



MOVING ENERGY TO BUILD A BETTER WORLD

As a dynamic, progressive and innovative global brand with over 50 years of history, MISC is conscious of the role that we play towards building a better world for our future generations.

Being part of the energy value chain, our solutions enable the movement of energy cargoes through our vessels and assets to power businesses and economies all over the world.

As a responsible corporate citizen, we are energised to keep on striving to elevate our standards in all that we do, to promote innovation and to foster the development of a sustainable future.

What's Inside

MISC Sustainability Report 2021

INTRODUCTION

About This Report	2
About Us	6
Leadership Statements	14
Sustainability Voyage	22

APPROACH

Sustainability Governance	28
Prioritising What Matters Most	30
Our Stakeholders' Universe	36

SUSTAINABILITY STRATEGIC PRIORITIES

Financial Pillar	
Economic Value Creation: A Rising Tide Lifts All Boats	40
Taskforce on Climate-related Financial Disclosures	50
Environmental Pillar	
Our Pathway Towards Decarbonisation	66
Promoting Circular Economy	78
Conserving Marine Biodiversity	86
Our Environmental Milestones: How Far Have We Come	96
Social Pillar	
Health and Safety, Our Utmost Priority	108
Our People, Our Strength	122
Partnering with the Community	142
Governance Pillar	
Ethics, Governance and Sustainability	150
Respecting Human Rights at Sea and Shore	164
Strengthening Cybersecurity	170
The Bigger Picture: Embracing A Sustainable Supply Chain	172
Stakeholder Engagement Pillar	
Transparent, Engaging and Inclusive Stakeholder Relationships	176

ADDITIONAL INFORMATION

Performance Data	190
Data Principles and Assumptions	205
Sustainability Reporting Standards (GRI and SASB)	211
Taskforce on Climate-related Financial Disclosures	218
Abbreviations	219

ABOUT THIS REPORT

Welcome to MISC's Sustainability Report 2021. This Sustainability Report outlines our material environmental, social and governance (ESG) performance for the year 2021 and our forward-looking commitments within the context of the maritime industry. We prioritise topics that have been deemed most material to the business and stakeholders based on our materiality analysis.

The report aims to provide our stakeholders with an in-depth understanding of how we are building a better and more sustainable world through our business operations.

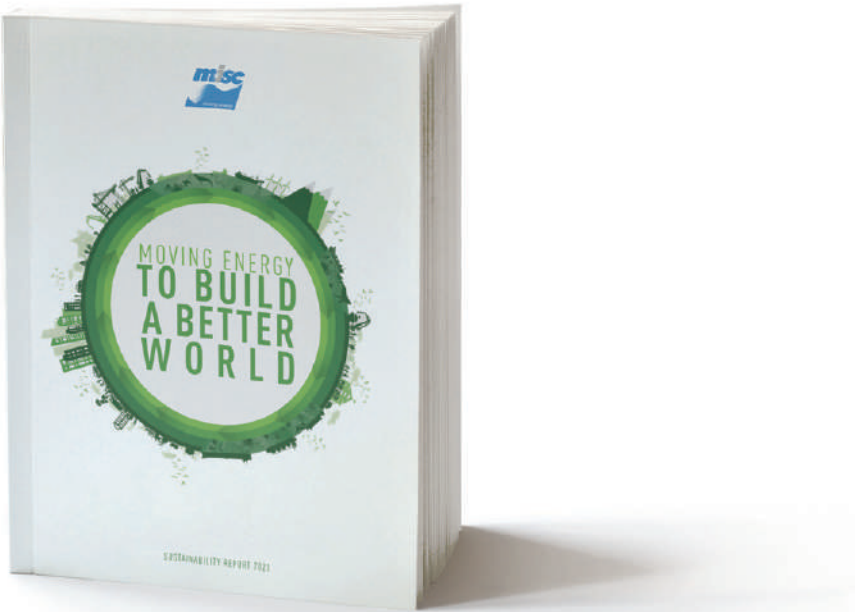
INCREASING TRANSPARENCY

MISC began disclosing its sustainability performance comprehensively in a standalone Sustainability Report in 2012. In 2017, MISC embarked on an integrated reporting and integrated thinking journey, combining its sustainability-related disclosures into the Annual Report.

In 2021, we favoured a standalone Sustainability Report to complement the sustainability-related sections within our 2021 Integrated Annual Report. Increased disclosure is part of our continuous effort to provide stakeholders with greater transparency of our ESG performance. The relevant contents within this Sustainability Report 2021 refer to more detailed disclosure in the MISC Berhad's Integrated Annual Report (IAR) 2021 and vice versa. While our IAR delivers a clear and concise story, this Sustainability Report supplements the IAR by providing more details.

CLIMATE-RELATED FINANCIAL DISCLOSURES

This Sustainability Report incorporates our inaugural Task Force on Climate-related Financial Disclosures (TCFD) report. The TCFD section of this Report demonstrates our commitment to aligning the disclosure of our climate-related risks and opportunities with the TCFD recommendations. It also showcases how we actively address the risks and opportunities related to climate change through sustainable business practices. We have established a roadmap to improve our understanding of climate-related risks gradually and report in line with the TCFD recommendations. We will continue to expand our climate-related disclosures each year.



OUR APPROACH TO ESG REPORTING

The details and background to this Sustainability Report are summarised in the table below. Please refer to the Global Reporting Initiatives (GRI) and Sustainability Accounting Standards Board (SASB) in the Sustainability Reporting Standards section for a full list of disclosures referenced in this report.

Reporting Approach	The sustainability reporting principles of stakeholder inclusiveness, sustainability context, materiality and completeness have been applied when defining the content. Accuracy, balance, clarity, comparability, reliability and timeliness have also been considered.
Precautionary Principles	<p>We support a precautionary approach to social and environmental challenges. Several initiatives promote the development of sustainable solutions and innovations including effectively managing assets, business activities and project work. We have also collaborated with industry partners and both professional and technical organisations.</p> <p>We have established a group-wide risk management system that identifies and assesses risks systematically. Combined with a detailed materiality assessment, this system ensures that the Company's focus and stakeholders' expectations are balanced.</p>
Reporting Scope and Boundary	<p>The information and data presented in this Report cover MISC Berhad and all entities included in its consolidated financial statements such as all subsidiaries, associates and joint ventures.</p> <p>The entire Group's business activities and operations are reported including Gas Assets & Solutions, Petroleum & Product Shipping, Offshore Business, Marine & Heavy Engineering, Integrated Marine Services, Port Management & Maritime Services, and Maritime Education & Training. It also covers the material business activities of our joint ventures and associates.</p>
Information on Exclusions	Our approach to exclusion is based on our Group-wide sustainable business risk framework. Information which we are unable to verify is also excluded from the Report.
Reporting Frameworks	<p>This Report has been prepared in accordance with several local and international sustainability standards and frameworks:</p> <ul style="list-style-type: none">• The Global Reporting Initiative (GRI) Standards - Core option• Bursa Malaysia Sustainability Reporting Guide (2nd Edition)• Sustainability Accounting Standards Board (SASB) Standards• Dow Jones Sustainability Index (DJSI), FTSE4Good and requirements by various other ESG indexes• Carbon Disclosure Project (CDP)• Transition Pathway Initiative (TPI)• Task Force on Climate-related Financial Disclosures (TCFD)• AA1000 Stakeholder Engagement Standard• United Nations Global Compact Guiding Principles• United Nations Guiding Principles on Business and Human Rights• Principles of Climate Governance by World Economic Forum

ABOUT THIS REPORT

Reporting Period	<p>In line with our IAR, this Sustainability Report discloses:</p> <ul style="list-style-type: none">• All relevant sustainability information from 1 January to 31 December 2021, unless specified; and• Any material events that occurred after this date up to publication.
Reporting Cycle	<p>Annually</p>
Assurance and Reliability of Information Disclosed	<p>Each of our vessel's fuel consumption and relevant activity data has been verified by a third party. DNV has confirmed that all data collected and reported is in accordance with the methodology and processes set out in the Ship Energy Efficiency Management Plan (SEEMP) as required by Regulation 22A of Annex VI of MARPOL Convention.</p> <p>Constant monitoring of the reporting processes is undertaken by our internal team and any changes or updates required are made to maintain continuous veracity.</p>

DATA MEASUREMENT TECHNIQUES AND ASSUMPTIONS

Statements on future developments and past occurrences are based on information and assumptions available at the time of publication. Certain information in this Sustainability Report comes from third-party sources and operations outside of our control. However, we have performed internal due diligence to ensure this information has been accurately collected and reported based on sound underlying methodology. Please refer to the Data Principles and Assumptions section for our data accounting principles, measurement techniques and assumptions.

ENGAGING WITH STAKEHOLDERS FOR A GREATER IMPACT

Consulting with stakeholders throughout the preparation of this sustainability report has deepened our understanding of important societal issues to produce a holistic report. Without input from our key stakeholders, any approach to sustainability and disclosure would be limited by our own self-interest and inward focus. We have also compiled feedback from external stakeholders on disclosures during engagement sessions in the recent year.

We have also included the views of our internal stakeholders, which consist of all business segments, subsidiaries and key internal departments, to reflect a comprehensive 2021 sustainability performance.

RESPONSIBILITY STATEMENT

MISC's Board of Directors (including Datuk Abu Huraira Abu Yazid, Chairman and Datuk Yee Yang Chien, President/ Group Chief Executive Officer) acknowledges its responsibility for ensuring the integrity of this Sustainability Report. The Board, via the Board Governance and Risk Committee (BGRC), also resolves risk management and sustainability-related matters such as establishing a sustainability strategy; target setting; reviewing the adequacy of sustainability processes; effectively identifying, managing and reporting the Group's material sustainability matters; and monitoring and overseeing all sustainability performance and initiatives of the Group.

The Board will continue to ensure that the Group's sustainability strategies, priorities and targets, as well as performance against these targets, are communicated to both internal and external stakeholders.

The following management personnel are responsible for corporate sustainability activities:

- President/Group CEO
- Vice President, Group Health, Safety, Security and Environment
- Head Corporate Sustainability

FEEDBACK

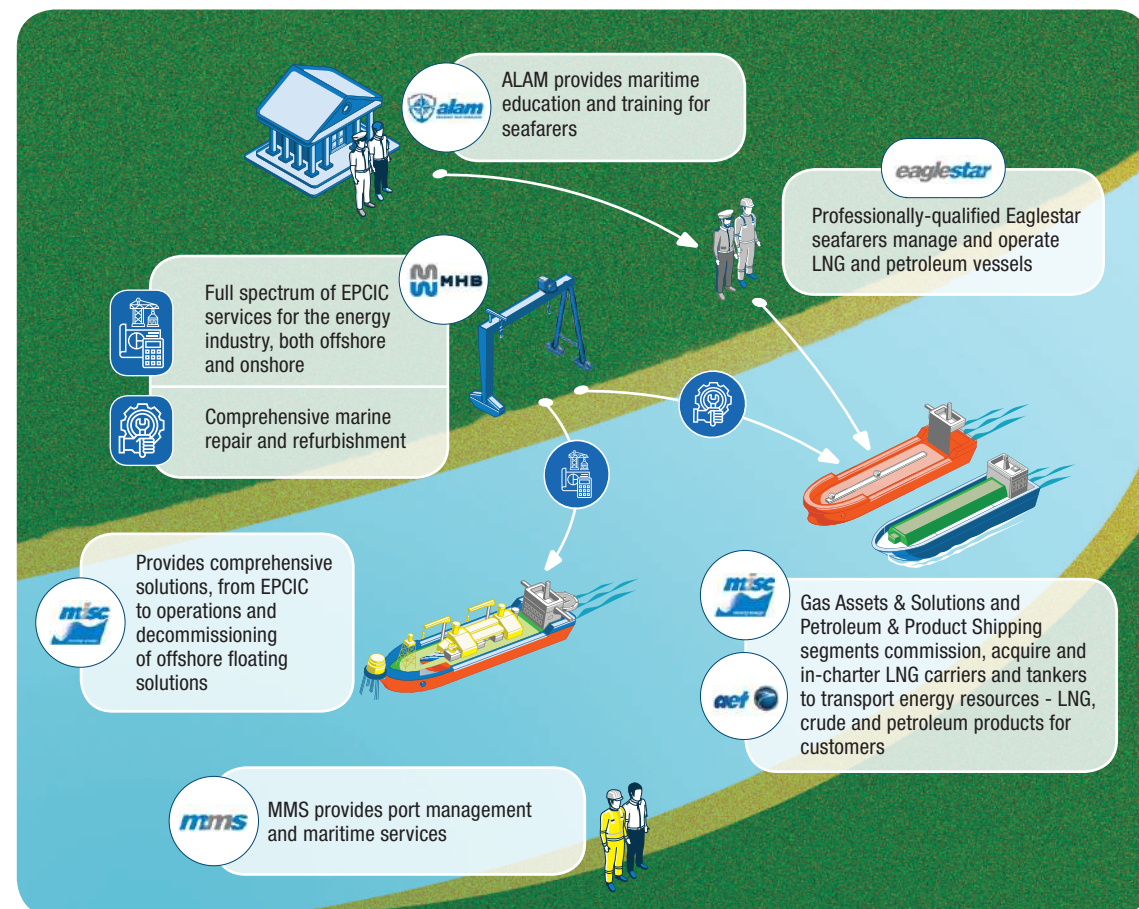
We are fully committed to listening to our stakeholders and we welcome feedback on our sustainability disclosures. Please send your comments to:

Corporate Sustainability
MISC Berhad
Level 25 Menara Dayabumi
Jalan Sultan Hishamuddin
50050 Kuala Lumpur
misc.sustainability@miscbhd.com

ABOUT US

Incorporated in 1968, MISC Berhad is a world leading provider of international energy-related maritime solutions and services. The Group's principal businesses comprise energy shipping and its related activities, owning and operating offshore floating solutions, marine repair and conversion, engineering and construction works, integrated marine services, port management and maritime services, as well as maritime education and training.

Operating a modern and diversified fleet, and powered by a multi-national workforce of over 8,800 talents, MISC is firmly committed to creating value for our stakeholders and contributing to the sustainable development of the maritime industry.



VISION

To consistently provide better energy related maritime solutions and services

MISSION

To be consistently better, we strive:

- To exceed the expectations of our customers
- To promote individual and team excellence of our employees
- To create a positive difference to the lives of communities
- To care for the environment and operate responsibly
- To drive sustainable value for our shareholders

SHARED VALUES



Loyalty

Loyal to corporation



Integrity

Honest and upright



Professionalism

Strive for excellence



Cohesiveness

United, trust and respect for each other

ABOUT US

WHO WE ARE AND WHAT WE DO

53

years of sterling track record in delivering energy-related maritime solutions and services

Among the world's LEADING shipping conglomerates with a market capitalisation of USD7.6 billion

STRONG

credit rating in the marine transport sector

BBB+
(Stable)

S&P
Global Ratings

Baa2
(Stable)

Moody's
Investors Service

Modern fleet of 106 LNG, Petroleum and Product vessels

Reputable FPS owner-operator with 12 assets

A diverse and inclusive workforce of 8,851 employees from over 47 nationalities

Gas Assets & Solutions

Human Capital

- 69 employees

Physical Capital

- 39 vessels
- Two vessels under construction

Customers

- PETRONAS Group
- Energy majors
- Energy traders
- Petrochemical companies

Services Performed

- Transportation of LNG and ethane
- New LNG asset-based solutions
- Technological solutions for FSU

Revenue Structure

- Revenue from time charter contracts

Cost Structure

- Operational costs include employee/crew costs, repair and maintenance, materials and supplies, professional and purchased services, and depreciation

Competitive Advantage

- Sterling reputation for operational excellence
- Consistent track record of reliable and on-time cargo deliveries
- Leveraging on our proven industry experience to successfully expand into the emerging sectors of LNG bunkering vessels and very large ethane carriers

Petroleum & Product Shipping

Human Capital

- 185 employees

Physical Capital

- 67 vessels
- 11 vessels under construction

Customers

- Energy majors
- Refiners
- National oil companies (NOCs)
- Energy traders

Services Performed

- Conventional Services
 - Transportation of crude oil, petroleum products and chemicals
- Specialised Services
 - Owner and operator of DPSTs in the North Sea and Brazil
 - Provision of lightering services in the US Gulf and Latin America

Revenue Structure

- Revenue from time charter contracts, voyage charter contracts, contract of affreightment, lightering, and other shipping-related income

Cost Structure

- Operational costs include bunker (marine fuel), employee/crew costs, repair and maintenance, materials and supplies, depreciation, as well as professional and purchased services

Competitive Advantage

- Advancing shipping solutions with modern and technologically advanced fuel-efficient vessels
- Industry pioneers in the fields of modular capture vessels and LNG dual-fuel vessels
- Focused people investments to expand their sea and onshore skills and capabilities

Offshore Business

Human Capital

- 418 employees

Physical Capital

- 12 offshore floating solutions
- One FPSO under construction

Customers

- PETRONAS Group
- Energy majors
- NOCs

Services Performed

- Engineering, procurement, construction, installation, commissioning, operations and maintenance, decommissioning and demobilisation (EPCICODD) solutions
- Own, operate and maintain offshore floating assets to extract, store and offload hydrocarbons to shuttle tankers

Revenue Structure

- Revenue from time charter contracts and bare boat charter contracts
- Revenue from operations and maintenance of offshore floating assets

Cost Structure

- Operational costs include employee/crew costs, repair and maintenance, materials and supplies as well as professional and purchased services and depreciation

Competitive Advantage

- Highly skilled workforce
- Strong relationships of mutual trust with key Asia-based partners, subcontractors and suppliers
- Outstanding contractual deliveries

Marine & Heavy Engineering

Human Capital

- 2,649 employees

Physical Capital

- Dry Dock 1,2 and 3
- Fabrication yards
- Land berth cranes

Customers

- PETRONAS Group
- Energy majors
- Production sharing contract (PSC) contractors
- EPCC contractors (offshore and onshore)
- Petrochemical companies
- Domestic and international shipping companies

Services Performed

- Heavy Engineering Segment
 - Wide range of EPCIC services for offshore facilities
 - Fabrication services for onshore modules and facilities
- Marine Segment
 - Conversion of offshore facilities in one location
 - Repair and refurbishment for various types of vessels, rigs and marine facilities
- Plant Maintenance and Turnaround
 - Plant shutdown and maintenance
 - Routine maintenance and upgrading works

Revenue Structure

- Construction and conversion contract revenue based on stage of completion
- Marine repair and refurbishment revenue
- Plant maintenance and turnaround revenue

Cost Structure

- Operational costs comprising direct and indirect costs, fixed and variable costs, and depreciation

Competitive Advantage

- Own and operate one of the region's largest marine and heavy engineering facilities
- The only Malaysian yard with the capacity and skills to undertake complex offshore mega structures and marine facilities projects

Integrated Marine Services

Human Capital

- 4,810 employees including 4,516 seafarers

Customers

- Internal - MISC Group
- External - Marine transportation industry customers

Services Performed

- Shipmanagement, engineering and procurement
- Project management - supervision and consultancy service for dry docking and new building of vessels

Revenue Structure

- Shipmanagement and Project Management Service fees
- Maritime consultancy fees

Cost Structure

- Operational costs include employee/crew costs, overheads, logistics and personnel travel, professional & IT services, rental and depreciation

Competitive Advantage

- Specialised experience in niche areas of LNG bunkering vessels, very large ethane carriers, floating storage and regasification, dynamic positioning shuttle tankers, dual-fuel crude tankers and modular capture vessel
- Deep knowledge of regional shuttle tanker trade in the Brazilian basin and Northern Europe
- Globally renowned shipmanagement company, with stellar track record for the highest quality and standards of delivery

Port Management & Maritime Services

Human Capital

- 173 employees

Customers

- PETRONAS Group
- Pengerang Terminals
- Domestic and international shipping companies

Services Performed

- Operator of ports and terminals
- Pilotage, mooring master, loading master and marine controller services
- Jetty maintenance services
- Single Point Mooring (SPM) maintenance services
- Logistic support services
- Ship vetting services
- Offshore vessel inspection services
- Marine assurance and consultancy services which includes ship screening, Tanker Management and Self Assessment (TMSA), Offshore Vessel Management and Self Assessment (OVMSA) and Roving Marine Marshall Services (RMMS)

Revenue Structure

- Fees from port terminal management and maritime services

Cost Structure

- Operational cost include salaries and wages, rental and lease, business travelling, material and supplies, and professional fees

Competitive Advantage

- Strong industry reputation, with more than two decades of experience in port and terminal operations, and maritime services
- Own proprietary digital applications for Vessel Inspection System (VIS) and Offshore Support Vessel Inspection System (OSVIS)
- The acknowledged and preferred operator for the Terengganu Crude Oil Terminal, Miri Crude Oil Terminal, Bintulu Crude Oil Terminal and Sabah Oil and Gas Terminal

Maritime Education & Training

Human Capital

- 168 employees, including 65 academicians

Customers

- Students with SPM certificates
- Marine Officers
- Participants from shipping companies and oil and gas players

Services Performed

- Conducts Pre-Sea Diploma, Post-Sea, Ratings and Modular Programme
- Research and consultancy services

Revenue Structure

- Tuition fees / Course fees
- Research and consultancy fees

Cost Structure

- Faculties' salaries and benefits
- Training and learning facilities costs

Competitive Advantage

- Providing a broad spectrum of maritime education and training, beyond Standards of Training, Certification and Watchkeeping (STCW)
- Research and consultancy expert, providing flexible solutions encompassing the total lifecycle of port development

ABOUT US

WHAT WE OWN/OPERATE

GAS ASSETS & SOLUTIONS

LNG carriers (LNGCs) transport natural gas in a liquid state, allowing it to be moved across oceans without pipelines. The containment systems on board the vessels are capable of storing natural gas at below its boiling point of -162° Celsius. At this temperature, the gas turns to liquid, thus reducing volume by 600 times. MISC's fleet of LNGCs utilise two types of containment systems, known as membrane and Moss types.



25
VESSELS

MEMBRANE-TYPE LNGC

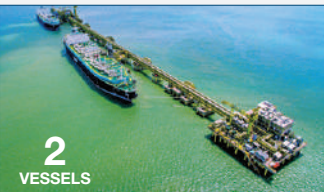
The membrane-type system is more space efficient and has a higher capacity than a Moss-type vessel of the same dimension.

MOSS-TYPE LNGC

A Moss-type vessel has self-supporting spherical tanks making it more robust and resistant to sloshing. It possesses a higher degree of operational flexibility for worldwide trading capability including the ability to load cargos at a floating liquefied natural gas (FLNG) unit.



5
VESSELS



2
VESSELS

FLOATING STORAGE UNIT (FSU)

An FSU is a flexible LNG storage solution and provides an alternative to land-based facilities.

VERY LARGE ETHANE CARRIER (VLEC)

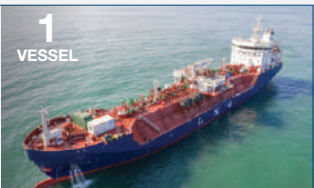
A specialised gas carrier which transports very large quantities of liquified ethane for trading over long distances, for example between North America and the Far East. The vessel transports ethane at -94° Celsius in membrane tanks and is equipped with dual-fuel propulsion and reliquefaction systems.



6
VESSELS

LNG BUNKER VESSEL (LBV)

An LBV is a small-scale LNG vessel used to supply LNG as marine fuel (bunker) to LNG-fuelled vessels via ship-to-ship transfer operations. This vessel can also be utilised for small-scale LNG transportation, and for Gas Up Cool Down (GUCD) operations for conventional LNG vessels.



1
VESSEL

PETROLEUM & PRODUCT SHIPPING

We own and operate a diversified fleet of specialised assets and conventional tankers in all key geographies to deliver services to the global energy companies, refiners and traders. Our product fleet transports a wide range of petroleum products, chemicals and vegetable oils. Our specialised assets provide critical support to the oil and gas industry.

DYNAMIC POSITIONING SHUTTLE TANKER (DPST)

A DPST utilises dynamic positioning technology to load crude from remote offshore production facilities and transports it to the shore for storage or distribution.



11
VESSELS

MODULAR CAPTURE VESSEL (MCV)

A modular Aframax-sized vessel that combines FPSO and dynamic positioning technology in a single hull to enable safe capture of hydrocarbons. The MCV is part of an innovative marine system solution designed to respond to a subsea well control incident.



2
VESSELS

VERY LARGE CRUDE CARRIER (VLCC)

A VLCC has the capacity to transport approximately 2 million barrels of crude oil over long distances to facilitate inter-regional trade.



8
VESSELS

SUEZMAX TANKER

Tanker vessel with a capacity of shipping approximately 1 million barrels of crude oil, with the flexibility to do longer-haul cargo as well as shorter regional trades.



6
VESSELS

AFRAMAX TANKER*

An Aframax tanker has the capacity to transport approximately 0.7 million barrels of crude oil. Used to carry crude oil or dirty products such as fuel oil in mainly regional trades.



23
VESSELS

LIGHTERING SUPPORT VESSEL (LSV)

Transports equipment and crew to conduct ship-to-ship cargo transfer operations.



8
VESSELS

LR2 TANKER

Coated tanker with the capacity to transport approximately 0.7 million barrels and able to carry both clean and dirty products in regional trades.



5
VESSELS

CHEMICAL TANKER

Transports a variety of chemicals and vegetable oils in both inter and intra-regional trades.



4
VESSELS

OFFSHORE BUSINESS

FPSOs and FSOs have become an effective way of extracting hydrocarbons in many offshore oil and gas producing regions around the world. Vessel sizes depend on the oil and condensed storage capacity requirements and the vessels are secured to the seabed via mooring systems which are determined by the environment in which they operate.

FLOATING STORAGE AND OFFLOADING (FSO)

Simpler than an FPSO, an FSO unit does not have production processing capabilities. It is normally integrated with other production systems such as fixed platforms, mobile offshore production units (MOPU), and tension leg platforms (TLP). An FSO is also equipped to store and offload crude oil to a tanker.



5
UNITS

FLOATING PRODUCTION, STORAGE AND OFFLOADING (FPSO)

A vessel-type production system that receives full well stream fluids such as crude oil, water and others from a subsea reservoir through risers. It has topside production facilities that separate the fluids into crude oil, natural gas, water and impurities. It also has storage tanks where processed crude oil is stored. Crude oil is offloaded onto tankers for further refining onshore. It can be designed with the capability of staying on location for continuous operations for 20 years or longer.



6
UNITS

SEMI-SUBMERSIBLE FLOATING PRODUCTION SYSTEM (SEMI-FPS)

A large pontoon-like structure submerged below the sea surface at a predetermined depth with an FPS that receives fluids such as crude oil, water and others from a subsea reservoir through risers. Topside production facilities separate the fluids into crude oil, natural gas, water and impurities. Our semi-sub FPS operates at a depth of 1,400 metres. The oil is exported via a 200-kilometre long pipeline to an oil and gas terminal in Kimanis, Sabah.



1
UNIT

MARINE & HEAVY ENGINEERING

The assets we own and operate are those which enable us to provide comprehensive marine services for a wide range of offshore facilities and vessels within our six major solutions of offshore, onshore, conversion, marine repair and refurbishment, plant maintenance and turnaround and other services.

HEAVY ENGINEERING ASSETS

We have the largest fabrication area by tonnage capacity in Malaysia, to provide engineering, procurement, construction, installation and commissioning (EPCIC) of complex structures for offshore and onshore facilities.



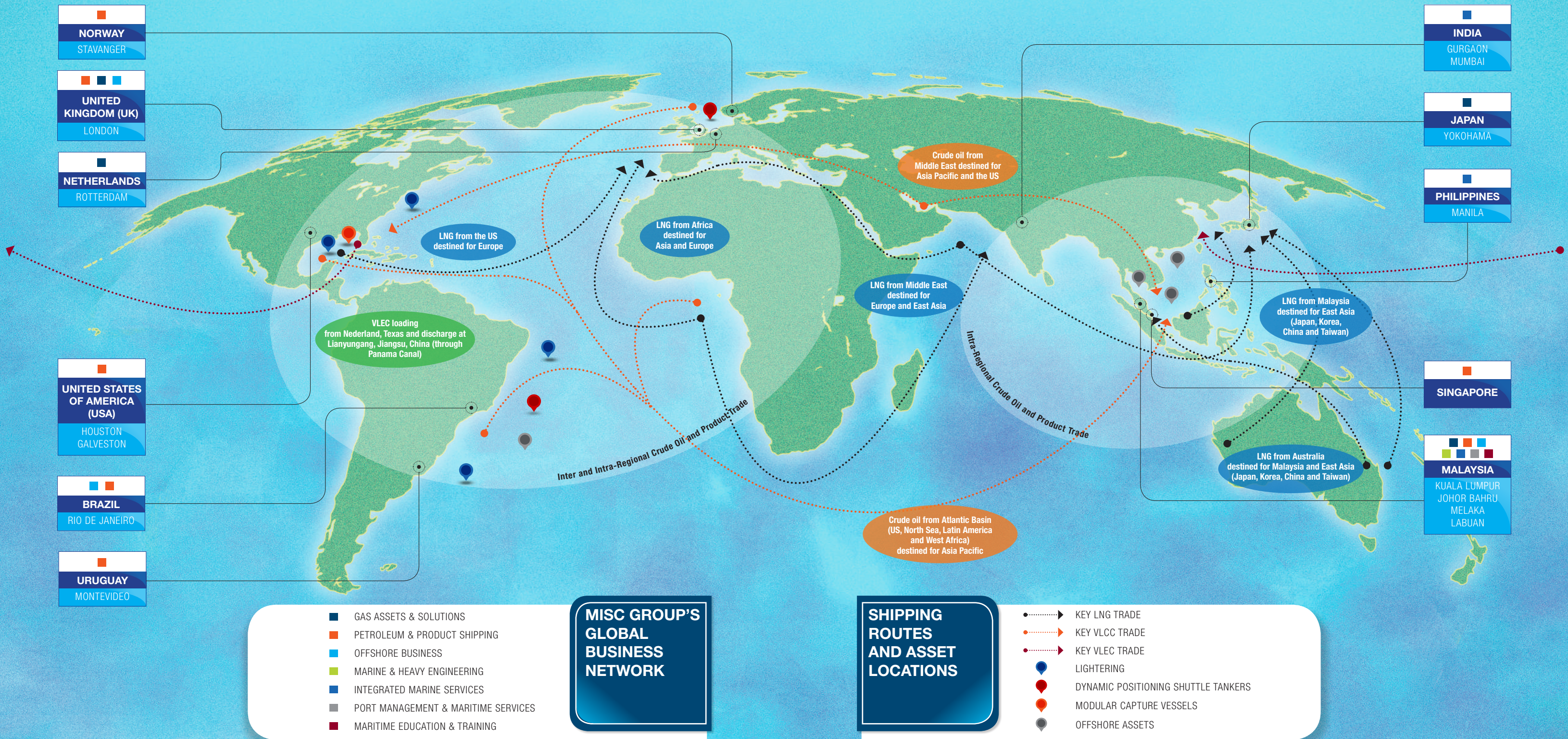
MARINE BUSINESS ASSETS

Our well-equipped yard includes three dry docks, land berths, quays and a shiplift. These facilities enable us to perform repair works, maintenance, marine conversion and refurbishment of a wide range of vessels.



* Includes one Panamax tanker currently trading crude oil

ABOUT US
WHERE WE OPERATE



LEADERSHIP STATEMENTS

MESSAGE FROM THE CHAIRMAN



DEAR STAKEHOLDERS

Since the pre-industrial times, the Earth's average surface temperature has risen every decade and the rate of temperature change has grown profoundly over time. Key historical developments, namely the Second and Third Industrial Revolutions have accelerated climate change significantly. As a result of this, environmental crisis has become one of the most critical risks of our time.

While the past industrial revolutions have contributed to the long-term path of global warming, technological advancements of the Fourth and Fifth Industrial Revolutions may prove to be the key to addressing climate change.

As one of the world's oldest industries, maritime has benefited greatly from the industrial revolutions, transforming the industry to what it is today.

“Increasing expectations from our stakeholders to deliver stronger financial returns as well as ESG leadership provides the impetus to strengthen our commitment of operating responsibly and sustainably.”

Nonetheless, in mitigating our environmental impact and ensure that this industry will continue to thrive, it takes more than leveraging on modern technological solutions. The maritime industry's transformation must be guided by the values of sustainability.

Sustainability is at the heart of MISC Group and excellence in environmental, social and governance (ESG) performance is our strategic priority. Increasing expectations from our stakeholders to deliver stronger financial returns as well as ESG leadership provides the impetus to strengthen our commitment of operating responsibly and sustainably. All of us have a role to play in upholding this mandate; from advocating sound investment decisions for our key growth areas, to empowering our workforce to deliver sustainable value to our stakeholders.

Despite a challenging year, we remain optimistic that this is the decade of opportunities with a deeper appreciation of our stakeholders' support and expectations. In 2020, our Sustainability Strategy 2021-2025 was developed in tandem with our corporate strategy, aligning our goals towards future-proofing MISC Group. This provides a clear perspective of our ESG strategic priorities, value creation efforts and contribution to the greater global sustainability agenda.

Our ESG leadership and excellence continue to be recognised on a global scale as we became a constituent of the Dow Jones Sustainability Emerging Markets Index for the first time in 2021.

As a global leader in the maritime industry, we have been engaging proactively with key players in the maritime ecosystem. We believe there is a clear potential to shape a sustainable future for the global maritime industry, guided by the values of sustainability through strategic collaborations, harnessing technological innovations and promoting greater diversity and inclusion. We are proud to be part of the industry's transformation and energy transition movement. Our collaborative efforts today will strengthen the foundation for a sustainable and resilient maritime industry ahead.

In this Report, we share with you our sustainability progress, performance and achievements that are integral to our existence and ethos. Meeting our future ESG and net-zero targets will require ingenuity, ambition, and tenacity. Nonetheless, I am proud of what we have achieved and I believe that the future holds much more possibilities than our past ever had.

I trust you will look forward to navigating our journey together in moving energy to build a better world.

DATUK ABU HURAIABA ABU YAZID
CHAIRMAN

LEADERSHIP STATEMENTS

MESSAGE FROM THE CHAIRMAN OF BGRC

DEAR STAKEHOLDERS

The global economic landscape is evolving rapidly in the wake of the significant impacts brought by the pandemic along with economic disruptions, setting a new course for recovery in today's post-pandemic world. This marks a turning point for organisations to prioritise on environmental, social and governance factors (ESG) as a fundamental core of their strategy to build risk resilience, and at the same time drive opportunities for growth as well as generate sustainable long-term value.

At MISC Group, sustainability is not just an integral license which enables us to operate, it is embedded at the heart of our business as we focus consistently on enhancing our ESG performance. We firmly believe that our value creation ability for the future is inexplicably linked to the sustainability strategy, decisions and actions that we implement today. Thus, we do not consider our approach top-down or bottom-up, but holistic in nature where every individual is empowered to take ownership and collaboratively drive our sustainability agenda to achieve the Group's aspirations.

On 1 January 2021, MISC's Board of Directors established the Board Governance and Risk Committee (BGRC) which reflects the progression in embedding ESG considerations as part of the strategic analysis and decision-making at the highest level. Furthermore, the BGRC steers the Management Committee on the aspects of sustainability, risk management, governance and compliance as well as ensure alignment of the Group's ESG priorities with its long-term strategy.

In today's world, ESG and climate action has become the lens through which an organisation is scrutinised by their stakeholders. MISC Group's efforts to reduce our environmental impact began much earlier in view of our role as a responsible member of the maritime industry as well as our commitment to proactively mitigate the environmental impacts from our business operations.



“Perhaps the challenges we may face are enormous, but we know the opportunities are even greater if we act now. Through courage, commitment and collaboration, I believe we can conquer the obstacles, consistently drive long-term value creation to all our stakeholders and continue building a resilient, sustainable and better future for all.”

The Group continues to build its momentum year after year through a structured implementation of key initiatives ranging from investment in sustainable technologies for our vessels to projecting our greenhouse gas (GHG) emissions trajectory until 2050 for us to chart our pathway to net-zero.

Over the years, MISC Group has been proactively collaborating with our key stakeholders in support of the maritime industry's transition towards a sustainable and decarbonised future, and this is a responsibility that we embrace wholeheartedly. In this Sustainability Report, we share our commitment to reaching our net-zero goals, defining our plans and targets of our climate action responsibilities and the broader impact on our value chain. MISC Group's climate action plan is a key component of the Sustainability Strategy 2021-2025 and integrated with the Group's long-term MISC 2050 strategy, to ensure our business growth and progress is aligned with the global transition to a sustainable, low-carbon and climate-resilient world.

Greater focus on excellent ESG performance is critical to building and maintaining trust with our stakeholders. With the growing demand for transparency and accountability, regulatory compliance is becoming more stringent, and investors demand that we articulate our sustainability strategy and ESG targets more clearly.

Staying true to our credo of “consistently doing things better”, we strengthened our commitment to improve and enhance our sustainability disclosure efforts, aligned with global best practices in sustainability and ESG reporting. One of the major steps that MISC Group has taken in 2021 is to adopt the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) framework which provides us with a structured approach in managing the risks and opportunities related to climate change across our operations.

Above all else, we recognised that our employees are also becoming more passionate about belonging to an organisation that strives to create a positive impact and contribute towards a sustainable world. Our strategic sustainability voyage throughout the years would not have been possible without the tremendous support and passion of our diverse global workforce at sea and shore to consistently push the boundaries in delivering sustainable value to our stakeholders. We will continue to engage, inspire and empower our people across the Group to propel our sustainability agenda and realise our strategic ambitions as we navigate our journey towards a decarbonised future.

Perhaps the challenges we may face are enormous, but we know the opportunities are even greater if we act now. Through courage, commitment and collaboration, I believe we can conquer the obstacles, consistently drive long-term value creation to all our stakeholders and continue building a resilient, sustainable and better future for all. We look forward to reporting on the progress of our sustainability journey in the years ahead.

DATIN NORAZAH MOHAMED RAZALI

CHAIRMAN, BOARD GOVERNANCE & RISK COMMITTEE

LEADERSHIP STATEMENTS

MESSAGE FROM THE PRESIDENT/ GROUP CEO

DEAR STAKEHOLDERS

Most of us are very familiar with the “Star Wars” movies and all the associated TV and movie spin-offs. In fact, most of us should be familiar with one particular iconic character, Yoda, the Jedi Master and teacher. He has a line in one of the movies that is now often quoted, whether in memes or as a principal in life – “DO OR DO NOT, THERE IS NO TRY”.

Jokes aside, I cannot think of a better phrase to describe the immediate and pressing decision we each have to make regarding our commitment and participation in the great global sustainability agenda.

It is no longer a choice for one to make. Stakeholders, be it providers of capital, clients, regulators and even employees, now demand that enterprises, institutions and corporations, small or large, be part of the journey. The global climate agenda requires us to do so. The global voice upholding diversity, equity and inclusion in societies requires us to do so. Our next generation requires us to do so. To be responsible for a sustainable future. And the list of expectations goes on.

Therefore, DO, we must. If we DO NOT, we run the risk of being left behind and eventually, being left out of the ecosystem that we operate in. There is no indeed NO TRY.

At MISC, we DO because we believe in sustainability. We DO, not because of external expectations. We DO, not because of regulatory pressures. No, we DO, because of our own internal expectations. Our own expectations of being a better corporate citizen today than yesterday. Better tomorrow than today. It is the mantra of the MISC family, to consistently try to do things better. There is no perfection. There is only continuous progress.

Sustainability is a culture for us as an organisation. I have preached sustainability as a belief, a lifestyle that we choose to adopt. It cannot be a set of policies hanging off a wall purely for proclamation. It cannot be a set of operating guidelines and practices found in a handbook sitting somewhere on a shelf, forgotten and only revisited as and when needed.

Sustainability is a choice. Sustainability is a discipline. Sustainability has to be a ritual. It has to be part of our day to day lives.

COLLABORATION – NAVIGATING THE SUSTAINABILITY JOURNEY TOGETHER

2021 was a crucial year where there were active discussions and decision-making on climate action on an international leadership scale, a strong reminder for the global community to take the necessary actions to reverse the negative impacts and ensure the well-being of the current and future generation. It had also sharpened our awareness of the threats and vulnerabilities, changing the perceptions on long-term risks and emphasised the importance of integrating ESG factors into decision-making processes.

Starting from now, the maritime industry must take part and join the greater collective action to limit global warming and facilitate a just transition towards a thriving, low-carbon economy. However, to achieve this global ambition, it's not enough to just be part of the solution. We must pledge our commitment and seize the opportunities to collaborate, innovate and accelerate the efforts to shape a dynamic, resilient and sustainable maritime future ahead.

“At the MISC Group, ESG principles and sustainability are two sides of the same coin, yet both are integral to our business strategy and defines our commitment in operating responsibly.”

I am reminded of two poignant old African proverbs that best describe the sustainability journey ahead. The first proverb – “If you want to go fast, go alone. If you want to go far, go together”. The sustainability journey requires stamina and absolute resolution. There will be hurdles to overcome, important puzzles to solve and questions to be answered. There will be failures and there will be successes. However, it is difficult to sustain the effort alone. By working together, in support of each other and by consolidating resources, we can progress far and for longer. Collaboration is key.

The second proverb – “The best way to eat the elephant standing is to cut it up into little pieces”. This piece of wisdom reminds us that although the sustainability journey may seem daunting, overwhelming, and even impossible to be accomplished, it can be done gradually by taking on a little at a time. Again, we can achieve this via collaboration.

SETTING OUR ASPIRATIONS AND COMMITMENTS

At the MISC Group, ESG principles and sustainability are two sides of the same coin, yet both are integral to our business strategy and defines our commitment in operating responsibly. Since we embarked on our sustainability journey a decade ago, we have been consistent and firm on embedding robust corporate citizenship practices by enhancing our environmental, social and governance stewardships to create sustainable long-term value for our stakeholders.

As a responsible global corporate citizen, it is critical that we integrate climate considerations into our business and sustainability strategies.



LEADERSHIP STATEMENTS

MESSAGE FROM THE PRESIDENT/GROUP CEO

However, we do not believe in making pledges and public declarations just for the sake of keeping up with the Joneses. When we do, it is because we believe we can honour and deliver on the commitments and pledges. We always do our groundwork first in building our strategies and action plans.

In 2021, we conducted a systematic review of our greenhouse gas (GHG) inventory and carbon commitments. Firstly, we revised our organisational boundary to account for the GHG from assets owned or leased that we use to gain economic benefits. Secondly, we mapped out our GHG emissions against our business plans. In doing so, we could project and set our pathways to ensure that we can progressively reduce our GHG emissions whilst ensuring that our business can continue to grow sustainably long into the future.

Now that we have a clear pathway mapped out, I am very proud to announce that the MISC Group is committed to achieving Net-Zero GHG emissions latest by 2050. Even though the aspiration is by 2050, we have set transitional short to medium-term strategic initiatives that are vital to enable us to reach our targets.

The Group has set a medium-term target of reducing 50% GHG intensity from our shipping operations by 2030 compared to the baseline year of 2008. We are targeting an additional 10% reduction in GHG intensity compared to the IMO 2030 carbon aspiration which sets out for only 40% carbon intensity reduction compared to the baseline year of 2008.

FROM COMMITMENTS/PLEDGES TO ACTIONS

Nonetheless, the journey does not end in 2030 as the Group's long-term aspiration is to reach Net-Zero GHG emissions by 2050. Although we may consider 30 years a long time, in reality, we have no time to lose. We plan to deploy commercially-viable low-carbon technologies that will allow us to decarbonise and we are initiating the introduction of these technologies into our newbuild fleet. We will progressively transition to zero-carbon emission vessels (ZEVs) latest by 2030.

One of the key projects in our maritime decarbonisation effort is the development of an ammonia-fuelled ZEV through our partnership in The Castor Initiative. Our target is to go into commercialisation of the project as early as 2024. The MISC Group's role in The Castor Initiative exemplifies how the collaboration across various partners in the maritime ecosystem brings expertise, knowledge and resources to realise this important goal.

TURNING RISKS INTO OPPORTUNITIES

We are also committed to continue innovating and optimising our operations to enhance efficiency and minimise our environmental impact. We adopted the Task Force on Climate-related Financial Disclosures (TCFD) framework in 2021 and had undertaken a comprehensive exercise across the Group to identify climate-related risks and opportunities, conducted scenario analysis and developed a roadmap to further integrate climate-related risks into our strategic planning and risk management processes.

A better understanding of our climate-related risks and opportunities enables us to build our resilience and actualise opportunities in the transition towards a low-carbon economy. Further details of our efforts are available in the TCFD section in this Sustainability Report.

As we continue to decarbonise our existing business, we will identify new income streams to ensure our financial sustainability amidst the onset of climate change and energy transition. In 2021, we finalised the details of our MISC 2050 strategic framework that will allow us to thrive in the circular and net-zero economy by 2050.

FORTIFYING OUR GOVERNANCE FOOTPRINT

On the governance front, we formalised the establishment of the MISC Group Compliance Management Framework, which sets out the details of our comprehensive assurance framework. We continue to be recognised by FTSE4Good for our solid corporate governance performance with a full score for three consecutive years and have been maintaining our position as a constituent in the index for eight years in a row.

As a result of the Group's strong performance across various ESG practices, we secured our position as a constituent of the prestigious Dow Jones Sustainability Emerging Markets Index for the first time in 2021. This is a significant milestone for us and we are honoured to be globally recognised for our long-term commitment and consistent progress in advancing our sustainability agenda across the Group.

LOOKING AFTER OUR FRONT-LINERS

All of this would not have been possible without the dedication of our greatest asset, namely our workforce at sea and shore. Therefore, their health and safety will always remain our top priority. Despite the lingering impact of COVID-19 globally, we continue to implement various initiatives to enhance their wellness as well as provide the necessary guidelines that prioritise on their health and safety as we head towards the endemic era.

Early in 2021, MISC, together with AET and Eaglestar, joined more than 300 industry leaders to pledge our support as a signatory of The Neptune Declaration on Seafarer Wellbeing and Crew Change. This move recognises our shared responsibility to address the crew change challenge and build a more resilient maritime value chain.

As a global organisation that focuses on promoting individual and team excellence of our employees, it is equally important for us to advance diversity, equity and inclusion to foster a progressive and sustainable workforce. Recently, we formalised the MISC Group Diversity and Inclusion Statement which outlines our belief and commitment to respecting diversity and championing equal opportunities in an inclusive work environment.

PARTING WORDS

In this Report, you will find the details and highlights of our Sustainability Strategy 2021-2025, the progress we have made so far as well as our community, employee, and stakeholder engagement efforts. I trust you will find this year's edition of MISC's Sustainability Report an inspiring read.

Today's challenges are tomorrow's opportunities for the future and I am optimistic of the possibilities that lie ahead for MISC Group as we navigate our sustainability journey through this decade of opportunities. Rest assured, in the course of our journey we are committed to consistently drive sustainable value to all our stakeholders.

DO OR DO NOT, THERE IS NO TRY. AT MISC, WE JUST DO IT!

DATUK YEE YANG CHIEN
PRESIDENT/GROUP CEO

SUSTAINABILITY VOYAGE

TO BUILD A BETTER WORLD

Our business has been driven a sense of purpose for almost a decade. With the launch of our Sustainability Framework 10 years ago, we embarked on a voyage to become one of the world's most sustainable energy-related maritime solutions and services provider. Steadily embedding sustainability elements throughout operations led us to where we are today; sustainability is integral to our business strategy.

SUSTAINABILITY FIRMLY EMBEDDED

Our dynamic team has growth ambitions to deliver better customer and stakeholder solutions. Guided by a robust set of sustainability values, we approach all our actions and make decisions with a sense of responsibility.

2012

- Launched the MISC Sustainability Framework
- Established the Sustainability Steering Committee

2014

- Received the Best First-time Reporting Awards at MASRA 2015
- Became a constituent of FTSE4Good Bursa Malaysia

2015

- Refreshed the MISC Vision and Mission Statement

2016

- Developed the MISC Sustainability Strategy

2017

- Set carbon emissions reduction by 2020
- Embarked on the Integrated Reporting journey
- Launched the MISC Sustainability Website

2018

- Renewed fleet with better energy efficiency vessels

2020

- Developed MISC Group Sustainability Strategy 2021-2025
- Established UMT-MMS Sea Turtle Conservation Programme
- Participated in Carbon Disclosure Project (CDP)
- Received recognition at the Prime Minister Hibiscus Award (PMHA) for Notable Achievement in Environmental Performance

2021

- Established Board Governance and Risk Committee to provide Board oversight on Sustainability
- Signatory to the Neptune Declaration on Seafarer Wellbeing and Crew Change
- Embarked and became a supporter of Task Force on Climate-related Financial Disclosures (TCFD)
- Pledged Net-Zero GHG Emissions Commitment by 2050
- Renewed GHG Intensity targets for 2030 (shipping operations)
- Initiated usage of renewable energy
- Became a signatory of the Call to Action for Shipping Decarbonisation
- Established MISC Group Ship Recycling Policy
- Established MISC Group Diversity & Inclusion Statement
- Received Sustainable Business Awards 2020/21
 - » Winner in Waste Productivity & Materiality, Climate Change & Emissions, Land Use & Biodiversity
 - » Significant Achievement in Stakeholder Management
- Became constituent of the Dow Jones Sustainability Emerging Markets Index

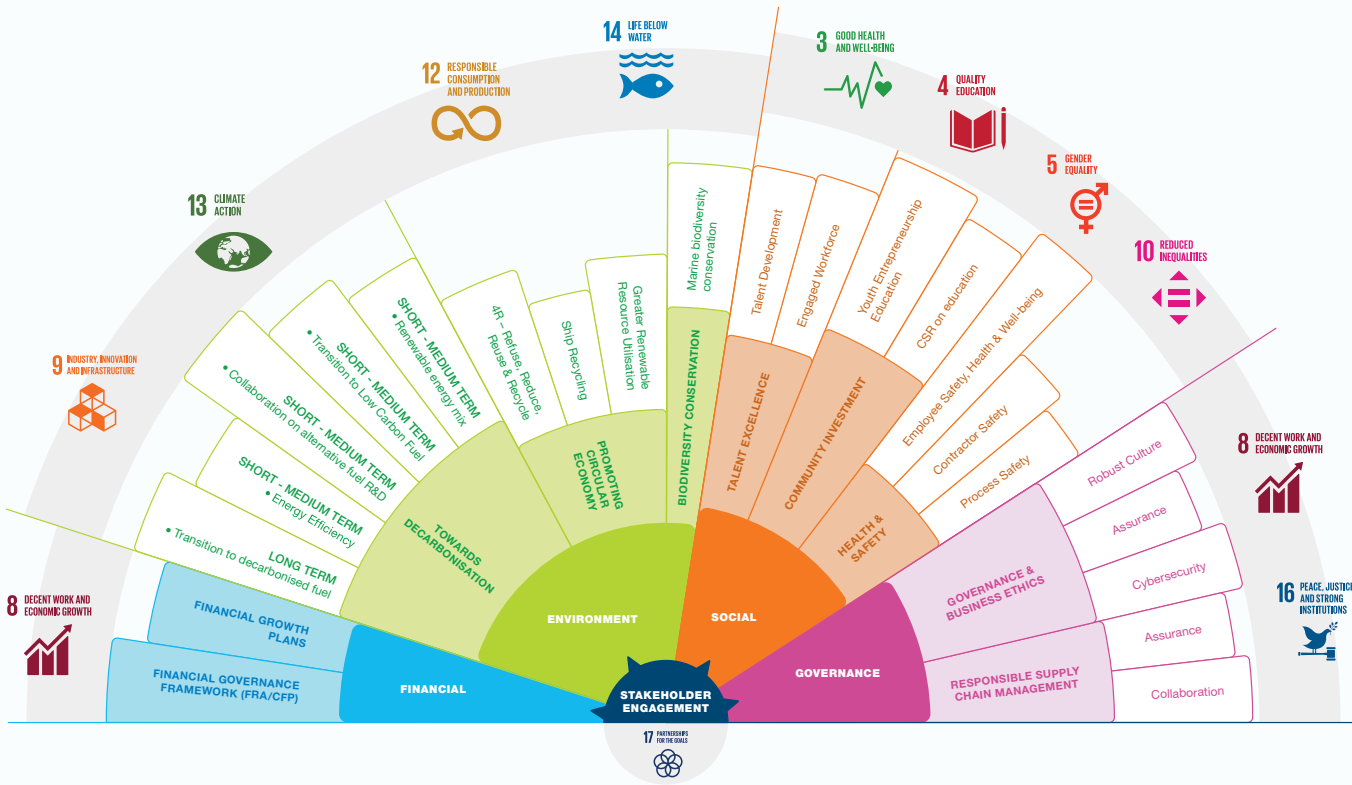
2019

- Increased alignment with the UNSDGs
- Participated in Dow Jones Sustainability Index (DJSI)
- Established Heart of the Ocean Programme
- Received Sustainable Business Awards 2019
 - » Best in Business Responsibility and Ethics and United Nations Sustainable Development Goals (UNSDG)
 - » Special Recognition in Strategy and Sustainability Management
- Took delivery of the first LNG dual-fuel Aframax
- Established MISC Modern Slavery Policy & Human Rights Commitment
- MISC Group joins the Getting to Zero Coalition
- Initiated The Castor Initiative - ammonia fuelled ZEV

Our 2021-2025 Sustainability Strategy: From Our People for Our People

In developing our sustainability strategy, we focus on areas where, through the business, we can develop large-scale solutions that alleviate some of the industry's and world's significant sustainability challenges while supporting business development.

