, and our approach to ESG risk includes managing nature-related risks. We aim to introduce further granularity in our biodiversity hotspot analysis, and have been testing an approach for measuring biodiversity impact which we expect to give us more detailed insight into the sectors in our portfolio that are both most dependent on and most impacted by biodiversity.

## Supporting customers

We're currently developing an online platform to centrally collect, assess and monitor the publicly disclosed climate transition plans of our clients. This platform will rely on information sourced from CDP, the Science Based Targets initiative and clients' own public sustainability reports. By aggregating this information, we'll improve our insights into our clients' transition plans, and be better able to identify both risks and opportunities - enabling us to better support our clients in mitigating and adapting to the effects of climate change.

## Climate & Environmental Risk knowledge and skills

We've recently launched a Climate & Environmental Risk upskilling programme that includes online learning journeys tailored to different functions and roles in ING, such as front-office, risk, finance, corporate audit services and senior management. For more information on our sustainability and climate-related learning initiatives, see the section [Upskilling and empowering our organisation](#) later in this chapter.

## Climate adaptation

The 2023 IPCC report on climate change indicates that if we follow current policies, the world is likely to experience a temperature increase exceeding 1.5°C, and it will become more challenging after 2030 to restrict warming to below 2°C. The current 1°C rise in global temperatures compared to pre-industrial levels is already leading to more frequent and severe extreme weather events like heatwaves, floods, and wildfires. These events have caused substantial damage, hitting the most vulnerable populations and ecosystems the hardest. Given that the impact of climate change varies due to accumulated greenhouse gas emissions, even with significant emission reductions in the future, global warming will persist for several decades. Therefore, beyond just climate mitigation, it's crucial to focus on reducing our vulnerability to the adverse effects of climate change through climate adaptation measures.

Climate adaptation measures can be categorised as preventing, responding, and recovering. Examples include protecting coastlines and dealing with sea-level encroachment, managing land and forests, dealing with and planning for reduced water availability, developing resilient crop varieties, and protecting energy and public infrastructure.

## How is climate adaptation relevant to us as a bank?

Improving our understanding of physical climate risk drivers and their impact on our portfolio under different climate change scenarios will help us identify companies or business areas vulnerable to climate change and then engage with them to support adaptation efforts. In other words, in addition to reducing the physical risks impact on our portfolio, we can support clients and communities to adapt through financing.

Adaptation requires investment by governments, companies and private individuals. There is currently a financing gap which constrains climate action, in particular in developing countries. Several reports on the subject suggest that public budgets will not be able to address the financing challenge of the expected annual cost of climate change adaptation alone. Hence, we recognise that as a bank, we have an important role to play.

To reduce the physical risk impact on our own operations and portfolios, and support clients and communities to adapt and become more resilient to climate change, ING's approach is to:

- continue adapting our own operations
- support adaptation through our financing
- promote thought leadership

### Continue adapting our own operations

As a bank, we're exposed to physical climate risks (in particular, adverse weather) through our operations. We need to ensure that we can continue to deliver key services and products if such events occur. Our Business Continuity Framework identifies impacts of climate-related physical risks (as a result of our climate-related risk management approach) and our ability to recover from them. We revisit the assessment yearly, where we update and rehearse our recovery plans for disruptive events such as windstorms or flooding.

### Support adaptation through our financing

When we finance clients who are exposed to physical risks from climate change, we're exposed to those risks as well. We aim therefore to support clients to adapt and become more resilient to climate change. For more detail on our approach for identifying clients with high physical risks, please see the [Risk section](#) of this report.

Using the insights we draw from our risk assessments, we engage with clients about their adaptation efforts, sharing best practices, and financing adaptation projects. For example, our sustainability-linked instruments can be linked to KPIs that support climate adaptation efforts, such as water and wastewater management or energy reduction initiatives.

### Promote thought leadership

We aim to improve our understanding of what defines an effective adaptation solution. We closely follow existing guidance on financing climate adaptation, such as the EU Taxonomy. However, we also note that unlike mitigation, there are no standard definitions or metrics covering adaptation, as it depends on climate change scenarios and location-specific risk tolerance. To this end, we are a member of the currently active climate adaptation target setting working group, launched in 2023 by UNEP FI, to develop a set of impact guidelines and complement net-zero alignment under the responsible banking framework.

We note that adaptation measures can sometimes have adverse biodiversity and human rights impacts. We aim to address these in forthcoming (separate) Biodiversity and Human Rights disclosures.

# Upskilling and empowering our organisation

To be successful in our aim to put sustainability at the heart of what we do requires that we empower our colleagues to contribute to our sustainability approach and climate action. As a key preparatory step, we try to make sure that our colleagues are highly engaged with our strategy and all sustainability-related topics, especially climate action. We seek to raise awareness and equip colleagues with the relevant knowledge and skills, along with a “we can, we will” mindset, to put sustainability and climate action into practice within and outside of the workplace.

In support of this goal, we’re developing a global sustainability learning programme. The first delivery of this programme is a specially developed e-learning called ‘Putting sustainability at the heart’, made available to the global ING organisation in April 2023. This foundational e-learning covers the fundamentals of our sustainability approach, as well as the challenges, dilemmas and trade-offs we face as ING and our customers transition to a net-zero world. As of end-August 2023, nearly 38,000 employees had completed the course. This foundational course is supplemented by a full suite of complementary online training material, including deep-dives into topics like Terra and climate action.

In addition to foundational learning content, we’re also developing upskilling programmes aimed at developing more expert expertise. The first modules of our Climate & Environmental Risk learning programme were launched in July 2023, tailored to different functions and roles in ING, such as front-office, risk, finance, corporate audit services and senior management.

Further learning initiatives include [Climate Fresk](#) - a game that teaches participants the science behind climate change - in Belgium and the Netherlands, and a bespoke ‘Sustainability Business Dilemma Game’ that raises awareness of the need to balance the interests of different stakeholders with social, environmental and reputational risks. The Sustainability Business Dilemma Game was played by ING’s top 200 senior managers in May, and is now being rolled out more widely.

To engage colleagues throughout the organisation with our climate approach, we organised our first internal Global Sustainability Week in June 2023. Colleagues from around the world participated in more than 80 online and in-person sessions to share knowledge, inspire each other and exchange views on how to make the difference both in and outside their work.

Colleagues from the Global Sustainability team host regular ‘Ask Us Anything’ (AUA) webinars on sustainability topics, allowing colleagues to interact directly with our in-house experts. The next such AUA is scheduled for early October to discuss the contents of this report.

A ‘sustainability resource centre’ on ING’s global intranet collects all relevant information in one place – including explanatory video content, FAQs, guidelines to guard against greenwashing, and presentation material for engaging clients and other stakeholders with our approach. This is supplemented by active sustainability communities on our enterprise social platform (Viva Engage) where information is shared and questions are asked and answered.



# Risk management

# Introduction

At ING, ESG risk is not identified as an independent risk category / risk type but rather as a set of drivers<sup>15</sup> affecting the likelihood and severity of existing risk categories / risk types.

We therefore view ESG risk as an overarching set of risk drivers affecting:

- Financial risks
- Non-financial risks: operational risk, IT risk, reputational/litigation risk, compliance risk
- Other overarching risks: model risk and business risk.

Climate risk is managed as a sub-set of ESG risks. Throughout the rest of this chapter, wherever a reference is made to ESG risk management practices, climate risk is implicitly included in this umbrella term.

## ESG (including climate) risk definitions

The ESG Risk Framework defines ESG risk for consistent application across ING. The framework provides the definitions for ESG factors and ESG risks (including for each sub-category E, S and G).

**ESG factors** are defined as environmental, social or governance matters that may have a positive or negative impact on the financial performance or solvency of an entity, sovereign or individual.

**Table 1: ESG factors**

Environmental factors	Social factors	Governance factors
<b>Environmental factors</b> are related to the quality and functioning of the natural environment and of natural systems, and include factors such as climate change, biodiversity & ecosystems, water & marine resources, resource use & circular economy and pollution.	<b>Social factors</b> are related to the rights, well-being and interests of people and communities, and include factors such as (in)equality, health, employee and customer health, safety and protection, inclusiveness, labour relations, human rights, workplace health and safety, human capital and communities.	<b>Governance factors</b> cover corporate governance practices, including executive leadership, executive compensation, audits, internal controls, sound tax practices, board independence, shareholder rights, ethical considerations, anti-corruption and bribery, sound risk management structures, organisation and functioning of the management body, transparency with regards to disclosures of information rules and practices and also the way in which companies or entities include environmental and social factors in their policies and procedures

ESG risks are defined as any negative financial and/or non-financial impact on ING due to the present or future impacts from Environmental, Social and Governance factors on and stemming from ING’s own operations as well as its business activities as a company, its counterparties and any sourced processes.

- **ESG risk with regards to own operations:** The risk of any negative financial and/or non-financial impact due to an ESG factor causing damage to ING’s infrastructure or due to an adverse reputational impact resulting from non-compliance with ING’s commitments and ESG-related laws, regulations and disclosures.
- **ESG risk with regards to business activities:** The risk of any negative financial and/or non-financial impact due to an ESG factor causing damage to ING’s business activities (for example from lending to counterparties, investment exposures, funding activities and sourcing processes).

<sup>15</sup> In line with European Central Bank guide on C&E risk

As noted in the table above, climate change is an environmental factor that gives rise to environmental risks. Within environmental risks (for all considered environmental factors), a distinction is made between physical and transition risk.

Physical climate risk refers to any negative financial and/or non-financial impact due to the physical effects of climate change. Such physical effects include:

- Acute physical effects, which arise from climate-related (e.g. weather-related) hazards such as storms, floods, fires or heatwaves.
- Chronic physical effects, which arise from longer-term trends (progressive shifts), such as temperature changes and rising sea-levels.

Transition climate risk refers to any negative financial and/or non-financial impact due to the effect of the transition to a net-zero economy. The transition includes:

- Climate-related policy changes, for example, as a result of energy efficiency requirements, carbon-pricing mechanisms that increase the price of fossil fuels, or policies to encourage the sustainable use of environmental resources.
- Technological changes, for example, if a technology with a less damaging impact on the climate replaces a technology that is more damaging, making the older technology obsolete, uncompetitive, or even unlawful.
- Market sentiment and demand changes, for example, if the choices of consumers and investors shift towards products and services that are more sustainable; or if it becomes more difficult to attract and retain customers, employees, business partners and investors when a counterparty has a reputation for damaging the climate.

## Our approach to managing climate risk

The ESG Risk Framework assists in managing ESG risk effectively through the application of the risk management process at varying levels of the organisation. The risk management cycle describes the processes by which ING can identify, assess, measure, mitigate and monitor ESG risk integrated within the existing risk types.

## ESG Risk Management



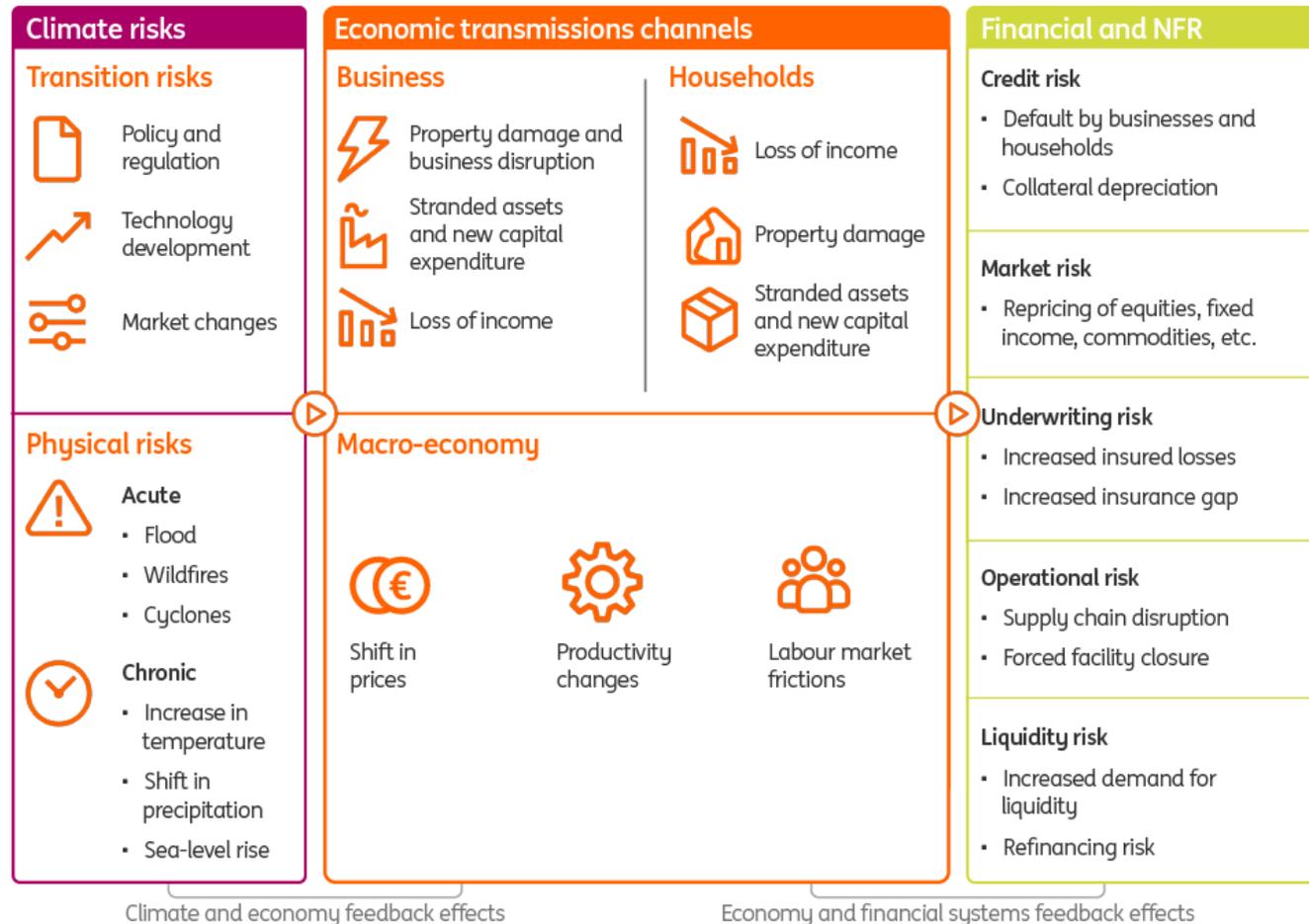
Figure 2: the ESG risk management cycle

### Risk identification

ESG factors (the drivers of ESG risk) can lead to a negative financial and/or non-financial impact through a variety of transmission channels. Transmission channels refer to the causal chains that explain how the various risk drivers impact institutions through their own operations or business activities (see figure 3 below).

ING has identified the physical and transition risk transmission channels for credit risk (for our Wholesale Banking, Business Banking and mortgages portfolios separately), market risk, operational risk, compliance risk and liquidity risk.

Sourced: Adopted from NGFS Climate Scenarios for central banks and supervisors, June 2020



**Figure 3: climate risks transmitted to financial & non-financial risks**

## Risk measurement

ING measures its exposure to ESG risk by assessing and measuring risks through risk quantification methodologies. The methodologies take into account qualitative and quantitative criteria and different time horizons (short-, medium- and long-term). Please note that the definitions for short-, medium- and long-term depend on the climate risk (physical or transition risk), the existing risk type (credit, market, operational, compliance and liquidity) and the portfolio under consideration.

ING calculates financed emissions for the Business Banking (BB) and Wholesale Banking (WB) portfolios. This provides a first indication of our exposure to high emitting sectors. The methodology and detailed results are provided in the [Metrics and targets](#) chapter of this report.

To note: The results shown below were taken from ING's Group Additional Pillar III report June 2023. In accordance with the requirements of that report, the tables provide the gross carrying amount of loans and advances, debt securities and equity instruments provided to non-financial corporates, other than those included in the held-for-trading or held-for-sale portfolios, classified by NACE economic sector. The only exception is the tables showing the application of the transition Climate and Environmental (C&E) risk heatmaps to WB and BB as these are not currently reported in the Pillar III report. The two tables show exposure at default (EAD) values.

### Physical risk

The Climate and Environmental (C&E) risk heatmap is used to identify and measure C&E risks in the Wholesale banking (WB) and Business banking (BB) portfolios (excluding portfolios collateralised by immovable property which is covered separately).

The C&E risk heatmap is one of the tools used by ING to identify and assess C&E risks. For physical risk, the heatmap lists 26 individual climate-change-related physical risk hazards (both acute and chronic weather patterns) and other environmental risk drivers (water stress, resource scarcity, biodiversity loss, pollution and waste). Some adjustments have been made to the C&E heatmaps to focus only on climate risk factors (ten factors) rather than all the climate and other environmental risk factors (26 factors) used for the heatmap. In addition, the risk scores for the ten climate risk factors were mapped and aggregated into acute and/or chronic risks drivers.

For each of the factors under consideration, a low, medium or high score is given based on a **qualitative assessment** taking into account industry standards following a three to five-year horizon.

Any exposure at medium risk and above is considered to be sensitive to physical risk. The inherent risk is shown, as information on the supporting measures is not readily available for all the physical risk factors or all exposures.

Our exposure to chronic events has reduced from €4,796 million in December 2022 to €4,733 million in June 2023, whereas our exposure to acute climate change events has increased slightly from €28,139 million in December 2022 to €28,982 million in June 2023 (see table 2 below).

Table 2: physical risk heatmap

Banking book 30 June 2023	Gross carrying amount (MEUR)	Exposures sensitive to impact from chronic climate change events (MEUR)	Exposures sensitive to impact from acute climate change events (MEUR)
A - Agriculture, forestry and fishing	3,483	22	0
B - Mining and quarrying	8,894	0	1,800
C - Manufacturing	48,001	2,203	6,716
D - Electricity, gas, steam and air conditioning supply	17,255	81	0
E - Water supply; sewerage, waste management and remediation activities	2,807	0	0
F - Construction	9,549	0	4,470
G - Wholesale and retail trade; repair of motor vehicles and motorcycles	37,437	1,526	2,396
H - Transportation and storage	25,451	0	7,022
I - Accommodation and food service activities	2,338	0	1,195
L - Real estate activities	34,935	0	1,761
M - Professional, scientific and technical activities	8,415	0	595
N - Administrative and support service activities	13,247	901	2,667
R - Arts, entertainment and recreation	676	0	360
S - Other service activities	863	0	0
T - Activities of households as employers; producing activities of households for own use	30	0	0
<b>Total</b>	<b>213,380</b>	<b>4,733</b>	<b>28,982</b>

## Transition risk

For transition risk, the C&E heatmap is based on seven risk drivers related to policy and regulatory changes, technological developments, and shifts in market sentiment/demand. For each of the factors under consideration, a low, medium or high score is based on a **qualitative assessment** taking into account industry standards following a three- to five-year horizon. This assessment is performed at the level of the individual sectors of ING's WB and BB portfolios. A detailed description on how the heatmap was derived for WB was provided in [previous climate reports](#) and is therefore not repeated here. The BB C&E Heatmap was built using the same methodology as for WB. The consistency in approach produced a good degree of alignment between BB and WB outcomes. Full alignment is however not possible mostly due to the different industry classification systems used by the business lines. For this reason results are also shown separately.

The heatmap for all WB sectors<sup>16</sup> was derived in 2022 and applied to our portfolio as at 31 December 2022. The results of the exercise are summarised in table 3 as per ING's 2022 Annual Report.

Table 3: Wholesale Banking transition risk heatmap

Wholesale Banking 31 December 2022	Transition risk	EAD / Total WB EAD
Building and construction	Medium	1.3 %
Building materials	Medium	0.8 %
Mid- and downstream oil and gas	Medium	3.7 %
Offshore	High	0.9 %
Upstream oil and gas	High	1.7 %
Real estate holding and development	Medium	0.3 %
Real estate investment	Medium	3.5 %
Real estate property management	Medium	5.8 %
Other sectors	Low	82.2 %

Based on the total exposure at default (EAD), 17.8% has a medium/high score for transition risk.

The heatmap for all BB sectors was derived in 2022. The results of the BB C&E heatmap were not included in the 2022 Annual Report and are provided here as at June 2023.

<sup>16</sup> Note that the sector classification shown in this table is based on ING's economic sector classification which is different to the classification in Terra which focuses more on the value chain.

**Table 4: Business Banking transition risk heatmap**

Business Banking	Transition risk	EAD / Total BB EAD
<b>30 June 2023</b>		
Agriculture, Forestry and Fishing	Medium	3.1 %
Construction	Medium	8.6 %
Financial and insurance activities	Medium	3.7 %
Manufacture of basic metals	Medium	0.4 %
Manufacture of chemicals and chemical products	Medium	0.5 %
Manufacture of rubber and plastic products	Medium	1.1 %
Mining and quarrying	Medium	0.2 %
Real estate activities	Medium	10.1 %
Other sectors	Low	72.2 %

Based on the total exposure at default (EAD) 27.8% has a medium score for transition risk. Aggregated scores are presented.

In addition to the heatmap we have identified our exposure to the top 20 most carbon-intensive firms globally. ING uses the most recent list published by CDP (The Carbon Majors Database - CDP Carbon Majors Report 2017) and more particularly the sample emission from 2015 to compile the list of top 20 most carbon-intensive firms. As at June 2023 this was an exposure of €3,378 million representing 1.4% of the banking book. In addition, we have an exposure of €17,400 million to companies that are excluded from Paris-aligned benchmarks, representing 7.4% (2022/12: 8.6%) of the banking book.

**Table 5: ING exposure to top 20 most carbon-intensive firms globally**

Banking book	Gross carrying amount (aggregate) (MEUR)	Gross carrying amount towards the counterparties compared to total gross carrying amount (aggregate)
<b>30 June 2023</b>		
Exposures towards companies excluded from EU Paris-aligned benchmarks	17,400	7.4 %
Top 20 most carbon-intensive firms	3,378	1.4 %

## Immovable property

### Physical risk

For the loans collateralised by immovable property and repossessed collaterals, we collected granular location data and matched it with individual climate hazards provided by Royal HaskoningDHV, in partnership with Ambiental, a subsidiary of Royal HaskoningDHV. During this process, the collaterals were assessed against 16 different climate risk hazards using their geographical location. Like the heatmaps, the climate risk hazards have been mapped and aggregated into acute and/or chronic events. Each climate risk hazard gets a risk score from 0 (Low) to 5 (very high) and if one risk hazard has a high (4) or very high (5) score, the collateral is considered sensitive to physical risk.

**Table 6: physical risk to immovable property**

Banking book	Gross carrying amount (MEUR)	Exposures sensitive to impact from chronic climate change events (MEUR)	Exposures sensitive to impact from acute climate Change events (MEUR)	Exposures sensitive to impact both from chronic and acute climate Change events (MEUR)
<b>30 June 2023</b>				
Loans collateralised by residential immovable property	333,233	9,232	7,245	1,203
Loans collateralised by commercial immovable property	75,065	828	1,793	228
Repossessed collaterals	9	0	0	0

### Transition risk

Our loans collateralised by immovable property collateral shows that almost a quarter (22.4%) of our portfolio has Energy Performance Certificates (EPC) with energy labels A, B and C (2022/12: 18.8%).

**Table 7: EPC coverage of immovable property portfolio**

30 June 2023	A	B	C	D	E	F	G	No label
Total gross carrying amount (MEUR)	36,065	24,712	30,005	17,392	27,020	16,213	20,278	233,270
% contribution	8.9%	6.1%	7.4%	4.3%	6.7%	4.0%	5.0%	57.6%

### The ESR Framework

Further to the above climate risk measurement approaches, ING's environmental and social risk (ESR) policy framework helps us make informed choices about how, where and with who we do business. The ESR policy framework is incorporated in ING's Know Your Customer (KYC) policy framework, meaning the ESR client assessment is part of regular client on-boarding and review. The ESR policy framework also requires an ESR transaction assessment for transactions with corporate clients. The outcomes of the ESR client assessment and ESR transaction assessment together determine the overall ESR profile of the business engagement and the approval process thereafter. If the overall ESR profile is high risk, in-depth advice from the ESR team is required as part of the credit approval process. Our [2022 Annual Report](#) contains an overview of the ESR risk distribution (low, medium, high) of all WB engagements in scope.

### Risk mitigation

The mitigation of the identified risks can be performed through several risk mitigating strategies, such as reducing risk levels, avoiding risk, accepting risk or transferring the risk. The measures are embedded as part of the updates of the existing policies and procedures in the different risk categories / risk types in order to mitigate material ESG risk. Mitigation activities can be performed at a portfolio, client or transaction level and include, but are not limited to:

- Engaging with high ESG risk counterparties to understand and support their mitigation plans. For instance, the conditions that apply to loans based on the ESR outcome can play an important role in helping clients improve their environmental and social performance, as well as ensuring their continued compliance with our ESR policy.
- Setting the risk appetite statement (RAS) to limit the level of acceptable risks with consequence management attached.
- Ensuring appropriate business continuity plans and insurance are in place to reduce the impact of more frequent and severe weather events for both ING's own operations and business activities, thus reducing the inherent risk.
- Ensuring ING's buildings meet the necessary national energy efficiency requirements.

### Risk monitoring

ESG risk information is reported on a periodic (at minimum annual) basis, in order to measure and monitor risk exposure against the risk appetite and tolerance.

Climate risk appetite is distributed on a monthly basis to the ING Management Board Banking (MBB) and senior management and reported quarterly via the management report to the GCTP. Physical and transition risk results are reported semi-annually in ING Group's Additional Pillar III Report. The Disclosure Committee (DisCom), responsible for all our disclosures, assesses the accuracy of the content before reporting their conclusions to the Audit Committee (AC) for review and submission to the Supervisory Board for final approval.

### Risk appetite

We used the outcomes of the C&E risk heatmap exercise to introduce climate risk elements in the credit risk appetite from 2022 onwards. In 2023 we continued with the monitoring mechanism which was established for WB at the start of 2022, which limits growth of sub-sectors with a higher exposure to C&E risks while allowing for growth within the overall sector limit. As from July 2022, this mechanism has become binding for WB sectors. For Business Banking (BB) sectors a similar approach was used and the BB credit risk appetite has been in a monitoring period since 2022. In addition, climate risk has been incorporated into the 2023 market risk banking book risk appetite with the introduction of sensitivity metrics per climate risk category.

### Stress testing

The regulatory climate risk stress test became part of the biannual European Central Bank (ECB) Single Supervisory Mechanism (SSM) stress test in 2022 and ING was in scope. The climate stress test consisted of three modules (questionnaire, peer benchmark, and bottom-up stress test) aimed at testing our capabilities for assessing climate risk. The most significant impact of this scenario is observed in the credit risk area. The ECB shared its assessment of the climate risk stress test on an aggregated basis in its 2022 Climate Stress Test Report as well as in a bank-specific report. The key challenges of the stress test were related to data. The required attributes, such as GHG emissions and energy performance certificates (EPCs), were not available for all counterparties and proxies were used. Other challenges were the modelling of new drivers such as carbon pricing and the long-term horizon of 30 years.

The data gathered and models developed for the ECB Climate Risk Stress Test, combined with our own climate risk analyses, were used as a starting point for enhancing our internal climate risk stress test capabilities. In the second half of 2022, ING performed the so-called 'internal combined climate risk stress test'. The scenario assumed a prolonged war in Ukraine triggering full suspension of the Russian gas

supply to Europe. Extreme weather events (i.e. fires in Southern Europe and floods in Northern Europe) create additional burdens on European economies and energy consumption patterns change. EU governments step up their efforts to meet the well-below 2°C Paris Agreement target by creating a New Green Deal which leads to soaring carbon taxes. A disorderly transition follows. Moreover, ING faces greenwashing claims in this stress scenario.

The risk coverage of the internal combined climate risk stress test was broader than the ECB climate stress test. The data gathering and models were extended to the full credit portfolio reflecting both flood and transition risk. For transition risk, a data-driven approach was developed to reflect the increase in the carbon price and therefore energy costs. The analysis focuses on (i) Energy Performance Certificate (EPC) level for Mortgages and Corporates secured by Real Estate and (ii) NACE sector level for Corporates not secured by Real Estate. For market risk both the banking and trading book were included. Other risks were covered as well, among others non-financial risk, issuance risk, business risk and model risk.

The stress test showed a manageable impact on ING from a financial perspective in the short-term. The exercise helped us to get further insight into the impact of a more severe stress scenario compared to the 2022 ECB Climate Risk Stress Test that was applied to all the risks ING is exposed to from an Internal Capital Adequacy Assessment Process (ICAAP) perspective. ING also drew learnings from the exercise to further improve its Climate Risk Stress Testing practices and define climate risk specific mitigating measures.

In addition, ING has developed the Climate Risk Stress Testing Global Procedure for ICAAP purposes to formally integrate Climate Risk Stress Testing within the ING Group ICAAP Stress Testing Framework. Within this document, guidance is provided on the minimum standards that need to be applied when Climate Risk Stress Tests are developed, implemented and executed. With these minimum standards, the ING Group Stress Test Framework has been extended with explicit requirements for ESG risk analyses. The document currently focuses on physical risk and transition risk as these can be properly quantified within stress testing. We aim to include other ESG risks later, and the same applies for the reflection of regulatory requirements as this topic is still evolving. The Climate Risk Stress Test Global Procedure has been discussed with relevant internal stakeholders and approved in the individual capital and liquidity adequacy assessment process (ICLAAP) Committee.

## Summary per risk domain

ING continues to enhance its capabilities for identifying climate risk drivers and integrating them into existing risk management processes. **Table 8** below shows the impact climate risk can have on various risk areas, what has been done to address it and what steps have been defined for the coming period.

Risk category	Potential effects of climate risk drivers	What we do to manage risk
<b>Financial risk</b>		
Credit	Climate risk drivers (physical and transition risk as outlined above) can reduce the ability of businesses and households to fulfill their obligations due on existing lending contracts. These may also lead to depreciation/erosion of collateral values which would translate into higher credit losses and loan-to-value ratios.	<ol style="list-style-type: none"> <li>Climate risk drivers have been incorporated in the risk identification and assessment process and the climate risk WB and BB sector heatmap was further completed.</li> <li>This heatmap has been utilised in the introduction of Climate RAS for WB and BB as an extension of the Credit RAS since 2022.</li> </ol>
Market	Volatilities of equities (for companies with unsustainable business models), fixed income products (increased sovereign risk) and commodities as well as stranded assets may have a negative effect on ING's income from related products due to financial asset revaluations and mismatches in price levels.	<ol style="list-style-type: none"> <li>Climate and Environmental (C&amp;E) risk drivers have been integrated in the liquidity and market risk identification process and assessed for materiality.</li> <li>Funding and liquidity risk policies have been updated with the inclusion of C&amp;E risk elements.</li> <li>C&amp;E-related risks have been included in the bank's Market RAS. For market risk in the banking book, the existing set of reports was extended with a climate specific report, focused on climate related market risk in the investment portfolio. For market risk in the trading book, ALCO sets an event risk limit. This is monitored via a weekly stress testing report, which performs a wide range of possible market scenarios.</li> <li>C&amp;E-related risks have been included in the bank's Funding and Liquidity RAS through the addition of two climate-related liquidity stress tests (physical risk and transition risk) limits. The results of the climate-related liquidity stress tests are used to determine funding and liquidity needs resulting from changes in climate and environmental risk drivers mapped to ING's transmission channels.</li> </ol>
Liquidity	As a result of changing market conditions, ING's funding base may become more volatile and be affected both in terms of availability and cost. That might lead to increased deposit outflows, higher drawdowns on credit/liquidity facilities, and scarcity of professional funding at increased cost.	<ol style="list-style-type: none"> <li>C&amp;E-related risks have been included in the bank's Funding and Liquidity RAS through the addition of two climate-related liquidity stress tests (physical risk and transition risk) limits. The results of the climate-related liquidity stress tests are used to determine funding and liquidity needs resulting from changes in climate and environmental risk drivers mapped to ING's transmission channels.</li> </ol>
<b>Non-financial risk</b>		
Operational	ING's operational capabilities and/or ability to deliver services to clients may be disrupted due to acute or chronic physical risks.	<ol style="list-style-type: none"> <li>The Business Continuity Framework has been updated to incorporate physical risk drivers and the ability to recover from their impact.</li> <li>Physical risk drivers are embedded in the risk identification and assessment process.</li> <li>Physical risk drivers are embedded in the Internal &amp; External Events management process</li> </ol>
Compliance	<p>Risk from:</p> <ol style="list-style-type: none"> <li>Failure to timely translate Climate and Environmental (C&amp;E) related regulations, emerging C&amp;E risks and society expectations (e.g. greenwashing risks, mis-selling) in internal policies, guidelines and Codes e.g., ING Code of Conduct.</li> <li>Inadequate processes and monitoring to ensure compliance with C&amp;E related Policies and Guidelines.</li> </ol>	<ol style="list-style-type: none"> <li>Identification and implementation of relevant laws and regulations in the form of policies, procedures and guidelines and inclusion of climate related compliance risks in the compliance risk catalogue to enable execution of the Compliance Risk Management Cycle.</li> <li>Performed C&amp;E related materiality risk assessment for compliance risks.</li> <li>Greenwashing Prevention Guidance issued, to be used in conjunction with the Product Approval and Review Process. Also, a Customer Golden Rule on ESG, considering ESG risk, impact and communication is to be applied in that process.</li> <li>Following relevant regulations, customer climate related preferences are taken into account while providing advice for the products in scope.</li> </ol>
<b>Overarching risk</b>		
Reputational	Risk of ING being negatively viewed by stakeholders for not meeting or sufficiently progressing on climate-related expectations.	<ol style="list-style-type: none"> <li>Global Sustainability's Business Ethics team provides advice on clients and transactions prone to reputation risk. Negative advice issued by the Business Ethics team is binding and can only be overruled by either the MBB or the GCC-TA.</li> </ol>



# Metrics and targets

# Aiming for net zero in our own operations

We aim to bring our business operations in line with the net-zero economy of the future and we use our Environmental Programme to steer our progress towards this.

In 2022, our footprint continued to be impacted by Covid-19-related restrictions affecting travel in the first part of the year. As we continued to adjust to the post-pandemic ‘new normal’, we set a new short-term target for 2025, to limit our CO<sub>2</sub>e emissions by 75% compared to our 2014 baseline, for scope 1, scope 2 and scope 3 business travel.

**Table 9: ING's own footprint**

Carbon emissions				
	2022	2021 <sup>5</sup>	2020 <sup>5</sup>	2014 <sup>5</sup>
Coverage (% of employees) <sup>6</sup>	98	95	98	91
	Kilotonne CO <sub>2</sub> e			
Total carbon (including extrapolations)	29	26	29	106
Total CO <sub>2</sub> e (actuals) <sup>1</sup>	28	25	29	97
Total CO <sub>2</sub> e scope 1 (actuals) <sup>2</sup>	8	10	11	25
Total CO <sub>2</sub> e scope 2 (market-based) <sup>3</sup>	9	9	8	49
Total carbon scope 3 (actuals from business travel) <sup>4</sup>	11	7	9	23

<sup>1</sup> The total actual carbon is the sum of scope 1, 2 and 3 actual emissions. The total can deviate from the sum of all categories due to rounding-up to kilotonnes. To date, we only account for carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O).

