

AmBank Group Net Zero Transition Plan

JULY 2025



Shaping Tomorrow
Together

ABOUT THIS DOCUMENT

This “AmBank Group Net Zero Transition Plan – *Shaping Tomorrow Together*” White Paper (the “NZTP White Paper”) outlines the approach undertaken by AmBank Group (or “the Group”) in developing the 2030 near-term targets for select hard-to-abate sectors for the Group’s inaugural Net Zero Transition Plan (NZTP), that has been tailored for the Malaysian landscape. This NZTP White Paper also provides a high-level overview of the Group’s transition strategies to continue supporting customers in the select hard-to-abate sectors, as they transition their business models and adopt more sustainable practices to achieve their decarbonisation objectives.

► ACKNOWLEDGMENTS

This NZTP White Paper is the culmination of a group-wide effort with involvement from Group Sustainability, our Lines of Businesses, Group Risk Management, the Group Management Committee, the Board Risk Management Committee, and the Board of Directors of AmBank Group covering AMMB Holdings Berhad, AmBank (M) Berhad, AmBank Islamic Berhad, and AmInvestment Bank Berhad.

► FEEDBACK

We welcome all feedback, comments and inquiries from our stakeholders on this NZTP White Paper as we hope to encourage engagement and dialogue with our stakeholders. Please contact us at sustainability@ambankgroup.com with any suggestions or questions you may have.



About This Document

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GROUP CHIEF EXECUTIVE OFFICER—FOREWORD

Climate change is no longer a distant future—it is a defining challenge of our time that we must address today. As a financial institution entrusted with enabling Malaysia’s growth, AmBank Group recognises the key role we play in shaping a sustainable, low-carbon future. The transition to a Net Zero economy is not merely an environmental necessity—it is a generational opportunity to unlock new economic value, foster innovation, and ensure long-term resilience.

At the heart of our refreshed strategy, **Winning Together 2029 (WT29)**, lies a renewed commitment to sustainability. It stands as one of the three foundational pillars of AmBank Group’s operating model, underpinning our pursuit of long-term value creation and institutional resilience. We view sustainability as our legitimacy to operate, where embracing sustainability will help us manage Environmental, Social and Governance (ESG) issues and deliver purpose-driven outcomes for our customers and communities.

Our commitment to achieve Net Zero by 2050 unlocks new opportunities with our customers, to drive profitable growth that is premised on our objective of *Shaping Tomorrow Together*. With this in mind, we recognise the need to balance being proactive as well as being pragmatic. Malaysia’s transition must consider its socio-economic context. For us at AmBank Group, this means playing a dual role—accelerating the green economy while supporting our customers in their journey to decarbonise.

From scaling renewable energy to supporting emission reductions in industrial sectors, we are committed to being a catalyst for change—mobilising capital, building partnerships, and enabling low-emission pathways that are fair and equitable.

We understand that the path to Net Zero will not be linear. These hard-to-abate sectors remain vital to our national development and require time, technological advancements, and investments to evolve. We firmly believe that financial institutions like ours must lead with resolve and act with responsibility. By working collaboratively with customers, policymakers, and partners, we can align decarbonisation with economic opportunities.

This is not a journey we take alone. Our customers’ success in deploying clean technologies and transitioning to sustainable business models is central to our own progress. Together, we must build the systems, tools, and financing structures necessary for a just, inclusive, and orderly transition. While the road ahead will demand courage, collaboration, and consistency, it also offers us the chance to reimagine growth—growth that is inclusive, climate-aligned, and enduring. At AmBank Group, we are ready to lead, ready to partner, and ready to shape a more sustainable Malaysia, winning together with our stakeholders.

Jamie Ling,
Group Chief Executive Officer,
AmBank Group



At the heart of our refreshed strategy, **Winning Together 2029 (WT29), lies a renewed commitment to sustainability.**



MESSAGE FROM CHIEF SUSTAINABILITY OFFICER

The climate transition is no longer a future ambition; it is a structural shift already underway. We are witnessing a recalibration of global financial systems, industrial models, and national development agendas as governments and markets respond to the accelerating risks posed by climate change.

In 2018, the Intergovernmental Panel for Climate Change (IPCC) published a special report outlining unequivocal evidence of human-induced greenhouse gas (GHG) emissions which resulted in the steady warming of the planet. Scientific consensus has set a clear boundary: to remain within a safe climate threshold, global warming must be limited to well below 2°C. Crossing this line increases the likelihood of cascading economic and ecological disruptions.

In response, countries are strengthening their policy signals and investment roadmaps. Malaysia's own National Energy Transition Roadmap (NETR) sets a bold direction, targeting a shift from fossil fuel dependency to a green, high-value economy. This roadmap will open investment opportunities of between RM435 billion and RM1.85 trillion by 2050, and the creation of 300,000 new jobs by 2050.

As AmBank Group's Chief Sustainability Officer, I see our role as both enabler and integrator—mobilising capital, aligning risk frameworks, and embedding transition considerations into financial decision-making. Our inaugural Net Zero Transition Plan (NZTP) is purpose-built to guide this effort. It focuses especially on the select hard-to-abate sectors, which are industries essential to Malaysia's growth but are facing elevated climate risks and limited near-term alternatives.

The development of the NZTP is underpinned by three fundamental principles—AmBank Group aims to be a *responsible financial institution* by *adopting a pragmatic approach* considering the Malaysian economy and operating landscape and *ensuring credibility is maintained* through relevant science-based pathways as references.



The “AmBank Group Net Zero Transition Plan – *Shaping Tomorrow Together*” White Paper (the “NZTP White Paper”) outlines how we will work with customers to support their decarbonisation and transition efforts through strategic mobilisation of financing. Through the operationalisation of our NZTP in the coming years, we will continue our efforts to support our customers and intensify collaboration and alignment with stakeholders. We will enhance internal capabilities and processes as well as review and refine our targets and methodologies regularly.

This NZTP White Paper is not a static document. The methodologies, data sets, and policy frameworks that underpin our plan will continue to evolve—and so will we. Our approach is designed to be iterative, transparent, and responsive. Through regular progress reviews, disclosures, and stakeholder engagements, we aim to ensure that our plan remains adaptive and impactful.

The climate transition is complex, but it is navigable—with commitment, clarity, and collaboration. At AmBank Group, we are embedding these principles into our strategy and operations, and we stand ready to support our customers, partners, and policymakers on this critical journey.

Amanah Aboobucker,
Chief Sustainability Officer,
AmBank Group

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EXECUTIVE SUMMARY



Achieving Net Zero by 2050 is imperative to meet the goal of the Paris Agreement—to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels”—as well as avoiding the most severe and harmful effects of climate change.

AmBank Group acknowledges the impact that climate change has on its business and operations in Malaysia. To this end, AmBank Group announced its commitment to achieve Net Zero by 2050¹. Significant efforts are required to reduce GHG emissions by the customers that we finance, as captured in our Scope 3, Category 15: Investments² (or “financed emissions”). The development of the inaugural Net Zero Transition Plan (NZTP) is underpinned by three fundamental principles—AmBank Group aims to be a *responsible financial institution* by *adopting a pragmatic approach* considering the current landscape of the Malaysian economy, *ensuring credibility is maintained* through relevant science-based pathways as references.

The “AmBank Group Net Zero Transition Plan – *Shaping Tomorrow Together*” White Paper (the “NZTP White Paper”) outlines the 2030 near-term targets for the select hard-to-abate sectors to reduce their emission intensities. Where possible, we selected reference scenarios tailored to unique circumstances and challenges in Malaysia. We established our targets for 2030¹ (hereinafter referred to “2030 Near-term targets”) as a checkpoint in our long-term goal to achieve Net Zero by 2050¹ (hereinafter referred to “2050 Net Zero targets”).

¹ 2030 refers to FY2031 and 2050 refers to FY2051. AmBank Group’s financial year end is 31st March.

² GHG Protocol, (2015), GHG Protocol Corporate Accounting and Reporting Standard

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An overview of the key design decisions and 2030 near-term targets can be seen in the table below:

Table 1: Overview of Key Design Decisions and 2030 Near-term Targets of Select Hard-to-abate Sectors

Economic Focus Area	Sector	Value Chain Scope	Emissions Scope	Target Metric	Reference Scenario	FY2024 Baseline	2030 Near-term Target [% Reduction From Baseline]
Agriculture 	Palm Oil 	<ul style="list-style-type: none"> Oil palm plantations Crude Palm Oil (CPO) milling Integrated palm oil companies 	<ul style="list-style-type: none"> Scope 1 Scope 2 	Emissions intensity – tCO ₂ e/ tonne of CPO	Science-based Targets Initiative (SBTi) Forest, Land, and Agriculture (FLAG) Commodity Pathway for Palm Oil (Regional–Southeast Asia (SEA)) Augmented for National Energy Transition Roadmap (NETR) and National Biomass Action Plan (NBAP)	1.69	1.49 [▼12%]
Energy 	Thermal Coal Mining 	<ul style="list-style-type: none"> Thermal coal mining 	<i>Not relevant</i>		<i>Phase out existing exposure to customers in the Thermal Coal Mining by 2030</i>		
	Power Generation 	<ul style="list-style-type: none"> Power generation operators 	Scope 1	Emissions intensity – kgCO ₂ e/ MWh of power produced	Augmented Malaysia Pathway Adjusted for NETR	468	379 [▼19%]
Oil & Gas 	<ul style="list-style-type: none"> Integrated National Oil & Gas company Crude oil refineries Exploration & Production companies 	<ul style="list-style-type: none"> Scope 1 Scope 2 		Financed emissions lending intensity – tCO ₂ e/ RM million financed	International Energy Agency (IEA) Announced Pledges Scenario (APS) (Global) 2030	108	73 [▼32%]

Executive Summary

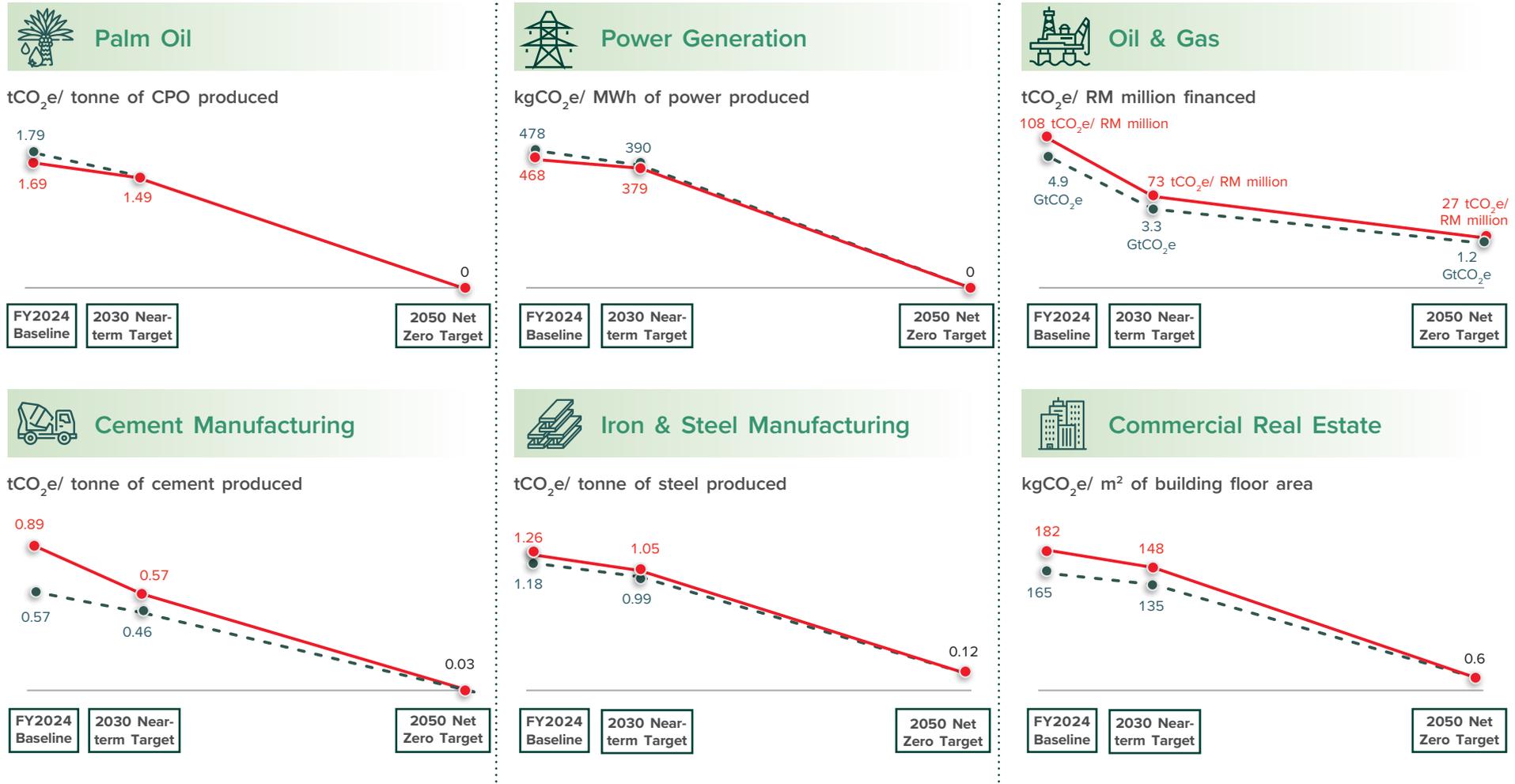
Table 1: Overview of Key Design Decisions and 2030 Near-term Targets of Select Hard-to-abate Sectors (cont'd)

Economic Focus Area	Sector	Value Chain Scope	Emissions Scope	Target Metric	Reference Scenario	FY2024 Baseline	2030 Near-term Target [% Reduction From Baseline]
Built Environment 	Cement Manufacturing	<ul style="list-style-type: none"> Cement manufacturers 	<ul style="list-style-type: none"> Scope 1 Scope 2 	Emissions intensity – tCO ₂ e/ tonne of cement	SBTi IEA Net Zero Emissions (NZE) Pathway for Cement (Global)	0.89	0.57 [▼36%]
							
	Iron & Steel Manufacturing	<ul style="list-style-type: none"> Crude steel manufacturers 	<ul style="list-style-type: none"> Scope 1 Scope 2 	Emissions intensity – tCO ₂ e/ tonne of steel	Mission Possible Partnership (MPP)– Technology Moratorium (TM) Scenario (Regional–SEA)	1.26	1.05 [▼17%]
							
Commercial Real Estate	<ul style="list-style-type: none"> Operational phase of commercial buildings 	<ul style="list-style-type: none"> Scope 1 Scope 2 Scope 3 	Emissions intensity – kgCO ₂ e/ m ² of building floor area	Adjusted Carbon Risk Real Estate Monitor (CRREM) for Malaysia Grid Emission Factor (GEF) and NETR	182	148 [▼18%]	
							

Executive Summary

The sectoral decarbonisation pathways for the select hard-to-abate sectors are illustrated in the following table below:

Table 2: Decarbonisation Pathways to 2050 with the corresponding 2030 Near-term Targets, 2050 Net Zero Targets, and Reference Pathways



Reference Pathways:

- Palm Oil: Science-based Targets Initiative (SBTi) Forest, Land, and Agriculture (FLAG) Commodity Pathway for Palm Oil (Regional–Southeast Asia (SEA)) Augmented for National Energy Transition Roadmap (NETR) and National Biomass Action Plan (NBAP)
- Power Generation: Augmented Malaysia Pathway Adjusted for NETR
- Oil & Gas: International Energy Agency (IEA) Announced Pledges Scenario (APS) (Global) 2030
- Cement Manufacturing: SBTi IEA Net Zero Emissions (NZE) Pathway for Cement (Global)

- Iron & Steel Manufacturing: Mission Possible Partnership (MPP)–Technology Moratorium (TM) Scenario (Regional–SEA)
- Commercial Real Estate: Adjusted Carbon Risk Real Estate Monitor (CRREM) for Malaysia Grid Emission Factor (GEF) and NETR

Note: 2030 refers to FY2031 and 2050 refers to FY2051. AmBank Group's financial year end is 31st March.

Executive Summary

To support the effective implementation of the NZTP, AmBank Group established position statements for customers operating in the select hard-to-abate sectors. These statements are design to align customers actions with the Group’s ambitions, reflecting the Group’s proactive approach to engage with customers in ensuring continuous improvement of their sustainability practices.

Each statement sets out:

Negative Threshold Criteria/ Prohibitions:

Describes the activities or standards that must not be contravened, for which AmBank Group would not extend financing.

Positive Threshold Criteria:

Describes the actions that the Group may take to guide and facilitate customers’ transition to energy-efficient and low-carbon business models.

Non-mandatory but expectations over time and best practices that are encouraged:

Describes the industry best practices by customers that are still an expectation and is strongly encouraged to be fulfilled over time.

Table 3: Summary of AmBank Group’s Position Statements on Select Hard-to-abate Sectors

Economic Focus Area	Sector	 Negative Threshold Criteria/ Prohibitions	 Positive Threshold Criteria	 Non-mandatory but expectations over time and best practices that are encouraged
Agriculture 	Palm Oil 	We will not finance any activities that contravene the No Deforestation, No New Peat, and No Exploitation (NDPE) commitments.	We will adopt the NDPE stance. We will selectively on-board new customers who have clear transition plans and established net zero targets.	New and existing customers are encouraged to obtain additional sustainable palm oil certification.
Energy 	Thermal Coal Mining 	We will phase out existing exposure to customers in the thermal coal mining sector by 2030, unless we are required to support energy security needs as declared by the Malaysian government.	<i>Not applicable as the Group is to phase out exposure to Thermal Coal Mining by 2030.</i>	
	Power Generation 	We will cease financing new greenfield coal-fired power plants (CFPPs) in line with national agenda and commitments. Existing customers with business activities in CFPPs are to showcase a clear transition plan and manage the phase-out. i.e. retire and/ or repurpose with cleaner alternative sources of energy.	We will provide financing to help new and existing customers in fossil-fuel based energy sources to transition towards low-carbon and renewable energy sources.	We will prioritise allocation of capital to finance renewable energy projects in line with Malaysia’s National Energy Transition Roadmap (NETR) commitments. We will encourage our customers to develop and implement comprehensive transition plans and set net zero targets with clear, time-bound milestones.

Executive Summary

Table 3: Summary of AmBank Group's Position Statements on Select Hard-to-abate Sectors (cont'd)

Economic Focus Area	Sector	⊗ Negative Threshold Criteria/ Prohibitions	⊕ Positive Threshold Criteria	👍 Non-mandatory but expectations over time and best practices that are encouraged
Energy 	Oil & Gas 	Not applicable as the Group will continue supporting customers in these sectors.	<p>We will continue to support customers as they diversify their business models to address cleaner energy demands.</p> <p>We will regularly engage with customers to better understand their near-term targets and track progress of their transition to cleaner energy business models.</p>	We will encourage customers to establish and follow best sustainable practices relevant to the sector.
Built Environment 	Cement Manufacturing 		<p>We will regularly engage with customers to better understand their near-term targets and track progress of their transition to lower-carbon business models.</p>	We will encourage customers to develop and implement comprehensive transition plans and set net zero targets with clear, time-bound milestones.
	Iron & Steel Manufacturing 		<p>We will continue to support customers as they embrace sustainable technologies and commit to credible decarbonisation strategies.</p>	We will encourage customers to develop and implement comprehensive transition plans and set net zero targets with clear, time-bound milestones.
	Commercial Real Estate 		We will work closely with customers to provide financing for green and/ or more energy-efficient buildings and finance retrofitting projects.	We will encourage customers to meet minimum sustainability ratings of applicable national standards or guidelines for the construction of property or infrastructure.

Executive Summary

Achieving our 2030 near-term targets will serve as a crucial interim checkpoint towards our commitment to Net Zero by 2050. As part of our implementation plan, we have outlined the following priorities to achieve our 2030 near-term targets:

1. Supporting our customers' transition efforts

Our newly developed Sustainable Finance Product Framework (SFP Framework) outlines sustainable financing solutions and product offerings to assist our customers in achieving their Net Zero transition plans.

2. Strengthening collaboration and alignment with stakeholders

Working closely with government agencies, industry peers, and other stakeholders to establish a clear and coordinated roadmap for the Net Zero transition, aligning our initiatives with national policies, regulatory frameworks, and transition plans to ensure consistency and effectiveness.

3. Enhancing internal capabilities and processes

Strengthening internal governance structures, improving data collection processes, and building internal capabilities to support effective implementation and reporting. Streamlining our operational processes to ensure accurate and timely sustainability-related data management.

4. Reviewing and refining targets and methodologies regularly

Monitoring our progress against targets consistently. Reporting transparently on our efforts through our periodic sustainability disclosures. Reviewing and, if necessary, revising our targets, methodologies, and strategies to remain adaptive to changing circumstances, technologies, and government policies.

Figure 1: Four Priorities of AmBank Group's 2030 Near-term Targets





Introduction

Climate change presents one of the most pressing challenges of our time, with far-reaching implications for businesses, governments, and civil societies. As key enablers and integrators of the financial system, financial institutions play a pivotal role to accelerate the transition of businesses to energy-efficient and lower-carbon business models. AmBank Group is committed to drive positive change with sustainability as the legitimacy to operate, embedding it into every part of the Group's growth and operations, advancing responsible finance and climate resilience. This view is central to the Group's commitment to *Shaping Tomorrow Together* through the inaugural NZTP.

Your Bank. Malaysia's Bank. AmBank.™

INTRODUCTION

Climate change is one of the most complex issues of our time, presenting both risks and opportunities for businesses, governments, and civil societies. The World Economic Forum's Global Risks Report 2025 ranked the extreme weather events as one of the most severe threats in the long-term period for two years in a row. Pollution from the continued use of fossil fuels leads to more severe and an accelerated rate of climate change, causing more frequent and severe extreme weather events. The failure to mitigate climate change and adapt to climate change will be one of the most severe threats that will affect businesses, governments, and civil societies in the short- and long-term.

Net Zero refers to the reduction of greenhouse gas (GHG) emissions to as close to zero as possible. Achieving Net Zero is imperative to meet the goal of the Paris Agreement—to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels”—as well as avoiding the most severe and harmful effects of climate change. This requires global net GHG emissions to reach Net Zero around 2050. Governments and corporations around the world have responded to the clarion call to accelerate their decarbonisation efforts to address the effects of climate change. An increasing number of countries have published their commitments to achieve Net Zero emissions in recent years, triggered by both global climate and socio-economic drivers.



MALAYSIA'S EFFORTS IN THE NET ZERO JOURNEY

Malaysia has made progressive commitments to accelerate climate transition. In 2015, Malaysia became a signatory to the Paris Agreement and announced its Nationally Determined Contributions (NDC) to unconditionally reduce its economy-wide GHG emissions intensity against its Gross Domestic Product (GDP) of 35% in 2030 compared to 2005 levels, and a further 10% reduction conditional with the support of financial allocation, technological transfer, and capacity building from developed nations.

In 2021, Malaysia enhanced its NDC commitments to reduce its GHG emissions intensity against GDP of 45% in 2030 compared to 2005 levels on an unconditional basis. In addressing the ambitious NDC commitments to tackle the climate agenda while balancing the country's economic growth and energy trilemma—equity, sustainability, and security, the Malaysian government published various policies and frameworks. Among these frameworks include the National Energy Transition Roadmap (NETR), New Industrial Master Plan (NIMP) 2030, National Climate Change Policy (NCCP) 2.0, and the Carbon Capture, Utilisation and Storage (CCUS) Bill 2025. These policy plans provide a strategic framework on the transition to a low-carbon economy, enhancing Malaysia's climate resilience. At the time of writing, it is anticipated that Malaysia will revise its NDC commitments in 2025, to intensify its ambitions and increase its NDC commitments further.

Introduction

THE ROLE OF FINANCIAL INSTITUTIONS IN THE TRANSITION

Financial institutions play a pivotal role in supporting Malaysia's economy to decarbonise the real economy by providing the much-needed financing support. On a global scale, the Glasgow Financial Alliance for Net Zero (GFANZ) and Net-Zero Banking Alliance (NZBA) provide the frameworks and guidelines to provide the technical knowledge for financial institutions to commence charting credible decarbonisation pathways for a just and pragmatic transition. Closer to home, the Joint Committee on Climate Change (JC3), co-chaired by Bank Negara Malaysia (BNM) and the Securities Commission Malaysia (SC), leads the climate movement for financial institutions and Non-Bank Financial Institutions (NBFIs) with the aim of building the sector's resilience to climate change.

The role of financial institutions in the transition journey entails:



Figure 2: Three Roles of Financial Institutions in the Transition Journey to Decarbonise



³ IEA, (November 2024), Net Zero Roadmap: A Global Pathway to Keep the 1.5 °C Goal in Reach - 2023 Update

OUR COMMITMENT TO SUSTAINABILITY

AmBank Group recognises the urgency of addressing critical sustainability challenges, particularly climate change, and acknowledges its pivotal role as a Malaysian financial institution in driving sustainable progress. Sustainability is not merely a responsibility; it represents a strategic opportunity to strengthen the Group’s practices, enhance long-term profitability, and contribute meaningfully to a resilient and inclusive future for the organisation and its stakeholders.

At the heart of the Group’s **Winning Together 2029 (WT29)** strategy is a steadfast dedication to sustainability as the legitimacy to operate. By embedding sustainability into its operations, AmBank Group aims to create meaningful impact, foster positive transformation, and pave the way for long-term economic resilience and inclusive growth. This commitment focuses on creating shared values and promoting sustainable practices that build a more equitable and resilient society in *Shaping Tomorrow Together* through our Net Zero Transition Plan (NZTP).