We formulated our five-year strategic plan in consultation with employees from all subsidiaries and units through various workshops. Their support is vital as we cruise through our future sustainability initiatives.

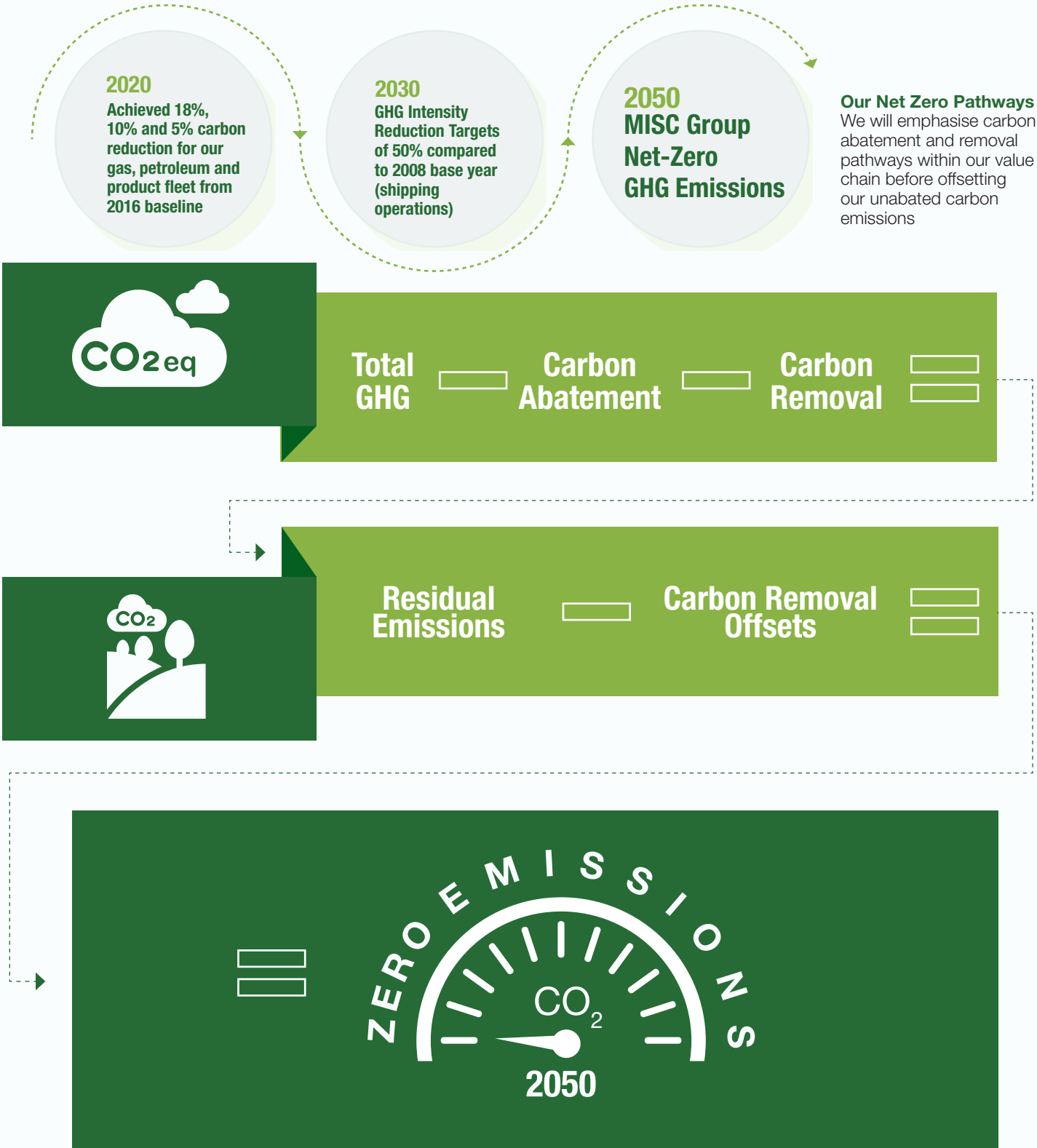


MISC Sustainability Strategy 2021 – 2025

Pillar	Material Matters	Sustainability Strategic Priorities	Our Commitment	Targets/Goals	2021 Progress	Section
Financial	<ul style="list-style-type: none">Risk ManagementBusiness Knowledge and Expertise	<ul style="list-style-type: none">Financial Growth PlansFinancial Governance Framework	<ul style="list-style-type: none">To achieve growth in predictable and recurring sources of cashflow		<ul style="list-style-type: none">Revenue: RM10.67 billionOperating profit: RM1.95 billionCash flows from operating activities: RM2.91 billionVessels utilisation: >97%Vessel utilisation: >99%Floating asset uptime: >99%	Economic Value Creation: A Rising Tide Lifts All Boats
Environment	<ul style="list-style-type: none">Climate ChangeNatural Resources UtilisationOcean HealthDigitalisation & Innovation	<ul style="list-style-type: none">Towards DecarbonisationPromoting Circular EconomyBiodiversity Conservation	<ul style="list-style-type: none">Transition to low-carbon operationsDeploy zero-carbon emission vessels by 2030Decarbonised shipping operations by 2050To promote the elimination of waste and the continual use of resourcesTo increase the usage of renewable resourcesTo conserve and rehabilitate marine biodiversity by supporting:<ul style="list-style-type: none">Sustainable reef managementSea-turtle conservation	<ul style="list-style-type: none">50% GHG intensity reduction by 2030 from a baseline year 2008 (shipping operations)Net-Zero GHG emissions commitment by 2050Practice 4R – Refuse, Reduce, Reuse and Recycle (Waste to Value Concept)Waste reduction targets for 2025<ul style="list-style-type: none">» 27% reduction in plastic waste generation per vessel» 40% reduction in paper consumption per vessel» 19% reduction in plastic waste generation per personnel on-board» Maintain an annual 3R rate of > 95% for hazardous wastes generated» Increase the annual 3R rate to 70% for non-hazardous wastes	<ul style="list-style-type: none">Established new GHG intensity reduction target for shipping operations to be achieved by 2030Mapped Net-Zero GHG Emissions PathwayEmbarked on the GHG Scope 3 emissions exerciseEmbarked on the Task Force on Climate-related Financial Disclosures (TCFD) journeyBoard endorsed GHG-related management scorecard for 2022Established Group-wide waste 4R targetEstablished MISC Group Ship Recycling PolicyRecycled, reused or recovered almost 100% of hazardous waste produced from our shore operationsInvested more than RM175,000 in Heart of the Ocean campaign for conservation of coral reefs and protection of sea turtle.Established Employee Volunteering programme under the Heart of the Ocean Programme to raise awareness on marine resource management and build capacity for the local community in promoting sustainable economic developmentLaunched MMS Sea Turtle Corner at Menara Dayabumi to showcase MMS's ongoing sea turtle conservation effortsUpgraded and improved the Research Station facilities in Chagar Hutang	<ul style="list-style-type: none">Our Pathway Towards DecarbonisationPromoting Circular EconomyConserving Marine Biodiversity
Social	<ul style="list-style-type: none">Health and SafetySkilled WorkersDiversity & Inclusion	<ul style="list-style-type: none">Health and SafetyTalent ExcellenceCommunity Investment	<ul style="list-style-type: none">To provide a safe and healthy environment for our employees, contractors and communitiesHealth & Safety (H&S) leadership 'See it, Own It' CultureTo future-proof talent and leadership agenda by accelerating talent potentialTo build a performance-driven workforce in an engaging and inclusive work environmentTo foster youth development towards becoming future leaders through education	<ul style="list-style-type: none">Zero fatality2021 Target for LTIF: <0.42021 Target for TRCF: <0.79High Performing Talent Retention: >95%Successor Ratio (MC Position): 2:1Successor Ratio (Critical Positions): 2:1	<ul style="list-style-type: none">Zero fatalitiesIntroduced Wellness Wednesday, an online workout class to stay healthyConducted Health Risk Assessment (HRA) at <i>Puteri Zamrud</i> and <i>Avenir Advantage</i>Established Process Safety ProgrammeRM27.94 million invested in capacity building with 25,154 participants attending 335,702 training programmes in 2021Achieved our set target for High Performing Talent Retention and Succession Planning MC positions for two consecutive yearsCompleted the development Career Management Framework for all employeesRolled out the Leadership Pathway to expedite career growthEstablished MISC Group Diversity and Inclusion StatementDeveloped MISC Group Community Investment GuidelinesSponsored 772 students with an investment of RM21.7 million for ALAM Cadet Scholarship programme	<ul style="list-style-type: none">Health and Safety, Our Utmost PriorityOur People, Our StrengthPartnering with the Community
Governance	<ul style="list-style-type: none">Values & Governance	<ul style="list-style-type: none">Values, Assurance and Business EthicsResponsible Supply Chain Management	<ul style="list-style-type: none">To continuously embed a culture of strong corporate governance and business ethics and conductTo enhance cybersecurity framework and safeguard our operationsTo drive sustainable practices with our suppliers	<ul style="list-style-type: none">Zero legal and business ethics breachZero major cybersecurity breach incident	<ul style="list-style-type: none">Established Compliance Management FrameworkDeveloped Grievance Mechanism GuidelineEndorsed Compliance Management Scorecard for year 2022Scored full marks on Governance theme in FTSE4Good Bursa Malaysia for three consecutive yearsConducted Corruption Risk Assessment reviewEstablished MISC Cyber Security Control Standards and related guidelinesDeveloped MISC Group ESG Supply Chain Assurance GuidelinesCompleted the pilot Self-ESG Assurance Programme	<ul style="list-style-type: none">Ethics, Governance and SustainabilityRespecting Human Rights at Sea and ShoreStrengthening CybersecurityThe Bigger Picture: Embracing A Sustainable Supply Chain
Stakeholder Engagement	<ul style="list-style-type: none">Employee EngagementCustomer Satisfaction	<ul style="list-style-type: none">To create value through trusted stakeholder relationships	<ul style="list-style-type: none">CollaboratePromoteCommunicateFeedbackTransparency	<ul style="list-style-type: none">Active engagement with key stakeholders	<ul style="list-style-type: none">Developed MISC Group Stakeholder Engagement Guidelines and plansRolled out Sustainability Strategy e-learning trainingBecame constituent of the Dow Jones Sustainability Emerging Markets IndexMaintained as constituent of FTSE4Good Bursa Malaysia for 8 consecutive yearsRated "low risk" by Sustainalytics	Transparent, Engaging and Inclusive Stakeholder Relationships

Our Climate Commitments

MISC Group Net-Zero Greenhouse Gas Emissions by 2050 with an interim shipping operations' greenhouse gas intensity reduction targets of 50% by 2030 compared with 2008 base year.

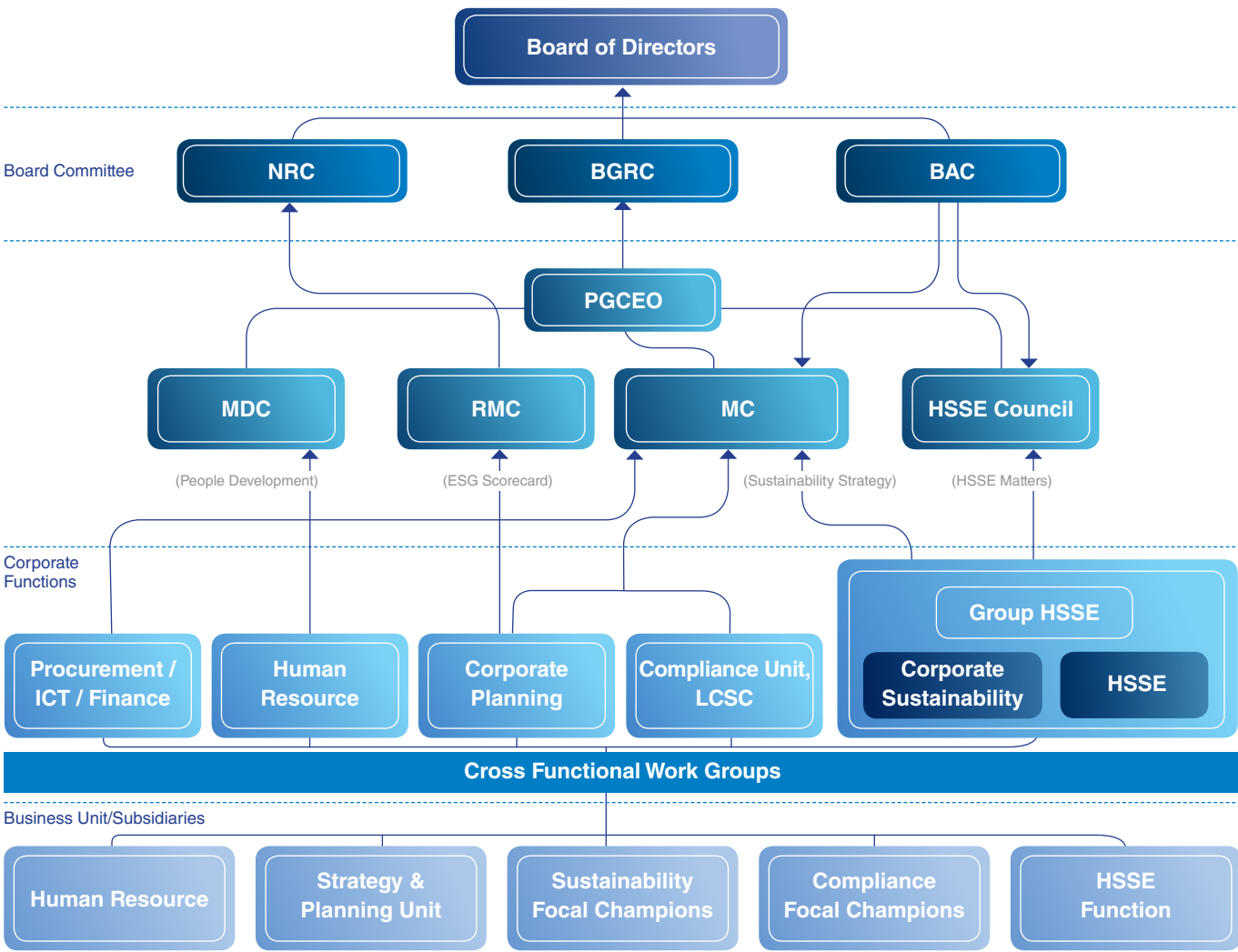


SUSTAINABILITY GOVERNANCE

Maintaining strong governance is essential for a sustainable business. Governance is more than a set of written principles and practices; it is embedded in our stakeholder value creation commitment.

We have introduced clear and effective sustainability governance structures throughout MISC. Supported by several performance standards and other controls, our governance procedures are applied to all aspects of MISC’s decision-making.

MISC GROUP SUSTAINABILITY GOVERNANCE



Sustainability is embedded in every aspect of MISC’s governance.

MISC’s Board of Directors sits at the apex of our sustainability governance structure and maintains strict oversight of the Group’s sustainability strategy and performance.

The Board Governance and Risks Committee (BGRC) has been established to provide focused oversight of the effective implementation of MISC’s sustainability strategy. On a quarterly basis, the BGRC also reviews, evaluates, reports and makes appropriate recommendations to the Board on the determination of MISC’s sustainability strategy in alignment with MISC’s business strategy. The sustainability topics reviewed by BGRC include:

- Environment (including climate-related matters), Social and Governance (ESG) risks of the overall;
- Sustainability related policies, strategies, targets and commitments;
- Sustainability strategy progress status;
- Health, Safety, Security and Environmental performance;
- Cybersecurity performance;
- Compliance and Business Ethics (including human rights) performance; and
- Internal and external sustainability disclosures.

In addition, BGRC receives and reviews reports on key strategic and operational risk issues, including ESG-related risks, arising from quarterly Risk Management Committee (RMC) meetings. The BGRC identifies the enterprise-level risk appetite and review mitigation plans to address these risks.

The Board Audit Committee (BAC) oversees the internal control framework and reviews ESG matters, which includes HSSE, business ethics and whistleblowing/grievances cases. The BAC meets every quarter to review and deliberate the quarterly and annual financial statements, Group Internal Audit (GIA) reports, related party transaction matters, whistleblowing updates, compliance and ethics updates, and other relevant matters. In 2021, BAC’s sustainability-related reviews work, included reviewing the:

- Quarterly Whistleblowing and grievance reports of the Company; and
- Group Health, Safety, Security and Environment Audit and Assurance Biannual Reports which focuses on the maintenance efficiency and effectiveness of the Group’s vessels and floating assets.

The Nomination and Remuneration Committee (NRC) reviews ESG-related performance of senior management’s scorecard and remuneration. The NRC also conducts performance appraisals on the Company and President/Group CEO, covering the elements of financial, strategic initiatives, operations, HSSE and people development. The NRC makes appropriate recommendations to the Board to approve, based on the Company’s performance against the balanced scorecard. In 2021, MISC’s Board approved the addition of ESG-related key performance indicators into the 2022 Management scorecard. Climate-related strategic initiatives and annual GHG emission intensity indicators along with business ethics and compliance-related indicators were added to the existing social-related indicators (health and safety and people development).

The Board and its committees are supported by the Management Committee (MC), which is chaired by the President/Group CEO and the members consist of Vice Presidents, and Managing Directors/CEOs from the respective business units and subsidiaries. In 2021, the MC monitored the group-wide sustainability performance on quarterly basis.

We also have a dedicated council for HSSE matters that convenes on a monthly basis. The HSSE council is the highest authority for HSSE, responsible for providing stewardship and oversight on all HSSE related matters, including the group-wide HSSE Policy, strategic initiatives, management systems, targets, performance and management review.

Talent performance, employee performance reviews, career development programmes, succession planning, competency assessments and other people development related matters are brought to the attention of Senior Management in our Management Development Council (MDC).

The Corporate Sustainability department under Group HSSE Division, continues to drive and monitor MISC’s commitment to achieve its sustainability strategic priorities. The department is supported by cross-functional work groups at the business unit/subsidiary level. We have nominated sustainability focal champions and dedicated custodians for each area of sustainability. These custodians and working groups, with vast leadership abilities, expertise and industry knowledge, drive efficiencies throughout the organisation. This structure ensures that a sustainability culture is embedded into our decision-making and day-to-day operations.

PRIORITISING WHAT MATTERS MOST

Sustainability touches every aspect of our business and value chain. As a world-leading provider of international energy-related maritime solutions and services, we see opportunities for creating long-term value while minimising externality trade-offs associated with our operations and value chain. Our sustainability agenda must address issues that matter most to our business and stakeholders for it to bring maximum value. Listening and responding to our key stakeholders is a core part of our sustainability management approach. Our ability to create short, medium and long-term value is dependent on the material issues that are most important to the business and stakeholders.

We Define Material Topics as:

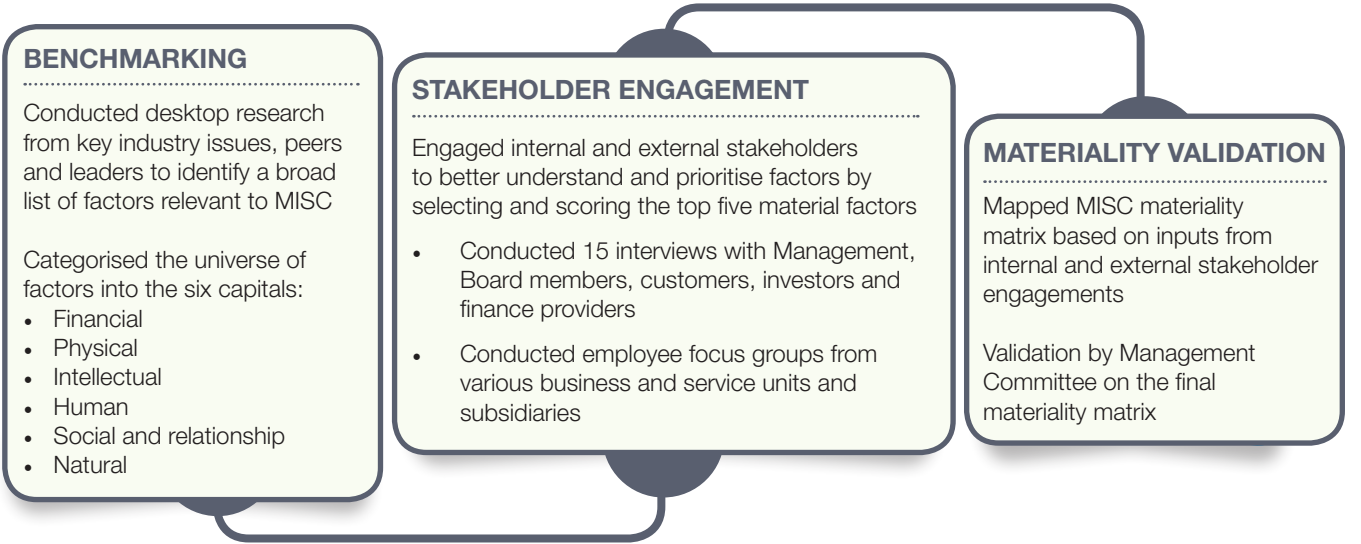
An ESG matter that could significantly affect:

- The delivery of MISC’s business strategy and future performance
- Individuals, groups, communities and other stakeholders
- The maritime industry and associated value chain

THE PROCESS

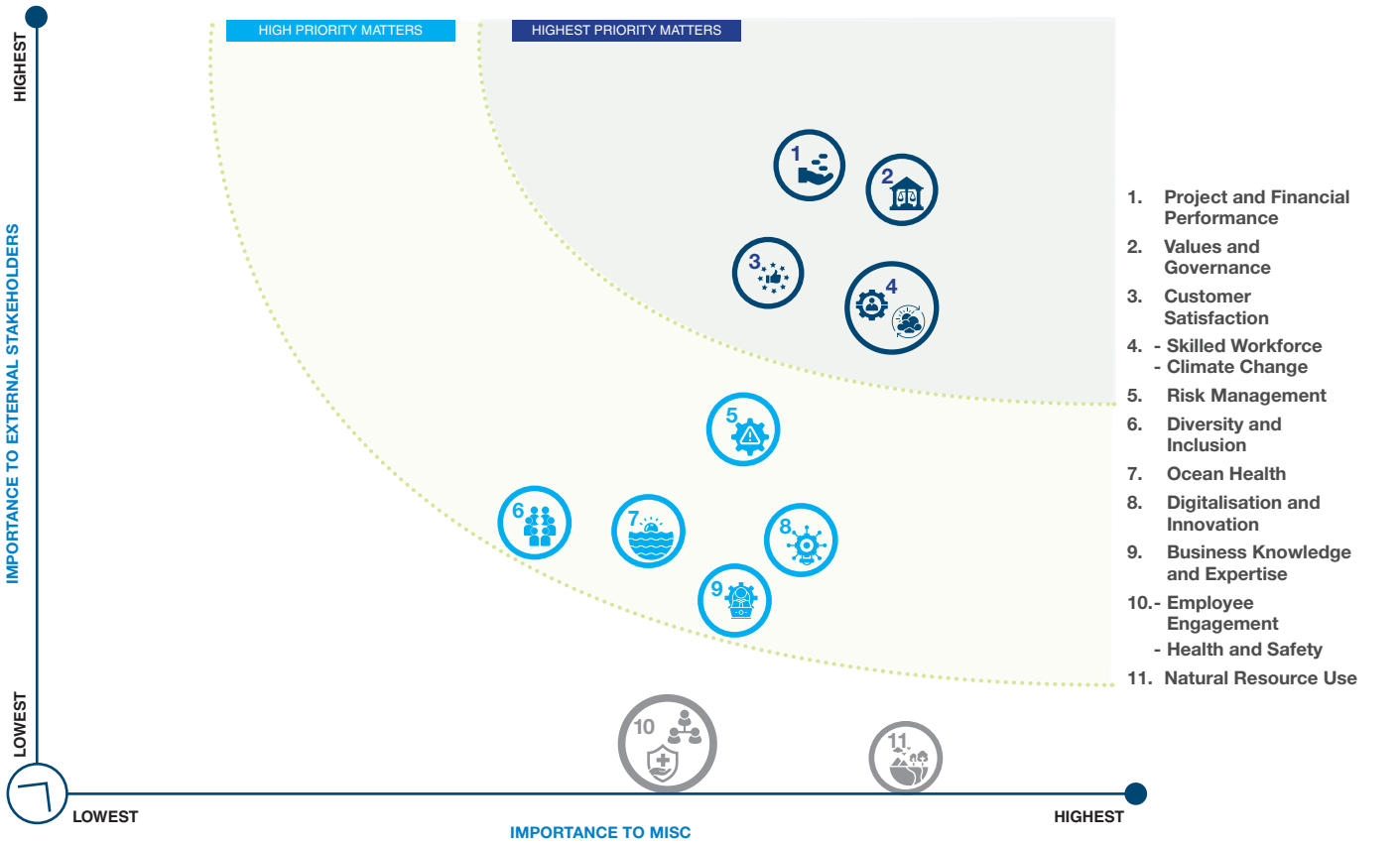
In 2019, we conducted a robust evaluation to assess the ESG aspects most material to the business. The materiality assessment conformed to international frameworks, standards and other operating environment factors. The assessment featured detailed research on current and emerging sustainability trends as well as industry and peer benchmarking.

Selecting Material Topics



The results of this assessment are represented graphically on the following Materiality Matrix. The results were reviewed by MISC’s Management Committee and presented to the Board.

MISC GROUP MATERIALITY MATRIX



STAYING RELEVANT

These material topics are reviewed annually and validated by various levels of our sustainability governance. Following the study, we refined our materiality topics based on internal and external feedback, industry development and operating environment relevant to the maritime industry, emerging ESG trends and stakeholder expectations. Due to their high relevancy to our operations, we added three material matters; health and safety, employee engagement, and natural resource use.

The COVID-19 pandemic increased our urgency to tackle social aspects, mainly health and safety and employee engagements. There were also calls for urgent action to prevent the depletion of natural resources globally. Generally, environmental aspects continue to increase in importance. Moving forward, we will continue to monitor our materiality matters to stay relevant.

PRIORITISING WHAT MATTERS MOST

USING THE RESULT TO CREATE BUSINESS VALUE



Our material matters have been used to craft our sustainability journey over the last decade.

Over the years, it has also streamlined our disclosure to ensure we report sustainability matters of most interest to stakeholders. A strategic materiality approach is vital as we progress towards more robust and balanced environmental, social and governance (ESG) disclosures.














USING THE ASSESSMENT RESULTS

Following the materiality study, we performed a detailed review of leading practices to:

- Determine a link between ESG risks, opportunities and corporate purpose;
- Benchmark our performance against peers in balancing our ESG aspirations and business goals; and
- Guide us in setting our ESG targets and commitments.
















Our contributions to the United Nations Sustainable Development Goals (UNSDG) were mapped according to the prioritised ESG topics. These material matters form the basis of MISC’s Sustainability Strategy 2021-2025. Ways in which we address each material matter and our progress towards the UNSDGs are presented in the following table.

Material Matters	Capitals Affected	Why is this Material?	Section Covering this Material Matter	Sustainability Strategic Priorities	Relevant UNSDGs
Project and financial performance 	<ul style="list-style-type: none">• Financial• Physical  	Our business and entire maritime and energy sector are affected by fluctuating prevailing economic conditions and market sentiment. Our robust business strategy is essential for maximising our asset utilisation, securing larger project revenues and providing a sustainable financial return for shareholders.	Economic Value Creation: A Rising Tide Lifts All Boats	<ul style="list-style-type: none">• Financial Growth• Financial Governance Framework	
Values and governance 	<ul style="list-style-type: none">• Human 	Our vast global outreach operates across markets and cultures. Conducting ourselves with the highest standard of integrity is a key priority. Our strategic approach continues to embed good corporate governance and business ethics. Ethical conduct is part of our cultural DNA, even as we aspire to achieve excellent financial and operating results.	Ethics, Governance and Sustainability	<ul style="list-style-type: none">• Values, Assurance and Business Ethics	

Material Matters	Capitals Affected	Why is this Material?	Section Covering this Material Matter	Sustainability Strategic Priorities	Relevant UNSDGs
Skilled workforce 	<ul style="list-style-type: none">• Human• Intellectual  	Promoting individual and team excellence in employees is our mission. Establishing a sustainable talent stream across all job levels is a strategic priority to provide seamless leadership and talent succession planning throughout MISC. A robust talent management programme will equip our workforce with the necessary skills and competencies to realise our business objectives.	Our People, Our Strength	<ul style="list-style-type: none">• Talent Excellence	
Climate change 	<ul style="list-style-type: none">• Natural 	The International Maritime Organisation (IMO) adopted the IMO GHG initial strategy (IMO 2030 and IMO 2050) for the shipping sector in 2018. This initial strategy, calling on shipowners to combat climate change, is particularly relevant as the majority of our energy is produced by combusting fuel in our vessels. We have implemented several energy reduction initiatives and are committed to developing zero-carbon emission vessels latest by 2030 in line with IMO’s GHG strategy. In addition, we aspire to achieve Net-Zero GHG emissions by 2050.	Our Pathway Towards Decarbonisation	<ul style="list-style-type: none">• Towards Decarbonisation	
Customer satisfaction 	<ul style="list-style-type: none">• Social and Relationship 	We focus on providing the best service and experience to all customers in light of challenging economic and market conditions. Operational responsiveness and tailored solutions help us exceed customer expectations. High customer satisfaction levels reaffirm our position as a recognised global energy maritime solutions and service provider.	Transparent, Engaging and Inclusive Stakeholder Relationships	<ul style="list-style-type: none">• Stakeholder Engagement	
Risk management 	<ul style="list-style-type: none">• Financial 	Effectively reducing the impact of financial and ESG risks, responding to immediate risk events and recovering from prolonged business disruption will ensure the continuity and sustainability of key business activities and the delivery of business objectives. Strong risk policies and procedures ensure best practices in identifying, evaluating, managing, reporting and monitoring the ever-changing risks and specific risk-mitigation measures.	Economic Value Creation: A Rising Tide Lifts All Boats	<ul style="list-style-type: none">• Financial Growth Plans• Financial Governance Framework	

PRIORITISING WHAT MATTERS MOST

Material Matters	Capitals Affected	Why is this Material?	Section Covering this Material Matter	Sustainability Strategic Priorities	Relevant UNSDGs
Digitalisation and innovation 	<ul style="list-style-type: none">Intellectual 	Digitalisation is rapidly changing information availability, allowing us to respond to changes more rapidly based on data-driven decisions and the increasing efficiency of processes. The digitalisation and innovation of digital services for our sea and shore operations enhance customer satisfaction, allowing us to provide integrated and innovative solutions that serve customers more effectively.	Economic Value Creation: A Rising Tide Lifts All Boats	<ul style="list-style-type: none">Financial Growth PlansTowards Decarbonisation	
Ocean health 	<ul style="list-style-type: none">Natural 	We recognise the importance of ocean health and have implemented pollution prevention strategies to reduce our environmental impacts. We continue to run effective biodiversity conservation programmes to raise awareness on the importance of preserving marine biodiversity and the ecosystem around them to our employees and communities.	Conserving Marine Biodiversity	<ul style="list-style-type: none">Biodiversity Conservation	
Diversity and inclusion 	<ul style="list-style-type: none">Human 	<p>We believe that a diverse workforce promotes an open-minded culture and encourages new ways of thinking that are particularly important for our global operations. We practise non-discriminatory hiring and promotion policy regardless of age, gender, nationality and cultural background while providing competitive local employment opportunities wherever we operate.</p> <p>Although often used in tandem with diversity, MISC views inclusion as a concept of its own. We promote a work environment in which all individuals are treated fairly and respectfully with equal access to opportunities and resources. Through this commitment, we aim to ensure the minorities feel equal in the workplace.</p>	Our People, Our Strength	<ul style="list-style-type: none">Talent Excellence	 

Material Matters	Capitals Affected	Why is this Material?	Section Covering this Material Matter	Sustainability Strategic Priorities	Relevant UNSDGs
Business knowledge and expertise 	<ul style="list-style-type: none">IntellectualHuman  	Increased business knowledge and employees' expertise are instrumental to sustaining good overall business performance and customer satisfaction. Business knowledge and expertise influence our ability to secure long-term charters for our vessels, large-scale fabrication and maintenance contracts at our yard and integrated maritime services contracts.	Economic Value Creation: A Rising Tide Lifts All Boats Our People, Our Strength	<ul style="list-style-type: none">Talent ExcellenceFinancial Growth Plans	
Natural resource use 	<ul style="list-style-type: none">Natural 	Operating in a responsible manner means reducing our environmental footprint especially on energy (mainly fuel) consumption of our shipping operations, non-renewable electricity and freshwater consumption of our non-shipping operations.	Promoting Circular Economy	<ul style="list-style-type: none">Promoting Circular Economy	
Health and safety 	<ul style="list-style-type: none">HumanSocial and Relationship  	Personal safety is extremely important as no loss is greater than the loss of human life. The continued safety and health of employees, assets and our cargo remain our utmost priority. A strong safety and health culture must prevail both on sea and shore.	Health and Safety, Our Utmost Priority	<ul style="list-style-type: none">Health and Safety	
Employee engagement 	<ul style="list-style-type: none">Human 	Employee engagement, including their involvement in our community investment programmes, strengthens their mental and emotional connection with their place of work, enhancing productivity and talent management. We encourage a highly engaged workforce as it creates value through better service, higher customer satisfaction, increased sales and profitability, and improved shareholder returns.	Our People, Our Strength Health and Safety, Our Utmost Priority	<ul style="list-style-type: none">Talent ExcellenceHealth and Safety	 

OUR STAKEHOLDERS' UNIVERSE

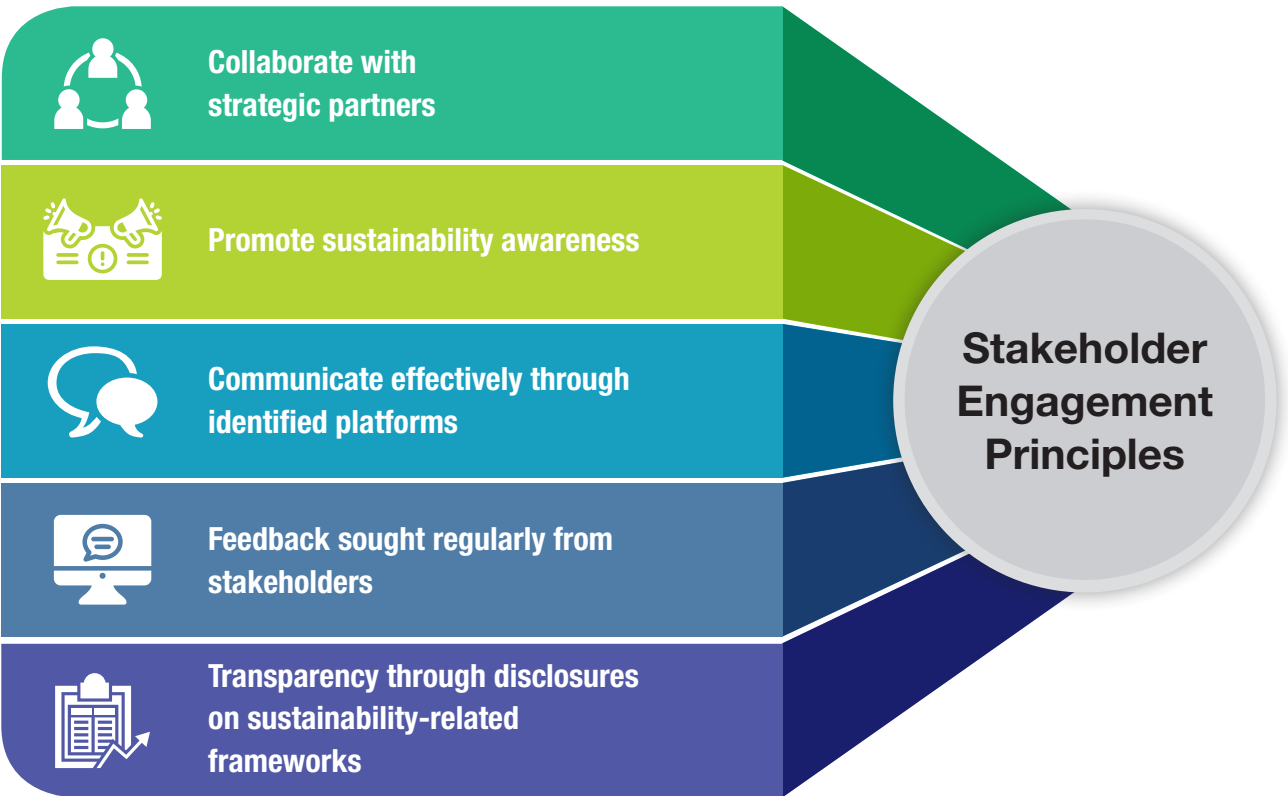
MISC is committed to elevating the maritime and energy sectors by having a positive impact on local and international communities. This commitment, supported by our stakeholder engagement strategy, creates value through awareness, dialogue and collaboration.

A robust strategy for managing financial, environmental, social and governance performance reflects our commitment to ensure we exceed stakeholder expectations. Active stakeholder engagement is a key part of our business approach, given the dynamic social, economic and regulatory landscape in which we operate. However, we believe in being proactive with stakeholders through regular engagements and welcome their feedback.

We have established a structured stakeholder engagement process and a stakeholder-inclusive approach to creating value. Stakeholder engagement is integrated into every step of our value creation process.



MISC Stakeholder Engagement Principles



Who Are Our Stakeholders?

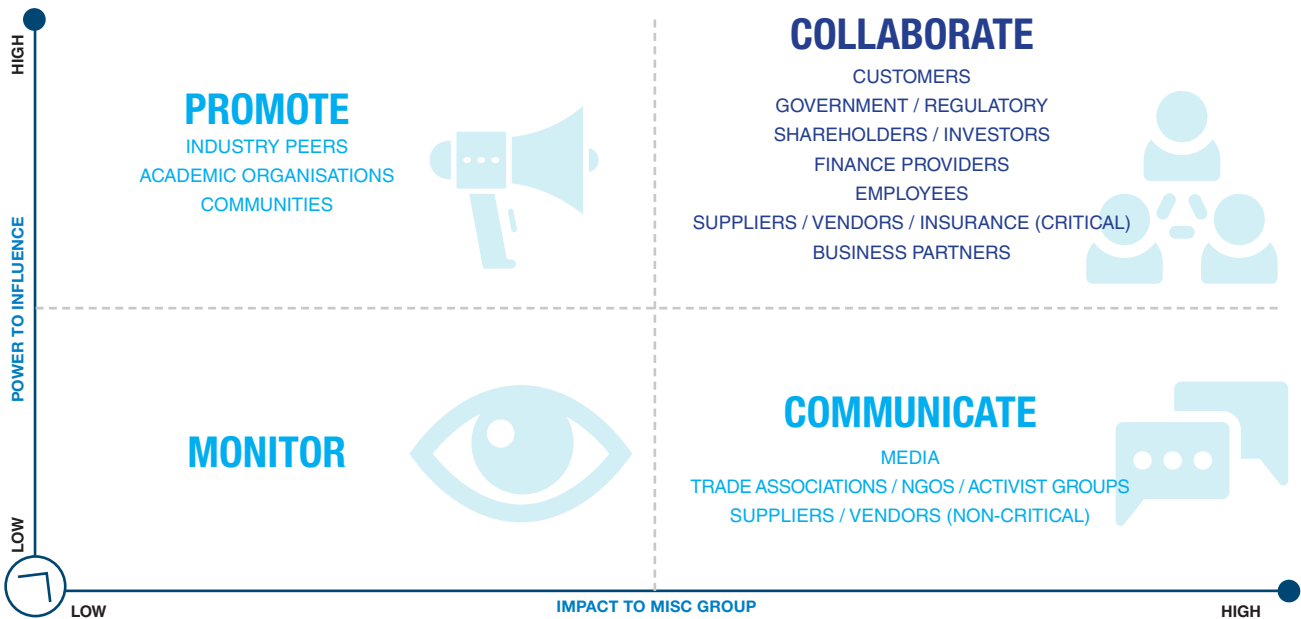
We identify relevant stakeholders by considering their particular attributes and scope of involvement.

The relevant stakeholders are groups or individuals who are directly or indirectly affected by our operations and activities or have the potential to impact MISC.



Appropriate levels of engagement, based on stakeholder analysis, are chosen as presented in the following chart.

MISC's Stakeholder Map







OUR STAKEHOLDERS' UNIVERSE

METHODS OF ENGAGEMENT

MISC engages with its key stakeholders through various means depending upon the nature of the relationship. The method of engagement is selected to most effectively meet the needs, capacity and expectations of relevant stakeholders. More than one method can be selected and they may be used either concurrently or sequentially.



Our stakeholders	Stakeholder value proposition	Material matter of concern / issues raised	Our strategic response	How we engage				
				Collaborate	Promote	Communicate	Feedback	Transparency
GOVERNMENT/REGULATORY 	<ul style="list-style-type: none">Support the government's agenda in promoting innovation and sustainable growth of the maritime industryLicence to sustain operations	Crisis management and business continuity (COVID-19)	<ul style="list-style-type: none">Close engagement to brief on MISC's pandemic response planCollaboration with authorities on emergency response and preparedness					
		Development of talent and job opportunities	<ul style="list-style-type: none">Collaboration on Maritime Academy syllabus to nurture and develop seafarers in line with the nation's maritime visionProvision of annual job opportunities and development of local talents					
		Corruption and bribery	<ul style="list-style-type: none">Joined MACN to combat corruption in the maritime industry					
SHAREHOLDERS/INVESTORS/FINANCIAL PROVIDERS 	<ul style="list-style-type: none">Better understanding of MISC's business performance, financial position and sustainability agendaIncrease shareholder/ investor confidenceBetter access to debt funding for CAPEX	Project and financial performance	<ul style="list-style-type: none">Exercise strong governance in project and financial management					
		Values and governance	<ul style="list-style-type: none">Exercise strong corporate governance frameworkBusiness ethics awareness and whistleblowing processes					
		Climate change	<ul style="list-style-type: none">Net-Zero GHG emissions by 2050Joined Getting to Zero Coalition with strategic partners along the value chain to develop commercially viable zero-carbon emission vessels by 2030.Fleet renewal to low carbon fuelled vessels					
		Ship Recycling practices	<ul style="list-style-type: none">Establish MISC Group Ship Recycling Policy Statement					
		Diversity and inclusion	<ul style="list-style-type: none">Develop and implement MISC Group Diversity and Inclusion statement					
		ESG risks and opportunities	<ul style="list-style-type: none">Incorporate ESG risks and opportunities into business decisions					
CUSTOMERS 	<ul style="list-style-type: none">Increase confidence in MISC's capabilities in delivering quality and sustainable products and services	Crisis management and business continuity	<ul style="list-style-type: none">Close engagements with customers to brief them on MISC's pandemic response plan and business continuity plan to ensure the least interruption to customer operations					
		Values and governance	<ul style="list-style-type: none">Exercise strong governance in project managementBusiness ethics awareness and whistleblowing processes					
		Business experience	<ul style="list-style-type: none">Upskilling competencies to provide niche expertise for maritime services					
		Supply chain management	<ul style="list-style-type: none">Raise awareness and conduct ESG assurance throughout the supply chain					
		Climate change	<ul style="list-style-type: none">Fleet renewal to low carbon fuelled and energy efficiency designed vessels					
		Health and Safety	<ul style="list-style-type: none">Implement high health and safety standards					
EMPLOYEES 	<ul style="list-style-type: none">Career development and growth in a sustainable organisationAttract and retain sustainable talent	Crisis management and business continuity (COVID-19)	<ul style="list-style-type: none">Regular communications on the pandemic situation, work from home (WFH) arrangements (where possible) and mental stress programmes					
		Health, safety, security and environment management	<ul style="list-style-type: none">Implement high health and safety standardsEmployees encouraged to raise Unsafe Condition and Unsafe Act (UCUA) cards					
		Diversity and inclusion	<ul style="list-style-type: none">Encourage and support employee diversity and equal opportunities in our career development and volunteering programmes					
		Business ethics and compliance	<ul style="list-style-type: none">Business ethics e-learning modules to explain business ethics and complianceBusiness ethics awareness and whistleblowing processes					
BUSINESS PARTNERS/SUPPLIERS & VENDORS 	<ul style="list-style-type: none">Leverage each other's expertise and collaborate on innovative products and servicesBetter understanding of MISC's expectations (including sustainability agenda) on suppliers and increased business opportunities	Project and financial performance	<ul style="list-style-type: none">Exercise strong governance in project and financial					
		Crisis management and business continuity	<ul style="list-style-type: none">Close engagement with business partners/ suppliers and vendors to execute MISC's pandemic response plan and ensure the least business interruption					
		Values and governance	<ul style="list-style-type: none">Business ethics awareness and whistleblowing processesEnhance the Know Your Counterparty (KYC) requirement for all business dealings as part of the Third-Party Compliance Due Diligence GuidelinesProvide CoBE training for third-party service providers to ensure that they are aware of our CoBE and other requirements and expectationsAdopt two Competition Law Compliance Protocols to support the Competition Law Guidelines					
		Health, Safety and Environment	<ul style="list-style-type: none">Inculcate a stronger HSE discipline and mindset and recognise supplier/vendor with good HSE practices					
		Business knowledge and expertise	<ul style="list-style-type: none">Upskill competencies for niche expertise in maritime services					

FINANCIAL PILLAR

ECONOMIC VALUE CREATION: A RISING TIDE LIFTS ALL BOATS



FINANCIAL

OUR COMMITMENT

- To achieve growth in predictable and recurring sources of cashflow

OUR INITIATIVES

- A five-year rolling business plan with financial growth plans
- Financial governance framework, developed in line with the Financial Reporting Accounting Standards and Corporate Financial Policy

OUR CONTRIBUTION TO THE UNSDG



Promote sustained economic growth, full and productive employment and decent work for all

BEING THE BACKBONE OF GLOBAL TRADE AND THE GLOBAL ECONOMY

Maritime transport is the backbone of global trade and the economy. Shipping affects the livelihoods of billions of people in the developing world and standards of living in the industrialised, developed economies.

We play a critical role in global trade and act as a proxy for economic growth. Enhanced by the pandemic situation faced globally in 2021, the blue economy is essential for the entire world as ocean activities uplift lives and economic development. Maritime transport accounts for approximately 90% of worldwide trade and is considered the lynchpin of global trade, with many other industries relying heavily on it.

FINANCIAL SUSTAINABILITY @ MISC

Our Sustainability Strategy includes a Financial Pillar which aims to achieve predictable growth through recurring sources of cash flow. We have identified two key strategic priorities that drive our financial sustainability under this pillar:



The five-year rolling business plan with financial growth plans guides our business units and subsidiaries in developing their business plans. The budget or financial plan primarily forecasts the future operating revenue, business costs and cash flow management.

Our financial sustainability strategy has identified various methods that use available resources to their best advantage while positively impacting the environment and society. Promoting the effective and responsible use of these resources will likely provide long-term benefits while returning a profit.

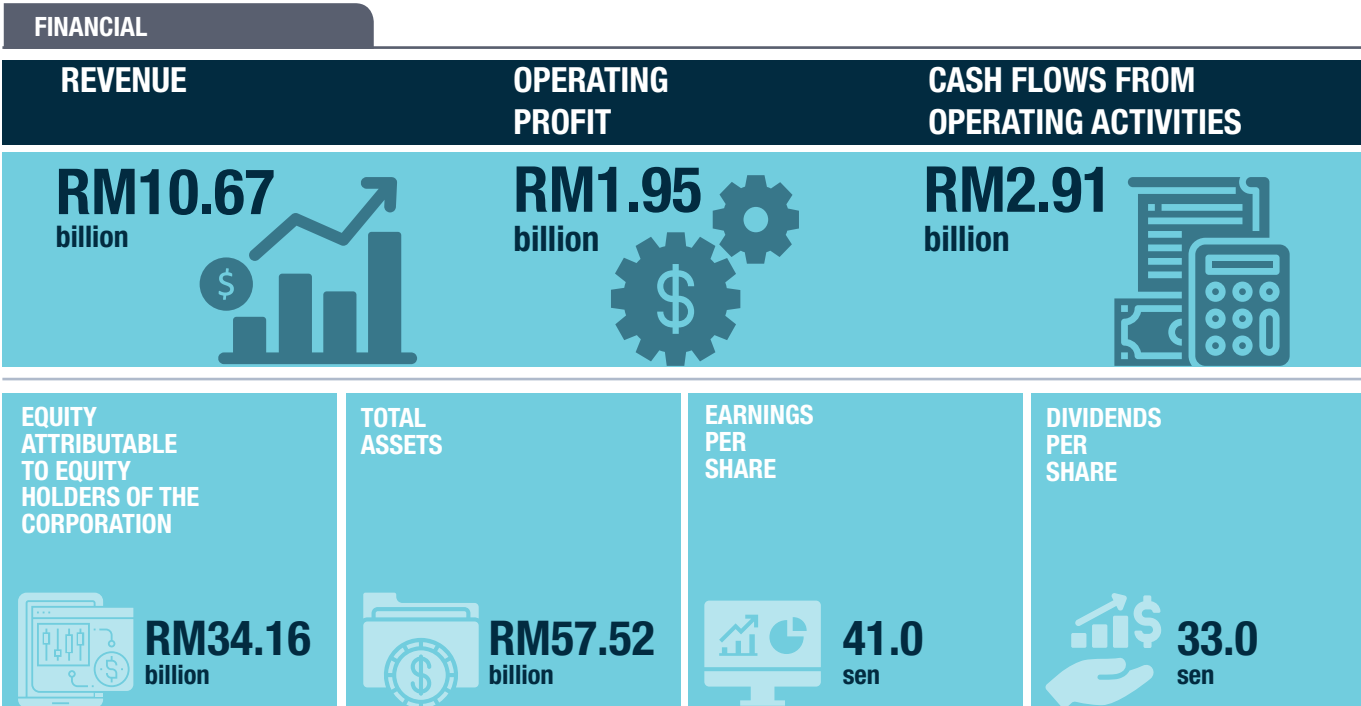
We act as a global champion when serving customers by helping create a more sustainable, equitable and inclusive world. This financial pillar contributes to UNSDG 8 by providing Decent Work and Economic Growth. We are committed to promoting sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

FINANCIAL PILLAR

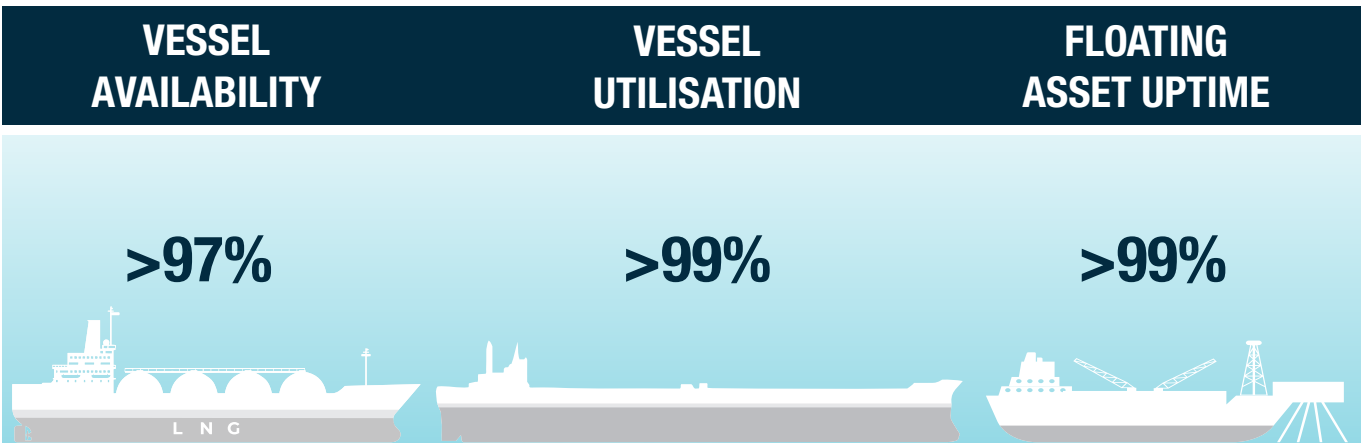
ECONOMIC VALUE CREATION:
A RISING TIDE LIFTS ALL BOATS

FINANCIAL PERFORMANCE

Summary of Financial Performance for 2021



OPERATIONAL EXCELLENCE



We engage external auditors for both audit and non-audit work when necessary. For FY2021, we spent RM1,213,000 on non-audit fees for services rendered by the external auditors or their affiliates. This sum included a limited review of semi-annual financial results and tax advisory.