<sup>2</sup> Scope 1 comprises emissions from our use of natural gas and fuel oil.

<sup>3</sup> Scope 2 comprises emissions from our use of non-renewable electricity and district heating.

<sup>4</sup> Scope 3 comprises emissions from our business travel by air and car. This includes travel for business purpose only, and excludes emissions from employee commuting. Train travel was excluded, however we are working on including that into scope from 2023 onwards. For emissions from air travel, we are working on data granularity to be able to report on fare-specific emissions from 2023 onwards.

<sup>5</sup> Figures for 2021, 2020, and 2014 have been updated to improve consistency.

<sup>6</sup> Actuals figures above were derived from data that was collected from 98.2% of reporting locations; an estimate was made for the remaining 1.8% to inform Total Carbon. The coverage reported in this summary table is the average of the coverage reported in the separate scope 1, scope 2 and scope 3 (business travel) tables that follow.

## Notes on Methodology

- We use the operational control method to delineate our organisational boundary. Currently this includes the primary subsidiaries of ING Bank excluding Interhyp business in Germany. The reporting also excludes fixed asset investments, franchises, incorporated and non-incorporated joint-ventures and partnerships.
- Scope 2 emissions using location-based method accounts for 68 kilotonnes of CO<sub>2</sub>e.
- The scope of reporting for the base year remains 2014. The base year will be recalculated on best effort basis with the aim to ensure consistency and relevance of reported data in case of: (1) structural (scope) changes in the organisation, changes in calculation methodology, improvement in the accuracy of emission factors or activity data. (2) The discovery of required data or calculation improvements that materially impact the base-year emissions data, using a 3% threshold on the last two years.
- For natural gas and heating oil, we use emissions factors from DEFRA. For electricity generation, we use emission factors from the International Energy Agency (IEA). For district heating we use country specific factors, informed by GaBi, and in the case of Poland by the country office (which provides an average factor of each location and the different district heating factors that apply across the geography).
- For air travel, we gather information on short-haul (<450km), medium-haul (450-1600km), and long-haul (>1600km) distances, and apply emission factors from the DEFRA. We currently apply emission factors for air travel using an average fare-class.
- Emissions from car travel include lease car, private car and available information on taxi travel undertaken for business related activities. As lease cars are also used by employees for private purposes, we assume (based on sample statistics from an ING internal survey) that 30% of all kilometers driven in lease cars are for business purposes. For car travel, we apply bespoke emission factors provided for by the suppliers of lease vehicles and if not provided in some markets, DEFRA emission factors are used. We currently apply emission factors for car travel using an average of car types.
- Data may sometimes not be complete for all emission categories. In case of incomplete or missing data that falls short of a country's entire scope, some figures may be based on assumptions. These assumptions would be based on available actual data, the local context for consumption, the number of FTEs and the size of the local operations.

## Net-zero buildings

In 2023, we agreed a plan to reach net zero in all our buildings worldwide by 2035 (including owned and rented buildings). We also have a scope 1 and scope 2 target of a 90% reduction by 2030. In 2022, our scope 1 and 2 emissions related to our buildings were 17 kilotonnes CO<sub>2</sub>e (a 78% reduction from 2014).

**Table 10**

Scope 1 (including extrapolations <sup>7</sup> )				
	2022	2021	2020	2014
Coverage (% of employees)	98	89	98	91
	Kilotonne CO <sub>2</sub> e			
Natural gas	7	10	11	26
Fuel oil	0.2	0.4	0.4	1.6

<sup>7</sup> Extrapolations include actuals data reporting from all countries operations with 200 (full-time employees) FTEs and more, and taking an average of these include estimations for countries with operations of less than 200 FTEs

**Table 11**

Scope 2 (including extrapolations <sup>8</sup> )				
	2022	2021	2020	2014
Coverage (% of employees)	98	98	97	91
	Kilotonne CO <sub>2</sub> e			
Electricity <sup>9</sup>	0.5	0.5	0.1	46.6
District heating	9	9	8	7

<sup>8</sup> Extrapolations include actuals data reporting from all countries operations with 200 FTEs and more, and taking an average of these include estimations for countries with operations of less than 200 FTEs

<sup>9</sup> Electricity emissions include emissions for countries where unbundled EACs sourced outside of RE100 market boundary criteria.

To achieve further reductions in building emissions we're aiming to further improve energy efficiency and reduce our emissions from heating systems. A good example of this is the ING Marnix building in Brussels, an older building which is undergoing sustainable renovations – insulating the windows and frames, adding rooftop solar installations, and installing heat pumps. The first phase of that renovation is now underway and is expected to be completed by end-2023. In Turkey we've commenced a programme where we're replacing all gas-fired boilers in our branches with electrical heat-pumps as soon as a heating-system replacement is scheduled in the maintenance plan. Digitalisation of the way we work and the way we interact with clients and customers also supports a decrease in the our footprint of branches and offices.

We also continue to improve our approach to sourcing renewable electricity for our operations. In 2022, we further aligned with the reporting guidance of RE100, a technical group that sets industry standards for the corporate use of renewable electricity. Our own assessment shows that our renewable electricity sourcing in 2022 was 99.2%, aligned with RE100's market boundary criteria, and we're awaiting review by RE100 to

confirm this. The remaining 0.8% was not in alignment due to difficulties in purchasing renewable electricity in South Korea, Ukraine, Kazakhstan and Russia. For these markets, in addition to reporting CO<sub>2</sub>e emissions for electricity used, we sourced renewable Energy Attribute Certificates in neighbouring markets to support an in-sector reduction in line with the amount of electricity used.

The majority of ING's total electricity consumption footprint can be traced to our larger retail markets, such as the Netherlands, Belgium, Poland, Turkey and Germany, where our primary electricity sources are from renewable energy products with energy suppliers. For example in the Netherlands where we have a virtual power purchase agreement (PPA) with Vattenfall for energy from the 'Hollandse Kust Zuid' windfarm. We continue to increase the amount of installed renewable electricity generation, for example in the Netherlands where installed rooftop solar became operational in four new locations in the first half of 2023, with an additional generating capacity of 176,000 kWh annually. More locations are planned to be completed in 2023.

**Table 12**

Renewable Electricity Sourcing		2022
Renewable electricity (MWh) <sup>10</sup>		176
•	Self-generation	1
•	Physical PPA	2
•	Financial/virtual PPA	33
•	Project-specific supply contract	4
•	Retail supply contract	114
•	Unbundled EACs	23

<sup>10</sup> In 2022, we further aligned with the reporting guidance of the RE100, a technical group that sets industry standards around corporate use of renewable electricity. Therefore, renewable electricity is categorized into different sourcing types.

It's our intention to move over time towards more onsite renewables and direct purchasing agreements from local renewable projects.

## Business travel

In 2022 we launched a Green Travel Budget programme to make employees aware of the CO<sub>2</sub>e impact of their travel choices and encourage them to use greener options. We also updated global travel procedures to restrict most air travel on short-haul distances where high-speed rail options exist as alternatives. This includes travel between Amsterdam, Brussels, London and Frankfurt.

**Table 13**

Scope 3 (business travel, including extrapolations <sup>11</sup> )				
	2022	2021	2020	2014
Coverage (% of employees)	97	98	99	90
	Kilotonne CO <sub>2</sub> e			
Travel <sup>12</sup>	12	7	9	25

<sup>11</sup> Extrapolations include actuals data reporting from all countries operations with 200 FTEs and more, and taking an average of these include estimations for countries with operations of less than 200 FTEs

<sup>12</sup> Our business travel, and the resulting scope 3 emissions, was affected in 2021 and 2020 due to the Covid-19 pandemic and associated lockdowns and border restrictions

In addition to our efforts to reduce air travel, in 2022 we started procuring sustainable aviation fuel (SAF) and SAF certificates from our partners at Air France-KLM, Lufthansa Group, Neste and SkyNRG. Although we still report the emissions resulting from our flights, the SAF and SAF certificates we purchased supported an in-sector reduction of approximately 3.2 kilotonnes of CO<sub>2</sub>e emissions in 2022. We also entered into a partnership with Singapore Airlines as part of our sourcing approach for 2023.

To limit the impact of car travel, we continued to electrify our fleet of leased cars. In 2022, ING in Belgium and the Netherlands announced that only fully electric vehicles (EVs) would be available in the available range of new lease cars. Together, Belgium and the Netherlands represented 72% of our lease cars in 2022. Globally, we have an ambition to reach at least 90% EVs in our fleet by 2030. This ambition encourages countries like the Netherlands and Belgium to reach 100% earlier, to make up for EV infrastructure challenges in other countries.

## Sustainable procurement

To be a safe and secure bank for our customers and society, we take care to know our suppliers and assess whether they share our commitment to fighting climate change and protecting human rights. Embedded in our global Know Your Supplier (KYS) approach is a process for encouraging our suppliers worldwide to act responsibly. We believe this is a real opportunity to have an impact and drive our sustainability ambitions through our supply chain.

As the impact of our supply chain grows in importance, within procurement globally we also created a sustainability working group, with members drawn from across the different ING regions. One of the first deliverables of this working group has been to establish the Sustainable Procurement Guideline. This guideline contains environmental and human rights criteria for the different procurement categories to support the selection process in line with ING's sustainability strategy.

## Sustainable tech

ING's Tech teams are also taking up the sustainability challenge, launching a new sustainability working group. The focus of the group is on reducing CO<sub>2</sub> and the impacts of physical materials (e.g. hardware, cabling, packaging and other waste) related to our data centres, tech infrastructure, end-user devices and applications. As part of our data centre consolidation, which involves moving to more efficient data centres in the Netherlands, other data centres have been closed in, for example, Switzerland, the Czech Republic and the United Kingdom. We were also able to reduce the number of servers supporting our Workplace Services (WPS) environment by 90% or approximately 3,000 servers. They were moved to cloud based servers which are more sustainable than physical servers in our data centre. Choosing to ship our end-user devices to users instead of using airfreight and reducing our packaging by 18% also resulted in a substantial reduction of CO<sub>2</sub> emissions and approximately 270kg less waste.

With the introduction of a new tech applications sustainability dashboard, ING's Tech employees now have an overview of the energy impact of their applications within ING's Private Cloud (IPC). This provides an overview of where the biggest improvements can be made, and will help to steer our progress in the future.

## Sustainable operations

Our priority is to further reduce our environmental impact within our operations department through a new collaborative 'COO Green Guild' community. To raise awareness about managing ING's own footprint, the community launched a knowledge-sharing platform, so that practitioners from various markets can share best practices, progress and insights on implementing sustainable solutions locally.

The Guild is also developing ING's approach for how to measure the environmental impact of our banking operations processes at a more granular level. The resulting Sustainable Process Index (SPI) is planned to be implemented in pilot countries such as the Netherlands, Spain and Turkey in 2024.

## Scope 3 emission categories

We aim to increase the accuracy, granularity and scope of our operations emissions reporting. To that end, in 2023, we've started an assessment of the available data and methodologies that we could apply to measure and report on additional scope 3 sources of emissions. This assessment covers categories such as purchased goods and services, capital goods, fuel and energy-related activities, waste generated in operations, and franchises. Our next steps in the process will involve completing data collection, assessing models of estimation or proxy where data is not available, completing a review of methodology options and materiality, and finally determining how best we can steer towards emission reductions for any additional categories that are included in our scope.

## Contribution measures

The main priority of our Environmental Programme is to reduce CO<sub>2</sub> in our operations. We also take accountability for our unabated emissions and look for ways to contribute to impactful projects that can mitigate climate change outside of our value chain. In 2022, we ceased using voluntary carbon credits. Our approach now focuses on contributing to organisations that work to restore nature, empower communities, and develop carbon removal technologies. We intend to continue this approach in the future using a contribution model rather than carbon credits and will not use the environmental impact of any current or future projects for any claims related to carbon neutrality.

Our contributions include a partnership with Milkywire, through the Climate Transformation Fund (CTF). We chose to support Milkywire's CTF as it seeks to create and build scale for new solutions to tackle climate change. The CTF focuses on climate impact, and not only supports small effective grassroots organisations (e.g. HUSK and Heirloom) but also climate advocacy projects (e.g. the Clean Air Task Force), and catalytic research into new carbon removal techniques. Milkywire's CTF impact-first approach focuses on carbon removal and transparent impact reporting. As we only began supporting this fund in 2022, we aim to share impact reporting from 2023 onwards.

# Terra: net-zero in our portfolio

ING's climate alignment strategy is guided by our Terra approach. Using Terra, we analyse the most carbon-intensive parts of our portfolio and steer our loan book towards net zero by 2050 or sooner so as to play our part in keeping global warming within 1.5°C compared to pre-industrial levels.

## Introduction

We developed the Terra approach in 2019 in partnership with the 2° Investing Initiative (2DII), using their Paris Agreement Capital Transition Assessment (PACTA) for Banks tool (itself co-developed by ING). Since then, we've continued to improve and expand Terra in collaboration with 2DII, also involving new partners like RMI's Center for Climate Aligned Finance (CCAF), which ING became an official strategic partner of in 2022. Improvements include expanding the geographies covered, bringing more sectors into scope, and adding more parts of the value chains within sectors. We plan to continue improving and expanding our Terra approach with the aim to ensure a science-based, transparent and robust transition of our portfolios to a net-zero economy.

As a result of our collaboration with the CCAF, we've also helped to develop methodologies - like the Poseidon Principles for the shipping sector and the Sustainable STEEL Principles for the steel sector - which can be used by financial institutions and sector participants alike to benchmark their own alignment with net-zero goals. We're now collaborating on a new methodology and framework for the aluminium sector, which we expect to adopt in the fourth quarter of 2023.

ING published its first annual [Terra progress report in 2019](#), covering our financing of five carbon-intensive sectors over 2018. As of now, Terra covers ING's nine most carbon-intensive sectors, which account for the majority of emissions associated with ING's loan book. In this report we also include transition plans for all the sectors covered by Terra, providing more detail on the sector-specific actions we aim to take to accelerate the transition to net zero.

One carbon-intensive sector in our portfolio that's not yet covered by Terra is food and agriculture. We recognise that meeting global targets for a net-zero world in 2050 requires shifts across the entire food and agriculture value chain, starting from production at the farm, to food processors, and through to global diet adaptation and waste avoidance. We want to contribute to the transition, and intend to track and disclose our progress in this sector as we do for other in-scope Terra sectors, first focusing on the sub-

sector most material to ING, which is dairy. We intend to create a transition plan and set a target for this, to be disclosed in our next Climate Report, and have already begun expanding our approach to the dairy farming portfolio in our Business Banking book (see section '[Terra's expansion to Business Banking clients](#)').

## What's new in this report

- **Embedded in the business:** credit approval process enhanced to integrate climate action into Wholesale Banking commercial decision-making, supported with new tooling and dashboards.
- **Sector transition plans:** detailing the client- and portfolio-level actions that ING intends to take on the pathway to net zero, as well as what's necessary from other parts of society.
- **Expanded oil & gas scope:** previously covering upstream O&G only, now Terra target for mid- & downstream too. With a methodology for O&G trade and commodity finance in collaborative development, we aim to have the whole O&G value chain in scope before next report.
- **Expanded corporate real estate scope:** previously covering Business Banking real estate financing in the Netherlands only, now the global commercial real estate book (covering ~73% of in-scope financing) is included under Terra.
- **Business Banking increasingly in scope of Terra:** we're expanding to material subsectors in the Netherlands (dairy farming, road transportation and inland shipping) as the first step in bringing the self-employed, micro-companies, small and medium-sized enterprises (SMEs) and mid-corporates into scope of Terra.
- **Setting new standards:** collaborating with RMI's Center for Climate Aligned Finance (CCAF) and three other banks on new methodology and framework for aluminium sector. ING's aluminium portfolio intended to be in scope of Terra before next report.
- **Contributing to data and methodology improvements:** ING has joined the Partnership for Carbon Accounting Financials (PCAF) with the intent to further enhance our measurement of financed emissions, working together with other financial institutions.

## Principles of the Terra approach

With Terra, ING measures the emissions associated with clients active in the most carbon-intensive sectors and uses this information to benchmark its clients' activities against the relevant decarbonisation scenarios. This allows us to steer our lending portfolio by engaging with our clients and supporting them in their transition where necessary. Additionally, by measuring the absolute financed emissions of our portfolio, we perform hotspot analyses to monitor our loan book, identify risks and opportunities, and define next steps for expansion of Terra's scope.

In the following sections, we provide all details related to our principles and the adopted methodologies, climate scenarios and data sets which provide the foundation for the Terra approach and the basis for measuring our performance in the sectors covered: power generation, oil and gas, commercial real estate, residential real estate (mortgages), cement, steel, automotive, aviation and shipping.

Three main principles underpin the choices we make in Terra: impact-based, based on climate science and engagement-driven.

### Impact-based

Terra is designed with the aim of making the biggest possible impact in terms of real-world decarbonisation. Banks can maximise their effectiveness and positive impact by redirecting financial flows towards a low-carbon economy. As such, we first focus on supporting the transition in the most carbon-intensive sectors, and more specifically by financing the changes that need to happen in specific parts of the sector value chain. For example, our approach is to steer our power generation portfolio towards renewable sources of energy and our automotive portfolio towards electrified vehicles. By targeting the integral control points in the value chain, as defined by the methodologies we've adopted (e.g. PACTA), we intend to play a role in driving the actual transition to a low-carbon society.

### Based on climate science

We follow the most up-to-date climate science available, which is the cornerstone of how Terra measures our loan book's climate alignment, sets our targets and steers towards them. All targets and decarbonisation pathways are based on scenarios designed by recognised and reputable institutions, like the International Energy Agency (IEA), and all carbon accounting is done in line with the [Greenhouse Gas Protocol](#) via the Partnership for Carbon Accounting Financials (PCAF) methodology. Additionally, through participation in alliances, like the Net-Zero Banking Alliance (NZBA), and in working groups including the Poseidon Principles and the Sustainable STEEL Principles, we make an ongoing commitment to guidelines based on the most recent developments in each sector. Continued membership in, and leadership of, sector working groups complements our toolbox approach by helping us (co-)build and apply the best-fit methods for each sector to make the most impact in the real economy.

## Engagement-driven

Through the billions of euros flowing through our loan book, we aim to play an important role in our clients' transitions to net zero by 2050. As such, simply reducing our exposure to emissions-intensive clients is not how we intend to reach net zero, because divestment will not promote decarbonisation of the real economy. Rather, it's our priority to finance and support clients who have ambitions to decarbonise their activities and engage with new ones that will allow us to further steer our portfolio towards net zero targets by 2050. The Terra approach augments this principle by providing insights on the performance of our clients, which helps in making informed decisions regarding the decarbonisation ambitions of all the covered sectors.

## The Terra approach explained

### Methodologies

Within Terra, we apply what we consider to be the best-fit methodology per sector to measure and steer our loan book. For most sectors, and more specifically power generation, cement, aviation and automotive, we use the [PACTA](#) methodology, which ING co-developed together with 2DII (and which is now under the stewardship of RMI). For power generation we use Technology mix metrics to derive portfolio emission intensity, while for the rest of the PACTA sectors we directly use emission intensity metrics for measurement. For oil and gas, we adopted two approaches: first, for upstream oil and gas we apply the alignment approach developed by the Katowice Banks, including ING, and described in their PACTA methodology [application paper](#), which concentrates on oil & gas production as the leading indicator for the whole sector value chain and requires an absolute reduction in oil & gas production financing; and secondly an emissions intensity metric which ING has developed for mid- and downstream oil & gas activities (further information in [Appendix A](#)). For commercial real estate and residential real estate, we use the [PCAF](#) and [CRREM](#) methodology. Finally, for shipping and steel we use the [Poseidon Principles](#) and the [Sustainable STEEL Principles](#) respectively. The main methodological choices are explained in the following chapters and in the sector-specific sections, while additional details are provided in [Appendix A](#).

### Terra's coverage of asset classes

We believe it important for financial institutions to cover all relevant asset classes in their climate alignment strategies. With Terra, we began by covering the biggest combined portfolio on our balance sheet: our lending book. We intend to keep expanding our coverage of the most carbon-intensive parts of our direct and indirect financing via both on-balance-sheet and off-balance-sheet exposures.

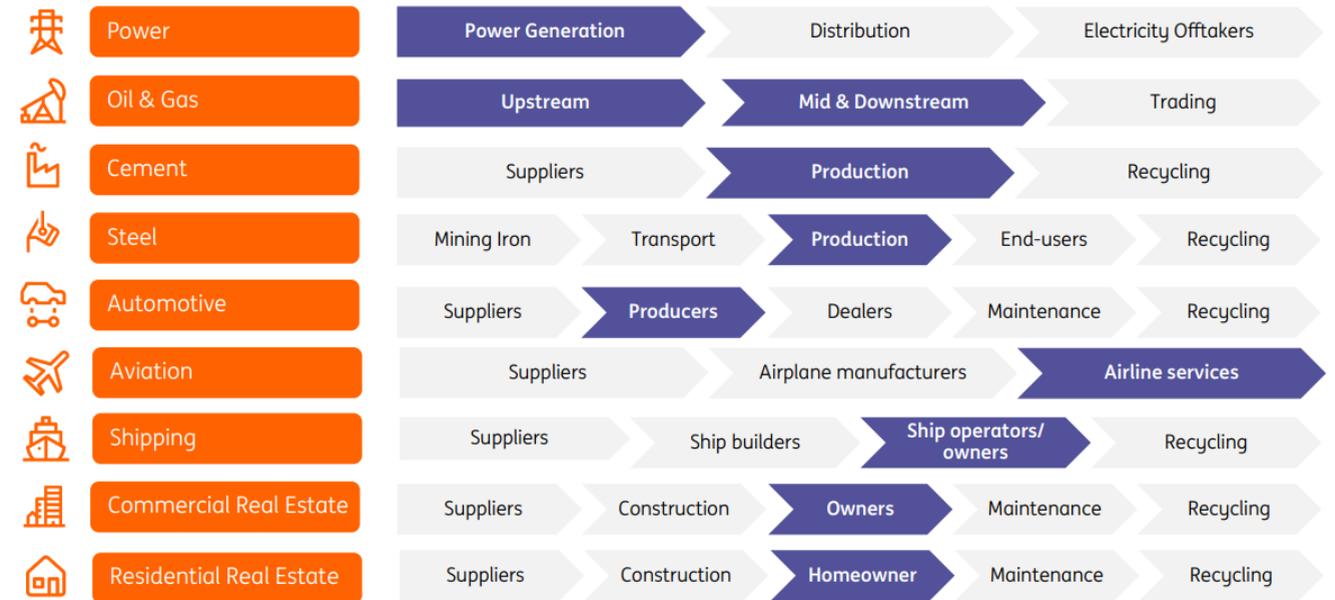
The on-balance-sheet portfolios not currently covered by Terra, those other than lending, are either deemed not material or do not have a suitable methodology for steering towards net-zero goals yet. More

specifically, our Equity book only accounts for 0.5% in terms of outstandings and 0.1% in terms of emissions compared to our lending book (see [table 16 on financed emissions](#)). Our sovereign bonds portfolio would be material from a size perspective, but there is currently no methodology available to steer towards net zero. For this portfolio, we aim to estimate and publish the ING-associated emissions in 2024 using the recently published PCAF methodology, as a first step towards defining a net-zero strategy for sovereign bonds. And for our off-balance-sheet positions, we're closely monitoring the work being done by PCAF to estimate the facilitated emissions associated with such positions, and based on our assessment we aim to define a net-zero strategy for these positions too.

As part of our ambition to be a banking leader in climate alignment and transitioning to net zero, we aim to cover all the relevant asset classes as soon as relevant methodologies are available.

### Terra's coverage in our lending book

Our lending book can be divided in three main areas: Wholesale Banking (corporate clients), Business Banking and Retail Banking Mortgages (retail customers). As guided by Terra's principles, we focus on the most carbon-intensive sectors we finance. The methodologies we use focus on the part of the value chain which accounts for the bulk of the impact on the climate system, and on which decarbonisation efforts must be concentrated to spur the entire sector to fall into alignment. Currently, we cover Wholesale Banking clients and retail customers with mortgages products. More specifically, the Terra approach currently covers the following nine sectors as depicted in the following chart (figure 4), which also highlights the part of each sector value chain on which we focus. The specific boundaries of the activities that we cover per sector are defined by the methodologies adopted.

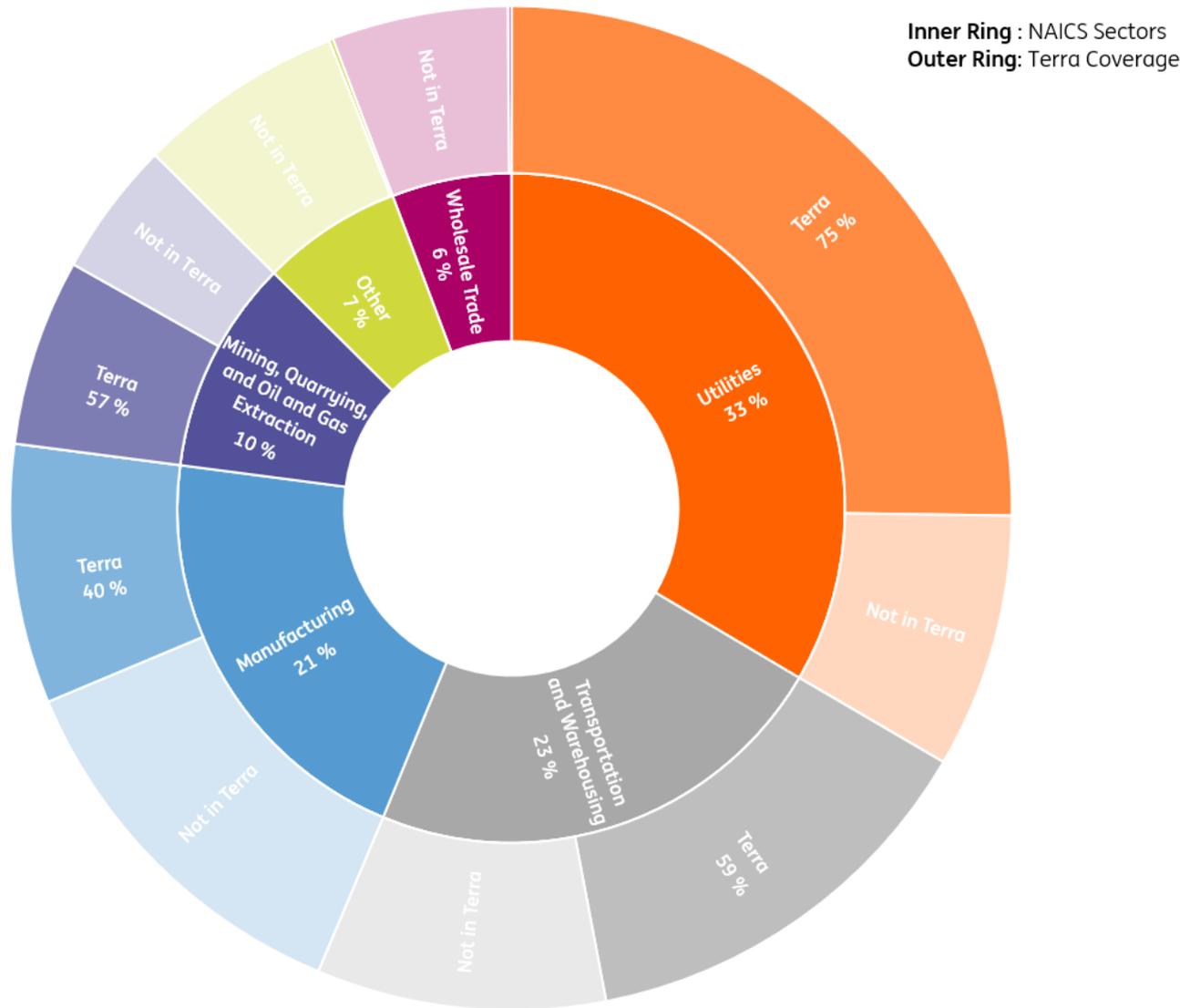


**Figure 4: Portfolio scoping**

Focusing on these specific sectors and the specific parts of their respective value chains means that we concentrate our efforts on supporting our most carbon-intensive clients in their transitions.

Our Terra approach already covers almost the entire mortgages book and the majority of the emissions associated with our Wholesale Banking book - with a further breakdown depicted in the next chart (figure 5). More specifically, with our Terra approach we cover 92% of the emissions coming from our (Retail) mortgages book and 53% of the emissions associated with our Wholesale Banking book. This excludes Commercial Real Estate as we haven't calculated our financed emissions for this asset class yet. We aim to do so for the next publication of these figures.

The 53% coverage is a decrease compared to last year's 63% despite the Terra scope expansion and more sub-sectors and more clients being covered by Terra targets. This can be explained by the update in the measurements of our financed emissions - please see additional information on this year's update of our financed emissions in the [Financed emissions](#) section. Financed emissions calculations are dependent on several factors which can lead to fluctuations on a yearly basis.



**Figure 5: Terra coverage of ING's Wholesale Banking book financed emissions (excluding Commercial Real Estate)**

<sup>17</sup> In scope product types per sector are described in the Annex.

The chart to the left shows the breakdown of the estimates of our financed emissions per industry as classified by the NAICS coding standard (the inner circle) and the Terra coverage within these industries (the outer circle).

We aim to increase our coverage in the coming years by continuing to expand to new sectors where data and methodologies allow. For example, we expect to include the aluminium sector following the completion of the work being done by the [Aluminium working group](#) (facilitated by RMI's Center for Climate-Aligned Finance) that ING is co-leading.

### Product scoping and climate data-matching

For the measurements of every Terra sector, we use the outstanding to each of our clients as the financial indicator. The outstanding represents the money that we as ING have provided to our clients, and more specifically the money flowing to our clients and hence into the economy. The product types in scope for our measurements are, for most sectors, revolving loans and term loans, each based on loan outstanding, which are the products that most accurately represent lending on a continuous basis<sup>17</sup>. Within the outstanding amounts, we distinguish broadly between two types of loans: general purpose corporate loans and special purpose loans. More specifically:

- 'General corporate' means that we don't stipulate nor control the use-of-proceeds, so we assume that the funding is at the disposal of the borrower (or its group); and
- Special purpose loans, which are ring-fenced loans where proceeds will be used for a specific purpose (e.g. project-based or asset-based finance)

Finally, to measure the climate performance of our portfolio, we need to 'match' the outstanding amount of each client to its climate performance. Where special purpose loans represent financing attached to a specific asset, which could be an aircraft, sea-going vessel or a power-generation plant, we're generally able to match ING's outstanding amounts to the climate performance of these specific assets. For general purpose loans, as we don't know exactly for which assets or purposes our money will be used, we match the full in-scope outstanding to the climate performance of the specific borrower, which could either be a subsidiary or the ultimate parent company. Please see [Appendix A: Terra and Financed Emissions Measurement and Reporting Details](#) for more information regarding data availability and matching rates.

### Scenario selection and target-setting

To align a portfolio with net zero, we need climate scenarios to benchmark against. These benchmarks also determine what the net-zero-aligned intermediate (2030) and long-term (2040 or 2050) targets

should be. In line with our Terra principles, we believe that the scenarios used should always reflect the most recent scientific information from recognised institutions, like the IEA<sup>18</sup>, if available.

The scenarios for power generation, oil & gas, steel, automotive and aviation are all based on the International Energy Association's (IEA) Net Zero Emissions by 2050 Scenario (NZE). For commercial real estate and residential real estate, we have used the [CRREM 1.5°C pathways](#), which are also based on the IEA NZE scenario. For cement and shipping, we have different scenarios (see [Appendix A](#)).

The IEA NZE scenario has an even more ambitious objective than the IEA's previous Sustainable Development Scenario (SDS), which is to be in line with the Paris Agreement objective of "pursuing efforts to limit the temperature increase to 1.5°C", rather than 'only' to well below 2°C. The NZE scenario also supports the objectives of the United Nations' Sustainable Development Goals (SDGs), specifically Goal 7 (Ensure access to affordable, reliable, sustainable and modern energy for all), as well as aiming to secure major improvements in air quality, which is linked to many of the UN's other SDGs.

While we continue to use the already applied net-zero-aligned scenarios for the previously in-scope sectors in Terra, this year we've made three main updates by including mid- and downstream oil & gas, (global) commercial real estate and residential real estate in the scope of Terra. The associated targets, based on the selected scenarios, have been approved by ING's Management Board Banking (MBB).

This year, the following updates to targets were implemented:

- **Oil & Gas:** in addition to the previously set 2025, 2030 and 2050 targets for absolute emissions reduction through reducing the size of the upstream portfolio, we now include operational emission intensity reduction targets for 2030 and 2050 in line with the IEA's NZE scenario.
- **Commercial Real Estate:** while we had previously only measured our Business Banking Real Estate Finance portfolio in the Netherlands, we've now extended the scope of Terra to cover our global Wholesale Banking Commercial Real Estate portfolio, with a coverage of 73% of secured loans of our 2022YE portfolio. For the entire commercial real estate portfolio we've adopted the latest [CRREM](#) net-zero scenarios (1.5°C pathways V2.02).
- **Residential Real Estate:** we've adopted the latest CRREM 1.5°C pathways (V2.02).

The targets of all other sectors covered (power generation, automotive, aviation, shipping, cement, steel) have not been updated as they remain valid.

Table 14 summarises the targets we've set per sector in terms of timelines, scenario and ambition. The only sector with a target not yet aligned with net zero is shipping. A net-zero target for this sector will be set as soon as the Poseidon Principles, the shipping organisation which ING is a signatory to and which is the market standard for measuring the shipping portfolios of financial institutions, will provide a net-zero scenario to benchmark our progress against.

<sup>18</sup> The IEA's Net Zero Emissions by 2050 Scenario (NZE) also incorporates key energy-related UN Sustainable Development Goals (SDGs)

**Table 14: Updated targets per Terra sector**

Sector	Timeline	Target ambition level	Scenario	Last update
Power generation	2030, 2040	Net-zero	IEA NZE	2022
Oil and gas Upstream	2025, 2030, 2050	Net-zero	IEA NZE	2022
Oil and gas Mid- and Downstream	2030	Net-zero	IEA NZE	2023
Cement	2030, 2050	Net-zero	ISF-NZ	2022
Steel	2030, 2050	Net-zero	IEA NZE	2022
Automotive	2030, 2050	Net-zero	IEA NZE	2022
Aviation	2030, 2050	Net-zero	IEA NZE	2022
Shipping	2030, 2050	Well-below-2-degrees	Poseidon Principles	2022
Commercial real estate	2030, 2050	Net-zero	CRREM 1.5°C pathway	2023
Residential real estate	2030, 2050	Net-zero	CRREM 1.5°C pathway	2023

## Scenario and baseline recalculation policy

We undertake to systematically review and update Terra targets, as we aim to align with the most recent developments in climate science. As a rule, the scenarios that we use for target-setting in Terra will be reviewed by the relevant committee on an annual basis to assess if there are significant changes that would trigger a recalculation of the target(s), such as a 10% deviation of the new scenario compared to the scenario in use. Regardless of the yearly changes to the underlying scenarios, Terra targets are updated at least every three years to align with the latest science. We also intend to dynamically update the Terra baselines when relevant to maintain consistency. Relevant events triggering an update of the baselines and of associated targets could be: (a) structural changes in our portfolio, such as mergers, acquisitions or divestments; (b) changes in calculation methodologies, significant improvements in data accuracy, or discovery of material errors; or (c) changes in the categories or activities included in the scope of our targets; and the other factors mentioned in [About this report: Scope and boundaries](#). In 2024, we intend to perform an update of most targets as per the latest climate science.