Sustainable, Transition, and Green finance will be a key lever in achieving our ambitions. AmBank Group integrates sustainability considerations into its financial decision-making processes, supporting economic activities and projects that generate positive environmental and societal outcomes. This reinforces the Group’s role in supporting Malaysia’s broader transition towards a Net Zero economy.

Figure 3: AmBank Group’s Net Zero Strategy Approach



SHAPING TOMORROW TOGETHER



Sustainability has evolved into a global business imperative, with governments and businesses worldwide increasingly recognising the need to act. In Malaysia, the commitment towards sustainability is equally strong with key frameworks and policies to enhance Malaysia’s climate resilience. In response, AmBank Group has developed its inaugural NZTP and sector-specific decarbonisation pathways for select hard-to-abate sectors, aligning its 2030 near-term targets with the latest environmental and climate developments.

The Group’s approach is anchored by three fundamental principles: being a *responsible financial institution*; adopting a *pragmatic approach* tailored to the Malaysian economic and operating landscape; and *maintaining credibility* through adherence to relevant science-based pathways. A three-stage Strategy Approach is adopted, ensuring that AmBank Group’s transition strategy remains practical, locally relevant, and scientifically robust.

We believe this approach positions us to assist our customers in their own decarbonisation journeys, mobilising capital for transitional activities, and reinforcing our role in *Shaping Tomorrow Together* in a sustainable manner.



AmBank Group's Net Zero Strategy Approach

Our approach provides a structured framework to guide our selection of hard-to-abate sectors in our inaugural NZTP. Our Strategy Approach also entails the methodology adopted to establish sectoral decarbonisation pathways. With these pathways and 2030 near-term targets, we outline our position statements to align customers' actions with our sustainability ambitions. This holistic approach ensures alignment between AmBank Group's sustainability commitments with stakeholder expectations.

AMBANK GROUP'S NET ZERO STRATEGY APPROACH

PRINCIPLES



In measuring our financed emissions and setting our targets for select hard-to-abate sectors, we have adopted the following principles:

PRINCIPLE 1



Sectoral targets are established based on credible science-based reference scenarios

Targets are established with reference to credible, science-based reference scenarios to guide our near-term actions. At the same time, targets established reflect the unique characteristics and transition challenges of each sector. We adopted a tailored approach using sector-specific metrics that capture the most material activities contributing to emissions within each sector, as we acknowledge that decarbonisation within the economy does not occur uniformly across sectors.

To support this approach, models from reputable global institutions such as the IEA were assessed and adapted to form our baseline reference scenarios. This ensures our targets are grounded in the latest available climate science. We also recognise that methodologies, data, and climate modelling will continue to evolve. As such, we are committed to periodically reviewing and refining our approach in line with emerging science, technology, and best practices.

PRINCIPLE 2



2030 near-term targets to guide the Group's commitment towards Net Zero by 2050

As part of AmBank Group's broader commitment to achieve Net Zero by 2050, we have established 2030 near-term targets to guide our decarbonisation efforts. The establishment of these interim targets are aligned with internationally recognised practices and national strategies, including those adopted by the Malaysian government and financial institutions globally.

While our long-term commitment remains unchanged, we acknowledge the pressing need to act today. The 2030 near-term targets serve as practical milestones to initiate meaningful engagement with our customers, especially in select hard-to-abate sectors. These interim targets enable us to focus capital allocation on transition-aligned activities and technologies, ensuring we make measurable progress in this decade, while laying the foundation for the broader 2050 ambition.

AmBank Group's Net Zero Strategy Approach

PRINCIPLE 3



Sectoral decarbonisation trajectory is established with relevance to AmBank Group's portfolio and Malaysia's economic focus areas

We recognise the importance of aligning climate ambition with Malaysia's national development agenda in designing our sectoral decarbonisation pathways. A just and orderly transition requires balancing decarbonisation goals with the country's socio-economic aspirations—particularly as Malaysia pursues the high-income nation status⁴.

Given this context, we anticipate continued growth in key economic focus areas, including sectors that are considered hard-to-abate. Any premature scaling down of these sectors could hinder national productivity, disrupt livelihoods, and compromise access to essential resources. We prioritised hard-to-abate sectors that are highly relevant to our financing portfolio and to the domestic economy to signify our commitment to support the Malaysian economic growth aspirations.

We draw on local data, including projections from Malaysia's NETR, to inform our decarbonisation pathways. The NETR outlines a 32% reduction in emissions from the energy sector by 2050 (against a 2019 baseline) and forms a key reference for our sectoral decarbonisation strategy.

PRINCIPLE 4



Supporting our customers to transition

Achieving Net Zero by 2050 is not possible without enabling our customers to transition. Many of our customers are still in the early stages of their sustainability journey and require support to develop credible Net Zero plans and transition strategies. To address this, we have begun engaging and grouping our customers by maturity levels in their decarbonisation journeys. This allows us to identify areas of business opportunities, tailor our engagement, and identify appropriate financing solutions that match their needs and readiness. Our goal is to elevate ambition across our customer base, providing the tools, knowledge, and capital required to accelerate their progress toward sustainability.

We will continue to offer innovative sustainable, transition, and green financing products and services that supports key transition activities as guided by our SFP Framework. We remain committed to supporting customers in hard-to-abate sectors—working alongside them to ensure their transformation is both feasible and aligned with national and global climate goals.

⁴ Ministry of Economy, (August 2023), National Energy Transition Roadmap (NETR)

AmBank Group's Net Zero Strategy Approach

STANDARDS AND GUIDELINES



In setting our sectoral decarbonisation targets, we have been guided by the following standards and guidelines:



1. Partnership for Carbon Accounting Financials (PCAF)

The PCAF is an industry-led partnership to facilitate transparency and accountability of the financial industry to the Paris Agreement by developing and implanting a harmonised approach to assess and disclose the GHG emissions associated with their loans and investments (i.e. Scope 3, Category 15: Investments also known as financed emissions). The harmonised accounting approach provides financial institutions with the starting point required to set science-based targets and align their portfolio with the Paris Agreement.



2. Glasgow Financial Alliance for Net Zero (GFANZ)

The GFANZ is a private-sector-led initiative focused on mobilising capital and removing barriers to investment in the global transition to Net Zero by developing the tools necessary for the financial system to finance the transition to Net Zero. The work done by GFANZ focuses on three core areas; (i) developing new transition finance solutions to scale private capital available for the transition; (ii) accelerating the deployment of capital to enable emerging markets and developing economies to decarbonise and prosper; and (iii) driving ambitious and credible public policies that address the barriers to mobilising climate finance while driving economic growth. While we are not signatories of the GFANZ, the approach that we adopted to define the parameters of our sectoral decarbonisation pathways and set targets is in line with the guidance from GFANZ⁵.



3. Net Zero Banking Alliance (NZBA)

The NZBA is a global initiative, supporting financial institutions to lead on climate mitigation in line with the goals of the Paris Agreement. The NZBA has published the Guidance for Climate Target Setting for Banks—Version 3 in April 2025, which outlines key principles to set credible, robust, impactful and ambitious targets to achieve the Net Zero goal in alignment with the Paris Agreement. While we are not members of the NZBA, the approach we adopted to develop our Net Zero Strategy Approach and our inaugural NZTP is aligned with the guidance with the latest NZBA guidelines.

⁵ GFANZ, (June 2022), *Guidance on Use of Sectoral Pathways for Financial Institutions*

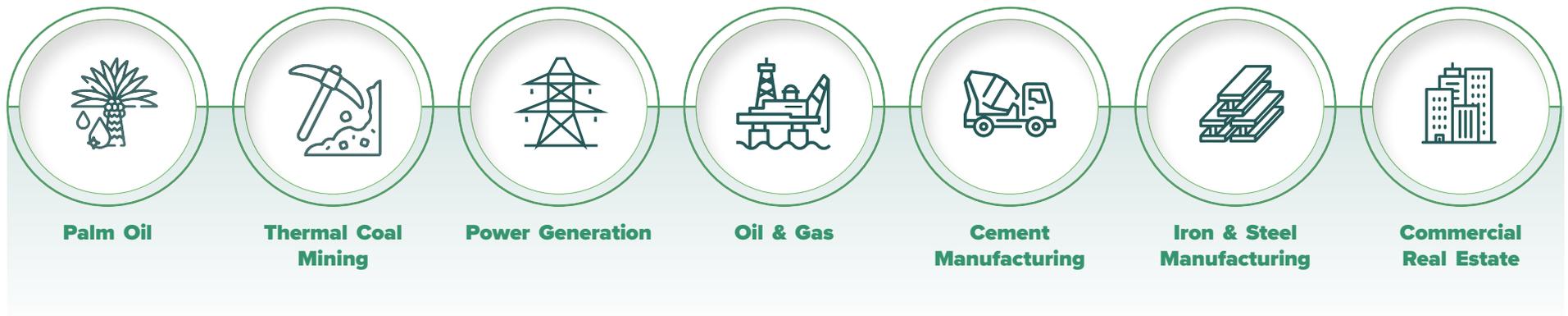
AmBank Group's Net Zero Strategy Approach

SELECT HARD-TO-ABATE SECTORS >>

Hard-to-abate sectors are carbon-intensive sectors that have heavy reliance on fossil fuels as feedstock for energy in their manufacturing processes and cannot easily switch to renewable energy sources or be fully electrified due to prohibitive costs and constraints in technological implementation.

To this end, AmBank Group has identified seven sectors for the development of its sectoral decarbonisation pathways for its inaugural NZTP. These seven hard-to-abate sectors are in line with the sectors articulated by the NZBA as carbon-intensive:

Figure 4: Seven Select Hard-to-abate Sectors



These sectors were selected because there is a clear and globally recognised direction for decarbonisation. The selection of these hard-to-abate sectors will provide opportunities for the Group to support Malaysia's economy and the businesses to decarbonise through AmBank Group's offering of sustainable, transition, and green financing products and services. There are also high interdependencies between these select hard-to-abate sectors. For one sector to successfully decarbonise, it would require one or more than one other sector to act in a consistent manner with the intention to decarbonise.

We have identified parts of the value chain which generate the highest portion of emissions in these sectors and have focused on these to set 2030 near-term targets. These sectors represent 39% of the Group's non-retail portfolio, excluding financial services, trading, and other services. The same hard-to-abate sectors contribute to 45% of our total financed emissions, underscoring the importance of targeted action in these areas.

AmBank Group's Net Zero Strategy Approach

Table 4: AmBank Group Exposure to Select Hard-to-abate Sectors

Seven Hard-to-abate Sectors	Percentage of Outstanding Balance (%)	Percentage of Financed Emissions (%)
Palm Oil	19.0	36.7
Thermal Coal Mining	0.3	2.1
Power Generation	16.9	13.5
Oil & Gas	25.8	10.9
Cement Manufacturing	0.3	5.1
Iron & Steel Manufacturing	17.1	28.8
Commercial Real Estate ³	20.6	2.9
TOTAL	100.0	100.0
Percentage of AmBank Group's Non-retail excluding financial services, trading, and other services ²	39.0	45.0

Notes:

1. Information represents data as at 31st March 2024 for all customers and counterparties in each sector.
2. Other Services include e.g. hotels, gambling, casino etc.
3. For Commercial Real Estate, we have also included the relevant outstanding balance and financed emissions applicable for the Retail portfolio in the development of the sectoral decarbonisation pathway.

AmBank Group's Net Zero Strategy Approach

METHODOLOGY FOR TARGET SETTING



AmBank Group adopts a four-step methodology to set our 2030 near-term targets: (1) Defining Design Parameters; (2) Establishing Baseline Emissions Intensity; (3) Selecting a Reference Scenario; and (4) Projecting Portfolio Trajectory.

1 Defining Design Parameters

A. Determine suitable target metrics

In setting sectoral decarbonisation targets, AmBank Group refers to guidance from the GFANZ, which recommends the use of absolute emissions metrics, intensity metrics, or a combination of both. Given the Group's continued commitment to supporting existing and new customers within the hard-to-abate sectors, intensity-based targets were selected. This approach allows AmBank Group to balance emissions reduction ambitions with the need to sustain economic activities, particularly in sectors critical to Malaysia's development.

B. Determine in-scope sector value chain

We recognise that emissions are not evenly distributed across value chains. To this end, we have identified parts of the value chain that we will finance which generate the highest portion of emissions and have focused on these to set 2030 near-term targets. Hard-to-abate sectors typically involve complex and interconnected value chains. However, only certain activities within these chains contribute significantly to total sector emissions. By concentrating on the most emission-intensive activities—and the companies with the greatest influence—we ensure that our decarbonisation efforts are both targeted and effective.

C. Determine relevant emissions scopes

Consistent with prevailing global standards and industry practices, AmBank Group's targets cover primarily Scope 1 (direct emissions) and Scope 2 (indirect energy-related emissions). Scope 3 emissions—which include other indirect emissions across the value chain—are incorporated selectively, where material to the sector's footprint. The definitions as defined by GHG Protocol⁶ are as follows:

Scope
1

Direct emissions from sources owned or controlled by the company.

Scope
2

Indirect emissions from purchased or imported energy use.

Scope
3

All other indirect emissions across upstream and downstream activities, segmented into 15 categories.

⁶ GHG Protocol, (2015), GHG Protocol Corporate Accounting and Reporting Standard

AmBank Group's Net Zero Strategy Approach

2 Establishing Baseline Emissions Intensity

AmBank Group establishes baseline emissions intensity to determine the starting point from which progress toward sectoral decarbonisation targets can be monitored. Depending on the selected target metric for a given sector, the baseline emissions intensities of the customers are calculated based on the actual reported data by the customers wherever available (e.g. Scope 1 and 2 emissions reported by the customers in publicly disclosed reports). If the actual reported data by the customers are not available, the baseline emissions intensities of the customers are calculated based on proxy data (e.g. emissions intensities of power generation assets).

For each sector, the baseline emissions intensity is aggregated based on weighted average of baseline emissions intensities of all customers by their on-balance outstanding balance as at 31st March 2024. A weighted average approach is used instead of simple average approach because the weighted average emissions intensities could reflect the attribution of AmBank Group's financing towards customers with higher or lower emissions intensities in the portfolio. For example, the weighted average emissions intensity for a given sector will be higher when more financing (in outstanding balance) is attributed towards customers operating with higher emissions intensities, and vice versa.

Upcoming frameworks, such as the National Sustainability Reporting Framework (NSRF) and IFRS S2 Climate-related Disclosures, are expected to improve disclosure practices. However, these regulatory developments will affect smaller companies, who may continue to face challenges in compiling comprehensive and precise GHG emissions data due to technical and resource constraints. The PCAF standard advises banks to prioritise the highest quality data available.



In accordance with the PCAF standard, AmBank Group prioritises the use of highest quality emissions data available, following this hierarchy of prioritisation:

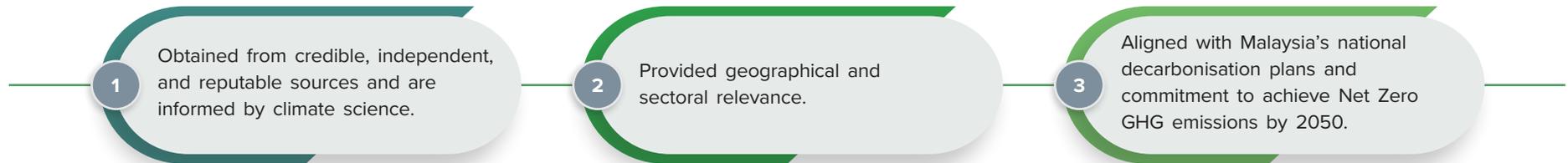
- 1 Direct customer-reported data;
- 2 Bottom-up asset level estimates;
- 3 Parent company reporting—in cases where entity-level customer data is unavailable; and
- 4 Proxy values derived from sector or national averages based on scientific literature (if direct data is unavailable).

AmBank Group's Net Zero Strategy Approach

3 Selecting a Reference Scenario

GFANZ defines a scenario as “projections of what can happen by creating plausible, coherent, and internally consistent descriptions of possible climate change futures. Scenarios are not predictions of the future.” The reference scenario selected is important as it provides clarity on whether there is a gap in our projected 2030 emissions based on where they need to be to meet the Net Zero by 2050 future.

We selected reference scenarios that were developed and maintained by credible and reputable bodies for each sector, considering the different levers, GHG contributions, and technological maturity of each sector respectively. The selection of AmBank Group's reference scenarios used for sectoral decarbonisation pathways is guided by the following criteria:



4 Projecting Portfolio Trajectory

In projecting the emissions baseline to 2030, we first incorporated considerations of plans and policies by the Malaysian government for the select hard-to-abate sectors. NETR provides an excellent basis to project the economic activities for a Net Zero by 2050 future and we have used the assumptions and initiatives outlined in NETR in the projection of our emissions to 2030 and 2050.

We also evaluated potential industry technological developments for each select hard-to-abate sector, with respect to the frameworks and roadmaps by the Malaysian government. For instance, NIMP serves as a reference in projecting the emissions for the Oil & Gas sector, where the Petroleum Products and Petrochemicals industry is expected to embark, encourage, and promote carbon offsetting initiatives using new and emerging technologies for the industry⁷.

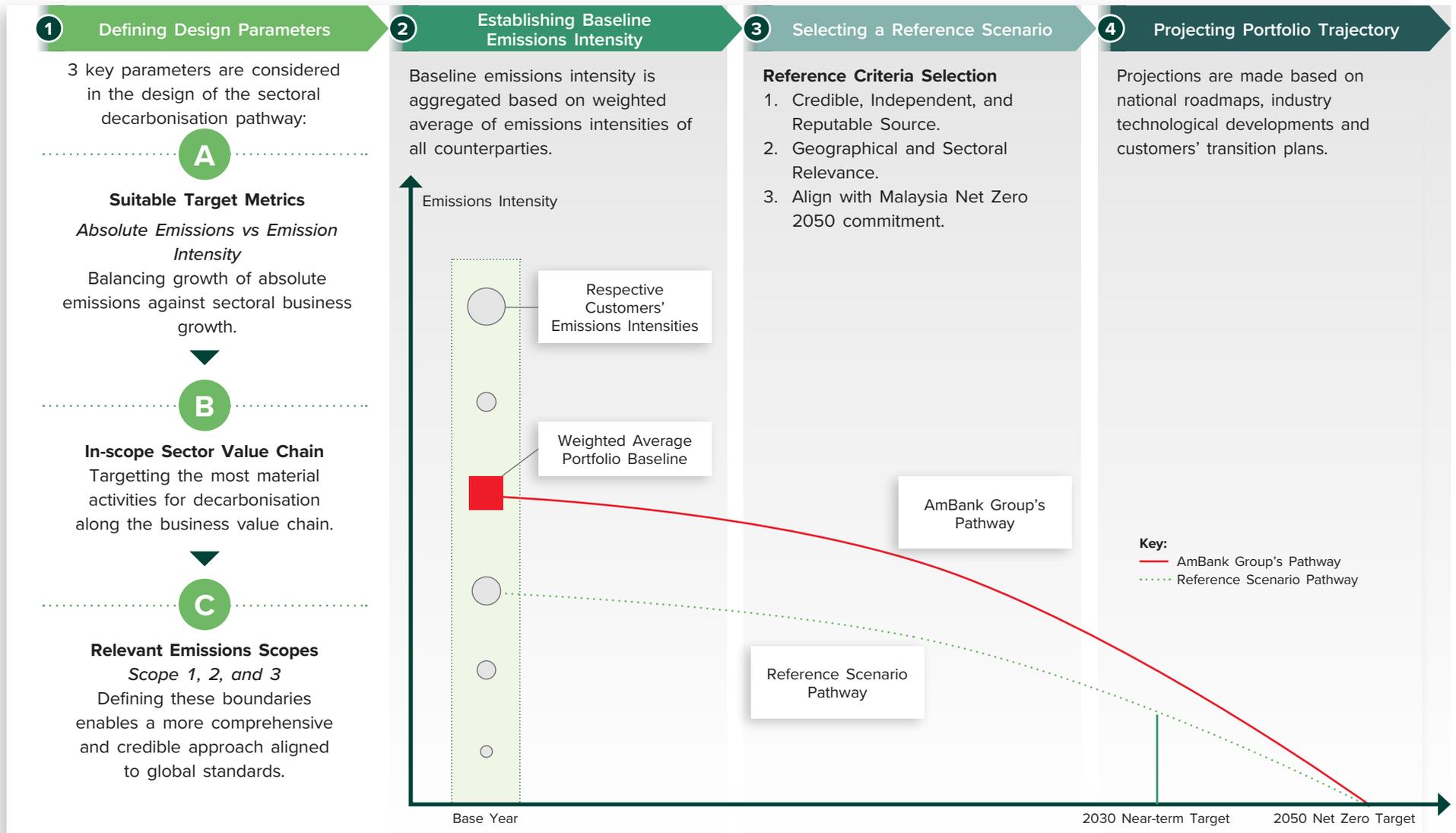
We further studied the actions that might be taken by our existing customers to decarbonise their operations, and then considered actions that we could take as a financial institution to direct our financing and investment portfolio towards financing low-GHG emissions activities and transitioning activities. Our ability to meet our sectoral decarbonisation targets would be enhanced if our customers commit and follow through on their own transition plans.

⁷ Ministry of Investment, Trade and Industry, (September 2023), New Industrial Master Plan (NIMP)

AmBank Group's Net Zero Strategy Approach

To this end, we have recognised our unique position as a local financial institution to support our customers to help them transition. Our sectoral decarbonisation targets reflect our commitment as a group to continue supporting our customers in their transition journeys.

Figure 5: AmBank Group Four-step Methodology to Target Setting



AmBank Group's Net Zero Strategy Approach

APPROACH TO ESTABLISHING POSITION STATEMENTS



To support the effective implementation of our NZTP, we established position statements for customers operating in the select hard-to-abate sectors. These statements articulate the minimum expectations we have for these customers. These statements are designed to align customers actions with the Group's ambitions while mitigating environmental and social risks that, if left unaddressed, could lead to reputational and financial impact over time.

These ambitions include facilitating customers' transition and decarbonisation efforts by focusing on sustainable, transition, and/ or green initiatives to energy-efficient and low-carbon business models that support long-term business resilience and responsible growth.

Each statement sets out:



Negative Threshold Criteria/ Prohibitions:

Describes the activities or standards that must not be contravened, for which AmBank Group would not extend financing.



Positive Threshold Criteria:

Describes the actions that the Group may take to guide and facilitate customers' transition to energy-efficient and low-carbon business models.



Non-mandatory but expectations over time and best practices that are encouraged:

Describes the industry best practices by customers that are still an expectation and is strongly encouraged to be fulfilled over time.

These position statements reflect the Group's proactive approach to engaging with customers to ensure continuous improvement in their environmental and social risk management practices.



Cultivating Sustainable Agriculture



PALM OIL SECTOR

Palm oil is a crucial sector for consideration as it has been associated with deforestation, biodiversity loss, and environmental degradation. Nonetheless, alignment with the country's policies can drive the change towards sustainable agriculture practices to mitigate environmental impact.

PALM OIL SECTOR

A Sector Overview

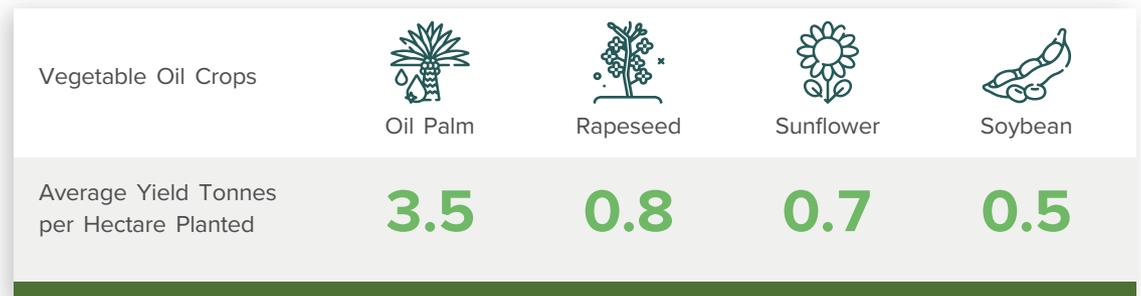
Palm oil is an edible vegetable oil derived from the mesocarp of the oil palm fruit. As the most widely produced vegetable oil globally, it accounts for approximately 32% of total oil and fats production⁸. Highly versatile and efficient, it is commonly used in food manufacturing, personal care products, cosmetics, and even as a biofuel in some parts of the world.

Over the past few decades, global palm oil production has doubled approximately every 10 years, largely driven by large-scale and smallholder oil palm plantations across Indonesia and Malaysia⁹. Malaysia plays a vital role in global crude palm oil production, second only to Indonesia, with 5.87 million hectares of oil palm plantations under cultivation and nearly 20 million tonnes of Crude Palm Oil (CPO) annually¹⁰. The production of CPO directly contributes 3.3% to Malaysia's GDP in 2022¹¹.



Figure 6: “(Oil Palm) with average yield of 3.5 tonnes per hectare planted, palm oil is 5 to 8 times more productive...”

With average yield of 3.5 tonnes per hectare planted, palm oil is 5 to 8 times more productive than other vegetable oils, such as soybean, rapeseed, coconut, and sunflower oil making it the most scalable and efficient crop¹². At the same time, the sector's rapid growth in Malaysia has brought sustainability concerns to the forefront, particularly around deforestation of tropical rainforests, and the treatment of Palm Oil Mill Effluent (POME). Both of which contributes significantly to the increasing rates of GHG emissions and biodiversity loss.