The Audit Engagement Partner in charge of MISC is changed every seven years to ensure the external auditors' independence is not compromised. The partner must also observe a five-year cooling-off period before reappointment, in line with Malaysian Institute of Accountants (MIA) recommendations. Internally, the external auditors conduct an Independent Partner Review to preserve their independence.

Our external auditors also provided written assurance to the Board Audit Committee (BAC), stating their independence throughout the audit engagement following all the terms of the relevant professional and regulatory requirements. The BAC assesses the performance, suitability and independence of the external auditor's based on:

- The quality of engagement team including the sufficiency of resources;
- The quality of communication and interaction; and
- Independence, objectivity and professional scepticism.

We will continue to assess the external auditors' performance on an annual basis in line with the Policy on External Auditors.

TAX

MISC continues to strengthen its tax function and governance framework across the organisation. As a global maritime conglomerate, MISC strives to conduct its tax affairs in compliance with all applicable tax laws and regulations of the countries in which it operates. The Board Audit Committee (BAC), Board Governance and Risk Committee (BGRC) and the Board have oversight of the Group's strategic tax, tax governance and tax risk matters and as part of the Group's financial reviews. MISC's commitments towards tax governance are demonstrated through:

Tax Policy		Tax Governance	
Responsible Taxpayer	<ul style="list-style-type: none">MISC Group is committed to be a responsible taxpayer by:	<p>In line with the adoption of the MISC Tax Policy, MISC has further enhanced the following to assist the Management to further strengthen the overall tax governance for the Group:</p> <ol style="list-style-type: none">MISC is adopting a Tax Control Framework (TCF) covering both direct and indirect taxes. A robust TCF is currently being enhanced to enforce effective governance and management of tax risks. It also serves as a tool for Group Management to place oversight on responsibility and accountability of the tax function.The Tax function is actively involved in the identification and implementation of tax requirements by collaborating with all lines of business across the Group. In addition, regular and continuous tax knowledge sharing sessions are conducted across MISC to strengthen the compliance practices and engagement within the Group.A structured tax training programme is conducted by experienced trainers to sustain and enhance capability and necessary technical skillset of tax personnel. In addition, the tax function is also equipped with access to local and global tax databases that are imperative in managing tax risks of the Group.Series of Tax Manuals have been rolled out in establishing the rules and responsibilities of the tax function, the finance department and other relevant stakeholders in meeting both direct and indirect tax compliances. Tax Manuals include the guiding principles based on the respective relevant laws and regulations, process flows as well as record retention requirements for each compliance activity.	
Tax compliance	<ul style="list-style-type: none">Complying in good faith with all applicable tax laws, regulations, guidelines and international tax treaties, and settling tax obligations when legally due, as company and employer; and		
Relationship with Tax Authorities	<ul style="list-style-type: none">Maintaining cooperative working relationships with tax authorities.		
Policy Compliance	<ul style="list-style-type: none">Adherence to this Policy is everyone's responsibility, by referring all tax related matters to the appropriate parties		

FINANCIAL PILLAR

ECONOMIC VALUE CREATION:
A RISING TIDE LIFTS ALL BOATS

STAKEHOLDERS VALUE CREATION

At MISC, our long-term value creation considers all stakeholder interests. We aim to consistently deliver sustainable returns to investors and shareholders. We maximise these returns by strengthening our core businesses and capitalising on future growth opportunities.

 For more details on our value creation, please refer to our Integrated Annual Report 2021 How We Create Value section

SIGNIFICANT INDIRECT ECONOMIC IMPACTS

We aim to contribute to customers' success and general society positively. Considering the trends affecting customers, communities, the environment and broader society, we anticipate our work's indirect impact on all of these factors. Whether addressing complex global challenges or driving lifelong learning in our communities, our one goal is to create a positive impact for a better world.

Applying skills and resources facilitates change and allows us to find sustainable solutions to local and global issues such as those presented below.

THE GLOBAL COVID-19 PANDEMIC

COVID-19 is not only a global pandemic and public health crisis; it has also severely affected the global economy and financial markets. The disease mitigation measures implemented in many countries led to a significant reduction in income, rising unemployment and disruptions to the transportation, service, and manufacturing industries.

The pandemic spread with alarming speed, infecting millions and bringing economic activity to a near-standstill as countries imposed tight movement restrictions to slow transmission. Premature deaths, workplace absenteeism and reduced productivity, affected income. The pandemic created a negative supply shock as global supply chain disruptions and factory closures adversely affected manufacturing productivity. Economic performance between countries widened as the crisis continued increasing social inequalities, especially vulnerable groups, and causing long-term damage to job prospects and living standards.



The global economic recovery began in 2021 as many sectors improved and adapted to pandemic restrictions. Vaccine deployment, although uneven, gained momentum and government fiscal stimuli provided a significant boost to economic activity.

Even as the pandemic resurges, the global economy should continue to experience above-potential recovery growth. The pace and duration of the recovery will depend on the race between vaccines and emerging variants of the virus. The challenges ahead include the potential of higher financing costs, heightened financial market volatility, inflation risks driven by rebounding growth and supply-chain bottlenecks, and ongoing labour shortages.

Unfortunately, there are no similar episodes in recent history to guide current projections. Much could go wrong for the global economy, including the emergence of new virus variants, further supply shocks and financial market disruptions caused by central bank tightening or other factors. In this environment, we believe that harnessing the benefits from digital transformation strategies and upskilling workforces will drive productivity growth through innovation and efficiency gains.

CLIMATE EMERGENCY: A DEGREE OF CONCERN

Impacts from a 1.1°C increase in temperature is evident by the increased frequency and magnitude of extreme weather events such as heatwaves, droughts, flooding, winter storms, hurricanes and wildfires. Under the 2015 Paris Agreement, nations agreed to limit global warming to well below 2°C, but preferably 1.5°C, compared to pre-industrial levels. The Intergovernmental Panel on Climate Change (IPCC) latest findings suggest 1.5°C warming will be reached or exceeded in the early 2030s in all considered emissions scenarios, except the highest in which the crossing could occur even earlier.

At MISC, our response to the global climate emergency is pledging a commitment to Net-Zero GHG emissions by 2050. Our respective business units and subsidiaries have decarbonisation roadmaps to reduce emissions within their respective value chains as we work as a Group towards realising a 1.5°C world.

 Read more on our decarbonisation journey on Our Pathway Towards Decarbonisation

We will transition our business operations to thrive in a net-zero economy. Our low-carbon assets aim to help customers lower their carbon emissions, many of whom work towards achieving net-zero carbon emissions. Working on solutions and offering low-carbon asset services will ensure we systematically reduce emissions within the entire value chain.

LOW CARBON EMISSION ASSETS

Our shipping business segments (GAS and Petroleum) supports International Maritime Organisation's (IMO) aspirations to reduce emissions by rejuvenating our fleet through investing in greener ship. Besides lowering of the fleet's emissions, the ever-increasing global maritime logistics demands entails us to continue to focus on efficiency through digitalisation and enhance safety of people, asset and cargo carried, going beyond compliance.

LNG dual-fuel vessels at AET

AET is one of the first tanker companies to invest in LNG dual-fuel vessels. Currently, AET has four owned and two in-chartered LNG dual-fuel vessels in operation. Another five LNG dual-fuel VLCCs are being constructed, and will be delivered in 2022 and 2023. In 2021, our eco-friendly fleet generated 3% of total MISC revenue.



LNG dual-fuel Very Large Crude Carriers (VLCCs)

Our LNG dual-fuel VLCCs, which are under construction, are among the world's most environmentally-friendly vessels in the shipping industry.

Three out of five LNG dual-fuel VLCCs which are on order will be fitted with advanced technologies, including an M-type, electronically-controlled, gas-injection (MEGI) engine, which will reduce methane emissions when compared to low pressure engines.

IMPACT

Achieving a 99% reduction in sulphur oxide (SO_x) emission, 85% reduction in nitrogen oxides (NO_x), 95% less particulate matter (PM) and up to 30% less CO₂ on gas mode by design when compared to marine gas oil. These LNG dual-fuel vessels are able to comply with IMO Tier III standards for NO_x emissions and the IMO 2020 regulation for a sulphur cap of 0.5%.

The vessels also feature a hybrid vertical bow that lowers hull resistance, improves fuel efficiency and reduces ship vibrations. The energy-saving devices fitted will further reduce GHG emissions from these vessels.

FINANCIAL PILLAR

ECONOMIC VALUE CREATION:
A RISING TIDE LIFTS ALL BOATS

LNG dual-fuel Dynamic Positioning Shuttle Tankers (DPSTs)

Our LNG dual-fuel DPSTs are also fitted with volatile organic compound (VOC) recovery systems. These captured VOCs are reused as a supplementary fuel which, in combination with a more efficient system for dynamic positioning and a range of power and automation solutions, saves roughly up to 4,000 tonnes of fuel per year per vessel compared with conventional DPSTs of the same size, delivering significant cost savings, alongside substantial emissions savings.



Eco-efficient DPSTs

In early 2021, Eagle Pilar, the latest DPST delivered to AET, achieved full compliance with IMO NO_x Tier 3 and SO_x emission requirements. Our other recently delivered eco-friendly vessels *Eagle Petrolina*, *Eagle Paulinia* and *Eagle Paraiso* bear DNV's SmartShip class notation for their cutting-edge marine technologies, including:

- Navigation decision support system with route optimisation features;
- Energy efficiency management system with trim optimisation; and
- A ship performance monitoring system.

Very Large Ethane Carrier

We have expanded our business by venturing into ethane markets. Today, we have six very large ethane carriers (VLEC). Our VLEC is powered by a MAN B&W 7G60ME-C9.5-GIE gas injection ethane engine, complemented with the latest pump vaporiser unit (PVU), making her one of the very few vessels in the world with ethane burning capability. These vessels are equipped with a cargo containment system for dual cargo loading. They also have LNG ready notation by ABS, which allows the VLEC to be upgraded to trade liquefied natural gas (LNG) cargoes in the future. All VLECs comply with NO_x and SO_x emission requirements in the gas and fuel mode. It is an advanced active emissions control technology system that injects a liquid-reductant agent through a special catalyst into the exhaust stream of engine. The vessel's selective catalytic reduction (SCR) system complies with the IMO Tier III nitrogen oxide (NO_x) standards.



Advanced Offshore Solutions

New technologies are explored regularly and installed on our offshore assets if feasible to improve energy efficiency and reduce or capture carbon emissions. Some of the technologies installed on our assets are summarised below.

MaMPU Condensate Recovery System

Converted from an oil tanker, *MaMPU-1* stores 318,000 barrels and produces 15,000 barrels of oil per day with a gas handling capacity of 25 MMscfd. *MaMPU-1* has adopted a compact low-pressure system Sep-iSYS™. Sep-iSYS™ stabilises crude oil received from the reservoir before export to market.

MaMPU-1 increases oil production by recovering unwanted flaring gas through its condensate recovery system (CRS). Combined with Sep-iSYS™, CRS increases output by an additional 50 barrels of oil per one million square cubic feet of flared gas. It is the World's First Low-Pressure Hydrocarbon Dew-Point Control System using Direct Evaporative Cooling. Our clients welcome this solution, which can reduce emissions by an estimated 20%.

Variable Speed Drive

Variable speed drives are installed on our offshore assets to effectively control AC motors by manipulating voltage and frequency. Controlling the speed of a motor improves process control, reduces wear and tear, increases the power factor and delivers considerable energy savings. Variable speed drives reduce energy consumption when operating below the nominal load. Minimising power consumption from non-renewable energy sources also reduces cost.

Flare Gas Recovery System at FPSO Kikeh

We installed a flare gas recovery system (FGRS) on *FPSO Kikeh* that recovers gas that would ordinarily be flared and uses it elsewhere in the facility. Reducing the gas flared prevents the associated GHG emissions from entering the atmosphere. Applying FGRS reduces GHG emissions through a closed-loop flare system. We will continue to propose this solution as a practicable measure for customers to mitigate their GHG emissions.

Combined-Cycle Power System

A combined-cycle power system uses a gas turbine to drive an electrical generator and reuses waste heat from the turbine exhaust to generate steam. This steam is run through a steam turbine to generate supplemental electricity. Typically, a combined-cycle gas turbine system can achieve 50 to 60% electrical efficiency. This maximises emissions reduction as it is more efficient than an open cycle system.

Installing of combined cycle power design on our offshore assets allows us to address customers' increasing requirements for optimising power system efficiency while reducing GHG emissions to the environment.

DIGITALISATION AND INNOVATION

Since 2020, we have been installing digital systems on our vessels with the aim to improve the vessel efficiency and safety. Our digitalisation journey for the entire fleet is on track and will be completed by 2023.

WHAT'S NEW IN OUR DIGITALISED VESSELS?

- E-navigation systems that offer greater accuracy
- Internet-of-Things connectivity for real-time monitoring of shipboard systems
- Internet-of-Services to connect with shore-based services
- Integrated ship control with big data

FINANCIAL PILLAR

ECONOMIC VALUE CREATION:
A RISING TIDE LIFTS ALL BOATS

MISC 2050

We have identified our climate-related risks and opportunities as part of our Task Force on Climate-related Financial Disclosures (TCFD) journey. We understand that the need to halt climate change and increase the voice for a collective global climate action.

In 2021, we undertook an internal exercise to develop our long-term MISC 2050 business strategy that will future proof our business and ensure future financial stability.

Our MISC 2050 framework lays the foundation for us to explore opportunities within the two value chain pillars of Renewable Energy and Waste-to-Value.

Moving forward, our new MISC 2050 business ventures and the growth of our existing business will transform into a new MISC Group business model that will provide MISC with financial sustainability in a circular and net-zero economy by 2050.

 Read more on our MISC 2050 framework in our Integrated Annual Report 2021 Our Strategic Focus section



EMPOWERING THE SOCIETY

Our value creation for the wider community prioritises education and safety in support of our mission ‘to create a positive difference to the lives of communities’.

BUILDING THE NEXT GENERATION OF MARITIME PROFESSIONALS


The Maritime Education and Training Academy (ALAM) is our gateway for creating value for the community and giving back to society.

Our flagship investment in our maritime academy ALAM and our Cadet Sponsorship Programme allow us to meet our community responsibilities by:

- Contributing to the growth of the local and regional maritime industry by providing maritime education opportunities to deserving students; and
- Developing a sustainable pipeline of qualified seafaring industry professionals.

ALAM continued to build long-term and sustainable growth by developing new courses and programmes during a challenging pandemic year. ALAM is the only maritime academy in Malaysia to offer a combined Standards of Training, Certification and Watchkeeping for Seafarers (STCW) courses with the Department of Skills Development certification and the Malaysian Skills Certificate (SKM).

Operating in a male-dominated profession, ALAM has encouraged female cadet recruitment since 2006. Many female cadets trained at ALAM have become successful officers with outstanding careers within the Group and externally. Since 2006, we have sponsored 279 female cadets through the MISC Cadet Sponsorship Programme. Moving forward, we will continue in this endeavour to create education opportunities and careers for female cadets.

 Details of our community investment programme can be read in the Partnering with the Community section

SAFETY ON BOARD

Replacing on-site with remote inspection helps minimise customers’ exposure to COVID-19 while fulfilling operational obligations. Since September 2020, our Port Management & Maritime Services business segment, MMS have been performing remote vessel inspections for the Ship Inspection Report Programme (SIRE) and Offshore Vessel Inspection Database (OVID) based on the Oil Companies International Marine Forum (OCIMF) guidelines. As of December 2021, we completed 48 remote SIRE inspections and 41 remote OVID inspections for our customers’ vessels.

The pandemic also forced us to adjust how we work and deliver services to our customers. MMS provided virtual consultancy during the pandemic, including remote fuel and safety audits, remote Offshore Vessels Management and Self Assessment (OVMSA) and Tanker Management and Self Assessment (TMSA) audits, remote DP assurance, and remote shipyard assessments.



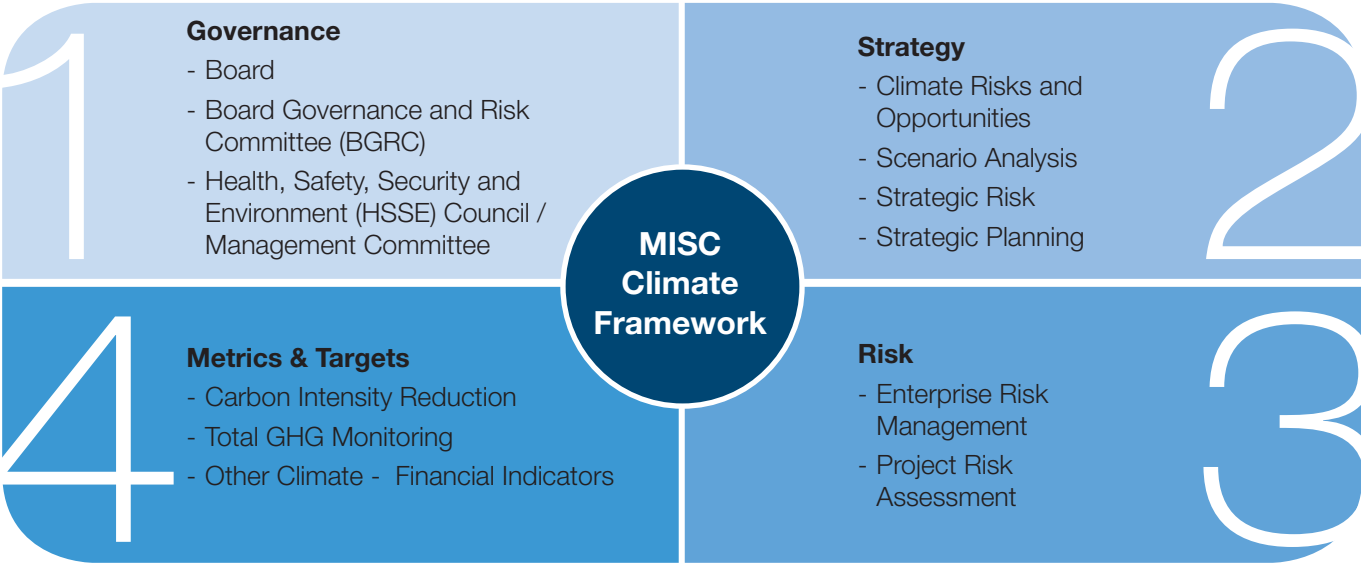
TASKFORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

MISC Group is committed to enhancing its climate disclosures by adopting the Taskforce on Climate-related Financial Disclosures (TCFD) framework. MISC Group became a TCFD Supporter in 2021 and this is our first report following this framework. This report should be read alongside the Our Pathway Towards Decarbonisation section. Decarbonisation strengthens the Group’s primary approach to addressing climate change within the business’s value chain.

The taskforce has developed four widely adoptable recommendations on climate-related financial disclosures that represent core elements of climate management: governance, strategy, risk management, and metrics and targets. Each of the TCFD thematic elements is reflected in the structure of our disclosures in the following pages. This is our inaugural TCFD report and we strive to continuously enhance our climate disclosures in the future reporting years.

In 2021, MISC embarked on a structured TCFD journey to embed climate-related risks and opportunities by:

- Conducting TCFD capacity building across MISC Group;
- Performing a gap analysis of our current processes against the TCFD framework;
- Developing climate scenarios;
- Identifying risks and opportunities specific to our core business namely, Gas Assets & Solutions (GAS), Petroleum & Product Shipping (AET), Offshore Business and Marine & Heavy Engineering (MHB);
- Conducting a TCFD Scenario Analysis workshop to map risks and opportunities against future climate scenarios;
- Enhancing our strategic planning and risk management processes to ensure climate-related risk and opportunities are well considered in annual strategic planning and risk register reviews; and
- Selecting additional climate-related internal monitoring indicators, other than the existing greenhouse gas emissions, that can quantify the financial impacts of climate-related risks and opportunities.



GOVERNANCE

MISC Group signing up as a TCFD supporter demonstrates the Board and management’s commitment to aligning the disclosure of climate-related risks and opportunities with TCFD recommendations. The Board is well informed and makes proactive executive decisions with senior management on strategies that contribute to a net-zero economy while managing climate risks and opportunities.

CLIMATE GOVERNANCE

The BGRC is a standalone board committee overseeing risk management and sustainability including climate-related risks. The BGRC reviews, evaluates, reports and makes appropriate recommendations to the Board on matters including reviewing the adequacy and effectiveness of MISC’s Risk Management Framework and ongoing activities in identifying, evaluating, monitoring and mitigating risks.

The BGRC ensures effective systems and processes are in place to monitor and manage identified risks and determine MISC’s risk tolerance.

The BGRC reviews, evaluates, reports and makes appropriate recommendations to the Board on determining the direction of MISC’s sustainability strategy in alignment with MISC’s business strategy. The BGRC meets quarterly to review and deliberate on governance and risk-related matters, including climate-related issues.

Risk Oversight Structure		
Board level		<div>Risk Oversight Structure Responsible for the overall oversight of MISC Group risk management system and activities</div> <div>BGRC<ul style="list-style-type: none">• Reviews the adequacy and effectiveness of MISC’s Risk Management Framework and on-going activities for identifying, evaluating, monitoring and mitigating risks• Reviews the Group’s risk tolerance level</div>
Management level		<div>RMC Provides a reasonable level of assurance to the BGRC that the Group’s risks are being managed appropriately</div>
Business unit/ Service unit/ Subsidiary	<div>Corporate Planning (CP)<ul style="list-style-type: none">• Reviews and monitors risk reporting quarterly• RMC secreteriat</div>	
		<div>Risk Owners Responsible for implementing risk management processes at respective units</div>

TASKFORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

The Board is supported by multiple levels of working committees, chaired by the President and Group CEO (PGCEO). Members comprise Vice Presidents from each division and the Managing Directors/CEOs of MISC Group of Companies and teams with clear lines of reporting and accountability:

- The Management Committee (MC) is responsible for reviewing and approving the sustainability framework and initiatives for implementation within the company.
- The Risk Management Committee (RMC) is established to review and monitor the Group's risk management practices. Primarily, it is responsible for driving the implementation of the risk management framework and acts as the central platform for the Group. The RMC holds quarterly meetings to review the key risks and ensure that mitigation plans are in place to manage such risks. The adequacy and effectiveness of the controls and the robustness of the mitigation actions are also addressed. These are then further deliberated by the BGRC and also reported to the Board every quarter.
- The Health, Safety, Security and Environment (HSSE) Council serves as a platform to discuss the effective execution of key strategies and associated issues that affect group-wide HSSE key result areas including the carbon reduction performance against set targets and compliance status with current and future emerging regulations.
- The Corporate Sustainability department updates the MC and BGRC on the 'Towards Decarbonisation' Strategic Progress.
- Group HSSE provides updates to BGRC on the GHG performance against set targets each quarter.
- The Corporate Planning division plans to integrate climate-related risk and opportunities into the existing group-wide strategic planning exercise annually to facilitate the conceptualisation and formulation of strategic plans for the Group. During annual strategic planning meetings, the business and climate-related risks and opportunities will be considered before translating into short, medium and long-term business strategies for MISC Board's approval. Subsequently, the identified climate-related risks and mitigation strategies will be refined and cascaded into the Group's risk register. These issues and strategies will be monitored and brought to the RMC and the BGRC on a quarterly basis. Climate-related risks for each investment opportunities will be also assessed under Project Risk Assessments for approval by the Project Risk Assessments Steering Committee (PRASC), BGRC and MISC's Board.

Moving forward, MISC's Board and Management will enhance the climate risk review and include climate-related metrics as part of the remuneration process. In 2021, MISC Board approved the inclusion of climate-related strategic initiatives and annual GHG emission intensity as part of ESG-related key performance indicators (KPI) into the 2022 Group Balance Scorecard. In addition, our MISC 2022 Board KPI have included sustainability risks and opportunities.

STRATEGY

MISC Group has defined its short, medium and long-term time horizon in identifying climate risks and opportunities.



The following sections are aimed to share the climate-related risks and opportunities that has been identified (from our 2021 TCFD workshops) over the short, medium and long term and our resiliency taking into consideration different climate-related scenarios.

SCENARIO ANALYSIS

MISC Group conducted a scenario modelling exercise for identified transition risks and physical risks to its core businesses. We selected two scenarios following the TCFD five principles of plausible, distinctive, consistent, relevant and challenging.

To understand and connect the political, business and social responses to climate change and associated global carbon budgets, emissions pathways and the expected physical climate-related impacts, the climate analysis and scenarios were derived based on the following driving forces:

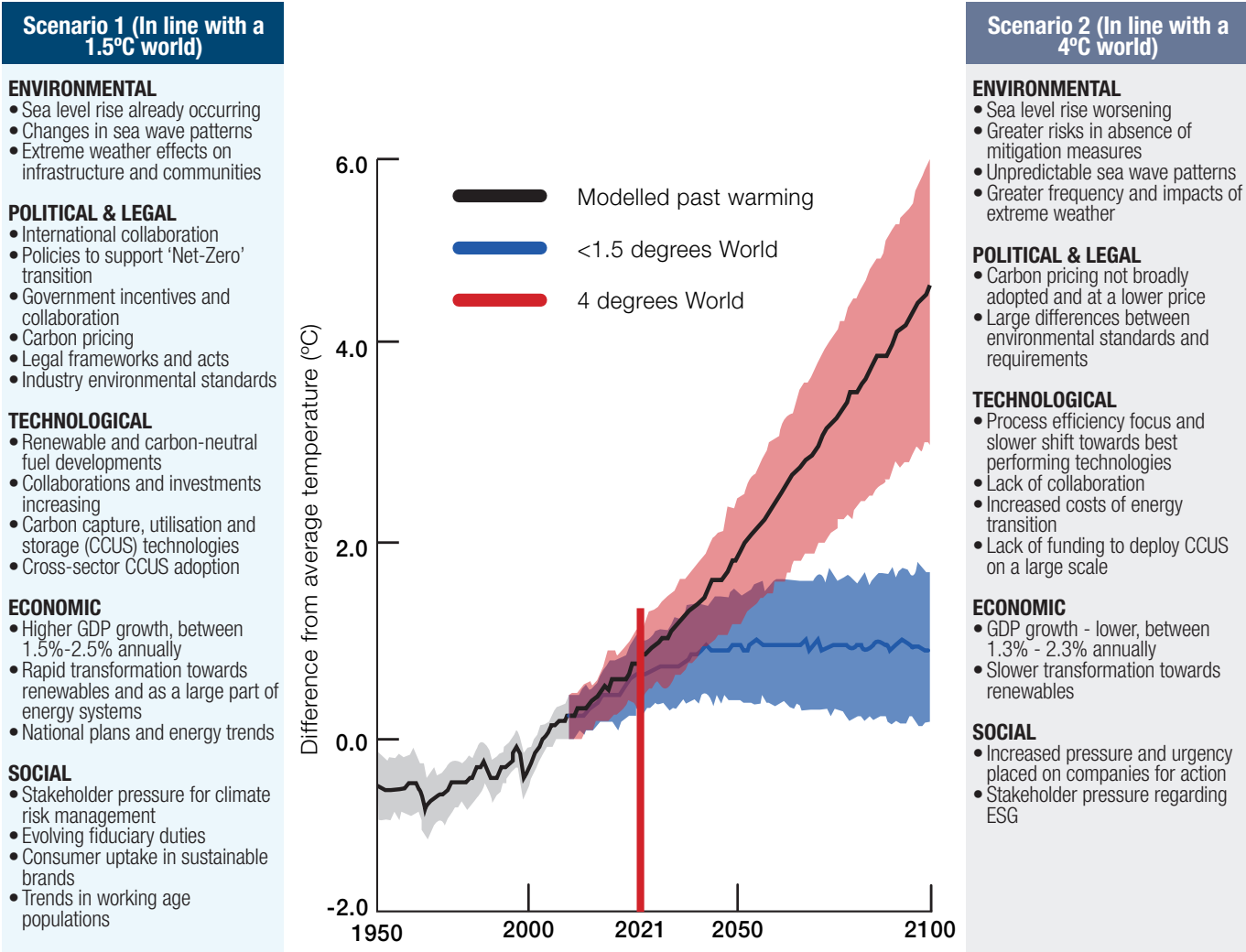
Political and Legal Aspects:	Technology Development:	Economic:	Environmental Impact:	Reputation and Social Aspects:
International climate change policy	Renewable energy and energy-efficient technologies	Economic growth	Sea level rise and changes in sea conditions	Customer pressure to reduce value chain emissions
Industry environment standards	Carbon capture storage and utilisation technologies	Energy market (including renewable energy)	Extreme weather events	Demographics/ global population change towards a more sustainable lifestyle
Carbon price				Talent retention and attraction

Two future climate scenarios in 2050 were considered in the climate-related scenario analysis: **global warming of 1.5 degree Celcius and 4 degree Celcius**

The scenario modelling assumptions were sourced from:

- Intergovernmental Panel on Climate Change (IPCC);
- Representative Concentration Pathways (RCP);
- Shared Socioeconomic Pathways (SSP);
- International Energy Agency (IEA); and
- The International Renewable Energy Agency (IRENA).

TASKFORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES



SCENARIO ANALYSIS RESULTS AND RESILIENCE

MISC conducted four focused scenario workshops for our core businesses, namely GAS, AET, Offshore Business and MHB. These scenario analysis set an important foundation for identifying the overall Group climate-related risks and opportunities. We will conduct scenario workshops for the Group’s remaining business segments in 2022.

The respective businesses heads and functional representatives from the Risk, Procurement, Projects, Sustainability, Group HSSE and Legal departments participated in the workshop. Focus areas discussed during the workshop included:

- How each risk and opportunity could manifest in the core businesses;
- The likelihood of occurrence and impact of each risk and opportunity could occur;
- The climate strategy to be developed or existing decarbonisation pathways to be intensified to mitigate the potential risks; and
- The business opportunities resulting from future scenarios that will benefit existing business revenues and new business ventures for MISC in 2050.

1.5 DEGREES SCENARIO

This scenario correlates and is aligned with the Paris Agreement to keep average global warming to well below 2 degrees Celsius and continue all efforts to limit the rise in temperatures to below 1.5 degrees Celsius. In this scenario, global governments are collaborating on carbon regulations and policies. There is higher gross domestic product (GDP) growth and a significant transition to renewables with continued growth in energy demand. Increased interest and demands are made from various stakeholder groups regarding climate change. Extensive research and development are conducted on alternative energy, renewables, carbon removal and rapid technological improvements on emissions reductions. There is a continued adoption and awareness of changing environmental regulations on carbon pricing and other legal frameworks, supported by climate action across industries.

In this scenario, MISC Group is impacted predominantly by climate-related transition risks. These risks range from increasing environmental/carbon policies and legislation to a faster energy transition to renewables, cleaner and/or non-fossil fuelled energy sources. Potentially, our shipping and offshore business segments would be affected by reduced market demand for petroleum production, storage and transportation. However, the Gas Assets & Solution segment will have short to medium term transitional opportunities from:

- Strong demand and market growth for cleaner sources of energy; and
- Reduced carbon tax for clean fuel such as LNG.

Beyond the medium-term horizon, LNG as a transition fuel may still see growth. Technological improvements to reduce methane slip emissions from LNG are driven by government policies to combat the effects of climate change.

Increased compliance costs will increase existing capital expenditure (CAPEX) and operational costs. Stringent environmental regulations may cause assets to be sold prematurely if they cannot be climate-proofed without considerable investment. However, these decommissioned assets open up other opportunities for repurposing these assets as floating storage for the alternative green fuel market and other circular economy opportunities in the future ocean economy.


Potentially, our Marine & Heavy Engineering segment will have an opportunity for increased revenue through existing business opportunities to:

- Offer modifications, retrofits and conversions to vessels and floaters, so they comply with EEXI, CII and other future potential legislation;
- Provide fabrication services to incorporate carbon capture and storage onto oil and gas offshore assets; and
- Provide fabrication services for renewable energy asset production.

Our shipping business segment; Gas Assets & Solutions and Petroleum & Product Shipping can benefit from increased revenue from new vessels and asset classes that can cater for the market demand to meet growing stringent environmental and low-carbon related legislation. These new business segment and low-carbon services, can allow MISC to enter new markets as an alternative energy transporter such as an alternative fuel transporter or stored renewable energy.

An increased global carbon tax may increase MISC’s cost of operation in the short term. In the longer term, it will also promote investments in the carbon capture & storage (CCS) market and low-carbon or more efficient GHG abatement technologies. Our Shipping and Offshore Business segments will have an opportunity to collaborate with supply chain partners and customers to improve the GHG performance of assets in the medium to long term. We expect that our market reputation will improve as business partners recognise us as a low-carbon solution provider contributing to net-zero and the circular economy. Seizing opportunities to take leadership positions in the market will increase competitiveness and opportunities for new contracts. These opportunities may increase revenue and help attract and retain talents within the organisation.

In this scenario, collaboration across the value chain and the advancement of technology to build zero-carbon emission vessels with high energy efficiency and optimised resource utilisation will enable increased cost-sharing for retrofitting and investment plans. Sustainable annual cost savings from lower energy consumption may also compensate for higher research and development and CAPEX allocation.

 For more details, please refer to our Climate Strategy section in this TCFD section

TASKFORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

4 DEGREES SCENARIO

Global climate action institutions are fragmented with most countries not supporting the transition to net-zero. Increased competition for scarce resources drives inequality and lower growth for renewables. There is lack of concerted action and hence technological progress towards effective solution is delayed. New technologies to reduce GHG and slow down the effects of climate change are adopted at a slower pace. There is also lack of information surrounding future risks with carbon prices increasing less rapidly and unclear legal frameworks. Sea level rise worsens with unpredictable sea wave patterns and greater frequency of extreme weather.

In this scenario, increased maintenance costs and CAPEX can be expected. Vessels and offshore assets require more frequent maintenance to withstand increasing intense extreme weather. Our shipping segments may experience reduced revenue due to delays and disruptions to operations and reparations. Decreased transportation routes or sudden route changes due to extreme weather events may further increase operating costs. There could also be increased exposure to liability from personnel injuries and asset damage caused by increasing storm surges, changes in precipitation, and greater intensity and frequency of typhoon/cyclone events. Additional CAPEX may be required to reinforce the building sites and fabrication yard infrastructure of our Marine & Heavy Engineering segment. Weatherproofing and protecting this infrastructure from floods will help them withstand strong waves from rising sea levels.

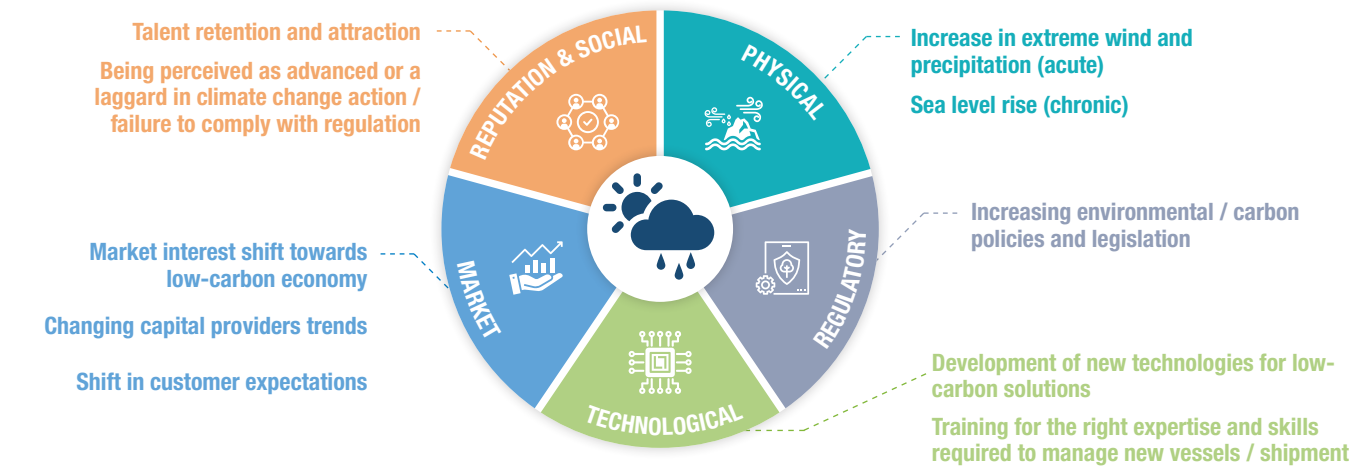
However, we believe this scenario will result in the rapid development of better ship designs that can withstand extreme climates. Our Marine & Heavy Engineering segment could offer modifications, retrofits or conversions on vessels and offshore structures to deal with or withstand extreme weather more effectively.

As the energy transition to alternative or renewable energy will be much slower, the oil and gas industry will grow and our Offshore Business and Petroleum & Product Shipping segments will see better growth opportunities.

CLIMATE-RELATED RISKS AND OPPORTUNITIES

During our 2021 TCFD workshops, we identified several climate-related risks and opportunities, which are potentially financially material. These climate-related risks and opportunities were mapped across MISC's value chain including upstream suppliers and downstream customers. MISC acknowledges that its operations are directly affected by the physical and transitional risks created by climate change. More thorough analysis will be conducted to project monetary values and time horizons for climate change risks. This analysis will be completed in the near future.

Overview of MISC Group Climate-related Risks and Opportunities



Risk Type	Potential Risks & Opportunities	Impact to the Group	Opportunities for the Group
Physical	Increase in extreme wind and precipitation (acute)	Increased asset maintenance cost and CAPEX to withstand the increasing intensity of extreme weather <ul style="list-style-type: none">Disruption to operationsIncreased risk of personnel and asset damage incidents	<ul style="list-style-type: none">Increased revenue from repair and refurbishment/maintenance services (Marine & Heavy Engineering segment)Increased collaboration across the supply chain or research and development on ship design initiatives to better withstand extreme weather events and climate-related risks
	Sea level rise (chronic)	Increased cost from delays/disruptions in operations and decreased availability of transportation routes (e.g. flooding, port closures)	
Transitional	Regulatory <ul style="list-style-type: none">Increasing environmental/ carbon policies and legislation	<ul style="list-style-type: none">Higher capital and operational costs associated with implementing compliance measuresIncreased cost of borrowing and a reduction in capital availabilityIncreased risk of decreased asset value and stranded assets	<ul style="list-style-type: none">Short to medium-term increased demand and market for cleaner sources of energy such as LNG (Gas Assets & Solution and Offshore Business segments) resulting in increased demand for low-carbon LNG carriers / tankersMedium to long term increased revenue from new vessel/asset class and new opportunities to transport alternative fuels or other sustainable energy sources (Gas Assets & Solution and Petroleum & Product Shipping segments)Increased revenue from repair and refurbishment/maintenance services (Marine & Heavy Engineering segment)
	Technological <ul style="list-style-type: none">Development of new technologies for low-carbon solutionsTraining for the right expertise and skills required to manage new vessels / shipment	<ul style="list-style-type: none">Higher investment cost in research and development offering products and technologies aimed at generating renewable energy or substantially reducing carbon emissionsRisk of new technology or technological uncertainty: technologies may not perform as expected nor provide solutions to meet emerging regulationsIncreased costs of reskilling the existing workforce/ acquiring new talents to meet new technologies skillsets requirements	<ul style="list-style-type: none">Increased annual savings in terms of reduced energy consumption costs from the use of more energy-efficient technologiesIncreased revenue from refurbishing vessels in the areas of retrofitting carbon capture and low-carbon technology (Marine & Heavy Engineering segment)Increased funding/incentives from financial providers for first movers to develop and take up new technologies
	Market <ul style="list-style-type: none">Shift in customer expectationsChanging expectations of capital providersMarket interest shift towards a low-carbon economy	<ul style="list-style-type: none">Reduced demand for assets due to transitioning to renewable energy	<ul style="list-style-type: none">Medium to long term increased revenue from new vessel/asset class and new opportunities to transport alternative fuels or other sustainable energy sources (Gas Assets & Solution and Petroleum & Product Shipping segments)Increased revenue from new business opportunities that contribute to a circular and net-zero economy
	Reputation & Social <ul style="list-style-type: none">Stakeholder pressure to reduce value-chain emissionsTalent retention and attraction	<ul style="list-style-type: none">Reputation impact associated with climate risks	<ul style="list-style-type: none">Taking a stewardship position and driving advancements in decarbonisation technology will attract and retain talents

TASKFORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

PHYSICAL RISKS (ACUTE)

Acute physical risks, such as hurricanes and typhoons, can potentially impact MISC’s business and operations as well as the safety of personnel, assets and cargo. Any interruptions in the value chain could result in a material adverse effect on our financial and operational results and our reputation in the marketplace.

MISC works continuously to improve the specifications of its newbuild vessels to address acute physical risks. In addition, stringent safety controls are applied to vessel navigation. A comprehensive set of procedures have been introduced that cover passage planning, vessel management in bad weather, navigational equipment maintenance, resources management and contingency plans for various vessel emergencies.

A Group Crisis Management Plan (GCMP) is in place to govern crises at the corporate level. Under the GCMP, the Group Crisis Management Team (GCMT) is responsible for:

- Identifying, evaluating and proactively addressing crises; and
- Providing appropriate recommendations for managing strategic issues of concern affecting people, the people, the environment, assets and reputation.

All operational-level emergency plans have clear linkages to the GCMP. These plans are integrated into our business continuity management and disaster recovery planning to mitigate risk.

PHYSICAL RISKS (CHRONIC)

While MISC has been monitoring chronic physical risk on a continuous basis, starting 2022, these risks will be included as part of our risk register to facilitate management decisions. Chronic physical risks, including increasing mean temperatures and rising sea levels, may have impacts on our shipping operations, offshore floating facilities, marine repairs and heavy engineering yards. We understand that the conditions and severity of these risks may change over time. MISC continues to monitor these risk indicators/ signposts and develop specific measures as part of its strategy to ensure the resilience of the business.

LEGAL AND REGULATORY RISKS

Regulatory and compliance risks associated with current or emerging regulations have always been included in MISC’s climate-related risk assessments. The compliance requirements and costs associated with relevant regulations in the countries in which we operate are considered as part of our compliance programmes and processes to ensure compliance with the requirements.

We proactively keep abreast with maritime legislation and the unilateral decisions of maritime nations. MISC is guided by the IMO regulations, guidelines and strategy in addressing GHG emissions from international shipping.

IMO’s Marine Environment Protection Committee (MEPC) has adopted an initial strategy to reduce GHG emissions from ships. The MEPC aims to reduce total annual GHG emissions by at least 50% by 2050 compared to 2008 while pursuing efforts to phase them out entirely.

The Energy Efficiency Design Index (EEDI) has been driving technical efficiency improvements in new ships since 2013. Incrementally tightened every five years, the EEDI is expected to stimulate continued innovation and the technical development of all the components influencing the energy efficiency of a ship from its design phase. Its role will continue for the foreseeable future as it is explicitly identified in the levels of ambition of the Initial IMO Strategy for Reduction of GHG Emissions from Ships (Initial IMO Strategy). Amendments have already been adopted to tighten the EEDI requirements, with the Phase 3 EEDI requirements being brought forward to 2022 from an initial enforcement date in 2025. Emerging climate related regulations include:

- The Energy Efficiency Existing Ships Index (EEXI), which comes into force on 1 January 2023, adopted by IMO, requires existing ships to improve their technical efficiency to a required energy efficiency standard. Vessels that do not meet the minimum design efficiency standard will require technical modifications to achieve compliance.
- The carbon intensity indicator (CII) scheme is IMO’s new requirement to be enforced commencing January 2023, which will rank ships on a scale of A (best) to E (worst) based on the ship’s operational CO₂ intensity. Vessels rated D for three consecutive years or Rating E will be required to carry out corrective action plans to reduce their CO₂ intensity to achieve Rating C. The plan must be documented in the Ship’s Energy Efficiency Management Plan (SEEMP).
- New and innovative emission reduction mechanisms are being considered, possibly including market-based measures (MBMs), to incentivise GHG emissions reductions.

MISC continually monitors any new or emerging regulatory developments as part of its risk assessment process via the following activities:

- Annual sharing sessions by industry experts and analysts to share insights on market outlook including any new or emerging regulatory developments.
- Participation in maritime industry forums to exchange ideas and keep abreast of developments in the climate-related legislations.
- Engagement with various stakeholders including but not limited to regulatory bodies, classification societies, flag states, marine departments of the various countries and customers.

TECHNOLOGY RISKS

We have been improving the technological design of our vessels to improve energy efficiency and meet the expectations of our stakeholders. Initiatives undertaken for our newbuilds and retrofitting existing vessels with green technologies include energy efficiency measures and an emissions reduction system. For example, we have introduced an LNG dual-fuel system into our newer petroleum and LNG vessels.

As members of the Getting to Zero Coalition, we share its ambition of getting commercially-viable deep-sea zero-carbon emission vessels powered by zero-emission fuels into operation by 2030. MISC has partnered with several industry players on The Castor Initiative. This joint development project is aimed at developing commercially viable ammonia-fuelled tankers to support a decarbonised future for the shipping industry. The Castor Initiative is motivated by partners’ shared belief that the maritime industry requires leadership and greater collaboration if shipping is to achieve the IMO’s GHG ambitions. Ammonia is being considered as fuel by maritime stakeholders. However, partners also recognise that the shipping industry must explore multiple decarbonisation pathways. This collaboration aims to enhance the multi-party collaboration; and the involvement of different parts of value chain in the collaboration (i.e. involving engine maker, port, fuel supplier, shipyard, classification and MISC as the shipowner).

MARKET RISKS

MISC’s climate-related risk assessments include market risks such as changing stakeholders preferences for low-carbon and environmentally-friendly solutions. MISC monitors market and industry trends on continuous basis to futureproof our business. The Castor Initiative aimed to develop zero-carbon emission vessels (ZEV) and address the shift towards low-carbon and environmentally-friendly solutions. MISC expects to progressively change its fleet to ZEV from 2031 as part of its Net-Zero GHG Emissions commitment by 2050.

 *Read more on the Our Pathways Towards Decarbonisation section*

In addressing the market risks on the potential market resizing of oil and gas business opportunities towards renewable energy typed opportunities, our MISC 2050 framework was developed to enable us to explore and develop low-carbon services as new income streams that will support both the circular and net-zero economy in the years leading to 2050.

 *Read more on our MISC 2050 Strategy in our Integrated Annual Report 2021*

REPUTATION AND SOCIAL RISKS

Reputational risks, including those related to climate challenges, are always included in MISC’s risk assessments. MISC operates in maritime and energy industries, both of which are highly scrutinised by the stakeholders in terms of transparency on their environmental stewardship efforts.

MISC introduced several measures and initiatives to address reputational risks including:

- Setting GHG emissions intensity reduction goals;
- Committing to Net-Zero GHG emissions by 2050; and
- Communicating sustainability efforts and achievements to internal and external stakeholders.

MISC has a shared responsibility to demonstrate its commitment to driving positive industry change through its:

- Role as a strategic partner of the Global Maritime Forum; and
- Most recent 2021 Call for Action.

Our progress in addressing climate-related challenges will enhance our reputation, increase trust and strengthen our position as a leading global industry player.

TASKFORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

At MISC, we believe that advancement in green technology will require new skill sets of talent. There is a need for better trained resources which may increase the operational expenditure. Nevertheless, we believe in investing in our people and as MISC moves forward with its climate strategy, the ability to attract new talents is critical. In addition, there is an increased opportunity for our Maritime Education & Training segment, ALAM to provide niche and structured training opportunities as required in managing new vessel classes.

CLIMATE STRATEGY

- At MISC, we believe that climate action must be taken to realise the 1.5 degrees scenario. MISC Group’s climate strategy responds to the risks and opportunities posed by climate change in two parts:
- A transition plan for short and medium-term risks; and
 - A longer-range climate strategy to mitigate our long-term financial impacts and position ourselves competitively in the net-zero economy.
- Transition Plan (Short – Medium Term)**
- As shipping operations constitute 98% of MISC’s GHG emissions, we have set a target to reduce 50% of our shipping fleet’s GHG intensity by 2030, compared with the base year of 2008. Read about our rationale and details of our short-medium term GHG reduction plans in the Our Pathway Towards Decarbonisation section.
 - Each business segment has a decarbonisation agenda to contribute to MISC Group’s Net-Zero commitment by integrating climate factors across MISC’s business strategy and financial planning (including usage of internal carbon pricing) and deploying low-carbon technologies for our newbuilds.
 - Progressive fleet renewal to LNG dual-fuel vessels with low methane slip engines and add on methane and nitrous oxide scrubbing technologies.
 - Increase use of renewable energy where possible.
 - Explore and invest in R&D on zero-carbon emission vessels. Read more about The Castor Initiative where we are collaborating with strategic value-chain partners to develop ammonia-fuelled vessels for deep-sea transportation.
 - Explore and build strategic partnerships with key technology providers of carbon removal technologies for assets both in the shipping and offshore business segments.
 - Explore new business along the value chain of Renewable Energy and Waste-to-Value, leveraging our floating ocean asset business knowledge.
 - Continuously improve the technical and operational efficiency of existing ships.

Our Long-Term Plan

As part of our long-term plans to stay resilient to climate change, MISC’s existing business model would continue to evolve in the following two dimensions:

- 1

Decarbonisation of Our Existing Operations

Decarbonisation of our operations to meet the growing demands of the market for the sustained growth of our existing portfolio (see Net-Zero GHG Emissions Commitment section).
- 2

Exploring New Income Stream

In parallel we will be exploring new income streams that can support the value chains of Renewable Energy and Waste-to-Value pillars (see MISC 2050 section).

Net-Zero GHG Emissions Commitment

- MISC Group is committed to Net-Zero GHG emissions by 2050. This commitment covers our own operations and those impacted across our value chain. Our climate strategy to achieve net-zero GHG emissions includes:
- Progressively converting our fleet and ensuring all new-builds are zero-carbon emission vessels from 2031 or sooner if possible
 - Retrofitting carbon removal technologies on recent (vessels with remaining lifespan of 15 years) low methane slip, LNG dual-fuel vessels
 - Increasing the use of renewable energy on our vessels, offshore assets and land operations
 - Continuously deploying digital energy-efficient technologies and increasing operational efficiencies
- Read about our rationale and details of our 2050 Net Zero GHG abatement pathways in the Net-Zero GHG abatement pathways in the Our Pathway Towards Decarbonisation section

MISC 2050

Leading to 2050, the world will focus on energy transition and circular economy to mitigate climate change impacts. We believe that energy transition will assist to reduce world’s climate change issues. However, much of climate change issue should be addressed by how we extract, produce, distribute and use resources and manage the waste output, thus giving rise to a circular economy.

With the threat of diminishing land, water scarcity and increasing sea level due to climate change, we are seeing strong signs of renewable energy firmly expanding into the ocean (ie. ocean wind farms and wave technologies).

MISC 2050 is our long-range business strategy that will enable MISC to explore and innovate and be part of the supporting value chain of these two pillars of growth:

- Renewable Energy
- Waste-to-Value

We believe we are the connectors to bridge the land-based economy with the emerging ocean economy. Our Marine & Heavy Engineering segment is well positioned to construct sea-worthy assets that can support the ocean economy. Our offshore and shipping business segments have vast experience on operating and leasing large-scale assets that float on the seas. Our existing marine-related business engineering and operating expertise will be our fundamental strengths as we explore possibilities in the emerging ocean economy.

As our business evolves to be part of the renewable energy value chain, we see synergy to explore waste-to-value opportunities. In the context of climate change, we believe we can explore the opportunities to convert renewable waste materials or opportunities to convert captured carbon into useful resources that will fuel the circular economy.