## Our position on using offsets for GHG scope 3 category 15 emissions

Reducing our [GHG scope 3 category 15](#) (scope 3.15) emissions should first and foremost come from the reduction in carbon emissions of our customers, as the priority should be to limit the amount of GHG emissions released into the atmosphere. We therefore prioritise real decarbonisation efforts in our approach and do not use any offsetting when measuring our portfolio alignment, nor do we plan to use them to achieve our Terra targets in the future. Our data providers also do not account for offsets in measuring ING's clients' climate performance.

## Terra’s expansion to Business Banking clients

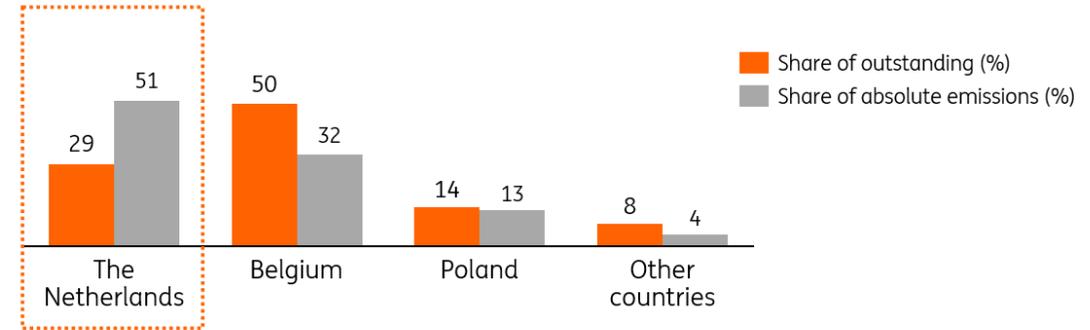
The Business Banking portfolio, which encompasses financing granted to the self-employed, micro-companies, small and medium-sized enterprises (SMEs) and mid-corporates, is estimated to represent 18% of ING’s total financed emissions in 2022. In the second half of 2022, we updated our hotspot analysis of the financed emissions associated with our Business Banking book. The calculations cover our clients’ scope 1 and scope 2 GHG emissions and were performed using the PCAF methodology, with a data quality score of 5 (on a five-point scale, where 5 indicates the lowest data quality). We should be able to improve data quality going forward as more and more clients begin to report emissions, which will then allow us to make more reliable estimates of emissions attributable to the BB portfolio.

The global Business Banking (BB) hotspot analysis reveals that the top three countries by asset portfolio size – the Netherlands, Belgium and Poland – are also contributing significantly to the total financed emissions (see figure 6). This, and other factors such as our commitment to the Dutch Climate Agreement, informed our decision to focus our expansion efforts to SMEs in the Netherlands (NL) in 2023. Of the top emitting sectors in our NL Business Banking book, we narrowed our focus further on agriculture and transportation, specifically the most material sub-sectors: dairy farming, inland shipping and road transportation.

For these sub-sectors, we aim to improve emissions measurement together with our partner 2DII (and more specifically their ‘tilt’ initiative) and other relevant local partners, with the aim of improving on the current PCAF score 5 (lowest data quality). We’re also exploring ways of effectively supporting our BB clients’ efforts to transition to green business models, for example by taking a sectoral value chain approach together with relevant Wholesale Banking clients.

For dairy farming, for example, we recognise that meeting targets for a net-zero world in 2050 would require shifts across the entire food and agriculture value chain, starting from production at the farm, to food processors, and through to global diet adaptation and waste avoidance. We want to contribute to the transition and track and disclose our progress in this sector as we do for other sectors already, and aim to set a target for this in the near future. In line with this ambition, ING participated in a financial offer to the Dutch ‘Agricultural Accord’, and continues to monitor developments and engage with all the relevant stakeholders. Furthermore, together with Wholesale Banking, we are designing a plan to support this sector to transition, which would consider the changes needed across the whole value chain. We are also working to improve on measurement, as our calculations corroborated with other published data suggest that our dairy farming portfolio is responsible for significantly lower financed emissions than the PCAF score 5 figures indicate. The lessons learned from these sub-sectors will be the blueprint to extend our Terra approach to other sectors and countries in the Business Banking domain.

### Global Business Banking Heatmap



### Most relevant Business Banking Netherlands sectors

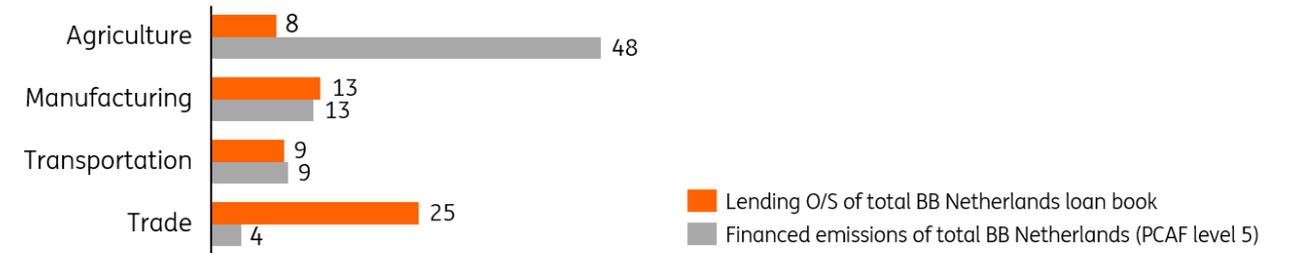


Figure 6: Business Banking Hotspot Analysis

## Steering our portfolio and integration in the business

As part of our commitment to net zero, not only do we continuously improve our methodologies (dynamically following the latest climate science), develop new ones for sectors yet to be covered, and participate in global working groups to accelerate the broader adoption of 1.5°C-aligned approaches, we are also evolving how we operate our business so as to best steer our efforts to both reach net zero in our portfolios and support our clients in making the transition to a low-carbon economy.

There are multiple ways in which we are integrating our net-zero strategy and targets in our business. A key example is the recent enhancement of our approval process for new transactions that fall under the scope of Terra. To assess these potential transactions from a climate alignment perspective, we've introduced mandatory Terra- and climate-related questions into our commercial business approval process. Answers to those questions, such as the client's current climate performance, their net-zero targets and transition plans, will be reviewed by ING's Green-Light Committee (GLC), the body that validates the fit and alignment of potential transactions with the bank's strategy and priorities. With these climate-focused enhancements to our commercial process, we assess new transactions based on their contribution to our net-zero targets, demonstrating how these considerations are increasingly being integrated in our decision-making process - with the same weight as other due diligence and acceptance criteria such as the client's financial standing and our mandatory ESR screening.

Another example of how we are integrating our net-zero strategy and targets in the business is the development of new tools for client-facing colleagues. To support the net-zero-related input required by the GLC as described above, we've been developing simulation tools which dynamically assess the impact of new transactions on our Terra targets. These tools also empower our business with more information and insights about their clients, as they allow peer comparison, transaction- and portfolio-level simulations, and key drivers' breakdowns that uses monthly-updated portfolio data. With such tools, the business can keep making informed decisions on which clients to engage with and how.

Additionally, as our approach is different per sector, the way we aim to steer is also different per sector. To clarify our sector strategies and approaches to net-zero targets, and how we translate those into tangible actions, we've developed transition plans for each Terra sector ('sector transition plans', detailed in the sector-specific sections of this chapter that follow). These sector transition plans are in line with the Engagement Strategy recommendations in the Glasgow Financial Alliance for Net Zero (GFANZ) Transition Plan Framework and also fulfill our NZBA commitment, which requires such plans to be published within 12 months of setting net-zero targets for a particular sector. These plans describe the portfolio-level actions ING is taking and will take, as well as the actions necessary from other societal stakeholders, in order to make the transition to a low-carbon economy.

To be able to better assess the climate performance of our clients, and then use these insights to identify risks and opportunities for supporting clients in their transitions, we're currently developing a bespoke 'client transition plan' tool. This online platform is where we've started to centrally collect, assess and

monitor the publicly disclosed climate transition plans (sourced from CDP, the Science Based Targets initiative and public sustainability reports, and where possible including scope 1, 2 and 3 emissions, targets and investment plans) of each client, starting with those in scope of Terra and eventually expanding to cover all Wholesale Banking clients. By aggregating this information, we can engage in data-driven discussions with our clients that should lead to greater impact, and the tool will also help make our credit approval process (described above) more efficient.

## The Terra Toolbox and Climate Alignment Dashboard

On the next page we present the [Terra Toolbox](#). This table provides a complete sector-by-sector overview of the methodologies we applied, as well as the metrics and scenarios used to assess our climate alignment and our performance. It also provides additional information per sector, like the outstanding amounts and carbon emission scopes covered.

On the page thereafter you will find the [Climate Alignment Dashboard](#) (CAD). This dashboard provides a one-page graphical overview of the climate alignment of all sectors in scope. For each of the ten (sub-)sectors, the graph shows the emission intensity of our portfolio, the scenario, our pathway towards 2030 and the alignment indicator (the percentage at the top-right of each graph).

A green indicator shows that the sector is on track, meaning the intensity of our portfolio is under or equal to our yearly benchmark (the convergence pathway). An orange indicator means the intensity is above the benchmark, but by no more than 5%. A red indicator shows the sector is currently not on track, deviating more than 5% from the benchmark.

For oil and gas mid- and downstream, the alignment score is shown as 'Not Available (N/A)' because as this is the first year we measure our portfolio and our performance, the baseline is the same point as the convergence pathway. For commercial real estate, while we were able to benchmark our portfolio last year, the alignment score is shown as 'N/A' this year as our portfolio significantly changed compared to last year. Our calculations now include our WB global exposure rather than only the BB NL exposure - so that we now cover €24.8 billion compared to last year's €10.9 billion. Therefore, while we do still separately disclose the alignment score of the BB NL portfolio in the Commercial Real Estate section, the overall portfolio should now be considered as a 'new' global sector, with a new scenario, measurement and alignment score.

To make the dashboard easier to read, each graph only runs until 2030. In the separate sections for each sector we provide a more detailed graph until 2050.

# The Terra Toolbox

**Table 15: Overview of approaches applied, output types and data sources<sup>19</sup>**

Sector	Outstanding in scope (EUR billion)	Methodology used to measure portfolio	Scopes covered	Metric	Scenario / Pathway	Baseline		2022YE		Alignment score	Targets	
						Year	Portfolio value	Convergence pathway value	Portfolio value		2030	2050
Power generation	9.0	PACTA	Scope 1	kg CO <sub>2</sub> e / MWh	IEA NZE	2018	335	275	189	-31.3%	-53%	-100%
Oil and gas	1.9	PACTA Credit Application Paper	Scopes 1, 2 and 3	Outstanding amount in EUR million	IEA NZE	2019	3,986	3,649	1,915	-47.5%	-19%	-69%
	7.1	Convergence approach	Scopes 1, 2	kg CO <sub>2</sub> e / boe	IEA NZE	2022	16**	N/A	16**	N/A	-24%	-100%
Cement	0.6	PACTA	Scopes 1, 2	t CO <sub>2</sub> / t cement	ISF-NZ	2020	0.704	0.662	0.688	3.9%	-31%	-69%
Steel	3.2	Sustainable STEEL Principles	Scopes 1, 2	SSP Alignment Score	IEA NZE & MPP Tech Moratorium	N/A	N/A	1.793	1.808	0.15	0 *	0 *
				t CO <sub>2</sub> / t steel	IEA NZE							
Automotive	2.9	PACTA	Scope 3	kg CO <sub>2</sub> / vkm	IEA NZE	2020	0.199	0.179	0.157	-12.5%	-49%	-98%
Aviation	3.3	PACTA	Scope 1	g CO <sub>2</sub> / passenger km	IEA NZE	2019	88.2	80.3	81.9	2.1%	-33%	-87%
Shipping	6.8	Poseidon Principles	Scope 1	Alignment delta	Poseidon Principles	N/A	N/A	0%	-2.8%	-2.8%	0% *	0% *
Commercial real estate	24.8	PCAF	Scopes 1, 2	kg CO <sub>2</sub> e / m <sup>2</sup>	CRREM 1.5° pathways	2022	44.7	44.7	44.7	N/A	-56%	-99%
Residential real estate	307.1	PCAF	Scopes 1, 2	kg CO <sub>2</sub> e / m <sup>2</sup>	CRREM 1.5° pathways	2021	41.6	38.4	40.7	5.8%	-60%	-99%

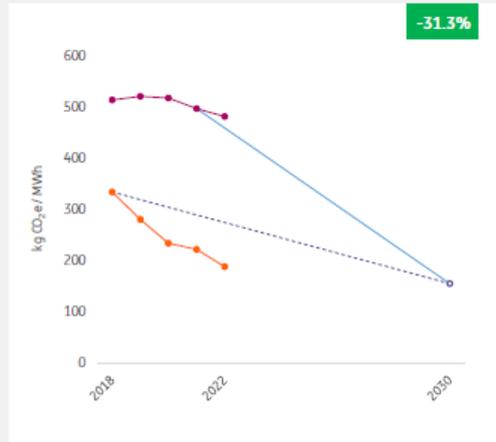
\* Target for alignment score.

\*\* CO<sub>2</sub> only, expected to increase due to methane (CH<sub>4</sub>) data add-on.

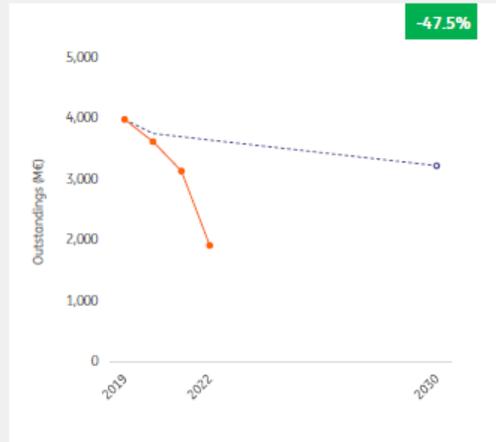
<sup>19</sup> Figures related to outstanding in scope (exclude unmatched part), 2022YE portfolio value and convergence pathway, and alignment score, all refer to the 2022YE loan book portfolio, except for Shipping, which is based on 2021YE portfolio. For more details on the outstanding in scope please see the Annex.

## Climate Alignment Dashboard until 2030

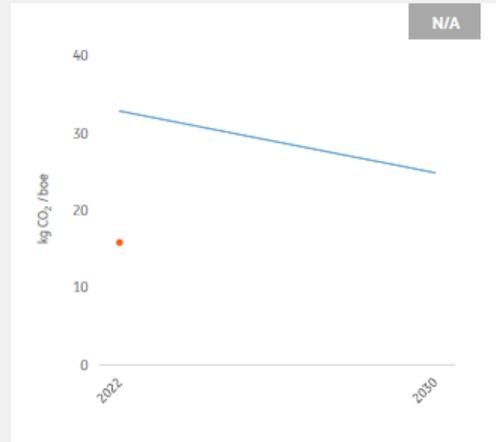
Power Generation



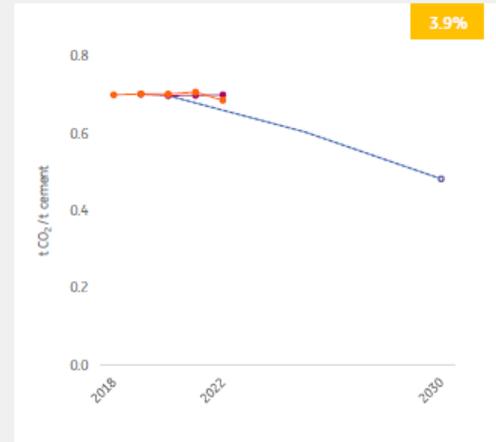
Oil & Gas: Upstream



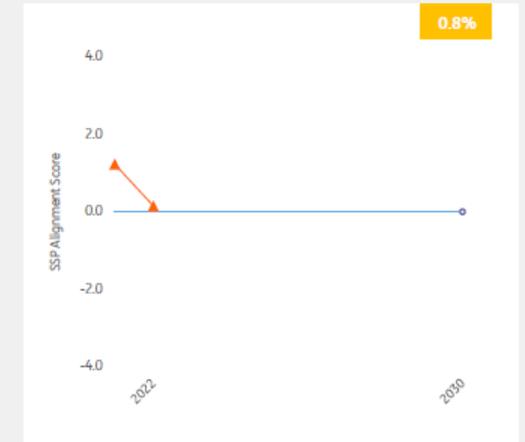
Oil & Gas: Mid- and Downstream



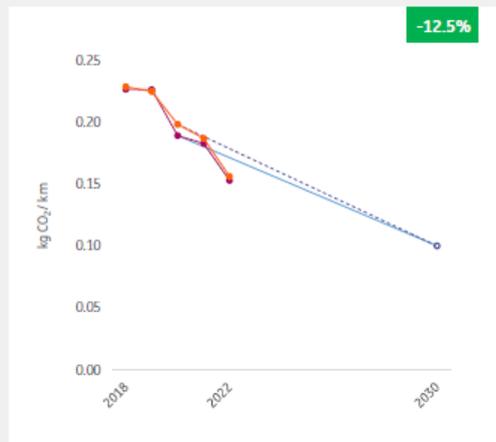
Cement



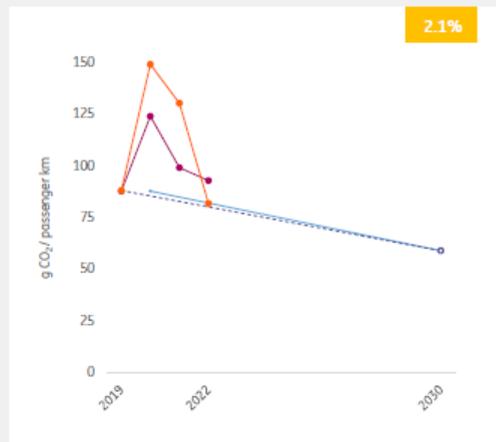
Steel



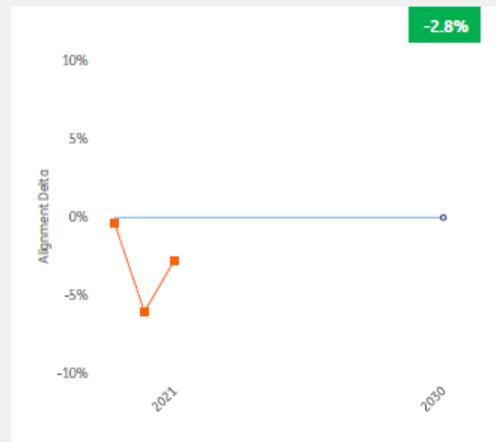
Automotive



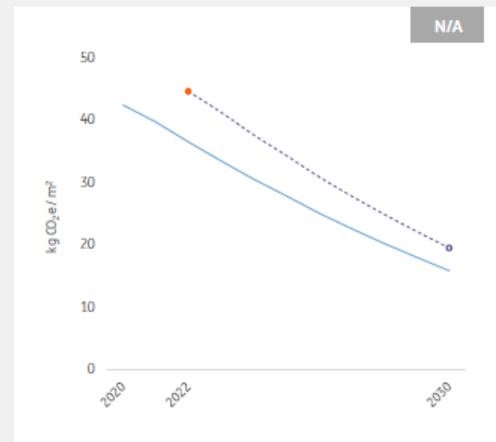
Aviation



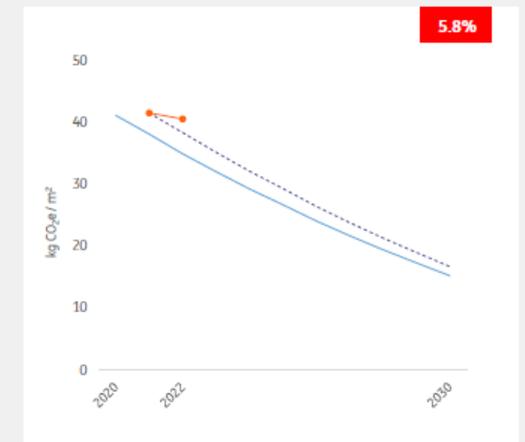
Shipping



Commercial Real Estate



Residential Real Estate



◆ ING portfolio    ○ ING interim target    - - - Convergence pathway      On track: Under or equal to benchmark  
▲ ING Sustainable Steel Principles alignment score    ◆ Market    — Scenario      Above benchmark by up to 5%  
■ ING Poseidon Principles alignment score      Not on track: Above benchmark by more than 5%

# Power Generation



ING's Renewables & Power and Utilities teams cover clients in conventional and renewable power generation, and energy storage and (limited) giga-battery manufacturing. Through continued engagement with clients, we seek to support innovative technologies and new market opportunities, helping accelerate the energy transition. Our client base is diverse, ranging from global and local developers, utilities, and oil & gas majors, to commodity traders, infrastructure investment funds, and from state-owned enterprises to public and privately owned companies.



## 2022 Performance

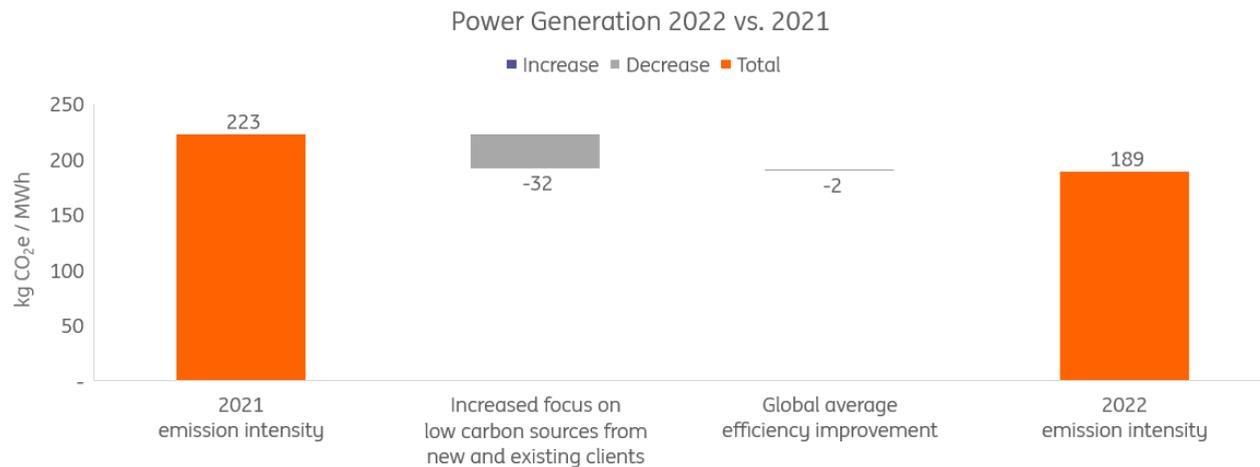
As part of our NZBA commitment, ING continued to make progress on the interim 2030 target set for our power generation portfolio. ING's interim 2030 target for emissions intensity reduction is benchmarked against the latest IEA NZE scenario energy transition pathway. In the NZE scenario, global power generation leads the way by achieving net zero emissions in 2040, to enable the global economy to achieve net-zero emissions by 2050. The emissions intensity of ING's power generation portfolio has continued its steady decline and has already decreased by 44% since 2018, which is on track to meet our 2030 interim target (corresponding to a 53% reduction by 2030).

In 2022, our emission intensity decreased from 222.8 kg CO<sub>2</sub>e / MWh to 189 kg CO<sub>2</sub>e / MWh, implying a favorable -31.3% performance against the yearly benchmark. This is due to our concerted efforts to support clients investing in renewables and ING's strict policy since 2017 to cease new financing of coal-fired power generation, with a goal to reduce existing coal exposure to close to zero by 2025. Specifically, in 2022 the below chart shows which factors contributed to the emission intensity decrease compared to last year.

The main drivers behind this year's positive performance are an increase of share of low-carbon technology in our portfolio and our existing clients transitioning to less carbon-intensive sources. The decrease in emission intensity mainly comes from a lower share of carbon-intensive energy sources. Coal continued to decrease, while the renewables percentage remained stable and gas increased slightly. At the same time,

improvements in efficiency per power generation technology translated into lower emission intensity. The ongoing Russia-Ukraine war, and the resulting spike in global commodity prices experienced during 2022 (including gas and carbon prices), have had limited net impact on the emission intensity of ING’s power generation portfolio.

The relative percentage of gas increased mainly due to a more granular data-matching exercise (linking our loan book data to external databases). This allowed us to link some financing to gas-fired plants only rather than using the overall fuel mix of the borrower. Most of ING’s gas-fired loan book is in the US.



**Figure 7: Power Generation year-on-year changes**

## Power Generation sector transition plan

ING’s power generation portfolio is currently fully aligned with the goal of net-zero emissions by 2050, when benchmarked against the emissions intensity assumptions for the global power mix set out for the decarbonisation pathway in the IEA’s NZE scenario. However, alongside the alignment goal for our own portfolio, we also strive to contribute towards the alignment of our clients and of the global power market as a whole. We therefore continue to implement our strategy to concentrate our efforts towards the financing of renewable energy and supporting infrastructure, plus the financing of EU Taxonomy compliant flexible and/or base-load gas-fired power generation.

Specific actions include:

### Our actions in support of clients & portfolio

- To deliver on the ambition, announced in March 2021, to grow ING’s annual commitments to new financing of renewables by 50% by year-end 2025 (vs. year-end 2021).
- To reduce our exposure to coal-fired power generation, announced in 2017, to close to zero by year-end 2025. We no longer finance clients in the utilities sector that will be more than 5% reliant on coal from 2026 onwards, unless the financing is dedicated to non-coal power projects in support of their energy transitions.
- Assess the emissions intensity and climate impact of all new transactions as part of our commercial business approval process by using dedicated tooling.
- Collect, assess and monitor the publicly disclosed climate transition plans of our clients (including where possible scope 1, 2 and 3 emissions, targets and investment plans) via an inhouse-developed online platform.
- Maintain a high level of awareness and understanding among ING renewables & power and utilities sector colleagues about the latest Terra updates and how we’re embedding targets in the business. Train colleagues in the use of the in-development tooling that assesses clients’ transition plans, and increase the awareness of relationship and transaction managers about transactions that will have the biggest impact in moving our portfolio and the renewables & power and utilities sectors closer towards climate targets.

### Our actions in collaboration with industry & market:

- Specialists from the Renewables & Power and Utilities teams to support ING’s Energy sector-led multi-disciplinary New Energy Technologies Initiative (NETI), in gaining expertise in financing new areas of opportunity, such as hydrogen, energy storage, and carbon capture and storage.
- Advisory support from Global Sustainability involvement in NZBA on the target-setting framework for the power sector.

### Our actions to engage with government & policy

- Contributing to and promoting thought research and thought leadership by ING Research<sup>20</sup> (Economics department) on the energy transition, decarbonisation technology and policy developments in the power sector.

<sup>20</sup> visit [ING THINK](#) for the latest economic and financial analysis on the Energy sector

## Call-to-action to government and policy makers

To complement our Power Generation sector transition plan, and in particular our actions to engage with government and policy, our sector team together with ING's Economics department have identified a 'wishlist' of policy interventions that we believe are necessary for the sector to achieve its net-zero goals. In steering our own portfolio we are dependent on these external actions to meet the 2030 and 2050 targets we've set. The sector is facing various hurdles, including increased costs, delays in issuing permits, availability of land, and wider supply-chain bottlenecks. Given that the actions described below typically have long lead-times, urgent government action is required.

- **Maximise solar and wind energy:** via permissions and funding incentives like contracts for difference (CfDs). Boost power storage technologies such as batteries and hydrogen via hydrogen infrastructure and, where necessary, provide subsidies.
- **CO<sub>2</sub> infrastructure:** grant permits and build infrastructure for carbon capture and storage (CCS) on existing waste and biomass incineration plants to create negative emissions.
- **Power grids:** expand, strengthen and modernise (high voltage) power grids to prepare for increased electricity demand, rapid renewable capacity buildout and extreme weather conditions. This includes the use of batteries for grid support.
- **Dynamic pricing:** for corporates and for consumers, to better match the supply and demand of highly variable output from renewable power sources (solar and wind).

### Transaction highlight: Champlain Hudson Power Express

In October 2022, ING was mandated as the sole green loan coordinator on financing for the \$6 billion Champlain Hudson Power Express project, an approx. 550 kilometre transmission line to carry clean power from Canada to New York City. The project will contribute significantly to New York state's medium- and long-term renewable energy plans and GHG emission reduction goals. The fully-buried high voltage direct current line will transport 1,250 megawatts of low-cost hydroelectricity, or approximately 20% of New York City's total load and approximately 16% of the incremental renewable energy needed to meet New York State's 2030 renewable energy target, and is expected to reduce carbon emissions by 3.9 million metric tons per year.



# Oil & Gas

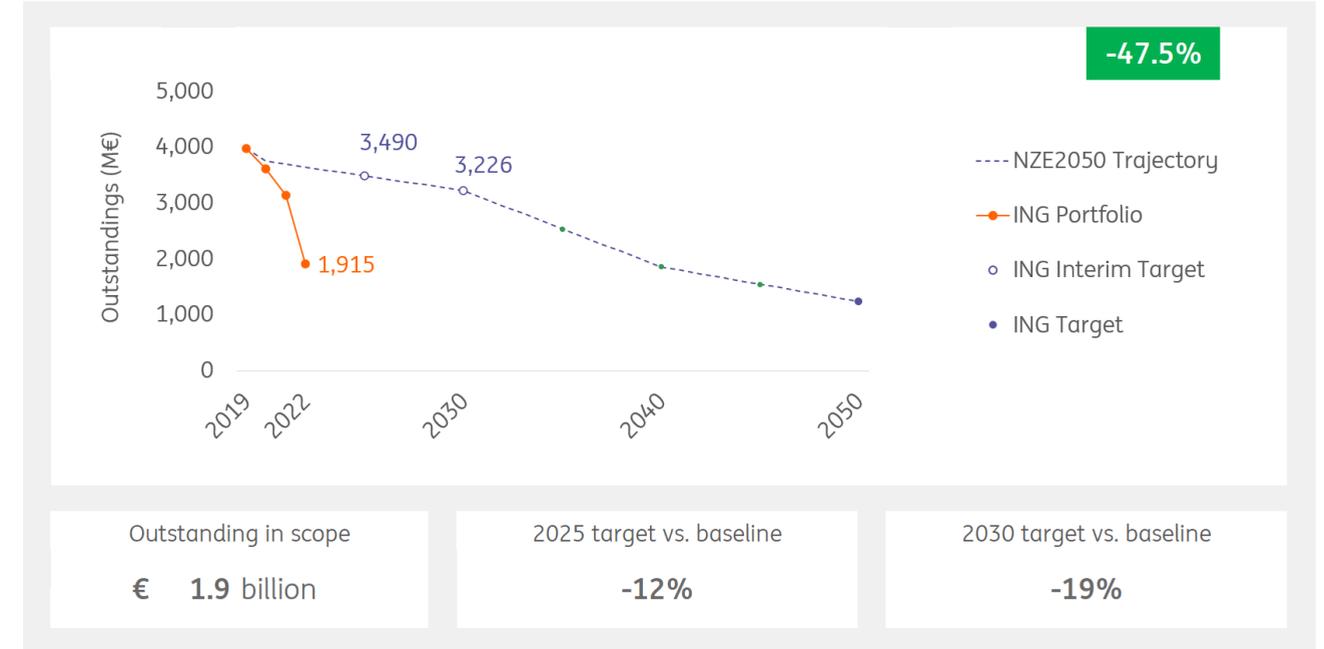


Our lending activities in the Oil & Gas sector cover the full value chain, from upstream to mid- and downstream, involving the financing of crude petroleum and natural gas extraction, processing, pipeline transportation of natural gas, storage, LNG export and import facilities and refineries.

In 2019, ING set its first Paris Agreement alignment target for oil & gas: an absolute reduction in financing of oil & gas production activities. This alignment action supplemented our [existing ESR policies](#) which refrain us from financing activities in:

- Exploration, development and production of oil sands, including pipeline infrastructure dedicated to the exclusive use of transporting oil from oil sands
- Trading of crude oil derived from tar sands

## Upstream Oil & Gas performance



- Exploration, development and production of shale gas in Europe
- Exploration, development and production and trading of oil and gas in the Amazon in Ecuador and Peru
- Arctic offshore and onshore oil and gas exploration and production

## 2022 Performance: Upstream Oil & Gas

According to the IEA's Net Zero Emissions by 2050 Scenario (NZE), the oil & gas production volume should decrease by -19% in 2030 compared to 2019. In line with this reduction, we measure our outstanding exposure to the upstream oil & gas activities. Over the course of the year, our outstanding exposure to upstream activities decreased from €3,138 million to €1,915 million. This steep continuation of last year's downward trend is explained by the combination of planned portfolio management with unusually low drawings under existing committed facilities, due to high prevailing oil and gas prices. In reaffirming ING's commitment to the 'portfolio volume reduction' interim targets in 2025 and 2030 and the 2050 final goal, we note that if oil and gas prices fall in future years, the actual outstandings under committed facilities which are already part of the portfolio may increase, although the total portfolio will remain below the trend line required to achieve the interim targets and final goal for net zero by 2050 alignment.

In [March 2022](#), we announced that we would stop dedicated upstream finance (lending or capital markets) for new oil & gas fields approved for development after 31 December 2021. And in [March 2023](#), the scope of the restriction was expanded from only upstream (exploration & production) to include restricting dedicated finance to connected ‘midstream’ (oil & gas infrastructure) activities that unlock new field developments. At the same time, we also announced our intention to include the oil & gas portfolio of our Trade and Commodity Finance (TCF) business in the Terra approach. A separate GHG accounting approach for target-setting to reduce the combined volume of traded oil and gas we finance in TCF will be developed by a multibank working group and is intended for publication in 2024. These targets will be aimed at reducing physical volumes aligned with the IEA NZE scenario pathway, i.e. -19% in 2030 versus 2019.

### Extending our approach to cover more of the value chain

Now, to supplement the upstream approach we have already taken in line with the application of the [PACTA methodology application paper by Katowice Banks](#), we have added another parameter to our oil & gas sector alignment commitment by setting a target for the operational performance of our mid- & downstream portfolio. As the quality and granularity of emissions data for the oil & gas value chain continues to improve, we'll also be able to more closely monitor the operational performance of our upstream portfolio. The existing target for absolute reduction in the size of our upstream (exploration & production) portfolio remains the leading indicator for the whole of the oil & gas value chain, as alignment here will have a knock-on effect throughout the rest of the value chain. In order to align, the required volume of portfolio reduction is benchmarked against the reduction in global oil & gas production volumes required between now and 2050 in the IEA’s NZE scenario transition pathway.