⁸ Sustainable Palm Oil Choice, Facts on Palm Oil

⁹ S&P Global, Supply vs sustainability a key challenge for palm oil industry

¹⁰ BCG and WWF, (November 2021), Securing Our Future: Net Zero Pathways for Malaysia

¹¹ Economic Planning Unit, Prime Minister's Department, (June 2022), The Malaysian Economy in Figures 2022

¹² Golden Agri, Oil Palm is the Most Productive Vegetable Oil

Palm Oil Sector

Globally, the Palm Oil sector has made significant progress to address various environmental and social issues. This entails the establishment of voluntary standards related to land use change, strengthened biodiversity protection, and improved labour practices under the broad umbrella of NDPE. Independent institutions such as the Roundtable on Sustainable Palm Oil (RSPO) provides accreditation to palm oil producers who adhere to sustainability standards. Malaysian sustainable palm oil has the lowest average emissions at 0.38 tCO₂e per tonne of CPO produced as compared to other vegetable oil products which emits the more than 1 tCO₂e per tonne and up to 2 tCO₂e per tonne¹³.

Given the crucial role Malaysia plays in the global Palm Oil sector, palm oil needs to be produced sustainably by mitigating environmental concerns, while bringing socio-economic benefits to the country. The Malaysian government has enacted several sustainability policies, includes but not limited to the capping the total oil palm cultivation area to 6.5 million hectares, banning new planting of oil palm on peatland, as well as a ban on converting forest reserves for the purposes of oil palm cultivation¹⁴. In addition, the Malaysian government has enforced the adoption of the enhanced Malaysian Sustainable Palm Oil (MSPO) certification, MSPO 2.0 effective January 2025, with the introduction of stricter guidelines for sustainability, traceability, and ethical practices in palm oil production¹⁵.

Since 2014, the Malaysian government has mandated that new palm oil mills and existing ones undergoing capacity expansion are required to install biogas trapping or methane avoidance facilities¹⁶. The biogas has the potential to be harnessed to produce renewable energy and NETR has established a target to increase biomass and biogas power generation capacity to 1.4 GW by 2050.

Figure 7: AmBank Group's NDPE Commitment

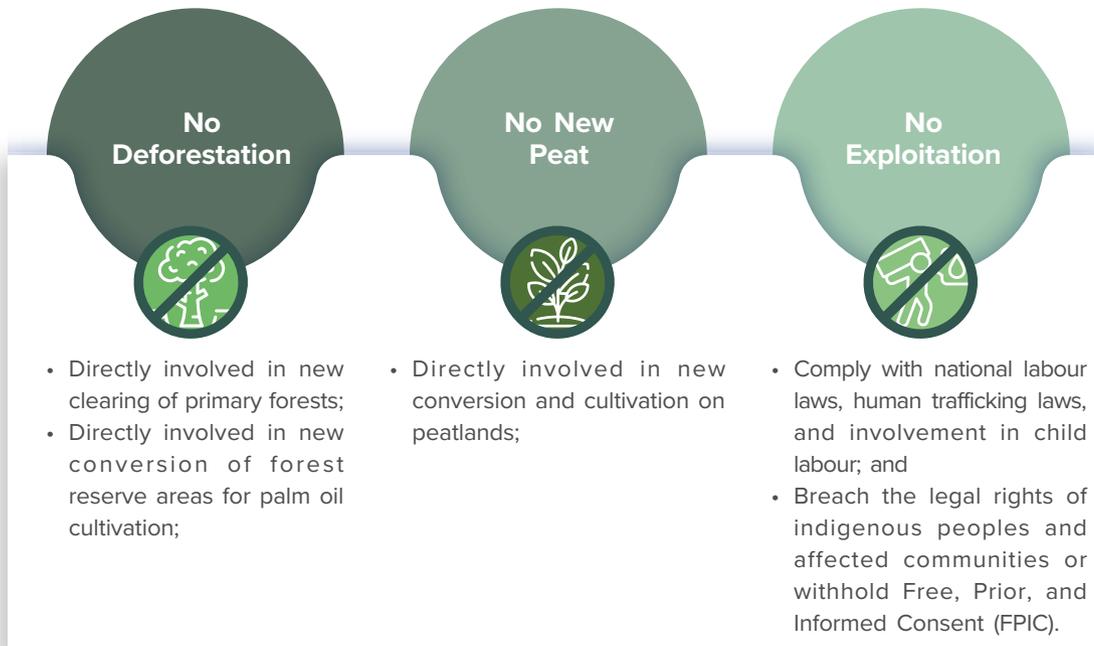
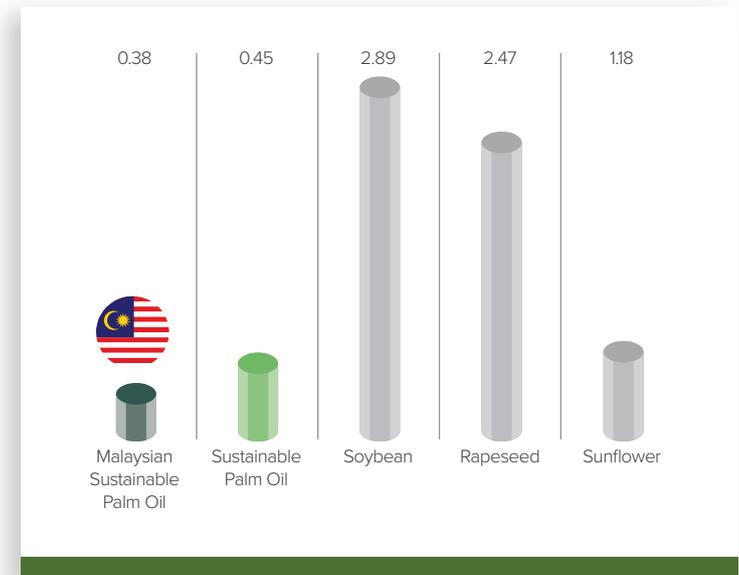


Figure 8: Average Emissions per tonne of Commodity Produced expressed in tonnes of carbon dioxide equivalent per tonne (metric tonne CO₂e/ metric tonne of commodity produced)



¹³ MSPO, Sustainable Palm Oil an Important Example of Climate Change Mitigation

¹⁴ The Edge, (March 2019), Oil palm planted areas to be capped at 6.5 million hectares

¹⁵ The Star, (January 2025), MSPO 2.0 reinforces Malaysia's leadership in sustainable palm oil production - MPOC

¹⁶ New Straits Times (NST), (July 2023), Malaysia's commitment to deforestation heading positive direction, global study show

Palm Oil Sector

B Summary of our Targets

Sectoral Decarbonisation Pathway

Target Metric

Emissions intensity – tCO₂e/ tonne of CPO produced

Value Chain

- Oil palm plantations
- CPO milling
- Integrated palm oil companies

Emissions Scope

- Scope 1 emissions
- Scope 2 emissions

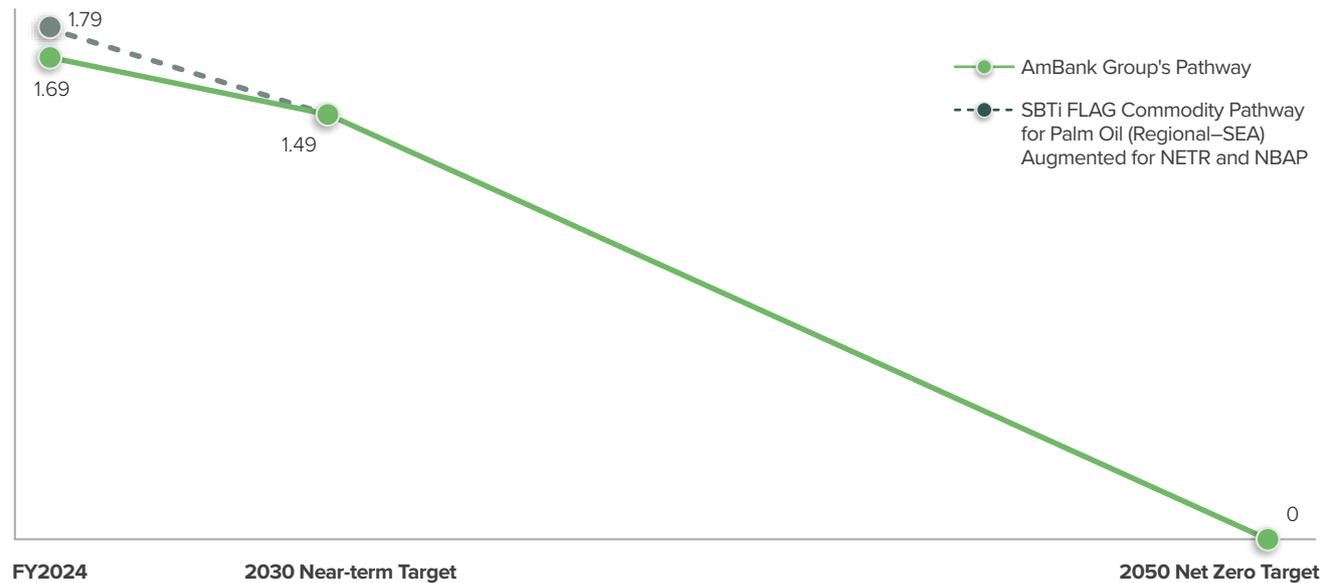
Reference Scenario

Science-based Targets Initiative (SBTi) Forest, Land, and Agriculture (FLAG) Commodity Pathway for Palm Oil (Regional–Southeast Asia (SEA)) Augmented for National Energy Transition Roadmap (NETR) and National Biomass Action Plan (NBAP)

SBTi FLAG to account for commodity-specific pathway for palm oil

NETR and NBAP to account for methane from palm oil milling

tCO₂e/ tonne of CPO produced



	FY2024 Baseline	2030 Near-term Target	2050 Net Zero Target
SBTi FLAG Commodity Pathway for Palm Oil (Regional–SEA) Augmented for NETR and NBAP Plan (tCO ₂ e/ tCPO)	1.79	1.49	0.00
AmBank Group's Targets (tCO ₂ e/ tCPO)	1.69	1.49	0.00
% reduction from FY2024 Baseline	-	▼12%	▼100%

Palm Oil Sector

C Target Setting

1. DEFINING DESIGN PARAMETERS

Suitable Target Metric

Global demand for palm oil continues to rise and AmBank Group remains committed to supporting the sector’s responsible growth by financing both existing and new customers aligned with sustainable practices. To guide our efforts to promote sustainable practices within the sector, we will measure our progress through a emissions intensity reduction target—defined as GHG emissions per unit of output, measured in tonnes of carbon dioxide equivalent per tonne of CPO (tCO₂e/ tCPO).

This intensity-based metric reflects AmBank Group’s commitment to supporting the sector’s sustainable growth by encouraging palm oil players to enhance their sustainability practices. It enables production growth while reducing overall GHG emissions, aligning with our Net Zero aspirations.

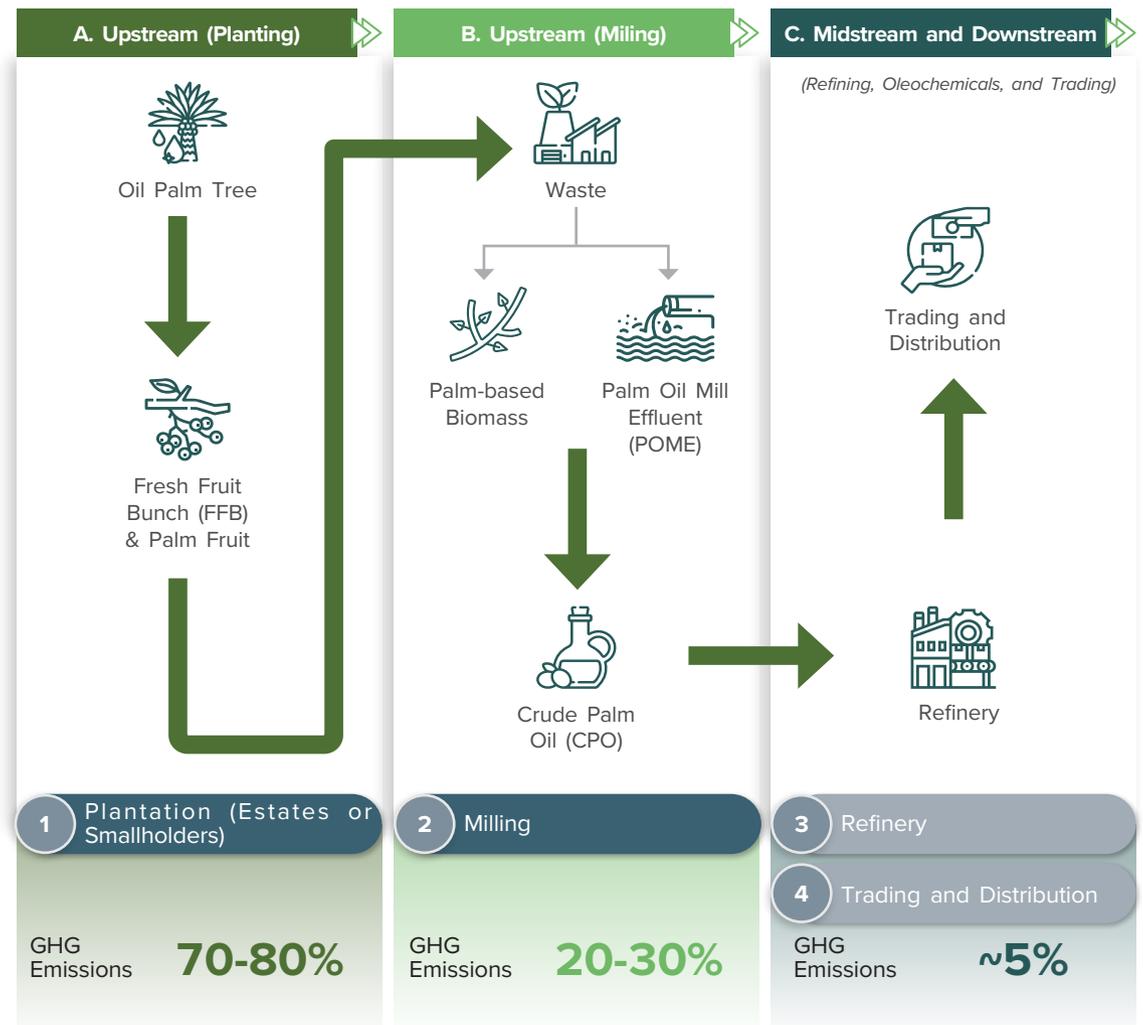
In-scope Sector Value Chain

Customers in the Palm Oil value chain includes oil palm plantations, palm oil mills, palm oil refineries, and trading and distribution as shown in *Figure 9: Palm Oil Value Chain*.

In the upstream segment, Fresh Fruit Bunches (FFB) are harvested from oil palm plantations and transported to mills for CPO extraction. The extracted CPO is then sent to refineries for processing into various palm oil products, which are subsequently distributed to local and international markets. The milling process also generates palm-based biomass such as Empty Fruit Bunches (EFB), Mesocarp Fibre (MF), Palm Kernel Shells (PKS), and by product such as the POME.

The activities in the upstream segment, palm oil plantations and mills together, are responsible for over ~95% of gross GHG emissions and have the greatest influence on emissions from activities undertaken in the rest of the value chain. As such, our focus is centred on these upstream processes, where decarbonisation and sustainable practices can yield the most significant emissions reductions.

Figure 9: Palm Oil Value Chain



Palm Oil Sector

Relevant Emission Scopes

The upstream planting and upstream milling activities in the Palm Oil sector generates emissions across the following Scope 1 and Scope 2 emissions:

Planting:

- **Land Use Change (LUC) emissions** associated with conversion of natural forests to plantation. These include deforestation, forest degradation, coastal wetlands conversion etc.
- **Land management emissions** from land management activities. These include machineries used on farms, transport on biomass, crop residue, use of fertilisers, soil management etc.
- **Indirect Land Use Change (iLUC) emissions** that accounts for the carbon stock loss of the previous 20 years due to land conversion into plantations.



Milling:

- **Combustion of fossil fuels** by the palm oil mill operations and electricity purchased from the national energy grid.
- **POME** and **biomass waste** being by-products from upstream milling activities which generate methane emissions.



2. ESTABLISHING BASELINE EMISSIONS INTENSITY

To measure the GHG emissions intensity from our Palm Oil sector portfolio, we selected several data sources in the following order of priority:

High Priority

- 1 Company reported emissions from our customers' public climate disclosures—this refers to GHG emissions of Scope 1 and Scope 2 data from customers' annual or sustainability reports.
- 2 In the absence of public climate disclosures, data is obtained from the RSPO's Annual Communication of Progress (ACOP) disclosures for customers who are RSPO members.
- 3 In the absence of both public climate disclosures and ACOP disclosures, emission intensity proxies are derived from scientific literature and MSPO, the Malaysian sustainability certification scheme.

Low Priority

Our FY2024 baseline financed emissions intensity in the Palm Oil sector portfolio was 1.69 tCO₂e/ tCPO.

Palm Oil Sector

3. SELECTING A REFERENCE SCENARIO

The palm oil-specific pathway from Science-based Targets Initiative (SBTi) Forestry, Land, and Agriculture (FLAG) Commodity Pathway for Palm Oil (Regional—Southeast Asia (SEA)) was combined with the projections from NETR and National Biomass Action Plan (NBAP) to arrive at an augmented scenario—**SBTi FLAG Commodity Pathway for Palm Oil (Regional—SEA) Augmented for NETR and NBAP**.

The SBTi FLAG Commodity Pathway for Palm Oil (Regional—SEA) is the only credible and recognised commodity-specific reference pathway suitable to capture emissions for the palm oil commodity rather than the broader agriculture industry. The reference scenario accounts for key activities in upstream plantations which generates GHG emissions such as land use change, peat oxidation, fertilisers, fuel used for on-farm machineries, and carbon sequestration in palm biomass.

However, the SBTi FLAG Commodity Pathway for Palm Oil (Regional—SEA) does not recognise the GHG emissions from the upstream milling activities, specifically the treatment and discharge of POME, which also constitutes a significant portion of GHG emissions from the Palm Oil sector. To account for those emissions, the SBTi FLAG Commodity Pathway for Palm Oil (Regional—SEA) was augmented with projections and assumptions in line with national plans and policies, namely NETR, National Agricommodity Policy 2021-2030, and NBAP to adequately capture the emissions from the upstream palm oil value chain based on the projection of biogas plants to be installed in Malaysia.

National key targets in the plans and policies are:



- 1. NETR** has set targets to achieve installed capacity of renewable energy of 31% by 2025, 40% by 2035 and 70% by 2050¹⁷.
- 2. NBAP** has set targets to increase biomass and biogas power generation capacity to 1.4 GW by 2050. This is supported primarily by the palm oil-related residue in Malaysia today with a total of 3,153 MW, with the palm oil biomass (EFB, MF and PKS) accounting for 73% of the potential (approximately 2,300 MW) and 17% being from POME (approximately 550 MW) This target is reiterated in **NETR**.

- 3. National Agricommodity Policy 2021-2030** stipulates the national targets with respect to the implementation of biogas capture facilities for CPO milling of 155 facilities installed by 2025, and 180 facilities installed by 2030. The targets for the number of biogas capture facilities connected to the national energy grid are 40 facilities by 2025 and 50 facilities by 2030¹⁸.
- 4. National Agricommodity Policy 2021-2030** outlines the maximum plantation area for oil palm is capped at 6.5 million hectares, with targets to achieve FFB yield of 19.5 tonne/ hectare and an oil extraction rate of 20.5% by 2030¹⁹.

¹⁷ Ministry of Economy, (August 2023), National Energy Transition Roadmap (NETR)

¹⁸ New Strait Times (NST), (April 2025), Johari Ghani: 170 palm oil mills install biogas facilities, surpassing NAPC target

¹⁹ Ministry of Natural Resources and Environmental Sustainability, (April 2024), Malaysia's Fourth National Communication Report (NC4) submitted to the United Nations Framework Convention on Climate Change

Palm Oil Sector

4. PROJECTING PORTFOLIO TRAJECTORY

Baseline Results

Our FY2024 baseline financed emissions intensity in our Palm Oil sector portfolio was 1.69 tCO₂e/ tCPO. This is marginally lower than the benchmark of 1.79 tCO₂e/ tCPO in the reference scenario. Our lower starting point can be attributed to our portfolio which comprises palm oil companies located in Malaysia where deforestation for agricultural land has occurred earlier and is slowing down across the region because of early and strong policy intervention by the Malaysian government. In comparison to regional players, Malaysian palm oil growers have a lower intensity due to sustainability practices implemented arising from adhering to the requirements of the MSPO and RSPO certifications.

Projecting Emissions

It is critical for the Palm Oil sector to curb deforestation and no new planting on peatlands to reach net zero. Palm Oil sector emissions are expected to reduce substantially on the assumption no further deforestation and no new planting on peatlands. Emissions from palm oil mills were projected based on:

1. Malaysia’s target and progress on installation rates of biogas capture plants.
2. Estimated amounts of methane produced from the production of FFB and CPO.
3. Estimated amount of biomass that can be generated and directed for conversion to energy.

Following the SBTi FLAG Commodity Pathway for Palm Oil (Regional—SEA) Augmented for NETR and NBAP, it is projected for the intensity to reduce by 12% to 1.49 tCO₂e/ tCPO by 2030 as shown in Table 5: AmBank Group Pathway Targets for Oil Palm Plantations and CPO Milling.

Table 5: AmBank Group’s Pathway Targets for Oil Palm Plantations and CPO Milling

AmBank Group’s Pathway	FY2024 Baseline (tCO ₂ e/ tCPO)	2030 Near-term Target (tCO ₂ e/ tCPO) [% reduction from baseline]	2030 Net Zero Target (tCO ₂ e/ tCPO) [% reduction from baseline]
Oil Palm Plantations ²⁰	1.80	1.59 [▼12%]	0.0 [▼100%]
CPO Milling	1.07	0.91 [▼13%]	0.0 [▼100%]
AmBank Group’s Palm Oil Sector portfolio	1.69	1.49 [▼12%]	0 [▼100%]

²⁰ The SBTi FLAG Target Setting Tool does not provide modelling of emissions intensity beyond 2035. The 2050 Net Zero target for the reference pathway of oil palm plantations is estimated based on linear extrapolation between emissions intensity of FY2024 baseline and 2030 Near-term Target.

Palm Oil Sector

D Decarbonising the Sector

Recognising the sector's significant contributions to GHG emissions, AmBank Group has established a 2030 near-term target to reduce its financed emissions intensity from 1.69 tCO₂e/ tCPO to 1.49 tCO₂e/ tCPO by 2030²¹, in line with the expected financed emissions intensity from the reference scenario.

To achieve these goals, AmBank Group's plan of action considers the following: 

1. Supporting our customers to obtain sustainability certification(s)

We continue to support our customers' aspirations in pursuing sustainable palm oil certifications such as MSPO and RSPO, as these reflect their commitment to sustainable practices. This support is further reinforced by the national mandate requiring MSPO certification since January 2025²².

3. Engaging our customers

We will regularly engage with customers to understand their interim targets and track progress of their transition plans and net zero targets that are aligned to the trajectory of the sector.

2. Financing for transition

We will continue to support our customers to transition to a low-carbon business model, offer transition financing for the Palm Oil customers to decarbonise their operations for, but not limited to the following activities:

- i. Replanting efforts using high-yield seedlings (e.g. Clonal Palm Series 1 (CPS1), Clonal Palm Series 2 (CPS2), Clonal Palm Series (CPS3)) are increasingly important in light of Malaysia's 6.5 million hectare cap on oil palm plantation land by 2023. Since further expansion is restricted, more innovative approaches are needed to improve yield efficiency and support sustainable growth.
- ii. The installation of biogas capture systems and biomass conversion technologies targets a key by-product of palm oil production, being POME. If not properly captured, POME can release significant GHG, even after undergoing treatment. These technologies provide both and economic benefits by enabling on-site power generation or energy sales.

²¹ Refers to FY2031 (31 March 2031).

²² The Edge Malaysia, (February 2025), MSPO 2.0 certification meets EUDR requirements, says CEO

Palm Oil Sector

E Our Position Statement



AmBank Group seeks to facilitate the Palm Oil sector's transition towards sustainability while ensuring economic resilience and social equity.

Our Position for the Palm Oil Sector:



Negative Threshold Criteria/ Prohibitions:

We will not finance any activities that:

- Are directly involved in new clearing of primary forests;
- Are directly involved in new conversion and cultivation on peatlands;
- Are directly involved in new conversion of forest reserve areas for palm oil cultivation;
- Does not comply with national labour laws, human trafficking laws, and involvement in child labour; and
- Breach the legal rights of indigenous people and affected communities or withhold Free, Prior, and Informed Consent (FPIC).



Positive Threshold Criteria:

- We will adopt the No Deforestation, No New Peat, and No Exploitation (NDPE) stance.
- We will selectively on-board new customers who have clear transition plans, established net zero targets.
- For new planters, the Malaysian Sustainable Palm Oil (MSPO) certification is mandatory as per the Malaysian government's regulations. Customers are expected to have a time-bound commitment to obtain this certification or international sustainable palm oil certifications. Aligned to these certifications, customers are expected to have zero burning practices, best practices on existing peat, climate change, biodiversity, and FPIC, amongst others.



Non-mandatory but expectations over time and best practices that are encouraged:

New and existing customers are encouraged to obtain additional sustainable palm oil certification e.g. Roundtable on Sustainable Palm Oil (RSPO).

Shifting

Towards
A Cleaner
Energy Future



THERMAL COAL MINING SECTOR



Thermal coal has been Malaysia's primary energy source for decades, but it remains as one of the most GHG emissions-intensive sectors. The National Energy Transition Roadmap (NETR) aims to reinforce Malaysia's commitment to accelerate the replacement of fossil fuel-intensive energy systems by phasing out existing Coal-fired Power Plants (CFPPs).