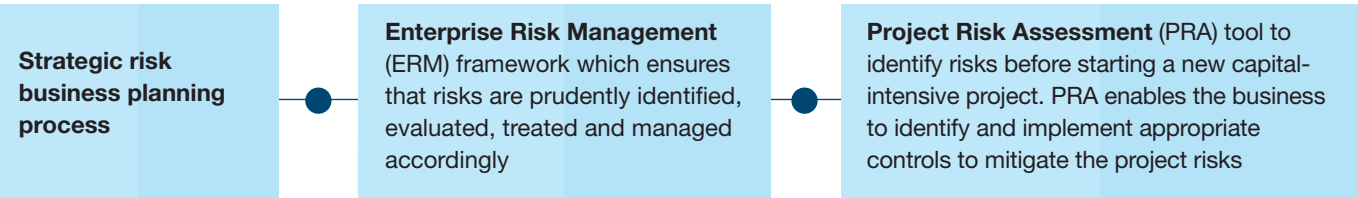
Moving into 2022, our fundamental objective is to identify new business opportunities within the two value chain pillars (Renewable Energy and Waste-to-Value) that will allow us to build new businesses and asset portfolios to be added to our present business portfolio mix. Together, both the growth of our existing business portfolios and the new MISC 2050 business ventures will transform into a new MISC Group business model that will provide financial sustainability for MISC in a circular and net-zero economy come 2050.

Read more on our MISC 2050 Strategy in our Integrated Annual Report 2021

TASKFORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

RISK MANAGEMENT

MISC Group evaluates climate risk as part of its:



STRATEGIC RISK

Beginning 2022, our external environment analysis for our annual strategic and business planning exercise will be considering the impact of climate-related scenarios on our business outlook. Material risks and opportunities will be translated into strategic priorities as part of our five-year rolling business plan.

ENTERPRISE RISK MANAGEMENT

Enterprise Risk Management (ERM) provides a guide for systematically identifying, assessing, evaluating, treating, reporting and monitoring risks. It aims to reduce the likelihood and impact of identified risks that may affect the achievement of business objectives.

Risk management activities are undertaken at the Group and business unit/subsidiary levels. Risk reports are reviewed and monitored by Corporate Planning division periodically before being escalated to the Risk Management Committee and deliberation by the BGRC.

As part of MISC’s ERM process, the business units, service units and subsidiaries are required to perform an annual review of their risk profiles, with emphasis on linking risks to MISC’s business objectives.

Climate-related risks and opportunities will also be considered in Project Risk Assessments beginning 2022.

MISC prioritises risks and opportunities, including those related to climate challenges, by evaluating them based on both quantitative and qualitative criteria. We also assess the severity of the potential impacts of the risk and the scale of the opportunities. MISC adopts the PETRONAS Resiliency Model (PRM), which provides an integrated view for managing risks. It is also guided by international best practice as per ISO 31000 and the Malaysian Code of Corporate Governance (MCCG) 2021.

On an operational level, risk registers will be developed and maintained from 2022 to include climate-related risks, to assess the impact and identify mitigation plans, where possible.

MISC Group’s GHG emissions performance, including the evaluation of carbon reduction targets set at the strategic level, is presented to the MISC HSSE Council, which includes members of the RMC, on a quarterly basis.

Moving forward, MISC will enhance climate-related risks and opportunities in the existing risk register review process.

METRICS AND TARGETS

MISC Group has been reporting its climate-related performance since 2016 in its Sustainability and Integrated Annual Reports.

In 2016, MISC Group set carbon intensity targets for 2016 to 2020 for the gas, petroleum and product fleet. In 2020, the targets were met with all three vessel segments achieving CO₂ intensity targets of 9.82, 3.33 and 9.59 gCO₂/ton-nm for the gas, petroleum and product fleets, respectively. The reduction was attributed to:

- The addition of new-build vessels with improved carbon efficiency; and
- Overall energy-efficiency improvements of the existing fleet through technical and operational measures.

An overall 12% reduction in MISC Group’s total greenhouse gas (GHG) emissions was recorded in 2020 compared to 2016, despite transport work increasing by 1% within the same period.

As MISC progressed with the current five-year Sustainability Strategy, setting short, medium and long-term carbon emission targets was one of the key activities in 2021. These targets formed part of the Towards Decarbonisation strategic priority in the Environment Pillar of the 2021-2025 MISC Group Sustainability Strategy.

GREENHOUSE GAS METRICS AND TARGETS

MISC has set the following GHG targets and commitments:


Carbon Intensity Targets for Shipping Operations:

Scope (Boundary)	<ul style="list-style-type: none">• Gas and Petroleum shipping; and• Vessels owned or leased where MISC has the full authority to introduce its operational and HSE policies and are subjected to the GHG requirements of MARPOL Annex VI	
Base Year	2008	
Target Type	CO ₂ e intensity	
Measurement Metric	AER ^{CO₂e} (gCO ₂ e/t-nm)	
Commitment Period	2030 (commitment period)	
Target Level (reduction from base year)	Fleet	AER ^{CO₂e}
	MISC Group	50%
	All Greenhouse gases (GHG); <ul style="list-style-type: none">• Carbon Dioxide (CO₂)• Methane (CH₄)• Nitrous Oxide (N₂O)	

TASKFORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

MISC Group commits to Net-Zero Greenhouse Gas emissions by 2050

Scope (Boundary)	All Greenhouse gases (GHG); <ul style="list-style-type: none">Carbon Dioxide (CO₂)Methane (CH₄)Nitrous Oxide (N₂O)	MISC Group of Companies' Value Chain: <ul style="list-style-type: none">MISC operations (Scope 1 & 2)Material upstream and downstream operations to MISC (Scope 3)
Measurement Metric	Total GHG in CO ₂ e	
Commitment Period	By 2050	

 Please refer to the Our Pathway Towards Decarbonisation Section for our GHG projections and rationale on setting these targets


Our GHG emissions monitoring and reporting is guided by the following key standards and references:

- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (Revised Edition), Third IMO GHG Study 2014
- The American Petroleum Institute (API) Compendium of GHG Methodologies for the Oil and Gas Industry

In 2021, the Group’s organisational boundary for GHG reporting was expanded from just operational control to include all assets owned or leased that are used by MISC to gain economic benefits. However, the following assets and operations are excluded from our Scopes 1 and 2 inventory but included under our Scope 3 GHG inventory for MISC if material:

- Downstream leased assets, i.e. offshore assets and shipping vessels owned by MISC but leased out to other parties;
- Assets where MISC has minority equity ownership and no control;
- Upstream leased assets where MISC has no control, such as in-chartered vessels where MISC is only the commercial operator and is neither the vessel owner nor has technical control; and
- Short-term leases with a lease term of 6 months or less.

MISC Group also initiated the calculation of Scope 3 emissions in 2021 and expected to be completed in 2022.

 Our climate-related performance indicators are as shown in Performance Data section

FUTURE ACTIVITIES

The Group plans to strengthen the management of climate-related risks in response to the TCFD recommendations. Evaluating climate-related risks quantitatively, when conducting scenario analysis, will allow us to measure the financial impacts of both the physical and transitional risks and opportunities more precisely. We will be expanding the scope of our TCFD initiatives to include key enablers business segments in 2022.

Moving forward, MISC will enhance climate-related risk integration measures into the existing risk management process. Integrating a formalised climate scenario analysis process into strategic business risks will provide a holistic approach to risk management and the comprehensive identification of climate-related risks and opportunities.

In 2022, MISC will be exploring the adoption of internal carbon pricing in our decision-making processs as well as collate financial climate-related indicators that can better quantify our risks and opportunities.

We will also actively promote low-carbon asset solutions to our customers. The Group will engage with customers, suppliers and other stakeholders throughout the value chain to strive for a mutual understanding of our approach to addressing climate change.

We will continue to make further enhancements to provide consistent and transparent annual disclosures to our stakeholders, in line with the TCFD recommendations.



ENVIRONMENT PILLAR
OUR PATHWAY
TOWARDS DECARBONISATION



ENVIRONMENT
TOWARDS DECARBONISATION

OUR COMMITMENT

- Transition to low-carbon operations
- Deploy zero-carbon emission vessel by 2030
- Decarbonised shipping operations by 2050
- Net-Zero GHG emission by 2050

OUR INITIATIVES

SHIPPING OPERATIONS
Short term (2021-2025) - Medium Term (2021 - 2030)

- Continuous improvement in energy efficiency design and operation
- Progressive fleet renewal to low-carbon fuel
- Collaboration with strategic partners on developing zero-carbon emission vessels

Long Term (2031 - 2050)

- Progressive fleet renewal to zero-carbon emission vessels
- Nature-based carbon removal

NON-SHIPPING OPERATIONS

- Improve energy efficiency in operations
- Increase usage of renewable energy mix

OUR CONTRIBUTION TO UNSDG

13 CLIMATE ACTION

Design and operate assets that can combat or reduce effects of climate change

9 INDUSTRY INNOVATION AND INFRASTRUCTURE

Design or retrofit sustainable assets which optimise resource-use efficiency with greater adoption of clean and environmentally-sound technologies

All United Nations Framework Convention on Climate Change (UNFCCC) members adopted the historic Paris Agreement by consensus in December 2015.

One hundred and ninety-seven countries agreed to gradually reduce the use of fossil fuels and greenhouse gases emissions to reach net carbon neutrality by 2050 and keep global warming below 2°C by 2100.

Unfortunately, the Climate Action Tracker released in May 2021 reveals that current global pledges are insufficient, and the 2°C target could be unattainable. Deep decarbonisation is our only chance to maintain global warming within acceptable levels.

Turning Uncertainty into Confidence

As world trade and shipping volumes continue to grow, efficiency improvements on the current fossil-based technology can only maintain shipping emissions at current levels but not reduce them.

We turn this dilemma into an opportunity to decouple business growth from our carbon emission levels through efficiency measures. Accelerating these efforts helps us move to new zero-carbon fuels and encourage supply chains to equally lower their carbon emissions.

New sea vessels for use in 2050 must be developed now, given a vessel's 20-25-year lifespan. The following five to 10 years are crucial. We will invest heavily in innovation and fleet technology to improve the technical and financial viability of decarbonised solutions.

We cannot do this alone; research and development is critical for meeting this ambitious target. We will work closely with our stakeholders, including researchers, technology developers, business partners, cargo owners and regulators, to achieve sustainable solutions that benefit the maritime industry.

Keeping Our Vessel Fit

International shipping is a critical component of global trade and the economy. However, it produces approximately 2.9% of global man-made CO₂ emissions, according to an International Maritime Organisation (IMO) report in 2020. In 2018, IMO established its ambitions to reduce GHG emissions from international shipping in its initial greenhouse gas (GHG) strategy.

IMO Targets



A study by Lloyd's Register estimates this 50% reduction in absolute emissions equates to an 85% real-world reduction in operational CO₂ intensity. Ships will need to reduce their CO₂ output by 85% per tonne nautical mile, considering the increasing numbers of vessels and future activity.

50% reduction in absolute emissions = 85% reduction in operational CO₂ intensity

Source: Lloyd's Register/UMAS study: 'Zero-emission vessels: Transition pathways, 2020'

ENVIRONMENT PILLAR


OUR PATHWAY TOWARDS DECARBONISATION

Zero-carbon emission vessels (ZEV), capable of deep-sea, trans-ocean travel, must be operating by 2030 to achieve the IMO’s targets. We have risen to the challenge by committing to decarbonise and decrease our carbon emissions.

Towards Decarbonisation as a Main Strategic Priority



Our shipping operations seek continuous energy-efficiency improvements in the design, operations and management of our vessels as we progressively renew our fleet to accommodate low-carbon fuel. Collaborating with strategic partners in developing ammonia-fuelled zero-carbon emission vessels will help us meet our ‘Getting to Zero 2030’ aspiration.

 Read more on The Castor Initiative section

THE CLIMATE CRISIS: A RACE WE CAN WIN IF WE ACT NOW

Human activity has already caused the world to warm since pre-industrial times. According to the Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report on the physical science basis of climate change:

The current global average temperature rise of 1.1°C has led to more extreme weather, rising sea levels and diminishing glaciers.

The world is likely to exceed 1.5°C between 2030 and 2035 based on current trends.

There is a significant difference between 1.5°C and 2°C according to climate science: extreme heat would be 2.6 times worse; sea-ice melting 38% worse and a 0.06 metre further rise in sea level, which will result in a 2.3 times reduction in crop yields and twice the decline in marine fisheries.

Limiting global warming to 1.5°C requires unprecedented, rapid and far-reaching transitions in maritime, energy industries and other sectors. Carbon dioxide emissions would need to fall by 45% globally from 2010 levels by 2030, reaching net-zero around 2050.

We are acutely aware of these carbon emission impacts and have joined other global companies committing to Net-Zero GHG emissions by 2050.

CALL TO ACTION FOR SHIPPING DECARBONISATION

Shipping must align with the Paris Agreement temperature goal and be fuelled entirely by zero-carbon energy sources by 2050. Urgent and equitable decarbonisation of the maritime supply chain by 2050 is possible. Zero-carbon emission vessels and fuels must also be the default choice by 2030.

MISC is a founding member and a strategic partner of the Global Maritime Forum (GMF) and sits on its Advisory Council. The GMF is an international not-for-profit organisation committed to shaping the future of global seaborne trade to increase sustainable long-term economic development and human wellbeing. We play an active role in shaping future maritime trade through collaborations to reduce harmful GHG.

In 2021, we renewed our pledge for “The Call to Action”, developed by a multi-stakeholder taskforce, convened by the Getting to Zero Coalition, with members from the entire maritime ecosystem. As a signatory, we are committed to achieving zero-carbon emission shipping by 2050 and deploying commercially-viable zero-emission vessels by 2030.

MISC GROUP GHG INVENTORY REVIEW

We conducted a thorough review of our GHG Inventory in 2021 as follows:

 GHG BOUNDARIES

ORGANISATIONAL BOUNDARIES

Our previous GHG organisational boundary from 2016 to 2020 adopted the operational approach which covered all assets and operations where we have the authority to introduce and implement our operational and health, safety and environmental (HSE) policies.

To better reflect our sphere of influence on GHG reduction, the Group’s GHG organisational boundary was revised in 2021 to adopt the GHG Protocol Corporate Standard’s financial control approach. In accordance with the Group’s revised GHG organisational boundary definition, MISC Group’s GHG inventory (Scope 1 and 2) include emissions from all assets owned or leased that are used by MISC to gain economic benefits. This adopted approach excludes emissions from the following assets/facilities, but these will be included in our Scope 3 GHG inventory (where material):

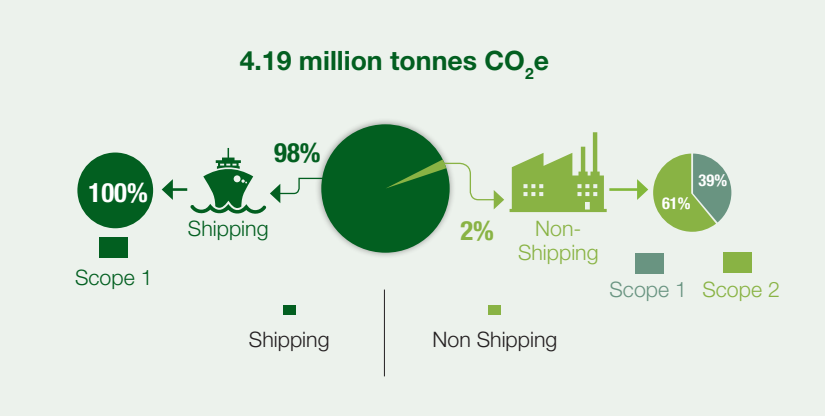
- Downstream leased assets which are owned by MISC but leased out to other parties
- Assets where MISC has minority equity ownership and no control
- Upstream leased assets where MISC has no control
- Short term leases with a lease term of six months or less

 For more details on our accounting principles, please refer to our Data Principle and Assumption section

OPERATIONAL BOUNDARIES

All direct GHG emissions emitted from assets and operations falling under MISC’s GHG organisational boundary are accounted as our Scope 1 GHG, while electricity purchased for use on these assets are accounted as Scope 2. Scope 1 GHG emissions from shipping operations accounted for 98% of the MISC Group total GHG emissions in 2021.

Overview of MISC Group FY2021 GHG Emissions (Scope 1 and 2)



Reason for updating our GHG organisational and operational boundaries?


We must take responsibility for emissions from our entire value chain to effectively reduce the effects of climate change.

Our expanded scope will project our emissions more accurately and set strategic business planning decisions for us to achieve Net-Zero GHG emissions by 2050.

In 2021, we began including Scope 3 in our GHG accounting. We completed the GHG inventory for the following assets:

- Downstream leased offshore assets such as our FSOs and FPSOs which are owned by MISC but leased out to our customers.
- Vessels which are jointly owned by MISC and other parties, where MISC is the minority equity owner and does not have control.
- In-chartered vessels where MISC is the commercial operator only (neither the vessel owner nor have technical control).

We expect to complete the estimation of our remaining material Scope 3 categories in 2022.

 Please refer to our Performance Data section for our available material Scope 3

ENVIRONMENT PILLAR

OUR PATHWAY TOWARDS DECARBONISATION

CARBON INTENSITY MEASUREMENT METRICS

We revised our carbon measurement unit to Annual Efficiency Ratio (AER) to align with IMO’s upcoming mandatory scheme on operational CO₂ reduction known as Carbon Intensity Indicator (CII). AER measures a vessel’s total CO₂ per transport work (unit: gCO₂/t-nm). Transport work is calculated by multiplying the vessel’s deadweight with the distance travelled.

The GHG intensity of our vessels is also measured and referred to as AER^{CO₂e}. In this measurement, three relevant greenhouse gases for MISC i.e. carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) emissions are measured using a common unit called CO₂ equivalent (CO₂e). For our very large ethane carriers (VLEC) which consumes ethane as fuel, GHG from ethane (C₂H₆) is also included in the CO₂e calculation. In the AER^{CO₂e} measurement, the same transport work measurement as AER is used. Currently, IMO does not mandate GHG measurement other than CO₂.

BASE YEAR

In 2021, we revised our base year to 2008 to align with the IMO 2030 and 2050 GHG aspirations.



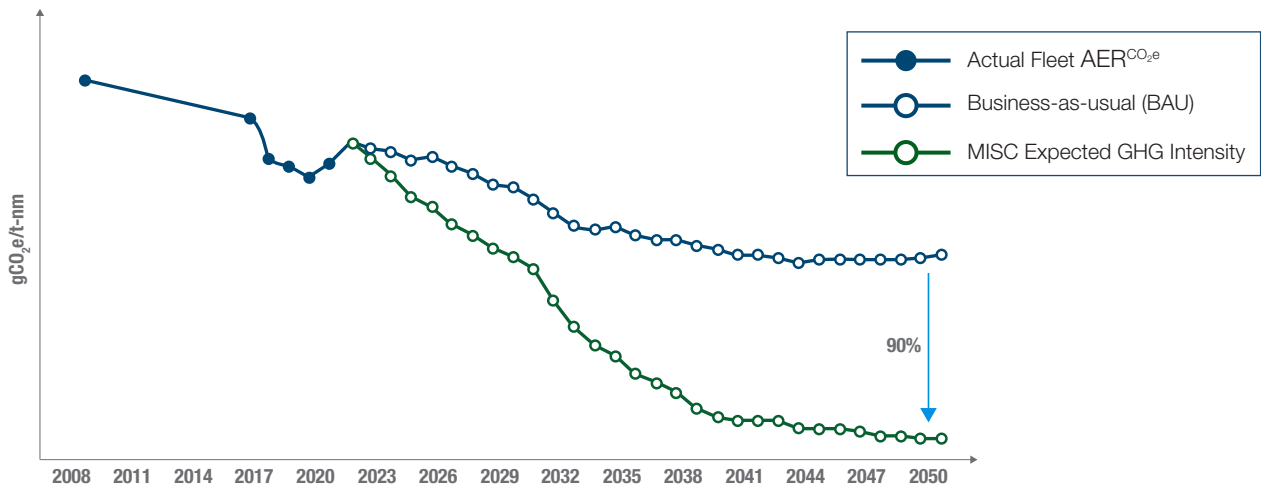
GHG PROJECTIONS

Understanding MISC’s future GHG emissions helps us estimate the impacts of certain mitigation measures, plan our GHG reduction strategies in the medium and long-term, and support the setting of our GHG reduction targets. The projection exercise carried out for MISC’s shipping fleet analysed the forecasted GHG emissions until 2050 for different scenarios, considering changes to our asset profile until 2050, GHG reduction technology influences, and regulator policies.

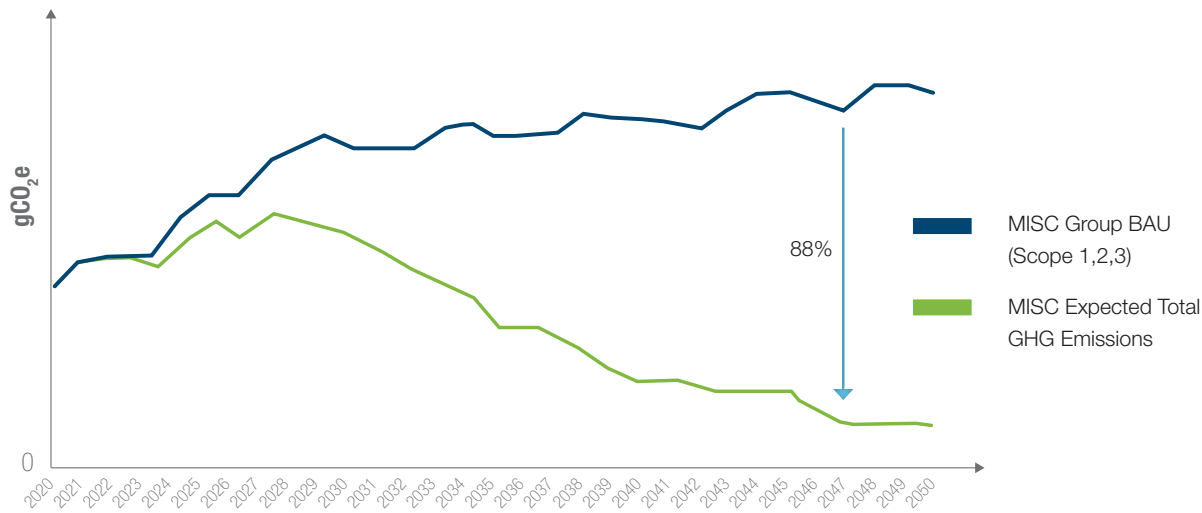
Projected MISC Shipping Fleet GHG Intensity until 2050

We compared the CO₂ performance of our projected fleet (Gas and Petroleum vessels) against the IMO 2050 decarbonisation trajectory (sourced from Poseidon Principles Framework).

MISC Fleet (Gas & Petroleum) AER^{CO₂e} Scenarios



MISC Group Absolute GHG Emissions Trajectory to 2050



ENVIRONMENT PILLAR

OUR PATHWAY TOWARDS DECARBONISATION

CLIMATE ACTION PLAN, PRIORITIES AND GOALS

Setting short, medium and long-term carbon emission targets was essential in 2021. Forming part of our Towards Decarbonisation strategic priority, these targets are integral to the 2021-2025 MISC Group Sustainability Strategy's Environment Pillar.

1

Short to medium-term GHG targets comprising of:

- 10-year plan from 2021 until 2030

Short to Medium-Term Goals
<ul style="list-style-type: none">Progressive fleet renewal: GAS and AET will progressively renew the fleet to high efficiency LNG dual-fuel engine vessels from now to 2030The Castor Initiative: We are working with strategic partners to develop commercially-viable ammonia-fuelled zero-carbon emission vessels by 2030Continuous Operational Efficiency Improvements: With the aim of reducing the energy consumed on voyages, we will implement strategies to optimise the technical and operational efficiencies of our vessels

2

Long-term GHG reduction commitment with a 20 year plan, from 2031 until 2050

Long-Term Goals
<ul style="list-style-type: none">Progressively renew the fleet with ZEVContinuous Operational Efficiency Improvements by adopting new technological innovations on existing and new builds to continuously improve energy efficiency and reduce carbon emissionsCarbon Removal Technology: Depending on its viability, we aim to adopt carbon capture retrofits in our existing newer vessels to remove excess carbon emissionsValue chain emission reductions (Scope 3 emissions)Nature-based carbon removal offset programme for unabated residual GHG emissions

SHORT-MEDIUM TERM GHG TARGET

Short-Medium Term Carbon Intensity Target Breakdown:



Our short-medium term target surpasses IMO's 2030 aspiration. The key elements and rationale for setting our reduction targets are explained in the table below.

Elements	Description	Rationale
Quantum	50% reduction	The reduction goal is more ambitious than the industry's ambition in 2030 and entails the implementation of 'beyond compliance' strategies.
Scope	Gas and Petroleum shipping	Why shipping? We focused on shipping as over 98% of our total GHG emissions (Scope 1 and 2) result from these operations. However, our non-shipping entities will also implement measures to reduce their GHG emissions.
Base year	2008	We have revised our baseline year to 2008 for close alignment with the IMO 2030 and IMO 2050 targets.
Measurement metric	AER ^{CO₂e} (gCO ₂ e/t-nm)	A CO ₂ e intensity measurement which adds methane (CH ₄) and nitrous oxide (N ₂ O) emissions in addition to CO ₂ .
Commitment period	2030	We will compare against IMO's decarbonisation trajectory to reduce 50% absolute GHG emissions in 2050 compared to 2008.

Decarbonising our Business

Currently, the world is far behind the 12.9% per year decarbonisation rate required to reach the 1.5°C Paris Agreement goal. Global decarbonisation must accelerate to five times its current rate of just 2.5% in 2020. We need a net-zero transformation.

- We must reduce the CO₂e intensity of our existing ships by improving the vessel's technical and operational efficiency
- We will power all newbuilds with high-efficiency LNG dual-fuel engines that outperform the compliance energy-efficiency design standard and IMO CII compliance levels
- We will progressively work towards developing zero-carbon emissions vessels by 2030

LONG TERM COMMITMENT



Net-Zero Greenhouse Gas Emissions by 2050

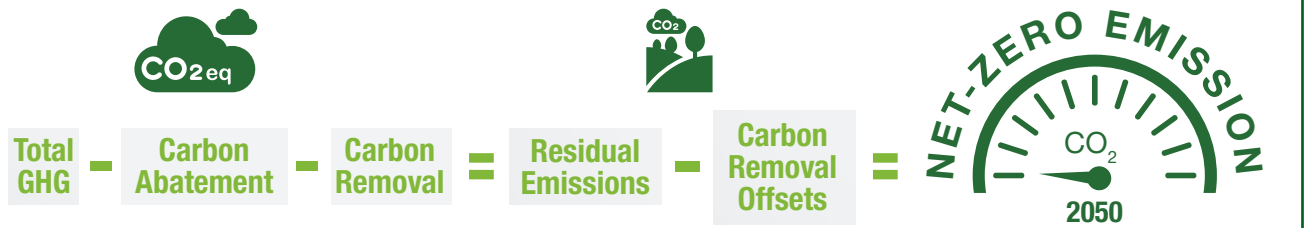
As a limit on cumulative CO₂ emissions is needed to halt a global-mean temperature rise to below 1.5°C level, annual global CO₂ emissions must become net-zero at some point. Historically, our economic growth has been closely linked to the increased total energy consumption, which leads to increased absolute CO₂ emissions, or total GHG. The monitoring indicator unit for total GHG is metric tonnes of carbon dioxide equivalent (CO₂e). We will start to decouple our GHG emissions from business growth latest by 2030 and achieve net-zero GHG emissions by 2050.



What We Mean by Net-Zero?

'Net-zero' refers to balancing the volume emissions produced and removed from the atmosphere to prevent global warming. At MISC, this means we will explore and implement commercially-viable technologies to decarbonise our operations until reaching a state where we are left with unabated residual emissions. Only the unabated residual emissions will be compensated with carbon removal offsets (ie. reduction outside our value chain) through nature-based sequestration or technological carbon removal projects.

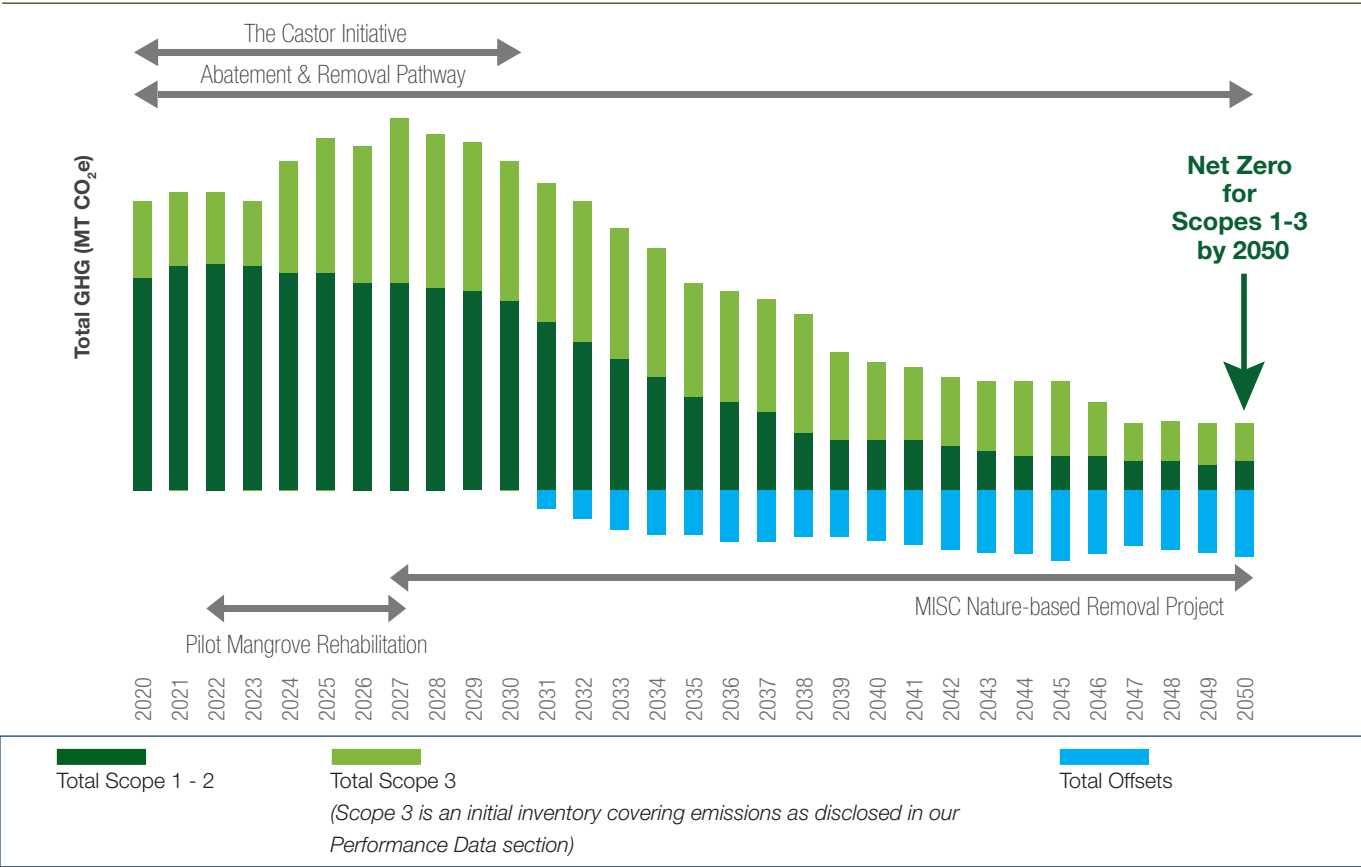
Our Net-Zero Equation



ENVIRONMENT PILLAR

OUR PATHWAY TOWARDS DECARBONISATION

MISC Group Net-Zero Total GHG Emissions Pathway



Scope of Gases

- All GHGs
- Unit: CO₂e

Gases include

- Carbon Dioxide (CO₂)
- Methane (CH₄)
- Nitrous Oxide (N₂O)

Scope of Activities

- Scopes 1 - 3

MISC operations (Scope 1 & 2)

Upstream and downstream of MISC's operations (Scope 3 on material categories)

Mitigation Pathways

- Abatement
- Removal
- Removal Offset

Abatement and removal pathways to reduce own operations & value chain emissions

Nature-based removal pathways to offset residual GHG

Timeframe

- Long-term

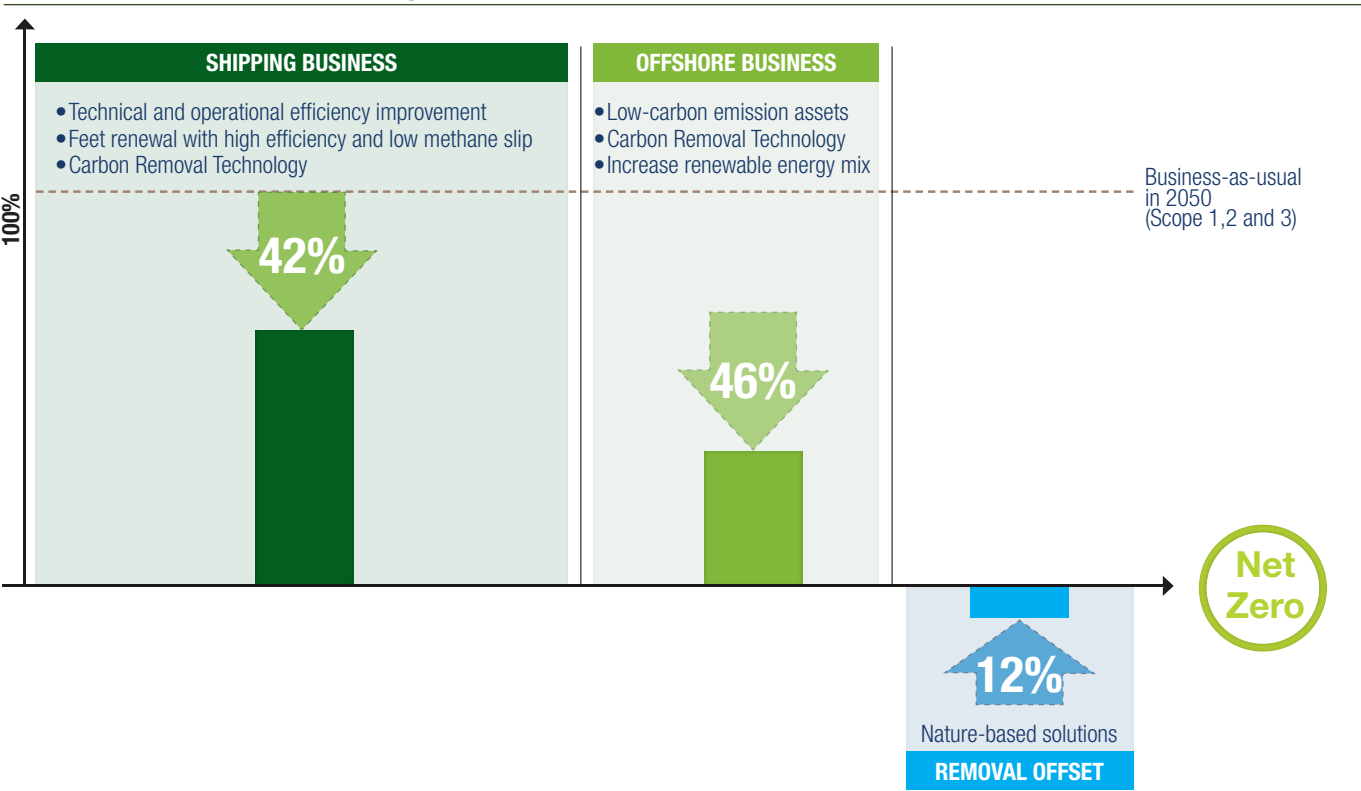
2050

Rationale Why Net-Zero by 2050:

Investments in our newbuild assets generally last for 20 years on average.

Assuming ZEVs are widely available by 2030, we will need 20 years from 2030 to complete the transition from the existing fleet to be completely ZEV.

2050 GHG Reduction Pathway



ABATEMENT PATHWAYS

SHIPPING OPERATIONS

The shipping industry has been labelled the “hard-to-abate” sector. However, we have accelerated and scaled up progress with operational efficiency solutions to make this possible. The opportunity to break the deadlock is now clear, and momentum is building.

Our vessels are subjected to rigorous monitoring on its energy efficiency performance via analytical tools that provide data insights on the efficacy of the voyage, engine and vessel systems. The monitoring enables informed interventions to be made for energy efficiency improvements. We are progressively implementing advanced technologies, such as optimised newbuild designs, anti-fouling paints and energy-saving fittings throughout the fleet.

Operational Performance Measures on our Vessels

PROPELLER BOSS CAP FIN

Eliminates vortex from the centre of the streamflow, increases ship speeds and lowers fuel consumption

- About 4% CO₂ reduction

2G PROPELLER BOSS CAP FIN

- About 3% CO₂ reduction

ADVANCED ANTI-FOULING PAINT

Coated with tributyltin-free (TBT-free) to minimise the release of harmful biocides into the marine environment

- 6% CO₂ reduction

ECOSHIELD RUDDER PAINT

- Cavitation damage protection up to 20 years

ENVIRONMENT PILLAR

OUR PATHWAY TOWARDS DECARBONISATION

NON-SHIPPING OPERATIONS

Our commitment to decarbonisation and net-zero is not limited to shipping. All operations will adopt technological innovations on existing and new assets, including company-owned building designs, to improve energy-efficiency and reduce emissions.

We also plan to use more renewable energy. We installed solar panels on our Marine and Heavy Engineering Business (MHB) yard rooftops in 2021 and will replicate this across other facilities as part of our renewable energy expansion programme.

OFFSHORE ASSETS

We offer low-carbon designs to customers for all new assets at our offshore operations. These operations will also explore powering selected energy-intensive equipment with renewable energy on offshore assets to reduce carbon emissions.

MHB SOLAR PROGRAMME

We have installed 18,720 solar photovoltaic (PV) panels. The 8.3-MWp system spans close to 41,000 m² (440,500 ft²) and powers eight buildings in the yard.

Collectively, the solar panels can generate an estimated 10,000-MWh of clean energy each year for MMHE West, the single largest fabrication yard in South-East Asia.

We estimate a reduction of 6,300 tonnes of CO₂ annually or 132,000 tonnes over the 21-year agreement with PETRONAS. This offset is equivalent to planting two million trees. Comparatively, the power generated can illuminate 725 double-storey homes for a year delivering an estimated savings of RM30 million.

THE CASTOR INITIATIVE

We continue working with our strategic partners to develop commercially-viable ammonia-fuelled zero-carbon emission vessels by 2030 at the latest.

In 2020, we allied with three maritime industry players: Samsung Heavy Industries (SHI), Lloyd’s Register (LR) and MAN Energy Solution. Our Joint Development Project (JDP) to develop commercially viable deep-sea zero-emission vessels (ZEVs) by 2030 is aligned with:

- The International Maritime Organisation’s 2050 greenhouse gas (GHG) aspirations; and
- Getting to Zero Coalition’s commitment.

One of the significant achievement is when LR awarded Approval in Principle to SHI for its ammonia-fuelled tanker design as well as its fuel supply and fuel storage system for commercialising these developments by 2024.

On top of that, Yara International ASA (Yara) and Maritime and Port Authority of Singapore (MPA) joined the coalition in early 2021 followed by Singapore’s Jurong Port that will facilitate the testing of the port infrastructure and processes required to handle future marine fuels, including ammonia. These additions complete the representation of all critical areas of the maritime industry ecosystem. The Castor Initiative was motivated by partners’ shared belief that the maritime industry needs leadership and greater collaboration if shipping is to meet the IMO’s GHG ambitions. Ultimately, our shared agenda is exploring multiple decarbonisation pathways.

CARBON REMOVAL TECHNOLOGY

Achieving zero-carbon emissions within our operations through abatement pathways alone is not enough. We will continue to explore carbon removal technologies leading up until 2030 and adopting them latest from 2030. Our guiding principles on these technological options are based on sound risk principles, primarily to minimise risks to health, safety and environment and safeguard public interest.

Carbon Capture technology will be explored for application on our shipping operations and offshore assets.

REMOVAL OFFSET PATHWAYS

By 2050, unabated residual emissions are expected to primarily come from our Scope 3 (offshore assets and supply chain), where we do not have control.

Completely removing residual unabated emissions would require a concerted effort. Combining nature-based sequestration projects and carbon removal technologies, the proposed carbon removal pathway commitment will be based on:

- Initiating a carbon removal pathway from 2031 to 2040 to offset an incremental rate of 10% year on year of the Group’s Scope 1 and 2 emissions; and
- Upon achieving 100% removal of Scopes 1 and 2 in 2040, an additional 10% year-on-year will be added on for Scope 3.

Any additional required removal offsets that MISC Group Nature Sequestration Project cannot fulfil will be topped up by investing in third-party nature-based removal projects.

NATURE-BASED SEQUESTRATION PATHWAY

Nature-based sequestration involves conserving, restoring or rehabilitating natural ecosystems to remove carbon dioxide from the atmosphere. MISC has plans to embark on mangrove rehabilitation and conservation projects to generate carbon credits that can offset our unabated residual emissions.

Why Mangroves?

Mangrove forests remove a significant amount of CO₂ from the atmosphere and store them in their carbon-rich flooded soils for millennia. This buried carbon is known as “blue carbon” because it is stored underwater in coastal ecosystems like mangrove forests, seagrass beds and salt marshes.

Healthy mangroves help fight the effects of climate change on coral reefs and other marine life. We are researching nature-based sequestration projects to generate carbon removal offset credits beginning with a mangrove conservation initiative in 2022. The project will be part of the Group’s Heart of the Ocean programme and complement our two existing signature marine biodiversity conservation initiatives on reef and turtle conservation.



ENVIRONMENT PILLAR
PROMOTING CIRCULAR ECONOMY



ENVIRONMENT
PROMOTE CIRCULAR ECONOMY

OUR COMMITMENT

- To promote the elimination of waste and the continual use of resources
- To increase the usage of renewable resources

OUR INITIATIVES

- Practice 4R - Refuse, Reduce, Reuse and Recycle (Waste-to-Value Concept)
- Practising Green Ship Recycling
- Greater Renewable Resource Utilisation

OUR CONTRIBUTION TO UNSDG

12 RESPONSIBLE CONSUMPTION AND PRODUCTION

Ensure sustainable consumption by promoting circular economy (eliminating waste and the continual use of renewable resources) and sustainable procurement practices.

Driven by a growing population and concerns about resource scarcity and environmental pressures, industries and policymakers are exploring the switch from a linear to a circular economy. It is an economy based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems. As a result, the economy is restorative and regenerative by design. A circular economy leverages the Waste-to-Value (WtV) concept, which processes waste into a valuable product.

A circular economy keeps products, materials, equipment and infrastructure in use for longer. Collaboration with suppliers across value chains is necessary as recovered materials are distributed as input raw materials for other products.

At MISC, we believe in the promotion of circular economy from the following perspective:

How MISC Supports the Circular Economy

Ship recycling

Repurposing of assets

Usage of renewable energy

4R (Refuse, Reduce, Reuse and Recycle) on our waste

Sustainable procurement and collaboration across the value chain

MISC SHIP RECYCLING COMMITMENT

We are committed to the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships 2009 (the Hong Kong Convention).

Disposing of Our Ships in line with The Hong Kong Convention

Ships that have outlived their commercial usefulness are repurposed or recycled

Ships are sold for further trading ethically and responsibly

ENVIRONMENT PILLAR

PROMOTING CIRCULAR ECONOMY

BENEFITS OF RESPONSIBLE SHIP BREAKING

Ship breaking reduces the strain on the metal mining industry, by reducing the need to mine in the virgin ore for production of new materials, thus reduces energy use in the steelmaking process. Ships contain high quality iron which is recyclable to around 90%. Therefore, using scrap metal to produce finished products, rather than using metal ore, also helps to reduce GHG emissions. It's been documented that energy consumption goes down by 70% in steel making when scrap steel is used rather than iron ore. By not doing metal mining, that also helps cut down on GHG emissions.

And the vast amount of an end-of-life ship can be recycled and reused, which if done responsibly offers enormous environmental benefits.

Recycling steel scrap from end-of-life ships also reduces air and water pollution and cuts down on water consumption. Quite simply, fewer resources are needed to manufacture products from metal scrap as opposed to metal ore. Studies, in fact, indicate that recycling scrap leads to 86% less air pollution, 76% less water pollution and 40% reduction in water usage.





From the perspective of the circular economy, there will be an increasing demand for the efficient use of resources, which includes ships scrapped in a safer and less environmentally harmful manner.

MISC GROUP SHIP RECYCLING POLICY

The MISC Group Ship Recycling Policy, approved in 2021, is a high-level group-wide commitment to recycling our ships responsibly.

The scope of the MISC Group Ship Recycling Policy covers the following four areas.

MISC Group Ship Recycling Policy

1	2	3	4
 Design and construction stage	 Ship operations	 Repurpose or resold for further trading	 Sold to intermediary or directly to HKC approved yards for scrap
<ul style="list-style-type: none">Constructing each ship with zero or minimal hazardous materialsDocumenting each vessel with an approved Inventory of Hazardous Materials (IHM)	<ul style="list-style-type: none">Generating minimal hazardous substances and waste onboard each shipRemoving hazardous substances in a controlled manner and replacing them with non-hazardous material if practical whenever repairs or maintenance are carried out on equipmentProducing and maintaining a ship-specific IHM for each existing ship in our fleet	<ul style="list-style-type: none">Updating the ship's IHM and passing it with other documentation before the sale of shipsComplying with IMO Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 and/or all applicable national and international law when selling ships directly or indirectly to a yard for recyclingUpdating the ship's IHM and passing it with other documentation, before the sale of any shipsRequiring buyers or yard for all MISC sale contracts to undertake safe and environmentally sound recycling as per the IMO Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 including using approved shipyards and monitoring rights to the ship-breaking process whether directly or indirectly via appointed agents.	

Sustainable Recycling of our Assets

At MISC, we take complete 'cradle-to-grave' accountability for our assets as a responsible shipowner. We prefer responsible redeployment to recycling and actively seek viable opportunities for assets that have reached the end of their life cycles.

Several stringent processes preceded redeployment such as selecting facilities based of a strict audit and inspection regime in compliance with the BIMCO RecycleCON and Hong Kong Convention 2009.

 Impact	<ul style="list-style-type: none">Comply with all applicable rules and regulationsMinimise health and environmental risksPrevent dumping of dangerous toxic materials such as asbestos and PCBs on beaches and other open spaces
 Value to MISC	<ul style="list-style-type: none">Support greater sustainability and our 5-year Sustainability PlanPromote circular economy and reduce the impact of depleting natural resources
 Moving Forward	<p>Embed this practice as a prerequisite for all end-of-life assets</p>



ENVIRONMENT PILLAR

PROMOTING CIRCULAR ECONOMY

REPURPOSING OUR ASSETS

We introduced an initiative to repurpose our end-of-life crude oil tankers into offshore floating solutions. Our Offshore Business, have so far, repurposed two crude oil tankers:

- 1. *Bunga Kasturi Dua* built in 2005 with DWT 300,542 is being repurposed into a floating production storage offloading (FPSO) facility (currently undergoing conversion).
- 2. *Bunga Kelana 5*, built in 1999 with DWT 105,400 was converted into a floating production offloading (FSO) facility respectively (now known as *FSO Benchamas* currently in operation at the Gulf of Thailand).

Repurposing vessels are also typically based on large mature vessels, often more than 20 years old, allowing a degree of recycling to take place.

Our approach follows the circular economy business model and supports our broader sustainability goals. This model extends the lifetimes of products and components, recovers resources and streamlines the efficiency of materials. Giving vessels a second lease of life allows our Offshore Business to deliver more function from less consumption while avoiding the environmental impacts from decommissioning the vessel.

Repurposing an Oil Tanker into an FPSO



Supports greater sustainability and MISC’s Circular Economy Initiative in our 5-year Sustainability Plan



Replicate this circular economy initiative as a best practice to help businesses deliver more sustainable products and secure bottom-line savings



ENVIRONMENT PILLAR

PROMOTING CIRCULAR ECONOMY

Our 4R (Refuse, Reuse, Reduce and Recycle) Practice

We are committed to eliminating waste by continually using resources and practising 4R throughout our operations. We have introduced various programmes that support this commitment.

Shipping

Eliminating Non-Essential Single-Use Plastics

The programme aimed to prevent non-essential single-use plastics from being used on board our vessels. We favour reusable non-plastic alternatives or biodegradable options where possible.

POLICY

Guidance issued to all ships in January 2020, advising them on the programme to discontinue single-use plastics

BENCHMARKING

Each ship prepared an inventory of single-use plastics used onboard

REDUCTION

Each ship prepared an execution plan to reduce single-use plastics with quantified targets and monitored based on the inventory

Examples of Action Taken to Reduce Single-Use Plastic on Board Vessels



- Plastic rubbish bags replaced with paper-based alternatives, jumbo bags or gunny sacks
- Reusable bags brought on board by crew members during shore leaves
- Supplies acquired in bulk packaging
- Plastic-based cutlery, plates and cups and small containers replaced with reusable items
- Plastic food wrapping replaced with non-plastic alternatives

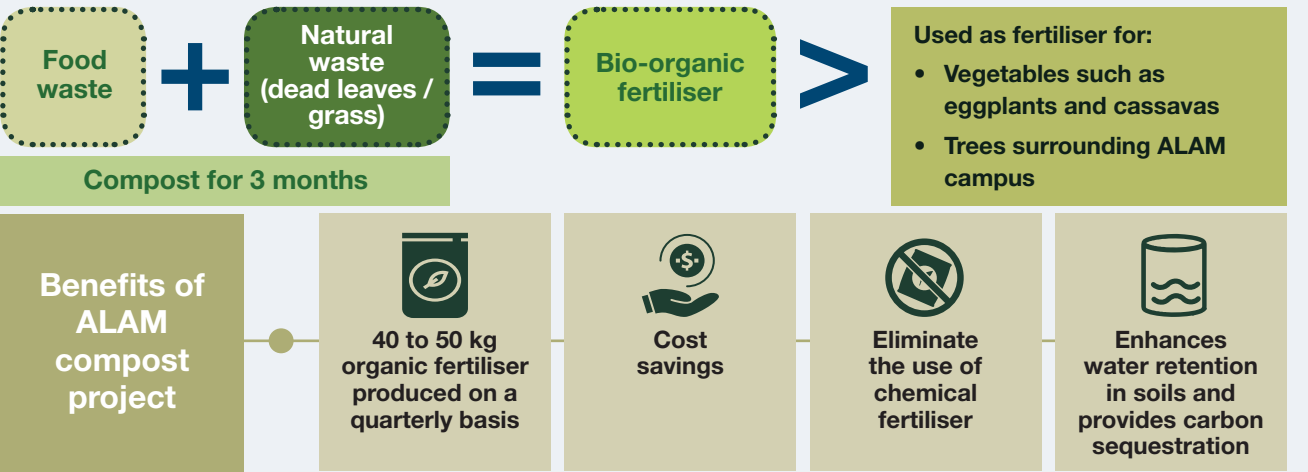
Non-shipping

Since 2018, we have banned single use plastics at all our events which is then followed through by our operations globally. Various campaigns were held with the aim to reduce the generation of plastic waste and promote the zero-waste lifestyle amongst our employees whilst increasing their awareness and knowledge on environmental matters. We now have many reusable containers and bags being used by employees to pack their food and items.

Non-Shipping

Composting Project

The pilot composting project at our ALAM campus allowed us to repurpose food wastage. We applied trench composting in which food waste is layered with yard trimmings and soil in a pit. The finished compost was used to fertilise our onsite mini organic farming. While running the project, we also raised awareness of the importance of reducing food waste and the basic cost of materials. Moving forward, our ALAM team plans to use top ground method to accommodate its large-scale composting project.



Recycling of Spent Copper Slag

In 2021, we generated 6,795 tonnes of hazardous spent copper slag. The slag was generated and managed through an industrial co-processing. Co-processing refers to the simultaneous recycling of mineral materials and recovery of energy within one single industrial process: cement manufacturing.

We have significantly improved our management of the spent blasting materials, which is used to replace sand in blended cement. Blasting and spray-painting are performed in enclosed workshops. The chamber's dust extraction and filtration system minimise dust released into the environment. This activity allows us to support the cradle-to-cradle concept in managing hazardous waste while reducing our waste and resource use.

Purchasing FSC Paper at MHB

In June 2021, we switched to paper certified by the Forest Stewardship Council® (FSC). FSC-certified paper has been harvested in a responsible manner. All new paper purchases must be FSC certified.

Reducing Paper Consumption

We have progressively implemented a digital signature programme for internal documents to reduce paper consumption since 2018. Partnering with DocuSign allows employees to obtain and deliver digital signatures without printing.