The positive impact towards net zero emissions we seek to achieve in our financed mid- & downstream activities is continuous improvement of the operational performance of all clients in the portfolio. For this reason, emissions intensity rather than absolute portfolio volume reduction is the selected target. This approach was informed by the IEA’s [‘10 guidelines for secure energy transitions’](#) set out alongside the NZE scenario in its World Energy Outlook 2022. With these guidelines the IEA addresses the specific issue of ‘mid-transition’ - the extended period during which certain carbon-emitting and clean fuels and related (mid- & downstream) infrastructure need to co-exist. For this reason it recommends to: “Manage the retirement and reuse of existing infrastructure carefully, bearing in mind that some of it will be essential for a secure journey to net zero emissions.”

### 2022 Performance: Mid- & downstream Oil & Gas

The emission intensity target is to reduce to net zero by 2050 and will be benchmarked to the IEA NZE scenario which is based on CO<sub>2</sub> equivalent emissions (i.e. both CO<sub>2</sub> and CH<sub>4</sub>). The emission intensities of the clients and assets in our portfolio at the end of 2022 have been measured by matching them to data from an independent energy research company (Rystad Energy). Currently it only covers CO<sub>2</sub> emissions but we expect to be able to add methane (CH<sub>4</sub>) emissions data later this year. Accordingly, our initial baseline assessment is based on CO<sub>2</sub> only. The availability of methane data for the baseline measurement will not affect the 2030 and 2050 targets, which already include methane.

### Mid- & downstream Oil & Gas performance



### Oil & Gas sector transition plan

To steer on the targets, our actions are centered around engaging with our clients on the subjects of decarbonisation and energy transition, and providing finance in support of that. Specific actions planned for the near-term include:

#### Our actions in support of clients & portfolio

- Engage with our clients to explain our Terra approach.
- Engage with our clients to support their efforts in the measurement and disclosure of their CO<sub>2</sub> and CH<sub>4</sub> emissions, in advance of mandatory disclosure requirements (e.g. CSRD).
- Add methane data to our base-year emissions intensity for mid- & downstream when this becomes available (expected during 2024).
- Contribute to WB’s development of tooling to assess all new transactions as part of our commercial business approval process, based on monthly data for reductions in upstream portfolio volume and mid- & downstream emission intensity.

- Maintain a high level of awareness and understanding among ING oil & gas sector colleagues about the latest Terra updates and how we're embedding targets in the business. Train colleagues in the use of the in-development tooling that assesses clients' transition plans, and increase the awareness of relationship and transaction managers about transactions that will have the biggest impact in moving our portfolio and the oil & gas sector closer towards climate targets.

**Our actions in collaboration with industry & market:**

- Share our Terra approach with other banks and collaborate with them to refine it.
- Continue to collaborate with the NZBA Oil & Gas Sector Track group on the NZBA Guidelines for Oil and Gas Sector Target-setting.
- Contribute to and promote research done by ING Research on energy transition and decarbonisation developments in the O&G industry.

**Our actions to engage with government & policy:**

- Track O&G-related developments on government climate and energy policies relating to decarbonization, security of supply and energy affordability in the energy system.
- Communicate the importance of correct and consistent methane measurement in GHG emissions disclosure requirements
- Engage in public debate on national and international energy sector developments. For example, as a longstanding Partner institution for the [Clingendael International Energy Programme](#).
- Contribute to and promote research done by ING Research<sup>21</sup> on climate and energy policy and market developments for the O&G and alternative fuels industry.

**Call-to-action to government and policy makers**

To complement our Oil & Gas sector transition plan, and in particular our actions to engage with government and policy, our sector team together with ING's Economics department have identified a 'wishlist' of policy interventions that we believe are necessary for the sector to achieve its net-zero goals. In steering our own portfolio we are dependent on these external actions to meet the 2030 and 2050 targets we've set. In the global energy transition to a clean energy system, governmental policies play a key role. Given that the actions described below typically have long lead-times, faster and concerted action is required.

- **Reduce methane (CH<sub>4</sub>) emissions:** This can include binding commitments and the implementation of norms and regulation, as well as bringing in additional countries to the Global Methane Pledge. Reducing methane leaks to the atmosphere is the single most important and cost-effective way to bring down

- these emissions. There are also opportunities in the elimination of routine flaring during crude oil extraction and integrating renewables and low-carbon electricity into oil & gas production.
- **Maximise CCS:** The pace of decarbonisation of fossil fuels can be hastened by harnessing the potential for carbon capture and storage (CCS). For this, both permissions and infrastructure are required – in the oil & gas industry, and also in 'hard to abate' energy-intensive sectors that remain heavily dependent on fossil fuels like the cement, steel and petrochemicals industry. Many net zero and 'true greening technologies' still take years to scale-up before they have a sizable impact on emission reduction, and in the meantime CCS is an important bridging technology.
  - **Maximise hydrogen (H<sub>2</sub>), biomethane and advanced biofuels:** These present near-term opportunities to supply the energy system benefits of oil and gas without additional carbon emissions. According to the IEA, these low-carbon fuels would need to account for 15% of overall investment in fuel supply by 2030 for the world to be on track for net-zero emissions by 2050. We are seeing increased support for hydrogen, for instance from the European Commission (who have created the European Hydrogen Bank, expected to be operational by the end of 2023, to 'guarantee' a price for H<sub>2</sub> offtake), however Member State and EU support mechanisms are not always aligned.

**Transaction highlight: VARO Energy**

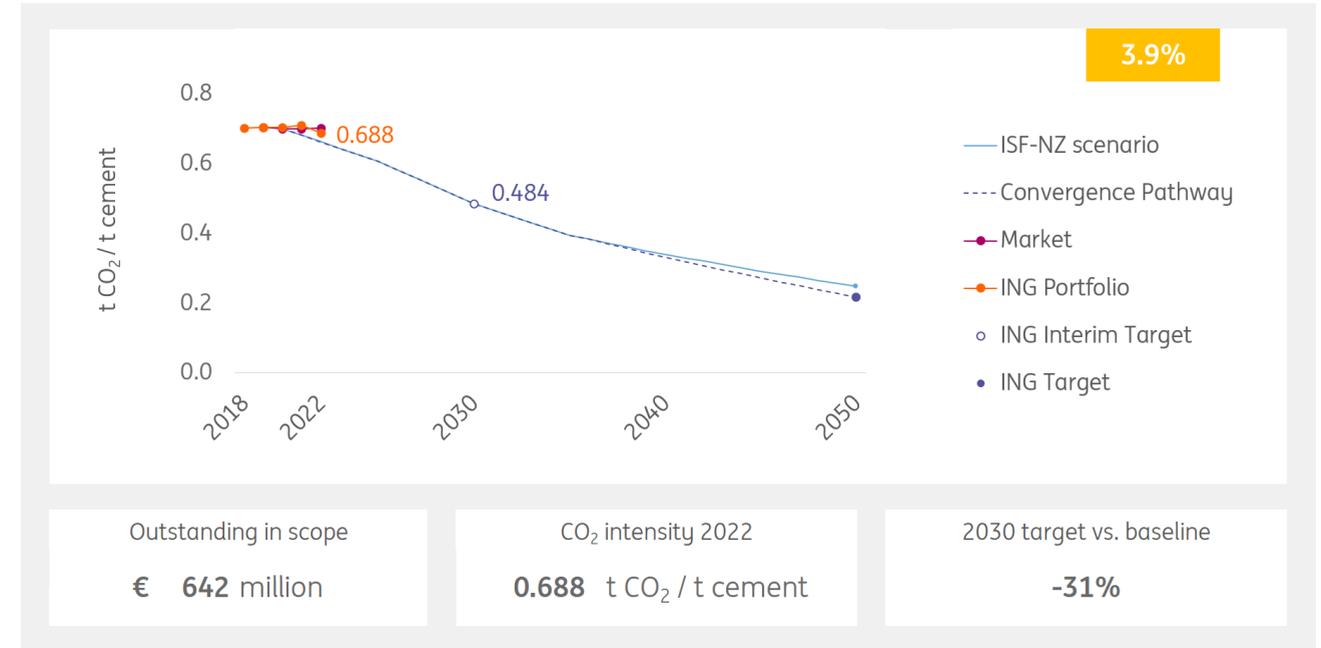
In the summer of 2023, ING acted in multiple roles in the \$3.33 billion refinancing of VARO Energy's ('VARO') bank facilities, including as the Sustainability Coordinator for the \$165 million green loan as part of the wider refinancing. The green loan partly refinanced VARO's acquisition of Bio Energy Coevorden (BEC), a biomethane manufacturing facility in the Netherlands. This green loan is the first in VARO's company history and complies with the criteria of the Loan Market Association's Green Loan Principles. It's also the first time ING has structured a green loan for a waste-based biomethane project. VARO is a Switzerland-based energy company that manufactures, stores, and distributes conventional fuels and sustainable energies, and provides related services. VARO is committed to the energy transition and in supporting its customers to decarbonise. VARO intends to partially use the funds raised to invest in the scaling and development of its strategic growth pillars: biofuels, biomethane, hydrogen, e-mobility, and nature-based carbon removals.

<sup>21</sup> for ING's latest economic and financial analysis on the oil & gas sector, please see the ING THINK article '[Decarbonisation of petrochemicals needs more cross-sector effort](#)'

# Cement



Our Cement portfolio consists of a set of leading cement companies, of which 95% have set net-zero goals and have been active for many years in measuring and steering their emissions accordingly. Our strategy and actions are centered around engaging with our clients and financing their transition.



## 2022 Performance

Emission intensity over 2022 shows a decrease compared to 2021, bringing ING's portfolio closer to the net-zero convergence pathway for the sector. The gap is now 3.9%, compared to 4.2% in 2021. As shown in figure 8, the change results from three main factors: (1) data quality improvements, meaning we now have better information to assess where our clients are in their own transitions; (2) the outstanding changes, which depends on when and by how much our clients use their available credit lines and by how much funding we offer to them, resulting in a different weight assigned to each client at the moment of measurement; and (3) inclusion of new clients with better emission intensity.



**Figure 8: Cement year-on-year changes**

## Cement sector transition plan

In the near-term we intend to take the following actions to stay on track to reach our climate targets:

### Our actions in support of clients & portfolio

- Assess the emissions intensity and climate impact of all new transactions as part of our commercial business approval process by using dedicated tooling.
- Collect, assess and monitor the publicly disclosed climate transition plans of our clients (including where possible scope 1, 2 and 3 emissions, targets and investment plans) via an in house-developed online platform.
- Maintain a high level of awareness and understanding on Cement sector dynamics, as well as relevant Terra updates and how we are embedding targets in the business. Train colleagues in the use of the relevant tooling assessing clients' transition plans, and increase the awareness of relationship and transaction managers about impacts of specific exposures on the overall financed portfolio, optimizing commercial and structuring decisions.
- Engage with clients in strategic discussions about their transition strategies, seeking opportunities to support them with advice and tailored financing and investment solutions. In particular, support the transition of our clients by advising on Carbon Capture, Utilisation and Storage (CCUS), recycling activities and alternative fuels, as these levers are crucial for the Cement sector to meet climate goals.

### Our actions in collaboration with industry & market

- Building on ING's leading role in the development of the Poseidon Principles (Shipping) and Sustainable STEEL Principles (Steel), we intend to contribute to a cross-industry initiative (supported by RMI with other banks, cement companies and associations, industry experts, etc.) to develop a science-based approach to reporting on and monitoring the progress of the decarbonisation of the producers and financiers active in the Cement sector.
- Help stimulate demand for low-carbon cement by organising roundtables, workshops and sharing research with various stakeholders on, for example, a circular economy approach for the construction value chain.

### Our actions to engage with government & policy

- Align with cement companies and associations (like Global Cement and Concrete Association) on their needs and make collective requests to policy makers.
- Monitor the development of decarbonisation policies and potential barriers in the geographies relevant to our clients.
- If we assess that delayed policy development and associated bureaucracy are creating barriers to meeting climate goals for the Cement sector, we would escalate via the cross-industry initiatives in which we plan to take part.

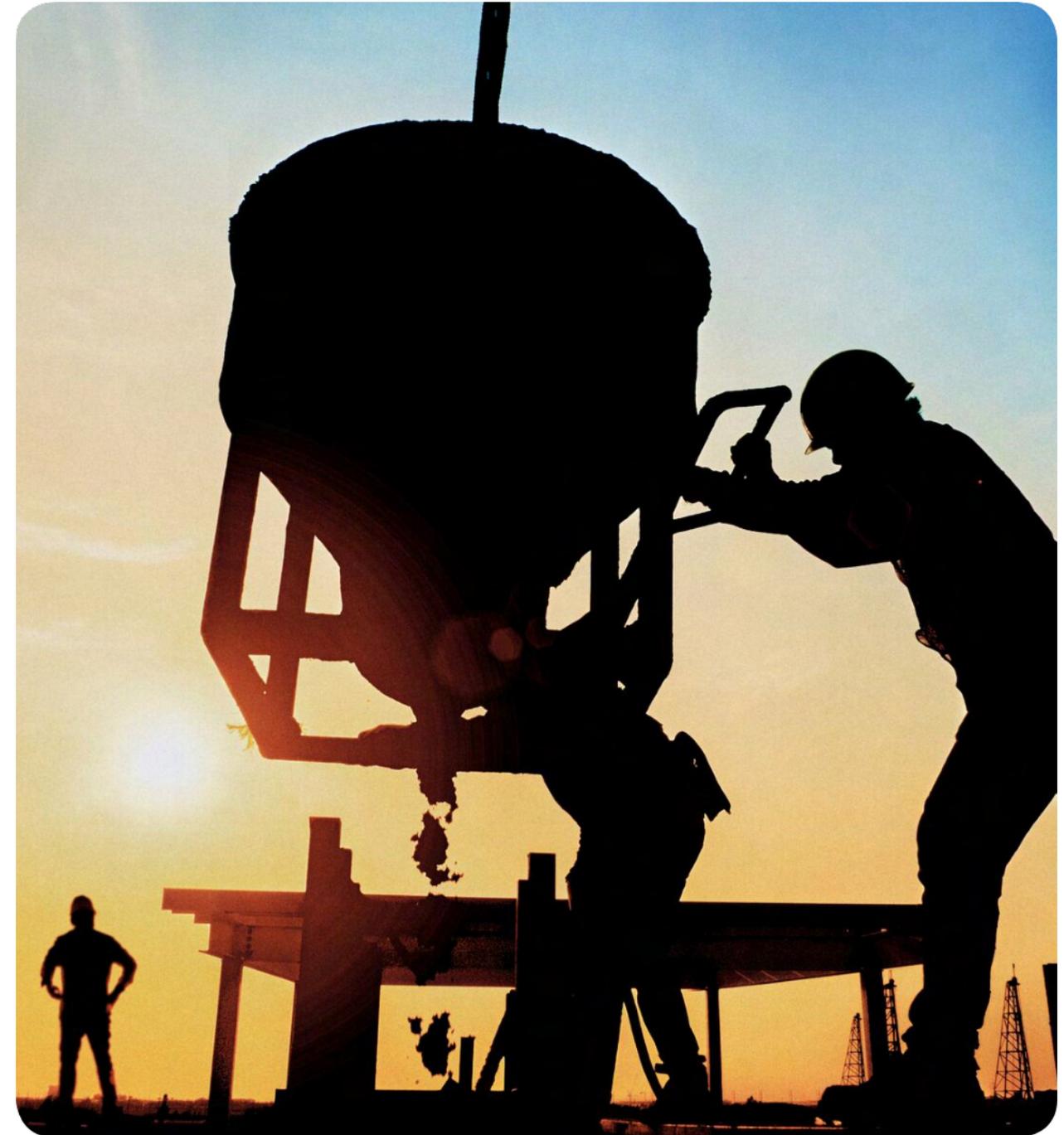
### Call-to-action to government and policy makers

To complement our Cement sector transition plan, and in particular our actions to engage with government and policy, our sector team has identified policy interventions that we believe are necessary for the sector to achieve its net-zero goals. In steering our own portfolio we are dependent on these external actions to meet the 2030 and 2050 targets we've set.

According to the [IEA Tracking Clean Energy Progress](#) report, the global cement industry is not on track to meet its net-zero targets. The report shows that the direct CO<sub>2</sub> emissions intensity of cement production has been broadly flat over the last five years. Major policy developments of the last year (such as the US Inflation Reduction Act and the EU Green Industrial Plan) hold promise for reducing emissions from the cement sector, but more co-operation between advanced and developing economies is needed to establish effective climate policies and prevent carbon leakage. Development and deployment of low-carbon technology innovation – such as low clinker cement, carbon capture and storage, and electric kilns – needs to be stimulated, together with emerging technologies in material efficiency and cement recycling.

### Transaction highlight: HeidelbergMaterials

ING acted as joint bookrunner on the January 2023 placement of HeidelbergMaterials's first sustainability-linked bond with an issue volume of €750 million and a term until 2032 as part of the €10 billion EMTN programme. The company had already announced the issue of a bond linked to sustainability criteria at its Capital Markets Day 2022. Interest on the bond is linked to the development of specific CO<sub>2</sub> emissions per tonne of cementitious material up to 2026 as well as 2030, which are defined as key performance indicators (KPIs) in the Sustainability-Linked Financing Framework. Compared with the base year 2021, HeidelbergMaterials aims to reduce specific CO<sub>2</sub> emissions by around 30% to 400 kg of CO<sub>2</sub> per tonne of cementitious material by 2030, which is ambitious and below our 2030 convergence pathway benchmark.



# Steel



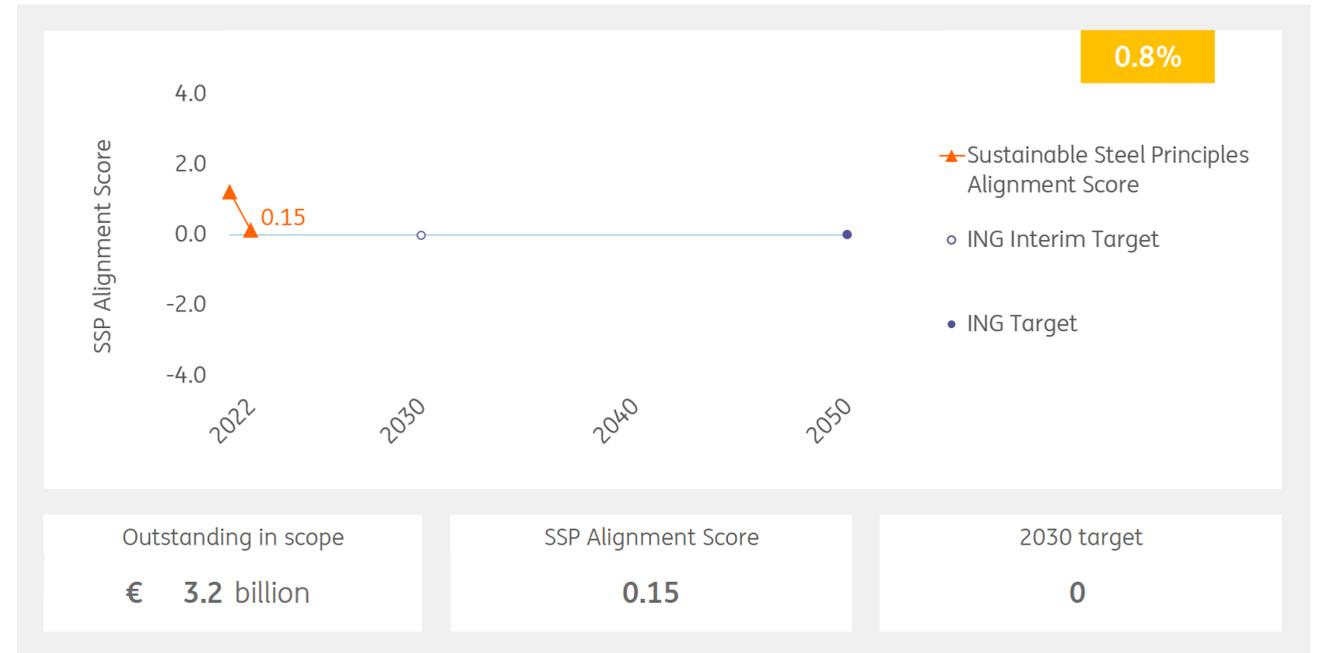
Our Steel portfolio consists of a set of leading steel companies. At the moment, the majority of our clients have set net zero short term and long term targets (more than 80% have short term targets for 2030 or sooner and 60% have long term 2050 targets). In 2022, ING together with other banks developed the Sustainable STEEL Principles (SSP<sup>22</sup>) to create and implement a common measurement and disclosure framework designed for banks to support the steel industry's transition to net-zero carbon emissions.

<sup>22</sup> The Sustainable STEEL Principles are a set of commitments to adopt a common measurement and disclosure framework designed for banks to support the steel industry in forging a pathway to net-zero carbon emissions.

Please see: [Making climate part of every steel loan - Sustainable STEEL Principles](#)

<sup>23</sup> The trajectories represent a net-zero scenario with no overshoot, equal to 1.5, and a net-zero scenario with low overshoot, equal to 1.5-1.6, defined here as "well-below-2-degrees".

<sup>24</sup> As the SSP corrects for average scrap use in the portfolio, depending on those levels targets may differ from institution to institution.

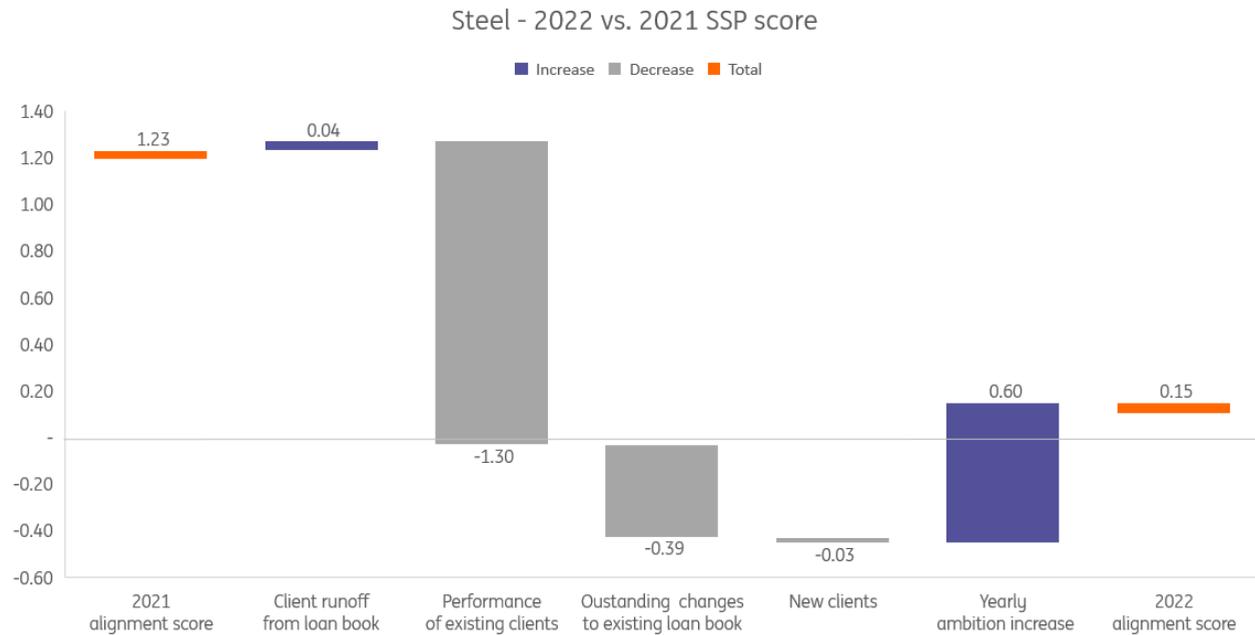


## 2022 Performance

For the second year in a row, we report the climate alignment of our steel portfolio using the Sustainable STEEL Principles (SSP) methodology. This framework was developed by a group of five international banks led by ING. The SSP represents a crucial step towards standardised reporting in CO<sub>2</sub> for the steel industry, enabling financial institutions to objectively compare steelmakers' performance and report on their portfolio alignment (see more information about the SSP in the box-out below) versus two net-zero emissions trajectories<sup>23</sup>.

ING's portfolio alignment score (PAS) for 2022 is 0.15, which for ING<sup>24</sup> represents an emission intensity of 1.81 t CO<sub>2</sub> / t steel. The fact that the PAS is below 1 signifies that ING is performing in line with the 'well-below two degrees' trajectory, and is slightly above the 1.5°C benchmark, which for 2022 is at 1.79 t CO<sub>2</sub> / t steel. At just 0.8% above the benchmark, this is a good improvement towards full alignment with the decarbonisation pathway for the sector. For comparison, last year's PAS was 1.23, equating to 5.4% above the benchmark. The main factor behind this improvement are the efforts of existing clients to improve their emissions performance.

The performance of our portfolio also reflects the fact that a significant portion of our portfolio consists of assets in emerging markets, which generally are more carbon-intensive. This, combined with the fact that there are no significant low carbon steel producers currently, results in a positive alignment score. ING's target is an alignment score of 0, which aligns with the IEA's 1.5°C-aligned net-zero trajectory.



**Figure 9: Steel year-on-year changes**

## Steel sector transition plan

To continue to steer on our climate targets for steel, we apply the Sustainable STEEL Principles (SSP) and aim to take the following actions in the near-term:

### Our actions in support of clients & portfolio

- Assess the emissions intensity and climate impact of all new transactions as part of our commercial business approval process by using dedicated tooling.
- Collect, assess and monitor the publicly disclosed climate transition plans of our clients (including where possible emissions in line with the Sustainable STEEL Principles methodology, targets and investment plans) via an inhouse-developed online platform.

<sup>25</sup> for ING's latest economic and financial analysis on the subject of green steel, please see the ING THINK article '[Hydrogen sparks change for the future of green steel production](#)'

- Maintain a high level of awareness and understanding among ING Steel sector coverage colleagues on the latest developments in our Terra approach and the Sustainable STEEL Principles, and how we're embedding targets in the business. Train colleagues in the use of the in-development tooling that assesses clients' transition plans, and increase the awareness of relationship and transaction managers about transactions that will have the biggest impact in moving our portfolio and the steel sector closer towards climate targets.
- Engage with clients in strategic discussions about their transition strategies, seeking opportunities to support them with advice and tailored financing and investment solutions.
- Restrict dedicated liquid or crude steel project and asset financing for clients to net-zero-ready retrofits of existing steel mills and net-zero-ready new steel mills.
- Steer portfolio towards net zero by seeking prospective new clients that are developing net-zero-ready steel mills, and by putting in place a policy to no longer on-board steel producers with a emissions intensity that is evaluated as being too high as compared to a 1.5°C-aligned scenario, unless they have a credible transition plan in place.

### Our actions in collaboration with industry & market

- Promote and be an ambassador for the SSP, with the aim of increasing membership and having a bigger impact, as part of our mandate as Chair of the SSP.
- Collaborate with key industry organisations (like Responsible Steel) to promote more green steel<sup>25</sup> projects and the standardisation of metrics, while also incorporating new science-based insights to evolve and improve the SSP, and collaborating with other institutions such as the NZBA to facilitate target-setting in this sector for other banks
- Collaborate with our colleagues active in the energy sector to identify opportunities and connect new developments on, for example, alternative fuels like green hydrogen by organising roundtables, and sharing research and best practices.
- Work to raise awareness for the use of low-carbon steel by organising roundtables and workshops and by sharing relevant research with various stakeholders across the entire value chain (like in the automotive and renewable energy sectors).

### Our actions to engage with government & policy

- Align with steel industry participants and other relevant stakeholders to make a collective call for the policies necessary to decarbonise the steel sector.
- Monitor the developments of decarbonisation policies (such as subsidy schemes for new technologies (like Inflation Reduction Act), carbon pricing and Carbon Border Adjustment Mechanism, etc.) and barriers in the countries relevant to our clients

- If we assess that decarbonisation policy developments are too slow or insufficient to meet climate goals for the steel sector, we intend to escalate via the Sustainable STEEL Principles organisation or other relevant platforms.
- With the support of our Structured Export Finance team, collaborate with Development Finance Institutions / Export Credit Agencies to embrace SSP and support green initiatives in steel sector.

### Call-to-action to government and policy makers

To complement our Steel sector transition plan, and in particular our actions to engage with government and policy, our sector team has identified a number of policy interventions that we believe are necessary for the sector to achieve its net-zero goals. In steering our own portfolio we are dependent on these external actions to meet the 2030 and 2050 targets we've set.

For the steel sector to be able to reach its net-zero targets, clear regulation that incentivises and supports the substantial investments needed in new technology is essential. In addition, the transition the sector is going through requires green electricity and hydrogen infrastructure. Cooperation between developed countries on carbon pricing and border taxes will be required to avoid carbon leakage in the initial phase, after which the knowledge gained should be used to support other major markets like China and India in their transition.

### Transaction highlight: H2 Green Steel

ING is acting as Pathfinder\* and Documentation Agent on the €3.5 billion project financing for H2 Green Steel. This Swedish startup is raising in excess of €5 billion in equity and debt to finance construction of the world's first green steel plant. The proposed plant will use direct reduction technology utilising hydrogen, which will bring the carbon footprint of the produced steel down by 95% compared to the prevailing steel-making method using coal-based blast furnaces. This ground-breaking and large-scale green steel plant, based in northern Sweden (with good access to fossil-free electricity, high-quality iron ore, and a specialised and innovative local steel industry), is planning to start production in late 2025.

\* A Pathfinder is a financial institution that plays a leading role in the structuring of a complex financing

## Sustainable STEEL Principles

Steel is an emissions-intensive sector, accounting for roughly 7%\* of global greenhouse gas emissions (GHGs), with demand projected to grow 30%\*\* by 2050. In order to avoid carbon lock-in, the decarbonisation of this hard-to-abate sector is both demanding and urgent. Along with four other banks and RMI's Center for Climate-Aligned Finance, ING has led the development of the framework for The Sustainable STEEL Principles which provide a sector-specific measurement and disclosure framework for banks, enabling lenders to support the decarbonisation of the steel sector, and assess climate progress, compatible with Net-Zero Banking Alliance (NZBA) guidance. This was reviewed by over 80 institutions across finance, industry, and civil society, including 30 steelmakers and industry associations.



Committing to the five Sustainable STEEL principles means that ING intends to:

- annually measure and report the climate alignment of our steel lending portfolios according to the Sustainable STEEL Principles guidance and methodology.
- annually publish portfolio climate alignment scores, a brief narrative, and the percentage of our portfolio represented by emissions reduction targets.
- source data from clients, or when not available, from an approved third-party data provider.
- engage with our clients to maximize real economy impact by advancing emissions reductions in line with 1.5°C.
- be a leader by setting steel portfolio targets informed by the Principles, updating the Principles as data evolves, and utilizing the Principles for advocacy purposes, in the interest of decarbonising the steel industry.

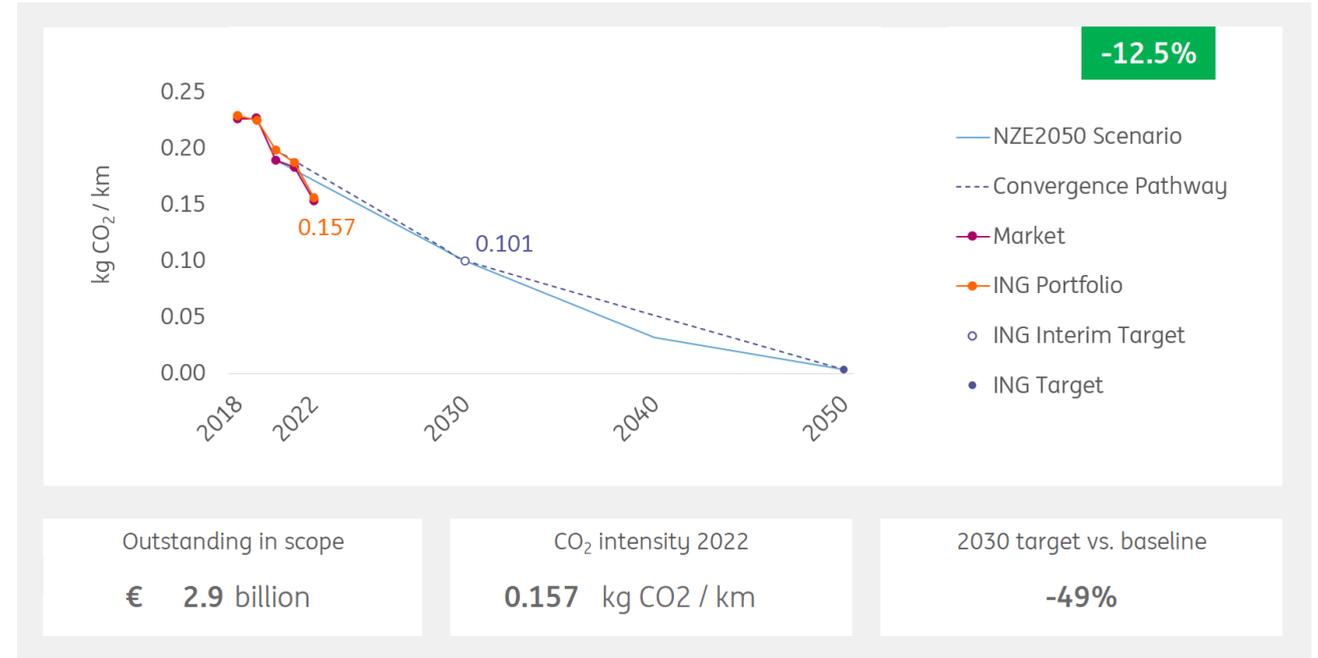
\*\* source: Mission Possible Partnership, '[Net-Zero Steel Sector Transition Strategy](#)', October 2021

\*\*\* source: International Energy Agency, '[Iron and Steel Technology Roadmap](#)', October 2020

# Automotive



The Original Equipment Manufacturer (OEM) portfolio in ING's Automotive sector comprises many globally well-known names. Many of them have Net Zero by 2050 ambitions and are already on their transition journeys. Our approach and actions are centered around engaging with our clients, advising them and financing their transitions.



## 2022 Performance

Based on the PACTA methodology, ING has been focusing on OEMs in its portfolio to steer towards net zero by 2050, disclosing intermediate targets and key alignment indicators for the light duty vehicle (LDV) sector.

For the fourth consecutive year, the emission intensity of the vehicle fleet attributed to our automotive clients decreased and stands now at 157 g CO<sub>2</sub> / km. This means a 16% improvement from 2021 that showed fleet average emissions of 187 g CO<sub>2</sub> / km. Development of our loan portfolio's emission intensity is therefore well below the convergence pathway towards the intermediate net zero target in 2030.