THERMAL COAL MINING SECTOR

A Sector Overview

Thermal coal is the most widely used source for power generation. Coal still supplies over a third of global electricity generated despite being the most carbon-intensive fossil fuel source²³. Global energy-related GHG emissions grew by 1.1% in 2023, in which emissions from coal accounted for more than 65% of the increase in 2023²⁴. An essential driver behind the increase in global energy-related GHG emissions is the projected increase in energy demand accelerated by the rapid electrification of critical sectors such as transportation and industrial activities. In line with global Net Zero ambitions, the International Energy Agency (IEA)'s Net Zero Emissions (NZE) scenario calls for a 55% reduction in unabated thermal coal-fired generation by 2030 from 2022, with a full phase-out by 2040²⁵.



Two-thirds of coal production is utilised for electricity generation, while the remaining one-third is consumed by Iron & Steel Manufacturing and Cement Manufacturing sectors. Unlike the Power Generation sector, clean alternatives to coal (also known as coking coal) in the manufacturing of iron & steel and cement are not yet commercially feasible and scalable. Reflecting the longer-term of the transition for these key sectors, the IEA NZE only requires a drop of 30% in coking coal in 2030 compared to 2021 levels.

Malaysia's electricity generation remains heavily dependent on thermal coal, which is responsible for over 40% of the country's energy-related GHG emissions. Despite this reliance, domestic coal

reserves are limited—estimated at just 226 million metric tons as of 2022. To meet the energy demands, Malaysia imports a significant portion of its coal, with approximately 66%²⁵ of Peninsular Malaysia's electricity generated from imported thermal coal. This dependence highlights both the environmental impact and the energy security challenges face by the national grid.

Being cognisant of the importance to cut GHG emissions from power generation, the Malaysian government has committed to halve the capacity of thermal coal-fired power plants (CFPPs) by 2035, and fully phase out by 2045, aligning with its broader net zero pledge.

This announcement follows Malaysia's pledge in 2022 not to construct any new CFPPs from 2040 onwards, and Malaysia's commitment to achieve Net Zero by 2050. Notably, the plan by energy suppliers to retire CFPPs by 2044 is ahead of the target phase-out year as outlined in NETR (by 2045).

²³ International Energy Agency (IEA), *Coal*

²⁴ International Energy Agency (IEA), *(March 2024), CO₂ Emissions in 2023*

²⁵ Based on 2020 Figures

Thermal Coal Mining Sector

Figure 10: Two Key Targets outlined in National Energy Transition Plan (NETR) to meet 70% Renewable Energy Installed Capacity by 2050²⁶

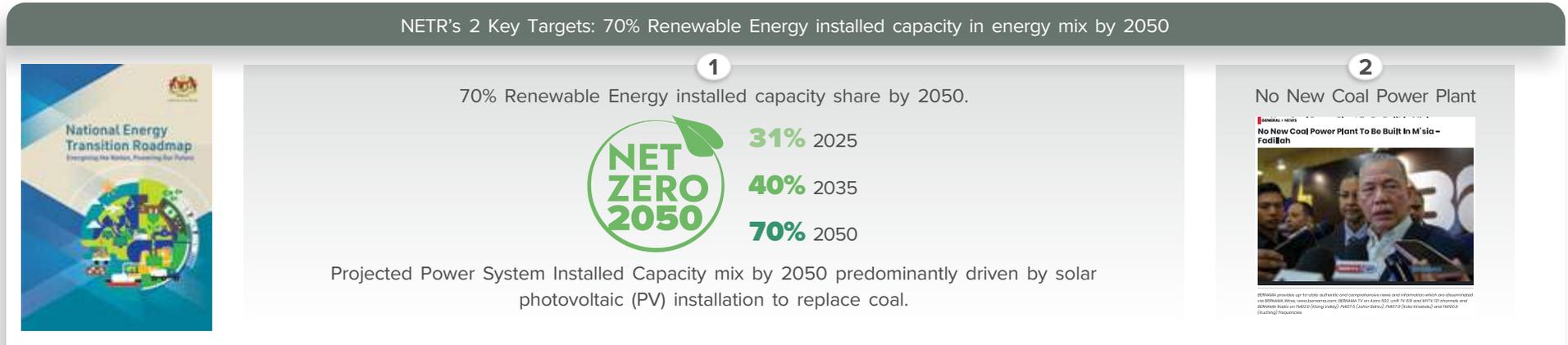
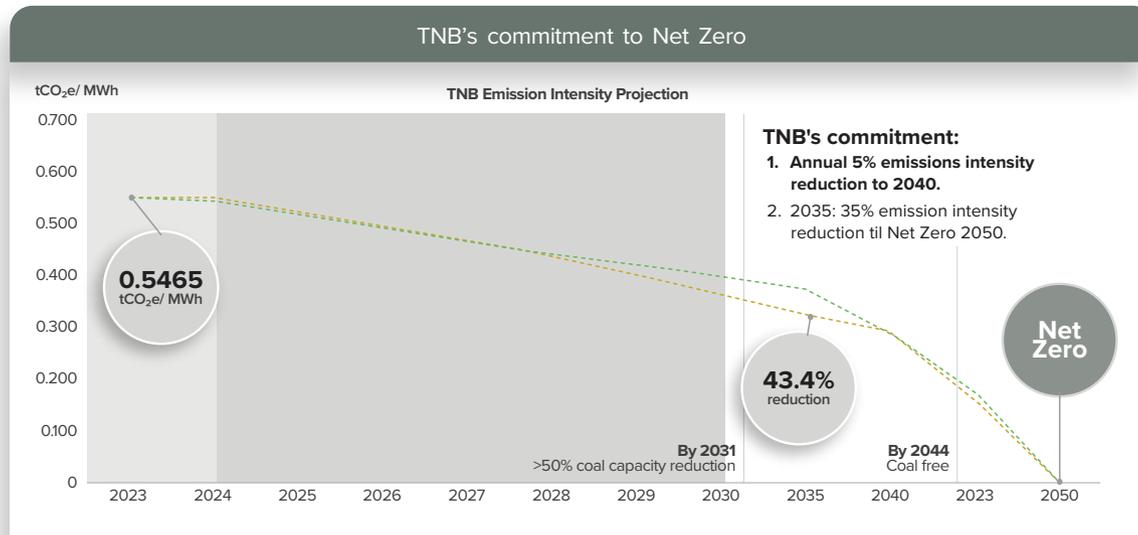


Figure 11: Tenaga Nasional Berhad (TNB)'s Commitment to Net Zero by 2050 as Malaysia's Primary Electricity Generation Enterprise



NETR envisions the share of thermal coal-fired power generation to decrease over time, driven by the natural retirement timelines of existing CFPPs. In addition, major energy suppliers e.g. TNB and Sarawak Energy Berhad (SEB) made commitments to be free from thermal coal, leading to complete phase-out by 2045. Figure 11: Tenaga Nasional Berhad (TNB)'s Commitment to Net Zero 2050 as Malaysia's Primary Electricity Generation Enterprise illustrates their projections of phasing out the share of thermal coal-fired power generation in 2031 by 50% and a 5% annual reduction in emissions intensity to Net Zero by 2050.

The steel and manufacturing industrial sectors presently account for one-third of coal consumed through the use of coking (or metallurgical) coal. Unlike the Power Generation sector, alternatives to coking coal are not yet commercially viable and scalable.

²⁶ Ministry of Economy, (August 2023), National Energy Transition Roadmap (NETR)

Thermal Coal Mining Sector

B Decarbonising the Sector

AmBank Group will phase out existing exposure to customers in the Thermal Coal Mining sector by 2030²⁷. Within the thermal coal value chain, majority of the emissions are generated in the end use stage of coal (i.e. for power generation), which is covered under our Power Generation sector. This ambitious target reaffirms our commitment to ensure we are consistent in our pursuit to achieve Net Zero by 2050 in line with the Malaysian government's aspirations.

Owing to the nascent stage of clean alternatives to coking coal for the Cement Manufacturing sector and Iron & Steel Manufacturing sector, mining for coking coal is currently excluded from our Thermal Coal Mining sector target.

C Our Position Statement

AmBank Group remains committed to responsible financing, supporting the decarbonisation of the energy sector while exploring opportunities in green technology and sustainable energy financing to facilitate Malaysia's Net Zero 2050 commitment.

Our Position for the Thermal Coal Mining Sector:



Negative Threshold Criteria/ Prohibitions:

We will phase out existing exposure to customers in the Thermal Coal Mining sector by 2030, unless we are required to support energy security needs as declared by the Malaysian government.

Note: Addressing the source of thermal coal (mining and extraction) will spur the need to look at renewable energy on a more urgent basis.



Positive Threshold Criteria:

Not Applicable as the Group is to phase out exposure to Thermal Coal Mining by 2030



Non-mandatory but expectations over time and best practices that are encouraged:

Not Applicable as the Group is to phase out exposure to Thermal Coal Mining by 2030

²⁷ Refers to FY2031 (31 March 2031).

Powering

A Resilient
Energy System



**POWER
GENERATION
SECTOR**

The Power Generation sector is expected to transition to facilitate a balance for the energy trilemma of security, affordability, and sustainability. Aligning with the country's NETR, AmBank Group will support the shift from a traditional fossil fuel-based energy mix to a renewable energy mix.

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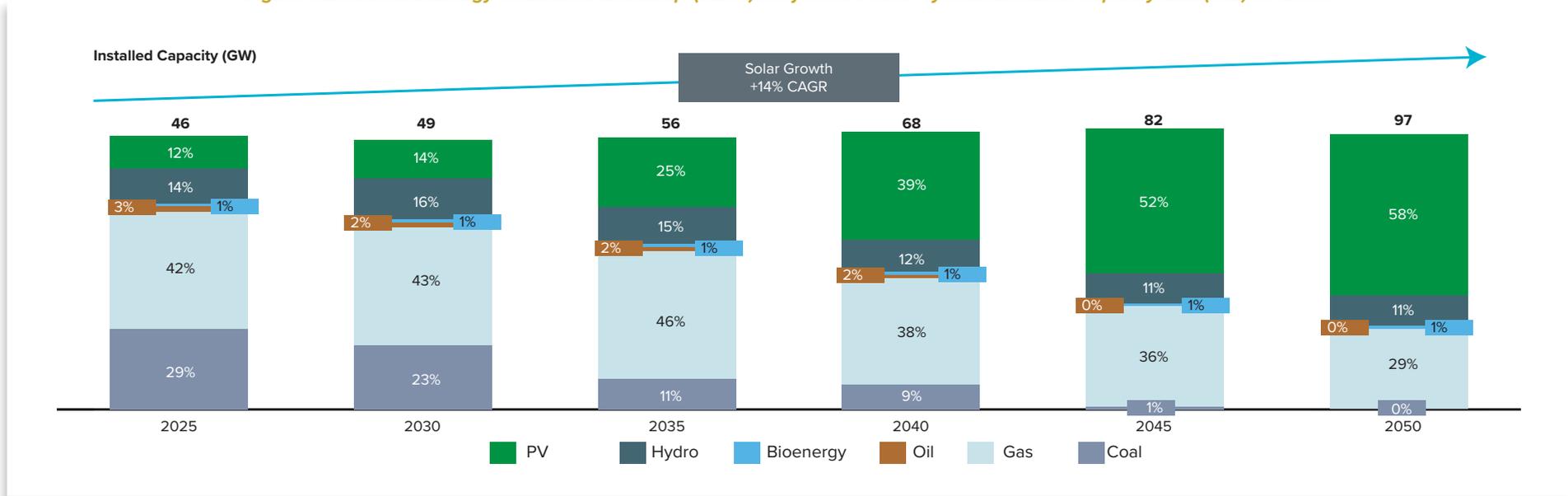
POWER GENERATION SECTOR

A Sector Overview

The Power Generation sector is the single largest source of GHG emissions, accounting for approximately 40% of global total emissions²⁸. This is primarily due to the combustion of fossil fuels such as thermal coal, natural gas, and diesel to produce electricity. Decarbonising the power generation sector is essential not only for sectors classified as hard-to-abate, but also for the broader economy as electricity is a primary input for most industries and sectors. Achieving deep decarbonisation across sectors will require a clean and sustainable grid that supports large-scale electrification.



Figure 12: National Energy Transition Roadmap (NETR) Projected Power System Installed Capacity Mix (GW) to 2050



²⁸ International Energy Agency (IEA), (July 2020), The role of CCUS in low-carbon power systems

Power Generation Sector

In Malaysia, the energy sector is responsible for 78.5% of national GHG emissions as of 2019²⁹, ³⁰. Fossil fuels remain the largest contributor to Malaysia’s energy supply and has a significant influence shaping the country’s energy landscape. As of 2025, renewable energy (comprising solar, hydropower, and bioenergy) contributed to 27% of the National Energy Grid Installed Capacity, with the remaining 73% contributed by Gas (42%), Coal (29%), Oil (3%), and others (2%).

Attaining Malaysia’s Net Zero by 2050 commitment will require substantial decarbonisation efforts within the Power Generation sector. This involves two critical prongs:

1. Expansion of Low-carbon and Renewable Energy to transition from fossil fuels to renewable energy



will depend heavily on the near-term viability and scaling of clean energy technologies. Malaysia is already on an upward trajectory, supported by the NETR, which projects a shift towards 70% renewable energy in the installed capacity mix by 2050.

2. Managing the Fossil Fuel Legacy where despite the push for renewables,



fossil fuels—particularly thermal coal and natural gas—remain deeply embedded in Malaysia’s power generation mix. Decarbonisation will therefore also require a phased and managed retirement of fossil fuel-based power plants. This includes retrofitting existing assets with low-carbon technologies such as CCUS, or replacing them with cleaner alternatives.

A key challenge in Malaysia, and the broader Association of the Southeast Asian Nations (ASEAN) region, is the relatively young age of CFPPs, which typically have operational lives of up to 50 years. Early retirement of these assets presents significant financial hurdles, as many CFPPs still have outstanding capital value and are tied to long-term power purchase agreements that ensure electricity supply stability. This increases the complexity and cost of transitioning to renewable energy solutions.

Looking ahead, Malaysia’s growing energy demand driven by economic growth, rapid urbanisation, and infrastructure expansion will require strategic interventions to ensure both energy security and a sustainable transition. Key levers include greater deployment of renewable energy projects, investment in Battery Energy Storage Systems, and the application of CCUS technologies to reduce the carbon footprint of existing assets.

The Power Generation sector has historically been a major contributor to Malaysia’s economic development, accounting for about 28% of GDP and approximately 25% of employment opportunities within the energy value chain. As Malaysia moves toward its 2040 and 2050 energy transition targets, balancing economic growth with emissions reduction will be critical to achieving a sustainable energy future.

The Malaysian government has outlined its approach to decarbonising the Power Generation sector through three prongs expounded below:



The Malaysian government has set an ambitious target to achieve 70% of renewable energy in installed capacity by 2050, with solar power poised as the prevailing source of renewable energy as outlined in NETR. Natural gas has also been identified to serve as a transitional fuel away from the baseload GHG emissions-intensive thermal coal. The share of thermal coal-fired power generation is expected to decline over time, driven by natural retirement timelines of existing CFPPs. NETR has also established a target that no new CFPPs will be developed, leading to phase-out by 2045²⁹.

²⁹ Ministry of Economy, (August 2023), National Energy Transition Roadmap (NETR)

³⁰ Includes emissions from energy industries, manufacturing industries and construction, other sectors and non-specified energy emissions, fugitive emissions from fuels and transport.

Power Generation Sector

B Summary of our Targets 

Sectoral Decarbonisation Pathway

Target Metric

Emissions intensity – kgCO₂e/ MWh of power produced

Value Chain

- Power generation operators

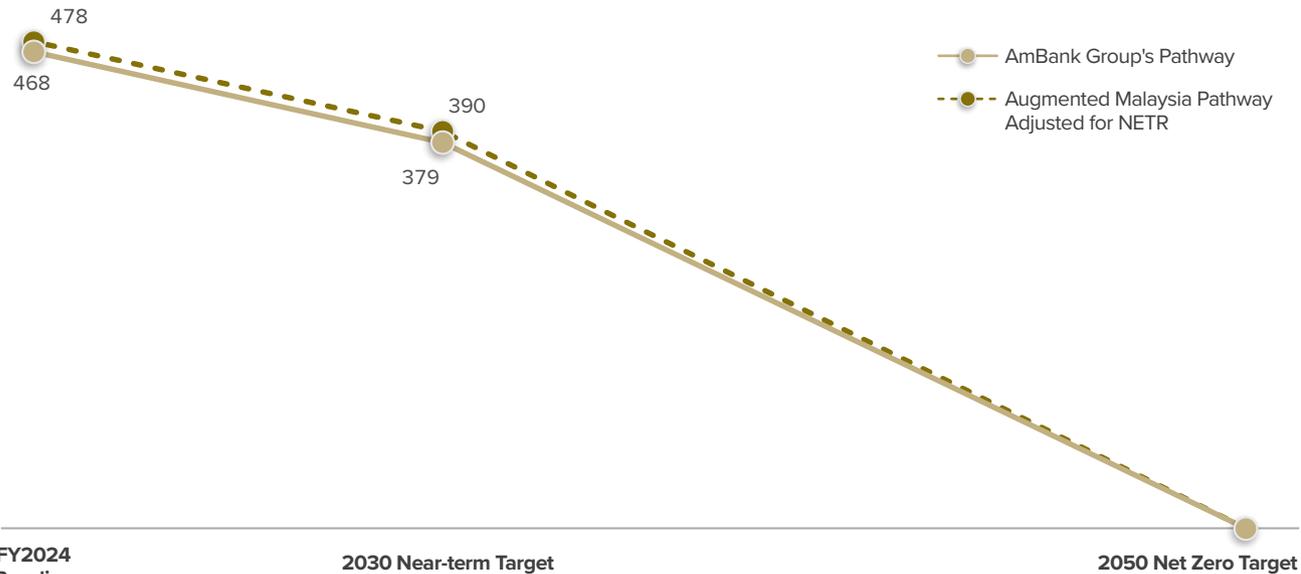
Emissions Scope

- Scope 1

Reference Scenario

Augmented Malaysia Pathway Adjusted for National Energy Transition Roadmap (NETR)

kgCO₂e/ MWh of power produced



	FY2024 Baseline	2030 Near-term Target	2050 Net Zero Target
Augmented Malaysia Pathway Adjusted for NETR (kgCO ₂ e/ MWh)	478	390	0
AmBank Group's Targets (kgCO ₂ e/ MWh)	468	379	0
% reduction from FY2024 Baseline	-	▼19%	▼100%

Power Generation Sector

C Target Setting

1. DEFINING DESIGN PARAMETERS

Suitable Target Metric

Electricity demand in Malaysia is expected to continue rising due to population growth and industrial expansion. Therefore, an emissions intensity metric, measured in kilograms of carbon dioxide equivalent per megawatt-hour generated (kgCO₂e/MWh) was adopted to measure the progress of decarbonisation in the sector. This approach aligns with Malaysia's broader low-carbon transition goals under the NETR, which targets increasing renewable energy capacity to 70% by 2050 and the phased-out retirement of CFPPs by 2045.

This intensity metric is intended to encourage power generators operating conventional fossil fuel assets to progressively shift toward renewable energy solutions considering Malaysia's current heavy reliance on fossil fuels for power generation.

In-scope Sector Value Chain

The Power Generation value chain in Malaysia can be broadly divided into three segments:

- **Power Generation:** Entities that generate electricity for self-consumption or for sale to the national energy grid, including independent power producers (IPPs) and state-owned generators.
- **Transmission and Distribution:** Companies responsible for the management, maintenance, and operation of the national energy grid, minimising losses and ensuring efficient delivery to consumers.
- **Retail and Trading:** Entities that deliver and sell electricity to end-users.

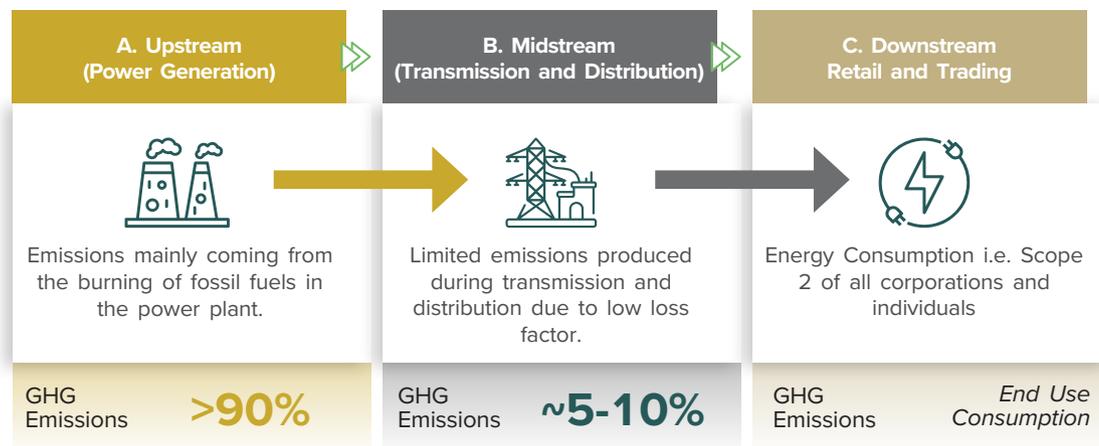
We primarily focused on emissions from activities in the power generation (upstream) segment in the development of the sectoral decarbonisation pathway, where fossil fuel combustion is the dominant source of GHG emissions, contributing to over 90% of emissions across the sector.

Historically, Malaysia's Power Generation sector operated under a vertically integrated monopoly model. However, following several rounds of sector liberalisation and privatisation, the market has evolved to attract private investments and diversify electricity supply sources.

Today, TNB remains the largest vertically integrated utility in Peninsular Malaysia, while SEB and Sabah Electricity Sdn Bhd (SESB) serve Sarawak and Sabah, respectively. In Peninsular Malaysia, IPPs now account for approximately 75% of the total installed power generation capacity, reflecting a more diversified energy landscape.

Malaysia's power generation is dominated by fossil fuel-based assets, including thermal coal, natural gas, crude oil, and diesel. Renewable energy sources—such as solar, hydro, wind, and biomass—are growing but still represent a small share of the energy mix. Given that upstream fossil fuel combustion is the largest contributor to sector-wide emissions, our emissions target-setting exercise is focused on upstream power generation activities where decarbonisation efforts can have the most immediate and substantial impact.

Figure 13: Power Generation Value Chain



Power Generation Sector

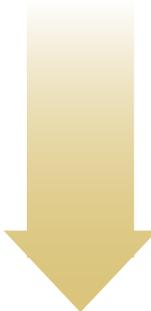
Relevant Emission Scopes

The relevant scope for the Power Generation sector is Scope 1 emissions. These refer to emissions directly produced during the power generation process and largely arising from the burning of fossil fuels. Emission factors for fossil fuel-based power plants can emit nearly 1 tCO₂e per MWh of power generated whereas the emission factors for renewable energy power plants can be as low as zero.

2. ESTABLISHING BASELINE EMISSIONS INTENSITY

To measure the GHG emissions intensity from our Power Generation sector portfolio, we selected several data sources in the following order of priority:

High Priority



Low Priority

- 1 Baseline established from the underlying power generation assets in which the construction, operations, and maintenance is financed by the Group. This bottom-up approach through an asset-level assessment promotes higher accuracy of the Power Generation sector emissions intensity baseline as we could focus on specific emissions attributed to the activity, and not the wider company- or group-level.
- 2 Emission intensities of respective fossil fuel-based power plants and renewable energy power plants were derived from scientific literature.
- 3 Where the purpose of financing is general (i.e. not specific to the underlying power generation assets), the company-level emission intensities applicable to parent company- or group-level is used. This information is typically retrieved from the parent company- or group-level annual or sustainability reports.

3. SELECTING A REFERENCE SCENARIO

The **Augmented Malaysia Pathway Adjusted for National Energy Transition Roadmap (NETR)** is selected as the reference pathway. The localised nature of AmBank Group's Power Generation sector portfolio allows for a localised reference pathway, namely the projections as outlined in NETR which projected a target installed capacity of renewable energy of 70% by 2050 while phasing out CFPPs by 2045. It is also important to recognise that Malaysia will continue the use of natural gas as the 'transitional fuel' for the national energy grid, and emerging technologies essential for the decarbonisation of the Power Generation sector is not widely available at this point in time.

The projections in NETR were adjusted for the contributions of two major suppliers of Malaysia's electricity, being TNB and SEB. These two major suppliers account for 96% of the supply of total electricity in Malaysia.

Power Generation Sector

4. PROJECTING PORTFOLIO TRAJECTORY

Baseline Results

Our FY2024 baseline financed emissions intensity in our Power Generation sector portfolio was 468 kgCO₂e/ MWh. This is marginally lower than the benchmark of 478 kgCO₂e/ MWh in our reference scenario.

Our starting point can be largely attributed to the decarbonisation actions taken by our larger power generation customers, who build, own, and operate a mixture of power generation assets comprising both fossil fuels and renewable energy sources. A portion of our portfolio comprises renewable energy projects, which we have identified as an emerging trend to support the decarbonisation of the Power Generation sector. We will continue to grow our exposure in renewable energy projects as part of our action plan to support customers currently in fossil fuels energy sources in their transition journey.

Projecting Emissions

The larger power generation customers in Malaysia have acknowledged the impact of climate change and has published their commitments to achieve Net Zero respectively. The lifespan of our customers' forecasted retirement dates of CFPPs and where there are announcements on planned early retirement of fossil fuel-based power plants, inform the projected emissions intensity of the Power Generation sector.