Resources Saved by Digital Signature Programme to date



ENVIRONMENT PILLAR
CONSERVING MARINE
BIODIVERSITY



ENVIRONMENT
BIODIVERSITY CONSERVATION

OUR COMMITMENT

To conserve and rehabilitate marine biodiversity through implementing the Group's Heart of The Ocean programme.

The programme aims to improve ocean health by conserving the marine ecosystem and reducing the impact of human activities.




OUR INITIATIVES

Two signature marine biodiversity conservation initiatives were introduced under the Heart of the Ocean Programme:

- Mersing Islands Initiative on Reef Conservation
- UMT-MMS Sea Turtle Conservation Initiative

OUR CONTRIBUTION TO UNSDG



Sustainably manage and protect marine ecosystems by strengthening their resilience, and take action for their restoration in order to maintain sustainable ocean health

Marine biodiversity is declining, and our ocean ecosystem is losing its ability to withstand disturbances. Coral reefs are threatened, and more than one in six mangrove species worldwide are in danger of extinction. We are committed to making a positive impact on ocean biodiversity through our Group's Heart of the Ocean marine biodiversity conservation programme.

Our Heart of the Ocean Programme was initiated in 2020 under the Biodiversity Conservation strategic initiatives. The programme is in line with our commitment to ensure the sustainable use of the ocean and the preservation of marine diversity as outlined in UNSDG 14 - Life Below Water.

MISC's inaugural conservation initiative under the Group's Heart of the Ocean Programme in collaboration with Reef Check Malaysia (RCM) is the Mersing Islands Initiative on Reef Conservation which focuses on the conservation of coral reefs. We also launched our second initiative, the UMT-MMS Sea Turtle Conservation Initiative, to protect sea turtles in 2020.

In 2021, we decided to expand our Heart of The Ocean Programme by embarking on a mangrove conservation initiative on a plot of land belonging to ALAM to complement our marine biodiversity conservation efforts.





ENVIRONMENT PILLAR

CONSERVING MARINE BIODIVERSITY

MERSING ISLANDS INITIATIVE ON REEF CONSERVATION

The Heart of the Ocean Programme initiative at the Mersing Islands is a five-year collaboration with RCM with the aim to improve ocean health by supporting coral reef conservation, increasing reef resilience and reducing plastic litter in the ocean. Our work on the Mersing Islands involves a multi-level collaboration with various stakeholders including local villagers, tourism operators, academics, local government, Department of Fisheries, local businesses, and the Ministry of Tourism. Since the launch of this initiative in 2020, various activities were carried out to understand the current situation impacting the reefs and to propose feasible solutions to protect the marine resources of the Mersing Islands.

Focus Area	Core Elements	Objectives
 Coral Reef Conservation & Management	Coral Monitoring & Resilience	Supporting sustainable reef management of Mersing Islands
	Marine Protected Area & Sustainable Tourism Management	Supporting the operationalisation of a body to manage Mersing as a sustainable destination, including Mersing Islands' marine resources
	Stakeholders Capacity Building & Awareness	Raising awareness of marine resource management and building capacity for the local community on practices that promote sustainable economic development
 Marine Debris/Plastic Waste Management	Plastic Recycling Action Plan	Developing a plastic waste management strategy
	Waste Facilities & Services	Supporting an effective plastic waste management system for all islands in the cluster

Protecting marine biodiversity and ecosystems in Malaysia is at the heart of what we do. Our long-term partnership with MISC Group on its Heart of the Ocean marine biodiversity conservation programme plays a crucial role in supporting ecological and social resilience around the Mersing Islands. Together, we hope to continue to achieve positive impacts through the work we do and strive towards a healthier and sustainable marine ecosystem.

Julian Hyde, General Manager, Reef Check Malaysia

WHAT WE HAVE ACHIEVED SO FAR

**Threats**
to coral reefs
were identified
and **remediation**
actions were taken

**29**
reef sites
surveyed

Reef
resilience
study
at **6** sites

**2** sites
coral rehabilitation
establishment

**10** sites
water quality
monitoring

**Reducing**
physical damage
to the reef from
unsustainable practices

**944**
kg of
solid waste
was collected from
underwater and beach
clean-up activities

**8**
mooring
buoys
were installed

**Instill the**
awareness
on the importance of
sustainable management
of marine resources

**More**
inclusive
management planning
of the **island resources**

**110**
local communities
benefited from the
stakeholder capacity building
programmes in eco-snorkeling
guide training and participatory
management training

**11**
local community
outreach
and **school**
programmes were
conducted

**2**
consultations
with **local stakeholders**

**5** annual
engagements
with **local communities**

**Stakeholder**
capacity building programmes
ensure that local communities are well-
equipped in delivering more sustainable
tourism products, reducing potential
impacts to the coral reefs

**Waste**
management
strategy
was completed and proposed
for **implementation**
on the islands


ENVIRONMENT PILLAR

CONSERVING MARINE BIODIVERSITY

EMPLOYEE VOLUNTEERING PROGRAMME

Since physical volunteering is not possible due to the restricted movement order since 2020, volunteerism on our Mersing Islands conservation initiative was held virtually. A desktop employee volunteering programme was organised and our employees volunteered to produce educational and awareness materials to be used during engagement sessions with local stakeholders. Approximately 28 volunteers of MISC employees and children from various regions across the world showcased their passion in conserving ocean biodiversity through this volunteering programme. The contribution by our employees and and their family members, also supports the objective of raising awareness of the local communities on the conservation efforts and to encourage their positive participation in the activities.

Desktop Employee Volunteering Programme

Employees volunteer		CREATIVE DRAWINGS	<ul style="list-style-type: none">• Volunteer role: Produce creative drawings• Dissemination platform: Shared during education programmes and used as back drop in awareness materials• Outreach target: Local community and general public
		PRESENTATION MATERIALS	<ul style="list-style-type: none">• Volunteer role: Creative writing and update of snorkeling guide materials• Dissemination platform: Webinar and workshop programmes and used as back drop in awareness materials• Outreach target: Tourism operators
		VIDEO	<ul style="list-style-type: none">• Volunteer role: Edit and produce video• Dissemination platform: Awareness programmes, RCM's social media• Outreach target: Local community and general public
		DIGITAL POSTERS AND INFOGRAPHICS	<ul style="list-style-type: none">• Volunteer role: Produce posters on marine conservation• Dissemination platform: Awareness programmes, RCM's social media, distributed to local community (soft copy)• Outreach target: Local community and general public
		TALK	<ul style="list-style-type: none">• Volunteer role: Produce and deliver Safety Management Talk• Dissemination platform: Webinar• Outreach target: RCM staff and tourism operators

Kids volunteer (age 8 - 17)

Employees volunteer

MARINE PROTECTED AREA (MPA) MANAGEMENT EFFECTIVENESS ASSESSMENT TOOL (MEAT)

In 2020, we conducted our first baseline MEAT assessment of the Mersing Islands' marine parks. This assessment measures the effectiveness of the marine park's management. It identifies the institutional management structure, regulations, enforcement, maintenance, and monitoring areas prioritised for improvements. The MEAT assessment was repeated in 2021 and produced a similar score to the 2020 baseline. The overall assessment shows that Mersing Island's marine protected area (MPA) management must action the improvements in the coming years.

Various consultations were held in 2021 with marine park managers to discuss potential management solutions and address the gaps identified to improve MPA management on the Mersing Islands through the Heart of the Ocean Programme. We gathered feedback from the islands' communities to promote co-management as a key strategy for the Mersing Islands' marine resources conservation. Training and awareness sessions held under the Heart of the Ocean Programme helped raise awareness and capability among various relevant stakeholders to ensure the success of the conservation initiatives on the Mersing Islands. With progress on this aspect of the conservation effort, we expect the MEAT score to improve in the subsequent years.



ENVIRONMENT PILLAR

CONSERVING MARINE BIODIVERSITY

UMT-MMS SEA TURTLE CONSERVATION INITIATIVE

Human activities have endangered the lives of sea turtles; without us disrupting their habitats, they have an average lifespan of 100 years. Our Port Management and Maritime Services subsidiaries, MMS and the Sea Turtle Research Unit (SEATRU) of Universiti Malaysia Terengganu (UMT) worked together to sustainably manage the sea turtles in Chagar Hutang on Pulau Redang. MMS has committed to sponsor this programme for RM300,000 over five years (2020 – 2024).

THREE CORE AREAS

- Improve facilities management of the research station
- Increase active participation in the volunteering programme
- Enhance participation and involvement in the outreach programmes

Employees Assigned to Turtle Conservation Programme



Unfortunately, the COVID-19 pandemic prevented us from sending volunteers in 2021. We continued supporting the programme by sponsoring SEATRU for facilities improvement and upgrading. Since the programme began, MMS has contributed RM109,000 to UMT-SEATRU for conservation. In 2021, SEATRU purchased 10 bokashi compost sets, consisting of a compost bin, biocatalyst and husk, for waste management as well as equipped the facilities with solar panels.

Our sponsorship also financed a new cabinet for the research station. The cabinet will safely store supplies and serve as a mini library and merchandise display. We funded a gazebo, which included structural reinforcement, floor furnishing and nipah roof. SEATRU was also able to improve previous data collection and the volunteer programme notice board with professional printing and setting, for future use.

MMS organised the Sea Turtles e-Contest for celebrating World Sea Turtle Day on 16 June 2021 and disseminated monthly updates on the sea turtles throughout MISC workplace. This excellent platform raises awareness of the Sea Turtle Conservation Programme and enhances employees’ alignment and commitment to rehabilitating ocean health. Let us all protect and conserve sea turtles so that a century of living is once again possible.



I am very confident that the collaboration with UMT-SEATRU will help us in materialising and achieving our environmental sustainability agenda, which is aligned with our environmental sustainability mission.

En. Hazrin Hasan, former MD/CEO of MMS

THE LAUNCH OF MMS SEA TURTLE'S CORNER

Following the successful UMT-SEATRU Sea Turtle Conservation programme, MMS has taken one step further to support the programme by launching its Sea Turtle's Corner virtually in 2021. Located on Level 16, Menara Dayabumi, the corner serves as a platform to raise awareness of the progress of the UMT-MMS Turtle Conservation Programme in conserving and protecting sea turtles. The on-site exhibition also displays turtle specimens, sea turtle merchandise and educational reading materials to improve employees' understanding of sea turtles.

During the launch event, we invited Head of Field Research Laboratory for SEATRU, UMT to talk on how the leatherback turtle is gradually becoming extinct in Malaysia and the important facts and figures of sea turtles. The expert also emphasised on the importance of the collective effort from all parties to achieve the best results in conserving and preserving the sea turtles.



ENVIRONMENT PILLAR

CONSERVING MARINE BIODIVERSITY

MANGROVE CONSERVATION PROGRAMME

Mangroves are one of the most productive marine ecosystems on earth, providing a unique habitat for many species. Mangrove habitats are regressing at an alarming rate due to direct anthropogenic impacts and global change. Mangroves, seagrass beds, and coral reefs work as a single system that keeps coastal zones healthy. Mangroves provide essential habitat for thousands of species. The mangrove trees trap sediment and pollutants that would otherwise flow out to sea. Seagrass beds provide a further barrier to silt and mud that could smother the reefs. In return, the reefs protect the seagrass beds and mangroves from strong ocean waves. Without mangroves, this incredibly productive ecosystem would collapse. In addition, mangroves can sequester four times more carbon than rainforests can. Most of this carbon is stored in the soil beneath mangrove trees.

In 2021, we decided to expand our Heart of The Ocean Programme by embarking on a mangrove conservation initiative on a plot of land belonging to ALAM to complement our marine biodiversity conservation efforts. The land forms part of ALAM's land concession with the State Government of Melaka situated 4.5 km away from the ALAM campus in the Kuala Linggi district and is a mangrove forest.

A strategic five-year conservation framework and roadmap to protect and restore the mangrove ecosystem on the land was developed. The framework will be implemented in three phases with Phase I scheduled to commence in second quarter of 2022. This strategic move serves as our initial step to gain the necessary exposure to broaden our efforts on nature-based rehabilitation in the future.



RAISING BIODIVERSITY AWARENESS

We are all a part of the planet's biodiversity and depend on biodiversity for survival and well-being. Learning about the importance of biodiversity is critical for its conservation and sustainable use. Our biodiversity awareness programme promotes a better understanding of sustainable conserving and using biological resources.

MISC supports World Oceans Day, a United Nations initiative celebrated on 8 June each year. With 90% of big fish populations depleted and 50% of coral reefs destroyed, we hope to create a new balance rooted in a proper understanding of the ocean and how humanity relates to it to protect the ocean and all it sustains.

Group HSSE hosted a 75-minute virtual hangout event with experts from local NGO MareCet to discuss marine biodiversity loss and the importance of marine biodiversity conservation. We invited group-wide employees to celebrate the importance of protecting and revitalising the ocean. Covering ocean threats and the extinction of marine animals, participants also shared their views on ways our Heart of the Ocean Programme supports the national policy. We also took the opportunity to announce the winners of the Eco-Hero Contest.

Our awareness efforts continued with 'A Date with the Reefs: Mersing Marine Ecosystem' programme. The event shared the rich marine ecosystem of Mersing Islands, with an estimated 400 MISC employees participated in the programme.



ENVIRONMENT PILLAR

OUR ENVIRONMENTAL MILESTONES: HOW FAR HAVE WE COME

KEY HIGHLIGHTS FOR 2021



Invested
RM173
million
in environmental
protection initiatives




Invested
RM15
million
on mitigating
climate change



Performed
21 HSE MS
audits
throughout the Group and
our contractors



0
Major spills

 Refer to our Data Performance section for full listing of environmental data performance

ENVIRONMENT MANAGEMENT SYSTEM

The MISC HSE Management System manages all operational environmental risks in addition to health and safety. We have established minimum environmental requirements that each business need to comply in six key areas. Under each key area, prescriptive requirements are established to strengthen the governance on key environmental risks and to clearly define the scope for environmental assurance within the MISC Group.

Key Areas of the Group's Environmental Minimum Requirements Procedure



Air Emission Management



Hazardous Waste Management



Wastewater Management



Soil and Groundwater Management



Environmental Management of Projects




Environmentally Hazardous Substances Management

Our principal business segments, such as ship management, offshore and heavy engineering, have been certified with ISO 14001:2015. This standard establishes the criteria for environmental management systems within these businesses following international standards. The scope of ISO 14001 certificate covers our functions, activities and services including fleet management services, engineering, procurement, construction, installation, commissioning, operations and maintenance, decommissioning and demobilisation (EPCICODD) of offshore floating facilities and heavy and marine engineering services.

The urgent need to address climate change is more apparent than ever. We have set GHG monitoring, reporting and verification, and energy management standards across our operations. Our gas and petroleum fleet have been certified with the ISO 50001 energy management standard, which provides a continual improvement framework to improve the energy efficiency of our shipping operations. In 2021, we sought an upgrade of the standard and subscribed to the more stringent requirement of the standard i.e. the ISO 50001:2018 Energy Management System. The standard requires stringent monitoring, planning, checking and continuous improvement by reducing fuel consumption from the vessels. The standard improves awareness among the internal stakeholders and increases the efforts in this respect.

ENVIRONMENTAL AUDITS

We conducted environmental audits to verify the effectiveness of environmental-related procedures implementation. These audits were carried out through integrated HSEMS assurances and internal audits for ISO 14001 and ISO 50001.

 For further information on HSEMS-related assurance programmes conducted in 2021 for the Group, please refer to Health and Safety, Our Utmost Priority section of this Report

GREENHOUSE GAS MANAGEMENT

CO₂ emissions from international shipping are expected to increase by 50% to 250% by 2050. Unregulated, these could increase to up to 17% of the total global carbon output. Transport accounts for 24% of global GHG emissions and 2% comes from shipping. Emissions from shipping result from combusting fuel on vessels.

ENERGY EFFICIENCY EXISTING SHIP INDEX (EEXI) & CARBON INTENSITY INDICATOR (CII)

The IMO adopted new regulations mandating the reduction of CO₂ emissions from ships during the Marine Environment Protection Committee (MEPC) 76th Session in June 2021. Enforced from 1 January 2023, these technical and operational measures aim to reduce the carbon intensity of international shipping in line with the industry's goals as established in IMO's Initial Strategy for Reducing GHG Emissions from Ships.

The technical measure, known as EEXI requires existing ships to improve their technical efficiency to a required energy efficiency standard, while the operational measurement known as CII is the new scale adopted for individual ship's carbon emissions measured on a scale from A to E, with E being the worst (ships with the highest CO₂ intensity level). Ships rated D for three consecutive years, or E, are required to submit a corrective action plan, to show how their score can be improved. The plan must be documented in the Ship's Energy Efficiency Management Plan (SEEMP).

Technical	Energy Efficiency Existing Ship Index (EEXI)	Technical parameter applicable for in-service ships that measures CO ₂ emissions per transport work of a vessel by its design
Operational	Carbon Intensity Indicator (CII)	Operational measure for individual ship's carbon emissions measured on a scale from A to E, with E being the worst (ships with the highest CO ₂ intensity level)

In 2021, we conducted a study to assess the implication of both EEXI and CII requirements on our fleet. Based on the study, solutions are currently being assessed on a vessel-by-vessel basis to ensure compliance.


ENVIRONMENT PILLAR

OUR ENVIRONMENTAL MILESTONES:
HOW FAR HAVE WE COME

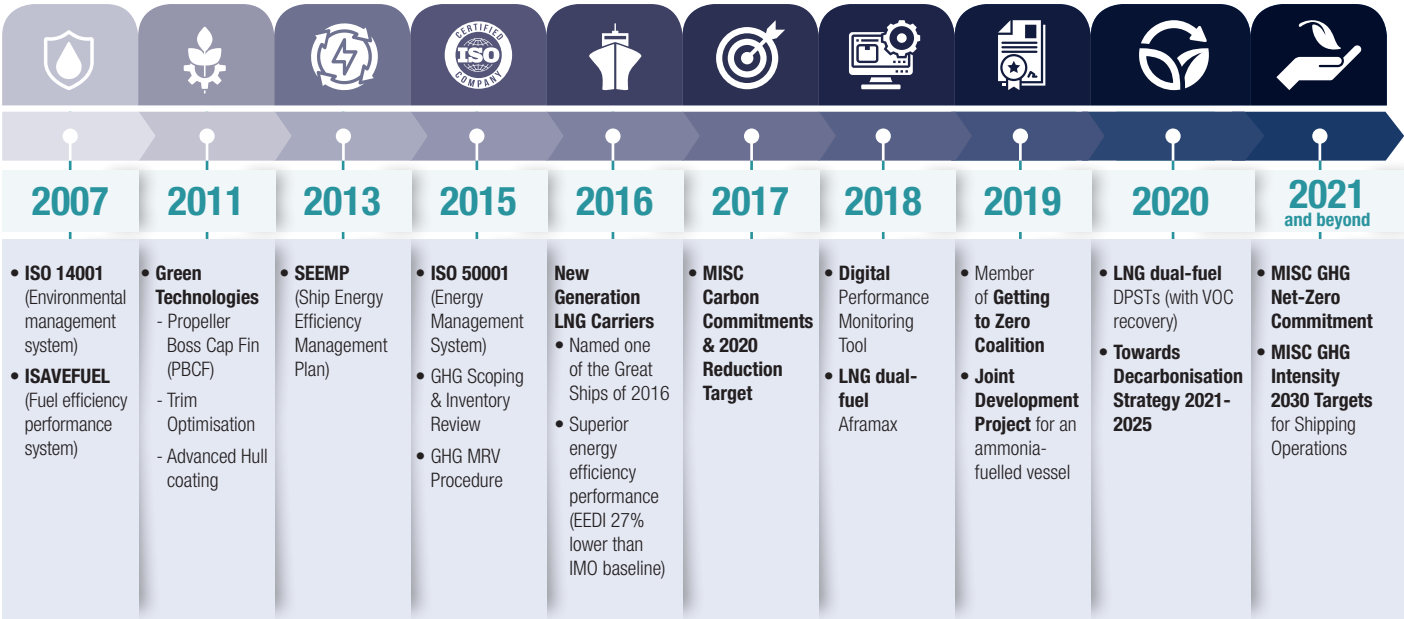
GHG EMISSIONS PERFORMANCE

In 2021, we reviewed and revised our GHG Organisational Boundary. MISC’s revised boundary for GHG accounting adopts the financial control approach of the GHG Protocol Corporate Standard, to better reflect our sphere of influence on GHG reduction of assets under our ownership and control. Additionally, in 2021, we updated our CO₂e calculation to adopt relevant emission factors for methane and nitrous oxide emissions as published in IMO’s latest Fourth GHG Study 2020. We have also initiated the development of inventory for Scope 3 emissions that occur in our value chain to understand and manage the risks and opportunities associated with emissions from MISC’s value chain. We expect to complete the exercise of developing our Scope 3 GHG inventory on material categories in 2022.

MISC Group has set a target to achieve 50% emissions reduction in our fleet average CO₂e intensity by 2030, from a 2008 base year. Additionally, we have also set a long-term commitment to achieve Net-Zero GHG emissions by 2050.

 For more details on our commitment, refer to our Our Pathway Towards Decarbonisation section

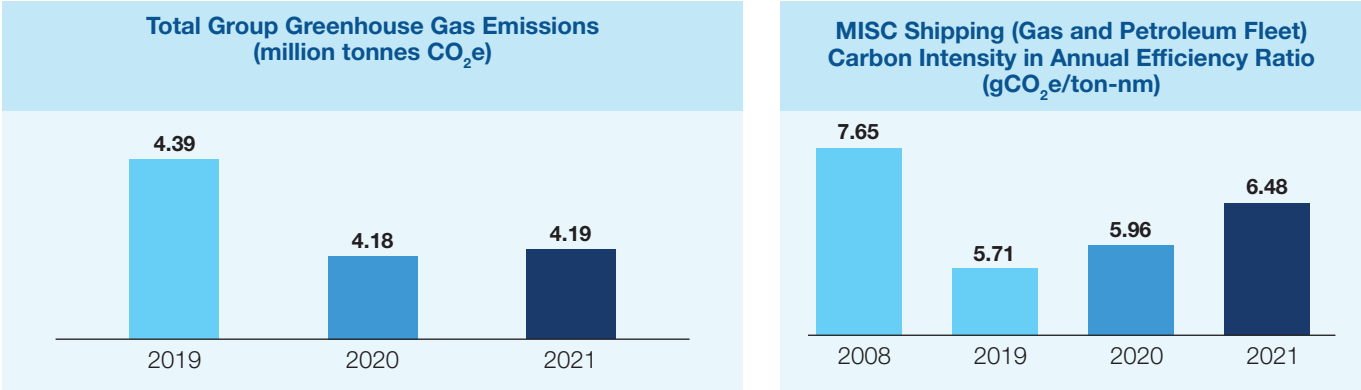
Our GHG Journey



In 2021, we achieved a 15% reduction in our fleet average CO₂e intensity (gas and petroleum) compared to 2008. In comparison to our performance in 2020, our gas fleet average CO₂e intensity was 6% lower in 2021. The decrease is due to improved efficiency achieved through both operational and technical improvement initiatives as well as our focus on low-carbon design of newbuild vessels. Our average shipping fleet CO₂e intensity in 2021 however was higher by 9% compared to 2020. The reason for this increase is largely due to the disposal of four of our very large crude carriers (VLCC) which are more energy-efficient per transport work compared to other vessel types. Additionally, in 2021, the addition of dynamic positioning shuttle tankers (DPSTs) to the fleet also contributed to the increase in the petroleum fleet average CO₂e intensity. DPSTs are specialised vessels where their operational requirements demand specialised equipment with higher fuel consumption.

In absolute term, our GHG emissions from all operations were recorded at 4.19 million tonne CO₂e, which is about the same as last year.

DNV, our appointed third-party classification society, verified our vessels’ fuel consumption and relevant data. The verification confirmed that our fuel consumption data were collected and reported in accordance with the methodology and processes set out in the Ship Energy Management Plan (SEEMP) and Regulation 22A of Annex VI of the MARPOL Convention.



ENVIRONMENT PILLAR

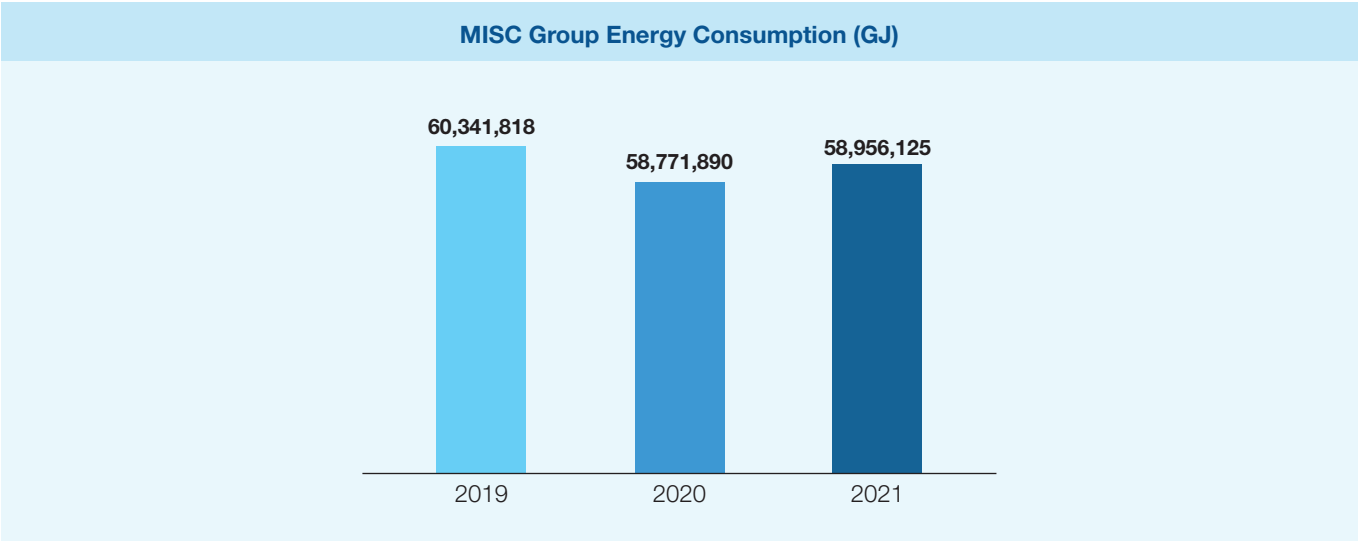
OUR ENVIRONMENTAL MILESTONES:
HOW FAR HAVE WE COME

ENERGY EFFICIENCY

Energy use is a material issue for our business in energy transportation and offshore solutions. We will continue to adopt energy efficiency measures as the primary method of reducing our energy footprint in the short-medium term. Optimising the Group's energy consumption will save long-term costs and reduce GHG emissions. We continue to implement our Energy Efficiency Reduction Programme for shipping and non-shipping operations.

Operationally, various initiatives in support of our ISO 50001 Energy Management System were implemented for the fleet. Hull cleaning and propeller polishing are carried out based on performance monitoring and condition assessment basis. Vessels dock-to-dock performance trend analysis and continuous monitoring of the vessels' performance for detection of deviation have triggered hull cleaning and propeller polishing in timely manner while avoiding excessive fuel consumption. Energy efficiency performance of vessels during discharging and loading operations at ports are monitored. All vessels' performance is evaluated under specific established baseline depending on sea trial data on a quarterly basis. The opportunities for fuel saving in these operations are highlighted to the operations and commercial teams for enhancement of the performance.

Additionally, we are progressively implementing advanced technologies, such as optimised newbuild designs, advanced anti-fouling paints and energy-saving fittings on newbuilds.



RENEWABLE ENERGY

In 2021, we started to use renewable solar energy in our Marine & Heavy Engineering business segment, MHB. Total renewable energy used amounted to 6,075 MWh in 2021.

 [Read more on the MHB Solar Programme](#)



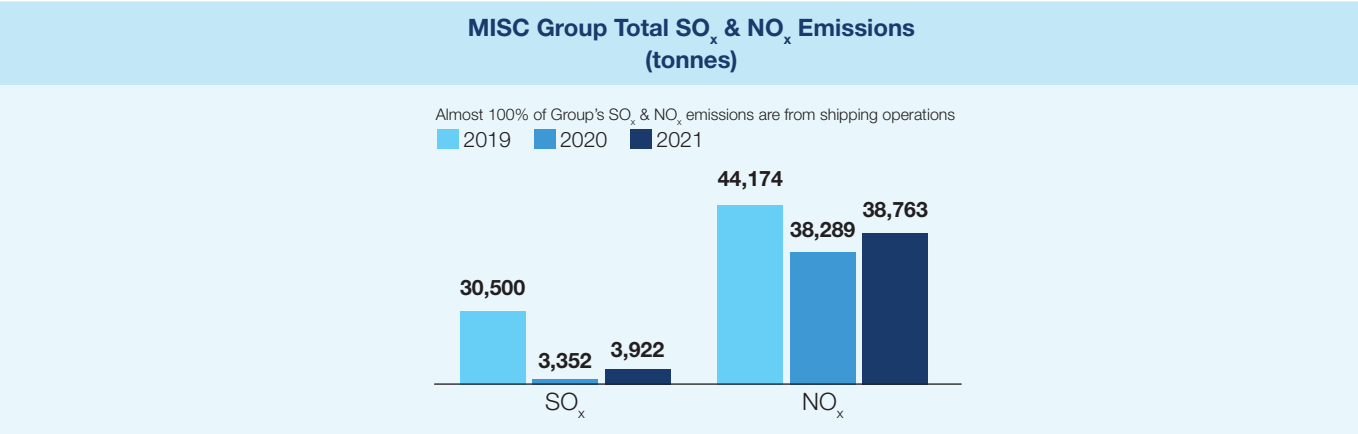
ENVIRONMENT PILLAR

OUR ENVIRONMENTAL MILESTONES:
HOW FAR HAVE WE COME

AIR EMISSIONS

The IMO 2020 Global Sulphur Cap, effective from 1 January 2020, stipulates that the sulphur content in fuel oil used by ships must not exceed 0.50% m/m. Since its implementation, we have introduced several initiatives to meet this requirement, including:

- Changing our fuel to low sulphur fuel and LNG
- Retrofitted a few of our vessels with scrubbers
- Powering newbuild vessels with lower NOx emission engines



OZONE DEPLETING SUBSTANCE

We are committed to phasing out Ozone Depleting Substances (ODS), under the provisions of the Montreal Protocol. Approximately 97% (for shipping only, exclude workboats) of the refrigerants used on our vessels are non-ozone-depleting with zero ozone-depleting potential. We continue to implement various measures to protect the ozone layer such as:

- Switching to non-ODS refrigerants on vessels and offshore floating assets
- Implementing Refrigerant Management Procedures onboard vessels and offshore assets
- Tracking and regularly monitoring refrigerant consumption

We also recorded a 56% reduction in ODS compared to 2020.

WASTE

Global waste generation rates are rising, with approximately 1.3 billion tonnes of global municipal solid waste generated annually. With rapid population growth and urbanisation, annual waste generation is expected to increase to around 2.2 billion tonnes a year by 2025.

Aligned with our Promoting Circular Economy strategic priorities, we promote waste refusal, the continual use of resources and increasing renewable resource use throughout our operations and value chain. Our initiatives are centered around:

Practising 4R (Refuse, Reduce, Reuse and Recycle)

Utilising the Waste-to-Value concept wherever possible, which includes responsible ship recycling for our end-of-life vessels

Promoting greater utilisation of renewable resources throughout our operations

We operate on land and at sea. Our waste management complies to the specific regulatory requirements in the geographical areas we operate.

WASTE MANAGEMENT AT SEA

Waste management at sea is governed by MARPOL. All our vessels have garbage management plans and waste is separated on board. Most of the wastes generated onboard our vessels are sent to shore reception facilities for onward recycling, treatment, recovery or disposal. Wastes that are not sent to shore are incinerated onboard using type-approved shipboard incinerators while food wastes are discharged to sea in compliance with the requirements of MARPOL Annex V.

In 2021, we continued our efforts to reduce the generation of plastic wastes from our operations. Our fleet implemented programmes to reduce the use of non-essential single-use plastics, replacing them with reusable non-plastic alternatives or biodegradable options where possible onboard our vessels. Action taken as part of the programme included:

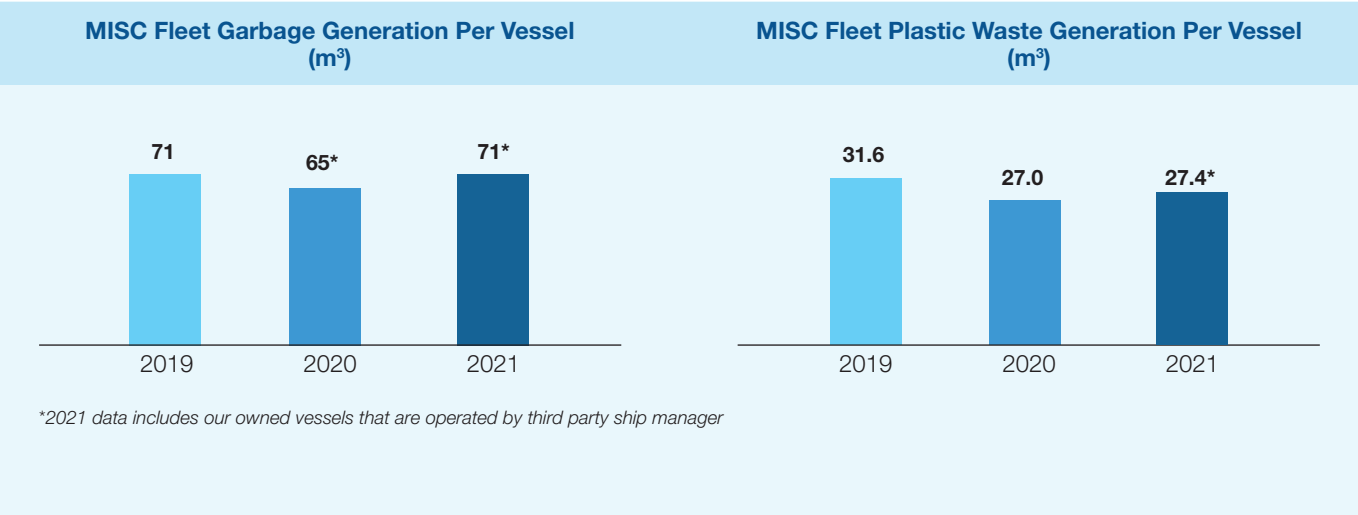
Requisition of plastic garbage were replaced with paper-based garbage bags / jumbo bag / gunny sack

Purchase of supplies that come in bulk packaging where feasible

All plastic-based cutlery, plates and cups and small containers were replaced with reusables

Plastic food wrapping material were replaced with non-plastic materials such as aluminium foil

However, we have observed a slight increase in the generation of garbage and plastic wastes per vessel in 2021, largely due to the increased use in face masks and single-use food packaging for onboard visitors on the basis of hygienic concerns. Additionally, we have observed a higher garbage generation on our petroleum vessels which are managed by third party ship managers. As part of our waste target and strategy moving forward, initiatives to reduce waste generation will include these vessels.



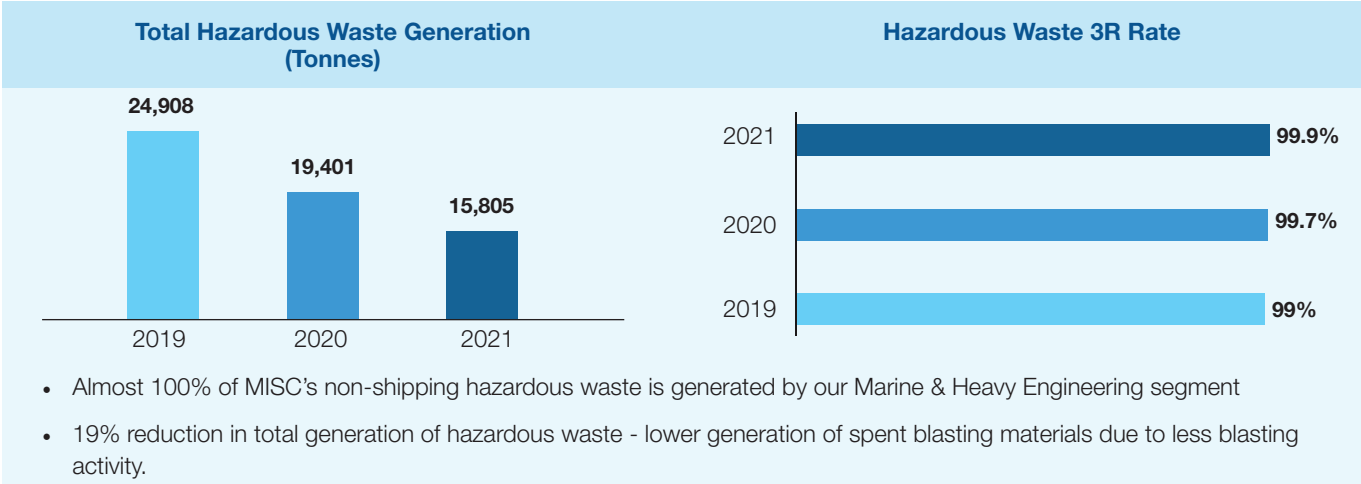
ENVIRONMENT PILLAR

OUR ENVIRONMENTAL MILESTONES:
HOW FAR HAVE WE COME

WASTE MANAGEMENT AT SHORE

Hazardous Waste Management from Shore Operations

In 2021, almost 100% of hazardous wastes generated from our shore operations were recycled, reused or recovered. Our Marine & Heavy Engineering operations continued to send spent blasting materials generated from yard operations to licensed cement manufacturing facility where they are recycled and used as raw material in the production of cement. Additionally, the use of durable abrasives for certain operations allowed the reusing of materials, which reduced waste from blasting.



WASTE TARGETS

We have set 4R (Refuse, Reduce, Reuse and Recycle/Recover) targets for hazardous, non-hazardous, paper and plastic waste to be achieved in 2025 as illustrated below.

Target 1: PLASTIC WASTE REDUCTION		Target 2: PAPER REDUCTION	Target 3: HAZARDOUS WASTE Reuse, Recycle and Recover (3R)	Target 4: NON-HAZARDOUS WASTE Reuse, Recycle and Recover (3R)
27% reduction in plastic waste generation per vessel in 2025 compared to 2019	19% reduction in plastic waste generation per personnel on-board in 2025 compared to 2019	40% reduction in paper consumption per vessel in 2025 compared to 2019	To maintain an annual 3R rate of >95% of hazardous wastes generated	To increase the annual 3R rate of non-hazardous wastes generated to 70% in 2025 from 8% in 2021
MISC's Shipping Operation	MISC's Offshore Business	MISC's Shipping Operation	MISC's Shore Operation	

Key strategies to achieve our 2025 waste targets are as follows:

1. Reducing packaging wastes through supply chain interventions
2. Implementing an electronic work system on our fleet
3. Organic waste reduction initiatives

We will embed these strategies into the yearly HSSE plan for implementation from 2022 to 2025.

WATER MANAGEMENT

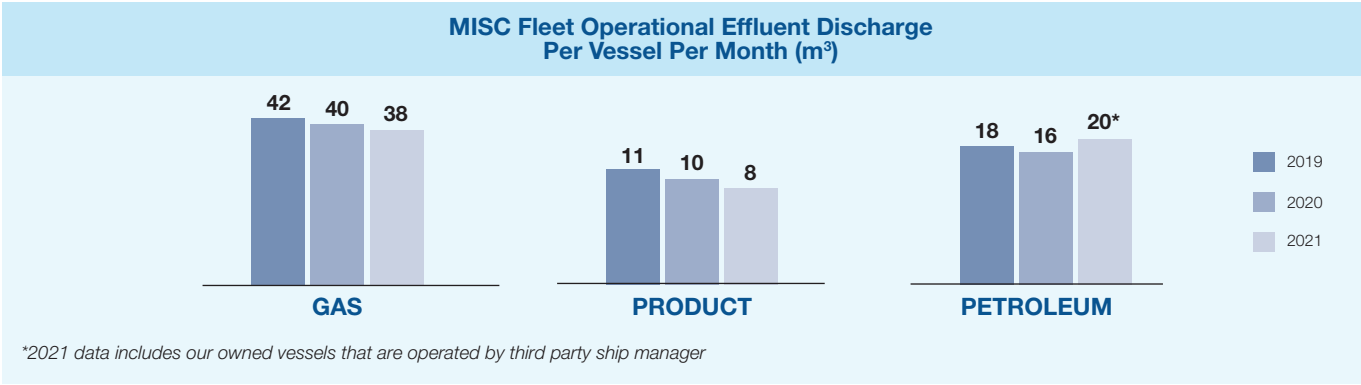
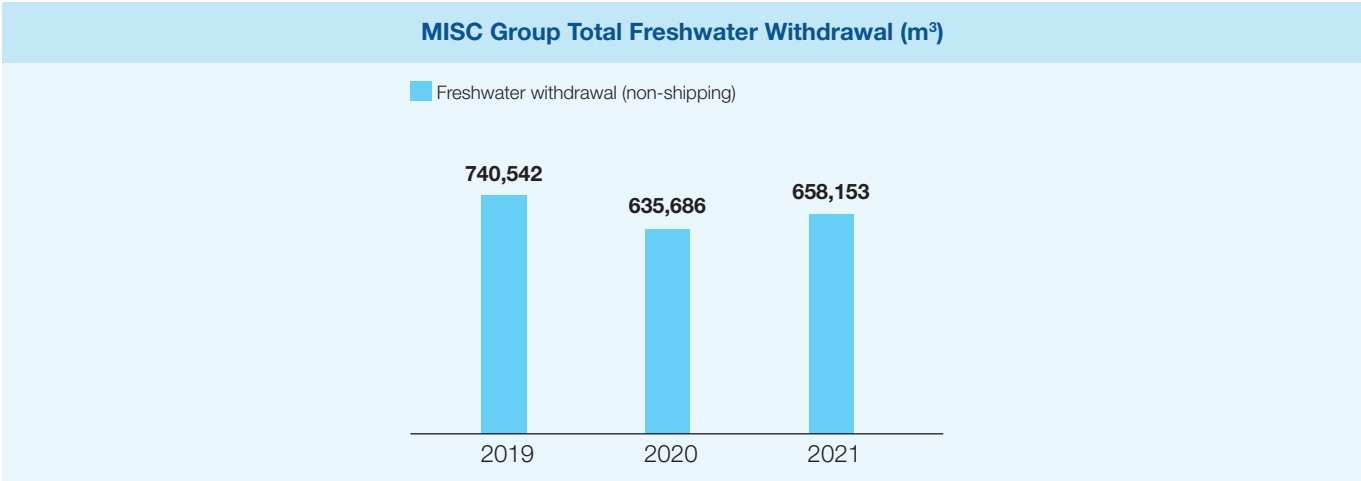
Water covers 70% of our planet and is often considered plentiful. However, only 3% of the world's water is freshwater. Therefore, we believe in focusing our efforts in improving operational water-use efficiency at shore.

WATER GENERATION AT SEA

Freshwater consumption by our vessels are produced onboard by each vessel's freshwater generator, hence, depletion of freshwater resources is not considered material for our shipping operations.

We manage our operational effluent discharge from our vessels through proactive action in rectifying leakages to reduce water and oil accumulating in the engine room.

As for non-shipping operations, in 2021, our total freshwater withdrawal recorded an increase of 4% compared to last year.



ENVIRONMENT PILLAR

OUR ENVIRONMENTAL MILESTONES:
HOW FAR HAVE WE COME

WATER AND EFFLUENT MANAGEMENT FOR NON-SHIPPING OPERATIONS

Water consumption and effluent management are significant material matters for our marine and heavy engineering yard operations due to the business nature and proximity to the sea. We note this risk and regularly monitor water consumption and functionality of our treatment facilities, including the sewage treatment plant and effluent treatment system. We monitor water discharges, including surface water and marine water, to ensure they comply with the following:

- Environmental Quality (Industrial Effluent) Regulations 2009 (Standard B)
- Malaysia Marine Water Quality Standard (MMWQS)
- Site Screening Level DOE for Contaminated Land Management and Control Guideline
- National Water Quality Standard

Our Marine & Heavy Engineering business segment, MHB adopted the Self-guided Regulations by the local Department of Environment (DOE), encouraging companies to take responsibility in their monitoring and reporting by submitting our monitoring results through DOE online system.

In 2021, our effluent discharge from all regulated sources were in compliance with Standard B of the Environmental (Industrial Effluent) Regulations 2009.

BALLAST WATER MANAGEMENT SYSTEM

Since the introduction of steel-hulled vessels, water has been used as ballast to stabilise vessels at sea. Ballast water is essential for safe and efficient modern shipping operations. Unfortunately, when not properly managed, it can cause adverse ecological, economic and health problems due to bacteria, microbes, small invertebrates, eggs, cysts and larvae. The transferred species may survive to establish a reproductive population in the host environment, becoming invasive, out-competing native species and multiplying into pest proportions.

All newbuild vessels of MISC delivered since 2016 are equipped with a Ballast Water Treatment System (BWTS). A 5-Year Ballast Water Management Retrofitting Plan has been implemented to ensure timely compliance for all vessels. In 2021, an additional 13 vessels were retrofitted with the BWTS.

Green Office Partnership

To date, 10 MISC Group offices have received the Green Seal Green Office Partners certification in 2019 and 2020. Green Seal Green Office Partnership is a certification that implement standards on office sustainability, focuses only on those areas within the direct control of office managers which include waste management, staff education, office and pantry supplies, IT equipment management, transportation and office operations. In 2021, the activities under the certification programmes continued including:

1. Implementation of the MISC Group Environmental Sustainability in the Office Guidelines.
2. Waste separation practices in the offices.
3. Activation of sleep mode function on all computers, laptops & printers.
4. Switch to usage of Forest Stewardship Council (FSC) certified paper.
5. Empowerment and training of Fire Safety Manager as office environmental sustainability focal person.
6. Enhancement of Office Walkabout Checklist to incorporate environmental topics and elements.
7. Enhancement of MISC's HSE induction module to incorporate topic on office environmental sustainability as means to raise awareness on office-related environmental requirements and expectations.
8. Raise awareness on green practices through HSSE moment and fixing of signages to inculcate green practices among employees.

ENVIRONMENTAL AWARENESS PROGRAMME

Environmental sustainability concerns our impact on ecological and natural resources. Inviting our employees to contribute to our environmental programmes inspires them to contribute to the future green world by playing their roles today.

In 2021, we held several environmental programmes with the aim to raise employee awareness and encourage employee participation. These include Eco-Hero Programme, World Ocean Day Celebration and MMS Plastics Free and Recycling Campaign.

Eco Hero Programme

Objective



The programme raises awareness of the importance of employees being environmentally responsible in their lifestyle choices

About this contest



The contest invites employees and family members to develop environmental pledges around the 4R theme

Impact



230 employees and family members participated
Recycled **3.7 tonnes** of waste
Saved approximately **2,000 litres** of freshwater
Avoided about **20 tonnes** of CO₂ emissions, equivalent to planting **1,250** trees

MMS PLASTIC FREE AND RECYCLING CAMPAIGN

Our Port Management and Maritime Services segment (MMS) conducted the Plastics Free and Recycling Campaign to reduce consumption and usage of biodegradable plastic and ban single-use plastic throughout MMS offices and operation areas. Campaign activities included:

- Introducing the MMS Plastic Free Day
- Replacing small bins with centralised recycle bins
- Running a videography competition with a Biodegradable Plastic Recycling theme
- Distributing lunch bags for store reusable lunchboxes and cutlery

SOCIAL PILLAR

HEALTH AND SAFETY, OUR UTMOST PRIORITY



SOCIAL HEALTH AND SAFETY

OUR COMMITMENT

- To provide a safe and healthy environment for employees, contractors and our communities
- Health and safety (H&S) leadership 'See It, Own It' Culture

OUR INITIATIVES

Strengthen Health and Safety Culture through the adoption of:

- Integrated Health and Safety Framework
- Contractor Health, Safety and Environment (HSE) Management
- Process Safety Management
- Health and Safety Competency

OUR CONTRIBUTION TO UNSDG



Promote health and well-being of employees, contractors and our communities

Health and safety is equally important as other primary business objectives. We have implemented a health, safety and environment management system throughout our operations regardless on vessels, onshore and offshore in compliance with relevant legislation. It provides a reference framework to ensure safe practices for our people, assets and prepares for responding to emergency situations.

The Health and Safety strategic priority directly contributes to the third UNSDG by promoting the health and well-being of employees, contractors and communities.

As it can have a critical impact on the organisation and the environment, health and safety are prerequisites when formulating plans, acquiring assets, making critical decisions and managing total business risks.

All of our workplaces, activities and services adhere to the applicable laws, regulations, internal standards and procedures to protect the health, safety, security, environment and well-being of the employees, contractors and communities.

MISC GROUP HSE POLICY

We reviewed and refreshed the Group HSE Policy in 2021 to reflect our HSE commitment and strategic sustainability priorities more effectively. Please download a copy of our revised HSE Policy from our corporate website.



HEALTH, SAFETY AND ENVIRONMENT MANAGEMENT SYSTEM (HSEMS)

The HSEMS is a system pursuant to the HSE policy instituted by MISC top management. At MISC, we implement the MISC Group Integrated HSEMS developed in reference to applicable international standards, legal requirements, and other recognised industry best practices. The HSEMS helps in planning and mitigating the risks of health and safety of employees, visitors, contractors as well as the environment.

The HSEMS establishes the expectations and minimum performance objectives for managing HSE within MISC Group of Companies. Key elements of our HSEMS includes:

- Top-down commitment and company's culture necessary for success in the systematic management of HSE;
- Requirements for policy, strategic objectives and development of HSE Plan, considering the overall risk levels of business activities and taking into consideration the legal requirements, technological change, emerging issues and key stakeholder's expectations;
- Description of organisation structure, roles, responsibilities, authorities, accountabilities and interrelations (e.g. partners, contractors, regulators);
- Identification of HSE hazards and evaluation of HSE risks, for all activities, services and development of control and recovery measures to reduce HSE risks to as low as reasonably practicable (ALARP);
- Planning of work activities, managing changes, and development of emergency response measures as well as ensure systems in place to verify that the tasks and activities are carried out in accordance with procedures and work instructions;
- Assurance programme to review and verify effectiveness of the management system; and
- Periodic review of HSEMS for suitability and effectiveness.

Offshore Business segment, MHB, MMS and Eaglestar are certified with the ISO 45001:2018 Occupational Health and Safety Management System which recognises the pursuit for HSSE excellence.



Details of the scope of our certification can be found in Performance Data section

SOCIAL PILLAR

HEALTH AND SAFETY, OUR UTMOST PRIORITY

OUR BEHAVIOUR-HEALTH, SAFETY, SECURITY AND ENVIRONMENT (B-HSSE) CULTURE

It is not always about what we do, but how we do it that results in accidents. HSSE advice is relevant to all workplaces: offices, sites and at sea. These all have one thing in common – people are involved.

We introduced several HSSE programmes through b-HSSE to drive excellence in our HSSE culture. These programmes engender a generative HSSE culture that integrates health and safety fundamentals into all aspects of the business, operation systems and processes.

As part of the capacity building of a b-HSSE culture, we provide those responsible for managing HSSE hazards with the necessary training, skills and competencies.