ING portfolio's technology mix shows more vehicles with internal combustion engines (ICE) in comparison to the market, consequently resulting in a smaller electric vehicle share than the market. Yet, the share of fully electrified vehicles such as battery and fuel cell electric vehicles, has slightly increased from 4% in 2021 to 5% in 2022. The main driver of the decrease in emissions intensity is a strong improvement in efficiency of internal combustion engines (ICE) from 212 g CO<sub>2</sub> / km in 2021 to 171 g CO<sub>2</sub> / km in 2022. Figure 10 provides an overview of the extent to which all drivers contributed to the emission intensity decrease.



Figure 10: Automotive year-on-year changes

## Automotive sector transition plan

To continue to steer on our climate targets for automotive, we aim to take the following actions in the near-term:

### Our actions in support of clients & portfolio

- Assess the emissions intensity and climate impact of all new transactions as part of our commercial business approval process by using dedicated tooling.
- Collect, assess and monitor the publicly disclosed climate transition plans of our clients (including where possible scope 1, 2 and 3 emissions, targets and investment plans) via an inhouse-developed online platform.
- Maintain a high level of awareness and understanding among ING Automotive sector colleagues about the latest Terra updates and how we're embedding targets in the business. Train colleagues in the use of the in-development tooling that assesses clients' transition plans, and increase the awareness of relationship and transaction managers about transactions that will have the biggest impact in moving our portfolio and the automotive sector closer towards climate targets.
- Engage with clients in strategic discussions about their transition strategies, seeking opportunities to support them with advice and tailored financing and investment solutions.
- In seeking new business, focus on prospective new clients who already have a high degree of electrification and/or an ambitious transition plan to grow their Electric Vehicle (EV) production.

### Our actions in collaboration with industry & market

- Continue to support companies throughout the value chain, and create internal commercial incentives to support the development of critical parts of the value chain, such as traction batteries, Electric Vehicle (EV) charging infrastructure, increasing circularity in the sector, etc.
- Promote the use of EVs in collaboration with our Retail business by, for example, providing financial incentives to assist the purchase of EVs and collaborating with lease providers to bring more affordable EV lease solutions to the market.
- ING co-leads the NZBA's Automotive & Trucking working group which is reviewing existing net zero roadmaps, indicators, data and available methodologies, with the goal of producing white papers and guides to support NZBA member banks in meeting their commitments to set net-zero targets for their own Automotive portfolios.

### Our actions to engage with government & policy

- Monitor the development of green policies, including those for recycling and waste treatment (e.g. Battery Pass in the EU for the monitoring of the battery value chain).
- Advocate for the setting of sector-wide standards and data disclosure requirements.

## Call-to-action to government and policy makers

To complement our Automotive sector transition plan, and in particular our actions to engage with government and policy, ING's Economics department has identified a 'wishlist' of policy interventions that we believe are necessary for the sector to achieve its net-zero goals. In steering our own portfolio we are dependent on these external actions to meet the 2030 and 2050 targets we've set. Given the global footprint of the automotive industry, the following steps should be undertaken swiftly and aligned across the major regional markets of China, Europe and the USA.

- Electrification:** continue to stimulate the shift to electric vehicles (EVs), by setting norms and phasing out internal combustion engine vehicles (ICEs), with the aim to gain scale in EV production, stimulate the development of product ranges, and reduce the relative total cost of ownership (TCO)/km of EVs.
- Infrastructure:** invest in the accelerated roll-out of EV-related (charging) infrastructure, shift subsidies from fossil fuels to renewable power, establish localised battery value chains and promote circular practices to secure resources in the long-term.
- Decarbonise EV value chain:** enforce EV battery recycling and hold both manufacturers and mining companies accountable for decarbonizing their production processes
- Behavioural change:** incentivise replacement of existing ICEs and stimulate the production of energy-efficient EVs by introducing CO<sub>2</sub>-related road charging systems, as well as encouraging the use of public transport and car-sharing. Educate and inform car-owners of the lower total cost of ownership of EVs versus ICEs.

### Transaction highlight: ZF Friedrichshafen

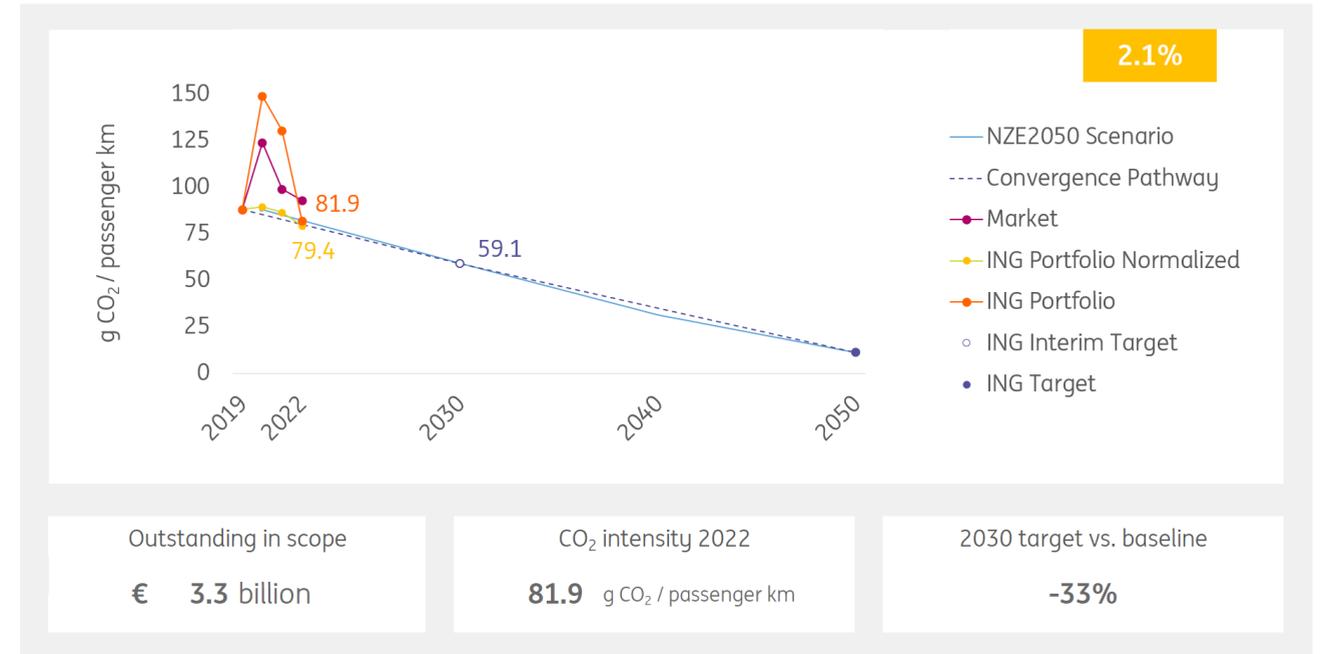
In late 2022 ING supported German technology group ZF Friedrichshafen AG (ZF) in the issuance of a €700 million sustainability-linked Schuldschein. ING acted as sole ESG advisor and one of three lead arrangers. The Schuldschein supports ZF's 'Next Generation Mobility' strategy, and for the first time ZF linked the interest rate of a Schuldschein loan to an ESG rating by EcoVadis, a leading sustainability rating agency. ING is pleased to have been involved as a trusted partner in supporting ZF with sustainable financing that helps ZF make another step towards a more sustainable future.



# Aviation



ING's Aviation sector team provides, among other products and services, financing for aircraft. The share of next-generation aircraft in our portfolio has gradually increased in recent years and is now well ahead of the global fleet average. The next-generation of aircraft are typically up to 25% more fuel-efficient than the preceding generation. Our approach and actions are focused on financing more of these next-generation aircraft so as to reduce the carbon emissions associated with the sector.



## 2022 Performance

ING's global, secured aircraft finance portfolio, which is in scope for this report amounts to c. €3.3 billion of outstandings. It encompasses 412 aircraft with an average aircraft age of 5.0 years. Of this portfolio, as per year-end 2022, 62% of the outstandings are related to the financing of next-generation aircraft (representing the lowest emission aircraft types currently available), a significant increase over just three years compared to the 25% as per our 2019 year-end portfolio. This year we therefore exceeded our goal to increase the percentage of new-generation aircraft by at least 50% by the end of 2022, underlining the commitment of ING to support the transition of the industry.

The calculation of emission intensities (CO<sub>2</sub> emissions per passenger-km per aircraft) is based on aircraft-specific information such as its number of seats and flight data from 2022 (such as average flight distance), which is supplemented by the airline's load factor and publicly available fuel consumption data. The Covid-19 pandemic had significant influence on our measurements since 2020 due to decreased load factors and shorter flight distances decreasing the relative efficiency. The ongoing recovery of the industry post-pandemic, with once again increasing load factors (79% in 2022 vs. 69% in 2021 and 82% in 2019), contributed positively to the once again improving relative efficiency of ING's portfolio in scope. However, as the aviation industry was still subject to the impact of the pandemic during 2022, we have measured the portfolio's emission intensity based on both 2022 load factor data as well as pre-pandemic 2019 load factor data. The 2019 load factor data serves as a proxy for normalising the data without the impact of Covid-19.

This allows us to understand the degree to which our own actions compared to external conditions influence the emission intensity of our portfolio.

This chart depicts the detailed breakdown of the drivers behind ING's aviation portfolio performance:



**Figure 11: Aviation year-on-year changes**

The waterfall chart illustrates that the drivers behind the decrease in emission intensity over the course of 2022 are (1) the natural development of the portfolio, constituted by the amortisation of ongoing financings and origination of new transactions with more fuel-efficient aircraft, (2) the increased operational efficiency due to an increase of load factors and average distances flown, the largest positive impact of 2022, and (3) natural movements in loan amounts outstanding over the course of the year. As a result of these drivers, portfolio emission intensity decreased from 130.4 g CO<sub>2</sub> / passenger kilometer<sup>26</sup> in 2021 to 81.9 CO<sub>2</sub> / passenger kilometer in 2022. While this result is 2.1% above the convergence pathway point of 80.3g CO<sub>2</sub> / passenger kilometer in 2022, it is 0.3% below the NZE target for aviation in 2022 at 82.1g and as such represents a significant improvement on the previous year's results. Taking into consideration the 2019 load factor, the 2022 portfolio's normalised emission intensity of 79.4 g CO<sub>2</sub> / passenger kilometer would be below the IEA's NZE scenario pathway point as well as the convergence pathway point.

<sup>26</sup> The metric 'passenger kilometer' is equivalent to the metric 'revenue passenger kilometer' or RPK, which is the metric for the kilometers travelled by paying customers

<sup>27</sup> IMPACT on sustainable aviation is a global initiative of over 30 members including respected banks, lessors, investors, law and consulting firms, and academic institutions from all over the world. impact brings together financial institutions and aviation companies that recognise clear and simple emissions standards in financing contracts as the lever to make flying more sustainable. An independent non-profit association, impact is a forum that enables various stakeholder groups to share expertise and collaborate to at last reduce emissions in a consequential way.

## Aviation sector transition plan

To continue to steer on our climate targets for aviation we aim to take the following actions in the near-term:

### Our actions in support of clients & portfolio

- Continue to refine and improve our Terra methodology, updating measurement methodologies and applying consistent standards and metrics.
- Assess the emissions intensity and climate impact of all new transactions in scope of Terra as part of our commercial business approval process, and develop dedicated tooling that supports this.
- Although most of our financing is asset-secured, collect, assess and monitor the publicly disclosed climate transition plans of the operating company or company leasing out the asset (including where possible scope 1, 2 and 3 emissions, targets and investment plans) via an inhouse-developed online platform.
- Maintain a high level of awareness and understanding among ING Aviation sector colleagues about the latest Terra updates and how we're embedding targets in the business. Train colleagues in the use of the in-development tooling that assesses clients' transition plans, and increase the awareness of relationship and transaction managers about transactions that will have the biggest impact in moving our portfolio and the aviation sector closer towards climate targets.
- Engage with clients in strategic discussions about their transition strategies, seeking opportunities to support them with tailored financing and investment solutions.
- Given that half of the global fleet is owned by leasing companies, engage with the leasing companies on calculation and reporting of emissions and setting emission reduction targets.
- Continue the focus on increasing the proportion of next-generation aircraft in our overall aviation financing portfolio.

### Our actions in collaboration with industry & market

- Partner and align with other financial institutions and stakeholders in initiatives such as IMPACT<sup>27</sup> to create more transparency and larger-scale solutions to transition the aviation sector.
- Through our participation in IMPACT, support the enablers of sustainable aviation (e.g. hydrogen/electric propulsion, [sustainable aviation fuel](#) (SAF) production) by sharing research, organising roundtables and facilitating dialogues between relevant stakeholders.
- Engage with Energy sector to explore opportunities to finance SAF production capacity.

**Our actions to engage with government & policy**

- Via IMPACT, advocate for reporting standards for airlines and lessors to create more transparency and consistency.
- Support the ING economic research team in researching policy, regulatory and market trends to monitor developments in pricing schemes and SAF<sup>28</sup>.



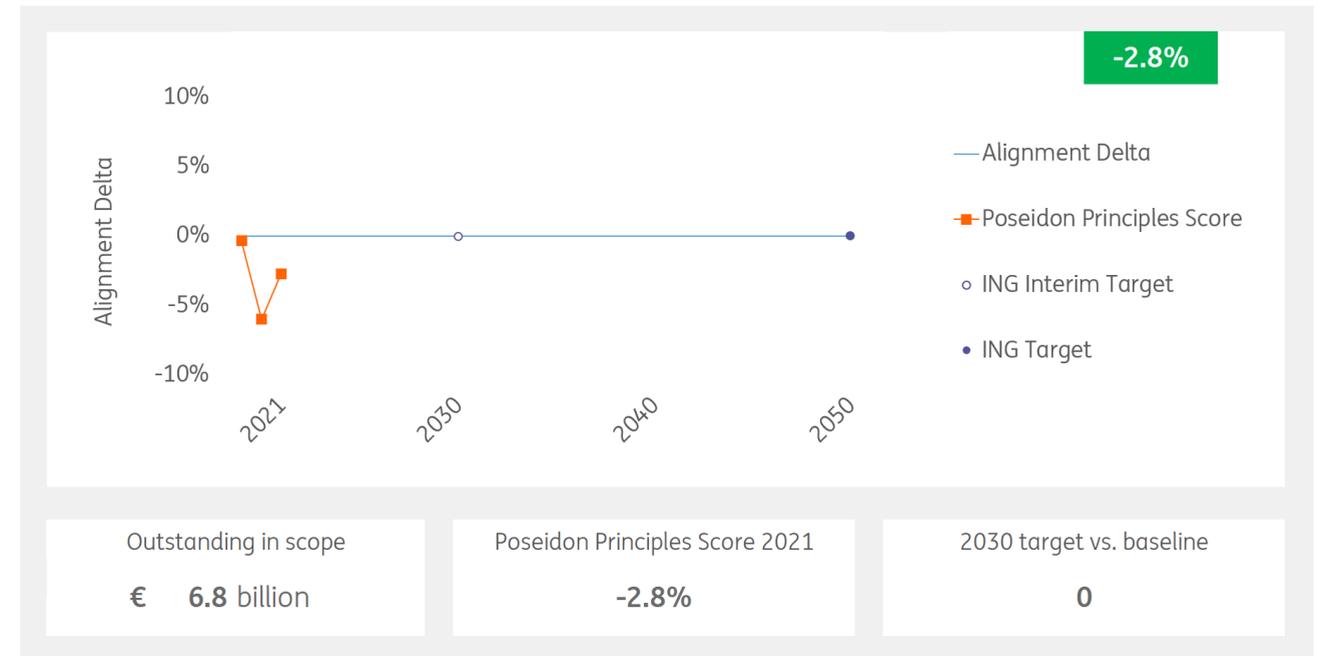
<sup>28</sup> for ING's latest economic and financial analysis on the subject of sustainable aviation fuels, please see the ING THINK article ['Stronger supply of sustainable aviation fuels crucial to securing uptake'](#)

# Shipping



ING's Shipping team principally provides finance to companies secured by vessels operating in the deep-sea sectors ('Shipping Sectors'). Our aim is to drive sustainability in this sector by engaging with our clients, financing their transitions and collaborating with key stakeholders to enable this transition.

ING was one of the founding banks of the Poseidon Principles and our lending portfolio has been in compliance with the International Maritime Organization's decarbonisation targets every year since the Poseidon Principles were established. ING is actively involved in steering the sector towards climate goals through our representation on key forums and initiatives – for example as Treasurer of Poseidon Principles, a member of the UK Clean Maritime Council, and a member of Silk Alliance, a cross-industry working group working to decarbonise container shipping in a so-called 'green corridor' between Asia and Europe.



ING is the only financial institution on the Maritime International Advisory Panel, established by the Singapore Ministry of Transport (MOT) and Maritime and Port Authority of Singapore (MPA) to seek global perspectives on key trends that will shape the maritime industry. ING is also a founder of Responsible Ship Recycling Standards (RSRS), which promotes responsible ship recycling and works to minimise the dangers associated with hazardous materials on board.

We continue to execute our strategy of financing top-tier clients who are focused on energy efficiency and are committed to energy transition.

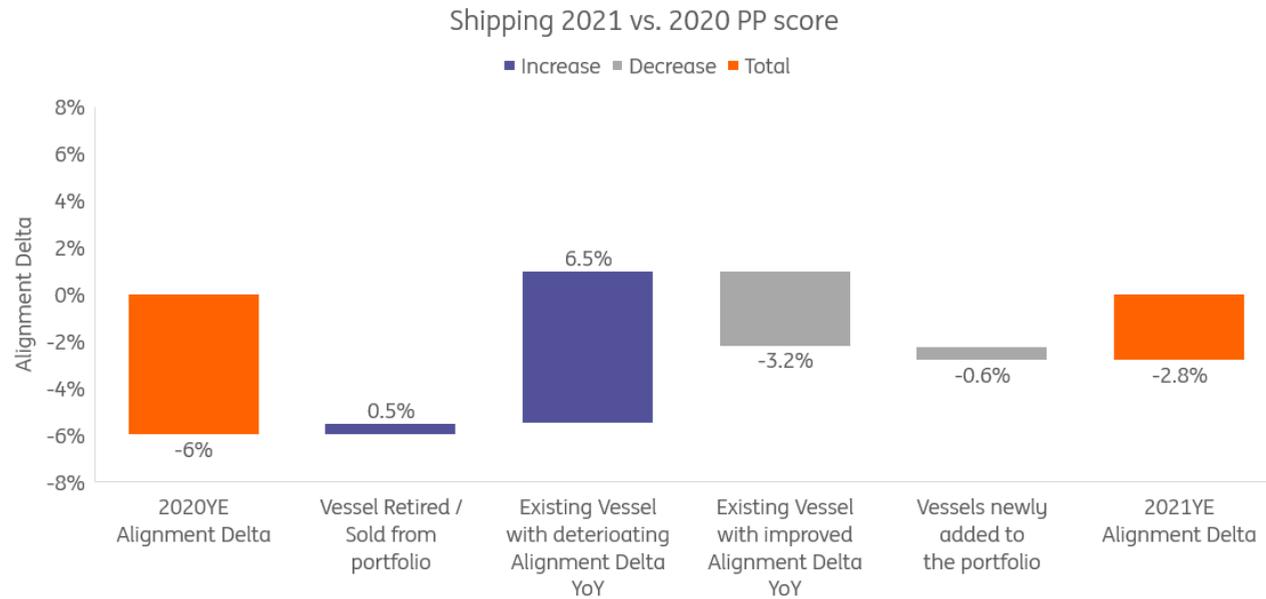
## 2021 Performance

Consistent with the Poseidon Principles (PP) methodology, we have used the actual emissions data for 2021, and we believe that accuracy outweighs timing when informing our stakeholders on sector alignment. We are in the process of collecting the 2022 emissions data for the vessels in our portfolio for the next PP annual disclosure report to be released later this year.

For the third year running, we fulfilled our commitment under the Poseidon Principles (PP) by collecting and processing the 2021 annual emission reports for about 95% of the eligible shipping portfolio we finance. After allocating the debt per ship we calculated and reported a debt-weighted portfolio alignment delta (AD)

of minus 2.8%. The score implies that our in-scope shipping portfolio remains under the Poseidon Principles trajectory and is therefore aligned with the decarbonisation pathway for the sector.

The chart below provides an overview of the different drivers that contributed to the change in portfolio alignment delta between 2020 and 2021:



**Figure 12: Shipping year-on-year changes**

The annual efficiency ratio (AER), the metric used for deriving the alignment delta, is highly influenced by the operations of the vessels. From an emissions perspective, container vessels lagged behind other segments in 2021 due to multiple factors. Pandemic related supply chain disruptions and heavy congestion in ports led to longer waiting and anchorage times. This had an adverse impact on the AERs of container vessels leading to a higher misalignment to the portfolio AD score.

As a part of its revised GHG strategy, the International Maritime Organization (IMO) recently announced a ramping up of its levels of ambition for shipping by declaring a net-zero target by or around 2050. A slew of associated regulatory measures will be discussed at the IMO in the future. It is expected that the PP trajectories will be reworked in line with IMO’s revised targets by this year.

<sup>29</sup> GreenKnot is a tool developed in ING, initially by ING Labs but now integrated into the Shipping team

## Shipping sector transition plan

To continue to steer on our climate targets for our shipping portfolio, we aim to take the following the actions in the near-term:

### Our actions in support of clients & portfolio

- Assess the emissions intensity and impact of all new deals in our credit approval process by using dedicated tooling (GreenKnot<sup>29</sup>).
- Although our financing is secured by vessels (asset-based), collect and assess the transition plan of the owner/group company where it is available.
- Maintain a high level of awareness and understanding among ING Shipping sector colleagues about the latest Terra and Poseidon Principles updates and how we're embedding targets in the business. Train colleagues in the use of the in-development tooling that assesses clients' transition plans, and increase the awareness of relationship and transaction managers about transactions that will have the biggest impact in moving our portfolio and the shipping sector closer towards climate targets.
- Engage with our clients to finance their transitions by offering dedicated products and services, like our sustainability-linked loans and bonds with specific climate-related KPIs.

### Our actions in collaboration with industry & market

- Continue our involvement in key forums and initiatives, as described above.
- Actively work with all signatories to the Poseidon Principles to continue refining the methodology and align with the most up-to-date climate targets.
- Promote and be an ambassador for the Poseidon Principles, with the aim of increasing membership and having a bigger impact.
- Collaborate across sectors and value chains (e.g. with our colleagues active in the Energy sector) to identify opportunities and connect clients to new developments on, for example, alternative fuels or carbon capture, utilisation and storage (CCUS) by organising roundtables, and sharing research and best practices.
- With the support of our Structured Export Finance team, collaborate with Export Credit Agencies to support green initiatives in the shipping sector.

### Our actions to engage with government & policy

- Via our membership of the various industry organisations referred to above, engage with relevant stakeholders to drive the actions necessary to overcome the lack of regulation regarding the energy transition of the shipping sector
- Perform research on policy, regulatory and markets developments (like the EU Emissions Trading System) and the implications for the decarbonisation of our clients and the broader shipping industry.

- Lobby ports and port authorities to provide green incentives for more energy-efficient vessels.
- As part of Poseidon Principles, engage with governments for clear guidance on the sustainability of alternative fuels (standards for fuel lifecycle analysis) and to establish market-based mechanisms to incentivise alternative fuels and work towards fuel price parity.

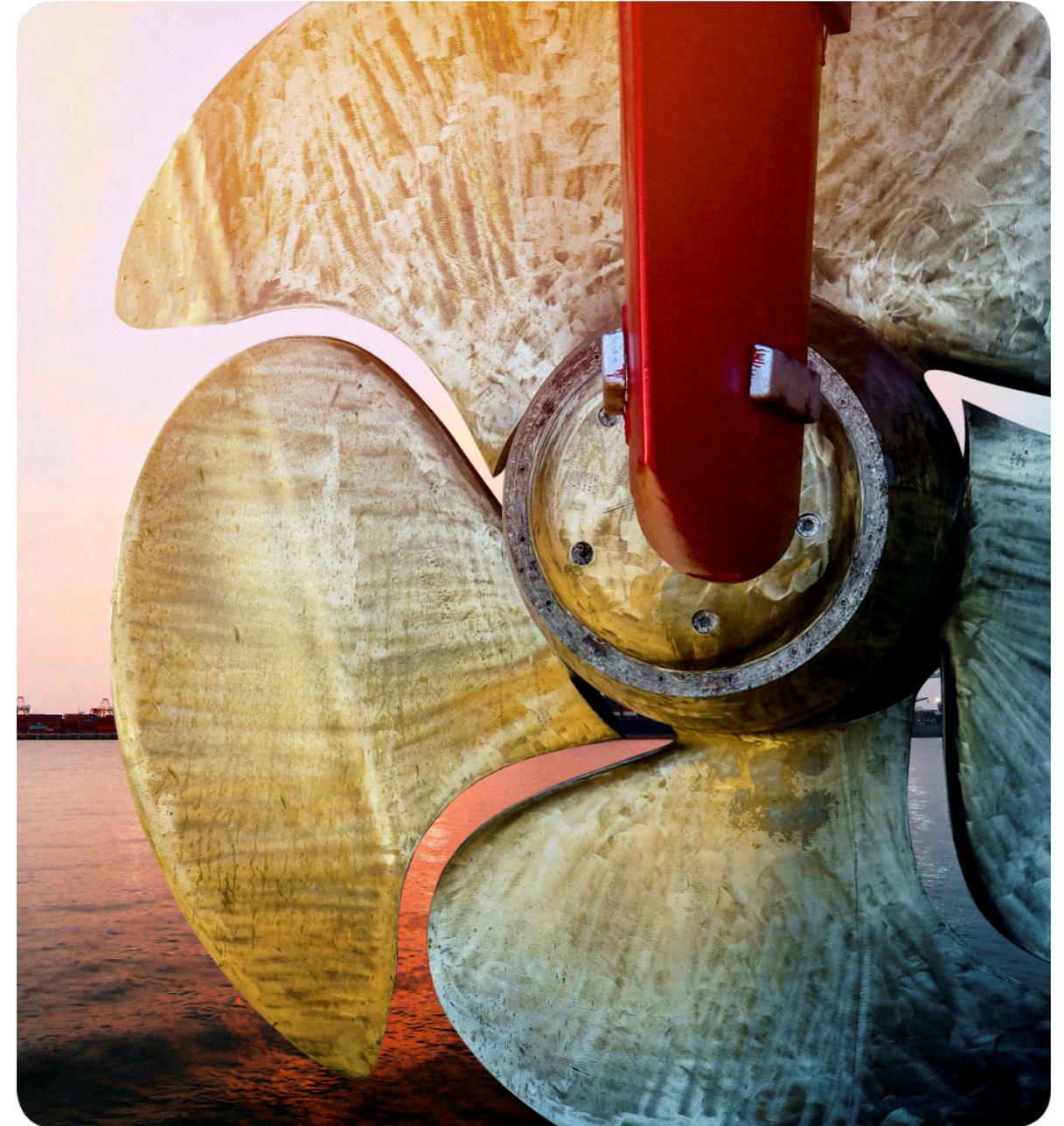
### Call-to-action to government and policy makers

To complement our Shipping sector transition plan, our sector team together with ING's Economics department have identified key policy actions that we believe are necessary for the sector to achieve its net-zero goals. In steering our own portfolio we are dependent on these external actions to meet the 2030 and 2050 targets we've set.

- **Efficiency in fleet & voyages:** significantly reduce carbon intensity of vessels and voyages through increased efficiency measures in the short-term (such as energy-saving devices, 'slow steaming', use of shore-power in ports and voyage optimisation).
- **Availability of alternative fuels<sup>30</sup>:** scale up availability of low(er) carbon fuels in ports, including drop-in fuels for existing vessels. Mandate alternative-fuel-capable new builds and retrofits for operating on low carbon fuels (produced through green pathways) including hydrogen-based e-fuels. Promote green shipping corridors to create demand for alternative fuels.
- **Carbon pricing:** introduce market-based mechanisms such as a global carbon pricing to incentivise the take-up of alternative fuels, bring about drastic reduction of emissions, and provide price parity for low carbon fuels.

### Transaction highlight: Golden Ocean Group

In the first half of 2023, ING acted as the sole sustainability coordinator for a \$250 million sustainability-linked financing for Golden Ocean Group Limited, one of the largest dry-bulk vessel operators in the world. The facility has an annual sustainability margin adjustment mechanism linked to the company's ambition to surpass the goals of the International Maritime Organization (2018).



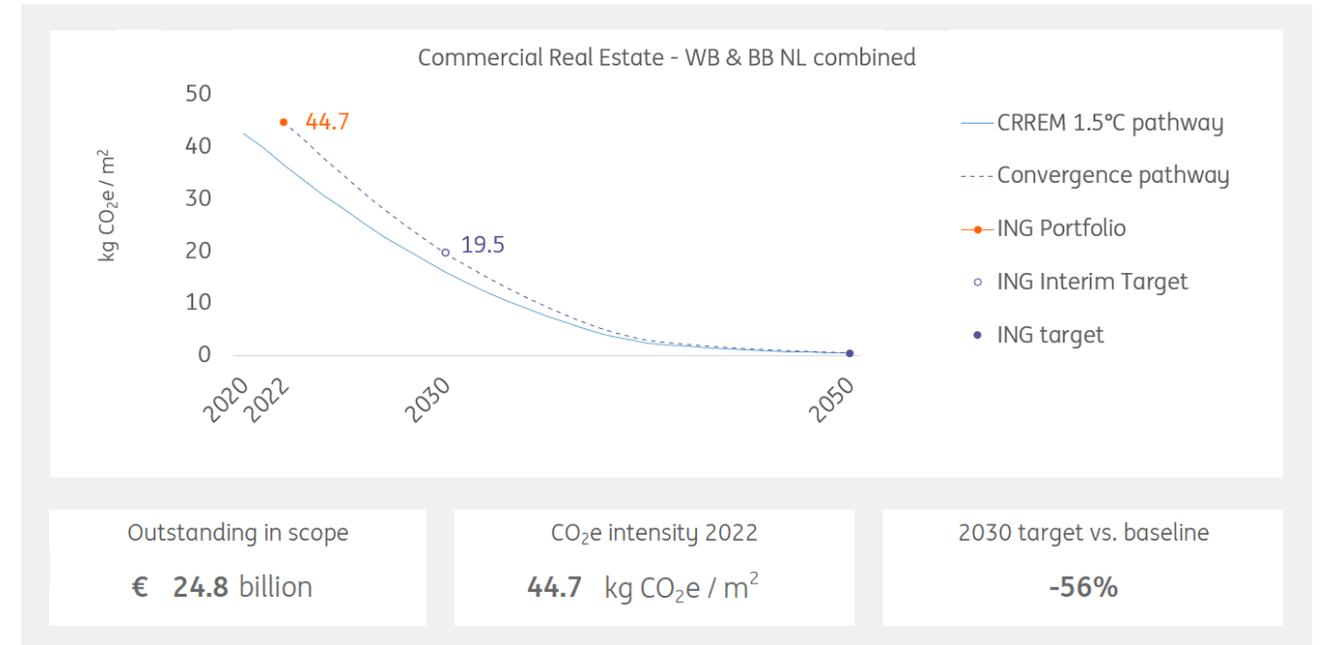
<sup>30</sup> for ING's latest economic and financial analysis on the subject of alternative fuels for shipping, please see the ING THINK article '[Synthetic fuels could be the answer to shipping's net-zero goals, but don't count on them yet](#)'

# Commercial Real Estate



ING has exposure to Commercial Real Estate (CRE) in both our Business Banking (BB) and Wholesale Banking (WB) segments. Within Business Banking, we serve both SMEs and mid-corporate clients (such as private investors and family offices). Our Wholesale Banking activities are focused on providing financing solutions for an international and institutional client base (including global asset managers, exchange-listed real estate companies / REITs, pension funds, insurance companies and family investment offices).

Real Estate Finance Business Banking Netherlands (REF BB NL) has the largest CRE portfolio (+/- €11 billion) and is considered to be the market leader. The WB lending portfolio has an exposure in a total of 15 countries (across APAC, USA and EMEA regions). Both the BB and WB CRE teams provide financing for different kinds of asset classes, mainly residential, offices, logistics and retail.