Deployment of CCUS technologies is a critical lever for the decarbonisation of the Power Generation sector, particularly in fossil fuel-powered plants that are difficult to replace in the short-term owing to their long asset life. GHG emissions that would be released into the atmosphere are captured, compressed, and transported by pipeline, ship, rail or truck to be either injected into deep geological formations, or utilised in industrial processes. The rate of adoption of CCUS technologies in Malaysia's Power Generation sector is expected to be at a measured pace; given the high costs associated with CCUS technologies, its nascent status, as well as the legalities and the complexities surrounding the newly passed CCUS bill.

Power Generation Sector

D Decarbonising the Sector

Recognising the sector's significant contributions to GHG emissions, AmBank Group has established a 2030³¹ near-term target to reduce its financed emissions intensity from 468 kgCO₂e/ MWh to 379 kgCO₂e/ MWh by 2030, in line with the expected financed emissions intensity from the reference scenario.

To achieve these goals, AmBank Group's plan of action considers the following: 

1. Adopt No New Coal-fired Power Plants (CFPPs) stance

Aligned to Malaysia's commitments outlined in NETR, we will not finance new greenfield CFPPs.

2. Financing for transition

We will increase allocation of capital to finance renewable energy projects and continue supporting our customers to deliver the development of renewable energy needs. We will also work with customers with high dependence on coal to facilitate and accelerate transition to renewable and low-carbon energy sources.

3. Engaging our customers

We will regularly engage with customers to understand their interim targets and track progress. This may entail also selective on-boarding of new customers with established clear transition plans and net zero targets that are aligned to the trajectory of the sector.

4. Influence our customers in adjacent industries

We will influence and support our customers in key sectors with potential for renewable energy generation to support the achievement of the NETR renewable energy installed capacity target.

³¹ Refers to FY2031 (31 March 2031).

Power Generation Sector

E Our Position Statement

AmBank Group is committed to supporting Malaysia's energy transition by encouraging investments in renewable energy and financing solutions that align with national decarbonisation goals, ensuring a responsible and resilient future for the Power Generation sector.

Our Position for the Power Generation Sector:



Negative Threshold Criteria/ Prohibitions:

- We will cease financing new greenfield coal-fired power plants (CFPPs) in line with national agenda and commitments.
- Existing customers with business activities in CFPPs are to showcase a clear transition plan and manage the phase-out, i.e. retire and/ or repurpose with cleaner alternative sources of energy.



Positive Threshold Criteria:

- We will provide financing to help new and existing customers in fossil fuel-based energy sources to transition towards low-carbon and renewable energy sources.
- We will regularly engage with customers to better understand their near-term targets in supporting the decarbonisation of the energy grid, as well as track progress towards achievement of their targets.



Non-mandatory but expectations over time and best practices that are encouraged:

- We will prioritise allocation of capital to finance renewable energy projects including solar, wind, hydro, and geothermal, in line with the country's National Energy Transition Roadmap (NETR) commitments.
- We will encourage our customers to develop and implement comprehensive transition plans and set net zero targets with clear, time-bound milestones.

Driving

A Sustainable Energy Transition

OIL & GAS SECTOR

The Oil & Gas sector is a critical enabler of economic growth globally and in ASEAN, but its production and consumption generate significant GHG emissions. Malaysia's NETR has identified natural gas as a transitional fuel, an important component in greening the energy mix in the journey to 2050. It is therefore important to enhance upstream competitiveness to meet both domestic demand and energy transition needs. Abruptly phasing out oil & gas use in the region would not be feasible or realistic. Just transition continues to be a priority for the governments of ASEAN. This is also echoed through PETRONAS's strategy to continue with oil exploration and production, while working on efficiencies in production, and business model diversification into renewables and other non-oil revenue.

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OIL & GAS SECTOR

A Sector Overview

The Oil & Gas sector plays a pivotal role in the global energy system, supplying nearly 60% of total energy consumption and acting as a cornerstone for industrial development, energy security, and economic growth³². This dominance comes at a cost, Oil & Gas activities are responsible for approximately 15% of global energy-related GHG emissions as of 2022, primarily through the combustion of fossil fuels. Methane, a by-product of Oil & Gas operations, is a particularly potent GHG—over 80 times more impactful than carbon dioxide over a 20-year period, making it a critical focus for emissions reduction³³. As such, it is critical for the sector to decarbonise in line with the IEA NZE scenario, which calls for a 60% reduction in upstream operational GHG emissions by 2030³⁴.



In Southeast Asia (SEA), Oil & Gas remains deeply entrenched in the energy mix, currently supplying about 25% and 20% respectively of the region's total energy demand. Projections forecast that by 2035, oil and natural gas demand will increase by 20% and over 30% respectively, driven largely by industrialisation, urbanisation, and growing energy access³⁵. These trends highlight both the scale of the decarbonisation challenge and the necessity for a managed, just, and orderly transition.

Malaysia is a key upstream and midstream player in Asia's energy market, ranking the second-largest crude oil producer in SEA and the fifth-largest global exporter of Liquefied Natural Gas (LNG) as of 2023³⁶. The sector is a major contributor to national output accounting for approximately 20% of Malaysia's GDP and supports over 200,000 direct and indirect jobs across the value chain³⁷. Petroliaam Nasional Berhad (PETRONAS), the Integrated National Oil & Gas company, plays a central role in the sector's continuity and transformation. It has set a target to sustain production at 2 million barrels of oil equivalent per day (MMboe/ day) by 2025 and beyond, ensuring national energy sufficiency while maintaining fiscal contributions to the government³⁸.

³² Our World in Data, *Energy Consumption by Source, World*

³³ MIT Climate Portal, (January 2024), *Ask MIT Climate: Why do we compare methane to carbon dioxide over a 100-year time frame? Are we underrating the importance of methane emissions?*

³⁴ International Energy Agency (IEA), (May 2023), *Emissions from Oil & Gas Operations in Net Zero Transitions*

³⁵ International Energy Agency (IEA), *Southeast Asia Energy Outlook 2024*

³⁶ U.S. Department of Energy, (November 2024), *Country Analysis Brief: Malaysia, U.S. Energy Information Administration*

³⁷ Malaysian Investment Development Authority (MIDA), *Malaysia: Building an Agile, Sustainable and Competitive Oil & Gas Hub*

³⁸ Petroliaam Nasional Berhad (PETRONAS), (January 2025), *PETRONAS Activity Outlook 2025-2027 Emphasises Collaboration and Industry Competitiveness to Strengthen Resilience*

Oil & Gas Sector

Malaysia's NETR lays out a clear direction to reposition the Oil & Gas sector within a low-carbon, high-value green economy expounded below:

1 **Natural Gas as a Transition Fuel:**
NETR positions natural gas as a bridge to renewable energy, allowing for gradual decarbonisation of the Oil & Gas sector while maintaining energy reliability.

2 **Carbon Capture, Utilisation, and Storage (CCUS):**
CCUS technologies are highlighted as critical for mitigating emissions from Oil & Gas activities, particularly in hard-to-abate sectors like offshore production and refining. PETRONAS has begun exploring CCUS opportunities to align with global best practices.

3 **Enhanced Methane Management:**
Adoption of low-cost technologies, such as advanced leak detection and repair (LDAR) systems, to cut methane emissions by up to 50%, aligning with Malaysia's commitment to the Global Methane Pledge.

Figure 14: PETRONAS GHG Emission Reduction Targets



In the interim transition period, natural gas is positioned as a key transitional fuel due to its lower-carbon footprint, high calorific value, and suitability as a baseload source to support the intermittent nature of renewables. Looking ahead to 2030 and beyond, technologies such as CCUS alongside the phase-out of routine gas flaring are expected to deliver measurable emissions reductions. Regulatory support, carbon pricing mechanisms, and access to transition finance will be instrumental in scaling these solutions across the value chain.

Industry players are aligning with international best practices and voluntary climate commitments. Many global players, including PETRONAS, have pledged to achieve near-zero upstream methane emissions by 2030, in line with the Global Methane Pledge. PETRONAS has also committed to a 50% reduction in methane emissions from Malaysia's natural gas value chain by 2030 (Figure 14: PETRONAS GHG Emission Reduction Targets)³⁹, reinforcing its position as a regional leader in climate-aligned operations⁴⁰.

Reducing operational and supply chain emissions is becoming a strategic imperative not only to manage physical and transition risks, but also to safeguard long-term market access, investor confidence, and social license to operate. As global capital flows shift toward low-carbon assets and sustainability standards tighten, Malaysian Oil & Gas companies must embed sustainability across operations, business models, and portfolios. Strategic investments in clean technologies, methane abatement, and process innovations will be vital to future-proofing the sector and maintaining competitiveness in a net zero world.

³⁹ Petroliaam Nasional Berhad (PETRONAS), Integrated Report 2023

⁴⁰ Petronas Gas Berhad (PETRONAS), Sustainability Report 2024

Oil & Gas Sector

B Summary of our Targets

Sectoral Decarbonisation Pathway

Target Metric

Financed Emissions Lending Intensity (FELI) – tCO₂e/ RM million financed

Value Chain

- Integrated National Oil & Gas company
- Crude oil refineries
- Exploration & Production companies

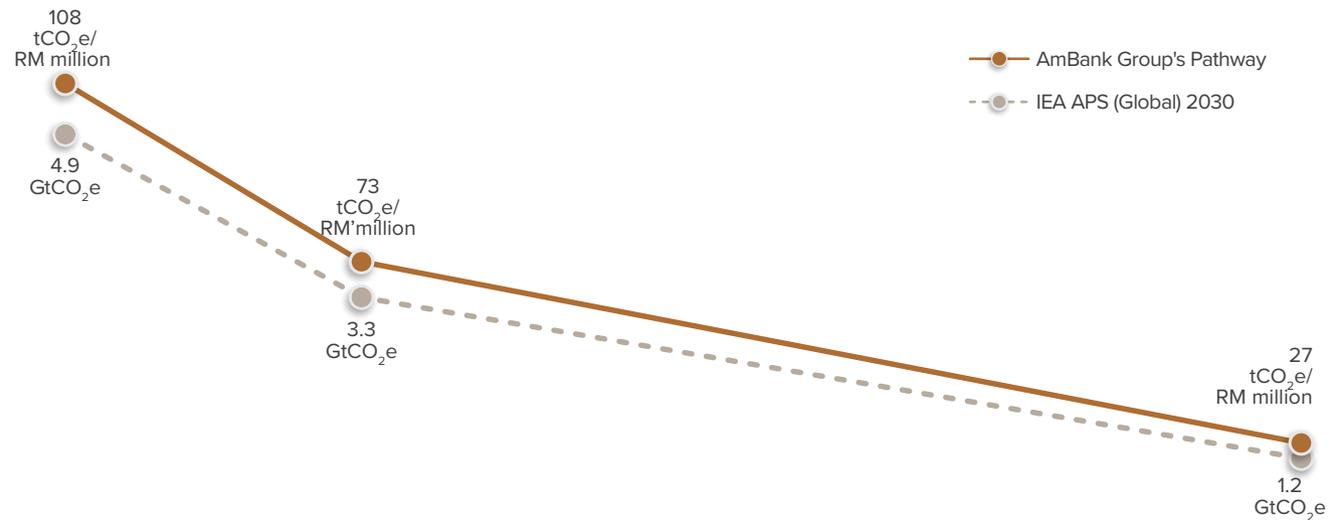
Emissions Scope

- Scope 1 emissions
- Scope 2 emissions

Reference Scenario

International Energy Agency (IEA) Announced Pledges Scenario (APS) (Global) 2030

tCO₂e/ RM million financed



FY2024 Baseline

2030 Near-term Target

2050 Net Zero Target

	FY2024 Baseline	2030 Near-term Target	2050 Net Zero Target
IEA APS (Global) 2030 (GtCO ₂ e)	4.9	3.3	1.2
AmBank Group's Targets (tCO ₂ e/ RM million financed)	108	73	27
% reduction from FY2024 Baseline	-	▼32%	▼75%

Oil & Gas Sector

C Target Setting

1. DEFINING DESIGN PARAMETERS

Suitable Target Metric

Malaysia’s economy remains deeply intertwined with the Oil & Gas sector, making it essential to continue supporting the sector’s efforts to enhance production efficiency and adopt cleaner technologies in the near-term. Facilitating a transition toward lower-carbon production and diversifying into renewable energy solutions will contribute to a more orderly and just transition. Current national development goals and transition plans reiterates the importance of Oil & Gas sector for Malaysia’s economic development.

The Financed Emissions Lending Intensity (FELI) metric, which measures the volume of financed emissions for the Oil & Gas sector per million Ringgit of financing provided by AmBank Group (expressed in tCO₂e/ RM million financed) was selected to measure progress of decarbonisation for the sector. This allows us to monitor our sector exposure and manage emissions intensity, regardless of sectoral growth, while maintaining our commitment to support the sector’s evolving energy needs.

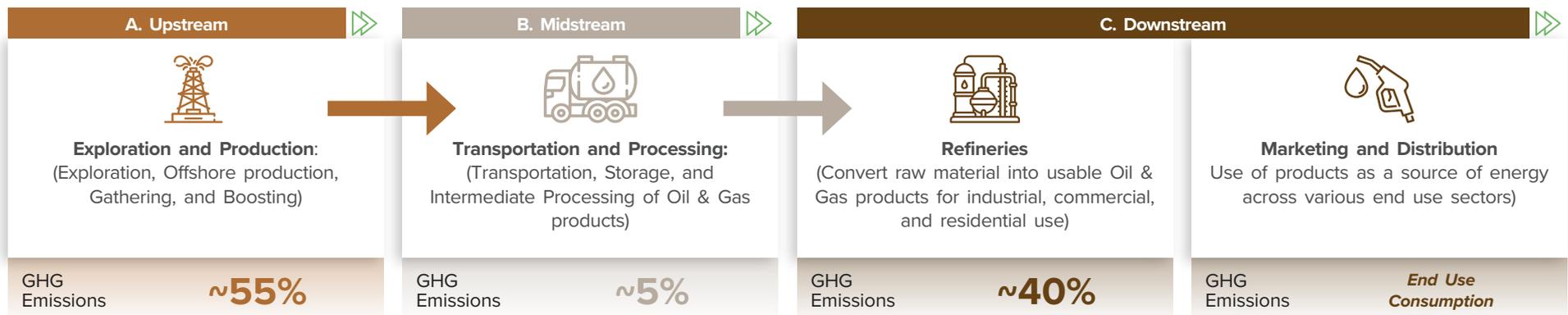
In-scope Sector Value Chain

The Oil & Gas value chain is categorised into three core segments: upstream (Exploration and Production), midstream (Transportation and Processing), and downstream (Refineries as well as Marketing and Distribution) per *Figure 15: Oil & Gas Value Chain*. In addition to specialised companies within these segments, the Integrated National Oil & Gas company (PETRONAS) who operates across the entire value chain, plays a pivotal role in Malaysia’s energy landscape. Key companies and segments that significantly influence the Oil & Gas sector’s transition are identified below:

- **Integrated National Oil & Gas company**—PETRONAS, who is active across multiple stages of the value chain and hold significant potential to drive sector-wide decarbonisation efforts.
- **Upstream Exploration and Production companies** which includes the exploration and production of crude oil and natural gas; and
- **Crude Oil refinery companies** who refine and process crude oil into a range of petroleum products, including petrol, diesel, liquefied petroleum gas, naphtha, residual oil, kerosene etc.

PETRONAS has the necessary resources and influence to transition into cleaner fuels. Other ancillary pure play companies have been excluded due to their limited influence in the decarbonisation of the Oil & Gas sector. These include Oil & Gas Services and Equipment (OGSE), midstream transportation and processing, and downstream marketing and distribution.

Figure 15: Oil & Gas Value Chain



Oil & Gas Sector

Relevant Emission Scopes

The following Scope 1 and Scope 2 emissions arising from Oil & Gas operations have been included:

- 1** Upstream operations of crude oil and natural gas extraction and production
- 2** Distillation, cracking, reforming, and treatment of crude oil refining
- 3** Integrated National Oil & Gas company from the entire value chain

It is recognised that a significant majority, estimated between 80% to 95%, of GHG emissions associated with Oil & Gas companies originate from Scope 3 emissions, largely driven by end-use consumption. Scope 3 emissions have been excluded from the scope of this target-setting exercise at this time owing to the current limitations in Scope 3 reporting particularly challenges around comparability, data coverage, transparency, and reliability. We remain committed to collaborating with stakeholders to enhance Scope 3 reporting practices and, as methodologies mature, will periodically review and consider expanding the baseline to incorporate Scope 3 emissions where appropriate.

2. ESTABLISHING BASELINE EMISSIONS INTENSITY

To measure the GHG emissions intensity from our Oil & Gas sector portfolio, we selected several data sources in the following order of priority:

High Priority



Low Priority

- 1** Company reported emissions from our customers' public climate disclosures—this refers to GHG emissions Scope 1 and Scope 2 data from customers' annual or sustainability reports.
- 2** In the absence of public climate disclosures, Scope 1 and Scope 2 emissions is estimated by using emission factors based on economic activity data derived from proxy companies whose operations are similar to the customer's nature of business.

Moving forward, we will engage our customers to strengthen disclosures, especially on Scope 3 emissions. Our FY2024 baseline financed emissions intensity in our Oil & Gas sector portfolio was 108 tCO₂e/ RM million financed.

3. SELECTING A REFERENCE SCENARIO

A decarbonisation pathway that captures the realities of achieving a just and orderly transition for the Malaysian Oil & Gas sector is needed to fully reflect need to balance energy security, economic development, and climate goals. Malaysia's economy continues to rely heavily on the Oil & Gas sector, with natural gas expected to play a growing role as a key transition fuel under the NETR.

The **International Energy Agency (IEA) Announced Pledges Scenario (APS) (Global) 2030**, which targets a 30% reduction in absolute Scope 1 and Scope 2 emissions from Oil & Gas operations by 2030, relative to 2022 levels was selected as the reference scenario. The IEA APS (Global) 2030 pathway provides flexibility for Oil & Gas companies with higher existing emissions to pursue improvements in operational efficiency and transition towards lower-carbon or renewable energy solutions, thereby enabling progressive emissions reductions over time.

Oil & Gas Sector

4. PROJECTING PORTFOLIO TRAJECTORY

Baseline Results

Our FY2024 baseline financed emissions intensity in our Oil & Gas sector portfolio was 108 tCO₂e/ RM million financed and is accompanied with our 2030 target of tCO₂e/ RM million financed. To project our portfolio to the 2030 near-term target and Net Zero by 2050, we aligned our sector portfolio's rate of decarbonisation of absolute Scope 1 and Scope 2 emissions with the reduction trajectory of the reference scenario.

Projecting Emissions

Demand for natural gas in Malaysia will sustain, as natural gas plays a role as a transitional fuel in Malaysia's energy transition, accounting for 56% of Total Primary Energy Supply by 2050. At this time, hydrogen adoption is still limited in Malaysia⁴¹, with limited supply of electrolysers, lack of technical capabilities, and high capital expenditure to produce green hydrogen at a scale needed to replace natural gas. That said, it is important to note that hydrogen adoption is essential beyond 2030 as outlined in NETR.

Companies in the Oil & Gas sector are pioneers to deploy CCUS technologies. Notably, PETRONAS' unit, Malaysian Petroleum Management, has identified an estimated 46 trillion cubic feet of potential carbon storage capacity across 16 depleted fields in Malaysia⁴². NETR identified two (2) ongoing CCUS catalyst projects (i.e. Kasawari and Lang Lebah) to capture GHG emissions from the gas production fields for storage. It is anticipated that more CCUS pilot projects to take place in existing Oil & Gas fields in Malaysia as mature CCUS technologies with widespread adoption is a critical success factor for hard-to-abate sectors to decarbonise and transition.

⁴¹ Ministry of Economy, (August 2023), National Energy Transition Roadmap (NETR)

⁴² Upstream, (February 2022), Malaysia revs up carbon, capture and storage developments

Oil & Gas Sector

D Decarbonising the Sector



Recognising the sector's significant contribution to GHG emissions, AmBank Group has established a 2030⁴³ near-term target to reduce its financed emissions intensity from 108 tCO₂e/ RM million financed to 73 tCO₂e/ RM million financed by 2030, in line with the reduction trajectory from the reference scenario.

To achieve these goals, AmBank Group's plan of action considers the following:



1. Financing for transition (Reduce GHG emissions from operations)

We will continue to support our customers to transition to a low-carbon business model, offer transition financing for the upstream Oil & Gas customers to decarbonise their operations for, but not limited to, the following activities:

- i. Installation of tank vent gas recovery to avoid routine flaring.
- ii. Digital solutions to ensure energy efficiency at operations.
- iii. Shift to electric equipment from diesel-based engine and gas turbine drives.
- iv. Replace hydrocarbon fuels in upstream operations with hydrogen.
- v. Utilise renewable energy such as solar PV to power the upstream operations.
- vi. Install CCUS technologies to inject GHG emissions into oil fields for storage.

2. Financing for transition (Exploration of low-carbon fuels)

We will continue to support our customers to transition to low-carbon business models, offer transition financing for the upstream Oil & Gas customers to decarbonise their operations for, but not limited to, the following activities:

- i. Low-carbon alternative fuels through research and development.
- ii. Bioenergy fuel to substitute fossil fuels in transportation and aviation sectors.
- iii. Electric Vehicle (EV) infrastructure such as charging stations to increase demand for EVs.

3. Engage our customers

We will regularly engage with customers to understand their interim targets and track progress and may selectively on-board new customers who established clear transition plans and net zero targets that are aligned to the trajectory of the sector.

⁴³ Refers to FY2031 (31 March 2031).

Oil & Gas Sector

E Our Position Statement



AmBank Group aims to facilitate the Oil & Gas sector's transition towards a low-carbon future while balancing energy security, affordability, and sustainability.

Our Position for the Oil & Gas sector:



Negative Threshold Criteria/ Prohibitions:

- In line with the needs for more energy to support a growing population and economic expansion, we will continue supporting our customers in the Oil & Gas sector as they diversify their business models to address demands for cleaner energy.



Positive Threshold Criteria:

- To ensure that the Oil & Gas sector thrives to address the needs for energy and reduces emissions for a sustainable future, we require our customers:
 - To develop plans to adopt sustainable business processes or practices; and
 - To demonstrate action towards achieving their sustainability commitments, including plans to improve their existing sustainability practices, particularly on specific areas such as emissions, water management, and biodiversity protection.
- We will regularly engage with customers to better understand their near-term targets and track progress of their transition to cleaner energy business models.



Non-mandatory but expectations over time and best practices that are encouraged:

We will encourage customers to establish and follow best sustainable practices, such as:

- Human Rights Commitments
- Carbon Management Strategies
- Renewable Energy Adoption
- Transparency and Reporting Mechanisms
- Global Methane Pledge (as Malaysia is a signatory)

Paving

A Low-Carbon
Future for Industry



CEMENT MANUFACTURING SECTOR



Cement is the backbone of Malaysia's infrastructure and growth, but it is also one of the toughest sectors to decarbonise. At AmBank Group, we understand the challenges that come with reducing emissions in such an energy-heavy industry. This is why we aim to support cement manufacturers, by helping them adopt cleaner production methods, boost energy efficiency, and explore new technologies like CCUS. Together, we're working towards a future where industry and sustainability can thrive side by side.

Your Bank. Malaysia's Bank. AmBank.™

CEMENT MANUFACTURING SECTOR

A Sector Overview

Cement plays a vital role in the construction industry as a key ingredient in concrete, which is integral to the development of buildings, communities, and infrastructure. It is particularly crucial for developing nations like Malaysia that are experiencing rapid urbanisation. Globally, cement production alone accounts for roughly 7% of global GHG emissions, making cement production the second-largest industrial emitter. About two-thirds of the sector's emissions come from the raw materials (limestone) in clinker production where the remainder from burning of fuels and electricity use⁴⁴.



In Malaysia, cement production is expected to increase, with a projected Compound Annual Growth Rate (CAGR) of 3.7% from 2024 to 2033⁴⁵. Ordinary Portland Cement (OPC) is the most widely produced cement in the country, with a GHG emissions intensity of 0.91 tCO₂e per tonne of cement. In 2022, cement production accounted for the largest share of industrial GHG emissions in Malaysia, contributing to 28% of the country's total emissions⁴⁶.

The transition to low-emission cement is complex, as it requires significant capital expenditure for technologies and involves multiple stakeholders that influence the demand of cement in its value chain such as property developers. Despite growing demand for low-emission cement, the high cost of production presents a challenge. These costs pose a challenge to the socio-economic need for more affordable housing, as low-emission cement technologies generally result in higher costs. Nonetheless, pushing for deeper emissions reductions within the cement sector is crucial. Solutions such as improved energy efficiency, material efficiency, and the use of low-emission fuels are key to reducing emissions in the near term. Additionally, advancing CCUS technologies, as well as sourcing alternative raw materials, will be essential for achieving long-term emissions reductions.

It is also important to note that the Cement Manufacturing sector in Malaysia faces additional regulatory pressures due to the Carbon Border Adjustment Mechanism (CBAM), which applies a carbon tax on exported cement products based on their embedded emissions. This has heightened the need for Malaysian cement manufacturers to invest in low-emission production technologies to maintain international competitiveness. In 2019, cement made up 1.2% of Malaysia's total CBAM-affected exports to the European Union, underscoring the importance of emissions reductions in the sector⁴⁷.