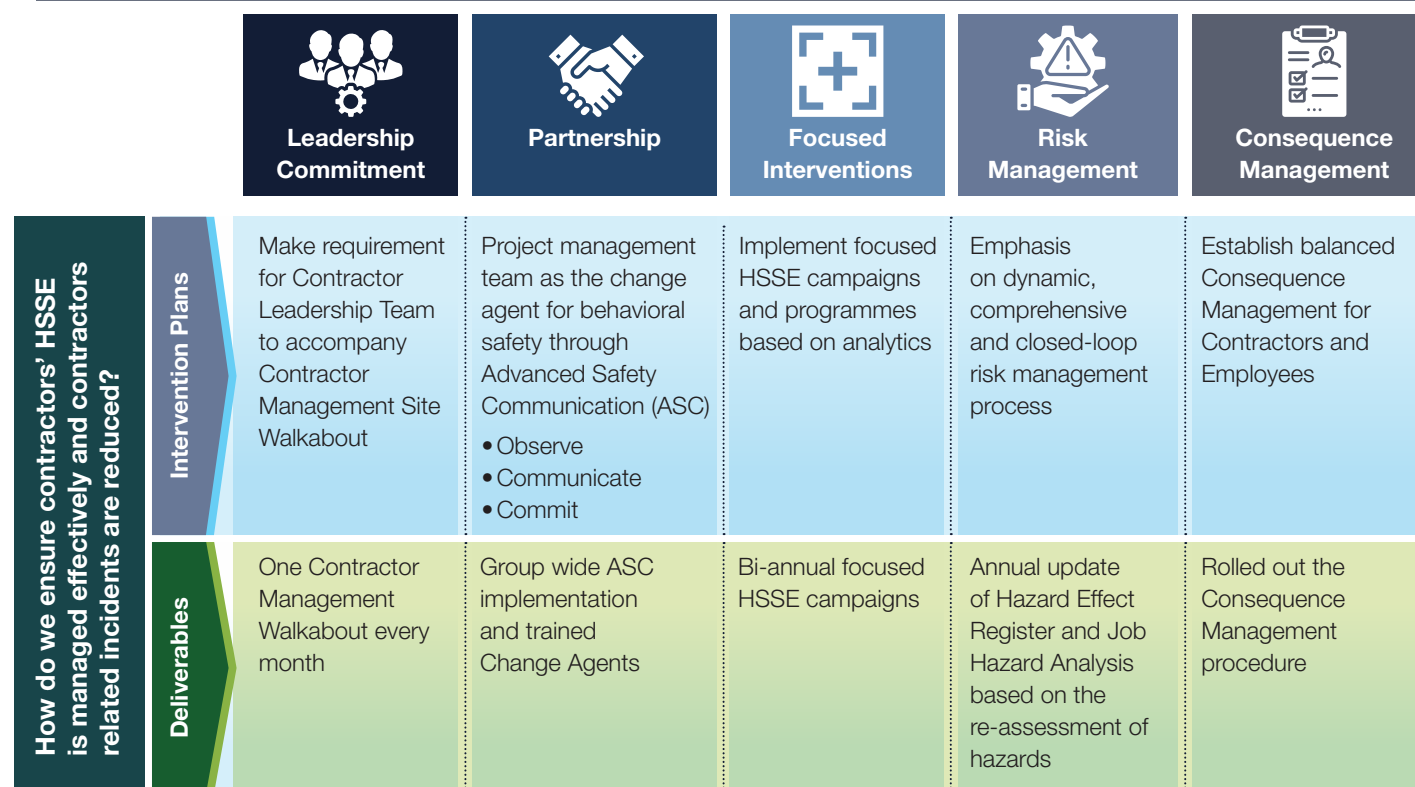
Individual employees participated in HSSE initiatives organised throughout the year, as highlighted in the following sections.






SAFETY

HSSE NON-COMPLIANCE MANAGEMENT

We introduced HSSE Non-Compliance Management for managing cases of non-compliance with the MISC Safety Rules that can lead to incidents. A dedicated system and procedures help manage unsafe behaviour and HSE non-compliance incidents, covering incident reporting, investigation, improvement actions and lessons learnt.

Contractor HSE Management Intervention Plan

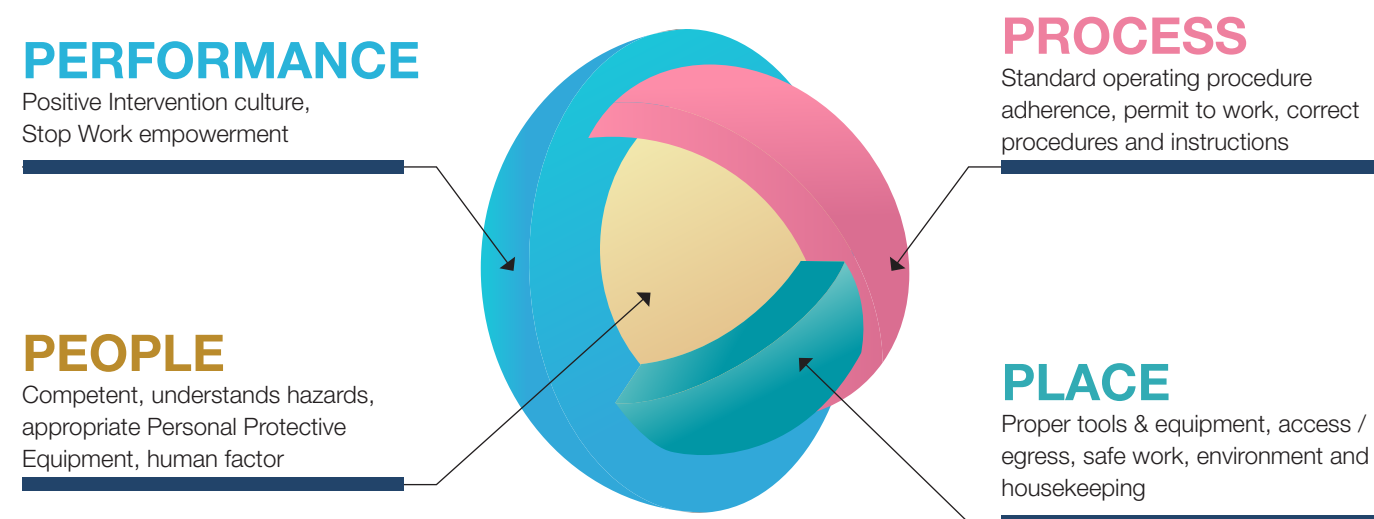


 Leadership Commitment	 Partnership	 Focused Interventions	 Risk Management	 Consequence Management
<p>Make requirement for Contractor Leadership Team to accompany Contractor Management Site Walkabout</p>	<p>Project management team as the change agent for behavioral safety through Advanced Safety Communication (ASC)</p> <ul style="list-style-type: none"> • Observe • Communicate • Commit 	<p>Implement focused HSSE campaigns and programmes based on analytics</p>	<p>Emphasis on dynamic, comprehensive and closed-loop risk management process</p>	<p>Establish balanced Consequence Management for Contractors and Employees</p>
<p>One Contractor Management Walkabout every month</p>	<p>Group wide ASC implementation and trained Change Agents</p>	<p>Bi-annual focused HSSE campaigns</p>	<p>Annual update of Hazard Effect Register and Job Hazard Analysis based on the re-assessment of hazards</p>	<p>Rolled out the Consequence Management procedure</p>

The incident investigation procedure details the processes involved and techniques to identify immediate and root causes of incidents. Based on the analysis in 2021, improper risk management remains the dominant root cause for operational incidents such as inadequate hazard identification, the application of risk controls, communications and change management. Enhancing our Contractor Intervention Plan and focusing on the dominant root causes have helped reduce this risk.

To further enhance our contractor HSE management system, we established Advanced Safety Communication (ASC) in 2021. This tool provides the project management team, managers and supervisors with a systematic approach to shaping safe workplace behaviour. ASC improves engagement and communication, especially with contractors, using the 4Ps (People, Place, Process & Performance) to identify hazards and reinforce good practices. Over the year, we have trained more than 38 safety leaders on the ASC approach to strengthen behavioural safety towards a Generative Culture.

The following diagram illustrates the ASC principle:



PROCESS SAFETY

Some of our assets are installed with a complex processing facility that requires a complex management of mechanical integrity issues. A structured control framework maintains the integrity and reliability of our assets so that all fluids are held within the primary containment. Corrosion, leakage and poor maintenance can cause some equipment to fail and may pose a risk for us. Therefore, case-specific prevention plans are essential for maintaining an As Low As Reasonably Practicable (ALARP) risk. Failure to have a structured prevention plan may lead to Loss Of Primary Containment (LOPC).

In the effort to manage potential damage of our assets and reputation as well as the lives of the people and environment, we introduced Process Safety Management (PSM). Our offshore and floating storage units are the first to pilot the initiatives with guidance from Group HSSE. As part of the PSM, a new LOPC and Fire Mitigation Prevention Framework were implemented as preventive control barriers to manage process safety risks. Through implementation of the structured framework, we are actively identifying and bridging the gaps for the existing technical safety standards and procedure against the international standards.

SOCIAL PILLAR

HEALTH AND SAFETY, OUR UTMOST PRIORITY

Our offshore business also began reporting process safety events using the API 754 Process Safety Performance Indicators (PSPI). Moving forward, we aim to integrate PSPI throughout the Group using a standardised reporting system. PSPI detects the initial critical deteriorating performance risk controls, which allows remedial action before a catastrophic event occurs. The PSPI programme also aims to:

- Identify risk trends at different levels in the asset;
- Focus on leading by measuring the health of critical risk controls before incidents occur;
- Address lagging indicators by measuring system failures such as incidents and accidents; and
- Challenge current performance and provide objective evidence of the real state of process safety within the organisation.

Implementing PSM is a continuous journey and supports our aspiration of becoming an industry leader in technical and process safety.

ENHANCING SAFETY CULTURE THROUGH COMMUNICATION

Our HSSE committees represent all employees on HSSE matters. Employees can also raise their concerns through Unsafe Condition Unsafe Act (UCUA) Reports. We have enhanced UCUA reporting and analytics through a digital UCUA application as proactive intervention to raise HSSE concerns and ultimately prevent incidents. Mobile and web applications provide efficient reporting, and data can be analysed on a daily basis. In 2021, we received 91,105 UCUA reports from employees and contractors, which were then closed-out by relevant onsite functions.

We communicate UCUA analysis findings to the workforce during daily Toolbox Talks and relevant HSSE campaigns. We also raise HSSE matters and performance at the respective Council and Committee levels. HSSE Alerts and Lessons Learned are disseminated regularly through workplace portals, the MISC intranet portal and email.

Implementing a strong safety culture is necessary due to the high-risk working conditions of our operations. The Stop Work Authority is one of several initiatives developed to promote safe behaviour amongst all employees including seafarers. The concerns were resolved before work was permitted to resume safely.

MISC GROUP HSSE RECOGNITION DAY 2020

Our annual HSSE Recognition Day honours teams’ and individual HSSE achievements. This programme is also an avenue for sharing HSSE experiences and aspirations. The HSSE Recognition Day was conducted virtually in 2021 and broadcast live to all employees at various locations. Almost 800 employees from all offices, vessels and floaters joined this live event.

2020 was an unprecedented year; the COVID-19 pandemic presented many challenges to our daily lives and business operations. We were encouraged to stay united in overcoming the hurdles of the new norm and build HSSE resilience. The event’s highlight was awarding the winners for Best UCUA 2020 and HSSE Personality 2020 as well as recognising Eaglestar for going beyond requirements by completing their Health Risk Assessment at Floating Storage Unit 1 and 2.

SAFETY TRAINING

A workplace with an efficient safety training programme can reduce turnover, improve productivity and morale. As an employer, our responsibility is to provide our employees with knowledge and skills to perform their work in a way that is safe for them. We acknowledge the needs for different safety training requirements for different job scope and operations, hence all of our operating units have a comprehensive safety training regime for their frontliners.

Line of Fire hazards are one of the main concerns in operations safety as seen from analysis of incidents. A groupwide Reflective Learning on the topic Line of Fire was carried out on 28 April 2021 as part of the World Day for Safety and Health to increase awareness and reflect on the preventative measures to be taken.

Enhancing competency in incident investigation techniques and preparing more competent personnel to carry out incident investigations are another focus for safety capability and development. 14 people have been trained and certified as Tripod Beta (incident investigation method) Bronze and 2 people have achieved Tripod Beta Silver certification.

MISC, in collaboration with Malaysian Institute of Road Safety Research (MIROS), carried out a behaviour modification programme leveraging psychometric diagnostic tool to measure road user’s competency and readiness level. More than 500 employees attended the virtual workshop sessions for upskilling situational awareness, hazard prediction and understanding the importance of managing fatigue and stress whilst on the road.

To further strengthen Process Safety Management across the Group, an awareness training session was conducted with a sharing session by offshore business on Fundamental Introduction and Awareness of PSM topics. The response was overwhelming, with more than 70 personnel attending the session.

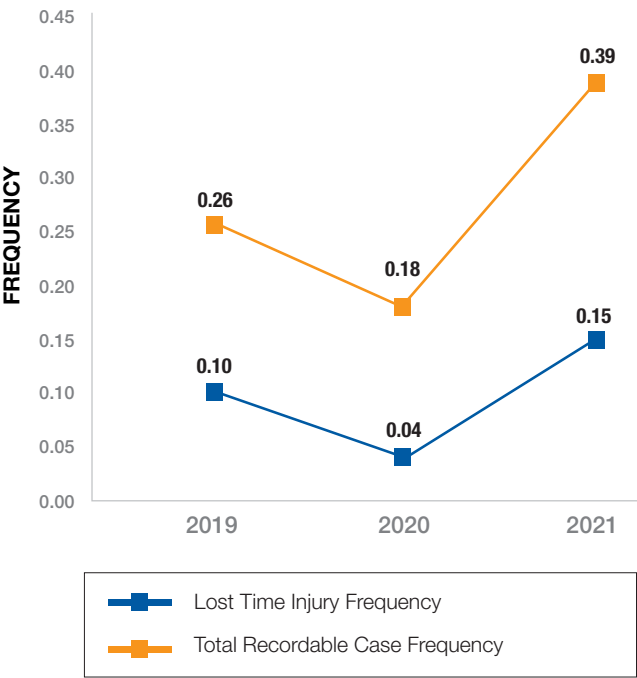
SAFETY PERFORMANCE

The MISC Group achieved our HSSE targets in 2021. Our shipping and construction yard business were in the top quartile for safety performance benchmarking in their respective businesses.

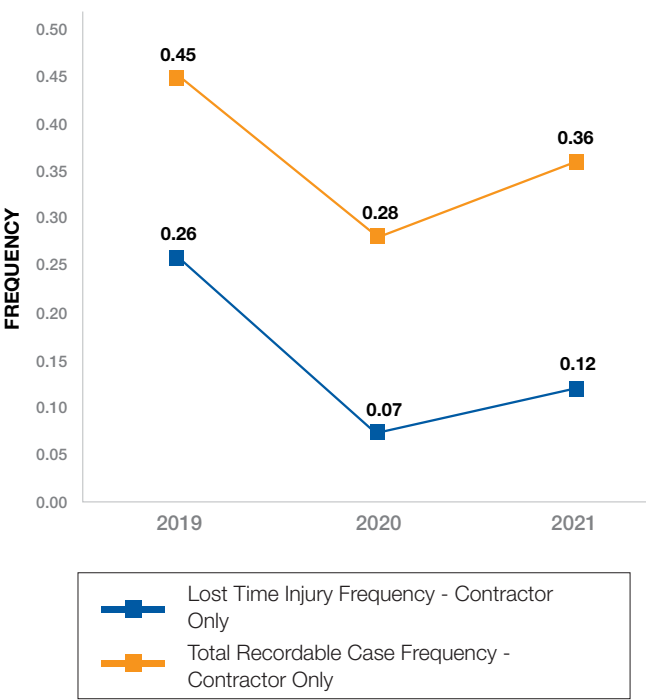
In 2021, MISC Group recorded the Loss Time Injury Frequency (LTIF) and Total Recordable Case Frequency (TRCF) were 0.15 and 0.39, respectively. Though better than the set limits, LTIF and TRCF have increased compared to 2020. We identified pandemic fatigue as the main factor influencing employees’ situational awareness in the workplace.

The number of incidents and major injuries saw a downtrend towards the year-end, following the implementation of the Incident Intervention Plan and easing of global COVID-19 restrictions.

MISC Group Safety Performance



MISC Group Contractor Safety Performance








SOCIAL PILLAR

HEALTH AND SAFETY, OUR UTMOST PRIORITY

INCIDENT PREVENTION

The Incident Intervention plan addresses safety fundamentals such as improving onsite leadership visibility, emphasising risk evaluation and effective communication, heightening intervention, stopping work for unsafe behaviour and conditions and increasing employee engagement. The pandemic restrictions did not prevent leaders from engaging with employees and demonstrating safety leadership values. We conducted 124 physical and virtual employee engagements across the Group in 2021.

We investigate incidents of all sizes to identify the underlying causes and share lessons learnt across the Group. Group reflective learning post incidents also instils a deeper understanding of incidents and preventative measures. Predominantly, inadequate hazard identification, application of risk controls and change management contributed to incidents.

 LEADERSHIP VISIBILITY	 RISK EVALUATION	 INTERVENTION AND STOP WORK	 HSSE COMMUNICATION	 WORKFORCE ENGAGEMENT
Enhance leadership visibility at site/shop floor/work areas	Risk evaluation of activities and emphasise supervision for normal/routine activities	Emphasis on Intervention and Stop Work	Ensure effective risk communication	Increase engagement with workforce and mental health awareness
<ul style="list-style-type: none">• Senior Management walkabouts• Virtual engagements	<ul style="list-style-type: none">• PTW audit and supervisors inspection• Analysis based campaigns	<ul style="list-style-type: none">• Site management to carry out toolbox talk and encourage intervention and Stop Work for unsafe behaviour and condition	<ul style="list-style-type: none">• Multilingual HSSE Alert and Lessons Learnt, and short HSE videos• Refresher trainings• Group-wide hazard awareness programme	<ul style="list-style-type: none">• Employees feedback sessions• Virtual activities (team challenges, quizzes, etc.)• Group-wide Mental Health and Well-being Programme

MISC HSSE CULTURE MATURITY SURVEY 2021

The MISC Group conducted our 2nd HSSE Culture Maturity Survey (CMS). The survey findings helped us revalidate our strategies and interventions for better results in our journey towards Generative HSSE Culture.

The objective of the survey was to:

- Gauge the level of HSSE culture maturity of MISC;
- Understand our strengths and areas of improvement; and
- Recalibrate and revalidate our strategies and interventions.

All employees were invited to participate in this survey, including seafarers and both permanent and contract employees, achieving a group-wide response rate of 89% or approximately 8,174 respondents as compared to 4,136 employees or 75% respondents in the previous survey in 2018. The survey results showed our HSSE culture had achieved a high ‘Proactive’ level in the journey towards a Generative HSSE Culture in the organisation. These findings validated our HSSE leadership and values, to drive continuous improvement.

Moving forward, the group will develop an action plan in shaping the organisation towards Generative HSSE Culture and we will be conducting the survey periodically to continuously gauge our progress towards reaching this culture standing.

SHAPING OF GENERATIVE HSSE CULTURE

In 2021, the CMS results has indicated that as a group, MISC has reached Proactive culture level however, we cannot be complacent and therefore must concentrate our efforts towards achieving Generative culture. This will enable us to prioritise and implement a very high HSSE standards, as well as making an effort to exceed them by going beyond compliance.

In 2020, we ran the Rakan HSSE programme, which provides additional support to frontline supervisors in building Generative HSSE Culture at all levels.

Moving forward, we will continue to strengthen Generative HSSE Culture by developing leaders at all levels with the right attitude and skills to promote HSSE culture and ensure forward accountability across the Group.



SOCIAL PILLAR

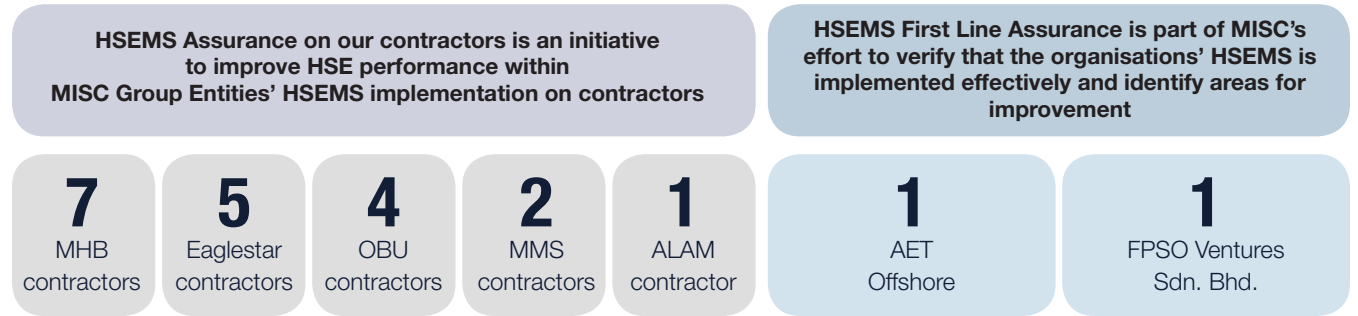
HEALTH AND SAFETY, OUR UTMOST PRIORITY

HSSE ASSURANCE IN 2021

We conduct HSSE assurance to verify, evaluate and review HSSE operational activities and ensure safe operations are consistent with international regulations, HSSE controls and internal policies. The reviews allow us to assess the adequacy and effectiveness of our internal HSSE controls and procedures. Our assurance exercise are not only meant for MISC Group operations but also extended to our contractors in ensuring their adherence to our HSE Policy and Objectives.

In 2021, our Group HSSE team conducted 21 HSEMS Assurance exercises which includes two MISC Group entities and 19 contractors. Since the onset of the pandemic in 2020, all of our assurance assignments were conducted virtually through our Remote HSSE Assurance Programme.

HSE Assurance Conducted in 2021



Safety Awards

39th Malaysian Society for Occupational Safety and Health (MSOSH) Awards 2021 <ul style="list-style-type: none">MISC Maritime Services Sdn Bhd (MMS): “Gold Merit” for Sungai Udang Port in Melaka under the Logistics and Transportations Sectors.Eaglestar Shipmanagement (L) Pte. Ltd. (Eaglestar): “Gold Merit” under the Logistics and Transportations Sectors.Malaysian Maritime Academy, also known as Akademi Laut Malaysia (ALAM): “Gold Merit” under the Educational Sectors.Malaysia Marine and Heavy Engineering Sdn Bhd (MMHE): “Gold Merit” under the Petroleum, Gas, Petrochemical & Allied Sectors.Malaysia Vietnam Offshore Terminal Limited (MVOT): “Gold Class 1” for its Floating, Storage and Offloading (FSO) asset, the <i>FSO Orkid</i>, under the Petroleum, Gas, Petrochemical & Allied Sectors.	Chamber of Shipping of America (CSA) <ul style="list-style-type: none">48 vessels received the Jones F. Devlin Awards
	Green Award Foundation <ul style="list-style-type: none">Green Award Certification for <i>Eagle Bintulu</i>

HEALTH

The global pandemic has had a devastating impact on the world, and it is not yet over. The health and safety of our employees, business partners and the communities where we operate are essential. We work very hard to keep them healthy, safe and supported.

We continued to take preventive measures throughout the year to safeguard employee health and safety during the COVID-19 pandemic.

Clear and prompt communication

We have been monitoring the global situation closely since the start of the pandemic. Situational updates and health advisories were communicated regularly. Workplace’s Standard Operating Procedure (SOP) that include employee working arrangements, visitor/contractor management and business travel were reviewed regularly in accordance with the Authority’s directives.

Case management

COVID-19 cases affecting our employees were managed with assistance from our global network of health service providers. Testing, contact tracing and quarantine procedures were developed and implemented in accordance with the local Authority’s procedure.

Sign-on and sign-off procedure for seafarers

Many seafarers were on extended contracts due to the pandemic. To ensure safe sign-on and sign-off processes, we liaised with the authority and enhanced our procedure. In 2021, we conducted crew changes for 10,864 seafarers. We also signed the Neptune Declaration on Seafarer Wellbeing and Crew Change in 2021, a worldwide call to action to end the unprecedented crew change crisis caused by COVID-19.

Vaccination requirements

In September 2021, fully vaccinated employees were permitted to return to the office. Employees returning to work must undergo weekly COVID-19 tests using the test kits provided. Additionally, to ensure workplace hygiene, we conducted a ventilation study and have successfully installed 300 units of portable medical HEPA grade air cleaners at strategic locations at our Malaysian Headquarters as recommended by the Department of Occupational Safety and Health Malaysia.

COVID-19 VACCINATION PROGRAMME

We facilitated the administration of COVID-19 vaccinations for some of our employees and their dependents by collaborating with Government agencies, PETRONAS and other service providers. Employees and dependents, who were eligible for vaccination, received their vaccines from selected hospitals and vaccination. As of February 2022, 99% of onshore and, 95% of seafarers are fully vaccinated.



SOCIAL PILLAR

HEALTH AND SAFETY,
OUR UTMOST PRIORITY

HEALTH AND WELL-BEING PROGRAMMES

Many employees were required to work from home from the beginning of the COVID-19 pandemic. To help employees cope with these challenges that may have detrimental effects to both mental and physical health, we introduced various health and well-being initiatives. Health talks, mindfulness classes, virtual walking challenge, online workout classes and regular leaders’ engagements sessions were some of the initiatives carried out to promote physical, mental, emotional and spiritual well-being. The following are initiatives as part of our flagship b-HSSE programme.

HEALTH TALKS

We held a series of health awareness sessions to raise employee awareness of several health matters.

Programme Title	COVID-19 Vaccine, is it safe for me?
	COVID-19 Update, engagement series
	The Platform Series – Introduction to Mindfulness
	PETRONAS’s Sembang Petang – Mindfulness

MINDFULNESS MONDAY

We delivered six weeks of online mindfulness training every Monday in two separate sessions. The key objective from the programme is the art of paying attention to the present moment. By knowing this concept, employees were trained to recognise and respond to their physical, mental and emotional state. The practice of mindfulness in the long run helps build employees’ personal resilience to better navigate challenges in both work and personal matters.

ERGONOMIC TALK SERIES

We held a series of health sessions on office ergonomics in August and September 2021. The sessions raised awareness of work-related musculoskeletal disorders caused by poor ergonomic practices that can lead to back pain, neck pain, Carpal Tunnel syndrome and many more. Most employees were not equipped with optimal working space at home, which led to work-related musculoskeletal conditions such as back and neck pain. We delivered three sessions entitled, ‘What is Good Posture?’, ‘An Effective Workstation Arrangement’ and ‘Understanding Common Musculoskeletal Disorders’.

THE PLATFORM SERIES: INTRODUCTION TO MINDFULNESS

Sheltering from COVID-19 at home can be overwhelming, leading to loneliness or continuous distractions. At MISC, we believe that practising mindfulness may help in managing emotional, mental and physical well-being.

Our Human Resource and Group Health, Safety, Security and Environment (Group HSSE) jointly introduced ‘mindfulness’ programme for our employees. A virtual session was held as part of The Platform Series in 2021. Two guest speakers who are certified mindfulness coach and teacher were invited to the session. The speakers introduced scientific facts on mindfulness and shared their personal experience practising mindfulness and how it helps enriches their lives. During the session, employees had the opportunity to experience mindfulness practice, guided by the coaches.

FROM US TO YOU

This collaborative effort between Group HSSE and Group Corporate Communications fostered collaborative teamwork and brought employees together in curating informative, creative and light-hearted video content. Employees were encouraged to produce and submit videos with these themes - lockdown moments, hobbies and comedy clips. A live streaming session via Workplace was held every Thursday for five weeks. Weekly winners were rewarded with USD200 and grand prize winner was rewarded with USD1,500.

PETRONAS VIRTUAL WALKING CHALLENGE

PETRONAS’ virtual walking challenge commenced in 2019 as part of its flagship health programme: MESTIFit4Health. The programme aimed to improve employees’ health and well-being in two parts: Walk4Trees (W4T) from September 2020 and Around the World (ATW) from March 2021.

The programme challenges participants to walk 20 billion steps collectively. For every 1 million steps, the organisers will plant one tree in Malaysia.

The virtual team-based walking challenge was hosted through the Bookdoc App. Participants used their fitness trackers and mobile phones to track the number of steps they walked. The challenge encouraged our employees to lead healthy, active lifestyles, especially those working from home. It strengthened team bonds through a common purpose of improving the environment for future generations. Our employees walked a total of 314, 511,421 steps from January to December 2021.


LIVE WEEKLY ONLINE WORKOUT SESSIONS

We replaced face-to-face workout sessions with virtual, live workout sessions in 2021. Qualified fitness trainer hosted these sessions every Wednesday/Thursday from 5.30 pm to 6.30 pm. He guided employees through various workout routines comprising circuit training and high-intensity interval training.

Employee Assistance Programme (EAP)

Our employees face considerable challenges, and we are mindful of the devastating effects the COVID-19 pandemic has had on their physical and mental health. We established a helpline that provides health support for employees through the EAP. This confidential helpline, operated by a third-party service provider, grants access to counsellors and health specialists.

We also encourage employees to utilise available online resources that our EAP service provider has developed for them.

 More details on our EAP can be found in the Our People, Our Strength section

Health Risk Assessment

Health risk assessments are vital for safeguarding employee health and safety in the workplace. These ongoing activities identify existing and emerging health risks related to our operations. In 2021, due to COVID-19, we conducted remote assessments for two vessels (*Puteri Zamrud* and *Avenir Advantage*) with assistance from on-board crews. Health risks identified through these assessments were highlighted to the Health and Safety representatives for corrective and preventive measures.

Industrial Hygiene Programme

We performed various Industrial Hygiene activities in 2021 to protect employee health and safety in accordance with regulatory requirements. Our activities included:

- Monitoring noise exposure at Menara Dayabumi allows us to introduce appropriate control measures to protect employees from noise hazards;
- Conducting a Chemical Health Risk Assessment (CHRA) at Menara Dayabumi to ensure safe chemical storage and handling;
- Monitoring chemical exposure at our Marine and Heavy Engineering Business (MHB) to assess and mitigate related health hazards; and
- Testing the Local Exhaust Ventilation system at several of our various entities and assets: MHB, ALAM, MAMPU 1, FSO Orkid, FSO Puteri Dulang and FSO Mekar Bergading. The results allow us to remove airborne contaminants from the workplace through effective engineering control.

SOCIAL PILLAR

HEALTH AND SAFETY,
OUR UTMOST PRIORITY

SECURITY

Corporate Security adopts an effective security management system across the Group, which identifies, evaluates and manages security risks to employees, assets, information and our reputation. We ensure the security policies, standards and guidelines are followed throughout all operations. We promote security awareness and exercise best security practices. Mitigating security risks ensures that our business operations are conducted in a safe and secure environment.

At MISC, our Corporate Security consists of two units, namely Risk Assurance and Corporate Investigation Unit:

- Risk Assurance unit conducts periodic security audits and assessments to identify potential security-related risks across the Group; and
- Corporate Investigation unit helps management fulfil its responsibilities of protecting resources and employees.

We investigate all security incidents, fraud-related offences and other breaches accordingly as outlined in our Code of Conduct and Business Ethics. We also place great importance on processes to protect the workforce, premises, facilities, equipment and information from threats, dangers or risks (physical or commercial) through criminal or malicious acts, whether wilful, negligent or otherwise to prevent major security incidents from occurring.

We continue to implement our Security Policy throughout the year and adopted an effective security management system by:

- Conducting assurance and investigation processes; and
- Providing regular security analysis and travel advisory for the Group to ensure the safety and security of our people, environment, asset and reputation.

In 2021, we focused on raising employees’ awareness of security-related issues. We also continued engaging with stakeholders, including local enforcement and government agencies on security matters.

WORKSHOP - SECURITY MANAGEMENT SYSTEM 2021

The Corporate Security Department organised the Security Management System (SeMS) Workshop in 2021. Held in collaboration with PETRONAS Group Security Team, the workshop:

- Discussed Security Management System matters;
- Introduced SeMS assurance activities in line with remote operations;
- Standardised the SeMS process across the Group; and
- Ensured employees gained the necessary knowledge to perform their duties effectively.

Security fraternities learned from the knowledge sharing session on topics around governance, maritime security, incident reporting process, deviation process and first-line assurance.

DOMESTIC VIOLENCE AND SEXUAL OFFENCES AGAINST WOMEN AND CHILDREN

Since the outbreak of COVID-19 in early 2020, emerging data and reports have shown that all types of violence against women and children, particularly domestic violence, has intensified. Quite often, these women and children have limited information and access to helpline.

In 2021, we organised an employees sharing session in collaboration with the Royal Malaysia Police to discuss the following:

- Definition of domestic violence and sexual offences against women and children;
- Awareness of the essence of domestic violence and sexual offences from an enforcement perspective; and
- Our commitment to ethical conduct and combating any form of sexual abuse within the organisation.

During the one-hour session, a senior police officer from the Malaysian Police Headquarters unfolded the public’s unfamiliarity of the nature, seriousness and impacts of domestic violence and sexual offences on victims.

BUSINESS CONTINUITY PLANNING

Business Continuity Management (BCM) increases our capacity to recover and continue operating critical business functions during any disruption. Established through the BCM process, the Business Continuity Plan (BCP) enhances our preparedness to recover and restore essential business functions within a reasonable time to sustain business activities and minimise stakeholder disruptions.

Frequently, we simulated test scenarios to validate the effectiveness of recovery strategies and maintain a high level of competence, readiness and preparedness as identified in the BCP. Our annual Business Impact Analysis and recovery plan reviews ensure that any changes in the organisation are risk-assessed, analysed and mitigated. In 2021, we conducted eight drills, including two cybersecurity exercises throughout MISC Group of companies.



The flexible working arrangement enabled employees to work remotely from home or other appropriate and approved locations in 2021. We accelerated the deployment of digital platforms for communication and collaboration to ensure teams could work remotely and effectively. Some frontliners were unable to work remotely due to the nature of their roles. These employees followed strict SOPs while practising split operations and employee rostering to minimise exposure and improve employee safety.

The pandemic has proven that with the deployment of digital platforms, working remotely is just as efficient as working in the office. With this realisation, we have revised our recovery strategy for office employees in critical business functions to work virtually during business disruption and ceased the use of third-party Alternate Work Site (AWS), resulting in cost savings to the Group. At the same time, our entities that require AWS for emergency response management have relocated their AWS to our own offsite facility, bringing about further cost savings, as well as more control over our BCP.

Operational resilience developed over time and well-executed recovery plans ensure that we provide uninterrupted services globally to customers and other internal and external stakeholders.

SOCIAL PILLAR

OUR PEOPLE, OUR STRENGTH



**SOCIAL
TALENT EXCELLENCE**

OUR COMMITMENT

- To future-proof talent and leadership agenda by accelerating talent potential
- To build a performance-driven workforce in an engaging and inclusive work environment

OUR CONTRIBUTION TO UNSDG

5
GENDER
EQUALITY

Promote female participation in the maritime industry and ensure women’s full and effective participation and equal opportunities for leadership at all levels of decision making

10
REDUCED
INEQUALITIES

Promote equal opportunities in the workplace irrespective of age, gender, nationality and cultural background

MISC Berhad

Sustainability Report 2021

123

MISC through its strategic sustainability priority aims to future-proof the talent and leadership agenda by accelerating talent potential, and build a performance-driven workforce in an engaging and inclusive work environment. Aligning to this, our strategic priorities include:

- Building and implementing structured competency development programmes based on our Leadership and Functional Competency Framework;
- Establishing Career Management Framework;
- Strengthening our Talent Bench Strength through robust Succession Planning; and
- Enhancing Employee Communication and Engagement.

The maritime industry's remote and highly technical nature can make talent acquisition a challenge on its own. Looking at the future, MISC aims to strengthen our talent bench strength with talents who are ready to explore key opportunities in digitalisation as well as work towards achieving our commitment towards decarbonisation.

With the advent of digitalisation, current and future employees are expected to upskill and reskill themselves with additional technical and digital capabilities. This encompasses digital logistic, optimised crew management system, real-time vessel tracking, safety at sea, and predictive maintenance.

In addition, MISC is committed in achieving our aim towards decarbonisation. To achieve this, our talent need to continuously innovate and improve on our energy efficiency designs and vessel operations as well as collaborate with strategic partners to develop zero-carbon emission vessel.

STRIVING IN THE NEW NORMAL

The global maritime industry has been turbulent as countries remain focused on their efforts to handle the pandemic. Cautiously optimistic that COVID-19 is in its final stage, some countries are preparing for the endemic phase, with global economy expected to pick back up.

Global maritime companies have proven their business resilience, with commendable discipline especially in health and safety. These include efforts in managing the safety measures taken by ports to contain any potential outbreak by:

- Introducing strict control over the entry and disembarkation of vessels;
- Actively testing and quarantining crews and vessels at anchorage; and
- Accelerating digitalisation by adopting new technology such as digital logistics and smart ports.


Similar trends are seen at shore as most global organisations focus on employees’ mental health, reviewing their value proposition and introducing hybrid working model.

SOCIAL PILLAR

OUR PEOPLE, OUR STRENGTH

Focus on Employee’s Mental Health and Well-being

Elevated stress and anxiety levels led to a decline in physical and mental health as employees struggled to cope with the repercussions of the pandemic. Isolation and social distancing hindered employees' ability to express themselves and managers' capacity to monitor their well-being. Most companies addressed this by providing better care and leveraging modern technology advancements such as active engagements, virtual peer support, pulse surveys and counselling services. Rapidly adopting virtual connection tools ensures help is available for those who need it.


 Our position on how we address employees mental health and well-being can be found in Health and Safety, Our Utmost Priority section

Refreshing Employee Value Proposition

A changing work model has forced organisations to rethink the employer-employee relationship. Companies are shifting from an office-centric to a more humane human-centric design by:


- Creating holistic policies that are defined for employees;
- Providing exceptional employee experience with features that match employee needs; and
- Empowering employees to be more autonomous in their personal and career development by having a shared purpose of growing together.

Most importantly, these initiatives help develop positive experiences that support an effective work environment.

 More details on our approach on employee value proposition can be found on Human Capital Value Creation section

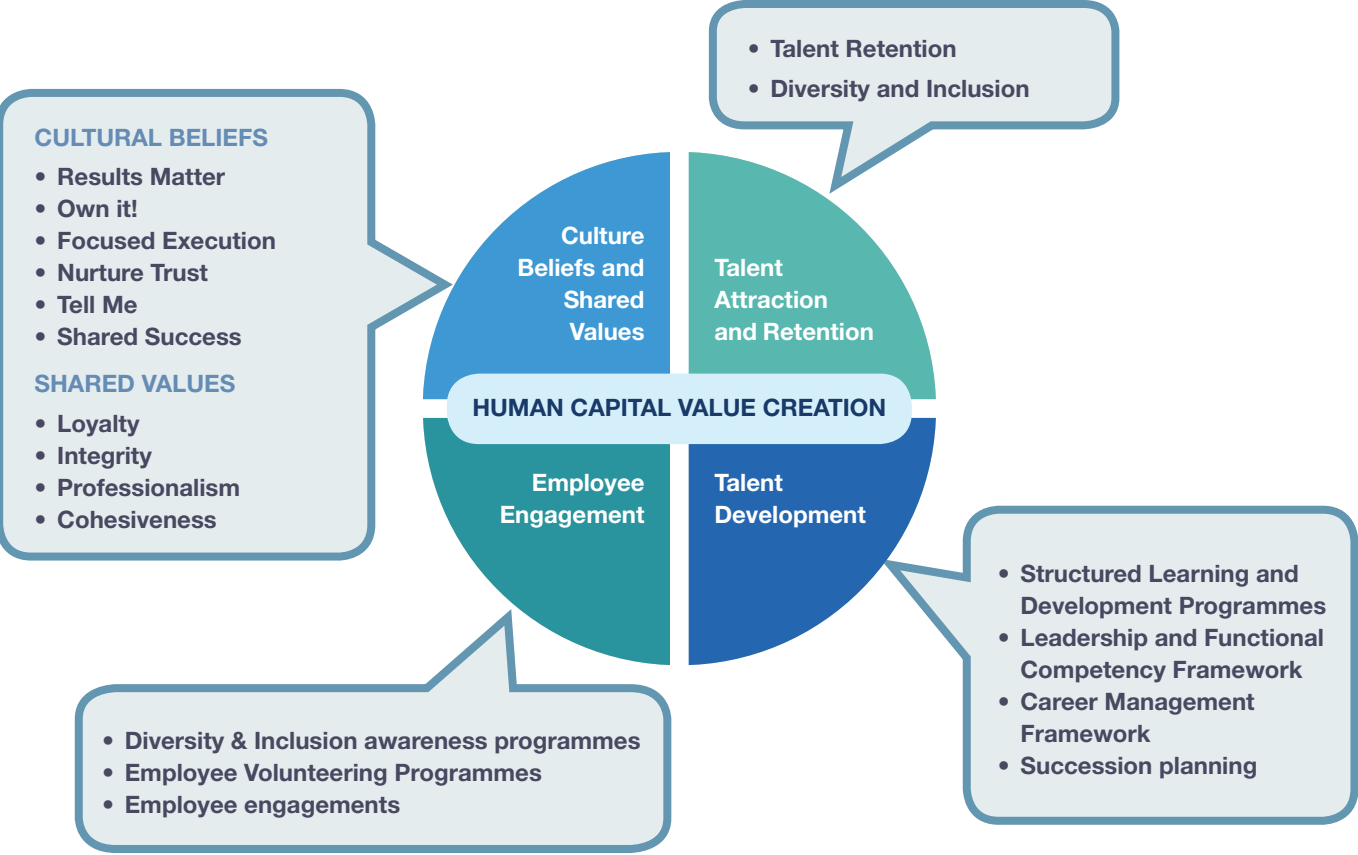
Hybrid Working Arrangements

Globally, most companies have embraced remote working as the new norm. Rather than returning to traditional work-in-office arrangements, organisations adopt flexible work models that are more inclusive, output-driven and meet employees’ needs. Working from home is no longer taboo as technology keeps everyone connected without impacting productivity.

 Details of our hybrid working arrangement can be read at Talent Attraction and Retention section

HUMAN CAPITAL VALUE CREATION

At its core, our Cultural Beliefs and Shared Values help define the company’s ethos, and our Talent Attraction and Retention drive a high-performance culture and ensure our remuneration remains competitive. Our Talent Development strategy lays the foundation for employee growth with a structured development programmes based on established competency framework, a career management framework that helps employees navigate their career path, and succession planning that ensures our bench strength remains strong. In addition, our Employee Engagement initiatives help to foster a unique MISC family.



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OUR PEOPLE, OUR STRENGTH

CULTURAL BELIEFS AND SHARED VALUES

Our Cultural Beliefs and Shared Values drive individual and team behaviours to sustain a solid and committed workforce. They are results-driven, establishing accountability, collaboration, trust, transparency, inclusivity and shared success. Our Shared Values define our talent’s unique characteristics, embodying Loyalty, Integrity, Professionalism and Cohesiveness.



ECHO+ AS OUR ONLINE CULTURAL BELIEFS TOOL

ECHO+ promotes a culture of trust and open feedback amongst the employees. Real-time feedback via mobile applications helps managers have meaningful and forward-looking conversations with employees on their professional development, resulting in closer engagement and improved productivity.

PETRONAS ORGANISATIONAL CULTURAL SURVEY 2020 (POCS 2020)

We conducted the POCS 2020 to understand what matters to our people, what drives them and ways we can improve to develop an even stronger workplace culture that caters to our business growth. The survey was based on the Denison Culture Model, benchmarked against thousands of organisations from across the globe. The survey garnered a record response rate of 94%.

Key Topics of POCS 2020



Overall, the POCS 2020 results show an overall balanced and robust culture with significant progress on all indexes. The four main cultural traits - Adaptability, Mission, Consistency and Involvement – scored at the top quartile, with some components being in the high ninetieth percentile. These results instil confidence in MISC’s ability to proactively respond to the changes in the business environment and translate those changes into future strategies and actions.

Three other modules were also included in the survey: Safety, Leadership Effectiveness and Diversity and Inclusion, with the latter two being new modules introduced in this edition. MISC improved on its safety score by fifth percentile points to be at the top quartile, further reflecting on our commitment to Health, Safety, Security and Environment. Meanwhile, Leadership Effectiveness and Diversity and Inclusion modules provide us with a valuable insight, laying the baseline for further refining of our employee engagement, diversity and inclusion aspiration as well as our leadership development.

TALENT RETENTION AND ATTRACTION

In promoting a high-performance culture, talent retention and attraction remains as one of the core drivers. Our values, policies and employee value proposition ensure that we attract candidates with the right quality, capacity and capability. We sustain our efforts to provide our talent with a challenging role, attractive remuneration and growth prospect. In 2021 , our retention rate of high performing talents was at 96.6%.

STRATEGIC MANPOWER PLANNING

Our Strategic Manpower Planning initiative aligns human capital needs with the business direction and optimises our manning requirement and manpower cost. The five-year manpower plan allows us to look at future resource requirement, skill gaps and development. In addition, we are able to determine the right intervention plan to ensure manning sustainability; whether to recruit, rent, redeploy, retrain, or redefine.

FLEXIBLE WORKING ARRANGEMENT INITIATIVE (FLEX-IT)

Understanding the complexity and needs of our employee, we introduced a flexible working arrangement to promote flexibility and inclusive workplace environment.

Flexwear was introduced in January 2021, allowing employees to come to office in a neat and professional looking business casual attire. The initiative was intended to enable our employees to project an aligned professional image, positive and inclusive whilst not compromising comfort, safety, and the environment that we operate in.



Flexwork aims to optimise work life integration and maximise work efficiency by allowing employees to determine their work arrangements according to their preferred needs while meeting the Company’s requirements. Those eligible to opt for Hybrid Working may arrange for a mix of office-based work and working from home, while those eligible to opt for Compressed Work Week may compress their work schedule and take the 10th day off. The flexible working hours allow employees to determine their preferred start and end times for their workday.



HYBRID WORKING (HW)

- A mix of office and home-based work
- In a week, work four days in the office and one day from home

COMPRESSED WORK WEEK (CWW)

- Fortnightly, compress employee’s two-week scheduled hours
- Work additional hours over nine weekdays to get the 10th day off

SOCIAL PILLAR

OUR PEOPLE, OUR STRENGTH

TALENT DEVELOPMENT

MISC adopts a holistic approach in empowering, enabling and nurturing our talents to their full potential, consequently strengthening our talent bench strength. By leveraging digital technologies, working with reputable learning providers and reviewing our framework and policies, our talent development initiatives reinforce sustainable growth. In 2021, more than RM27.94 million was invested in learning and development.

TALENT MANAGEMENT SYSTEM (TMS)

TMS serves as a unified platform for four main modules; Learning and Development, Recruitment, Competency Management and Succession Planning.

As the pandemic lingers, TMS’s online learning platform caters to employees’ development needs while ensuring that Group-driven e-learning contents such as Sustainability, Compliance and Safety are assigned automatically to everyone. We have made a wide range of topics available from reputable providers such as Harvard ManageMentor and SkillSoft. This information is accessible any time, anywhere and on any device.

Leadership and Functional competency assessments were conducted via TMS, with results linking back to their learning and development opportunities. With the ability to track, review and analyse the competency gaps, employees are encouraged to selfdrive their development.

We have centralised succession planning in TMS, which acts as a data repository and helps potential successors track their progress.

With Career Management Framework scheduled to be online in 2022, employees will be able to take charge of their careers, chart their career plans and explore opportunities within the MISC Group.

PROMOTING HIGH-PERFORMANCE CULTURE

MISC believes in promoting a high-performance culture, with an established performance review process for all employees. Mid-year performance reviews and competency conversations ensure that all employees (hired permanent or on contract) self-assess, reflect on their progress to date and close any potential gaps.

SUCCESSION PLANNING

Our robust succession planning exercise and talent development earmark potential successors and high-potentials, developing them further to ensure business continuity.

Retention and Successor Ratio Targets



LEADERSHIP AND FUNCTIONAL COMPETENCY ASSESSMENT

We comprehensively map the competency requirements for each role and assess the incumbent of the job. Each position contains both leadership and functional competency elements, making up for a holistic quality that we look for in each role. The competency assessment outcomes are translated into learning and development programmes to fulfil current and future development needs.

We strongly believe in supporting employees’ career progression. Filling 49.7% of shore vacancies internally in 2021 demonstrates the success and agility of our competency and career progression programmes.

MISC ANNUAL TECHNICAL FORUM

MISC Annual Technical Forum, now in its third edition, showcases the latest maritime technology, and promotes networking, collaboration and knowledge sharing among MISC’s engineers, technologist and marine experts. In 2021, the two-day event was held on 25 and 26 November 2021, and was officiated by Tuan Syed Hashim Syed Abdullah, VP of Offshore Business and Chairman of the Technical Career Path Steering Committee. Themed “Embracing Technology Towards a Sustainable Future”, the virtual session was packed with informative sessions – from technical presentations and panel discussions, to exhibitions on latest projects and new ideas in the technical fields.

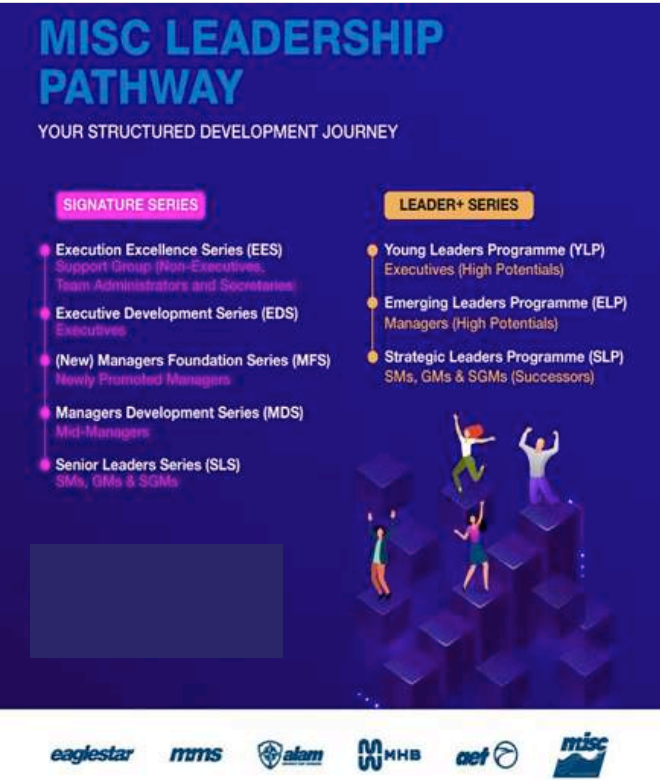
Number of attendees: 911 participants

MISC LEADERSHIP PATHWAY

In 2021, we introduced MISC Leadership Pathway programme, a structured leadership development programme based on the established Leadership Competency. The programme aims to build and develop a pool of enterprise leaders and strengthen leadership bench strengths in MISC. Leadership Pathway was developed in collaboration with renown learning providers and business schools such as INSEAD, Leaderonomics and Asia School of Business (ASB), and consists of two unique tracks – Leader+ Series and Signature Series.

Leader+ Series is a 6-month accelerated development programme aimed at equipping MISC Group’s Successors and High Potentials with new skills, experience and perspective, enabling them to immediately drive impact at work, close their gaps and increase their readiness to take on a bigger role. The programme is delivered through a blended approach that combines experiential and cognitive elements comprising engaging lectures coupled with group work, exercises, case studies, simulations, role plays and action learning projects.

Signature Series caters to the mass populations with the aim to equip our employees with the critical leadership competencies. Participants go through a series of engaging activities, lectures and role plays in the span of the one to two-year programmes.



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KEY TALENT DEVELOPMENT PROGRAMMES

The following comprise the key talent development programmes MISC conducted in 2021.

Training Type	Programme Title	Content Description
Functional and technical skills development	<ul style="list-style-type: none">Working in a Global EnvironmentProfessional Presentation Skills for Technical EmployeesBusiness English for Technical Employees	<ul style="list-style-type: none">Addressed the specific needs of groups of employees, such as training engineering employees to support the Group’s business expansion into the global market
High-performing talents’ development career programme	<ul style="list-style-type: none">Career Development Programme	<ul style="list-style-type: none">Conducted 18-month assignments for high-performing talents with MDs and CEOs across the GroupProvided employees with opportunities to learn and develop on-the-job management skills, including considerations when making important decisions within MISCOffering opportunities to employees in critical roles based on their competency ratings upon completionRotating jobs between corporate and business units or subsidiary roles to improve the employee’s competency and on-job knowledge
Leadership Pathway – Leader+ Series	<ul style="list-style-type: none">Young Leaders Programme for ExecutivesEmerging Leaders Programme for ManagersStrategic Leaders Programme for Senior Managers and General ManagersTop Executives Programme for Senior General Managers and above	<ul style="list-style-type: none">Leaders+ Series is a six-month accelerated development programme to equip MISC Group’s Successors and High Potentials with new skills, experience and perspective. The programme helps them be impactful when they return to work, close their gaps and increase their readiness to assume greater rolesThe programmes sharpen participants’ skillsets and increase their ability to solve challenges by connecting them with the faculty who shares thorough research and novel approaches to problem-solvingThe skills and knowledge gained from the programme will enhance learners’ leadership competencies and promote changes in their behaviour, which will have a lasting impact on the teams they lead, communities they serve and the entire organisationThe programme is delivered through a blended approach that combines experiential and cognitive elements comprising of engaging lectures coupled with group work, exercises, case studies, simulations, role-play and action learning projects to provide a fully immersive learning experience

Training Type	Programme Title	Content Description
Leadership Pathway – Signature Series	<ul style="list-style-type: none">Executive Excellence Series for Non-Executives, Team Administrators and SecretariesExecutive Development Series for ExecutivesManagers Foundation Series for New ManagersManagers Development Series for ManagersSenior Leaders Series for Senior Managers and above	<ul style="list-style-type: none">Signature series range from one to two-year programmeThe programme is delivered through a blended approach that combines experiential and cognitive elements comprising engaging lectures coupled with group work, exercises, case studies, simulations, role plays and action learning projects to provide a fully immersive learning experience
Other Leadership programmes	<ul style="list-style-type: none">Online Leadership ProgrammesSelf-learning and e-learning content such as Harvard ManageMentor (HMM) and Skillsoft to provide employees with sufficient support and development opportunities to achieve their objectives in this challenging timeNew programmes such as Executive Mindset, Creativity and Innovation Workshop, Critical Thinking and Decision Making, Analytical and Problem-Solving Skills, Crucial Conversation and Managing Conflicts, Leading and Influencing Change, Negotiating and Influencing Skills and Impactful Presentation SkillsEaglestar’s Leadership Programmes	<ul style="list-style-type: none">Collaborated with external learning partners to convert the content of our leadership programmes into virtual platformsConducted multiple pilot sessions to gauge the effectiveness of the programme before rolloutAddressed mindset change, creative problem-solving and communication gapsDeveloped the next generation of leaders for the organisation through a structured employee succession planning programme that supports workers by identifying gaps in their skillsets and conducting planned interventions to enhance their capabilities

SOCIAL PILLAR

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EMPLOYEE ENGAGEMENT

We organised various virtual employee engagement events throughout 2021 for employees to interact informally. These events helped us deliver the latest updates and provided networking opportunities amongst our employees across the various functions and businesses.