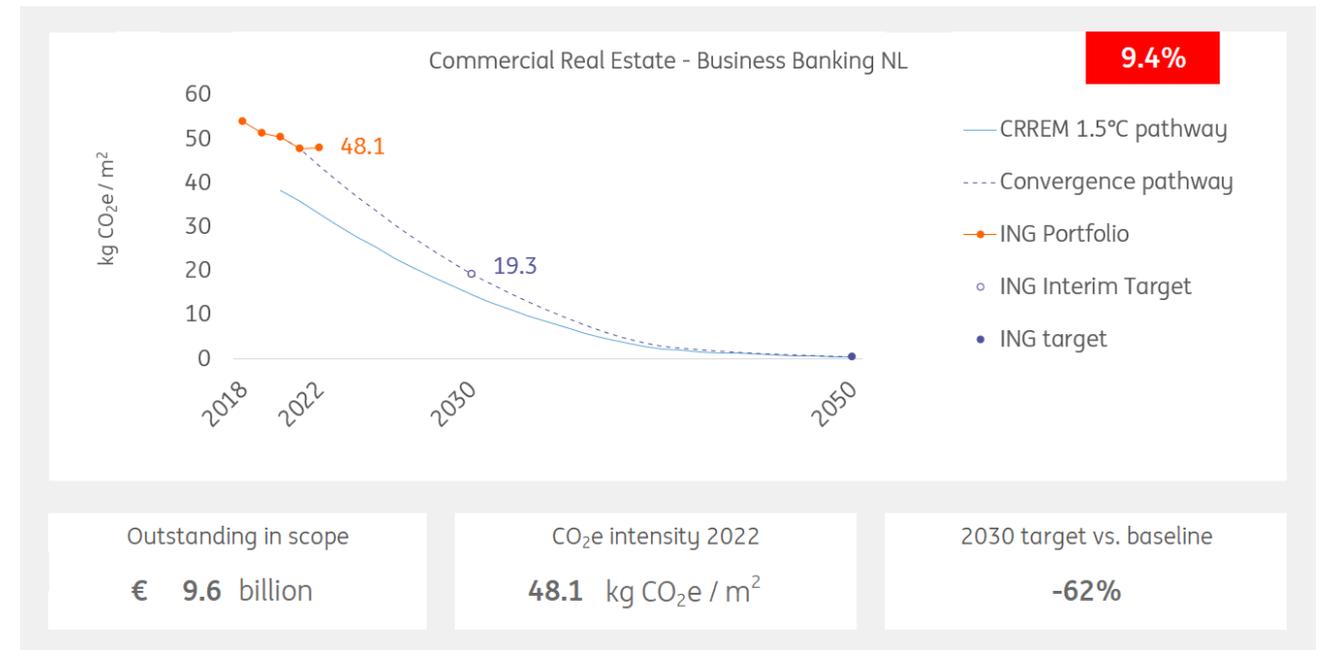
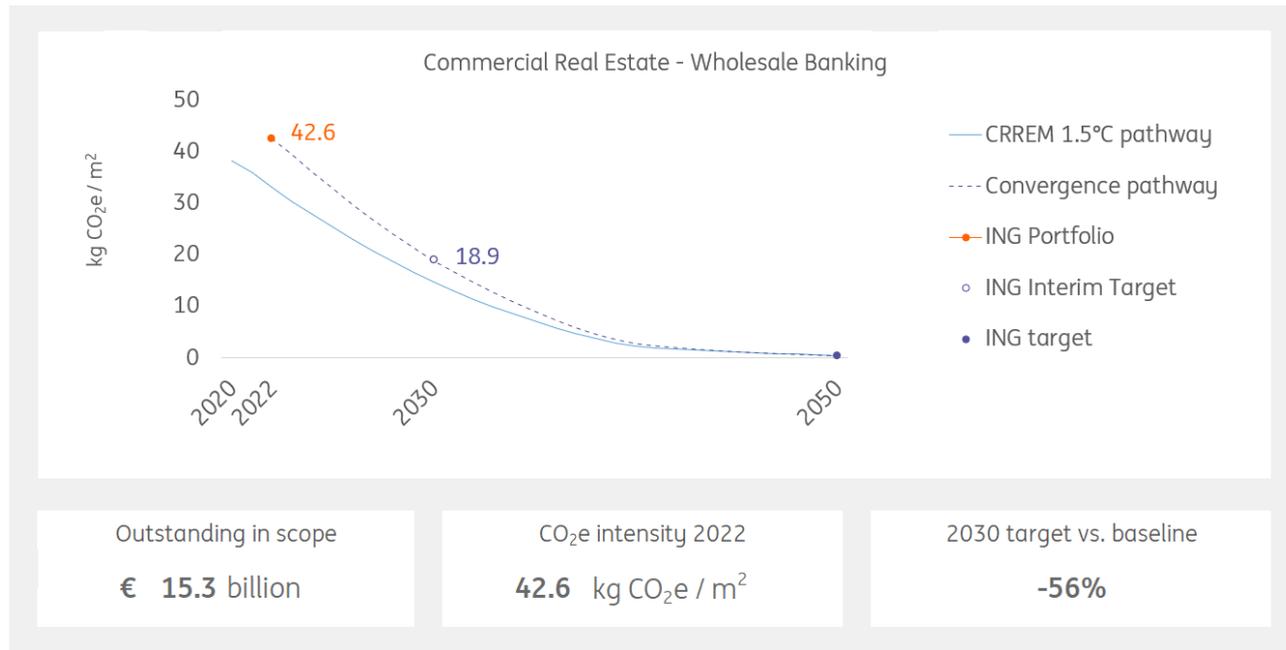
Our previous climate disclosures covered targets for Real Estate Finance in the Netherlands only. In this report we've expanded our approach to cover both WB and BB activities across our commercial real estate portfolio, showing how important sustainability is to our global business strategy for the real estate sector.

## 2022 Performance

The above chart shows the combined performance of the global Wholesale Banking portfolio and the Netherlands' Business Banking portfolio (BB REF NL).

## Commercial Real Estate (Wholesale Banking)

This year marks the first time Wholesale Banking Real Estate Finance (WB REF) has measured and is reporting on the carbon intensity of its portfolio. WB REF is active in 15 countries, each with its own regulations and energy mix. Combining all the data into a single target, and measuring performance against that target, has been challenging. The target has been calculated using the [CRREM](#) pathways (V2.02). Proxy data from Moody's in combination with PCAF emission factor data was used to determine the carbon intensity per asset, and this was weighted in accordance with the outstanding loan amount. This resulted in a carbon intensity of 42.6 kg CO<sub>2</sub> / m<sup>2</sup>, above the calculated target (see graph below). Proxy data for some countries was missing, resulting in an outstanding coverage of 68% of the secured portfolio. The goal for the coming years is to both increase the coverage and to decrease the usage of proxy data.



Similar to Wholesale Banking Real Estate, we've adopted the latest CRREM 1.5C pathways (V2.02) as benchmark for the ING REF BB NL portfolio. The pathway in the above chart is weighted by the number of different assets we have in our portfolio.

In real estate, energy efficiency (kWh/m<sup>2</sup>) is commonly used to indicate the performance of a building. Ultimately, this is where we can have the most impact. CO<sub>2</sub> emissions are largely influenced by the energy mix in a country, whereas kWh is all about the energy efficiency of the asset itself. By engaging with all of our clients and focusing on helping them to improve the energy efficiency of buildings, we are confident in our aim to steer our entire portfolio to net zero by 2050. This engagement approach contrasts with the residential real estate sector, where we are less able to directly support and influence mortgage customers to make energy-efficient improvements to their homes.

### Commercial Real Estate (Business Banking)

ING REF BB NL reports an emissions intensity of 48.1 kg CO<sub>2</sub> / m<sup>2</sup> for 2022. This is a clear decline (4.6%) since 2020, when we reported an emissions intensity of 50.4 kg CO<sub>2</sub> / m<sup>2</sup>. We are currently above the convergence pathway, however, we are confident that a further decrease of the emission intensity can be realised over the coming years.

Over the past years, we've made some changes in our reporting method. Originally, we reported an emission intensity for 2021 for the entire portfolio of 43.7 kg CO<sub>2</sub> / m<sup>2</sup> for 2021. However, due to an alteration in the reporting method, and availability of additional usable data, we need to update this number. The updated emission intensity for 2021 is 47.8 kg CO<sub>2</sub> / m<sup>2</sup>.

This update requires some extra explanation. Because we want to report consistently and uniformly, we only report about assets within our portfolio for which specific and relevant data is available. This means that for 2021 we can report about approximately €8.5 billion of our total loan portfolio<sup>31</sup>. This still results in a substantial decrease in our emissions intensity compared to 2020 (50.0 kg CO<sub>2</sub> / m<sup>2</sup>). This drop is largely explained by the increased investment in buildings with green energy labels for our clients and strategic run-off activities on non-compliant office buildings.

For 2022 we report an emission intensity of 48.1 kg CO<sub>2</sub> / m<sup>2</sup>, representing a 0.48% increase compared to 2021 (updated), and due a much larger reporting scope of our loan portfolio this year (€9.6 billion, 87% of the total REF BB NL portfolio). With this increase in reporting scope, we also report a different asset mix, which also affects emission intensities. For example, compared to last year we are able to report approximately €500 million more in retail assets (because of newly acquired data for existing assets), which

<sup>31</sup> Our total REF BB NL loan book is €10.8 billion at year-end 2021

on average have a higher emission intensity. As we strive for data consistency, we'll use the same calculations going forward. However, with our updated REF Sustainability strategy in place, that has recently been shared with our clients, we feel confident about the trajectory of our portfolio now and in the future.

Looking to the future, we'll strive to improve the data quality and expand green energy labels within our portfolio. Besides that, we want to add physical climate risks labels and mitigating measures to our Client Portal.

## Commercial Real Estate sector transition plan

To continue to steer on our climate targets for Commercial Real Estate across our Business Banking and Wholesale Banking portfolios, we aim to take the following actions in the near-term:

### Our actions in support of clients & portfolio

- Set and communicate a clear sustainability strategy and targets to our clients and our colleagues. Please note that REF BB NL already has a clear sustainability target in place, which is applied to both existing and new financings. All buildings (save for some exemptions) should have an 'A' energy label by 2030.
- Assess the emissions intensity and climate impact of all new transactions as part of our credit approval process by using dedicated tooling. Aim to increase the amount of transactions with low emissions intensity and reduce the amount of transactions with high emissions intensity.
- Collect and assess the transition plans (including scope 1, 2 and 3 emissions, targets and investment plans for achieving energy label 'A' or equivalent by 2030) of all Wholesale Banking and (Netherlands-based) Business Banking Real Estate Finance clients and other relevant industry players (for reference and comparison). Develop tooling to track the implementation and progress of these plans.
- Maintain a high level of awareness and understanding among ING colleagues about the latest Terra updates and how we're embedding targets in the business. Train colleagues in the use of the in-development tooling that assesses clients' transition plans, and increase the awareness of relationship and transaction managers about transactions that will have the biggest impact in moving our portfolio and the commercial real estate sector closer towards climate targets.
- Continue and increase the tangible initiatives to support our clients in their sustainability transitions. We want to increase the number of sustainability improvement loans within WB and sustainable loans within BB. We also aim to continue the roll-out of specific REF BB NL products & initiatives (such as the Vastgoedbos initiative, free scans and energy labels), possibly also expanding to WB.
- Pro-actively engage & challenge clients about their transition strategies, seeking opportunities to support them with advice and tailored financing and investment solutions.
- Both for WB and BB, increase contribution to the ING Green Bond framework by increasing eligible assets (i.e. 'A' label or equivalent buildings, with selection done on a country-by-country basis).

### Our actions in collaboration with industry & market

- Bring clients together with industry leaders and data & technology leaders (like CBRE, CFP, GRESB, etc.), to discuss how to make sure they are following science-based pathways, how to apply the best methodologies, and where to find the necessary support - thereby enabling our clients to have the right data and reporting in place.
- Cooperate with national real estate players (owners, lenders, real estate organisations, technical advisors) to help develop standards, set new benchmarks and share experiences and best practices from the different countries where ING is active in the sector.
- Give our best performing clients a platform to show concrete sustainability projects / achievements.
- Share our knowledge and thought leadership at relevant real estate events, such as PROVADA, EXPO REAL and MIPIM.

### Our actions to engage with government & policy

- Actively participate as a member of the World Economic Forum, GRESB, mortgages-focused banking associations and other relevant regional or international real estate organisations, Mortgage Bank Organizations, and engage with regulatory bodies like EU and national governments.
- Monitor relevant national policy developments in our key markets (for example, the decarbonisation of energy grids) and provide annual updates to our clients on these sustainability-related topics and trends.
- Advocate for aligning green/transition definitions and methodologies across borders.
- Advocate with peers and other stakeholders for the implementation of national public property databases incl. energy performance certificate (EPC) data.

## REF BB NL sector transition plan

We've set the ambitious goal of being 'Paris-proof' by 2045. To achieve this, together with our steering efforts, we've created a series of milestones towards 2025, 2030 and 2045. These milestones are as follows:

- By 2025, we aim to have received received plans of action from all our clients that describe how they will shift all assets to an 'A' label or better;
- By 2030, we aim to have delivered on our ambition to shift all assets to an 'A' label or better;
- By 2035, we plan to have identified a strategy that works towards 'Paris-proof' by 2045; and
- By 2045, we intend to have executed our 2035-set ambition to be 'Paris-proof'.

## Call-to-action to government and policy makers

To complement our Commercial Real Estate sector transition plan, and in particular our actions to engage with government and policy, our sector team together with ING's Economics department have identified a 'wishlist' of policy interventions that we believe are necessary for the sector to achieve its net-zero goals. In steering our own portfolio we are dependent on these external actions to meet the 2030 and 2050 targets we've set. We need stricter climate policies to transition building stock and limit transition risks.

EU legislation on sustainability in real estate, including climate-related policies, is being developed (for example the 2021 revision of the Energy Performance of Buildings Directive (EPBD), adopted in early 2023), however the requirements for the real estate sector from current legislation are still limited, and sometimes voluntary. We therefore believe that it's necessary to urgently implement a blend of subsidies, regulations and norms that incentivise the deployment of decarbonisation measures (like insulation and heat pumps) and limit transition risks. We also see the need for norms and regulation on data measurement and disclosure. Data measurement is a precondition for managing CO<sub>2</sub> emissions. The real estate sector should be required to measure and disclose the CO<sub>2</sub> emissions of buildings, and define strategies to fill in 'data gaps'. Sound data measurement is not only needed to reduce emissions, but is also a way to anticipate (future) legal reporting requirements. Data quality and disclosures should be ensured via central registration.

### Transaction highlight: ECP Curno

In April 2022 ING closed a €66.5 million transaction with ECP Curno, the Italian subsidiary of Eurocommercial Properties NV, to refinance the Curno Shopping Centre (near Bergamo, Italy). The property benefits from BREEAM 'Very Good' certification, which qualifies for a Green Loan in accordance with ING's Sustainable Finance criteria. By adding an asset like this, we actively steer our lending portfolio towards net-zero. And in line with the future sustainability improvement ambitions of the client, we also agreed on a sustainability-linked loan structure with four sustainability KPIs that focus on (i) increasing renewable electricity usage beyond 70%; (ii) reducing waste-to-land fill to almost 0% in the next 5 years on parent-company level; (iii) increasing the number of green leases every year; and (iv) reducing operational CO<sub>2</sub> emissions of the centre itself by 50% over the next 5 years. If the client shows positive performance against these KPIs they will benefit from a margin reduction.

## Spotlight on ING Real Estate Finance Business Banking the Netherlands (ING REF BB NL)

With the Paris Climate Agreement as our guideline, ING REF BB NL has worked hard to make its loan portfolio more sustainable. We're convinced that sustainability is a key risk driver in our journey towards a future-proof portfolio, as sustainable assets are more bankable, they possess less financial risk and are easier to distribute to other financiers. Even though we experience a challenging market in the Netherlands due to regulations and the economic situation, we feel the need, as a frontrunner in sustainability, for more and better sustainability offers in the real estate sector. With the EU Taxonomy already in place, and regulatory extensions imminent, ING REF BB NL has set a clear strategy (our 'Sustainnovation' strategy, where sustainability and innovation go hand-in-hand) with a short-, medium- and long-term view towards 2025, 2030 and 2045.

ING REF BB NL's Sustainnovation strategy is based on clear and ambitious goals. Implementation rests on three essential pillars:

- **urgency:** encouraging and helping clients to set clear and measurable long-term sustainability goals that drive immediate action. We've requested that clients create sustainability action plans for all of their ING-financed assets, showing how they'll achieve an 'A' energy label by 2030.
- **insight and advice:** informing, inspiring and providing insight and advice to our clients on the latest sustainability trends, innovations, opportunities and risks. Via an app in our client portal, we provide full digital insight into where the portfolio stands and how the client can improve buildings in combination with the outstanding loan position. And over the past two years, we provided around 1,500 free energy labels and 400 sustainability scans, giving clients actionable insight into the sustainability and improvement potential of their asset(s).
- **financial products:** we offer several products to help our clients make their real-estate portfolios more sustainable – like our sustainability loan that provides discounted financing to incentivise clients to make the improvements necessary to achieve an 'A' energy label. Since its launch in April 2021 as the first sustainability loan in the sector, we've financed more than €40 million in sustainability-related improvements to our existing portfolio.

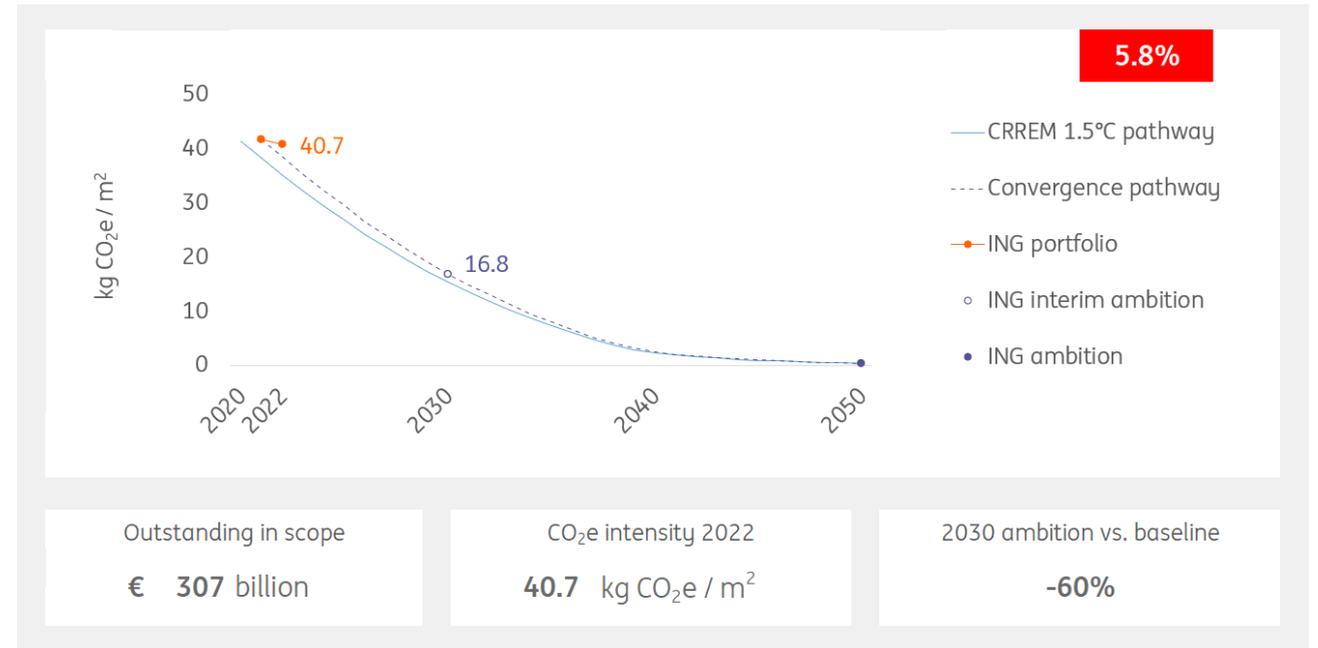
# Residential Real Estate



The operation of buildings, including homes, accounts for around 30%<sup>32</sup> of GHG emissions worldwide, and hence is a critical sector to address in global net-zero plans. In order to achieve net zero in residential real estate, policy and regulatory intervention from governments is required.

In residential real estate, more so than in other sectors, reaching net-zero-aligned milestones for 2030 and 2050 is to a great extent dependent on the national energy mix of the countries where homes are located. Greening the energy mix available to homeowners is therefore arguably the most important factor for the residential real estate sector to reach net zero, and this requires that governments and the power sector take swift action to shift to renewable energy.

<sup>32</sup> IEA (2022), Buildings, IEA, Paris



It's our view that the energy efficiency of homes, as represented by their energy labels, is likely to be the next most important factor. This is something which we as a bank can influence, but the willingness and ability of homeowners to upgrade the energy efficiency of their homes is crucial to drive progress. Here again governments are a critical stakeholder, as they set policy which mandates and incentivises (energy-efficient) renovation standards. Homeowners and all members of a household can also positively influence performance in another way: by reducing their energy usage at home.

## 2022 Performance

In line with our NZBA commitment, we refer to the 2030 and 2050 milestones shown in our performance charts as 'targets' related to our portfolio. There is, however, a distinct difference between milestones in this sector compared to other sectors that we set targets for as part of our Terra approach.

To reach net zero, homes in ING's mortgages portfolio should reach an average CO<sub>2</sub>e intensity of 16.8 kg CO<sub>2</sub>e / m<sup>2</sup> in 2030 and 0.3 kg CO<sub>2</sub>e / m<sup>2</sup> in 2050. These milestones are informed by our convergence pathway with the latest net zero pathways published by the Carbon Risk Real Estate Monitor ([CRREM V2.02](#)). Our portfolio reporting covers our six largest mortgages markets, representing approximately 96% of our mortgages book (excluding WestlandUtrecht Bank) in terms of outstanding. Compared to last year, Belgium

has been added to the total portfolio figure as their measurement is now aligned with CRREM and the other five ING countries - those being the Netherlands, Germany, Poland, Spain and Australia.

Our figures are updated to align with the updated CRREM methodology. This means taking into account all energy used in/for the home but excludes the emissions from transmission and distribution losses. For more detailed methodology notes per country, please see the [Annex](#).

At year-end 2022, the CO<sub>2</sub>e intensity of our combined mortgages portfolio was 40.7 kg CO<sub>2</sub>e / m<sup>2</sup>. Compared to the sector convergence pathway we can say that our combined mortgages portfolio is ‘not on track’. There is however progress compared to 2021, thanks to improvements in the emissions from the grid in the six markets, and to some renovations resulting in improved Energy Performance Certificate (EPC) labels. The Netherlands, Poland, Spain and Australia all showed improved alignment with their respective convergence pathways.

**Margin of error due to deficiencies in data and methodologies**

Deficiencies in data availability and/or the methodology options used in some markets, when taken collectively, may cause us to appear further off-track than we likely are. While we strive to show an as-accurate-as-possible collective portfolio view, we also show country-level progress charts to give better insight into how the portfolio is transitioning in each market (see figure on right-hand side of this page). We’re committed to continually improving our data and methodologies to enable us to report more accurate progress.

**Residential real estate sector transition plan**

We steer our mortgages portfolio at both global and national level, with a focus on our six largest mortgages markets. Most homes in our portfolio need to undergo deep and thorough renovations to align with net zero pathways. The investment in housing renovation required to reach net zero will be significant - in Belgium, for example, costs are forecast at up to 1.5% of national GDP. This is a massive challenge for homeowners (particularly those most vulnerable) and housing renovation companies, and requires significant government intervention to regulate, incentivise and support.

Despite this reliance on external factors to be able to meet our milestones, ING is committed to supporting and empowering our customers through the transition with a range of relevant services and products. And to drive transition planning in each market, we’re building a quantitative model to forecast the composition and CO<sub>2</sub>e intensity of our mortgages portfolio, and which will help us focus on those drivers that we can influence as a bank. Germany is piloting a country-specific transition plan with business targets and initiatives to achieve 1.5°C alignment by 2030, and we’re expanding the approach to other markets.



### Our actions in support of customers & portfolio (information & tooling)

- Our net-zero transition plan for housing aims to inspire, inform and activate customers to improve the sustainability of their homes. This includes providing access to renovation platforms that help customers to determine what renovation actions to take, link them to renovation contractors, and connect them to financing to pay for the necessary improvements. These platforms include homeQgo in the Netherlands and a renovation calculator built in partnership with KfW Bank in Germany.
- We strive to raise awareness and educate customers, and have made increasing amounts of information available. Like in Belgium, where we've launched a Sustainable Buildings Guide, a free digital tool that helps customers identify which investments to make to improve the energy performance of their homes. In all markets, we're providing renovation-related insights to customers via email newsletters and our websites. In the Netherlands, our web pages on sustainable housing have been visited more than 200,000 times.
- We also continue to build our customer advisory services, for example in the Netherlands where our mortgage advisors receive training so as to be able to advise customers during mortgage consultations on how they can improve the sustainability of their homes. In both Belgium and Germany we're training advisors and mortgage brokers on eco-renovation so as to be able to better advise customers interested in improving the sustainability of their homes.
- As we make these platforms, content and services available to more and more customers, we intend to test and analyse what has the most positive impact on customer behaviour – using our insights to develop new services that encourage customers to make the transition to more energy-efficient homes.

### Our actions in support of customers & portfolio (financing change)

- We focus on financing sustainable homes and renovations through secured and unsecured lending, and aim to offer sustainable lending products in all relevant markets by 2025.
- Sustainable mortgages which provide an incentive to customers choosing A-label (or the most energy-efficient homes) are available in the Netherlands, Germany, Luxembourg, Italy and Romania. In Poland we support customers in making sustainable decisions with a mortgage for energy-saving houses. In the Netherlands we also offer mortgage features that encourage renovation, for example higher loan-to-value ratios to cover cost of renovations, and options for existing mortgage customers to increase their borrowing to cover renovation costs.
- We also offer unsecured sustainable consumer loans that can be used for energy-efficiency renovations in Belgium, Germany, Luxembourg, Romania and Poland.
- In addition to our own financing, we contribute to efforts that connect homeowners to public financing – like our financing (through our Business Banking lending) of the Warmtefonds (National Heat Fund), which aims to have both a positive environmental and social impact by enabling low-income households in the Netherlands to make their homes more sustainable .

### Our actions in collaboration with industry & market

Stimulating the necessary increase in sustainable renovations requires engagement and collaboration with systemic partners, such as government, peer banks, the construction and renovation industries, the energy sector and homeowner associations. By working together we can address systemic issues and find shared solutions.

- In Germany we're contributing to initiatives to improve the collection and sharing of EPC labels and the enhancement of ESG data availability, like our involvement in the ESG data working group of the Association of German Builders (BdB Arbeitskreis). We're also a member of the ZIA, the main real estate industry association, and we're exploring partnerships with major renovation service providers.
- In the Netherlands, we're participating in the PCAF working group that's exploring how to base CO<sub>2</sub> measurements real energy use rather than estimates based on EPC labels. We also collaborate on topics related to the housing transition with the likes of the Dutch banking association (NVB), the Energy Efficient Mortgages Hub, and the Netherlands Organisation for Applied Scientific Research (TNO).

### Our actions to engage with government & policy

As already highlighted, reaching net-zero milestones in residential real estate is largely dependent on the national energy mix of the countries where the homes are located, and requires governments and institutions to accelerate the installation of new renewable electricity capacity and shift away from fossil fuels like coal, oil, and natural gas.

Governments also have a primary role to play in driving changes in consumer behaviour by mandating, incentivising, and supporting homeowners to make sustainability an integral consideration when constructing or renovating their homes. While the take-up of our sustainable housing products and services has shown the promise of change to come, we note that demand among customers is still not at the level required to drive the transition.

We continue to engage with government and regulators, like in Australia, where we participate in discussions with government and banking sector peers to advocate for improvements to the data and systems used to understand household energy use. In both the Netherlands and Belgium we participate in round-table discussions with government on how to finance improvements in energy efficiency, also participating in regional Belgian working groups aimed at accelerating sustainable home renovations. At EU level we've contributed (as a member of the steering committee) to the Energy Efficiency Financial Institutions Group and to the evolving Energy Performance Buildings Directive (EPBD), and generally seek opportunities to engage on energy efficiency policy.

## Supporting a just transition

Like in other sectors, we take an inclusive approach in empowering our mortgage customers to improve their CO<sub>2</sub>e efficiency. Should the EPBD or other regulation result in minimum energy performance standards, mandating renovation for homeowners with certain 'substandard' labels from 2030, then this would likely create challenges for vulnerable households that are unable to undertake or afford the necessary renovations in time.

As banks are bound by regulation on creditworthiness assessments, responsible lending frameworks and a stringent risk framework, certain vulnerable households may not be eligible for a mortgage or an unsecured renovation loan. In line with the principles of a just transition, we encourage EU Member States to promote and facilitate the transition of housing stock by supporting homeowners to renovate with the use of subsidies, benefits and state guaranteed loans. We believe that a 'guarantee' fund backed by the European Union could be the solution, with banks acting as facilitators or distributors on behalf of such a fund.



# Financed emissions

In addition to emission intensity metrics, we also monitor and publish our financed emissions. We believe this increases the transparency of our climate disclosures. Financed emissions are absolute emissions associated with our lending and investment activities, also known as absolute GHG scope 3 category 15 emissions, and we measure them using the Global GHG Accounting and Reporting Standard for the Financial Industry (developed by PCAF - the Partnership for Carbon Accounting Financials).

We use financed emissions and intensity metrics in a complementary way. Analysing financed emissions helps us to identify hotspots in our portfolios. For the relevant hotspots, where available data and methodologies allow, we select the most suitable methodology and metric to apply to each sector's activities as per our Terra toolbox approach. All the tables in this section refer to our books as per year-end 2022.

**Table 16: ING's financed emissions per asset class and business line as per YE2022**

Asset Class	Outstanding in EUR billion	Measured in EUR billion	Outstanding coverage	Financed emissions in kt CO <sub>2</sub> e	PCAF data quality score
Residential Real Estate (Mortgages)	326.9	326.9	100%	7,018	3.8
Commercial Real Estate (incl. REF NL)	36.2	-	-	-	-
Business Loans - Wholesale Banking	187.1	186.9	100%	43,516	3.6
Business loans - Retail Banking (excl. REF NL)	87.1	87.1	100%	10,762	5.0
<b>Total Lending In Scope</b>	<b>637.3</b>	<b>600.9</b>	<b>94%</b>	<b>61,295</b>	<b>3.9</b>
Total Equity Investments	3.6	3.5	98%	80	5.0

REF NL = Real Estate Finance Netherlands

Our estimates currently cover our lending and equity books, including both Wholesale and Business Banking, as at year-end 2022. All the relevant positions to the Greenhouse Gas Protocol Standard are covered in our lending book, except for the Commercial Real Estate sector which is not yet measured due to internal data quality limitations. We expect, however, to also disclose emissions related to Commercial Real Estate in ING's next annual report (the 2023 ING Annual Report, to be published in March 2024) following data quality improvements performed over 2023. By the same date, we aim to measure and disclose the emissions associated with the remaining investment products currently not covered, namely our sovereign bond portfolio, using the PCAF methodology published in December 2022. And we also aim to measure and

disclose our facilitated emissions related to capital markets instruments, as soon as the PCAF methodology for such products is finalised.

This year's calculations for ING resulted in an estimate of 61.4 million tons of CO<sub>2</sub>e, including our clients' scope 1 and scope 2 emissions. 99.9% of the emissions are associated with our lending book portfolio, while the remaining 0.1% is associated with our equity book. The lending book can be further broken down in 71% of emissions coming from our Wholesale Banking clients (corporates), 18% coming from our Business Banking clients and 11% coming from our mortgages portfolios. While our financed emissions disclosure is currently limited to the scope 1 and scope 2 emissions of our clients, we aim to disclose client scope 3 emissions in coming disclosures where data quality allows. Our membership of PCAF (as from April 2023) also comes with a commitment to disclose the scope 3 emissions of clients for certain sectors, and we aim to fulfil this commitment as soon as possible.

**Table 17: Detailed breakdown of emissions associated with our Wholesale Banking book**

NAICS Sector	Outstanding in EUR million	Measured in EUR million	Financed emissions in kt CO <sub>2</sub> e	Scope 1 share in Financed Emissions	Relative Contribution	PCAF data quality score
Accommodation and Food Services	961	961	23	54%	0%	3.5
Admin, Support, Waste Man., Remediation	3,308	3,308	446	95%	1%	3.4
Agriculture, Forestry, Fishing and Hunting	679	679	1,328	100%	3%	4.6
Arts, Entertainment, and Recreation	229	229	4	37%	0%	4.0
Construction	1,609	1,609	61	88%	0%	3.3
Educational Services	81	81	1	46%	0%	4.3
Finance and Insurance	47,094	47,094	82	76%	0%	4.0
Health Care and Social Assistance	1,024	1,024	19	39%	0%	3.6
Information	9,239	9,239	199	62%	0%	3.6
Management of Companies and Enterprises	1,835	1,835	91	79%	0%	3.5
Manufacturing	38,678	38,678	9,044	86%	21%	2.9
Mining, Quarrying and Oil and Gas Extraction	6,215	6,215	4,496	99%	10%	3.2
Other Services (except Public Administration)	212	212	9	63%	0%	4.1
Professional, Scientific and Technical Services	4,598	4,598	178	77%	0%	3.3
Public Administration	1,769	1,769	89	43%	0%	4.8
Real Estate and Rental and Leasing	8,633	8,633	194	87%	0%	3.7
Retail Trade	5,064	5,064	246	79%	1%	3.3
Transportation and Warehousing	19,744	19,744	9,939	100%	23%	4.2
Utilities	18,473	18,231	14,554	93%	33%	3.9
Wholesale Trade	17,685	17,685	2,513	85%	6%	3.4
<b>Total Wholesale Banking Lending</b>	<b>187,131</b>	<b>186,888</b>	<b>43,516</b>	<b>93%</b>	<b>100%</b>	<b>3.6</b>

Wholesale Banking unmeasured wholesalebanks business loans are mainly due to data quality of PCAF emission factor for the corresponding NAICS code

Table 17 above and the following tables (18 & 19) provide a breakdown of our portfolios and associated emissions. The Wholesale Banking portfolio uses the NAICS industry classification coding, while the Business Banking portfolio uses the NACE industry classification coding as per our internal management purposes. Next year, we intend to disclose both breakdowns using the NACE industry classification to align with the European regulatory disclosures for financed emissions.

**Table 18: Detailed breakdown of emissions associated with our Business Banking book**

NACE Sectors	Outstanding in EUR Million	Measured in EUR million	Financed Emissions in ktCO <sub>2</sub> e	Scope 1 share in Financed Emissions	Relative Contribution	PCAF Average Score
Accommodation and food service activities	1,680	1,680	75	54%	1%	5
Activities of households as employers...	265	265	6	16%	0%	5
Administrative and support service activities	3,624	3,624	353	92%	3%	5
Agriculture, forestry and fishing	3,253	3,253	3,796	97%	35%	5
Arts, entertainment and recreation	497	497	12	39%	0%	5
Construction	7,368	7,368	285	94%	3%	5
Education	700	700	18	61%	0%	5
Electricity, gas, steam and airco supply	1,858	1,858	1,052	94%	10%	5
Financial and insurance activities	3,295	3,295	99	93%	1%	5
Human health and social work activities	5,375	5,375	177	50%	2%	5
Information and communication	1,424	1,424	165	84%	2%	5
Manufacturing	12,058	12,058	1,933	86%	18%	5
Mining and quarrying	127	127	313	100%	3%	5
Other service activities	850	850	43	55%	0%	5
Professional, scientific and technical activities	5,127	5,127	341	90%	3%	5
Public administration and defence...	8,791	8,791	205	73%	2%	5
Real estate activities	9,504	9,504	60	72%	1%	5
Transportation and storage	4,915	4,915	729	97%	7%	5
Water supply; sewerage, waste...	653	653	376	97%	3%	5
Wholesale and retail trade...	15,690	15,690	725	99%	7%	5
<b>Total Business Banking Lending</b>	<b>87,054</b>	<b>87,054</b>	<b>10,762</b>	<b>92%</b>	<b>100%</b>	<b>5</b>

**Table 19: Extract of financed emissions associated with the Wholesale Banking sectors covered via Terra**

Terra Sector	Outstanding in EUR Million	Measured in EUR million	Financed Emissions in ktCO <sub>2</sub> e	Scope 1 share in Financed Emissions	Relative Contribution	PCAF Weighted Average
Automotive	3,314	3,314	44	56%	0%	2.6
Cement	651	651	1,678	97%	7%	3.4
Mid & Downstream Oil & Gas	7,152	7,152	3,036	98%	13%	3.5
Power	9,608	9,608	10,002	100%	43%	4.3
Steel	3,127	3,127	1,580	93%	7%	4.2
Upstream Oil and Gas	1,745	1,745	2,313	99%	10%	3.5
Aviation	3,284	3,284	1,836	99%	8%	3.8
Shipping	5,345	5,345	2,729	100%	12%	4.3
<b>Total Terra in Wholesale Banking Lending</b>	<b>34,226</b>	<b>34,226</b>	<b>23,219</b>	<b>99%</b>	<b>100%</b>	<b>3.8</b>

The amounts outstanding in tables 17, 18 and 19 may differ from the Terra-reported ('measured') outstandings. For financed emissions, all on-balance sheet lending products are considered following PCAF methodology, where Terra follows specific methodologies when it comes to product scoping - see the [Metrics and targets section](#) on Terra and [Appendix A](#) for further information about scoping per sector and potential differences between the reported outstanding in this table and in the Terra section.