⁴⁴ Science-based Target Initiative (SBTi), (September 2022), SBTi launches world first 1.5°C science-based framework to decarbonise the cement industry

⁴⁵ Globe Newswire, (April 2024), Malaysia Cement Industry Research Report 2024-2033: Development Environment, Import and Export, Competition, Top Manufacturers, Outlook

⁴⁶ Ministry of Natural Resources, Environment and Climate Change, (December 2022), Malaysia's Fourth Biennial Update Report under the United Nations Framework Convention on Climate Change

⁴⁷ The Edge Malaysia, (January 2023), Local producers to be hit by new EU rule on carbon tax, says HLIB

Cement Manufacturing Sector

B Summary of our Targets

Sectoral Decarbonisation Pathway

Target Metric

Emissions intensity – tCO₂e/ tonne of cement produced

Value Chain

- Cement manufacturing

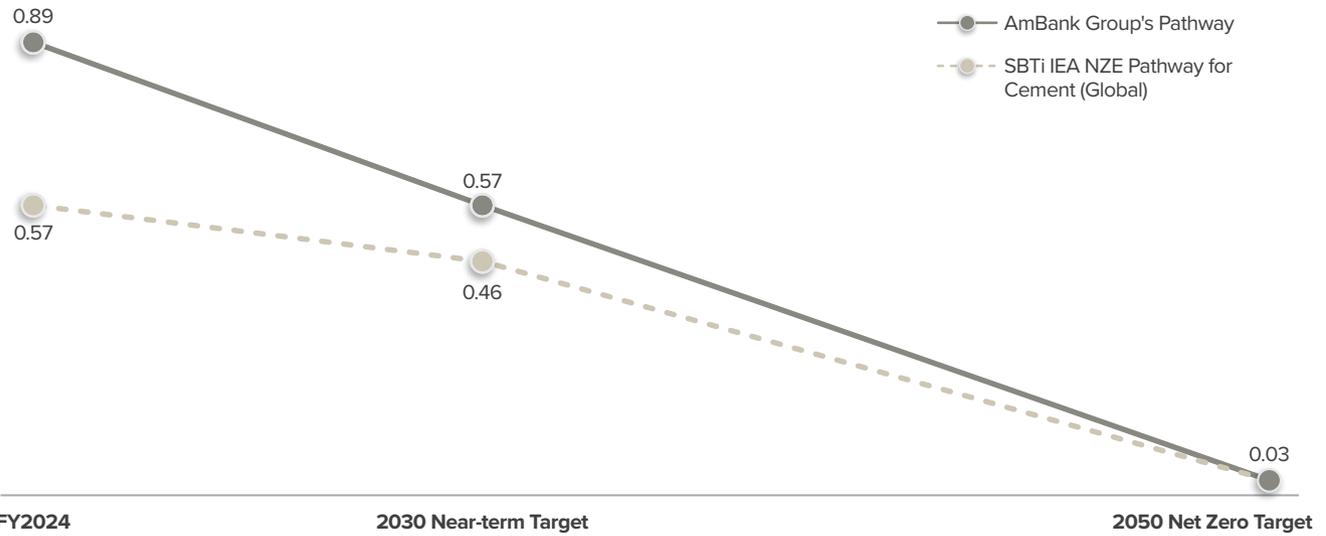
Emissions Scope

- Scope 1 emissions
- Scope 2 emissions

Reference Scenario

Science-based Targets Initiative (SBTi) International Energy Agency (IEA) Net Zero Emissions (NZE) Pathway for Cement (Global)

tCO₂e/ tonne of cement produced



	FY2024 Baseline	2030 Near-term Target	2050 Net Zero Target
SBTi IEA NZE Pathway for Cement (Global) (tCO ₂ e/ tonne of cement)	0.57	0.46	0.03
AmBank Group's Targets (tCO ₂ e/ tonne of cement)	0.89	0.57	0.03
% reduction from FY2024 Baseline	-	▼36%	▼97%

Cement Manufacturing Sector

C Target Setting 

1. DEFINING DESIGN PARAMETERS

Suitable Target Metric

The demand for cement in Malaysia is expected to continue growing in the medium- to long-term, primarily driven by civil engineering and construction of major infrastructure projects, logistics facilities, data centres, and factories. The cement production in Malaysia is projected to increase at a CAGR of 3.7% from 2024 to 2033.

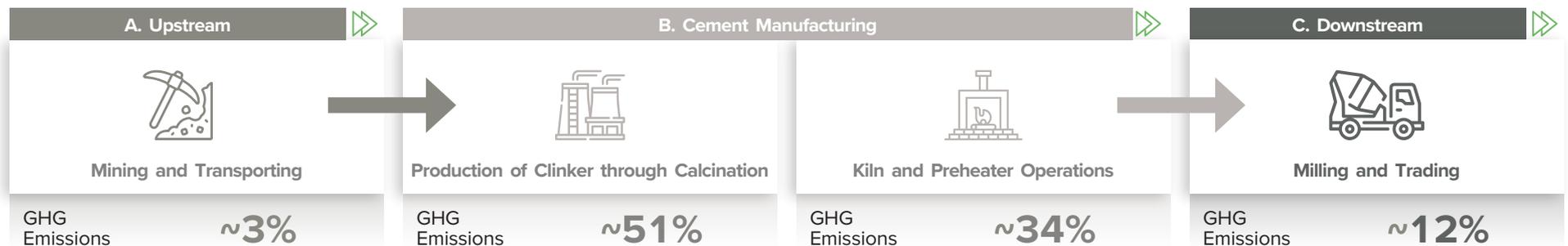
The emissions intensity is selected as the target metric consistent with prevailing industry practice. It is measured in tonnes of emissions per tonne of cement produced (tCO₂e/ tonne of cement). We recognise the need for financial institutions to support the just and orderly transition by providing financing support to the development of real economy. The selected emissions intensity allows continued support to the companies in the Cement Manufacturing sector, addressing rising demand from industries such as construction and infrastructure, and encourages the adoption of green technologies that results in lower GHG emissions.

In-scope Sector Value Chain

The production of cement is an energy-intensive process; cement is produced when limestone is heated to high temperatures of around 1,450°C in rotary kilns to reduce to lime. Lime is subsequently combined with gypsum, iron, and aluminium silicates to form clinker. The clinker is then cooled before ground into fine powder to form cement. Thereafter, cement is stored and packed for transportation and distribution.

The value chain covered in the scope of the sectoral decarbonisation target are cement manufacturers who produce clinker as an input material to manufacture cement. The operations of the preheater/ precalciner and rotary kilns release 85% of the sectoral GHG emissions in the Cement Manufacturing sector. Therefore, our decarbonisation strategy will focus on the activities with the highest GHG impact in the Cement Manufacturing segment of the value chain. The upstream mining and transportation as well as the downstream milling and trading segments of the value chain are excluded.

Figure 16: Cement Manufacturing Value Chain



Cement Manufacturing Sector

Relevant Emission Scopes

The Scope 1 and Scope 2 emissions arising from the operations of the Cement Manufacturing companies are:

1

Clinker Production associated with the combustion of fossil fuels in kilns such as coal, petroleum coke, and natural gas as well as the conversion of limestone into clinker.

2

Consumption of Purchased Electricity from the national energy grid to power equipment such as crushers, grinders, and conveyors during the preparation of raw materials, clinker grinding, and cement packaging.

Scope 3 emissions from the Cement Manufacturing sector value chain are excluded at this time due to data comparability, consistency, and coverage issues. Moving forward, we will continue to encourage stronger disclosures among our customers—especially for Scope 3 emissions.

2. ESTABLISHING BASELINE EMISSIONS INTENSITY

To measure the GHG emissions from our Cement Manufacturing sector portfolio, we selected several data sources in the following order of priority:

High Priority



Low Priority

1

Customers' emission intensities are obtained from public climate disclosures—this refers to emission intensities expressed in tonnes of emissions per tonne of cement produced (in tCO₂e/ tonne of cement) from customers' annual or sustainability reports.

2

In the absence of emission intensities from public disclosures, the emission intensity of the production of OPC is assumed, the most common type of cement manufactured in Malaysia⁴⁸.

Moving forward, we will continue to engage with our customers in the Cement Manufacturing sector to develop stronger GHG emission disclosures. Our FY2024 baseline financed emissions intensity in our Cement Manufacturing sector portfolio was 0.89 tCO₂e/ tonne of cement.

3. SELECTING A REFERENCE SCENARIO

We selected the **Science-based Targets Initiative (SBTi) International Energy Agency (IEA) Net Zero Emissions (NZE) Pathway for Cement (Global)** as the reference scenario. This is a credible pathway designed for cement manufacturing companies to set near-term and long-term science-based targets to achieve Net Zero by 2050. This reference scenario was developed by IEA for the cement industry and is aligned with the parameters of the IEA NZE scenario. Available and emerging technologies are considered in this reference scenario, such as clinker substitution, alternative fuels, CCUS, and efficiency in design and construction.

Presently, the global reference scenario is the only credible and recognised reference pathway suitable to assess the emissions of the Cement Manufacturing sector. We will endeavour to review and reassess the selected reference scenario as and when regional reference scenarios are made available that may more accurately capture the localised context.

⁴⁸ The emissions intensity reported by CIDB is 0.91 kgCO₂e/ kg of cement (1 tCO₂e/ tonne = 1kgCO₂e/ kg). Sourced from: Construction Industry Development Board (CIDB), (2022), Embodied Carbon Inventory Data for Construction Materials.

Cement Manufacturing Sector

4. PROJECTING DECARBONISATION TARGETS

Baseline Results

Our FY2024 baseline financed emissions intensity in our Cement Manufacturing sector portfolio was 0.89 tCO₂e/ tonne of cement. This is higher than the benchmark of 0.57 tCO₂e/ tonne of cement in our reference scenario. Our starting point can be attributed to our portfolio which comprises cement manufacturing companies in Malaysia manufacturing OPC, using conventional technologies.

Projecting Emissions

We are cognisant that the GHG emissions attributed by the Cement Manufacturing sector is dependent on the demand for cement in the construction industry. CCUS technologies are critical for the Cement Manufacturing sector to offset residual GHG emissions. NETR has identified CCUS as a solution for hard-to-abate industrial emissions. The rate of adoption of CCUS technologies in the Cement Manufacturing sector is expected to be at a measured pace; given the high costs associated with CCUS technologies, its nascent status, as well as the legalities and the complexities surrounding the newly passed CCUS bill.

D Decarbonising the Sector

Recognising the sector's significant contributions to GHG emissions, AmBank Group has established a 2030⁴⁹ near-term target to reduce our financed emissions intensity from 0.89 tCO₂e/ tonne of cement to 0.57 tCO₂e/ tonne of cement by 2030 to be aligned with the reference scenario. Starting from a higher baseline in our Cement Manufacturing sector portfolio, we aim to reduce our financed emissions intensity more rapidly than the reference scenario to reach Net Zero by 2050.

To achieve these goals, AmBank Group's plan of action considers the following: 

1. Financing for transition

We will provide support and financing for our customers to transition to an energy-efficient and low-carbon business model, offer transition financing for the Cement Manufacturing customers to decarbonise their operations for, but not limited to, the following activities:

- i. Alternatives for clinker.
- ii. Reduction of fossil fuel consumption.
- iii. Electrification of production equipment.
- iv. Deployment of CCUS technologies in the longer-term.

2. Influencing our customers

We will advocate our real estate and construction customers to use sustainable materials to increase the demand of low-emission cement. In turn, we will encourage our Cement Manufacturing customers to ramp up production to accelerate the supply of low-emission cement.

3. Engaging our customers

We will regularly engage with customers to understand their interim targets and track progress and may selectively on-board new customers who established clear transition plans and net zero targets that are aligned to the trajectory of the sector.

⁴⁹ Refers to FY2031 (31 March 2031).

Cement Manufacturing Sector

E Our Position Statement



AmBank Group aims to support financing for companies implementing lower-emission technologies while ensuring continued support for Malaysia's infrastructure growth in a more sustainable manner.

Our Position for the Cement Manufacturing Sector:



Negative Threshold Criteria/ Prohibitions:

- *In line with growing construction and infrastructure demands in the built environment in Malaysia, we will continue supporting our customers in the Cement Manufacturing sector.*



Positive Threshold Criteria:

- We will continue to support customers in the Cement Manufacturing sector who have credible decarbonisation strategies.
- We will regularly engage with customers to better understand their near-term targets and track progress of their transition to lower-carbon business models.
- We will selectively on-board new customers who have established net zero targets and credible transition plans.



Non-mandatory but expectations over time and best practices that are encouraged:

- We will encourage our customers to develop and implement comprehensive transition plans and set net zero targets with clear, time-bound milestones.
- We will provide support and financing for customers to decarbonise in the production stages which includes alternatives for clinkers, fossil fuel reduction, electrification of production, and Carbon Capture, Utilisation, and Storage (CCUS).

Forging

Pathways to
Sustainable
Industrialisation



IRON & STEEL MANUFACTURING SECTOR

The IEA identified iron & steel as one of the most challenging sectors to decarbonise due to its energy-intensive processes. Technological shifts have significantly reduced the emissions in the sector; however, it remains one of the highest emitting sectors globally. Decarbonisation of the steel sector will be driven by a decrease in blast furnace production and an increase in scrap reuse, the development of low-carbon manufacturing technologies, and the implementation of CCUS to offset the remaining GHG emissions.

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IRON & STEEL MANUFACTURING SECTOR

A Sector Overview

Iron is primarily used to produce steel, with nearly all iron ore extracted for steelmaking. In 2023, the built environment accounted for 52%⁵⁰ of global steel consumption, making the built environment the largest user of steel. Steel is also essential in the automotive sector, the manufacturing of mechanical equipment, and various other industrial applications.

The IEA identified the Iron & Steel Manufacturing sector as one of the most challenging sectors to decarbonise due to its energy-intensive processes, accounting for approximately 7% of global energy-related GHG emissions⁵¹. Although technological shifts have significantly reduced the GHG emissions in the sector, it remains as one of the highest emitting sectors globally to date. Many mega steel mills emerged in ASEAN countries, owing to the decline in China's steelmaking production and consumption from its peak in 2020. Based on announced plans, annual crude steel production capacity in ASEAN is expected to double by 2026 (from 75.3 million metric tonnes in 2023) due to the influx of investments from China⁵².



Until 2014, domestic production of steel in Malaysia has been entirely by the Electric Arc Furnaces (EAF), which emits less GHG emissions. However, in 2022, 72% of steel was produced through conventional Blast Furnaces (BF)–Basic Oxygen Furnaces (BOF)⁵³. The use of BF-BOF emits approximately 7.7 times of GHG emissions as compared to the scrap EAF. Natural gas-based Direct Reduced Iron (DRI) production generates lower GHG emissions approximately 40% lower than BF-BOF production⁵⁴. The rapid expansion of Iron & Steel Manufacturing sector in Malaysia has also made the sector the fastest growing source of GHG emissions within Malaysia's Industrial Processes and Product Used (IPPU) category since 2014. In 2019, emissions from the Iron & Steel Manufacturing sector accounted for 23% of the IPPU category, behind Cement Manufacturing sector⁵⁵. It is anticipated the emissions from the sector will continue to increase driven by higher investments in the use of BF-BOF.

The Malaysian government plans to impose a carbon tax on the Iron & Steel Manufacturing sector by 2026 to address the significant emissions generated by the sector, aligning with the fully phased-in period of the European Union's CBAM to the sector⁵⁶. This enforcement is to address the potential additional costs imposed by CBAM for exports of iron and steel products from Malaysia to the European Union, should carbon pricing have yet to be enforced in Malaysia.

⁵⁰ World Steel Association, (May 2024), *World Steel in Figures 2024*

⁵¹ International Energy Agency (IEA), (October 2020), *Iron and Steel Technology Roadmap*

⁵² The Edge Malaysia, (November 2023), *Steel industry headwinds may persist into 2024 amid uninspiring demand, overcapacities, says RHB*

⁵³ Liew Chin Tong, (July 2024), *Navigating the Future of Malaysia's Iron and Steel Industry*

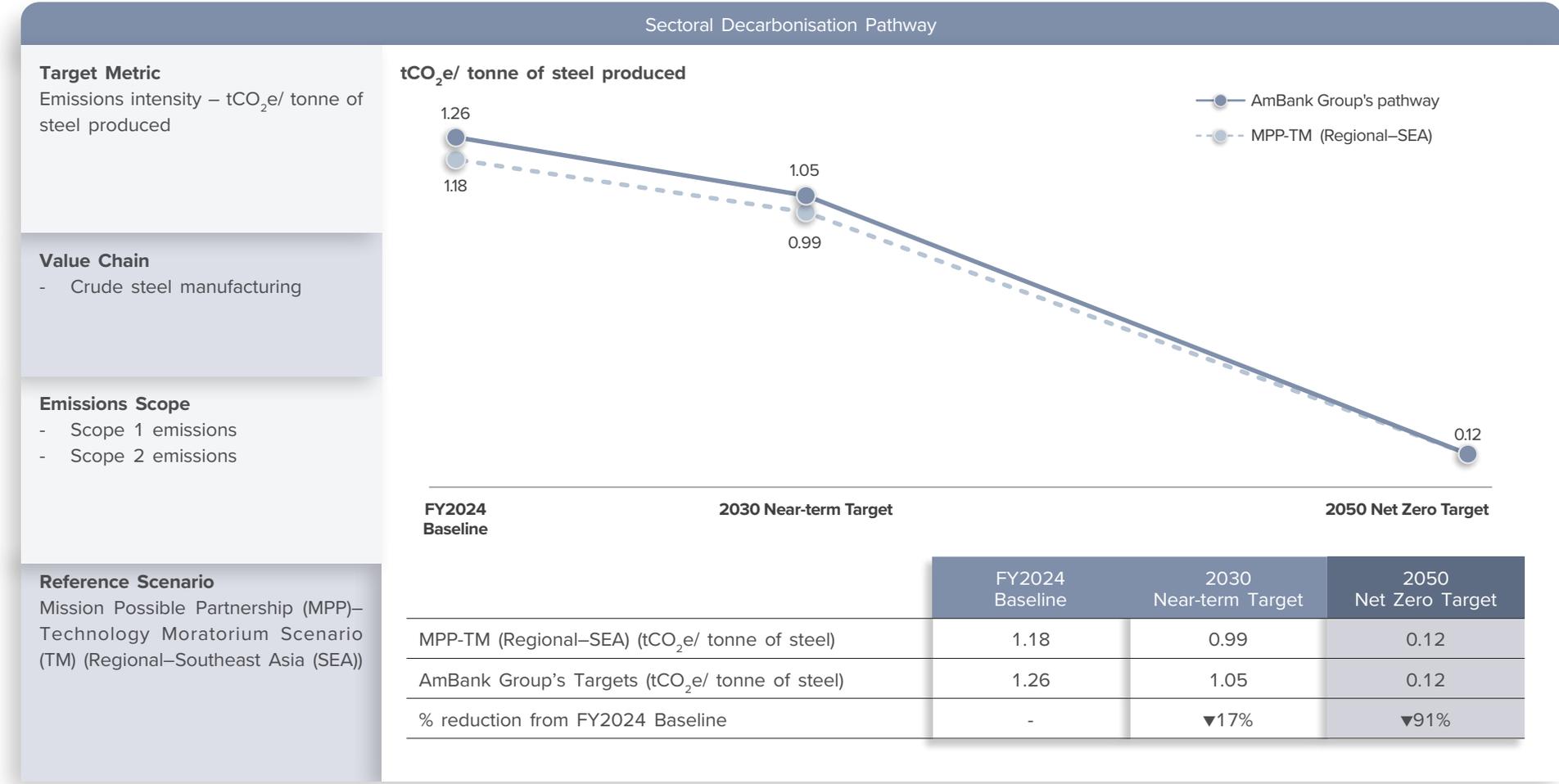
⁵⁴ The Institute for Democracy and Economic Affairs (IDEAS), (April 2024), *Asserting Climate Change Leadership in ASEAN: Carbon Pricing for the Malaysian Steel Industry*

⁵⁵ Ministry of Natural Resources, Environment and Climate Change, (December 2022), *Malaysia's Fourth Biennial Update Report under the United Nations Framework Convention on Climate Change*

⁵⁶ S&P Global, (October 2024), *Malaysia sets 2026 carbon tax, reaffirms decarbonisation goals in Budget 2025*

Iron & Steel Manufacturing Sector

B Summary of our Targets 



Target Metric

Emissions intensity – tCO₂e/ tonne of steel produced

Value Chain

- Crude steel manufacturing

Emissions Scope

- Scope 1 emissions
- Scope 2 emissions

Reference Scenario

Mission Possible Partnership (MPP)–Technology Moratorium Scenario (TM) (Regional–Southeast Asia (SEA))

tCO₂e/ tonne of steel produced

1.26

1.18

1.05

0.99

0.12

FY2024 Baseline

2030 Near-term Target

2050 Net Zero Target

	FY2024 Baseline	2030 Near-term Target	2050 Net Zero Target
MPP-TM (Regional-SEA) (tCO ₂ e/ tonne of steel)	1.18	0.99	0.12
AmBank Group's Targets (tCO ₂ e/ tonne of steel)	1.26	1.05	0.12
% reduction from FY2024 Baseline	-	▼17%	▼91%

Iron & Steel Manufacturing Sector

C Target Setting



1. DEFINING DESIGN PARAMETERS

Suitable Target Metric

To encourage the gradual shift towards the use of lower emission technologies such as EAF and DRI-EAF, the emissions intensity has been selected as the target metric, measured in tonnes of emissions per tonne of crude steel produced (tCO₂e/ tonne of steel), consistent with prevailing industry practice. The selection of this intensity metric takes into consideration of the need for sectoral decarbonisation whilst supporting the sustainability of the steelmaking industry which indirectly contribute to the development of other industries such as construction, infrastructure, and automotive.

In-scope Sector Value Chain

In today's steel industry, the conventional method for creating primary steel is through reducing iron ore in a BF and subsequently refining in a BOF. Both processes involve very high temperatures, which is achieved through the combustion of metallurgical coal. Alternative approaches involve the use of electricity to melt scrap steel using an EAF. Newer technologies use other forms of fuel sources, such as hydrogen and natural gas for the direction reduction of iron ore and subsequently using EAF for conversion to steel.

Table 6: Types of Steelmaking Technology

Steelmaking Technology	Blast Furnace (BF)-Basic Oxygen Furnace (BOF)	Scrap-based Electric Arc Furnace (EAF)/ Direct Reduced Iron (DRI-EAF)
Description	This technology process uses metallurgical coal. Iron oxide is reduced to iron inside a BF using coke as the reducing agent. The molten carbon-rich 'pig iron' is then processed into steel in a BOF where oxygen is blown through it to reduce its carbon content.	This technology process uses electricity. Recycled scrap steel is heated and melted in an EAF to form new steel. Newer technologies such as DRI-EAF use syngas produced from natural gas, gasifier coal, or electricity to power the EAF. Iron ore is converted to metallic iron which will be further processed into steel through an EAF.
Emissions Intensity (tCO ₂ e/ tonne of steel) ⁵⁷	2.3	0.3 (for EAF) 1.4 (for DRI-EAF)
Share of Global Steel Production (%)	~73	~22 (for EAF) 5 (for DRI-EAF)

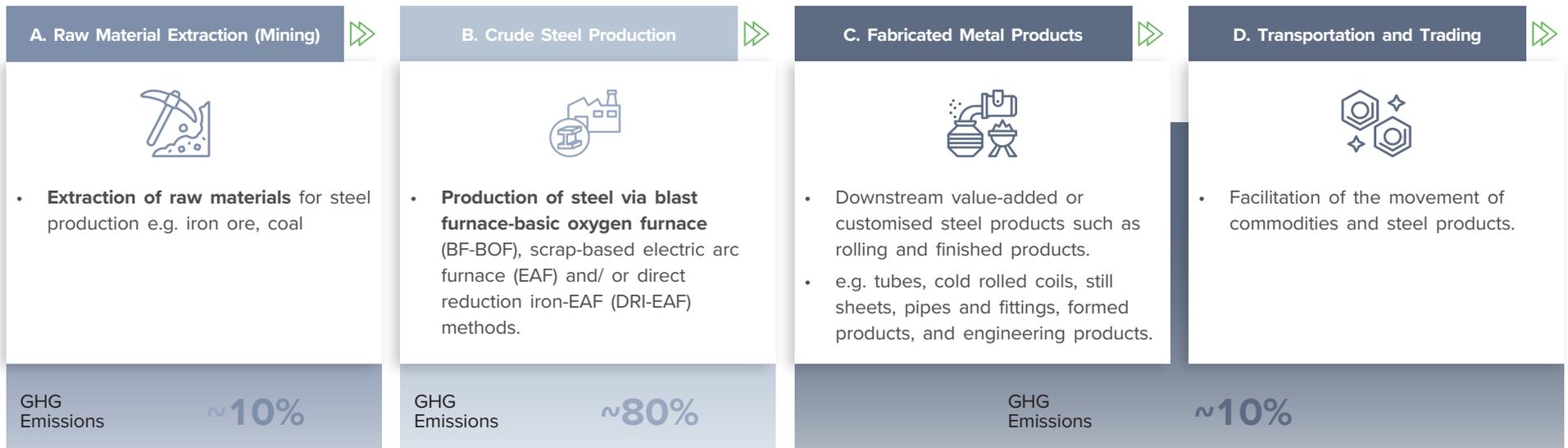
⁵⁷ Institute for Energy Economics and Financial Analysis (IEEFA), Fact Sheet: The facts about steelmaking - Steelmakers seeking Greensteel

Iron & Steel Manufacturing Sector

The value chain covered in the scope of our sectoral decarbonisation pathway are crude steel producers. Crude steel production constitutes approximately 80% of GHG emissions generated in the value chain of the Iron & Steel Manufacturing sector and would have the greatest influence to drive significant emissions reduction. Therefore, we focus primarily on this segment of the value chain to maximise the impact of our sectoral decarbonisation approach.