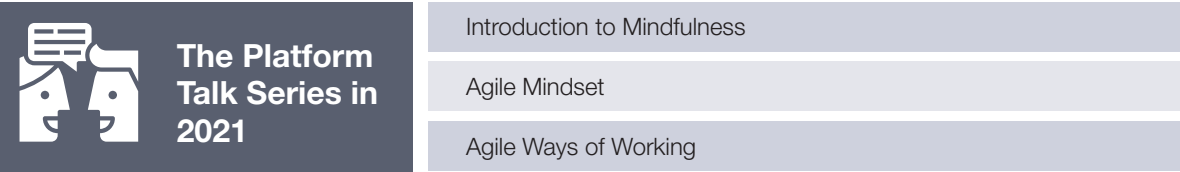
PGCEO TOWNHALL

Our President/Group CEO, Datuk Yee Yang Chien, unveiled our 2021 theme, “Future Made Possible”, at the MISC President/Group CEO’s Townhall. More than 3,986 MISC employees and colleagues from various vessels attended this virtual event.

 For more details, please refer to the Stakeholder Engagement Section of this Report

‘THE PLATFORM’ TALK SERIES

The Platform series continued its tradition of delivering inspirational talks from distinguished speakers. Past speakers include heads of business, start-up entrepreneurs, industry pioneers and charitable heroes who share their personal stories, experiences, wisdom and motivation. The bite-sized sharing sessions cover topics related to our Cultural Beliefs, Leadership Competency and Diversity and Inclusion.

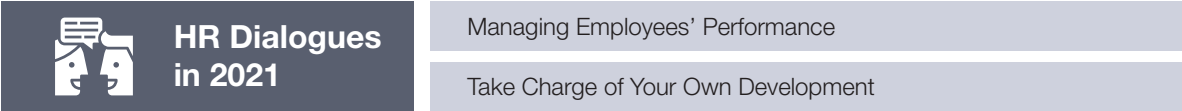


TGIF: TAKE A BREAK WITH OUR LEADERS TALK SERIES

As one of the many initiatives coming out of the POCS 2020 survey, MISC introduced a light-hearted, authentic, and personalised talk series featuring senior management leaders. Leaders took turns sharing their life stories, personal experiences during pandemic, hidden talents, hobbies, favourite soccer team and gave some insights into their life outside of the corporate world. Audiences welcomed the chance to engage with their leaders in the free-for-all conversation.

HR DIALOGUES


A series of HR Dialogues was introduced in 2021, tackling important and frequently-asked HR-related topics.



MENTAL WELL-BEING INITIATIVES

Safety and well-being of our employees have always been our priority, and this was further heightened during the unprecedented pandemic situation. We have enhanced our Employee Assistance Programme (EAP), providing a more holistic support encompassing physical, mental and emotional well-being. Our employee now has access to personalised support and guidance from professionals, take charge and monitor their health and well-being activity effectively, discover a selection of self-help lessons and connect external health devices to sync the progress tracking.

- Digital Coaching Application – A tool to guide, support employee’s holistic health and well-being
- Wellness Website – A one-stop hub for the myFriends EAP resources and services
- Remote Therapy – A one-to-one video consultation with a clinical psychologist
- 24/7 Careline – A 24/7 careline to support our employees remotely

 Please refer to the Health and Safety, Our Utmost Priority section of this Report for more details



SOCIAL PILLAR

OUR PEOPLE, OUR STRENGTH

KEY DEVELOPMENTS FOR SEAFARERS

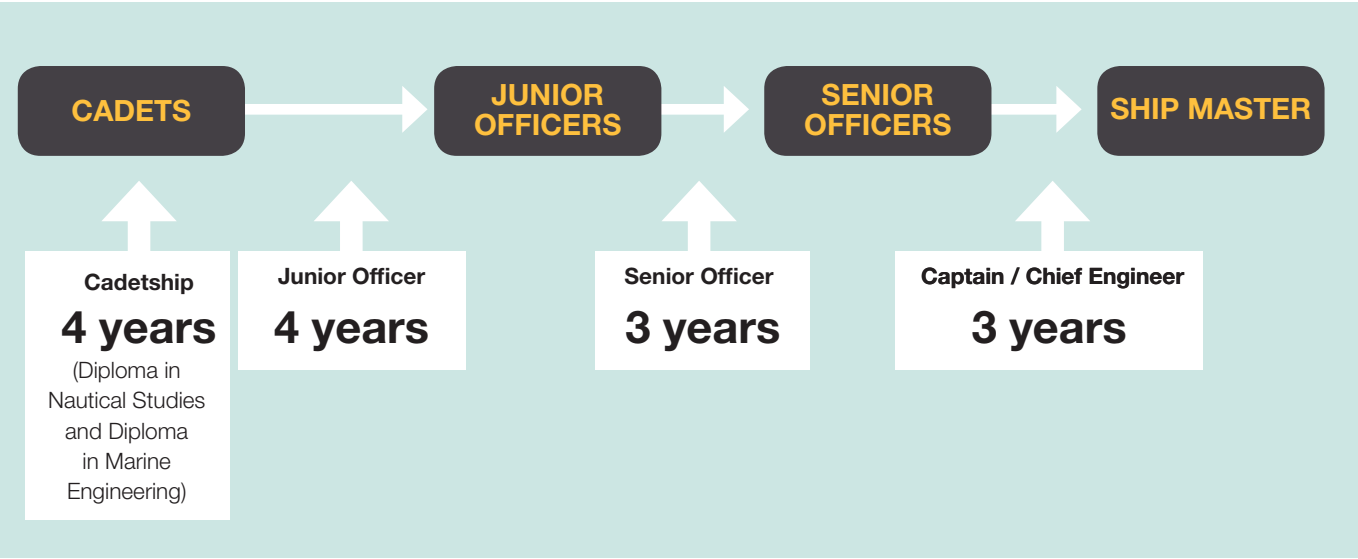
As one of the leading global providers of international energy-related maritime solutions and services, with a modern and diversified fleet of vessels, a significant portion of our human capital consists of seafarers who execute our business strategies on the high seas. Our pool of seafaring employees is managed by our Integrated Marine Services Business, Eaglestar.

Eaglestar’s comprehensive human resource management programme specifically for seafarers ensures a sustainable pool of seafarers with the right skills sets and knowledge to perform their jobs optimally. Employees’ training and re-training programmes, talent development and succession planning initiatives enhance employees’ competency levels and expand their proficiency and capabilities across various aspects of the business and operations. In 2021, Eaglestar invested RM16.5 million in its training and development programme for seafarers. Our multiskilling approach focuses on building and expanding our crew capabilities to allow them to operate more than one type of vessels, such as very large ethane carriers (VLEC), LNG bunkering vessels (LBV), LNG carriers (LNGC), LNG dual-fuel and eco-friendly petroleum tankers, dynamic positioning shuttle tankers (DPST), LNG floating storage units (FSU) and modular capture vessels (MCV).

We provide opportunities for our seafarers to transition to a shore-based career. Our seafarers receive shore development training whereby they go through a six-month to one-year office-based training to understand the requirements of shore management of vessels and related functions. This training effectively prepares them for the transition from sea to shore careers. Unified Term and Conditions across our fleet and compensation packages that properly remunerate our people to ensure high retention rates.

Our enhanced leadership programme, skills progression training and succession planning also provide career progression opportunities for seafarers. The majority of our Navigating Officers and Engineer Officers on board our managed vessels have progressed from cadets to officers.

Career Journey of the Seafarer



CELEBRATING OUR FIRST FEMALE CAPTAIN

The word 'seafarer' has replaced the word 'seaman' in the male-dominated maritime industry. Using 'seafarer' as a politically-correct alternative can partly be attributed to actions by the United Nations to promote gender equality. Women have been taking part in industries that once solely belonged to men.

The International Maritime Organisation (IMO) notes that women represent less than 2% of the world’s estimated 1.2 million seafarers: 94% work in the cruise industry, and 6% on cargo vessels, container ships or oil tankers.

We have been making a concerted effort to progress the industry and help women achieve representation in line with current expectations. Our career development programme creates career development pathways for seafarers, especially female cadets, to prepare them for leadership roles.

Eaglestar appointed its first Malaysian female Master in 2021. Captain Eezmaira Sazzea Binti Shaharuzzaman is now commanding Seri Bijaksana, a 153,000 m3 LNG carrier. This appointment demonstrates our commitment to talent excellence, particularly Diversity and Inclusion, which are strategic priorities of our sustainability agenda. We have aligned our operations with the UNSDG 5 (Gender Equality), empowering women in leadership positions at sea and shore.



“I am very grateful and honoured to be the first Malaysian female Master Mariner in Eaglestar and it will certainly be an exciting journey for me in this new role. I hope that this will inspire my fellow women seafarers, to strive for greater accomplishments as we continue to add value to the global maritime industry”

- Captain Eezmaira Sazzea

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OUR PEOPLE, OUR STRENGTH

FACILITATING ‘SEA TO SHORE’ CAREER ADVANCEMENTS

We believe that this progressive action will attract more women to professional careers in maritime, driving advancement and positively shaping the future of the local and international maritime industry.

Understanding the personal and career aspiration of our seafarers, we continuously help individuals in their career progressions in onshore management roles. In the last three years, there were 7 ‘sea to shore’ job transfers.

SUSTAINABLE POOL OF FUTURE SEAFARING TALENT

Eaglestar and ALAM are collaborating to develop a pool of dedicated and specialised crew that serves as a sustainable pool of future seafaring talent. In 2021, Eaglestar in collaborated with shipowners, provided cadet sponsorship for about 772 students at ALAM.

Eaglestar Cadet Sponsorship Programme



OUR SEAFARER DEVELOPMENT PROGRAMMES

MISC through its integrated maritime services, Eaglestar, looks forward to positioning itself as a sustainable ship management entity. Preparing our seafarers for the foreseen industry trends is an important part of this business strategy. Our approach to seafarers development programme touches on the following elements:

Future Ready

Under the future-ready component, we are committed to upskilling the technical capabilities of seafarers to support its growing specialised vessels

Oil to Gas Conversion Programme

Reskilling of seafarers from the oil fleet to gas fleet continues to be in focus as this provides an interchangeable pool of crew that is capable to man our growing and specialised fleet.

Capability Development for Dynamic Position Shuttle Tanker (DPST) and LNG Dual-Fuel (DF) Vessels

Upskilling our home-grown talent and preparing them for operating LNG dual-fuel DPST and VLCC.

Navigation and Engineering Workshops

Regular focused workshops conducted for Senior Officers enhance teamwork between the onboard Navigation and Engineering teams. With a focus on establishing behavioural change, Senior Officers are encouraged to be more proactive in addressing operational performance and highlighting issues, improving their confidence to take decisive action and intervention when required.



Human Element

Under this component, Eaglestar is steadfast in growing human capability through focused programmes that enrich non-technical skills

Behavioural Competency Assessment and Verification Assessor Training

Major industrial incidents suggest the human element is one of its root causes. The ability to conduct operations safely and without incidents relies on human competency, which comprises technical skills (hard skills) and non-technical skills (soft skills). This programme enhances non-technical skills to instil a positive safety culture that promotes a safe working environment and prevents incidents.

Mind Guardian Programme

The Mind Guardian programme, developed in house, raises seafarers’ awareness of fundamental mental health issues. It equips them with the skills to recognise signals of well-being hazards to provide foundational support to colleagues, especially when they are sailing onboard vessels. This training aligns with the Neptune Declaration on Seafarer Wellbeing and Crew Change, of which we are signatories.



Continuous Engagements

Notwithstanding the challenges arising from COVID-19, Eaglestar remains committed to engaging with its seafarers to ensure they are well informed and up to date with current industry developments

Seminars and Conferences

Engagements with seafarers continued with 1,800 seafarers attending 180 online events, including Townhall meetings, special mental well-being meetings and various seminars that raise awareness of the current challenges and opportunities to enhance Operational Excellence.

MD/CEO Virtual Ship Engagement Session

The Friday evening virtual meet-up was implemented in August 2021 to improve two-way communication with individual vessels and HR operational activities sharing. Seventeen vessels have participated in this direct dial-in by Eaglestar MD/CEO sessions to date, which will continue throughout 2022.

SEA TO SHORE LEADERSHIP JOURNEY

At MISC, we provide equal opportunities for employees of all levels to pursue their career growth, including seafarers and those working on-site or in offices. Seafarers usually begin as cadets and progress to become the Chief Engineer or Chief Officer of the vessels. On average, it takes approximately 10 years to become the Master on board.

Over the years, many of our seafarers progress to working on shore at corporate levels.

En. Mohd Denny Mohd Isa’s journey from Sea to Shore is one such fine example. He joined MISC as Engine cadets back in 1994 and served on board the ship for nine years. He assumed various corporate roles since 2005, before joining Eaglestar as the Chief Operating Office. In 2022, he was appointed as the MD/CEO of MMS.

As matter of fact, he is not the only successful seafarer story; Captain Rajalingam Subramaniam, Captain Raja Sager Muniandy, Captain Peter Liew Guan Hock and En. Hazrin Hasan were also previously seafarers and now serve as the Management Committee leaders of MISC Group.

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OUR PEOPLE, OUR STRENGTH

MISC GROUP DIVERSITY AND INCLUSION

MISC believes that maintaining a diverse and inclusive work environment attracts, retains and develops the best talent for its core and enabling businesses. Promoting diversity and inclusion (D&I) has resulted in a committed, engaged and resilient workforce that drives innovation and continuously improves business performance. All these qualities are critical in building a talented sustainable organisation.

Grow Our Diversity		Gender, nationality, multi-generations and cultural diversity to reflect our growing geography and client footprint
Build an Inclusive Culture and Work Environment		Create an environment of equity and meritocracy that provides opportunities for our workforce
Drive Leadership Accountability		Leaders are key in driving D&I as a business and social imperative

We value all diversity pillars, which are supported by our inclusion efforts. Increasing our diversity and representation focus on the following four key areas:

Gender		We support the principle of diversity and practise equality of opportunity among all employees. Adopting a broad diversity policy ensures that we promote gender diversity in senior management over time
Nationality		We leverage our diverse talent pool of multiple nationalities to harness perceptions, ideas, insights and innovative thinking from many perspectives
Multi-generations		We believe that multi-generational diversity is key to a sustainable work environment that promotes healthy discourse and rich dialogue from different viewpoints, ultimately benefiting the business
Cultural Diversity		We understand and respect that each individual is unique and rich in their cultural background

HOME GROWN FEMALE LEADERSHIP

Puan Shariza binti Mohd Jaffar Sadiq Maricar is MISC’s proud example of home-grown talent and a true testament to the company’s commitment to nurture its people by sustainably developing the internal bench strength. She joined the company 14 years ago as a junior executive in Human Resource Division and throughout the years she rose from the ranks, assuming various roles in HR and management and gaining invaluable experience. Puan Shariza was officially appointed as the Vice President of Human Resource Management effective 1 March 2021.

DIVERSITY AND INCLUSION ACTIVITIES IN 2021

In line with our Talent Excellence strategic initiative we have implemented various activities under the D&I programme throughout the year:

Established the D&I working group consisting of HR Heads or nominees and chaired by the VP of HR

Established the MISC Group D&I Statement, endorsed at MISC Board

Raised D&I awareness within MISC Group through the following activities:

- POCS 2020 Focus Group discussing and understanding D&I aspects
- ‘See. Speak. Support’ awareness session on conducive workplace – free of discrimination and harassment
- The Platform Series talk on Unconscious Biasness

Established a working committee to craft D&I Journey Map

Rolled-out various initiatives that promote inclusiveness such as:

- Flexwear and Flexwork
- Leadership Pathway

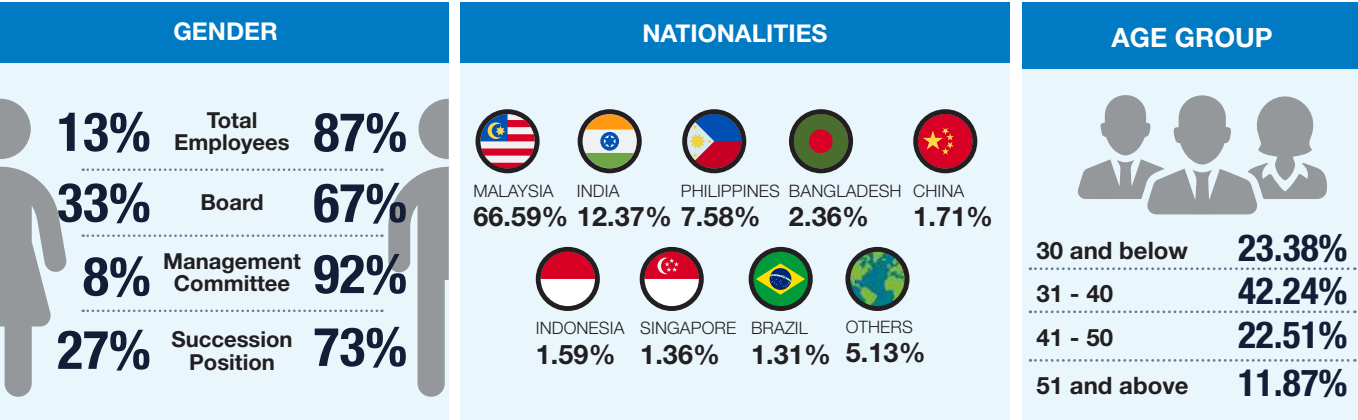
MISC GROUP DIVERSITY AND INCLUSION STATEMENT
Please download a copy of our Diversity and Inclusion Statement from corporate website.

LEVERAGING THE STRENGTH OF DIVERSITY

Employees’ diverse knowledge and skills foster creativity. Enhancing our organisational resilience and responsiveness allows us to rise to current challenges and engender a sustainable future.

As of 31 December 2021, we have 8,851 employees of 47 nationalities. At shore, MISC Group has 26% female employees, with MISC Berhad and AET recording 40% and 44% respectively. This is above the recommended industry average of 30%. Our shore employees male-to-female gender ratio stands at approximately 2.87:1. We also have a significant number of female leaders in the management, with 24% in middle management and 17% in the senior leadership (shore employees only).

We have 59 female seafarers, with the highest-ranking female seafarer being a captain. We expect three more women to assume the leadership roles of Master and Chief Engineer at Eaglestar in 2022.



SOCIAL PILLAR

OUR PEOPLE, OUR STRENGTH

AET’S DIVERSITY AND INCLUSION STORY

Our Petroleum & Product Shipping segment operates globally, and we are proud of the rich diversity in AET. Our people are our greatest asset, as we champion a diverse and inclusive working environment. Our focus has been on building trust and empowerment through inclusion and creating a collaborative environment where diverse talents want to work and are able to deliver to their full potential.

We have offices across seven countries; our workforce comprises individuals of 20 different nationalities and reflects a gender representation of 44% female. We also have a strong talent pipeline at middle management of which 32% are female as of the end of 2021. As one of our diversity pillars, we have progressively advanced gender talent in AET based on meritocracy and continue to benchmark our progress using the Bloomberg Gender Reporting Framework.

At one of our initiatives, the Gender Roundtable discussion with our President & CEO on International Women’s Day, our female leaders aligned their focus to support our D&I agenda with coaching and mentoring the young female talent in the organisation.

We value diversity in its fullest, and with our multi-generational workforce, promoting inclusion is pertinent to providing an engaging employee experience for all our staff, which drives our passion and innovation in support of our strategic goals. Based on the findings from our employee survey, we have set up a D&I baseline to measure our progress, and we have ensured that 100% of our managers and senior leaders have undergone inclusive leadership trainings to build their self-awareness and personal accountability to lead and develop their people inclusively.

Our journey will continue to evolve with equitable HR processes and strong inclusion practices that support our D&I commitment and ESG agenda.

MAINTAINING SOUND LABOUR RELATIONS

Our collaborative and consultative approach guides employees in achieving corporate and personal goals. We support workers’ rights to exercise freedom of association or collective bargaining. In 2021, 307 unionised employees and management held engagement sessions with employee representatives on remuneration.

We apply the principles of the Basic Conditions of Employment Act, International Labour Organisation (ILO) and the Maritime Labour Convention (MLC). We have adopted these principles in our Human Rights Commitment and Modern Slavery Policy, Whistleblowing Policy and Grievance Mechanism Procedure. These documents are available on the company website.

Our whistleblowing channel provides a mechanism for employee representatives to report any mismanagement. Our grievance mechanism platform allows employees to raise any work-related grievances. For more details on our Grievance Mechanism and Whistleblowing, please refer to our Respecting Human Rights at Sea and Shore section. We also communicate our labour standards to employees through our intra-portal and other platforms.

Employee wages abide by all applicable laws such as working hours, minimum living wages, overtime hours and legally mandated benefits. We compensate our employees fairly according to remuneration structures that comply with the Minimum Wage Order set by the governments where we operate. We performed an annual benchmarking study on the Group’s remuneration package to ensure competitiveness in attracting external talents and retaining internal employees.

All our hiring policies are compliant with local and international labour regulations, where applicable. The Group does not condone the hiring of child labour or forced labour, and all third-parties who conduct work for or on behalf of the Group are subject to applicable regulations.

All of our employee were hired on full-time basis either as permanent and contract, and we do not hire any employees on part-time basis.

Our policy on labour standards has been set in the Code of Conduct and Business Ethics under the workplace culture and environment section of our Employee Handbook which is made available on their first day of work.

In 2021, we recorded zero non-compliance with labour standards.

EMPLOYEES BENEFITS

We provide a comprehensive employee benefits package in addition to salaries and wages to attract and retain talent. A robust employee benefits can help us differentiate our business from the competitors.

Employee Benefits

Medical insurance	Maternity and paternity leave which are above the minimum days set by law	Employee Assistance Programme	Welfare assistance	Education assistance plan
Motor vehicle loans	Home Loan Interest Subsidy	Compassionate leave	Haj-umrah pilgrimage leave	Employee provident fund contributions above the statutory requirement

We contribute to the Employee Provident Fund (EPF), a mandatory employee retirement fund administered by a board appointed by the Government of Malaysia. Similarly, our foreign offices and subsidiaries contribute to their respective countries’ statutory pension schemes, adhering to the local laws and regulations. We do not maintain any other retirement, pension or severance plan or have any unfunded pension liability.



SOCIAL PILLAR
PARTNERING WITH THE
COMMUNITY



**SOCIAL
COMMUNITY INVESTMENT**

OUR COMMITMENT

- To foster youth development towards becoming future leaders through education

OUR INITIATIVES

- Establish a multi-stakeholders community investment programmes aimed at upskilling entrepreneurship skills of youth
- Continuation of maritime cadet sponsorship programme

OUR CONTRIBUTION TO UNSDG

4

QUALITY
EDUCATION

Promote skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship

We are committed to positively impacting communities directly and indirectly affected by our activities. This commitment is implemented through our Sustainability Community Investment Strategy, focusing on the themes of education, environment, health, safety and well-being. In 2021, we developed the MISC Group Community Investment Guideline, which outlines MISC Group’s good practice principles of a strategic Community Investment (CI) programme.

Our Community Investment Principles

 STRATEGIC	 ALIGNED	 MULTI-STAKEHOLDER DRIVEN	 SUSTAINABLE	 MEASURABLE
Evolves with the business phase and uses different approaches along the project cycle	Aligns the strategic issues of the business with the development priorities of local communities, civil society, and/or government to create shared value	Positions the company as a partner in multi-stakeholder processes rather than as the principal actor in promoting local development	Seeks to avoid dependency, encourage self-reliance, and create long-term benefits that can outlast company support	Measures return on community investment to both the company and the community





SOCIAL PILLAR




PARTNERING WITH THE COMMUNITY

As responsible corporate citizens, investing in our communities will help us exert a positive social impact. Our investments benefit the community and align with our strategic business context and the broader United Nations Sustainable Development Goals (UNSDG).

List of Strategic Community Investment Programmes

Theme	Programme	Input	Output	Outcome	Value Creation for Beneficiaries	Value Creation for MISC
Education 	ALAM sponsorship programme	Annual sponsorship of RM21.71 million for 772 students in 2021	Number of graduates	Secured 100% employment	Increase educational opportunities for students and improve socio-economic status through employment	Sustainable talent attraction and retention
	Scholarships for Diploma in Maritime Business at Singapore Maritime Academy	Sponsorship for 5 students in 2021	Number of graduates	Obtained Diploma in Maritime Business	Maritime industry exposure through education and placement programmes	Broader talent pool which benefits future recruitment
	MHB Go Green programme	Contributed 60 air pollution kits and two visualisers	Number of participant	Become positive change makers especially on environmental matters	Acquire the necessary knowledge, values, attitudes, commitment and skills for environmental protection and improve the behaviour of individuals, groups and society towards the environment	<ul style="list-style-type: none">▪ Minimise environmental impact▪ License to sustain operations
Environment 	Mersing Islands Initiative on Reef Conservation	More details on our Reef Conservation programme can be found in Conserving Marine Biodiversity section			Maintain a healthy seabed, coral reefs and mangroves, provide critical habitat for marine life and facilitate nutrient uptake from the water to the wetland	<ul style="list-style-type: none">▪ License to sustain operation▪ Increase the trust of shareholders and investors
	UMT-MMS Sea Turtle Conservation Initiative	RM300,000 in sponsorship over five years	10 bokashi compost sets, cabinets, a gazebo, solar panels and volunteers	<ul style="list-style-type: none">• Improved data collection and assurance, composting and facilities• Increased involvement in volunteerism and outreach programmes		

List of Philanthropic Programmes

Theme	Programme	Input	Output	Value Creation for Beneficiaries	Value creation for MISC
Donation drive 	ALAM KESURA Infaq Ramdhan 2021	174 members get together for three days to contribute groceries and cash	40 benefitted from this programme: 70% were ALAM's ex-employees, and 30% were affected by the pandemic	Provided temporary flood relief and cash	Strong community partnership
	#LetsHelpIndia Campaign with Singapore's Red Cross Society	Raised SGD4,200 through employee donations and SGD4,200 matched by AET	The funds raised supported much needed medical and oxygen supplies plus hospital beds for India and also extended support to Nepal through the Indian Red Cross Society	Supported the medical needs of the COVID-19 impacted people	Corporate citizenship across borders
	AET Caring for Communities	USD250,000	Close to 1 million meals to be provided through food programmes in Singapore, Brazil, the UK, the USA, India, and, the Philippines and now also in Norway	Supported those affected by the COVID-19 pandemic	Corporate citizenship across borders
	MISC Disaster Trust Fund	RM268,750	Financed the nation's requirements in its efforts to fight the resurgence of COVID-19	Supporting those vulnerable to the COVID-19 virus	Corporate Citizenship
Sponsorship 	Bronze sponsorship with Mission to Seafarers for their Welfare Campaign's Innovation Fund	Supported the seafarers in creative ways	Encouraged the adoption of creative ways to fit with seafarers' current and emerging needs and their families, including setting up online stores and delivery services to seafarers on ships who cannot go ashore	Addressed seafarers' needs and made them feel closer to home	Developed a higher sense of belonging which increased motivation, productivity and retention
Volunteerism 	Texas Adopt-A-Beach clean-up	Our colleagues and their families joined thousands of other volunteers to keep the Texas coastline clean	Cleaned half a mile of Jimmy's on the Pier Beach, Galveston, picking up about eight bags of garbage ranging from plastics to signs and enough wood to build a small beach hut	Helped to clean a beach that will further benefit the overall environment, preserve our coastal seashore, and support conservation of marine life	Contributed to maintaining and building a healthy marine ecosystem

SOCIAL PILLAR

PARTNERING WITH THE COMMUNITY

ALAM INITIATIVES

Investing in Education



My family is unique: one family that consisted of nuns and made up of normal people. My father left when I was born, and my mother sent me to be raised in a temple when I was 2 or 3. After high school, I moved in with my uncle. He supported me but lacked the money to finance my studies abroad. I never gave up. I am grateful for all of ALAM's help and opportunities. I chose marine engineering to travel the world, meet different crews and learn different types of machinery. Each vessel has a different engine type. I will continue to work hard, and hopefully, one day, I will be a Chief Engineer at sea.

Ku Chor Ding – Best student 2019

As part of our commitment to the growth and sustainability of the maritime industry, MISC continues to help develop capable seafaring professionals via our wholly-owned maritime academy, ALAM. Over 13,500 seafarers have been trained in nautical studies and marine engineering since its inception in 1977. The Group through our subsidiary, Eaglestar continues to sponsor cadets for Diploma in Nautical Studies and Diploma in Marine Engineering under the MISC Cadet Sponsorship Programme. In 2021, we sponsored 772 students with the total annual scholarship worth RM21.71 million.

Infaq Ramadhan

During Ramadhan month 2021, ALAM employees' Sports and Recreational Club (KESURA) held an internal donation drive where 174 of its members came together and help contributed groceries and RM100 in cash to 40 beneficiaries that were affected by the COVID-19 pandemic.



AET INITIATIVES

Championing Education through Scholarships

We believe in equality in everything we do, and education is every child's fundamental right. AET continued its scholarship programmes in 2021 sponsoring two students enrolled in the Diploma in Maritime Business at Singapore Maritime Academy of Singapore Polytechnic as well as now partnering with Texas A&M University at Galveston (TAMUG) to support underprivileged students.

These scholarships are a testament to our commitment to supporting youth and developing maritime talent.

Sustaining Crew Welfare Campaign

We continued to support industry initiatives by sponsoring the Mission to Seafarers' Sustaining Crew Welfare Campaign with a bronze sponsorship supporting the Innovation Fund. The Fund provides welfare assistance to seafarers and their families in nine regions and finances online stores, and ship delivery services for those unable to disembark.

#LetsHelpIndia Campaign with Singapore's Red Cross Society

In partnership with the Singapore Red Cross, our Singapore Social Committee initiated the #LetsHelpIndia fundraising campaign in June 2021. The funds raised from the employees of SGD4,200 and matched by AET supported essential oxygen, medical supplies and hospital beds when COVID-19 cases spiked in India and also extended support to Nepal through the Indian Red Cross Society.

Texas Adopt-A-Beach Clean-up

Beach cleanups are a great way to engage in a team-building exercise while doing something great for the environment. Employees at our US office volunteered at the Texas Adopt-A-Beach Cleanup initiative organised by the Texas General Land Office. The volunteers cleaned approximately half a mile of beach in front of Jimmy's on the Pier in Galveston.

AET Caring for Communities



We are mindful of the difficulties faced by the underprivileged community across the globe due to the ongoing pandemic, and we are committed to doing our part to give back to our society to build a better world.

We continued our support for communities impacted by the ongoing pandemic with our 2021 COVID-19 donations partnering again with local charities' food programmes in Singapore, Brazil, India, Philippines, the United Kingdom, the USA and also now in Norway to provide this time close to 1 million meals to the underprivileged.

SOCIAL PILLAR

PARTNERING WITH THE COMMUNITY

MHB INITIATIVES

Initiatives	Value	Beneficiaries	Contribution
MHB Cares – Flood Relief e-Donation Drive	RM21,650	159 deserving families impacted by flood in Kota Tinggi, Pasir Gudang, Johor Bahru	Double stove gas cookers, gas cylinders and queen-sized blankets
MHB Cares – Donation to Needy Residents	RM50,339	45 underprivileged families around Pasir Gudang areas	Groceries items, kuih raya and duit raya
MHB Cares – COVID-19 Relief	RM24,232	Underprivileged family whose income was affected significantly by the pandemic 82 school students, frontliners and COVID-19 patients	Groceries and other essential items
Contribution for the Impacted Workers During MCO 3.0	RM3,500	Seven subcontractor workers who lost their income during full lockdown	RM500 cash per individual



MHB GO GREEN PROGRAMME

In 2021, MHB kicked off the second phase of MHB Go Green, a full-fledged environmental education programme that focuses on issues such as air, water and waste management.

Initiatives Held in 2021

Handover of Air Pollution kits to SMK Dato' Penggawa Timur (SMKDPT) Go Green Club

Recycle Creative Design Competition

Handover of two visualisers to SMKDPT Go Green Club

Webinar on COVID-19 Waste Management

Mangrove Planting programme at Kg Perigi Aceh, Coastal Areas, Pasir Gudang

MANGROVE PLANTING PROGRAMME

In December 2021, MHB initiated Mangrove Planting programme under the MHB Go Green at the coastal of Kg. Perigi Aceh, Pasir Gudang, Johor. The programme was conducted in collaboration with the South Johor District Forestry Officer, Johor State Forestry Department and aligns with the MHB's environmental sustainability efforts, starting with the coastal areas. This effort is also conducted in support of the Greening Malaysia Programme "The 100 million Tree-Planting Campaign" that was launched in January 2021.



CONTRIBUTION TO THE NATIONAL DISASTER RELIEF TRUST FUND

Through the MISC Disaster Fund, the Group contributed to the National Disaster Relief Trust Fund to aid the disaster recovery efforts following the devastating floods that affected various parts of Malaysia in December 2021. We also made another round of contribution to those affected by the pandemic in the form of medical supplies and equipment.

RM268,750

have been remitted to the National Disaster Relief Trust Fund from employees and Board personal contribution

GOVERNANCE PILLAR

ETHICS, GOVERNANCE AND SUSTAINABILITY



GOVERNANCE
VALUES, ASSURANCE & BUSINESS ETHICS

OUR COMMITMENT

- To continuously embed a culture of strong corporate governance and business ethics and conduct
- To enhance cybersecurity framework and safeguard our operations

OUR INITIATIVES

CORPORATE GOVERNANCE

- Include ESG Risks in Enterprise Risk Management
- Increased Board Oversight on ESG Risks and Opportunities including cyber risk governance

COMPLIANCE & BUSINESS ETHICS

- Continue to embed compliance culture in business processes through awareness and assurance programmes
- Continuously improve our Anti-Bribery Management System
- Implement human rights assesment and grievance mechanism
- Create cyber security capabilities and awareness among MISC community across all levels
- Elevate and continuously improve on cyber security framework

OUR CONTRIBUTION TO UNSDG

8 DECENT WORK AND ECONOMIC GROWTH

Promote sustainable economic growth and decent work for all by ensuring labour rights and promote safe and secure working environments for all

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Foster strong governance and business ethics culture against corruption and modern slavery and promote fair practices

Maintaining high standards of governance is critical to our strategy and long-term success. The Values, Assurance and Business Ethics strategic priorities, under the Governance pillar, reinforce strong governance, business ethics and culture. Robust governance and ethical culture preserve and strengthen stakeholder confidence while providing the foundations for a high-performing organisation that demonstrates long-term resilience. Governance is a crucial sustainability component for sustainable growth and the organisation’s license to operate.

Adopting a proactive rather than a reactive approach demonstrates our commitment to conduct business according to sound corporate governance principles. Our ethical, accountable and transparent business culture generates meaningful, sustainable stakeholder value. Adhering to the highest principles of transparency and accountability, we align our governance standards to relevant regulatory frameworks and best practices.

COMPLIANCE GOVERNANCE

We have a clear governance structure and a mechanism to monitor our operations according to relevant policies and regulations. Our Governance structure provides a mechanism to manage our operations compliance risk and obligations proactively and effectively, with the embedment of the compliance culture across all business activities and operations to ensure Group Policies and relevant laws and regulations are complied with.

The Board of Directors and the Board-committees’ designated roles and responsibilities are of utmost importance to the sustainability development of the MISC Group. The Compliance department under the Legal, Corporate Secretarial and Compliance (LCSC) assists the Board of Directors, Board Governance and Risk Committee (BGRC), Board Audit Committee (BAC) and Management in compliance risk management based on the Compliance Management Framework.

Main Roles and Responsibilities of the Compliance Function

Governance	Roles and Responsibility
Board	<ul style="list-style-type: none">Ensuring Shared Values, Cultural Beliefs, ethics and business behaviours are promoted throughout MISC as guided by ManagementObtaining reasonable assurance that the compliance risk and compliance obligations have been managed and mitigated in a timely manner
Board Governance and Risk Committee (BGRC)	<ul style="list-style-type: none">Monitoring the adequacy and effectiveness of our compliance and ethics programmeEnsuring identified compliance risks are adequately mitigatedProviding oversight on the status of development and implementation of compliance and ethics-related initiatives, including:<ul style="list-style-type: none">- policy-related matters;- monitoring and assurance activities; and- training and awareness conducted.
Board Audit Committee (BAC)	<ul style="list-style-type: none">Obtaining assurance on the adequacy and effectiveness of our management process and internal control such as whistleblowing-related matters, conflict of interest disclosures (ad-hoc and annual declarations by employees) and compliance with the Regulatory and Legislation Register
Management	<ul style="list-style-type: none">Promoting Shared Values, Cultural Beliefs, ethics and good business behavioursEnsures an effective Compliance Management FrameworkFoster a strong governance and business ethics culture
Compliance, LCSC	<ul style="list-style-type: none">Implementing a Compliance Management Framework to identify and adequately mitigate compliance risksEmbed a strong culture of corporate governance and business ethics conduct within the organisation

All business units, service units and subsidiaries follow the best corporate governance practices and business ethics. In 2021, we established the Commercial Governance and Acquisitions Department at MISC Gas Assets & Solution and Offshore Business. This department inculcates sound governance principles in all aspects of the business and project management.

GOVERNANCE PILLAR

ETHICS, GOVERNANCE AND SUSTAINABILITY

EFFECTIVE MANAGEMENT SYSTEMS

A sound management system is key to good corporate governance. Our management systems and internal controls apply the core principles of good governance: fairness, accountability, responsibility and transparency.

COMPLIANCE MANAGEMENT FRAMEWORK

- Embeds a compliance culture in MISC Group
- Guides management, business and operations in achieving compliance strategies and goals
- Identifies and proactively manages compliance risk and compliance obligations
- Prevent incidents of non-compliance
- Ensures corrective actions are put in place in a timely manner

 LEADERSHIP	 CULTURE	 RISK MANAGEMENT	 MONITORING AND REPORTING
<ul style="list-style-type: none">• Management Scorecard• Demonstrate tone from the top on ethical culture and behaviour• Ensure compliance to Rules, Regulations, and Governance	<ul style="list-style-type: none">• Communication and Awareness• Mandatory training on Critical Legal Areas, CoBE and Relevant Policies and Guidelines• Appointment of Compliance Champions in Business/Service Units and Subsidiaries• Compliance and Ethics benchmark and survey• Compliance and Ethics Feedback	<ul style="list-style-type: none">• Regulatory and Legislation Register• Group Policies on Critical Legal Areas• Anti-Bribery Management System Certification• Code of Conduct and Business Ethics• Bribery and Corruption Risk Management• Third-Party Risk Management• Conflict of Interest• Whistleblowing Management	<ul style="list-style-type: none">• Bi-annual compliance attestation by Head of Department of Business/Service Units• MISC Group Annual myAssurance attestation programme on critical and operational legal areas• Management Reporting• Quarterly Reporting to BGRC/BAC

COMPLIANCE LEADERSHIP

We recognise the diverse nature, size, and location of MISC’s business operations; Compliance department cannot be solely responsible for compliance and the internal assurance function. As the leadership team of MISC, the Board and Management set the premise and guide the acceptable behaviours and actions expected from employees (‘top-down’ approach).

Board and Management will:

- i. Set the appropriate ‘Tone from the Top’;
- ii. Provide clarity on expectations for compliance;
- iii. Ensure behaviours and actions are consistent with the messages delivered; and
- iv. Reward appropriate behaviours and penalise unacceptable practices.

MANAGEMENT SCORECARD

MISC plans to continuously embed a culture of strong corporate governance, business ethics and conduct within the organisation while demonstrating tone from the top and ensuring effective compliance culture. The Group has introduced company-wide and management compliance scorecards in 2022 to measure every business unit, service unit and subsidiaries compliance levels (both management and employees).

The management scorecard is principally intended to:

- Demonstrate the top-level commitment to curtail any bribery, corruption, and compliance risk; and
- Strategically embed compliance culture into day-to-day activities within MISC employees.



GOVERNANCE PILLAR

ETHICS, GOVERNANCE AND SUSTAINABILITY

COMPLIANCE CULTURE

We seek to instil a strong compliance culture throughout the Group. At MISC, every employee is expected to have the right attitude and behaviour towards business ethics in order to create a sound compliance culture. A compliance culture is critical to support and sustain an effective Compliance Management Framework and to achieve its intended outcome.

Compliance culture is built on having mechanisms to communicate, demonstrate and reward expected acceptable compliance behaviours:

	Clear set of published values and expected compliant behaviours
	Management is seen as the role models for implementing and abiding by compliance requirements
	Employees are aware that they are accountable for their actions and equipped with the necessary skills and knowledge
	Feedback mechanisms are put in place to ensure that mechanisms and processes to achieve the desired results and drive appropriate behaviours are working
	Issues raised are turned into lessons learnt and appropriate actions are taken
	A consistent approach to rewards or consequence management is used to reinforce behaviours

COMPLIANCE AND ETHICS FEEDBACK FORM

Understanding the importance of obtaining feedback, moving forward in 2022, a simple compliance feedback form will serve as a guidance during the employees performance review sessions to reinforce that compliance cultures are embedded in MISC.

COMPLIANCE COMMUNICATIONS AND AWARENESS

Compliance obligations evolve and change over time. Therefore, compliance knowledge and awareness must be continuously refreshed, reinforced, and communicated to all employees so that compliance obligations can be met.

We have undertaken various initiatives to strengthen the Group's Compliance and Ethics framework and oversight of the Group's Business Ethics and Conduct. Communication and awareness programmes which include:


- Raising awareness of the Code of Conduct and Business Ethics (CoBE) and Whistleblowing through our 'See. Speak. Support' campaign;
- Delivering comprehensive six critical laws and CoBE training and refreshers sessions for employees, directors and third parties; and
- Regular communications on various channels such as the MISC Compliance and Ethics Intranet Portal, email newsletters and workplace postings.

Our communications and awareness programmes are monitored, reviewed and assessed for their effectiveness in order to gauge employees' understanding of MISC's Compliance and Ethics culture through periodical surveys.

SEE. SPEAK. SUPPORT.


In 2017, we launched the 'See.Speak.Support' Campaign to highlight and raise employees' awareness of MISC's principal elements of the CoBE. The campaign familiarises employees with our Whistleblowing Channels, six critical laws, and other relevant policies and guidelines. The campaign revolves around three main themes:

SEE




If you see something or hear something that makes you feel uncomfortable, do not ignore it

SPEAK



It takes courage to speak up. Talk with your supervisor, Human Resource division or Compliance department

SUPPORT




Do not underestimate the power of support. It can help a colleague to stand up and take action

The 'See.Speak.Support' awareness sessions are conducted on quarterly basis with Group Wide participation through physical or via online platforms.


In 2021, the following 'See.Speak.Support' awareness sessions were conducted:

Conduct Contrary to Serve Diligently




The session raised employees' awareness of MISC's CoBE requirement related to outside employment or business activities, public service and community activities. It also introduced the procedures that employees must follow if involved in such activities.

Misuse of MISC Group Corporate IT Assets




The topic raised employees' awareness of their responsibilities for diligently keeping all MISC assets, facilities, resources and records safe and strictly complying with MISC CoBE's requirement when using social media, information technology and systems as well as to ensure compliance with applicable laws and regulations related to intellectual property.

Forum On Bribery and Corruption At Sea



Speakers from the Malaysian Anti-Corruption Commission (MACC) and Maritime Anti-Corruption Network (MACN) delivered this session which covered the MACC Act Corporate Liability provision. The speakers shared their valuable regulatory and enforcement insights and experiences and industry best practices concerning anti-bribery and corruption.

Human Rights in The Business Context: A Perspective from MISC & PETRONAS



PETRONAS and MISC delivered the session covering human rights, social risk assessment and grievance mechanism.

GOVERNANCE PILLAR

ETHICS, GOVERNANCE AND SUSTAINABILITY

TRAINING AND AWARENESS

In 2021, we delivered 26 awareness and engagement programmes on ‘Six Critical Legal Areas’ as follows:

 <div>SIX CRITICAL LEGAL AREAS</div>	Ethics and Integrity	Export Control
	Personal Data Protection	Competition
	Economic Sanctions	Human Rights & Modern Slavery
	Third Party Compliance Due Diligence	

These sessions reinforced the Group’s expectations of employee conduct in their daily business and work functions.

We conducted annual CoBE Refresher Training, which is mandatory for directors and employees with a minimum passing mark. Our annual CoBE training were also extended to third parties to ensure they are familiar with MISC CoBE and other requirements and expectations for complying with similar standards. Third parties are required to complete a mandatory assessment post the training. In 2021, 70 third parties attended the CoBE training session of which 29 are critical suppliers.

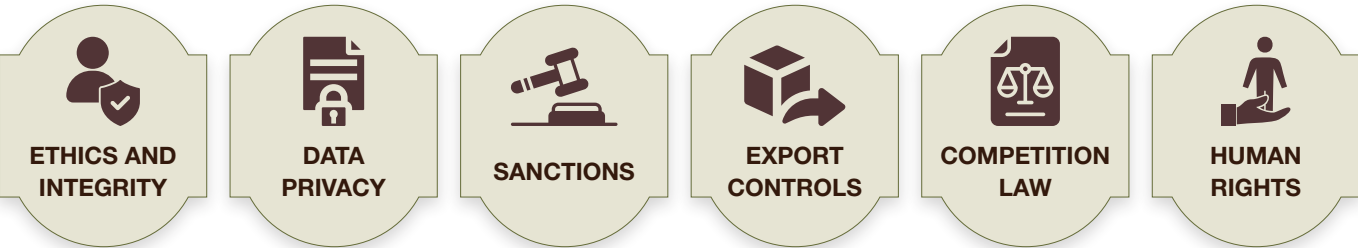
As part of MISC Group Compliance Learning initiative, MISC is currently developing the mandatory Compliance e-Learning modules on the six Critical Legal Areas to be rolled out in 2022.

RISK MANAGEMENT

REGULATORY COMPLIANCE PROGRAMME

At MISC, the identified six Critical Legal Areas (CLA) that can pose a risk on us are international laws with an extra-territorial effect which, if breached, could result in high civil and criminal penalties with severe reputational damage to the company.

Six Critical Legal Areas



We monitor all relevant regulations and legislations that can potentially impact the organisation through the Regulatory & Legislation (R&L) Register. The register serves as a “live” document and will be continually updated to ensure we adhere to all statutory needs from time to time.

CODE OF CONDUCT AND BUSINESS ETHICS

Our Code of Conduct and Business Ethics (CoBE) applies to all directors, employees and third parties performing work or services for or on our behalf. The CoBE outlines the standards of behaviour and ethical conduct expected from each individual. Employees must act in the best interests of MISC and not engage in conduct or activities which may adversely affect our best interests. We believe the CoBE reflects our commitment to effective corporate governance compliance measures in the conduct of the Group’s business both domestically and worldwide.

The CoBE’s Four Key Areas



BRIBERY AND CORRUPTION POLICY PROGRAMMES

ANTI-BRIBERY MANAGEMENT SYSTEM

The effects of bribery are felt globally and pose a serious threat to sustained economic progress, business reputation, sustainability and growth. We are committed to fighting corruption by encouraging and educating our directors, employees and third parties not to engage in either direct or indirect corrupt activities.

To ensure adherence to the Adequate Procedure Guidelines and to demonstrate to the stakeholders that MISC has put in place internationally recognised best Anti-Bribery Management System (ABMS) practice and internal controls, MISC Berhad and MHB have been certified with ISO 37001:2016 in 2019 followed by AET in 2020. MMS, Eaglestar, and ALAM will follow suit in 2022.

Having an effective ABMS may act as a defence to the corporate liability for the following:

- The Malaysian Anti-Corruption Commission (MACC) Act; and
- Foreign jurisdictions such as the US Foreign Corrupt Practices Act (FCPA) and the UK Bribery Act.

Annual audit reviews to evaluate the effectiveness of ABMS implementation in MISC were performed by Group Internal Audit in October 2021, followed by recertification audit by SIRIM QAS in early January 2022. There were some minor improvement needed where corrective actions have been developed and will be closed accordingly.

Recertification was recommended for the next three-year cycle as no non-conformance was raised. MHB’s recertification will commence in March 2022 to ensure continuous validation and assurance of our adherence to the Adequate Procedures Guidelines.

GOVERNANCE PILLAR

ETHICS, GOVERNANCE AND SUSTAINABILITY

CORRUPTION RISK EXPOSURE & MITIGATION

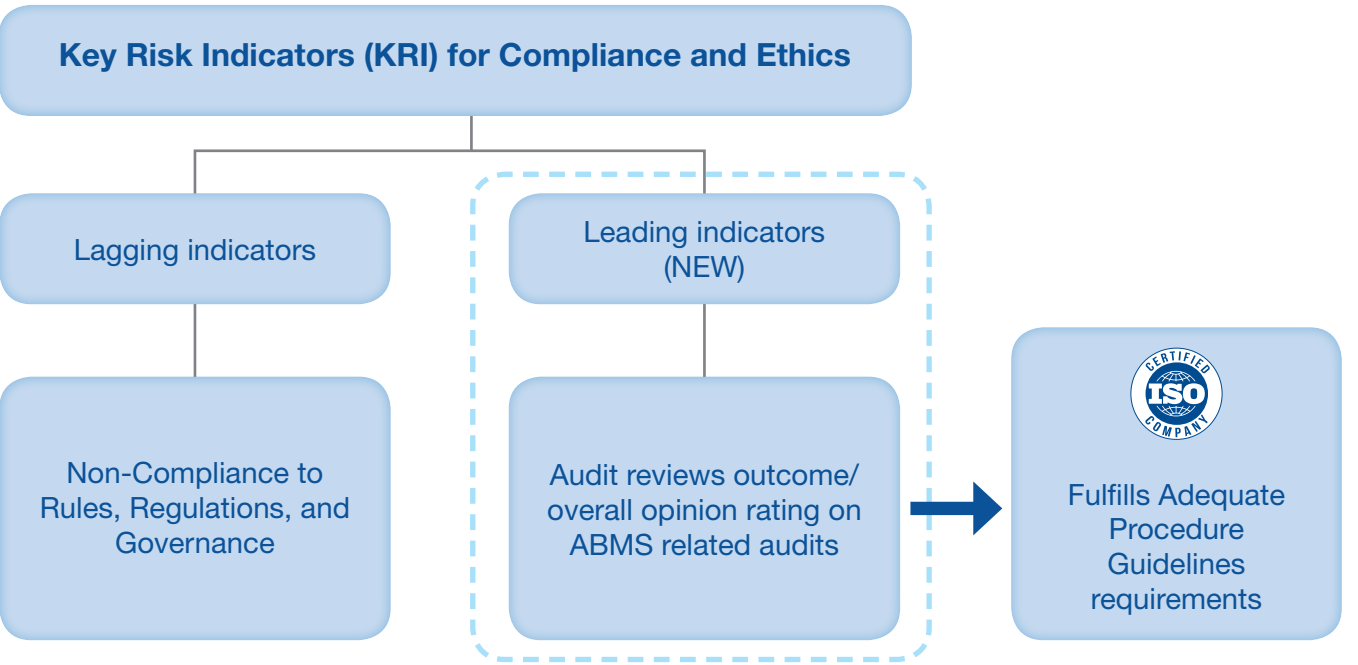
We performed our first Bribery and Corruption Risk Assessment (BCRA) to identify, assess and evaluate bribery exposures within MISC in December 2017. Following that, the Bribery and Corruption Risk Register is updated and reviewed annually to ensure the bribery and corruption risks, including its ratings and mitigation measures, are adequately captured to fulfil the requirements of ISO 37001:2016 ABMS and the Adequate Procedures Guidelines.