### Data quality, limitations and difference with 2021 figures

We have scored the data quality of our emissions data following the data quality scoring in PCAF's Global GHG Accounting and Reporting Standard. In this standard, data quality score 1 and 2 relates to high quality data coming from a company's disclosure or actual asset-level data, whereas data quality 4 and 5 relates to low quality data, i.e. based on revenue or sector average proxies. In the tables above, the weighted average data quality score per asset class or sector is listed.

By applying PCAF methodology to calculate financed emissions, we use the highest quality data currently available to ING and possible for each asset class. Except for verified or unverified emissions collected from the borrower or investee company directly via the [Carbon Disclosure Project \(CDP\)](#), the primary source of emissions data across asset classes is emissions factors provided by the PCAF database - EXIOBASE.

In ING's [2022 Climate Report](#), we estimated our financed emissions associated with the whole lending book to be 56 million tons of CO<sub>2</sub>e at year-end 2021. The financed emissions results of the previous years are not easily comparable to this year's results amounting to 61.3 million tonnes of CO<sub>2</sub>e at year-end 2022 due to fluctuations caused by (1) changes in outstandings of our clients, (2) changes in financial data (i.e. Enterprise Value and other balance sheet financial indicators), (3) fluctuations in FX movements and (4) other data quality improvements. It's important to note that such fluctuations are still to be expected in the coming years, with decreasing magnitude over time as absolute emissions reporting becomes more accurate, granular and standardised for our clients, which will allow us to have more accurate and stable measurements.

## Update of previously disclosed data

For this disclosure of emissions associated with our 2022 year-end positions, compared to the same information published in ING's 2022 Annual Report, we improved the data quality of our balance sheet data for our clients in Wholesale Banking. This update resulted in higher ING-attributed emissions. In addition, the outstanding in scope of the financed emissions calculations has been updated for Wholesale Banking and Business Banking to comply with PCAF methodology, which requires us to include only funded (on-balance exposures) in the measured outstanding - while we had previously also included unfunded exposure. Therefore, while ING generally reports guarantees as outstanding, these positions are now deducted from the ING reported outstanding in line with the PCAF GHG Accounting and Reporting Standard, resulting in lower financed emissions. Compared to the reported financed emissions in our 2022 Annual Report, the net effect of these two improvements led to an increase of financed emissions of 9.4% compared to the reported financed emission in the 2022 Annual Report of 56,008 in kt CO<sub>2</sub>e.



# Financing the transition of clients and customers

To accelerate financing in line with a net-zero economy, we've set targets for financing that contributes to the transition of our corporate, SME and mid-corporate clients, while offering retail customers green alternatives to key retail products, in particular in mortgages.

## Wholesale Banking

In 2022 we set the ambition to mobilise an annual amount, by 2025, of €125 billion in financing that contributes to our corporate clients' transitions to more sustainable business models. The volume of finance is defined as loan products, capital markets, derivatives and advisory propositions that support clients by financing their sustainable activities and by contribution to their transitions to more sustainable business models.

The aim to mobilise €125 billion annually makes a distinction between transactions where we are ESG lead, such as ESG coordinator or an ESG structuring role, and transactions where we do not fulfil such a position, like where we are part of a consortium of banks. Where we are one of several ESG leads or one of several participants, we record the pro-rata share of the total transaction amount, however, when we are the sole ESG lead on a transaction, we count the full transaction amount. In cases where we do not fulfill any ESG lead role, we only account for our own participation in the transaction. For bond transactions, if we do not have an active ESG lead role, we make a distinction between active and passive bookrunner role. The reason for selecting this methodology is that if we are ESG lead in a transaction, we can pro-actively engage with our clients on their sustainability strategy, so our impact is more significant than if we only participate.

In addition to financed volume mobilised, we believe that it's the impact that measures the success of sustainable transactions. This, we believe, is shown in the additional products and services we develop for customers such as social loans and bonds, sustainable structured finance, sustainability-linked *Schuldscheine* and sustainable transaction services such as guarantees and supply chain finance. We're also working on tightening our monitoring of the sustainable progress of clients, to better understand how our sustainability-linked products contribute to their transitions in line with net-zero goals.

## Performance highlights

- In 2022 we mobilised €101.3 billion of financing for our clients that contributes to their transitions to more sustainable business models, supported by a broad range of financial products linked to sustainability criteria. This is up from €87.7 billion in 2021, and is ahead of our target.
- The majority of the volume mobilised was in sustainability-linked products (€42.6 billion) and green products (€40.2 billion).
- The total number of sustainability deals we supported in 2022 was 491, up 19.5% from 411 in 2021. These deals included sustainability-linked loans and bonds, green loans and bonds, sustainable structured finance, social loans and bonds, and sustainable investments.
- In the first half of 2023 we mobilised €46.9 billion, compared to €40.0 billion in the first six months of 2022. As in the full year 2022, the market mainly sought sustainability-linked products (€18.8 billion vs €18.7 billion in 1H 2022) and green products (€17.6 billion vs €12.5 billion in 1H 2022).
- The number of sustainability deals supported in the first half of 2023 was 232 up 13% compared to the same time period one year ago.
- The majority of the sustainability deals we supported in the first half of 2023 – 164 – originated in the EMEA region, with 29 in Asia-Pacific and 32 in the Americas.

## Retail and Business Banking

We aim to support the transition of our customers by:

- providing sustainable alternatives for our key retail products.
- scaling our Business Banking sustainable finance proposition and portfolio, offering attractive loans and leasing solutions for sustainable purposes (e.g. transition to regenerative energy, sustainable real estate, electric vehicles) that help our SME and mid-corporate customers future-proof their businesses.
- reaching at least €2 billion of new annual production volume in sustainable finance for Business Banking clients by 2025.

## Performance highlights

- In line with our aim to provide sustainable alternatives for key retail products, we now offer sustainable mortgages (which provide an incentive to customers choosing the most energy-efficient homes) in the Netherlands, Germany, Luxembourg, Italy and Romania. A similar offer is planned for launch in Belgium later this year.
- We also offer sustainable consumer loans (unsecured) - which can, for example, be used for improving the energy efficiency of homes or for the purchase of sustainable mobility options - in Belgium, Germany, Luxembourg, Romania and Poland.
- In the Netherlands, up to 10% of new mortgage production is by customers also making use of the available opportunities to increase mortgage borrowing to cover energy-efficiency improvement renovations.
- In Business Banking we've been expanding our product offering across countries. To offer relevant solutions for all customer segments, our product offering ranges from instant loans for the self-employed and micro companies, to tailor-made sustainable loan and lease solutions for SMEs and mid-corporates. Products such as sustainable loans, sustainable lease solutions and sustainability improvement loans are now offered in the Netherlands, Belgium, Romania, Poland, Turkey and Luxembourg.
- A key development is a new agreement with the European Investment Bank (EIB), providing a total of €600 million in new loans and leases, at favourable interest rates, to SMEs in Belgium, the Netherlands and Luxembourg to boost sustainability.



# Annex



# Limited assurance report

To: the Executive Board of ING Groep N.V.

ING Groep N.V. ('ING') engaged us to provide limited assurance on the 'Terra - toolbox information' and the 'disclosures on Financed Emissions' as included in Appendix A (page 94 up to and including page 108) of the 2023 Climate Report of ING Groep N.V.

## Our qualified conclusion

We have performed our limited assurance engagement procedures on the 'Terra-toolbox information' and 'the disclosures on Financed Emissions' as included in Appendix A of the 2023 Climate Report of ING Groep N.V. based in Amsterdam (hereafter: Information in the report).

Based on the procedures we have performed, except for the effects of the matter described under 'Basis for our qualified conclusion' section of our report, nothing has come to our attention that causes us to believe that the Information in the report is not prepared, in all material respects, in accordance with the reporting criteria as described in the 'Reporting criteria' section of our report.

Our conclusion has been formed on the basis of the matters outlined in this assurance report.

## Basis for our qualified conclusion

Our conclusion on the Information in the report is qualified. We refer to management's disclosure in the section 'Data quality and limitations' on page 94 in Appendix A of the 2023 Climate Report on the preparation process of the Information in the report and the observed limitations with regards to management's control over the accuracy and completeness of the data provided by third parties to determine the reported alignment scores and the financed emissions. Consequently, we have not been able to perform sufficient assurance procedures over the data reported by third party data providers and therefore an uncertainty remains regarding the reliability of the Information in the report.

We performed our limited assurance engagement in accordance with Dutch law, including Dutch Standard 3000A 'Assurance-opdrachten anders dan opdrachten tot controle of beoordeling van historische financiële informatie (attest-opdrachten)' (assurance engagements other than audits or reviews of historical financial information (attestation engagements)). Our responsibilities in this regard are further described in the 'Auditor's responsibilities' section of our report.

We are independent of ING in accordance with the 'Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten' (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence). Furthermore, we have complied with the 'Verordening gedrags- en beroepsregels accountants' (VGBA, Dutch Code of Ethics).

We believe the assurance evidence we have obtained is sufficient and appropriate to provide a basis for our qualified conclusion.

## Reporting criteria

The reporting criteria used for the preparation of the Information in the report are disclosed in 'Appendix A: Terra and Financed Emissions Measurement and Reporting Details' of the 2023 Climate Report.

The Information in the report needs to be read and understood together with the reporting criteria. ING is solely responsible for selecting and applying these reporting criteria, taking into account applicable law and regulations related to reporting.

The absence of a significant body of established practice on which to draw to evaluate and measure Terra data and financed emissions allows for different, but acceptable, measurement techniques and can affect comparability between entities and over time. The precision of different measurement techniques may also vary.



## Inherent limitations

Non-financial performance information, such as the Information in the report, is subject to more inherent limitations than financial information, given the characteristics of the non-financial information and the methods used for determining such information.

It is generally acknowledged by stakeholders globally, including regulators, that there are significant limitations in the availability and quality of data from third parties, resulting in reliance by ING on proxy data. These limitations are reflected in the section 'Data quality and limitations' of Appendix A of the 2023 Climate Report.

It is anticipated that the principles and methodologies used to measure and report the Information in the report will develop over time and may be subject to change in line with market practice and regulation, impacting comparability between reporting entities and year-on-year.

## Limitations to the scope of our limited assurance engagement

The Information in the report includes prospective information such as ambitions, strategy, plans, expectations and estimates. Inherently the actual future results are uncertain. We do not provide any assurance on the assumptions and achievability of prospective information in the Information in the report.

References to external sources or websites in the Information in the report are not part of the Information in the report itself as reviewed by us. Therefore, we do not provide assurance on this information.

The other information comprises all of the information in the 2023 Climate Report other than the Information in the report and our limited assurance report. The Executive Board is responsible for the other information. Our limited assurance conclusion does not extend to the other information and, accordingly, we do not express any form of assurance thereon.

Our conclusion is not modified in respect of these matters.

## The Executive Board's responsibilities

The Executive Board of ING Groep N.V. is responsible for the preparation of the 2023 Climate Report and the Information in the report, in accordance with the applicable criteria as described in the 'Reporting Criteria' section of our limited assurance report.

The choices made by the Executive Board regarding the scope of the Information in the report and the reporting criteria are summarised in Appendix A of the 2023 Climate Report.

Furthermore, the Executive Board is responsible for such internal control as it determines is necessary to enable the preparation of the Information in the report that is free from material misstatement, whether due to fraud or error.

## Auditor's responsibilities

Our responsibility is to plan and perform our limited assurance engagement in a manner that allows us to obtain sufficient and appropriate evidence for our conclusion.

Procedures performed to obtain a limited level of assurance are aimed to determine the plausibility of information and vary in nature and timing, and are substantially less in extent, compared to a reasonable assurance engagement. The level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

We apply the 'Nadere Voorschriften Kwaliteitssystemen' (NVKS, Regulations for Quality management systems) and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have exercised professional judgement and have maintained professional skepticism throughout the limited assurance engagement, in accordance with the Dutch Standard 3000A, ethical requirements and independence requirements.



Our limited assurance engagement included among others:

- performing an analysis of the external environment and obtaining an understanding of relevant societal themes and issues, and the characteristics of ING;
- evaluating the appropriateness of the reporting criteria used, their consistent application and related disclosures in the Information in the report. This includes the reasonableness of estimates or proxies made by the Executive Board;
- obtaining an understanding of the reporting processes for the Information in the report, including obtaining a general understanding of internal control relevant to our limited assurance engagement on the Information in the report;
- identifying areas of the Information in the report where a material misstatement, whether due to fraud or error, are most likely to occur;
- designing and performing assurance procedures responsive to these areas, and obtaining assurance information that is sufficient and appropriate to provide a basis for our conclusion. These procedures included, amongst others:
  - interviewing management and relevant staff at Group level responsible for the strategy, policy and results;
  - interviewing relevant staff responsible for providing the information for, carrying out internal control procedures over, and consolidating the data in the Information in the report;
  - performing assurance procedures on the reconciliation of Information in the report to the underlying records;
  - reviewing, on a limited test basis, relevant internal and external documentation;
  - analysing the emissions data from a number of loans, selected on the basis of their inherent risk and materiality to the group, to understand the key processes and controls for reporting;
  - agreeing reported data to internal and external sources, for example, greenhouse gas emissions and emissions factors;
  - reperforming the calculations for a limited number of items, for example, greenhouse gas emissions and PCAF data quality scores; and
  - performing an analytical review of the data and trends.
- evaluating the overall presentation, structure and content of the Information in the report.

We have communicated with the Executive Board regarding, among other matters, the planned scope and timing of the limited assurance engagement and the significant findings that we identify during our work.

Amstelveen, 5 October 2023  
KPMG Accountants N.V.

P.A.M. de Wit RA

# Appendix A: Terra and Financed Emissions Measurement and Reporting Details

## Built on science-based, international leading approaches

In 2019, we developed our Terra approach in partnership with the 2° Investing Initiative (2DII), using their Paris Agreement Capital Transition Assessment (PACTA) for Banks tool (itself co-developed by ING). Since then, we've continued to improve and expand Terra in collaboration with 2DII, also involving new partners like RMI's Center for Climate Aligned Finance (CCAF), which ING became an official strategic partner of in 2022. Improvements include expanding the geographies covered, bringing more sectors into scope, and adding more parts of the value chains within sectors. We plan to continue improving and expanding our Terra approach to ensure a science-based, transparent and robust transition of our portfolios to a net-zero economy. As a result of our collaboration with the CCAF, we've also helped to develop methodologies - like the Poseidon Principles for the shipping sector and the Sustainable STEEL Principles for the steel sector - which can be used by financial institutions and sector participants alike to benchmark their own alignment with net-zero goals. ING published its [first annual Terra progress report](#) in 2019, covering our financing of five carbon-intensive sectors over 2018. As of now, Terra covers ING's nine most carbon-intensive sectors, which account for the majority of emissions associated with ING's loan book.

## Methodological choices for financial products scoping for all Terra sectors

The outstandings for our Terra measurement, as included in the Terra toolbox, are based on the credit outstandings as reported in our ING Annual Report (AR) 2022 (section Risk management: Credit Risk, from page 117 onwards). The Terra scope however differs from the reported credit outstandings in the AR 2022 because the financial products in scope vary per sector as a result of the Terra scope generally aligning with the applied sectoral methodology. See the per-sector details that follow for more information.

## Data quality and limitations

We utilise external data vendors for the sourcing of information related to all Terra sectors (with the exception of upstream oil and gas), as well as for financed emissions.

### Data process at our data vendors

The external data vendors we use have been selected through a screening process. In making our selection, we prioritise data vendors who can provide emissions data at asset-level, as this is considered more precise than, for example, data at company-level. Data at asset-level fits best with the scope and methodologies used within our Terra approach. For the Poseidon Principles and Sustainable STEEL Principles, which apply

respectively to the shipping and steel sectors, member banks jointly evaluated and decided on the most relevant and appropriate data sources to use, i.e., for shipping data at vessel-level provided directly by our clients, and for steel data provided by data vendor CRU Group or sourced directly from our clients. For the other sectors, ING has followed internal (procurement) processes to select the most relevant and appropriate data vendors. More detail on our data vendors is disclosed for each sector below.

Our external data vendors provide ING with asset-level and/or company-level emissions intensity data that applies to our (in-scope) portfolio. To create this emissions intensity data, our data vendors collect multiple emissions and physical-activity data-points from various sources, including what is reported by companies, governments and other (inter)national agencies (like the IEA), at asset-, company- and sector-level. These reported data sets form the cornerstone of the data vendor's proprietary modelling. Aggregated benchmarks are used by them to calibrate their underlying models. Besides actual data, data vendors also use proxy data and assumptions.

Our data vendors have procedures and methodologies in place to perform checks and controls on their data. When receiving the data from our providers, we also perform data quality reviews and plausibility checks, including the assessment of historical trends, which in some cases lead to the removal of outliers. We question our data vendors on specific issues that we have identified and collaborate with them to make the right data assumptions. The data processes and models of our data vendors are not audited, which means that regardless of their checks and controls, data limitations may still exist. And although we perform our own reviews and sanity checks, our procedures cannot fully mitigate the risk of applying inaccurate, incorrect and/or incomplete data.

### Data process at ING

For some sectors, like residential and commercial real estate and mid- & downstream oil and gas, we also make use of proxies and modelling assumptions in our measurements where the data is not available or partly available from our data vendors. Proxies are often sector-average emissions intensities published by governmental agencies. In some cases, the proxy data used for certain countries is based on public data sources from a specific district within that country. Furthermore, these sector-average emissions intensity proxies often may not coincide with the current reporting period, which could lead to over- or understating the portfolio emissions intensity.

**General remarks on the use of data**

The data we use to measure our emissions intensities is still subject to continuous improvements, also for our baseline year data. For this reason, some of our measurements may require restatements based on newly available, more accurate or more granular data in the future. We are aware that data sets have limitations, leading to the risk that they contain inaccuracies, incorrect or incomplete data which could impact our reporting. Data quality poses a universal challenge for companies and financial institutions reporting on greenhouse gas emissions and intensity – we however remain active to source the best available and most recent data that suits the methodologies we have adopted.

## Metric and Targets Measurement and Reporting Details

Table 20: The Terra Toolbox: overview of approaches applied, output types and data sources<sup>33</sup>

Sector	Outstanding in scope (EUR billion)	Methodology used to measure portfolio	Scopes covered	Metric	Scenario / Pathway	Baseline		2022YE		Alignment score	Targets	
						Year	Portfolio value	Convergence pathway value	Portfolio value		2030	2050
Power generation	9.0	PACTA	Scope 1	kg CO <sub>2</sub> e / MWh	IEA NZE	2018	335	275	189	-31.3%	-53%	-100%
Oil and gas	1.9	PACTA Credit Application Paper	Scopes 1, 2 and 3	Outstanding amount in EUR million	IEA NZE	2019	3,986	3,649	1,915	-47.5%	-19%	-69%
	7.1	Convergence approach	Scopes 1, 2	kg CO <sub>2</sub> e / boe	IEA NZE	2022	16**	N/A	16**	N/A	-24%	-100%
Cement	0.6	PACTA	Scopes 1, 2	t CO <sub>2</sub> / t cement	ISF-NZ	2020	0.704	0.662	0.688	3.9%	-31%	-69%
Steel	3.2	Sustainable STEEL Principles	Scopes 1, 2	SSP Alignment Score	IEA NZE & MPP Tech Moratorium	N/A	N/A	1.793	1.808	0.15	0 *	0 *
				t CO <sub>2</sub> / t steel	IEA NZE							
Automotive	2.9	PACTA	Scope 3	kg CO <sub>2</sub> / vkm	IEA NZE	2020	0.199	0.179	0.157	-12.5%	-49%	-98%
Aviation	3.3	PACTA	Scope 1	g CO <sub>2</sub> / passenger km	IEA NZE	2019	88.2	80.3	81.9	2.1%	-33%	-87%
Shipping	6.8	Poseidon Principles	Scope 1	Alignment delta	Poseidon Principles	N/A	N/A	0%	-2.8%	-2.8%	0% *	0% *
Commercial real estate	24.8	PCAF	Scopes 1, 2	kg CO <sub>2</sub> e / m <sup>2</sup>	CRREM 1.5° pathways	2022	44.7	44.7	44.7	N/A	-56%	-99%
Residential real estate	307.1	PCAF	Scopes 1, 2	kg CO <sub>2</sub> e / m <sup>2</sup>	CRREM 1.5° pathways	2021	41.6	38.4	40.7	5.8%	-60%	-99%

\* Target for alignment score.

\*\* CO<sub>2</sub> only, expected to increase due to methane (CH<sub>4</sub>) data add-on.

<sup>33</sup> Figures related to outstanding in scope (exclude unmatched part), 2022YE portfolio value and convergence pathway, and alignment score, all refer to the 2022YE loan book portfolio, except for Shipping, which is based on 2021YE portfolio.

## Power Generation

Sector	Outstanding in scope (EUR billion)	Methodology used to measure portfolio	Scopes covered	Metric	Scenario / Pathway	Baseline		2022YE		Alignment score	Targets	
						Year	Portfolio value	Convergence pathway value	Portfolio value		2030	2050
Power generation	9.0	PACTA	Scope 1	kg CO <sub>2</sub> e / MWh	IEA NZE	2018	335	275	189	-31.3%	-53%	-100%

### Outstanding in scope

For the Power Generation sector, a total of €9.0 billion is in scope of our target. This covers all on-balance/ funded term loans and revolving credit facilities for power projects and utilities in specific NAICS codes that have assets generating electricity.

### Methodology used to measure portfolio

For this sector, we apply the PACTA methodology (i.e. the technology mix approach) which is described in detail in the [PACTA methodology application paper](#) that we drafted in collaboration with four other Katowice banks (BBVA, Standard Chartered, Société Générale and BNP Paribas) and in partnership with the 2° Investing Initiative (2DII).

### Emissions scopes covered

Following PACTA methodology, we cover the direct emissions (scope 1) of power assets.

### Metric and scenario / pathway

In the PACTA methodology, alignment for the Power Generation sector is measured by the emissions intensity metric expressed in kg CO<sub>2</sub>e / MWh. We applied the IEA Net Zero Emissions by 2050 scenario (NZE) published by the IEA in the [Net Zero by 2050 – Analysis - IEA report](#) (May 2021).

### Data vendors, data quality and limitations

Like other Katowice banks, we have been collaborating with Asset Impact (founded as Asset Resolution by 2DII) to assess the emissions intensity of our power generation portfolio, by connecting their technology mix to our power assets. Asset Impact offers a database with comprehensive numbers of data points, linking physical assets in the real economy and their activities and emissions to companies and securities, and applies a clear methodology for creating their emissions data at asset level. We have matched the technology mix and emissions factor data of Asset Impact and IEA with our portfolio. In total 93% of our portfolio (i.e. our total of €9.0 billion in outstanding in scope) can be directly matched to the Asset Impact database, resulting in the portfolio value of 189 kg CO<sub>2</sub>e / MWh at year-end 2022.

## Oil & Gas

Sector	Outstanding in scope (EUR billion)	Methodology used to measure portfolio	Scopes covered	Metric	Scenario / Pathway	Baseline		2022YE		Alignment score	Targets	
						Year	Portfolio value	Convergence pathway value	Portfolio value		2030	2050
Oil and gas	Upstream	PACTA Credit Application Paper	Scopes 1, 2 and 3	Outstanding amount in EUR million	IEA NZE	2019	3,986	3,649	1,915	-47.5%	-19%	-69%
	Mid- and Downstream	Convergence approach	Scopes 1, 2	kg CO <sub>2</sub> e / boe	IEA NZE	2022	16**	N/A	16**	N/A	-24%	-100%

\*\* CO<sub>2</sub> only, expected to increase due to methane (CH<sub>4</sub>) data add-on.

### Oil & Gas: Upstream

#### Outstanding in scope

Our outstanding amount in upstream oil & gas covers on-balance/funded term loans and revolving credit facilities. We have also included some guarantees when these finance our clients on a continuous basis. The scope of our upstream oil & gas target includes companies involved in Crude Petroleum or Natural Gas extraction activities. For integrated oil and gas companies (IOC) with a general purpose loan we include the outstanding exposure based on the percentage of revenue share of upstream activities of the company when reported in their annual report. When IOCs don't disclose this revenue share, we exclude them from our upstream outstanding in scope (see more info under data vendors, data quality and limitation). We have excluded exposures below €10 million, as these are not material.

#### Methodology used to measure portfolio

We apply the PACTA methodology as presented in the [PACTA methodology application paper](#). The applied methodology is an economic-activity approach based on absolute reduction in fossil fuel financing.

#### Emissions scopes covered

Our absolute portfolio reduction target covers indirectly the scope 1, 2 and 3 emissions of our clients in the upstream oil & gas industry. By reducing our exposure to upstream oil & gas clients, we indirectly reduce the overall emissions associated with these clients.

#### Metric and scenario / pathway

We applied the IEA Net Zero Emissions by 2050 scenario (NZE) published by the IEA in the [Net Zero by 2050 - Analysis - IEA report](#) (May 2021). For oil & gas supply (in EJ), the IEA NZE pathway has a -19% decline in 2030 and -69% in 2050 compared to 2019. We use these values as our target, measured in outstanding amount.

#### Data vendors, data quality and limitation

For this measurement of our target, we don't need a third-party data vendor as the metric is our outstanding amount in our financial system.

### Oil & Gas: Mid- and Downstream

#### Outstanding in scope

Our outstanding amount in oil & gas mid- and downstream covers on-balance/funded term loans and revolving credit facilities. The scope of our mid- & downstream oil & gas target involves companies with NAICS codes in processing, (pipeline) transport, storage, handling, liquefaction and refining. FPSOs (Offshore Oil and Gas Production Services) integrate both upstream and downstream activities given that they extract oil, process and store it onboard, and deliver the partially treated crude oil to tankers for transport. However, for Energy Sector portfolio management and client coverage purposes, ING includes FPSOs in the scope of its mid- and downstream activities coverage. Trade and commodity finance transactions with mid- and downstream oil & gas clients, involving oil & gas, are not included as these transactions will be covered through a separate GHG accounting and target-setting approach for Trade and Commodity Finance (TCF).

ING is currently developing a TCF methodology in collaboration with other banks, and aims to announce this in 2024. Additionally, the used scenario (see below) does not include petrochemical manufacturing activities and petrol/filling stations, which are respectively classified under the Chemicals and Buildings industries codes. Therefore, for consistency purposes, they are not included in the scope of this target. We have excluded exposure below €10 million (in total approximately 1% of our total outstanding), as these are smaller clients where we encountered data limitations.

### Methodology used to measure portfolio

As there is no specific methodology to set targets on oil & gas mid- and downstream activities of banks, we have built our own approach based on the convergence approach (i.e. Sectoral Decarbonisation Approach) of the Science Based Targets initiative (SBTi).

### Emissions scopes covered

Our approach concentrates on the operational performance (scopes 1 & 2) of our clients in line with the IEA's report on the operational emissions of the Oil & Gas industry (May 2023). The IEA's NZE scenario is expressed in 'kg CO<sub>2</sub> equivalent' which means it includes both CO<sub>2</sub> and CH<sub>4</sub> (methane) emissions in its modelling. We know methane is an important gas to be monitored and reduced in the oil & gas sector. However, the lack of existing data on methane at mid- and downstream asset- and company-level is currently impeding us from offering a reliable estimate on the current methane emissions intensity of our clients and therefore on the overall performance of our mid- and downstream portfolio. For the moment, we are only able to measure and report our performance related to CO<sub>2</sub> emissions. However, it should be noted that the target that we are setting to reduce emissions intensity by -24% by 2030 is for 'kg CO<sub>2</sub> equivalent' (i.e. also covering methane). As soon as reliable and comparable data on methane emissions becomes available, we intend to report on our baseline in 'kg CO<sub>2</sub> equivalent'. When this baseline is established, we can determine our convergence pathway, which will indicate our quantitative emissions intensity for 2030.

### Metric and scenario / pathway

The target metric we have chosen for mid- & downstream is emissions-based intensity, measured in kg CO<sub>2</sub>e per barrel of oil equivalent (boe). The reference scenario and emissions data for alignment benchmarking is the latest version of the [International Energy Agency's Net Zero Emissions by 2050 Scenario \(NZE\), published in the World Energy Outlook special report 'Emissions from Oil and Gas Operations in Net Zero Transitions'](#) (May 2023). In fact, in its report, the IEA provided emission intensity reduction pathways in the NZE scenario separately for oil and gas, split between upstream and downstream (whereby the IEA's downstream scope largely mirrors ING's mid- & downstream categorisation). In its scenario, the IEA envisions a -15% reduction in emission intensity for oil and -45% reduction in emission intensity for gas in mid- and downstream in 2030 compared to 2022. In this special report, the IEA models the emissions intensity reduction up to 2030 only. However, based on the IEA NZE report we assume that the emissions intensity is net zero in 2050. Taking these reductions pathways, we combined this pathway data, resulting

in a combined target of -24% reduction in emissions intensity for mid- and downstream oil and gas in 2030 compared to 2022. The combined emissions intensity reduction target was calculated by weighting the emissions intensity reduction of both oil and gas by their respective production volumes. As multiple clients have operations in both oil and gas, we decided to use this combined target of -24% in 2030 compared to 2022.

### Data vendors, data quality and limitation

With the support of Rystad Energy, an independent research and business intelligence company from whom we procure data and research, we were able to assess the emissions intensities of our mid- and downstream portfolio clients. By combining 2021 emission intensity data from Rystad with the 2022 exposure data of our clients, the emissions intensities have been calculated as follows:

- Emissions intensity from the Rystad database has been used when there was a match with the financed assets (28% of the exposure in our portfolio). For refineries, scope 2 emissions at asset-level was not available.
- For the rest of our clients we used the weighted-average emissions intensity from the Rystad database for the corresponding sector activities (72% of the exposure in our portfolio).
- For some integrated oil & gas companies that also have upstream activities, we applied the company revenue split to our exposure to attribute the emissions intensity of these clients.

Our portfolio-weighted emissions intensity has been determined by multiplying the emissions intensity of each company by the outstanding exposure percentage that company represents in the total mid- and downstream loan book.

Due to data limitations, some clients are not included within our current baseline calculations. For example, some diversified mid- & downstream companies do not separately report on their activities, which makes it hard to quantify the emissions intensity from their various assets and activities. Currently, 4% of our mid- and downstream exposure is related to such diversified mid- & downstream companies and it was excluded from the scope of the target for mid- and downstream for now, as we could not properly attribute emissions intensity to these companies.

## Cement

Sector	Outstanding in scope (EUR billion)	Methodology used to measure portfolio	Scopes covered	Metric	Scenario / Pathway	Baseline		2022YE		Alignment score	Targets	
						Year	Portfolio value	Convergence pathway value	Portfolio value		2030	2050
Cement	0.6	PACTA	Scopes 1, 2	t CO <sub>2</sub> / t cement	ISF-NZ	2020	0.704	0.662	0.688	3.9%	-31%	-69%

### Outstanding in scope

For the cement sector in total €642 million is in scope of our target. This covers all on-balance/funded term loans and revolving credit facilities to cement manufacturing companies within the relevant NAICS codes (100% coverage of our portfolio related to this sector).

### Methodology used to measure portfolio

The PACTA methodology that we apply is an emission intensity approach described in detail in the PACTA methodology application paper.

### Emissions scopes covered

Following the PACTA methodology, we cover the scope 1 and 2 emissions that occurred during the cement manufacturing process.

### Metric and scenario / pathway

In the PACTA methodology, alignment for the cement sector is measured by the emissions intensity metric expressed in t CO<sub>2</sub> / t cement. We applied the [Institute for Sustainable Future \(ISF\) Net Zero Emissions 2020 scenario developed for the UN-convened Net Zero Asset Owner Alliance](#) (December 2020) to align our portfolio.

### Data vendors, data quality and limitation

Like other Katowice banks, we have been collaborating with Asset Impact to assess the emissions intensity of our cement portfolio, by connecting their emissions intensity data to our cement clients. Asset Impact offers a database with comprehensive data coverage, and applies a clear methodology for creating their emissions data at asset- and company-level. We have matched the emissions data of Asset Impact to 100% of our portfolio, resulting in the portfolio value of 0.688 t CO<sub>2</sub> / t cement at year-end 2022.

## Steel

Sector	Outstanding in scope (EUR billion)	Methodology used to measure portfolio	Scopes covered	Metric	Scenario / Pathway	Baseline		2022YE		Alignment score	Targets	
						Year	Portfolio value	Convergence pathway value	Portfolio value		2030	2050
Steel	3.2	Sustainable STEEL Principles	Scopes 1, 2	SSP Alignment Score	IEA NZE & MPP Tech Moratorium	N/A	N/A	1.793	1.808	0.15	0 *	0 *
				t CO <sub>2</sub> / t steel	IEA NZE					0.8%		

\* Target for alignment score.

### Outstanding in scope

ING follows the [Sustainable STEEL Principles \(SSP\)](#) financial product scope. We cover all the mandatory and optional financial products to steel manufacturing companies, excluding stainless steel as in line with the SSP methodology. Our outstanding in the steel sector therefore includes all lending products, such as term loans, revolving credit facilities, guarantees, letters of credit, etc. of our steel manufacturing clients within the specific NAICS codes. We have excluded outstanding exposures below €1 million (which equates to less than 1% of our total outstanding), as these are not material.

### Methodology used to measure portfolio

The methodology that we applied is the [Sustainable STEEL Principles](#). This framework was developed by a working group of five globally active financial institutions, led by ING.

### Emissions scopes covered

Following the guidance provided by the Sustainable STEEL Principles, we cover scope 1 and 2 emissions of the companies in scope.

### Metric and scenario / pathway

ING discloses the SSP Alignment Score as well as the emission intensity (t CO<sub>2</sub> / t steel) of the portfolio in the Terra Toolbox. The SSP Alignment Score is calculated based on a company's emissions intensity and the percentage of scrap used by the company. The IEA NZE pathway used by the SSP refers to the scenario published by the IEA in the [Net Zero by 2050 – Analysis - IEA report](#) (May 2021).

### Data vendors, data quality and limitation

The selected third-party data vendor under the Sustainable STEEL Principles is the data vendor CRU. CRU offers a database with asset-level production, emissions intensity, and scrap rate data, which can be linked to companies. We have matched the asset-/company-level data of CRU with our portfolio. In total 95% of our portfolio (i.e. our total of €3.2 billion of outstanding in scope) can be directly matched, resulting in a portfolio value of 1.808 t CO<sub>2</sub> / t steel and an SSP alignment score of 0.15 at year-end 2022.

## Automotive

Sector	Outstanding in scope (EUR billion)	Methodology used to measure portfolio	Scopes covered	Metric	Scenario / Pathway	Baseline		2022YE		Alignment score	Targets	
						Year	Portfolio value	Convergence pathway value	Portfolio value		2030	2050
Automotive	2.9	PACTA	Scope 3	kg CO <sub>2</sub> / vkm	IEA NZE	2020	0.199	0.179	0.157	-12.5%	-49%	-98%

### Outstanding in scope

For the automotive sector in total €2.9 billion is in scope of our target. This covers all on-balance/funded term loans and revolving credit facilities to original equipment manufacturer (OEM) companies that manufacture light duty vehicles.