The upstream raw material extraction in the form of mining, fabricated metal products, as well as the downstream transportation and trading segments of the value chain are excluded at this point.

Figure 17: Iron & Steel Manufacturing Value Chain



Relevant Emission Scopes

The following Scope 1 and Scope 2 emissions arising from crude steel production have been included:

- For BF-BOF technologies, emissions are attributed wholly from Scope 1 emissions, contributed by the process of reducing iron ore to molten iron using metallurgical coal as the reduction agent. Subsequently, oxygen is blown through the BOF to reduce its carbon content.
- For EAF technologies, emissions are attributed wholly from Scope 2 emissions, contributed by electricity consumption to power the EAF to heat and melt recycled scrap steel. Levels of emissions released in this method is based on the national energy grid power mix.

While the method used in DRI-EAF technologies is less GHG emissions intensive compared to BF-BOF, the method still produces significant Scope 1 emissions through the production of syngas as the reduction agent to produce iron and use of electricity for steelmaking.

Iron & Steel Manufacturing Sector

2. ESTABLISHING BASELINE EMISSIONS INTENSITY

To measure the GHG emissions intensity from our Iron & Steel Manufacturing sector portfolio, we selected several data sources in the following order of priority:

High Priority



Low Priority

1

Company reported emissions from our customers' public climate disclosures—this refers to GHG emissions Scope 1 and Scope 2 data or GHG emissions intensity per tonne of production from customers' annual or sustainability reports.

2

In the absence of public climate disclosures, Scope 1 and Scope 2 emissions are estimated by using emission factors based on economic activity data referenced to relevant scientific literature.

The baseline was developed primarily using approach 1, providing a higher confidence in the estimation of our baseline. Moving forward, we will continue close engagement with our customers to continue their consistent disclosures in their annual and/ or sustainability reports.

Our FY2024 baseline financed emissions intensity in our Iron & Steel Manufacturing sector portfolio was 1.26 tCO₂e/ tonne of steel.

3. SELECTING A REFERENCE SCENARIO

The **Mission Possible Partnership (MPP)-Technology Moratorium (TM) Pathway (Regional–Southeast Asia (SEA))** has been selected as the reference scenario, consistent with prevailing industry practices. The MPP-TM (Regional–SEA) scenario assumes limited progress towards decarbonisation until 2030, before prioritising investments to near-zero emission technologies from 2030 onwards. Residual emissions after abatement from the deployment of these technologies in 2030 is projected to be less than 10% of the current emissions levels and will require mitigation through GHG emission removals.

The MPP-TM (Regional–SEA) scenario provides a regional reference pathway for the SEA region. This pathway provides a more representative decarbonisation trajectory that is reflective for Malaysia's economic growth in the Iron & Steel Manufacturing sector, as more BF-BOF investments will be entering into the nation in the coming years. Therefore, the Iron & Steel Manufacturing sector in Malaysia will require greater efforts to reduce these emissions and adoption of lower emission technologies such as EAF and DRI-EAF.

4. PROJECTING DECARBONISATION TARGETS

Baseline Results

Our FY2024 baseline financed emissions intensity in our Iron & Steel Manufacturing sector portfolio was 1.26 tCO₂e/ tonne of steel. This is marginally higher than the benchmark of 1.18 tCO₂e/ tonne of steel in our reference scenario attributed to our portfolio of customers having a higher proportion of steel produced using conventional BF-BOF technologies, which is more GHG emissions-intensive.

Projecting Emissions

It is anticipated the local demand of steel products to increase, which in turn, will increase the demand of crude steel, partly mitigating the current oversupply iron & steel manufacturing capacity today. This assumption is in line with the projected civil and non-residential construction ventures including major infrastructure projects, logistics facilities, and factories. Notably, the number of data centres in Malaysia is forecasted to double from the presently operational 54 data centres to-date⁵⁸. The rate of adoption of CCUS technologies in the Iron & Steel Manufacturing sector is expected to be at a measured pace; given the high costs associated with CCUS technologies, its nascent status, as well as the legalities and the complexities surrounding the newly passed CCUS bill.

⁵⁸ Knight Frank, (December 2024), Data Centre Research Report Malaysia 2024

Iron & Steel Manufacturing Sector

D Decarbonising the Sector



Recognising the sector's significant contributions to GHG emissions, AmBank Group has established a 2030⁵⁹ near-term target to reduce its financed emissions intensity from 1.26 tCO₂e/ tonne of steel to 1.05 tCO₂e/ tonne of steel by 2030 to be aligned with the reference scenario.

To achieve these goals, AmBank Group's plan of action considers the following:



1. Alternative to fossil fuel for thermal energy

We will support the financing of supplementary on-site energy generation such as solar PV, biomass boilers or other renewable sources of energy.

2. Financing for transition in operation and production

We will continue to support our customers to transition to low-carbon business models, offer transition financing for the Iron & Steel Manufacturing customers to decarbonise their operations for, but are not limited to, the following activities:

- i. Mitigation measures will be required for operations of steelmaking.
- ii. Shifting towards adoption of lower emission steelmaking technologies such as EAF or DRI-EAF.
- iii. Adoption of alternative smelting reduction processes that are less energy intensive or reduce reliance on metallurgical coal.

3. Foster cross-sector collaboration

We will influence and support our customers in the adjacent sectors i.e. scrap collection business, subject matter experts or technology providers in hydrogen, and advocate use of low-emission steel among our construction customers.

4. Engage our customers

We will regularly engage with customers to understand their interim targets and track progress and may selectively on-board new customers with established clear transition plans and net zero targets that are aligned to the referenced trajectory of the sector.

⁵⁹ Refers to FY2031 (31 March 2031).

Iron & Steel Manufacturing Sector

E Our Position Statement



AmBank Group encourages customers to progressively shift toward cleaner steel production while maintaining the sector's competitiveness in the global market.

Our Position for the Iron & Steel Manufacturing Sector:



Negative Threshold Criteria/ Prohibitions:

- *In line with growing construction and infrastructure demands in the built environment in Malaysia, we will continue supporting our customers in the Iron & Steel Manufacturing sector.*



Positive Threshold Criteria:

- We will continue to support customers as they embrace sustainable technologies and commit to credible decarbonisation strategies. Customers must have mitigation measures to reduce their environmental impact.
- We will regularly engage with customers to better understand their near-term targets and track progress of their transition to lower-carbon business models.



Non-mandatory but expectations over time and best practices that are encouraged:

- We will encourage our customers to develop and implement comprehensive transition plans and set net zero targets with clear, time-bound milestones.
- We will provide support and financing for customers to decarbonise in the production stages which includes fossil fuel reduction, electrification of production, renewable energy shift or Carbon Capture, Utilisation, and Storage (CCUS).

Building

Sustainable
Cities and
Communities



**COMMERCIAL
REAL ESTATE
SECTOR**

With continued urbanisation, the real estate sector is anticipated to grow in Malaysia to support population growth, industrialisation, and growth of data centres and the digital economy. Buildings are responsible for a significant portion of global GHG emissions, contributing 39%. There are also interrelationships and dependencies with other sectors. The decarbonisation of the national energy grid is essential for the successful reduction of GHG emissions in the real estate sector, which also involves energy efficiency initiatives and deployment of renewable energy.

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COMMERCIAL REAL ESTATE SECTOR

A Sector Overview

Real Estate is a material contributor to global GHG emissions as the buildings sector accounts for approximately 30% of global energy consumption⁶⁰. Constructed buildings will generate emissions during its lifetime directly through fuel consumption, such as diesel used for backup generators, and indirectly via electricity consumption for heating, cooling, lighting, and any other appliances and equipment installed in the buildings.

The substantial consumption of electricity highlights the interdependencies of Real Estate with the Power Generation sector to reach Net Zero by 2050. Commercial Real Estate sector encompasses buildings used for commercial purposes where the building owner or investor leases, uses or operates the property to conduct income generating activities (e.g. offices, warehouses etc)⁶¹.



Currently, two-thirds of Malaysia's existing old buildings, both commercial and residential, are expected to remain in use until 2050⁶². Refurbishment and modernisation of these buildings are of utmost importance as they no longer meet the current building codes, energy efficiency, and safety regulations. During the construction process, Commercial Real Estate, predominantly through the use of on-site diesel generators and building materials such as steel and cement, generates significant emissions. Commercial Real Estate players, especially property developers can reduce emissions by improving efficiency of the construction processes and exercising their buying power through procurement of greener and lower-emission materials for use in construction.

While the above initiatives outline opportunities for developers, the rise in local demand for sustainable buildings reflects a tangible and growing trend. Local demand for sustainable and green buildings has been on the rise in recent years. Under NETR, the Malaysian government has committed to invest RM6 billion from now until 2040 to improve energy efficiency. This is on top of the RM7 billion targeted to retrofit government buildings to be more energy efficient by the same timeline⁶³.

The newly enforced Energy Efficiency and Conservation Act⁶⁴, effective 1 January 2025, aims to regulate industrial and commercial users consuming more than 21,600 gigajoules of energy annually⁶⁵, requiring them to meet prescribed energy intensity performance standards. Despite the positive movement on reducing operational emissions on buildings, the journey towards Net Zero for the built environment remains challenging.

Tackling the issue of embodied emissions from the construction of buildings involves implementing reduction measures for building materials and deploying nascent technologies to reach scalability and viability. Substantial regulatory and policy support are required to accelerate demand for near-zero or lower-emission alternatives for steel and cement, key materials for constructing the built environment.

⁶⁰ International Energy Agency (IEA), *Buildings*

⁶¹ United Nations Environment Programme-Finance Initiative (UNEP-FI), (December 2023), *Climate Target Setting for Real Estate Sector Financing*

⁶² The Edge Malaysia, (July 2024), *Two-thirds of Malaysia's old buildings will still be in use until 2050 despite failing current standards*

⁶³ Malaysian Investment Development Authority (MIDA), (August 2023), *Malaysia to invest RM13b by 2040 to improve energy efficiency*

⁶⁴ Laws of Malaysia, *Energy Efficiency and Conservation Act 2024 - Act 861*

⁶⁵ The Edge Malaysia, (November 2024), *Energy Efficiency and Conservation Act to be in force from Jan 1 next year*

Commercial Real Estate Sector

B Summary of our Targets 

Sectoral Decarbonisation Pathway

Target Metric

Emissions intensity – kgCO₂e/ m² of building floor area

Value Chain

- Operational phase of commercial buildings

Emissions Scope

- Scope 1 emissions
- Scope 2 emissions
- Scope 3 emissions

Reference Scenario

Adjusted Carbon Risk Real Estate Monitor (CRREM) for Malaysia Grid Emission Factor (GEF) and National Energy Transition Roadmap (NETR) reference pathway

kgCO₂e/ m² of building floor area



	FY2024 Baseline	2030 Near-term Target	2050 Net Zero Target
Adjusted CRREM for Malaysia GEF and NETR (kgCO ₂ e/ m ² of building floor area)	165	135	0.6
AmBank Group's Targets (kgCO ₂ e/ m ² of building floor area)	182	148	0.6
% reduction from FY2024 Baseline	-	▼18%	▼99.6%

Commercial Real Estate Sector

C Target Setting

1. DEFINING DESIGN PARAMETERS

Suitable Target Metric

Malaysia's Commercial Real Estate sector is expected to continue expanding due to increasing demand from rapid urbanisation, economic expansion, and population growth. Emissions intensity was selected as the target metric, measured in kilogram of emissions per square meter of building floor area (kgCO₂e/ m² of building floor area).

The selection of this metric allows us to incentivise our customers to improve their buildings' operational efficiency and transition to renewable energy.

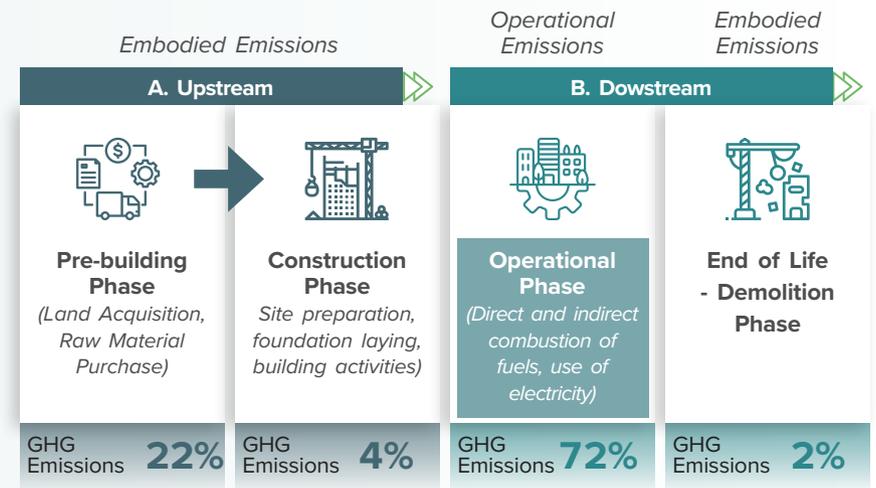
In-scope Sector Value Chain

The scope of the target setting exercise is the energy consumed during the lifetime of the commercial buildings' operational phase. These emissions constitute 72% of the GHG emissions of the value chain of the Commercial Real Estate sector. The remaining 28% of GHG emissions in the value chain refers to the GHG emissions generated during the construction, renovation or demolition of Commercial Real Estate buildings; these are known as embodied emissions⁶⁶.

At this time, only operational emissions are considered in the target setting exercise given the data limitations to incorporate embodied carbon emissions. Despite the growing recognition of the impact of embodied emissions in the built environment, there is currently no clear framework or approach for its measurement and mitigation.

In addition, the sector lacks scalable and practical alternatives to decarbonise embodied emissions in construction materials, making it a complex challenge that requires further innovation and policy support.

Figure 18: Commercial Real Estate Value Chain



The Commercial Real Estate sector includes, but are not limited to, the following building types⁶⁷:

- Hotel:** Hotels, Motels, Youth Hostels, Lodgings, and Resorts.
- Office:** Free-standing Offices, Office Terraces, Unattributed Office Buildings, and Office Parks.
- Retail High Street:** Retail buildings located on the high street, typically terraced buildings in the city centre or other high-traffic pedestrian zones.
- Shopping Centre:** Enclosed centres for retail purposes, such as shopping malls.
- Warehouse:** Building in an unenclosed space, usually these are stand-alone buildings situated by a car park or truck loading areas as they act as a shipping hub, receiving shipments or holding items until they are loaded onto trucks and distributed elsewhere. Often the warehouses are in the form of large halls and are located around the outskirts of cities.

There may be buildings that encompass more than one building type, referred to as "Mixed-use".

⁶⁶ Global Real Estate Sustainability Benchmark (GRESB), (March 2022), What you need to know about Embodied Carbon

⁶⁷ Science-based Targets initiative (SBTi), (August 2024), Buildings Sector Science-based Targets Explanatory Document

Commercial Real Estate Sector

Relevant Emission Scopes

In general, there are two types of GHG emissions in the lifecycle of a building:

Embodied Emissions⁶⁸: refer to GHG emissions released from the manufacturing of raw materials used in the construction phase as well as construction activities for a building before the building is operational. GHG emissions from demolition activities after the end of the building’s useful life is included as well. Example of emission sources include extraction, manufacturing, and transportation of raw materials, fuel consumption from field equipment, transportation used in construction sites, as well as waste disposal and recycling activities when a building is demolished.

Operational Emissions: refer to GHG emissions released during the operation of a building through electricity and fuel consumption over its lifetime use, usually around 60 years⁶⁹. Examples of emission sources include lighting, heating, ventilation, cooling and conditioning, and general energy usage for Commercial Real Estate.



The “Whole Building Approach” was adopted to define the scope of operational emissions for the Commercial Real Estate sector, which accounts for the operational emissions of a given Commercial Real Estate building’s complete operational energy consumption, including floor area occupied by both landlord and tenant(s), regardless of how electricity or fuel is sub-metered or controlled. This approach is aligned with the accounting and reporting practices of financial institutions and supported by Global Real Estate Sustainability Benchmark (GRESB), PCAF, and Carbon Risk Real Estate Monitor (CRREM)⁷⁰.

At this time, only operational emissions are considered in the target setting exercise given the data limitations to incorporate embodied carbon emissions owing to variation in building specifications for the same category of building. For example, concrete and steel products with higher embodied emissions are common building materials for the development of high-rise office buildings. Bricks, on the other hand, with lower embodied emissions are used more in the development of low-rise office buildings. Despite the growing recognition of the impact of embodied emissions, there is currently no clear framework or approach for its measurement and mitigation.

Furthermore, the sector lacks scalable and practical alternatives to decarbonise embodied emissions in construction materials, making it a complex challenge that requires further innovation and policy support.

⁶⁸ Embodied emissions also sometimes referred to as upfront embodied emissions and end-of-life embodied emissions in a building lifecycle.

⁶⁹ One Click LCA, (June 2024), 10 Key Facts About Building Life Cycle Assessment

⁷⁰ Global Real Estate Sustainability Benchmark (GRESB), Institute for Real Estate Economics (IIO), Partnership for Carbon Accounting Financials (PCAF), (March 2023), Accounting and Reporting of GHG Emissions from Real Estate Operations Technical Guidance for the Financial Industry

Commercial Real Estate Sector

Under the **Whole Building Approach**, the operational emissions of a Commercial Real Estate building could be reported as either Scope 1, 2, or 3 emissions, depending on the type of Commercial Real Estate company, as detailed in *Figure 19: Matrix of Commercial Real Estate Companies and Emissions Scope Categorisation*:

Figure 19: Matrix of Commercial Real Estate Companies and Emissions Scope Categorisation

Type of Commercial Real Estate Company	Scope 1 and Scope 2	Scope 3 Category 11: Use of Sold Products	Scope 3 Category 13: Downstream Leased Assets
Property Managers	Do not own but manage and operate buildings on behalf of owners		
Owner-occupiers	Own, occupy, and operate buildings		
Developer		Do not own but develop projects and sell buildings to end-consumers	
Owner-lessors			Own but lease out buildings to tenants to occupy and operate

The following are the companies that were identified to be within the boundary of the target setting exercise:

Property Managers are agents appointed by building owner(s) to oversee the operational, financial or investment management aspects of the buildings, and may not occupy nor own the building. They have operational control over the building and by extension, the building's GHG emissions.

Owner-occupiers have ownership and operational control of the buildings as they are currently occupying the Commercial Real Estate building.

Developers develop and contract out construction of buildings to either own or transfer the ownership of the building to another party.

Owner-lessors owns the building but does not occupy for their own use. Typically, they engage in a lease with one or more third-parties for total or partial occupancy and use of the property. Depending on the leasing arrangement, an Owner-lessor has varying levels of operational and financial control over the Commercial Real Estate building.

Commercial Real Estate Sector

Property Managers and Owner-occupiers – Scope 1 and Scope 2:



Property Managers and Owner-occupiers play a direct role in the day-to-day operations of Commercial Real Estate buildings, and as such, they are responsible to manage and report GHG emissions arising from the operation of the buildings. They will report their emissions under Scope 1 and Scope 2, reflecting the emissions that they can control or influence through operational decisions.

Scope 1 emissions refer to direct GHG emissions from sources that are owned or controlled by the entity such as:

- On-site fuel combustion, such as diesel used in backup generators.
- Refrigerant leaks from air conditioning units and chiller systems, which are common in commercial and mixed-use development.

Scope 2 emissions are indirect GHG emissions from the generation of purchased energy consumed by the building such as:

- Electricity purchased from the national grid for lighting, Heating, Ventilating, and Air Conditioning (HVAC) systems, elevators, and other building services.
- Chilled water purchased for use in district cooling systems, which is common in urban developments and large commercial complexes.

Although Property Managers and Owner-occupiers may not be involved in the construction or sale of buildings, they are stewards of the building's operational phase. Their decisions on energy procurement, maintenance practices, and equipment upgrades have a significant impact on the building's carbon footprint. By accurately reporting Scope 1 and Scope 2 emissions, they contribute to a more transparent and accountable emissions profile for the built environment. This operational focus complements the lifecycle approach taken by developers, ensuring that emissions are tracked and managed not just at the point of construction, but throughout the building's use phase.

Developers — Scope 3, Category 11 (Use of Sold Products)⁷¹:



Under the **Whole of Building** approach, Developers must estimate future emissions from Commercial Real Estate buildings that they construct and thereafter, sell. As Developers do not have operational control over the buildings upon its sale to end-consumers, such emissions must be reported in Scope 3, Category 11: Use of Sold Products, being the estimated lifetime operational emissions of the buildings to be owned, occupied, and operated by end-consumers from:

- Anticipated lifetime on-site fuel combustion, such as diesel used in backup generators.
- Anticipated lifetime refrigerant leaks from air conditioning units and chiller systems.
- Anticipated electricity purchased from national grid for lighting, HVAC systems, elevators and other buildings services.
- Anticipated lifetime chilled water purchased for use in the district cooling systems.

⁷¹ Category 11: Use of Sold Products is one of the 15 distinct categories as defined by GHG Protocol. This category includes emissions from the use of goods and services sold by the reporting company in the reporting year. The Scope 3 emissions from use of sold products include the Scope 1 and Scope 2 emissions of end users. Sourced from: GHG Protocol, (2011), Corporate Value Chain (Scope 3) Accounting and Reporting Standard

Commercial Real Estate Sector

Owner-lessors — Scope 3, Category 13 (Downstream Leased Assets)⁷²:



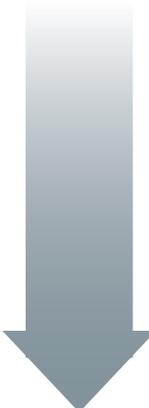
Under the **Whole of Building** approach, Owner-lessors must calculate the emissions of the building's operational footprint of spaces leased to tenants. As Owner-lessors do not assume operational control as they are not the occupants of these buildings that they own, operational control of such buildings resides with the tenants of Owner-lessors, as these tenants are responsible for the day-to-day operations of the buildings that they occupy, but not own.

Such emissions must be reported in Scope 3, Category 13: Downstream Leased Assets, being the emissions from spaces leased to tenants, including:

- On-site fuel combustion, such as diesel used in backup generators.
- Refrigerant leaks from air conditioning units and chiller systems, which are common in commercial and mixed-use developments.
- Electricity purchased from the national grid for lighting, HVAC systems, elevators, and other building services.
- Chilled water purchased for use in district cooling systems, which is common in urban developments and large commercial complexes.

To measure the GHG emissions intensity from our Commercial Real Estate sector portfolio, we selected several data sources in the following order of priority:

High Priority



- 1 The baseline was established from the underlying Commercial Real Estate assets by building, in which the operation of the buildings is financed by the Group. We believe this bottom-up approach through an asset-level assessment allows us to improve the accuracy of the Commercial Real Estate sector emissions intensity baseline by focusing on specific emissions attributed to the building by type, and not the wider company- or group-level.
- 2 Emission intensities of respective building types were derived from scientific literature. We are cognisant that building efficiencies are dependent on locality, therefore we prioritised literature that highlights building efficiencies of Commercial Real Estate buildings in Malaysia.
- 3 Where the purpose of financing is general (i.e. not specific to the underlying Commercial Real Estate buildings), the company-level emission intensities applicable to the parent company- or group-level is used. This information is typically retrieved from the parent company- or group-level annual or sustainability reports.

Low Priority

Our FY2024 baseline financed emissions in our Commercial Real Estate sector portfolio was 182 kgCO₂e/ m² of building floor area.

⁷² Category 13: Downstream Leased Assets is one of the 15 distinct categories as defined by GHG Protocol. This category includes emissions from the operations of assets that are owned by the reporting company (acting as a lessor) and leased to other entities. The Scope 3 emissions from downstream leased assets include the Scope 1 and Scope 2 emissions of lessees. Sourced from: GHG Protocol, (2011), Corporate Value Chain (Scope 3) Accounting and Reporting Standard

Commercial Real Estate Sector

3. SELECTING A REFERENCE SCENARIO

The country-specific decarbonisation pathway from CRREM and projections for NETR was combined to arrive at an augmented scenario – **Adjusted Carbon Risk Real Estate Monitor (CRREM) for Malaysia Grid Emission Factor (GEF) and National Energy Transition Roadmap (NETR)** reference pathway.

The CRREM decarbonisation pathways provide country-specific pathways and emission intensity targets which are developed in line with the Paris Agreement⁷³. It is noted that Malaysia is one of the countries among the 44 countries included in the analysis for CRREM decarbonisation pathways. The Malaysian-specific CRREM decarbonisation pathway was developed in consideration of the climate conditions, geography, energy intensity profiles of different building types, grid decarbonisation rate, and projected growth of building stock floor area. The CRREM decarbonisation pathways are widely adopted by international, regional, and local banks in the design of their reference scenarios for the Commercial Real Estate sector.

As CRREM was developed prior to the publication of Malaysia's NETR, its approach to developing Malaysia's decarbonisation pathway for the Commercial Real Estate sector is not fully aligned with current national strategies. To enhance the accuracy of the reference scenario estimates, and to reflect the decarbonisation targets with country's roadmap and directors in the future, we have updated its baseline assumptions by estimating the current national average grid emission factor (GEF⁷⁴) and adjusting the projected decarbonisation rate to align with NETR projections (Energy Capacity Mix).

4. PROJECTING PORTFOLIO TRAJECTORY

Baseline Results

Our FY2024 baseline financed emissions intensity in our Commercial Real Estate sector portfolio was 182 kgCO₂e/ m² of building floor area. This is marginally higher than the benchmark of 165 kgCO₂e/ m² of building floor area in our reference scenario.