### Methodology used to measure portfolio

The methodology we applied is the emission intensity approach described in detail in the PACTA methodology application paper.

### Emissions scopes covered

Following the PACTA methodology, we cover the emissions related to the use of sold products from automotive OEMs (i.e. their scope 3 category 11 emissions).

### Metric and scenario / pathway

In the PACTA methodology, alignment for the automotive sector is measured by the emissions intensity metric expressed in kg CO<sub>2</sub> / vehicle-kilometre (vkm). We applied the IEA Net Zero Emissions by 2050 scenario (NZE) published by the IEA in the [Net Zero by 2050 – Analysis - IEA report](#) (May 2021).

### Data vendors, data quality and limitation

Like other Katowice banks, we have been collaborating with Asset Impact to assess the emissions intensity of our automotive portfolio, by connecting their emission intensity to our automotive clients. Asset Impact offers a database with comprehensive data coverage for the automotive sector. Asset Impact applies a clear methodology for creating their emissions data at company-level and are transparent on their data limitations. We have matched the emissions data of Asset Impact to 100% of our portfolio, resulting in the portfolio value of 0.157 kg CO<sub>2</sub>/ vkm at year-end 2022.

## Aviation

Sector	Outstanding in scope (EUR billion)	Methodology used to measure portfolio	Scopes covered	Metric	Scenario / Pathway	Baseline		2022YE		Alignment score	Targets	
						Year	Portfolio value	Convergence pathway value	Portfolio value		2030	2050
Aviation	3.3	PACTA	Scope 1	g CO <sub>2</sub> / passenger km	IEA NZE	2019	88.2	80.3	81.9	2.1%	-33%	-87%

### Outstanding in scope

For the aviation sector in total €3.3 billion of outstanding is in scope of our target. This covers all on-balance/ funded term loans and revolving credit facilities for the purpose of aircraft asset-level finance. We included all aircraft that we financed, except for those that are hardly in operation, or not at all in operation, throughout the year for specific reasons like maintenance (i.e. with less than five flight cycles annually). The total outstanding of €3.3 billion equates to 97% coverage of our total portfolio.

### Methodology used to measure portfolio

The methodology we applied is PACTA which is described in the publication PACTA for Banks. The methodology measures the alignment of aviation portfolios by using the emission intensity metric. This metric is one of the most-used metrics in the aviation sector and is more specifically the one used by the IEA to outline the decarbonisation pathway needed in this sector. We applied the IEA Net Zero Emissions by 2050 scenario (NZE) published by the IEA in the [Net Zero by 2050 – Analysis - IEA report](#) (May 2021).

### Emissions scopes covered

The PACTA methodology for aviation accounts for the emission of CO<sub>2</sub> from the combustion of aviation fuel (i.e. scope 1 emissions).

### Metric and scenario / pathway

In the PACTA methodology, alignment for the aviation sector is measured by the emissions intensity metric expressed in g CO<sub>2</sub> / passenger km. We applied the IEA NZE scenario (May 2021) to align our portfolio.

### Data vendors, data quality and limitation

ING uses Cirium and ICAO to provide aircraft-level information. Cirium offers a database with comprehensive numbers of data points, linking aircraft to airlines and their flying cycles and distances. The fuel consumption data is based on input from ICAO. We use a Pax-to-Freight ratio based on historical data<sup>34</sup> to allocate CO<sub>2</sub> intensity to passenger and freight transport. All aircraft in scope can be directly matched to Cirium, resulting in the portfolio value of 81.9 g CO<sub>2</sub> / passenger km at year-end 2022.

<sup>34</sup> K. Seymour, M. Held, G. Georges, K. Boulouchos, 'Fuel Estimation in Air Transportation: Modeling global fuel consumption for commercial aviation, Transportation Research Part D: Transport and Environment'

## Shipping

Sector	Outstanding in scope (EUR billion)	Methodology used to measure portfolio	Scopes covered	Metric	Scenario / Pathway	Baseline		2022YE		Alignment score	Targets	
						Year	Portfolio value	Convergence pathway value	Portfolio value		2030	2050
Shipping	6.8	Poseidon Principles	Scope 1	Alignment delta	Poseidon Principles	N/A	N/A	0%	-2.8%	-2.8%	0% *	0% *

\* Target for alignment score.

### Outstanding in scope

ING has reported a €6.8 billion in-scope shipping portfolio based on Poseidon Principles reporting requirements. In line with the Poseidon Principles technical guidelines, the products in scope include loans and guarantees secured by vessels. Actual 2021 emissions data was received for approximately 95% of the portfolio with a non-reporting percentage of 5%.

### Methodology used to measure portfolio

ING applies Poseidon Principles methodology for the shipping sector. For details please refer to the Poseidon Principles technical guidance.

### Emissions scopes covered

The methodology accounts for the emission of CO<sub>2</sub> from the combustion of fuel by financed vessels (i.e. scope 1 emissions), for vessels above 5,000 gross tonnage in accordance with Poseidon Principles.

### Metric and scenario / pathway

Shipping follows the Poseidon Principles methodology which is based on the initial International Maritime Organization (IMO) GHG strategy of a 50% GHG reduction by 2050 compared to 2008 levels. The intensity metric in the Poseidon Principles is the Annual Efficiency Ratio (AER) for cargo-carrying ships which use deadweight tonnage to measure their capacity, and capacity gross ton distance (cgDist). The intensity metric is compared against the Poseidon Principles trajectory for the vessel-type for a given year, to arrive at the alignment delta for each vessel. The portfolio alignment delta is the sum of the weighted average of each vessel's alignment delta using the corresponding debt outstanding for the vessel as a weighting factor. A positive alignment delta indicates misalignment while a negative alignment delta indicates alignment. The magnitude indicates to what extent the portfolio is aligned or misaligned for the given year against the trajectory to achieve the IMO's ambition of reducing total annual GHG emissions by at least 50% by 2050.

### Data vendors, data quality and limitation

ING receives the actual annual fuel consumption and distance travelled data of the vessels directly from the clients. The data requested is the same as that which is submitted to the IMO Data Collection System (DCS) after verification by the Recognized Organization (RO) in compliance with IMO regulations. A Statement of Compliance (SOC) issued by the flag state or a verification letter issued by the RO is also requested along with the data, as proof that the regulatory requirements have been complied with.

## Commercial real estate

Sector	Outstanding in scope (EUR billion)	Methodology used to measure portfolio	Scopes covered	Metric	Scenario / Pathway	Baseline		2022YE		Alignment score	Targets	
						Year	Portfolio value	Convergence pathway value	Portfolio value		2030	2050
Commercial real estate	24.8	PCAF	Scopes 1, 2	kg CO <sub>2</sub> e / m <sup>2</sup>	CRREM 1.5° pathways	2022	44.7	44.7	44.7	N/A	-56%	-99%

### Outstanding in scope

Our portfolio reporting covers both our Wholesale Banking Real Estate Finance (WB REF) and our Business Banking Real Estate Finance for the Netherlands (BB REF NL), representing €24.8 billion in terms of outstanding. This consists of €15.3 billion (68% of secured loans) for WB REF and €9.6 billion (87%) for BB REF NL.

### Methodology used to measure portfolio

We measure our portfolio emissions intensities following the accounting rules of PCAF, CRREM (Carbon Risk Real Estate Monitor) and GRESB.

### Emissions scopes covered

We cover both scope 1 and scope 2 emissions of each building (including the electricity consumption of tenants). Following the latest CRREM methodology, emissions from transmission and distribution (T&D) losses of purchased energy are out of scope.

### Metric and scenario / pathway

We compare our CO<sub>2</sub>e intensity (in kg CO<sub>2</sub>e / m<sup>2</sup>) with the [CRREM 1.5°C pathways](#) (v.2.02, published January 2023), which are developed by CRREM in collaboration with the Science Based Targets initiative (SBTi). A weighted portfolio pathway is calculated based on the outstanding amounts per country and building type.

### Data vendors, data quality and limitation

For WB REF, proxy data from Moody's in combination with PCAF emission factors is used to determine the emissions intensity per building, and this is weighted in accordance with the outstanding loan amount. Only secured loans are in scope. Nine countries, representing approximately €5.3 billion in outstanding, have been excluded from the analysis due to missing emissions data (e.g. Australia and USA). Poland, Luxembourg and Portugal - all with relatively small portfolios - are excluded because they are registered in local systems.

BB REF NL collaborates with CFP Green Buildings to design and execute its sustainability strategy. The CFP model plays an role in our internal and external sustainability calculations. ~13% of the Netherlands portfolio is left out of scope, as there was no data available, or the data quality was insufficient. ING also has Business Banking commercial real estate portfolios in Belgium, Australia, Poland and Luxembourg (with a combined outstanding of €11.7 billion). These are currently out of scope, but we aim to include them as soon as data availability allows.

## Residential real estate

Sector	Outstanding in scope (EUR billion)	Methodology used to measure portfolio	Scopes covered	Metric	Scenario / Pathway	Baseline		2022YE		Alignment score	Targets	
						Year	Portfolio value	Convergence pathway value	Portfolio value		2030	2050
Residential real estate	307.1	PCAF	Scopes 1, 2	kg CO <sub>2</sub> e / m <sup>2</sup>	CRREM 1.5° pathways	2021	41.6	38.4	40.7	5.8%	-60%	-99%

### Outstanding in scope

Our portfolio reporting covers our six largest mortgages markets, representing €307 billion (approximately 94% of our mortgages book, excluding WestlandUtrecht Bank) in terms of outstanding. Compared to last year, Belgium has been added to the total portfolio figure as their measurement is now aligned with CRREM and with the other five ING markets - those being the Netherlands, Germany, Australia, Spain and Poland.

### Methodology used to measure portfolio

In line with [PCAF's GHG Accounting and Reporting Standard](#), we continue to use energy labels (also known as Energy Performance Certificates - EPCs) to calculate the properties' emissions intensities. When aggregating the calculated emissions intensities to portfolio level, we currently do not apply a weighting factor in our calculations, but once data availability allows, we aim to apply a weighting approach over the loan-to-value (at origination) ratio, as per the guidance of PCAF and the Science Based Targets initiative (SBTi). It should be noted that when applying this weighting approach, the difference is expected to be relatively small compared to our current approach.

The methodology we apply is the same for all countries in scope, and in line with the CRREM methodology. This means that for each country we calculate the CO<sub>2</sub>e intensity per m<sup>2</sup> for all energy used at the home (excluding the emissions from the transmission and distribution losses). The way the CO<sub>2</sub>e intensity figure is calculated for each country differs, depending on data availability, local data sources and country characteristics.

To measure the emission intensity of our global portfolio, we calculate the weighted average of each country's emission intensity based on the number of homes we finance in each of the countries in scope.

### Emissions scopes covered

We cover both scope 1 and scope 2 emissions of each residential building (including electricity consumption of the household). Following the latest CRREM methodology, emissions from transmission and distribution (T&D) losses from purchased energy (scope 2 emissions) are out of scope. For Poland, we were not able to exclude these T&D losses from the analysis but this has very limited impact on the overall result.

### Metric and scenario / pathway

We compare our CO<sub>2</sub>e intensity (in kg CO<sub>2</sub>e / m<sup>2</sup>) with the [CRREM 1.5°C pathways](#) (v.2.02, combined for single- and multifamily homes, published January 2023).

### Data vendors, data quality and limitation

EPC data is not widely available in all markets. Where this information is not (publicly) available, we apply proxies to estimate the energy labels. We continue to collect EPCs for new and existing mortgages in our markets, meaning each year we will have an increasingly accurate picture.

When external data sources are used, we always use the most reliable and latest data available, in most cases from governmental sources. For most countries we also use data from external data providers. This data contains assumptions and has not been audited.

Due to data availability, for some countries we are unable to analyse the full 100% of the portfolio. In those cases, we assume the remaining part of the portfolio has the same average emission intensity as the part that was analysed.

## Country-specific methodological choices are described in more detail as follows:

In the **Netherlands**, we maintained our methodology of using EPCs provided by RVO (Rijksdienst voor Ondernemend Nederland). These cover almost half of our portfolio. The other half is based on proxies, as provided by Calcasa. The m<sup>2</sup> data used in the calculation is from 2019 as at the moment more recent data is unavailable. For next year we expect to have the latest surface area data available. The emission factors are calculated by the PCAF Working Group on mortgages and are based on actual monitored energy consumption of households per EPC, as published by CBS (Statistics Netherlands). WestlandUtrecht Bank is currently not part of the analysis.

In **Germany**, the emission factors are directly retrieved from the EPCs of the respective buildings in the portfolio - if a demand certificate (a so-called 'Bedarfsausweis') is available. If not available, a proxy model trained with the available EPC label data is applied. For our 2022 calculation, we have used a newly developed proxy model to better estimate the emissions of houses without EPC labels (>90% of our Germany portfolio). Before 2022, we used simple CO<sub>2</sub> averages per EPC class to estimate the emissions of houses with missing EPC labels.

For Germany we have also recalculated the baseline and the results from 2018-2022 in line with the methodological update to the CRREM decarbonisation pathway from early 2023. Since the revised methodology from CRREM excludes grid transmission and distribution losses, both the new pathway and our portfolio emission intensities are significantly lower as compared to previously reported values.

In **Belgium**, we continued our partnership with data science startup Rock.estate to obtain estimations (proxies) of the energy performance of the properties within our mortgage portfolio. The upstream energy-related emissions, representing 22% of the total, were previously part of the analysis but have been now removed from the calculation. For a part of this analysis we had to apply regional data to the full portfolio. The resulting CO<sub>2</sub>e intensity based on the final energy demand is in alignment with the CRREM methodology. The figure is based on 98% of proxies (unaudited) and 2% of official energy performance values, in total representing 65% of the properties in ING's Belgium mortgages portfolio, with the remainder assumed to have the same profile.

The analysis for Belgium does not yet include Record Credits<sup>35</sup>. For the next iteration we plan to use a more refined version of proxies, covering Record Credits as well as 100% of the ING portfolio, and have initiated actions to retrieve as many official EPC values as possible from our customers or from the files in our archives.

In **Australia**, our methodology involves looking at the residential energy consumption and emission factors in each of the States and Territories, sourced from the Department of Industry, Science, Energy and Resources. We then match the number of dwellings in each State and Territory in our portfolio and apply the average size in m<sup>2</sup> sourced from the energy ratings data from Australia's CSIRO (Commonwealth Scientific and Industrial Research Organisation) to calculate the final intensity. CRREM provides separate net zero pathways for each of the seven climate zones in Australia. The net zero pathway for the portfolio is calculated as the exposure weighted average of the pathways for each of these climate zones.

In **Spain**, energy label data is not widely available. Based on the unique references of the cadaster, Sociedad de Tasación (SdT), an independent appraisal company, matched our data with public government data on EPCs. When no cadastral reference is available, the matching is done based on the complete address data. For last year's calculation we used the emission intensities as calculated by SdT. We have now switched to the emission factors from the PCAF European building emission factor database to calculate the average CO<sub>2</sub> intensity.

In **Poland**, starting from 2Q 2023, the official EPC database is available for market participants. As a result, our calculations can become more accurate, however our mortgages portfolio coverage is quite low at this stage and the proportion of properties in our portfolio with EPC information amounts to ~8%. Since May 2023, Polish law requires an energy certificate for properties traded on the market, therefore we expect that EPC coverage will increase in the coming years. Additionally in 2023, for new sales of mortgages, we are building a process to collect and process data from energy certificates which should also increase accuracy in the future. We have implemented a 21% uplift resulting from household energy consumption structure (energy for cooking, lighting and home appliances was added to the calculation) based on Central Statistical Office data. In 2022 we have not noted a decrease in emission intensity similar to previous years, which is related to a significantly lower inflow of new mortgages resulting from general market conditions.

<sup>35</sup> Record Credits is a subsidiary of ING Belgium, and comprises a network of independent credit brokers who offer lending solutions to private individuals and the self-employed.

## Financed emissions

Below we present the breakdown of our financed emissions per asset class and business unit per year-end 2022.

**Table 21: ING's financed emissions per asset class and business line as per YE2022**

Asset Class	Outstanding in EUR billion	Measured in EUR billion	Outstanding coverage	Financed emissions in kt CO <sub>2</sub> e	PCAF data quality score
Residential Real Estate (Mortgages)	326.9	326.9	100%	7,018	3.8
Commercial Real Estate (incl. REF NL)	36.2	-	-	-	-
Business Loans - Wholesale Banking	187.1	186.9	100%	43,516	3.6
Business loans - Retail Banking (excl. REF NL)	87.1	87.1	100%	10,762	5.0
<b>Total Lending In Scope</b>	<b>637.3</b>	<b>600.9</b>	<b>94%</b>	<b>61,295</b>	<b>3.9</b>
Total Equity Investments	3.6	3.5	98%	80	5.0

REF NL = Real Estate Finance Netherlands

### Outstanding in scope

Our full lending book is in scope of our financed emissions. In accordance with the accounting standards of PCAF (reference provided in the next paragraph), we only included on-balance/funded term loans, leases and revolvers. All the relevant positions are covered in our lending book, except for the Commercial Real Estate sector which is not yet measured due to internal data quality limitations. We expect, however, to also disclose emissions related to Commercial Real Estate in ING's next annual report (the 2023 ING Annual Report, to be published in March 2024) following data quality improvements performed over 2023. For two specific NAICS subsectors, the PCAF database didn't provide a reliable value, hence we decided to exclude this from our calculation. As our outstanding related to this specific NAICS code is small we deem the impact on our overall numbers to be very limited.

### Methodology used to measure portfolio

We calculated our absolute financed emissions using [the Global GHG Accounting and Reporting Standard for the Financial Industry \(developed by PCAF - the Partnership for Carbon Accounting Financials\)](#). This is the global standard, endorsed by the GHG Protocol and the Task Force on Climate-related Financial Disclosure (TCFD). For residential real estate (mortgages), we currently apply a country-average loan-to-value (LTV) attribution factor instead of a property-level LTV. When data available allows, we will move to applying LTV attribution at **property-level**.

### Emissions scopes covered

Our financed emissions disclosure is currently limited to the scope 1 and scope 2 emissions of our clients. Clients' scope 3 emissions are not yet included due to data limitations, which impair reliable reporting.

### Data vendors, data quality and limitation

By applying PCAF methodology to calculate financed emissions, we use the emissions data currently available to ING and appropriate for each asset class. Except for verified or unverified emissions collected from the borrower or investee company directly via CDP (formerly Carbon Disclosure Project), the primary source of emissions data across asset classes are emissions factors provided by the PCAF database, based on EXIOBASE. To complement our financial data, we have also sourced financial data, especially related to Enterprise Value including Cash (EVIC) data, from S&P Capital IQ.

We have scored the data quality of our emissions data following the data quality scoring in PCAF's Global GHG Accounting and Reporting Standard. In this standard, data quality scores 1 and 2 relate to high-quality data coming from company disclosures or actual asset-level data, whereas data quality 4 and 5 relates to low-quality data, i.e. based on revenue or sector average proxies. In the table above, the weighted average data quality score per asset class and business unit is presented.

### Update of previously disclosed data

For this disclosure of emissions associated with our 2022 year-end positions, compared to the same information published in ING's 2022 Annual Report, we improved the data quality of our balance sheet data for our clients in Wholesale Banking. This update resulted in higher ING-attributed emissions. In addition, the outstanding in scope of the financed emissions calculations has been updated for Wholesale Banking and Business Banking to comply with PCAF methodology, which required us to include only funded (on-balance exposures) in the measured outstanding - while we previously included also unfunded exposures. Therefore, while ING generally reports guarantees as outstanding, these positions are now deducted from the ING reported outstanding in line with the PCAF GHG Accounting and Reporting Standard, resulting in lower financed emissions. Compared to the reported financed emissions in the 2022 Annual Report, the net effect of these two improvements led to an increase of financed emissions of 9.4% compared to the reported financed emission in the 2022 Annual Report of 56,008 in kt CO<sub>2</sub>e.

# TCFD alignment table

The following table provides reference to ING's progress on implementing the 11 TCFD recommended disclosures covered as part of this report.

TCFD Recommended Disclosures			Section Reference	Sub-Section Reference	Page number(s)
Governance	a	Describe the board's oversight of climate-related risks and opportunities.	Governance	Integrating sustainability into our governance structures	7
			Governance	Introduction	14-16
			Governance	ESG-linked remuneration	17
	b	Describe management's role in assessing and managing climate-related risks and opportunities.	Governance	Introduction	14-16
			Governance	ESG risk governance	16-17
Strategy	a	Describe the climate-related risks and opportunities the organisation has identified over the short, medium, and long term.	Strategy	Aiming for net zero in our own operations	22-23
			Strategy	Engaging with, advising and financing clients for positive climate impact	25-29
			Risk management	Risk identification	35-36
	b	Describe the impact of climate-related risks and opportunities on the organisation's business, strategy and financial planning.	Strategy	Aiming for net zero in our own operations	22-23
			Strategy	Engaging with, advising and financing clients for positive climate impact	25-29
	c	Describe the resilience of the organisation's strategy, taking into consideration different climate-related scenarios, including a two-degree or lower scenario.	Strategy	Steering our portfolios along the path to net zero with Terra	24-25
		Risk management	Stress testing	39-40	
Risk management	a	Describe the organisation's processes for identifying and assessing climate-related risks.	Risk management	Risk identification	35-36
	b	Describe the organisation's processes for managing climate-related risks.	Risk management	Our approach to managing climate risk	35-41
	c	Describe how processes for identifying, assessing, and managing climate-related risks are integrated into the organisation's overall risk management.	Risk management	The ESR framework	39
Risk management			Risk mitigation	39	
Metrics and targets	a	Disclose the metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process.	Metrics and targets	Aiming for net zero in our own operations	43-46
			Metrics and targets	Appendix A: Terra Measurement and reporting details	94-107
			Metrics and targets	Appendix A: Financed emissions	108
			Metrics and targets	Finance mobilised to support clients' transitions	110
	b	Disclose scope 1, scope 2, and, if appropriate scope 3 GHG emissions, and the related risks.	Metrics and targets	Appendix A: Financed emissions	108
	c	Describe the targets used by the organisation to manage the climate-related risks and opportunities and performance against targets.	Metrics and targets	The Terra Toolbox and Climate Alignment Dashboard	54-55
			Metrics and targets	Aiming for net zero in our own operations	43-46

# Finance mobilised to support clients' transitions

To support our Wholesale Banking clients with their sustainability efforts, we have set a target to mobilise €125 billion per annum by 2025 of financing that contributes to our clients' transitions to more sustainable business models.

With this commitment, we capture the volumes of the following products that support our clients in their transition:

- Sustainability-linked loan products
- Green, social and sustainability loans
- Sustainable structured finance transactions
- Green, social, transition and sustainability bonds and sustainability-linked bonds
- Green and sustainability-linked Schuldscheine
- Sustainable Asset-Backed Securities (ABS)
- Sustainability-linked derivatives
- Sustainability-linked Commercial Paper
- Green Commercial Paper
- Sustainability-linked Receivables Finance Program
- Green Receivables Finance Program
- Sustainable supply chain finance (SCF)
- Sustainability-linked Guarantee
- Green Guarantee
- Sustainable investments
- Advisory propositions for sustainable activities

The commitment makes a distinction between transactions where we are ESG lead (such as ESG coordinator or an ESG structuring role) and transactions where we do not fulfil such a role (like when we are part of a consortium of banks). In cases where we have the ESG lead role for a loan, we record the pro-rata share (in cases where there are multiple ESG leads) of the total transaction and if we merely participate, we only take our share into account. This methodology has been selected to reflect that if we are the ESG lead role for a transaction, we can pro-actively engage with our clients on their sustainability strategy, so our potential impact is more significant compared to a participation.

In more detail:

- **Loan products:** for loans such as sustainability-linked loans, green loans, in case we:
  - Only participate in a transaction with no ESG role, we limit ourselves to our own commitment.
  - When we fulfil an ESG lead role by structuring and/or coordinating the ESG debt structure, we reflect (our pro rata share in) the full transaction given that we mobilised the transaction for our client.
    - For example: in a Revolving Credit Facility (RCF) with a limit of €1 billion where ING has a final take of €100 million. The nature of RCFs is that they are fluctuating and therefore can be fully or partially drawn by the client at any time depending on their liquidity needs throughout the year. Therefore we record the RCF limit, where we differentiate between our role as a participant and as an ESG coordinator:
      - If we are a participant only: we register our final take of €100 million in the €1 billion limit;
      - If we are the ESG coordinator: we register the entire €1 billion in case we are sole ESG coordinator, and our pro-rata share in case there are multiple ESG coordinators, to reflect our efforts of supporting our clients in their transition by addressing key ESG topics.
- **Capital markets products:** for the bonds we record in accordance with the role we take:
  - ESG lead role: if we are the ESG structurer or coordinator we take our pro-rata share of the full transaction, as we believe it properly reflects our contribution to support our clients to achieve their sustainability transition (for the avoidance of doubt: if we are the sole ESG structurer/coordinator we register the entire transaction, but if we for example are a joint structurer/coordinator with another bank, we only register the pro-rata part of the transaction as volume mobilised);
  - Other roles: when we do not fulfil the ESG lead role, we only register our share of the bond, where we make a distinction between passive bookrunner roles and active bookrunner roles.
- **Derivatives:** For sustainable derivatives such as interest rate swaps we record the full notional amount hedged with ING. To prevent double counting, we exclude from the total any sustainable derivatives used to hedge sustainability-linked loans (or other securities) already included in our total.
- **Transaction Services products** follow the same reporting protocol as Loan products.
- **Sustainable Investments:** for financing solutions provided by our Sustainable Investments team (equity and subordinated debt solutions), we report ING's final take in the transaction at closing.
- **Advisory propositions for sustainable activities:** we are increasingly asked to provide tailored ESG advice to our clients and we also address ESG-related topics as key part of our client engagements. When we provide such advice related to a financial transaction not yet captured as a ESG bond, loan or derivative, to avoid double counting we report:
  - The full transaction when we are the sole ESG advisor.

- The pro-rata share if we fulfilled a joint ESG advisory mandate.

To realise our 2025 target, we aim to actively steer on increasing the share of sustainable transactions and ESG lead roles in our overall number of transactions through companywide KPIs as well as striving to ramp up our sustainable finance capabilities.

# List of abbreviations

2DII: 2° Investing Initiative  
 ABS: Asset-Backed Securities  
 AC: Audit Committee  
 AD: Alignment Delta  
 AER: Annual Efficiency Ratio  
 AFM: Dutch Authority for Financial Markets  
 AR: ING Annual Report  
 BB: Business Banking  
 boe: barrels of oil equivalent  
 CO<sub>2</sub>: Carbon Dioxide  
 CO<sub>2</sub>e: Carbon Dioxide equivalent  
 C&E: climate and environmental  
 CAD: Climate Alignment Dashboard  
 CAS: Corporate Audit Services  
 CBS: Statistics Netherlands  
 CCAF: Center for Climate-Aligned Finance  
 CCS: Carbon Capture and Storage  
 CCUS: Carbon Capture Utilisation and Storage  
 CEO: Chief executive officer  
 CDP: formerly the Carbon Disclosure Project  
 CfDs: Contracts for Difference  
 CFP: Corporate Facility Partner  
 cgDist: capacity gross ton difference  
 COO: Chief Operations Officer  
 CRE: commercial real estate  
 CRREM: Carbon Risk Real Estate Monitor  
 CSIRO: Commonwealth Scientific and Industrial Research Organisation  
 CSRD: Corporate Sustainability Reporting Directive  
 CTF: Climate Transformation Fund  
 CTO: Chief Technology Officer  
 DCS: IMO Data Collection System  
 DisCom: Disclosure Committee  
 EAD: Exposure at Default  
 EBA: European Banking Authority  
 ECB: European Central Bank

EIB: European Investment Bank  
 EPBD: Energy performance of Buildings Directive  
 EP: Environmental Programme  
 EPC: Energy Performance Certificates  
 ESA: European Supervisory Agencies  
 ESG: Environmental, Social and Governance  
 ESMA: European Securities and Markets Association  
 ESR: Environmental and Social Risk  
 EVs: Electric Vehicles  
 FPSO: Offshore Oil and Gas Production Service  
 FSB: Financial Stability Board  
 GGCTA: Global Credit Committee Transaction Approval  
 GCTP: Global Credit and Trading Policy Committee  
 GHG: Greenhouse gases  
 GFANZ: Glasgow Financial Alliance for Net Zero  
 GLC: Green-Light Committee  
 ICAAP: Internal Capital Adequacy Assessment Process  
 ICLAAP: Individual Capital and Liquidity Adequacy Assessment Process  
 ICE: Internal Combustion Engine  
 ICMA: International Capital Markets Association  
 IEA: International Energy Agency  
 IFRS: International Financial Reporting Standards  
 IMO: International Maritime Organisation  
 IOC: Integrated oil and gas company  
 IPC: ING's Private Cloud  
 ISF: Institute for Sustainable Futures  
 KPI: Key Performance Indicator  
 KYC: Know Your Customer  
 KYS: Know Your Supplier  
 LDV: Light Duty Vehicle  
 LMA: Loan Market Association  
 LSTA: Loan Syndications and Trading Associations

LTV: loan-to-value  
 MBB: Management Board Banking  
 MOT: Ministry of Transport  
 MPA: Maritime and Port Authority  
 NAICS: North American Industry Classification System  
 NETI: New Energy Technology Institute  
 NACE: Nomenclature of Economic Activities  
 NVB: Dutch Banking Association  
 NZBA: Net-Zero Banking Alliance  
 NZE: International Energy Agency's Net Zero Emissions by 2050 Scenario  
 O&G: oil and gas  
 OEM: Original Equipment Manufacturer  
 PACTA: Paris Agreement Capital Transition Assessment  
 PAS: Portfolio Alignment Score  
 PCAF: Partnership for Carbon Accounting Financials  
 PP: Poseidon Principles  
 PPA: purchase power agreement  
 PRB: Principles for Responsible Banking  
 RAS: Risk Appetite Statement  
 REF BB NL: Real Estate Finance Business Banking Netherlands  
 RB: Retail Banking  
 RCF: Revolving Credit Facility  
 REF: Real Estate Finance  
 REIT: Real Estate Investment Trust  
 RMI: formerly the Rocky Mountain Institute  
 RO: Recognised Organisation  
 RPK: Revenue Passenger Kilometre  
 RSRs: Responsible Shipping Recycling Standards  
 RVO: Netherlands Enterprise Agency (Rijksdienst voor Ondernemend Nederland)  
 SAF: Sustainable Aviation Fuel

SB: Supervisory Board  
 SBTi: Science Based Targets initiative  
 SCF: Supply Chain Finance  
 SCO: Senior credit officer  
 SDGs: Sustainable Development Goals  
 SDS: Sustainable Development Scenario  
 SdT: Sociedad de Tasación  
 SLL: Sustainability-linked loan  
 SME: Small and Medium-sized Enterprises  
 SOC: Statement of Compliance  
 SPC: Sustainable Process Index  
 SSM: Single Supervisory Mechanism  
 SSP: Sustainable STEEL Principles  
 T&D: transmission & distribution  
 TCF: Trade and Commodity Finance  
 TCFD: Task Force on Climate-related Financial Disclosures  
 TCO: total cost of ownership  
 TNO: The Netherlands Organisation for Applied Scientific Research (De Nederlandse Organisatie voor toegepast-natuurwetenschappelijk onderzoek)  
 UN: United Nations  
 UNEP-FI: United Nations Environment Programme Finance Initiative  
 vkm: vehicle-kilometre  
 WB: Wholesale Banking  
 WPS: Workplace Services

# Important legal information

Certain of the statements contained herein are not historical facts, including, without limitation, certain statements made of future expectations and other forward-looking statements that are based on management's current views and assumptions and involve known and unknown risks and uncertainties that could cause actual results, performance, or events to differ materially from those expressed or implied in such statements. Actual results, performance or events may differ materially from those in such statements due to a number of factors, including, without limitation:

- (1) changes in general economic conditions and customer behaviour, in particular economic conditions in ING's core markets, including changes affecting currency exchange rates and the regional and global economic impact of the invasion of Russia into Ukraine and the related international response measures
- (2) ongoing and residual effects of the Covid-19 pandemic and related response measures on economic conditions in countries in which ING operates
- (3) changes affecting interest rate levels
- (4) any default of a major market participant and related market disruption
- (5) changes in performance of financial markets, including in Europe and developing markets
- (6) fiscal uncertainty in Europe and the United States
- (7) discontinuation of or changes in 'benchmark' indices
- (8) inflation and deflation in our principal markets
- (9) changes in conditions in the credit and capital markets generally, including changes in borrower and counterparty creditworthiness
- (10) failures of banks falling under the scope of state compensation schemes
- (11) non-compliance with or changes in laws and regulations, including those concerning financial services, financial economic crimes and tax laws, and the interpretation and application thereof
- (12) geopolitical risks, political instabilities and policies and actions of governmental and regulatory authorities, including in connection with

- the invasion of Russia into Ukraine and related international response measures
- (13) legal and regulatory risks in certain countries with less developed legal and regulatory frameworks
- (14) prudential supervision and regulations, including in relation to stress tests and regulatory restrictions on dividends and distributions (also among members of the group)
- (15) ING's ability to meet minimum capital and other prudential regulatory requirements
- (16) changes in regulation of US commodities and derivatives businesses of ING and its customers
- (17) application of bank recovery and resolution regimes, including write-down and conversion powers in relation to our securities
- (18) outcome of current and future litigation, enforcement proceedings, investigations or other regulatory actions, including claims by customers or stakeholders who feel misled or treated unfairly and other conduct issues
- (19) changes in tax laws and regulations and risks of non-compliance or investigation in connection with tax laws, including FATCA
- (20) operational and IT risks, such as system disruptions or failures, breaches of security, cyber-attacks, human error, changes in operational practices or inadequate controls including in respect of third parties with which we do business
- (21) risks and challenges related to cybercrime including the effects of cyberattacks and changes in legislation and regulation related to cybersecurity and data privacy

- (22) changes in general competitive factors, including ability to increase or maintain market share
- (23) inability to protect our intellectual property and infringement claims by third parties
- (24) inability of counterparties to meet financial obligations or ability to enforce rights against such counterparties
- (25) changes in credit ratings
- (26) business, operational, regulatory, reputation, transition and other risks and challenges in connection with climate change and ESG-related

- matters including data gathering and reporting
- (27) inability to attract and retain key personnel
- (28) future liabilities under defined benefit retirement plans
- (29) failure to manage business risks, including in connection with use of models, use of derivatives, or maintaining appropriate policies and guidelines
- (30) changes in capital and credit markets, including interbank funding, as well as customer deposits, which provide the liquidity and capital required to fund our operations, and
- (31) the other risks and uncertainties detailed in the most recent annual report of ING Groep N.V. (including the Risk Factors contained therein) and ING's more recent disclosures, including press releases, which are available on [www.ING.com](http://www.ING.com).

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Society is transitioning to a low-carbon economy. So are our clients, and so is ING. We finance a lot of sustainable activities, but we still finance more that's not. See how we're progressing at [ing.com/climate](http://ing.com/climate)

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