Our starting point can be attributed to our portfolio of customers owning and operating older Commercial Real Estate buildings have yet to or are in nascent stages of implementing energy efficiency measures nor obtained green building certifications.

Projecting Emissions

The decarbonisation of the Commercial Real Estate sector is highly dependent on the accelerated effort to decarbonise the national energy grid as well as the retrofitting of existing buildings to become more energy efficient. The Malaysian government acknowledges the importance of renewable energy and energy efficiency through the initiatives outlined in NETR.

⁷³ Carbon Risk Real Estate Monitor (CRREM), (2022) - Risk Assessment Tool

⁷⁴ GEF measures the amount of carbon emissions per unit of electricity generated.

Commercial Real Estate Sector

D Decarbonising the Sector



Recognising the sector's significant contribution to GHG emissions, AmBank Group has established a 2030⁷⁵ near-term target to reduce its financed emissions intensity from 182 kgCO₂e/ m² of building floor area to 148 kgCO₂e/ m² of building floor area by 2030 to be aligned with the augmented reference scenario.

To achieve these goals, AmBank Group's plan of action considers the following:



1. Financing for the retrofitting or energy-efficient solutions

We will continue to support our customers to transition to an energy-efficient business model, offer transition financing for the Commercial Real Estate customers to decarbonise their operations for, but not limited to, the following activities:

- i. Construction of new buildings that meet higher energy efficiency standards and construction of buildings that will attain green building certifications.
- ii. Projects that focus on reducing energy consumption and enhancing energy efficiency of existing buildings.
- iii. Integration of digital technologies and the maintenance of energy-efficient buildings.

2. Financing for energy transition

We will continue to support our customers to transition to low-carbon business models, offer transition financing for the Commercial Real Estate customers to decarbonise their operations, for the installation of rooftop solar PV to offset building energy demand from the national energy grid, which is currently fossil fuel-intensive.

3. Influence our customers

We will support and provide financing to our customers in other sectors to acquire offices with higher building energy index ratings to increase the demand of green certified buildings.

⁷⁵ Refers to FY2031 (31 March 2031).

Commercial Real Estate Sector

E Our Position Statement



AmBank Group supports the transition towards more energy-efficient Real Estate Buildings by prioritising financing for customers committed to sustainable real estate practices.

Our Position for the Commercial Real Estate Sector:



Negative Threshold Criteria/ Prohibitions:

- *In line with growing construction and infrastructure demands in the built environment in Malaysia, we will continue supporting our customers in the Commercial Real Estate sector.*



Positive Threshold Criteria:

- We will work closely with customers to provide financing for green and/ or more energy-efficient buildings and finance retrofitting projects focusing on the following:
 - Buildings that achieve green building certifications (e.g. Green Building Index (GBI), Green Real Estate (GreenRE), Leadership in Energy and Environmental Design (LEED), Building and Construction Authority (BCA) Green Mark); and
 - Customers who aspire to embark on retrofitting of existing buildings that are less efficient or with plans for energy optimisation.
- We will regularly engage with customers to better understand their near-term targets and track progress of their transition to lower-carbon business models.



Non-mandatory but expectations over time and best practices that are encouraged:

- We will encourage our customers to meet minimum sustainability ratings of applicable national standards or guidelines for the construction of property or infrastructure projects.
- We will encourage our customers to install solar PV and onsite renewable technologies to reduce emissions from building operations (i.e. for completed buildings).



Moving Forward

Guided by the Group's inaugural NZTP, AmBank Group has identified key strategies to mobilise capital for customers to transition to energy-efficient and lower-carbon business models. This marks a critical step in AmBank Group's long-term commitment towards *Shaping Tomorrow Together*.

MOVING FORWARD

This NZTP White Paper outlines AmBank Group’s inaugural NZTP, which includes sectoral decarbonisation targets for select hard-to-abate sectors as part of our commitment to achieve Net Zero by 2050. We identified tailored active and passive decarbonisation levers that guide how we could support customers in meeting these sustainability targets:

Table 7: Active and Passive Decarbonisation Levers for Select Hard-to-abate Sectors

Economic Focus Area	Sector	Decarbonisation Levers
<p>Agriculture</p> 	<p>Palm Oil</p> 	<p>Active:</p> <ul style="list-style-type: none"> - Biogas capture – Harnessing methane from POME to generate renewable energy. - Biomass utilisation – Using palm biomass (e.g. fronds, EFB) as a renewable energy source or product feedstock. - High-yield clonal palm series – Cultivating higher-yield varieties to reduce land expansion needs. <p>Passive:</p> <ul style="list-style-type: none"> - Adherence to MSPO or RSPO – Following sustainable palm oil standards to reduce deforestation and promote traceability.
<p>Energy</p> 	<p>Thermal Coal Mining</p>  <p>Power Generation</p>  <p>Oil & Gas</p> 	<p>Active:</p> <ul style="list-style-type: none"> - Electrification – Shifting from fossil fuels to electricity. - Energy efficiency – Improving equipment and operational efficiency to reduce energy consumption. - No flaring adherence – Eliminating routine gas flaring to reduce methane and carbon emissions. - Use of renewables – Replacing fossil energy with solar, wind, or hydro sources. <p>Passive:</p> <ul style="list-style-type: none"> - Demand for low-carbon fuels – Encouraging market shift toward biofuels and cleaner fuels. - Nationwide phase-out of coal by 2044 – Supporting Malaysia’s goal to fully exit coal power. - Consumer behavioural shifts – Promoting energy-conscious behaviours and choices.
<p>Built Environment</p> 	<p>Cement Manufacturing</p>  <p>Iron & Steel Manufacturing</p>  <p>Commercial Real Estate</p> 	<p>Active:</p> <ul style="list-style-type: none"> - CCUS - Capturing carbon emissions from industrial processes in cement, iron and steel. - Energy-efficient and environmentally sustainable buildings as stipulated by green building certification requirements. <p>Passive:</p> <ul style="list-style-type: none"> - Grid decarbonisation – Reducing emissions from the electricity grid through renewable integration and efficiency improvements.

Moving Forward

We have outlined the implementation of our NZTP through the following strategies:



1

Supporting our customers' transition efforts

We will continue to engage with our customers to understand their transition journeys as well as identify and solution potential financing opportunities together with our customers.

Our newly developed Sustainable Finance Product Framework (SFP Framework) focuses on supporting our customers through sustainable, transition, and green financing products and services that align with the customers' efforts in their transition journeys. For more information about the SFP Framework, see *AmBank Group's Sustainable Finance Product Framework (SFP Framework)*.



2

Strengthening collaboration and alignment with stakeholders

The successful transition of any hard-to-abate sector is dependent on the collaboration of various stakeholders to establish and operationalise a clear roadmap for transition. We acknowledge our success is also dependent on factors including the ambition and effective implementation of the Malaysian government's policies and commitments to accelerate the transition efforts. Industry players in respective value chains are also responsible to continue to influence the broader sector to move towards Malaysia's Net Zero commitment.



3

Enhancing internal capabilities and processes

We continuously enhance internal capabilities and governance structures to ensure the effective operationalisation of the NZTP. We will integrate our commitments and targets into our internal controls and procedures during our periodic review of relevant credit policies and guidelines.

In addition, climate-related data is a critical element in the operationalisation of the NZTP. We endeavour to conduct our data collection process in a streamlined manner that will enable timely access to accurate information and facilitate monitoring of performance against our 2030 near-term targets to improve the limited availability of climate-related data.



4

Reviewing and refining our targets and methodologies regularly

We are committed to assess our financed emissions and monitor progress of our decarbonisation pathways annually. Our efforts and progress will be disclosed in our annual sustainability disclosures. Our approach is designed to be iterative, transparent, and responsive. Through regular progress reviews, disclosures, and stakeholder engagements, we aim to ensure that our plan remains adaptive and impactful.

As we approach 2030, we anticipate the reference scenarios selected to continually evolve. To preserve the stability of our 2030 near-term targets as well as maintain a clear message and consistent strategy to our stakeholders, we intend to review, and if necessary, revise our targets and methodologies at least once every five years hereafter.

GLOSSARY

Abbreviations	Definitions
ACOP	Annual Communication of Progress
APS	Announced Pledges Scenario
ASEAN	Association of Southeast Asian Nations
BCA Green Mark	Building and Construction Authority Green Mark
BF-BOF	Blast Furnace and Basic Oxygen Furnace
BNM	Bank Negara Malaysia
CAGR	Compounded Annual Growth Rate
CBAM	Carbon Border Adjustment Mechanism
CCUS	Carbon Capture, Utilisation, and Storage
CFPP	Coal-fired Power Plants
CIDB	Construction Industry Development Board
CPO	Crude Palm Oil
CRREM	Carbon Risk Real Estate Monitor
DRI	Direct Reduced Iron
EAF	Electric Arc Furnace
EFB	Empty Fruit Bunches
EV	Electric Vehicle
FELI	Financed Emissions Lending Intensity
FFB	Fresh Fruit Bunches

Abbreviations	Definitions
FLAG	Forest, Land, and Agriculture
FY	Financial Year
GBI	Green Building Index
GDP	Gross Domestic Product
GEF	Grid Emission Factor
GFANZ	Glasgow Financial Alliance for Net Zero
GHG	Greenhouse Gas
GreenRE	Green Real Estate
GRESB	Global Real Estate Sustainability Benchmark
Gt	Gigatonnes
GW	Gigawatt
HVAC	Heating, Ventilation, and Air Conditioning
IEA	International Energy Agency
iLUC	Indirect Land Use Change
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent Power Producer
IPPU	Industrial Processes and Product Used
JC3	Joint Committee on Climate Change
kgCO ₂ e	Kilogram of Carbon Dioxide Equivalent

Glossary

Abbreviations	Definitions
LDAR	Leak Detection and Repair
LEED	Leadership in Energy and Environmental Design
LNG	Liquefied Natural Gas
LUC	Land Use Change
m ²	Square Metre
MF	Mesocarp Fibre
MMboe	Million Barrel of Oil Equivalent
MPP	Mission Possible Partnership
MSPO	Malaysian Sustainable Palm Oil
MW	Megawatt
MWh	Megawatt Hour
NBAP	National Biomass Action Plan
NBFIs	Non-Bank Financial Institutions
NCCP	National Climate Change Policy
NDC	Nationally Determined Contributions
NDPE	No Deforestation, No New Peat, and No Exploitation
NETR	National Energy Transition Roadmap
NIMP	New Industrial Master Plan

Abbreviations	Definitions
NZBA	Net-Zero Banking Alliance (NZBA)
NZE	Net Zero Emissions
OPC	Ordinary Portland Cement
PCAF	Partnership for Carbon Accounting Financials
PETRONAS	Petroleum Nasional Berhad
PKS	Palm Kernel Shell
POME	Palm Oil Mill Effluent
PV	Photovoltaic
RSPO	Roundtable on Sustainable Palm Oil
SBTi	Science Based Targets Initiative
SEA	Southeast Asia
SEB	Sarawak Energy Berhad
SESB	Sabah Electricity Sdn Bhd
tCO ₂ e	Tonne of Carbon Dioxide Equivalent
tCPO	Tonne of Crude Palm Oil
TM	Technology Moratorium
TNB	Tenaga Nasional Berhad

REFERENCES

- Carbon Risk Real Estate Monitor (CRREM). (2022). Risk Assessment Tool. Retrieved from <https://www.crrem.eu/tool/>
- Construction Industry Development Board (CIDB). (2022). Embodied Carbon Inventory Data for Construction Materials. Retrieved from https://www.cidb.gov.my/wp-content/uploads/2022/11/V4_EMBODIED-CARBON-INVENTORY-TEMPLATE-final-1.pdf
- Economic Planning Unit, Prime Minister's Department. (2022, June). The Malaysian Economy in Figures 2022. Retrieved from <https://ekonomi.gov.my/sites/default/files/2022-08/MEIF2022.pdf>
- GHG Protocol (2011). Corporate Value Chain (Scope 3) Accounting and Reporting Standard. Retrieved from https://ghgprotocol.org/sites/default/files/standards/Corporate-Value-Chain-Accounting-Reporting-Standard_041613_2.pdf
- GHG Protocol. (2015). GHG Protocol Corporate Accounting and Reporting Standard. Retrieved from <https://ghgprotocol.org/sites/default/files/standards/ghg-protocol-revised.pdf>
- Glasgow Financial Alliance for Net Zero (GFANZ). (2022, June). Guidance on Use of Sectoral Pathways for Financial Institutions. Retrieved from https://assets.bbhub.io/company/sites/63/2022/06/GFANZ_Guidance-on-Use-of-Sectoral-Pathways-for-Financial-Institutions_June2022.pdf
- Global Real Estate Sustainability Benchmark (GRESB). (2022, March 9). What you need to know about Embodied Carbon. Retrieved from <https://www.gresb.com/nl-en/faqs-about-embodied-carbon/>
- Global Real Estate Sustainability Benchmark (GRESB), Institute for Real Estate Economics (IIO), Partnership for Carbon Accounting Financials (PCAF). (2023, March). Accounting and Reporting of GHG Emissions from Real Estate Operations Technical Guidance for the Financial Industry. Retrieved from https://carbonaccountingfinancials.com/files/downloads/ghg_emissions_real_estate_guidance_1.0.pdf
- Globe Newswire. (2024, April 17). Malaysia Cement Industry Research Report 2024-2033: Development Environment, Import and Export, Competition, Top Manufacturers, Outlook. Retrieved from <https://www.globenewswire.com/news-release/2024/04/17/2864638/28124/en/Malaysia-Cement-Industry-Research-Report-2024-2033-Development-Environment-Import-and-Export-Competition-Top-Manufacturers-Outlook.html>
- Golden Agri. (n.d.). Oil Palm is the Most Productive Vegetable Oil. Retrieved from <https://goldenagri.com.sg/wp-content/uploads/2019/01/Oil-palm-is-the-most-productive-vegetable-oil.pdf>
- Government of Malaysia. (2024, November 26). Laws of Malaysia, Act 861, Energy Efficiency and Conservation Act 2024. Retrieved from <https://www.st.gov.my/contents/2024/EECA/BI%20-%20Energy%20Efficiency%20and%20Conservation%20Act%202024%20-%20Act%20861.pdf>
- Institute for Energy Economics and Financial Analysis (IEEFA). (n.d.). Fact Sheet: The facts about steelmaking - Steelmakers seeking Green steel. Retrieved from <https://ieefa.org/sites/default/files/2022-06/steel-fact-sheet.pdf>
- International Energy Agency (IEA). (2024, March). CO2 Emissions in 2023. Retrieved from <https://iea.blob.core.windows.net/assets/33e2badc-b839-4c18-84ce-f6387b3c008f/CO2Emissionsin2023.pdf>
- International Energy Agency (IEA). (2020, October). Iron and Steel Technology Roadmap. Retrieved from https://iea.blob.core.windows.net/assets/eb0c8ec1-3665-4959-97d0-187ceca189a8/Iron_and_Steel_Technology_Roadmap.pdf
- International Energy Agency (IEA). (2020, July). The role of CCUS in low-carbon power systems. Retrieved from https://iea.blob.core.windows.net/assets/ccdcb6b3-f6dd-4f9a-98c3-8366f4671427/The_role_of_CCUS_in_low-carbon_power_systems.pdf
- International Energy Agency (IEA). (2023, May). Emissions from Oil and Gas Operations in Net Zero Transitions. Retrieved from <https://iea.blob.core.windows.net/assets/743af33c-b2f5-4a93-a925-1b08f6438e61/EmissionsfromOilandGasOperationinNetZeroTransitions.pdf>
- International Energy Agency (IEA). (2024, November). Net Zero Roadmap - A Global Pathway to Keep the 1.5C Goal in Reach - 2023 Update. Retrieved from https://iea.blob.core.windows.net/assets/8ad619b9-17aa-473d-8a2f-4b90846f5c19/NetZeroRoadmap_AGlobalPathwaytoKeepthe1.5CGoalinReach-2023Update.pdf
- International Energy Agency (IEA). (n.d.). Buildings. Retrieved from <https://www.iea.org/energy-system/buildings>
- International Energy Agency (IEA). (n.d.). Coal. Retrieved from <https://www.iea.org/energy-system/fossil-fuels/coal>

References

- International Energy Agency (IEA). (n.d.). Southeast Asia Energy Outlook 2024. Retrieved from <https://www.iea.org/reports/southeast-asia-energy-outlook-2024/executive-summary>
- Knight Frank. (2024, December). Data Centre Research Report Malaysia 2024. Retrieved from <https://branding.my.knightfrank.com/landing/DC-report-2024>
- Liew, C. (2024, July 01). Navigating the Future of Malaysia's Iron and Steel Industry. Retrieved from <https://liewchintong.com/2024/07/01/navigating-the-future-of-malysias-iron-and-steel-industry/>
- Malaysian Investment Development Authority (MIDA). (2022/2023). Malaysia: Building an Agile, Sustainable and Competitive Oil and Gas Hub. Retrieved from https://www.mida.gov.my/wp-content/uploads/2020/12/5.-Oil_-_Gas-SIB-2022-2023.pdf
- Malaysian Investment Development Authority (MIDA). (2023, August 30). Malaysia to invest RM13b by 2040 to improve energy efficiency. Retrieved from <https://www.mida.gov.my/mida-news/malaysia-to-invest-rm13b-by-2040-to-improve-energy-efficiency/>
- Malaysian Sustainable Palm Oil (MSPO). (n.d.). Sustainable Palm Oil an Important Example of Climate Change Mitigation. Retrieved from <https://mspo.org.my/mspo-blogs/sustainable-palm-oil-an-important-example-of-climate-change-mitigation>
- Ministry of Economy. (2023, August). National Energy Transition Roadmap. Retrieved from https://ekonomi.gov.my/sites/default/files/2023-09/National%20Energy%20Transition%20Roadmap_0.pdf
- Ministry of Investment, Trade and Industry. (2023, September). New Industrial Master Plan 2030 - Petroleum Products and Petrochemicals Industry. Retrieved from https://www.nimp2030.gov.my/nimp2030/modules_resources/bookshelf/e-16-Sectoral_NIMP-Petroleum_Products_and_Petrochemicals_Industry/e-16-Sectoral_NIMP-Petroleum_Products_and_Petrochemicals_Industry.pdf
- Ministry of Natural Resources and Environmental Sustainability. (2024, April). Malaysia Fourth National Communication Report (NC4) Under the United Nations Framework Convention on Climate Change. Retrieved from https://unfccc.int/sites/default/files/resource/NRES_NC4_To%20UNFCCC_2024%20v1.0.pdf
- Ministry of Natural Resources, Environment and Climate Change, Malaysia. (2022, December). Malaysia's Fourth Biennial Update Report under the United Nations Framework Convention on Climate Change. Retrieved from https://unfccc.int/sites/default/files/resource/MY%20BUR4_2022.pdf
- MIT Climate Portal. (2024, January 04). Ask MIT Climate: Why do we compare methane to carbon dioxide over a 100-year timeframe? Are we underrating the importance of methane emissions? Retrieved from <https://climate.mit.edu/ask-mit/why-do-we-compare-methane-carbon-dioxide-over-100-year-timeframe-are-we-underrating>
- New Straits Times (NST). (2023, July 10). Malaysia's commitment to deforestation heading positive direction, global study show. Retrieved from <https://www.nst.com.my/business/2023/07/929325/malysias-commitment-deforestation-heading-positive-direction-global-study>
- New Straits Times (NST). (2025, April 25). Johari Ghani: 170 palm oil mills install biogas facilities, surpassing NAPC target. Retrieved from <https://www.nst.com.my/business/corporate/2025/04/1207257/johari-ghani-170-palm-oil-mills-install-biogas-facilities>
- One Click LCA. (2024, June 26). 10 Key Facts About Building Life Cycle Assessment. Retrieved from <https://oneclicklca.com/en/resources/articles/10-essential-facts-about-building-life-cycle-assessment>
- Our World in Data. (n.d.). Energy Consumption by Source, World. Retrieved from <https://ourworldindata.org/grapher/energy-consumption-by-source-and-country>
- Petroleum Nasional Berhad (PETRONAS). (2025, January 29). PETRONAS Activity Outlook 2025-2027 Emphasises Collaboration and Industry Competitiveness to Strengthen Resilience. Retrieved from <https://www.petronas.com/media/media-releases/petronas-activity-outlook-2025-2027-emphasises-collaboration-and-industry>
- Petroleum Nasional Berhad (PETRONAS). (n.d.). Integrated Report 2023. Retrieved from <https://www.petronas.com/integrated-report-2023/assets/pdf/PETRONAS%20Integrated%20Report%202023.pdf>
- Petronas Gas Berhad (PETRONAS). (n.d.). Sustainability Report 2024. Retrieved from <https://www.petronas.com/pgb/sites/default/files/2025-03/PGB%20Sustainability%20Report%202024.pdf>
- S&P Global. (2023, March). Supply vs sustainability a key challenge for palm oil industry. Retrieved from <https://www.spglobal.com/commodity-insights/en/news-research/blog/agriculture/033023-supply-vs-sustainability-a-key-challenge-for-palm-oil-industry#:~:text=The%20palm%20oil%20industry%20faces%20a%20key%20challenge,impacting%20environmental%20practices%20a>

References

- S&P Global. (2024, October 21). Malaysia sets 2026 carbon tax, reaffirms decarbonisation goals in Budget 2025. Retrieved from <https://www.spglobal.com/commodity-insights/en/news-research/latest-news/energy-transition/102124-malaysia-sets-2026-carbon-tax-reaffirms-decarbonization-goals-in-budget-2025>
- Science-based Targets Initiative (SBTi). (2022, September 21). SBTi launches world first 1.5°C science-based framework to decarbonize the cement industry. Retrieved from <https://sciencebasedtargets.org/news/sbti-launches-world-first-1-5-c-science-based-framework-to-decarbonize-the-cement-industry>
- Science-based Targets Initiative (SBTi). (2024, August). Buildings Sector Science-based Targets Explanatory Document. Retrieved from <https://files.sciencebasedtargets.org/production/files/SBTi-Buildings-Sector-Explanatory-Documents.pdf>
- Sustainable Palm Oil Choice. (n.d.). Facts on Palm Oil. Retrieved from <https://www.sustainablepalmoilchoice.eu/facts-on-palm-oil/>
- The Edge Malaysia. (2019, March 6). Oil palm planted areas to be capped at 6.5 million hectares. Retrieved from <https://theedgemaalaysia.com/article/oil-palm-planted-areas-be-capped-65-million-hectares>
- The Edge Malaysia. (2023, January 10). Local producers to be hit by new EU rule on carbon tax, says HLIB. Retrieved from <https://theedgemaalaysia.com/node/651141>
- The Edge Malaysia. (2023, November 07). Steel industry headwinds may persist into 2024 amid uninspiring demand, overcapacities, says RHB. Retrieved from <https://theedgemaalaysia.com/node/689100>
- The Edge Malaysia. (2024, November 21). Energy Efficiency and Conservation Act to be in force from Jan 1 next year. Retrieved from <https://theedgemaalaysia.com/node/734931>
- The Edge Malaysia. (2024, July 18). Two-thirds of Malaysia's old buildings will still be in use until 2050 despite failing current standards. Retrieved from <https://theedgemaalaysia.com/node/719536>
- The Edge Malaysia. (2025, February 13). MSPO 2.0 certification meets EUDR requirements, says CEO. Retrieved from https://www.klsescreener.com/v2/news/view/1472275/MSPO_2_0_certification_meets_EUDR_requirements_says_CEO
- The Institute for Democracy and Economic Affairs (IDEAS). (2024, April 29). Asserting Climate Change Leadership in ASEAN: Carbon Pricing for the Malaysian Steel Industry. Retrieved from https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKewiO95OkvNSNaxUPZWwGHRUHE1QQFnoECBgQAQ&url=https%3A%2F%2Fwww.ideas.org.my%2F%3Fsmid_process_download%3D1%26download_id%3D8999&usq=AOvVaw2R7cVVbKElf7bUZU2io6AM&opi=899784
- The Star. (2025, January 3). MSPO 2.0 reinforces Malaysia's leadership in sustainable palm oil production - MPOC. Retrieved from <https://www.thestar.com.my/business/business-news/2025/01/03/mspo-20-reinforces-malaysia039s-leadership-in-sustainable-palm-oil-production--mpoc>
- U.S. Department of Energy. (2024, November 12). Country Analysis Brief: Malaysia, Independent Statistics and Analysis, U.S. Energy Information Administration. Retrieved from https://www.eia.gov/international/content/analysis/countries_long/Malaysia/malaysia.pdf
- United National Environment Programme - Finance Initiative (UNEP - FI). (2023, December). Climate Target Setting for Real Estate Sector Financing. Retrieved from https://www.unepfi.org/wordpress/wp-content/uploads/2024/01/Climate-Target-Setting-for-Real-Estate-Financing_NZBA.pdf
- Upstream. (2022, February 1). Malaysia revs up carbon, capture and storage developments. Retrieved from <https://www.upstreamonline.com/field-development/malaysia-revs-up-carbon-capture-and-storage-developments/2-1-1159919>
- World Economic Forum. (2025, January 15). Global Risks Report 2025. Retrieved from https://reports.weforum.org/docs/WEF_Global_Risks_Report_2025.pdf
- World Steel Association. (2024, May 27). World Steel in Figures 2024. Retrieved from <https://worldsteel.org/wp-content/uploads/World-Steel-in-Figures-2024.pdf>
- WWF and Boston Consulting Group (BCG). (2021, November). Securing our Future: Net Zero Pathways for Malaysia. Retrieved from <https://web-assets.bcg.com/78/bc/0e381d8a4c4dba6b318d544fca374/bcg-wwf-net-zero-pathway.pdf>



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