The 2021 BCRA annual review for MISC Berhad identified, analysed, evaluated and documented 57 potential bribery and corruption risks which are clustered into 16 bribery and corruption risk categories.

- Roll out of Head of Department (HOD) Compliance Attestation to MISC Regulatory and Legislation Register;
- Developing an online compliance monitoring dashboard;
- Embedding compliance champion's roles and responsibilities into appropriate designations and positions;
- Establishing sponsorship and donation guidelines; and
- Rolling out an Environmental, Social and Governance (ESG) Supply Chain Assurance Programme.

Monitoring of Bribery/Corruption Risk Mitigation Controls

MISC RISK REGISTER 2021



In 2021, there were no monetary losses as a result of legal proceedings associated with bribery or corruption.

THIRD PARTY RISK MANAGEMENT

Our third-party compliance due diligence process follows the Group's Third-Party Compliance Due Diligence Operational Guidelines (TPCDDOG). MISC undertakes compliance due diligence in all business dealings and relationships with new and existing third parties and business partners as part of the Know Your Counterparty (KYC) process. KYC helps us understand and evaluate counterparties more effectively to ensure they comply with all applicable laws and the MISC CoBE requirements, policies and obligations.

Our operations must perform due diligence on third parties before engaging them. Due diligence comprises completing the KYC Questionnaire, internally screening third parties using KYC online checks and assessing potential Associated Compliance Risk using the Due Diligence Risk Assessment Checklist. We undertake an Enhanced Compliance Due Diligence (ECDD) upon identifying medium or high Associated Compliance Risk including all proposed transactions involving mergers and acquisitions and business joint ventures. We execute appropriate mitigation plans upon identifying possible red flags.

WHAT'S IN THE MISC'S THIRD PARTY COMPLIANCE DUE DILIGENCE OPERATIONAL GUIDELINES?

The MISC TPCDDOG contains basic guidelines and procedures for performing compliance due diligence on third parties entering into or having existing contractual transactions and business relationships with us. Third-party assessments ensure that business relationships do not pose any significant Associated Compliance Risk.

Compliance Risks Covered under TPCDDOG	Compliance Due Diligence Tools
Bribery and corruption	Know Your Counterparty Questionnaire
Money laundering	Standard Compliance Due Diligence (online screening via KYC platforms)
Conflicts of interest	Enhanced Compliance Due Diligence
Economic sanctions	Associated Compliance Risk Assessment using the Due Diligence Risk Assessment Checklist
Export controls	
Competition	
Human rights	
Modern slavery	
Data protection	

COMPETITION PROTOCOLS

Our Competition Law Guidelines outline the main competition laws applicable in most international jurisdictions and ensure that we strictly comply with these rules in our day-to-day business. We have adopted two Competition Law Compliance Protocols that support the Competition Law Guidelines:

- i) MISC's Competition Law Compliance Protocol on Meetings and Information Sharing
- ii) MISC's Competition Law Compliance Protocol on Merger and Acquisition Transactions

GOVERNANCE PILLAR

ETHICS, GOVERNANCE AND SUSTAINABILITY

ECONOMIC SANCTIONS

We are committed to complying with relevant economic sanctions and export control regulations by identifying, mitigating and managing the related risk in the jurisdictions we operate. The Economic Sanctions and Export Control Policy and Guidelines are our governing documents for all sanctions matters.

As part of our third party compliance due diligence requirement and Project Risk Assessment (PRA) undertaken by business units, we ensure that we do not enter into business relationship with any entity or person which is the target or subject of Sanctions, including those directly or indirectly owned by a sanctioned entity or person. We will also not engage in any activity that would result in MISC being in breach of any Sanctions laws.

In 2021, we recorded no non-compliance related to economic sanctions.

PRIVACY POLICY

MISC is committed to complying with applicable privacy and personal data protection laws. Our Corporate Privacy Policy and its Master Guidelines applies to all operations to ensure that the collection, use, processing and storage of personal data relating to our employees, contractors, directors and other third parties are consistent with our policies.

Our Privacy Statement, which is available on our corporate website, explains the processing of all personal data collected from MISC’s website, social media pages and emails. Our employees, directors and third parties are also provided with the relevant Personal Data and Information Notice to inform them on our practices regarding the treatment of personal data.

Any queries, comments or complaint can be made by our employees and the public to our Compliance department at compliance@miscbhd.com

CUSTOMER PRIVACY INFORMATION

Customers are informed of our Corporate Privacy Policy through the Personal Data and Information Notice.

Components of Our Personal Data and Information Notice

Nature of captured information	Purpose of information collection	Our commitment when disclosing customers’ personal data	Customers’ personal data rights such as withdrawing their consent or amending or deleting personal data
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In 2021, we experienced no security breaches or other incidents that violated customer privacy or lost customer data.

POLITICAL INVOLVEMENT POLICY

Employees are prohibited from using their position in MISC to influence political contributions and support as stated in our Employee Handbook.



Political contributions are not permitted

Facilities, resources and equipment cannot be used for political-related activities, campaigns or functions

No form of financial assistance is received from the government

CONFLICT OF INTEREST ANNUAL DECLARATION

A conflict of interest occurs when one’s personal interests, be it family, friends, financial, or social factors, could compromise their judgment, decisions, or actions in the workplace. Conflict of Interest (COI) Disclosure is part of the assurance exercise in relation to Avoidance of Conflict of Interest, where potential or actual situations of conflicts are identified and adequately mitigated.

We have to ensure that appropriate measures are being taken so that it poses no risks to our business as well as our directors and employees. A total of 100% of MISC Berhad employees have completed the Annual COI Disclosure for 2021.

Our directors, employees and third parties are required to declare any conflict of interest through the following platforms:

- A dedicated email address coideclaration@miscbhd.com; or
- During the Annual Conflict of Interest Declaration

All declarations are properly reviewed and analysed according to the COI Analysis and Review Procedure, and any necessary mitigation steps are communicated to those involved.

GOVERNANCE PILLAR

ETHICS, GOVERNANCE AND SUSTAINABILITY

MECHANISMS FOR ADDRESSING ETHICS CONCERNS

Employees and members of the public can report any suspected unethical, unlawful conduct and/or CoBE non-compliance (including Human Rights) involving MISC or its employees, using our Whistleblowing platforms. Our Whistleblowing Policy applies to every employee, director and officer of MISC. Moreover, we also encourage our joint venture companies in which we are not a controlling stakeholder and associate companies to adopt this policy.

Whistleblowing Channel

Email to
whistleblow@miscbhd.com



Hotline at
+603 2264 0807
from Monday to Friday
during office hour
(9 am – 5 pm)



Whistleblowing e-Form
(<https://whistleblow.misc.net.my/Whistleblowing/>)



Any employee or members of the public who wishes to make a report through our whistleblowing channels is not obliged to disclose his identity and may remain anonymous. We provide secured and confidential channel in which a whistleblower will be accorded with protection of confidentiality of identity, as well as protection against any adverse and detrimental actions, to the extent reasonably practicable, provided that the disclosure is made in good faith.

In 2021, the whistleblowing channels received the highest recorded number of whistleblowing complaints, with an average increase of 280% in comparison with previous years. A total of fourteen cases have been received and processed by MISC. All cases were investigated, with twelve cases closed with no delinquency or disciplinary action cases are still under investigation as at January 2022.

Further analysis showed the Human Resource (HR) related categories such as pure grievance and HR, diversity and workplace respect contributes the largest number of complaints, followed by business integrity and other categories.

MONITORING AND REPORTING

COMPLIANCE ATTESTATION

Our implementation of Head of Department (HOD) Compliance Attestation Programme is one means of gauging the compliance status in MISC. In 2021, the HOD Compliance Attestation initiative was rolled out on a bi-annual basis to demonstrate the 'Tone from the Top' and management's commitment to inculcating a compliance culture throughout operations. This self-assessment attestation programme will boost transparency in line with the Guidelines on Adequate Procedures principles. The Compliance Attestation programme aims to:

- Assure the Board and management of MISC's compliance with all applicable laws and regulations; and
- Immediately document and address any concerns that may lead to a potential or actual breach.

The inaugural HOD Compliance Attestation Programme, conducted in June and December 2021 respectively, discovered sixteen actual and two potential non-reputational breaches. No reputational breaches were reported. Our mitigation measures, established through Enterprise Risk Management (ERM), are monitored by our Corporate Planning division.

MYASSURANCE – CRITICAL LEGAL AREAS (CLA)

An Integrated Assurance platform called MyAssurance is in place to capture all lines of assurance throughout the business. The CLA Functional Checklist (FC) embedded in the MyAssurance is a self-assessment tool to assess our operations' legal compliance status and potential areas of weakness, non-compliance and/or unsound practices, including bribery and corruption, money laundering, conflicts of interest, economic sanctions, export controls, competition, human rights, modern slavery and data protection. Corrective actions are put in place in addressing any identified gaps.

CONTINUOUS IMPROVEMENT

Continuous improvement is necessary when it comes to detecting and mitigating potential non-compliance. We continually improve the suitability, adequacy and effectiveness of our compliance and ethics programmes through reviews by the internal audit including the annual ISO ABMS internal and external audits. We monitor and report all compliance and ethics-related matters regularly.

- Compliance and ethics related matters are reported quarterly to the Board via BGRC as the governing body for good governance to ensure the objectives of the Governance Pillar strategic priorities are effectively implemented.
- Whistleblowing related updates are reported quarterly to the Board via BAC platform in line with the highest standards of integrity expected of the Company and its employees and the Malaysian Code on Corporate Governance 2021.

GOVERNANCE PILLAR
RESPECTING HUMAN RIGHTS AT
SEA AND SHORE



Upholding and respecting human rights throughout our operations is essential to our business conduct. As we embark on our Net-Zero Greenhouse Gas Emissions Commitment, we are cognisant that human rights play a vital role in ensuring that everyone has the right to health, well-being, safety, clean air and the environment. The United Nations Guiding Principles on Business and Human Rights guide us, providing the global framework to prevent and address human rights impacts related to business, including climate change impacts. We also comply with the International Labour Organisation (ILO) Declaration and The Maritime Labour Convention (MLC) guidelines.

Our Commitment

We ensure human rights are respected in all our activities and business relationships

Due Diligence

We identify and assess human rights related risks and impact on our business and operations and propose mitigation to manage the risks and impact on an ongoing basis

Communication, Reporting and Access to Remedy

Human rights expectations are clearly communicated to all stakeholders including business partners

We establish processes for communication, questions, complaints and reparations available to people affected by our activities

With strong governance, forward-looking advocacy, and leading transparency, the following policies and management systems have been established to support us in this area:

- Human Rights Commitment
- Modern Slavery Policy and Statement
- Code of Conduct and Business Ethics (CoBE)
- Code of Conduct and Business Ethics for Third Parties (CoBE for Third Parties)
- Our ESG Supply Chain Assurance Programme
- Health, Safety and Environment Policy and Safety Rules
- Diversity and Inclusion Statement

GOVERNANCE PILLAR

RESPECTING HUMAN RIGHTS AT SEA AND SHORE



MISC Human Rights Commitment

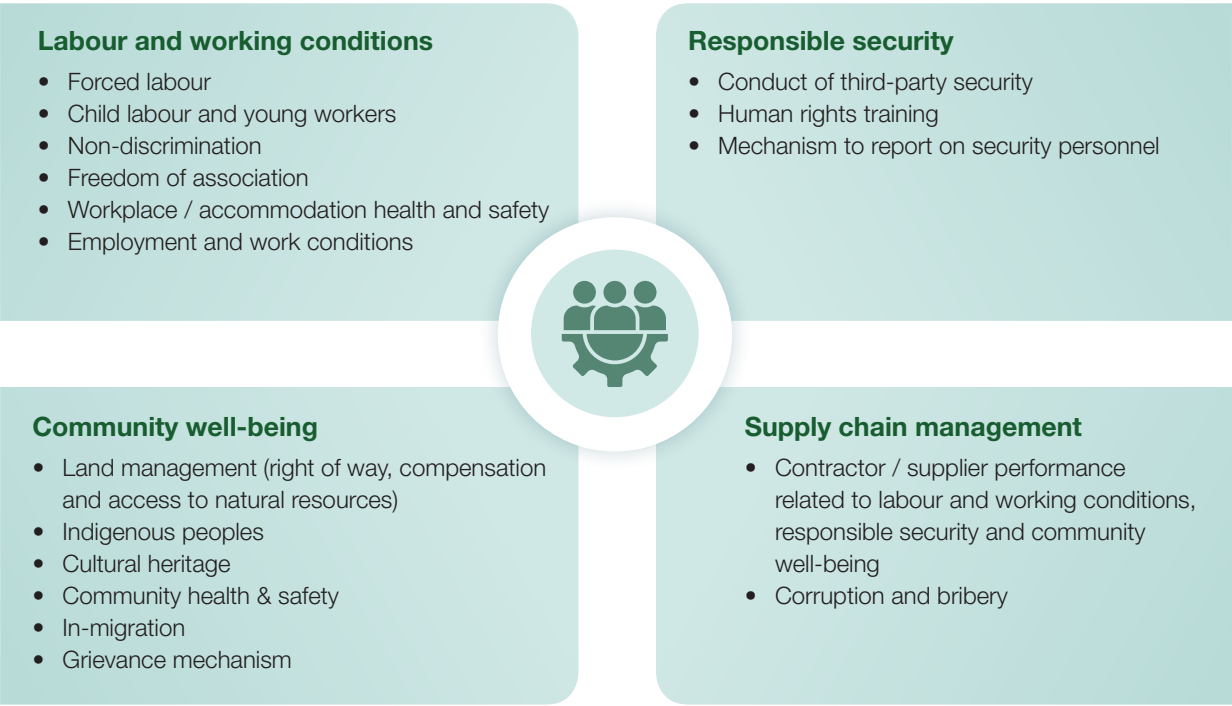
MISC is committed to respecting internationally recognised human rights in areas of its operations, complying with its Code of Conduct and Business Ethics (CoBE), and all relevant legal requirements.

Today, we embed our human rights commitments into corporate practice by communicating our human rights expectations to all stakeholders, including business partners. The table below summarises these activities:

Event	Topic / Description	Participants	No. of participants	Total training hours
PETRONAS Social Performance Community of Practice (CoP) Forum 2021	Case studies on human rights and social performance in PETRONAS and MISC Group	Social Performance Practitioners across the PETRONAS Group including Sustainability Focal Persons and Compliance Champions of MISC Group	32	64
See.Speak.Support – Human Rights	Human Rights in the business context: a perspective from MISC & PETRONAS (Grievance Mechanism)	Representatives from business units and subsidiaries	381	762
Third Party Compliance Due Diligence Operational Guidelines (TPCDDOG)	TPCDDOG’s requirements in MISC operations	Representatives from business units and subsidiaries	1,314	1,314
Annual CoBE training for third parties	Understanding requirements of the CoBE which include human rights elements	Representatives from 70 third party companies, 29 of which were critical suppliers identified by MISC Group’s Supply Chain ESG assurance programme	116	348

DUE DILIGENCE – CONDUCTING HUMAN RIGHTS RISK ASSESSMENTS

MISC Group has initiated Human Rights risk assessments for all our business segments, including our shore and sea employees. The assessments were done according to PETRONAS Technical Guideline on Social Risk Assessment (PTG 19.90.05). The Human Rights risk assessments focus on social risk variables in accordance with MISC Group’s Human Rights commitment, as depicted below:



Overall outcome of assessments:

- Labour and working conditions: The assessments results ensured that our human rights practices follow the ILO and MLC guidelines as well as other applicable laws and regulations.
- Community well-being: The assessments also found that there were no incidents of violations involving rights of indigenous peoples in our operations.

Areas for improvement:

- Employee awareness: We discovered that there was improvement to be made on the level of awareness on human rights among employees. In this regard, MISC Group is currently developing a Human Rights e-learning module which will be available to all employees by end of 2022.
- Supply chain management: We discovered areas for improvement in the way we conduct human rights assessments in our supply chain. As a result, we will be addressing these in the planned Responsible Supply Chain programme.

GOVERNANCE PILLAR

RESPECTING HUMAN RIGHTS AT SEA AND SHORE

HUMAN RIGHTS AT SEA

'COVID-19' saw around 400,000 seafarers stranded on their vessels. Long-term underreporting of abuses in the maritime industry created a systemic threat to seafarers' rights.

In 2021, the Group signed the Neptune Declaration on Seafarer Wellbeing and Crew Change, to end the unprecedented crew change crisis caused by COVID-19. Fatigue after long periods at sea has significant consequences on the physical and mental well-being of seafarers. It also increases the risk of maritime incidents and environmental disasters and poses a threat to the integrity of maritime supply chains which transport 90% of global trade.

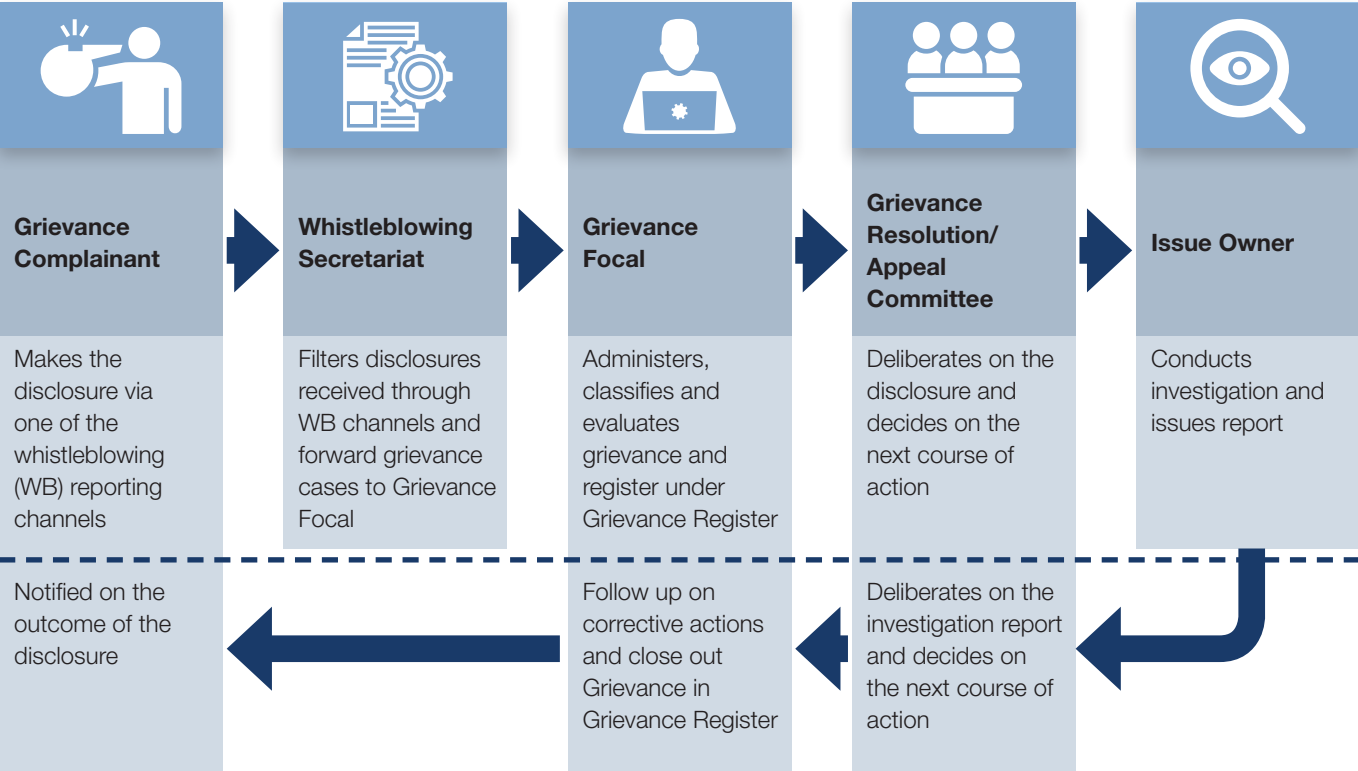


PROVIDING ACCESS TO REMEDY

Our grievance mechanism plays a critical role in opening channels for dialogue, problem-solving, investigation and remedy if required. It guarantees confidentiality and is available to all internal and external stakeholders. Our grievance mechanism is in line with our goal of promoting fair labour practices. The mechanism allow us to monitor the number and type of formal individual or collective appeals received each year.

Our Grievance Mechanism Procedure, which was established in 2021, is applicable throughout the lifecycle of all projects and is a requirement for all operations regardless of the level of perceived risks. The scope of grievance are limited to human rights impact related to MISC Group's operations, employees and contractors.

The detailed responsibilities of all functions that oversee and protect human rights at MISC are presented below:



WHISTLEBLOWING / GRIEVANCE CHANNELS

MISC is committed to the highest standards of integrity, openness and accountability. Employees and members of the public may disclose any improper conduct within MISC, including misconduct or criminal offences, through MISC's established internal Whistleblowing / Grievance channels, such as emailing whistleblow@miscbhd.com, completing the Whistleblowing / Grievance e-Form or calling the MISC Hotline at 03-2264 0807.

HUMAN RIGHTS IN OUR SUPPLY CHAIN

We are firmly committed to responsible business conduct throughout the supply chain. Customers not only care about the value of our delivery but also how those deliveries are produced. Addressing human rights and other critical issues in our supply chain are a business imperative and sustainability priority.

Establishing standards for our supply chain partners to follow when conducting business with us help identify and manage potential risks. Our Environment, Social and Governance (ESG) Supply Chain Assurance Programme emphasises sustainability agenda including climate change, health and safety, security, data privacy and business ethics, which include human rights.

We introduced the MISC CoBE for Third Parties to all third parties in 2018. Then in 2021, we introduced the Third Party Compliance Due Diligence Operational Guidelines (TPCDDOG) detailing MISC's expectations on business ethics including human rights. All third parties must comply with the Human Rights Commitment and Modern Slavery Policy under Part IV: Human Rights and Modern Slavery.

We also introduced the Declaration and Integrity Pledge (DIP) for third parties in the same year. This mandatory document must be signed by all third parties such as joint venture partners and clients, entering into an agreement with us. Referencing compliance with the CoBE for Third Parties, third parties must comply with MISC's Human Rights Commitment and Modern Slavery Policy as well as relevant laws and regulations.

Third parties with an actual or potential contractual business relationship with us are assessed as well in our due diligence process. Continuous stakeholder engagements are carried out to ensure human rights risks in our supply chain are managed which include risks related to:

- Modern slavery, which is one of the most common human rights issues in the maritime industry;
- All other forms of slavery such as forced labour, bonded labour, child labour, human trafficking, and other slavery-like practices;
- Responsible security practices; and
- Impact of operations to the surrounding community's well-being, if any.

We will continue to exhort our contractors and business partners to strictly comply with these principles by including human rights clauses in our contracts while performing social assessments and supporting them through awareness-raising activities.

These improvements are featured prominently in our Sustainability Strategy as part of the Responsible Supply Chain Programme.

HUMAN RIGHTS PERFORMANCE IN 2021

4
Human rights assessments completed to date

50%
of operations that have been subjected to human rights reviews or human rights impact assessments (materiality)

100%
Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening (human rights is a standard clause in all MISC Berhad agreement)


96%
of employees (MISC Berhad) trained on human rights commitment and modern slavery policy

GOVERNANCE PILLAR

STRENGTHENING CYBERSECURITY

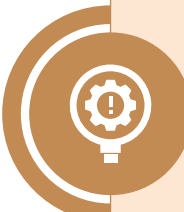
Information is exposed to a rapidly-growing variety of risks, threats and vulnerabilities in an increasingly interconnected global environment. Investing in information and cybersecurity helps protect our technology, assets and critical information. Importantly, it avoids reputational damage or monetary loss resulting from unauthorised access to our systems and data.

Cybersecurity forms part of the Values, Assurance and Business Ethics strategic priorities under the MISC Sustainability Strategy 2021 – 2025. We believe it is essential to set the direction, provide a relevant security framework, build internal capabilities, pursue the information security strategy, empower the security team and and raise cybersecurity awareness within MISC to improve cyber resiliency. We train and inform our workforce on potential risks and security issues in our everyday business. Both mandatory and optional training equips employees with the necessary tools to handle problems such as phishing or ransomware attempts. We monitor and modify this training if required to maximise the effectiveness of training sessions.




GOVERNANCE

- MISC Cybersecurity Strategy aligned with the IMO 2021 cybersecurity requirements
- A new, comprehensive cybersecurity guideline based on PETRONAS Cyber Security Control Standards introduced in August 2021



PREVENTIVE, DETECTIVE AND REACTIVE MEASURES

- Technical tools and technologies identify, protect, detect and respond to cybersecurity events more effectively and we are introducing corresponding governance processes throughout the Group. These efforts include establishing a comprehensive Cybersecurity Incident Response Plan
- MISC's dedicated Cybersecurity team continues to pre-emptively assess the risks and exploit new technologies and methods to prevent and detect occurrences such as:
 - » Data Leakage Prevention (DLP)
 - » Cloud Access Security Broker (CASB)
 - » Mobile Device Management (MDM)
- Continuous effort and alignment by Group HSSE Cybersecurity as we prepare to incorporate Cybersecurity reporting in the HSE reporting and dashboard
- Cybersecurity incident response drills were conducted with two business units to gauge the preparedness and knowledge of employees on the ground for improvement opportunities



TECHNICAL "HOUSEKEEPING" MEASURES


- MISC's Cybersecurity team constantly promotes safe and secure practices when handling computer systems and data
- New joiners undergo cybersecurity briefing
- All email users will be subject to a monthly phishing test
- Frequent cybersecurity talks, delivered by internal and external speakers, organised to increase cybersecurity knowledge
- Several business-focused cybersecurity talks were held in 2021 to raise awareness of cybersecurity

CYBERSECURITY COFFEE TALK @OFFSHORE BUSINESS

We know most digital attacks exploit the human factor through creative and luring phishing attempts and related efforts. Almost 90% of data breaches are caused by human error, reinforcing the need for providing cybersecurity education to employees and surrounding people.

Our Offshore Business works closely with Group HSSE to prepare against cyber threats and threats. The Offshore Business Cybersecurity Coffee Talk was organised to include not only employees, but also extended to family members.

We held two Coffee Talk sessions in a casual setting to enhance the behavioural aspects of employees and frontliners in 2021. External speakers shared their knowledge and experience in this session moderated by our Chief Information Security Officer.

	Coffee Talk 1.0	Coffee Talk 2.0	
Theme	Bring Safety Home	Beyond the Shadow of Doubt	
Topic	Domestic cybersecurity threats, social media exposure, personal data theft and related content	Enterprise environment including a live hacker attack demonstration by one of the panel speakers to better visualise how a cyber breach occurs	
Participants	Employees, family members and representatives from our IT hardware providers and local university	Employees, family members and representatives from PETRONAS Cyber Security and cybersecurity firms	



Strengthening our cybersecurity measures is essential to protect us from potential cyber threats. Protecting our technology, assets, critical information are our utmost priority as part of our ongoing cyber risk management.

GOVERNANCE PILLAR

THE BIGGER PICTURE: EMBRACING A SUSTAINABLE SUPPLY CHAIN



GOVERNANCE
RESPONSIBLE SUPPLY CHAIN MANAGEMENT

OUR COMMITMENT

- To drive sustainable practices with our suppliers

OUR INITIATIVES

- Implement ESG Supply Chain assurance program emphasising on sustainable sourcing, circular economy, health and safety and business ethics compliance
- Look for collaboration / partnerships opportunities on pollution prevention and decarbonisation of our operations
- Promote Circular Economy across value chain

OUR CONTRIBUTION TO UNSDG

8 DECENT WORK AND ECONOMIC GROWTH

Promote sustainable economic growth and decent work for all by ensuring labour rights and promote safe and secure working environments for all

16 PEACE, JUSTICE AND STRONG INSTITUTIONS

Foster strong governance and business ethics culture against corruption and modern slavery and promote fair practices

Sustainability is integral to our value chain. Supplier engagement on sustainable procurement generates benefits not only for our organisation, but also brings value to society, the economy and the natural environment. We continue to reduce carbon footprints in our businesses and have started identifying Scope 3 emissions resulting from assets not owned or controlled by our organisation. Effective sustainable procurement future-proofs our long-term objectives by enhancing our corporate reputation, lowering risk, reducing cost and growing revenue. We uphold business ethics by supporting business opportunities and building the capability of our local and international suppliers.

A MORE SUSTAINABLE SUPPLY CHAIN

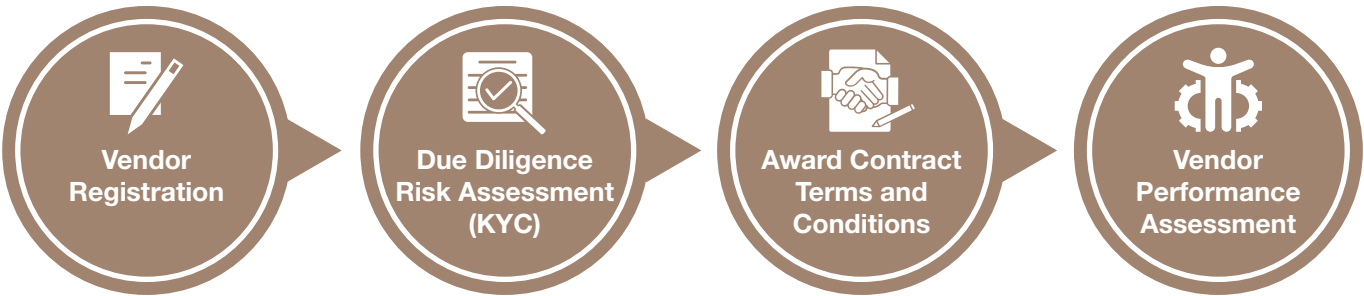
As our suppliers play a pivotal role in contributing to the integration of sustainable development into our key business activities, the proactive management and understanding of their business activities and supply chains, and how they impact the environment and community are critically important to us as well.

As we progress along our sustainability journey, our aim is to ensure our supply chain ESG performance aligns to our ESG standards. We expect our first-tier suppliers to comply with these standards and they in turn should demand compliance from their suppliers. The aim is to create a cascade of sustainable practices which promote a circular economy and low-carbon economy throughout the supply network.

SUPPLIER SOCIAL AND ENVIRONMENTAL IMPACTS

We have established a supplier pre-qualification process where some elements of Environmental, Social and Governance (ESG) have been included in our supplier screening as part of the supply chain due diligence process. We evaluate suppliers' ESG practices during vendor registration to check if our minimum ESG standards are met. This risk-based approach reviews their health, safety and environmental management systems and business ethics including human rights practices.

The ESG Touchpoints embedded within our supply chain procurement process is as below.



Prior to engagement, all third-party suppliers are also required to complete the Know Your Counterparty (KYC) Questionnaire as part of our enhanced risk assessment process.

We perform a risk assessment of our critical suppliers and contractors, which may include an on-site audit at their premises. Suppliers may be subject to an ongoing Vendor Performance Evaluation process in which certain contractual obligations, such as quality, health, safety and environmental performance, are monitored and periodically reviewed.


GOVERNANCE PILLAR

THE BIGGER PICTURE: EMBRACING A SUSTAINABLE SUPPLY CHAIN

Our Code of Business Conduct for Third Parties provides additional clarity to our suppliers regarding our expectations in the following areas:


Additional Clarity Provided by Our Code of Business Conduct

Health, Safety and Environment (HSE)




Suppliers must comply with applicable environmental laws and regulations and conduct business with respect and care for the environment, including utilising energy and natural resources efficiently and managing waste, emissions and discharges responsibly. We want to work with our supply chain partners to achieve our low-carbon and circular economy goals.

We conduct business in line with the human rights philosophy expressed in the Universal Declaration of Human Rights, the International Labour Organisation Declaration on Fundamental Principles and Rights at Work, and health and safety as well as the United Nations Guiding Principles on Business and Human Rights. We expect suppliers and contractors working on our behalf to be guided by these principles.



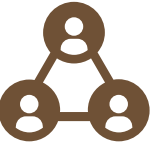
Labour and Human Rights

Integrity



Our contracts require suppliers' performance to be guided by the principles and standards outlined in the Code of Business Conduct and their policies on ethics and conduct.

We engage with suppliers and contractors on aspects of sustainable development through quarterly reviews, Supplier Relationship Management, supplier sustainability engagement sessions and supplier audits.



Social Performance

DIVERSITY AND INCLUSION

We will enhance our scope to include Diversity and Inclusion (D&I) into our supply chain analysis which falls under the Social pillar of ESG. We will stipulate the need for transparency from our suppliers' organisational diversity programmes. With many global business leaders waking up to the huge importance of supplier diversity, embedding D&I into our supply chain will help us gain competitive advantage. This increases our opportunity to promote innovation, broaden our supplier base, drive competition, expand business and attract new talent.

THE CASE FOR ACTION

Our industry relies on complex supply chains as our overall sustainability impact is often affected by decisions made in the supply chain. We take ownership and view suppliers as an extension of MISC. Our Sustainability Strategic Initiative on Responsible Supply Chain Programme aims to promote progress in our supply chains.

MISC GROUP SUPPLY CHAIN ESG SELF-ASSESSMENT FRAMEWORK

As part of our journey in strengthening our supply chain engagement, we have developed the ESG Self-Assessment Framework in 2021. This is in addition to our Vendor Performance Assessment. The self-assessment framework consists of seven ESG topics such as Sustainability Strategy (including climate action), HSE & Security, Ethics and Integrity, Competition Law, Data Privacy and Information Security, Sanction / Export Control as well as Human Rights. The goal is to develop a risk profile of our supply chains by identifying, assessing and managing supply chain ESG risks. The supply chain ESG profile are categorised as:

- Needs Improvement: The organisation ESG practices fall below industry best practice expectations and/or legal requirements and would require attention to improve in order to be aligned with MISC Sustainability expectations.
- Meets Some Requirements: The organisation ESG practices generally meet some minimal industry best practice expectations but would require some effort to improve in order to be fully aligned with MISC's Sustainability expectations.
- Meets Requirements: The organisation ESG practices meet MISC expectations and would require continual improvements to continuously be fully aligned with MISC Sustainability expectations.

In 2021, a pilot programme was conducted on selected critical suppliers across the Group. At MISC, we define critical suppliers as suppliers of critical components and non-substitutable suppliers and suppliers who can significantly impact our competitive advantage. We also included suppliers who performs high-risk activities in terms of safety, impacts and remoteness of services. The pilot programme showed that, 20% of our suppliers were categorised in the "Meets Requirements" category, while 60% were in the "Meet Some Requirements" category and the remaining 20% were in the "Needs Improvement" category. The plan is to roll-out the ESG Self-Assessment framework to our remaining critical suppliers in phases.

Moving forward, MISC Responsible Supply Chain Programme will continue to embrace sustainability in its Supplier Relationship Management.

SHARED SUSTAINABLE SUPPLY CHAIN VISION:



STAKEHOLDER ENGAGEMENT PILLAR TRANSPARENT, ENGAGING AND INCLUSIVE STAKEHOLDER RELATIONSHIPS



STAKEHOLDER

OUR COMMITMENT

- To create value through trusted stakeholder relationships

OUR PRINCIPLES OF ENGAGEMENT

- Collaborate with strategic partners
- Promote sustainability awareness
- Communicate effectively through identified platforms
- Feedback sought regularly from stakeholders
- Transparency through disclosures on sustainability related frameworks

OUR INITIATIVES

- To collaborate with strategic partners and regularly seek feedback on sustainability agenda
- To transparently promote and communicate sustainability agenda through disclosures

OUR CONTRIBUTION TO THE UNSDG

17 PARTNERSHIPS FOR THE GOALS

Promote global partnership on sustainable maritime industry by encouraging multi-stakeholder partnerships that mobilise and share resources on expertise and technology

Regularly engaging with and responding to a wide range of stakeholders help us set priorities for our sustainability agenda. Stakeholders are essential companions on our business journey. We create value for all stakeholders, not only shareholders, through our sustainability agenda. Creating meaningful value through trusted stakeholder relationships, the Stakeholder Engagement Pillar is a vital part of our Sustainability Strategy.

We engage with our stakeholders while seeking regular feedback on our economic, environmental, social and governance matters through activities such as townhalls, meetings, surveys, participation in industry groups and representation in industry forum. Transparently communicating the outcomes of our sustainability agenda strengthens our relationships within our stakeholder ecosystem. The material matters of concern or issues raised by our stakeholders and our strategic responses for each are explained in the Our Stakeholders’ Universe section.

STAKEHOLDER ENGAGEMENT GOVERNANCE

MISC Group’s stakeholder engagement strategy aims to identify and understand key stakeholders and build trusted and sustainable relationships with them. It also helps the Group identify risks and opportunities and address concerns proactively.

MISC Group has a structured process of engaging with stakeholders which is documented in the MISC Group Stakeholder Engagement Guideline.

The guideline aims to standardise the best practices in stakeholder engagement across the Group.

We have strengthened our stakeholder engagement governance by adopting a Responsibility Matrix (RACI) (Responsible, Accountable, Consulted, Informed). Each subsidiary and business unit are responsible for:

- Developing and monitoring their stakeholder engagement plans; and
- Creating their own RACI matrices that are relevant to their stakeholder and business needs

For more details of our Stakeholder Engagement process, please refer to Our Stakeholders’ Universe section

STAKEHOLDER ENGAGEMENT PILLAR

TRANSPARENT, ENGAGING AND INCLUSIVE
STAKEHOLDER RELATIONSHIPS

The following section highlights key engagement events according to stakeholder groups:

OUR STAKEHOLDER: GOVERNMENT AND REGULATORS

The MISC business model is based on strict adherence to all applicable laws and regulations that determine the license and scope of our activities in the respective countries of our operations. The Group maintains ongoing dialogue with various government bodies and regulators in the countries where we operate and Flagship.

Type of Engagement	Frequency
Meetings	As required
Industry Forums	Yearly
Virtual site visits	As required
Audits	Yearly
Events	Yearly

SINGAPORE MARITIME WEEK 2021: THE SINGAPORE SHIPPING FORUM

“POST PANDEMIC: NEW DIRECTIONS AND STRATEGIES”

Singapore Maritime Week is an annual gathering of the international maritime community organised by the Maritime and Port Authority (MPA) of Singapore. In May 2021, our President & Group CEO, Datuk Yee Yang Chien delivered a keynote speech titled “Making the Future Possible” at the Singapore Maritime Week 2021. Datuk Yee emphasised the importance of collaboration in navigating the global maritime industry through two key shifts: the Fourth Industrial Revolution and the great energy transition. He mentioned The Castor Initiative – a collaborative development effort to produce the world's first ammonia-fueled ship by 2025 – as an example of cooperatively pushing the boundaries of industry transformation.

MISC Group COO and AET President & CEO, Captain Rajalingam Subramaniam also presented on “Post Pandemic: New Directions and Strategies” and joined an ESG panel discussion in this forum. He encouraged the financiers to explore better differentiators and incentives for shipowners and operators to adopt more ESG-related solutions. In this event, AET was awarded Singapore Registry of Ships (SRS) Ship Owner of the Year Award 2021. The SRS Award recognises an outstanding owner of quality Singapore registered ships and takes account of fleet size, growth, operational excellence, sustainable contribution to human capital development both ashore and at sea. In 2021, special emphasis was placed on the owner who has been able to demonstrate resilience by adapting its business activities and operations even amidst the global pandemic challenges.

OUR STAKEHOLDER: SHAREHOLDERS, INVESTORS AND FINANCIAL PROVIDERS

Type of Engagement	Frequency
Annual General Meeting (AGM) and Integrated Annual Report (IAR)	Yearly
Investor Conference	Yearly
Analyst Briefings	Quarterly
One-on-one / large group meetings	As required
Investor Relations web page and corporate website	As required
Emails	As required
Surveys	As required

SURVEY of
CEO Engagement
Session with Analysts

Number of Analysts	Feedback
13	92% satisfaction rate

December 2021

The Group’s primary objective is to create value for shareholders as the owners and providers of equity capital to the business. The Group is accountable to its stakeholders and reports to shareholders and the public by effectively providing communications on our operational and financial performance.

INVESTOR RELATIONS ACTIVITIES

Large Group Meetings / One-on-One Meetings			
Investor Meetings	Description	Number of Meetings	No. of Participants
Large group meeting	CEO Engagement Session with analysts	4	59
One-on-one meeting	Private meetings	10	25

Analyst Briefings			
Quarterly Announcements	Description	Number of Meetings	No. of Participants
Conference Calls	Quarterly updates on the financial results and market environment	4	60-64 pax (per session)

General meeting			
Date	Meeting	Venue	Agenda
21 April 2021	Annual General Meeting	MISC Berhad, Menara Dayabumi, Kuala Lumpur	Re-election and new appointment of directors and presentation of Company's performance

STAKEHOLDER ENGAGEMENT PILLAR

TRANSPARENT, ENGAGING AND INCLUSIVE STAKEHOLDER RELATIONSHIPS

ANNUAL BANKERS ENGAGEMENT IN 2021

During this pandemic, we met virtually with various banks and financial institutions through our MISC Bankers Event. Introducing our value proposition, future projects, sustainability agenda and updates helped us explore various financing mechanisms. The session also allowed us to demonstrate our potential, strengths and possibilities in moving energy to build a better world.

Senior bankers and representatives from local and global financial institutions joined our leaders as they shared our business strength, stability and aspirations. This Annual Bankers Engagement provides us with an excellent opportunity to network, connect and strengthen relationships with bankers.

STANDARD CHARTERED VIRTUAL GLOBAL CREDIT CONFERENCE 2021 ON “OPPORTUNITIES FROM DISRUPTION”

MISC Group COO and AET President & CEO Captain Rajalingam Subramaniam shared insight in the panel discussion on “Shifting with the tide: What’s driving change in global shipping finance” with bankers, investors, industry leaders and policymakers on 11 June 2021.

During the panel discussions, Captain Rajalingam Subramaniam encouraged the industry players to continue exploring alternative financing as traditional debt financing opportunities become tighter. He emphasised that quality of balance sheet and scalability have become increasingly important for longer term sustainability, and the purposeful adoption of ESG principles is becoming more imperative than ever. The need for strategic partnerships and collaboration with debt and equity providers and an understanding of market cycles is essential to ensure long-term sustainable returns for our business investments.

OUR STAKEHOLDER: BUSINESS PARTNERS, SUPPLIERS AND VENDORS

Type of Engagement	Frequency
Meetings	As required
Procurement and appointment process	As required
Conferences	Yearly
Business Partner events	Yearly
Virtual site visit	Yearly
Forums	Yearly

FOSTERING COLLABORATION ON DIGITALISATION IN THE MARITIME INDUSTRY

MMS held its first virtual Shipowners and Charterers Forum in 2021, with the theme “Accelerating Digitalisation Towards a Sustainable Maritime Industry.”

The forum fostered greater collaboration between MMS shipowners and other business partners. Attended by over 300 global participants, the forum emphasised the importance of building a synergistic partnership with stakeholders in order to accelerate digitalisation and embrace technological advancements. Transitioning to digitalisation will improve operational efficiency and guide the industry towards decarbonisation to realise zero-carbon emissions from international shipping by 2050.

Respected industry leaders, representing a wide range of perspectives across the industry, joined other industry associations as speakers and panellists. Subject matter experts shared their insights, perspectives, lessons learnt and best practices on the rapid changes in digitalisation and ways the maritime industry can advance digitally towards a sustainable maritime industry.

MMS’ VIRTUAL CONTRACTORS HSSE

MMS held its second virtual engagement in August 2021, following the successful Contractors HSSE (Health, Safety, Security & Environment) Engagement in 2020. More than 110 participants attended, which allowed us to reflect on our HSSE performance with our contractors and partners while reinforcing their commitment to HSSE excellence.

MMS, joined by representatives from Supply Chain Management and the Legal team, shared insights on HSSE awareness, legal and procurement updates and their expectations with the contractors. Contractors shared success stories and strategies for inculcating HSSE excellence into safety culture and improving HSSE standards.

Contractors and partners who demonstrated exemplary safety performance received the MMS HSSE Excellence Awards. In 2021, MMS introduced two new awards: Best Unsafe Condition Unsafe Act (UCUA) and Best HSSE Personality. These awards recognise outstanding individuals that have made significant HSSE contributions and nurtured them in their respective organisations.

MMS will hold contractor engagement sessions regularly in the future to encourage greater collaboration and deliver sustainable HSSE excellence.

Benefits of MMS’s Strategic Collaboration with Contractors

Handle over
54,000 vessels of up to
350,000 DWT with
no major incidents

Deliver more than
14.1 million safe man-hours
with **Zero Lost Time Injury**
since 1999

Set a year-to-date record of a
**Zero Lost Time
Injury Frequency Rate** and
**Zero Total Recordable
Case Frequency**

THIRD PARTY BRIEFING ON COBE AND SUSTAINABILITY

CoBE training for third-party service providers has been conducted annually since 2018. This year’s session registered 116 participants from 70 third parties companies of MISC Group. The training forms part of MISC’s initiative on enhancing MISC Group’s Supply Chain Management to ensure that our third parties are aware of our CoBE and other requirements and expectations from them and shall comply to similar standards as per our CoBE.

STAKEHOLDER ENGAGEMENT PILLAR

TRANSPARENT, ENGAGING AND INCLUSIVE
STAKEHOLDER RELATIONSHIPS

OUR STAKEHOLDER: CUSTOMERS

Type of Engagement	Frequency
Meetings	Regularly
Conferences	Yearly
Surveys and feedback	Two years once
Sharing sessions	Yearly
Customer appreciation events	Yearly

CUSTOMER ENGAGEMENT SURVEY

We conducted the MISC Group Customers Engagement Survey for our key customers in 2018 and 2020. In 2020, we achieved overall satisfaction of 89%. These results show that MISC Group met customers’ expectations. We developed and progressively implemented an action plan for the identified recommendations as part of our continuous improvement. We will conduct this survey again in 2022.

The survey also provided customers with the opportunity to share their concerns. Among the key issues raised were commercial competitiveness, enabling a more proactive approach in providing new ideas and solutions, and conducting regular engagements to keep customers abreast of the latest developments. We have since used the feedback obtained to further improve our customer service proposition.

VLEC PROJECT LESSONS LEARNED BY GAS BUSINESS

In 2021, our GAS Business held its first Project Lessons Learned sharing session with Zhejiang Satellite Petrochemical (STL), the charterer of six very large ethane carriers. We reflected on GAS Business’s accomplishments, experiences and operational lessons since operating VLECs.

Almost 20 leaders and representatives from the GAS Business and Eaglestar participated in this virtual session. STL’s Vice President and management team also joined the session.

Our GAS Business team shared the critical milestones of the six VLECs, operational challenges, best practices for efficient project management and future design improvements. The session ended with a simultaneous celebratory cake cutting ceremony at each respective venue to commemorate the 1st anniversary of *Seri Everest*. The first VLEC from the series, *Seri Everest*, has delivered nearly 210,000 metric tonnes of ethane from the Nederland terminal in the US to STL’s import terminal in Lianyungang, Jiangsu, China.

The insightful lesson learnt sessions paved the way for more strategic discussions. Our commitment to the MISC Vision calls for us to consistently provide better energy-related maritime solutions and services and our mission to be always better towards our stakeholders.

OUR STAKEHOLDER: EMPLOYEES

Type of Engagement	Frequency
Townhall	Quarterly - Yearly
Team building day	Yearly
Learning and development programmes	As required
Newsletters and alerts	Monthly
Surveys	Two years once
Management walkabout	Quarterly
Workplace communication platform	Daily
Roadshows and forums	Quarterly
Performance review	Half-yearly

PRESIDENT/GROUP CHIEF EXECUTIVE OFFICER TOWNHALL

MISC President/Group CEO, Datuk Yee Yang Chien addressed employees at the MISC President/Group CEO’s virtual Townhall on 15 January 2021 to share the Group performance and the strategic planning 2050. In the event, a special tribute was given to our frontliners, unsung heroes and invisible movers and shakers who keep the MISC flag flying despite the global COVID-19 pandemic. The Group’s sustainability commitment and initiatives were highlighted and encouraged all to support the efforts. Other focus group mini townhalls and engagement sessions were conducted virtually by the leaders of our subsidiaries and business units, with their respective employees.

STAKEHOLDER ENGAGEMENT PILLAR

TRANSPARENT, ENGAGING AND INCLUSIVE
STAKEHOLDER RELATIONSHIPS

EMPLOYEE ENGAGEMENT SURVEYS

Response Rate	PETRONAS Organisational Cultural Survey 2020 (POCS 2020)	MISC Health, Safety, Security and Environment (HSSE) Cultural Maturity Survey (CMS) 2021	MISC Compliance and Ethics Culture Survey 2020
Engagement survey completion rate	94%	89%	70%

The PETRONAS Organisational Cultural Survey 2020 (POCS 2020) was conducted to understand what really matters to our people, what drives them, and what we can do better to create an even stronger workplace culture for our business growth. POCS is designed to assess the culture of our organisation and focuses on aspects that have a direct link to business performance.

The key topics in POCS

Cultural traits
Safety
Leadership effectiveness
Diversity and inclusion



Please refer to Our People, Our Strength for more information

The key topics in HSSE CMS include:



Leadership and Commitment

Policy and Strategic Objectives

Organisation, Responsibilities, Resources, Standards and Documentation

Hazards and Effects Management

Planning and Procedures

Implementing and Monitoring

Audit

Review

We conducted the MISC Health, Safety, Security and Environment (HSSE) Cultural Maturity Survey (CMS) 2021 in June. This survey gauged the Group's HSSE culture maturity and helped us understand our strengths and areas of improvement. The findings also allowed us to recalibrate and revalidate our strategies and interventions.



Please refer to Health and Safety, Our Utmost Priority for more information

We conducted the MISC Compliance and Ethics Culture Survey in 2020 for employees who had been with MISC Group for more than six months. The main purpose of this survey was to gauge the effectiveness of the compliance and ethics programme/initiatives as perceived by targeted employees. It also assessed the employees' depth of understanding and assimilation of the MISC's Code of Conduct and Business Ethics (CoBE) since its adoption and roll-out in August 2012.

The 2020 results indicated that 70% of participants thought there was an overall improvement from the first survey in 2015. Employees were confident that the management is demonstrating effective leadership, supporting the effective implementation of ethics and integrity initiatives within respective business units and subsidiaries. The survey will be conducted every two years and the next survey will be in 2022.

Leadership

Whistleblowing & Investigation

Ethics Communication

Ethical Risk Assessment

Bribery & Corruption Programme

Ethics Training and Education



Key topics for Compliance and Ethics Culture Survey



For more details on the Employee Engagement activities please refer to Our People, Our Strength section

OUR STAKEHOLDER: COMMUNITY

We operate in a varied and rapidly developing economic region. We recognise that strong community engagement and participation are necessary components of our social licence to operate. We are committed to positively impact communities directly and indirectly affected by our activities. This commitment is implemented through our Sustainability Community Investment Strategy, focusing on the themes of education, environment, health, safety and well-being that are linked to our business strategy.



For more details of our engagement with community, please refer to Partnering with the Community section



STAKEHOLDER ENGAGEMENT PILLAR

TRANSPARENT, ENGAGING AND INCLUSIVE
STAKEHOLDER RELATIONSHIPS

LIST OF TRADE ASSOCIATIONS

Our involvement in industry associations allows us to contribute to developing the local and international shipping industry. We disclose our involvement and memberships in organisations dedicated to climate-related issues. We also demonstrate our support for mitigating climate change through memberships in business associations, public policy and regulation.

Membership	Our position
Climate Governance Malaysia (CGM)	CGM is Malaysia's chapter of the World Economic Forum's Climate Governance Initiative that supports the awareness-raising, best-practice sharing and implementation of good climate governance within corporate boards. MISC is a corporate friend of the CGM.
Gard	The Gard Group is a shipowner-controlled diversified provider of protection and indemnity (P&I), marine and energy insurance products. We play an active role with MISC Group COO and AET's President & CEO sitting on the Board of Gard P&I.
Global Maritime Forum (GMF)	GMF is an international not-for-profit organisation committed to shaping the future of global seaborne trade to increase sustainable long-term economic development and human wellbeing. We are a strategic partner and founding member of GMF with a seat on its Advisory Council. We play an active role in shaping the future of maritime trade by collaborating on improving the environment by reducing harmful GHG.
GlobalMET: Maritime Seafarer Training & Education Association (GlobalMET)	GlobalMET is a Hong Kong-based non-profit organisation engaged in maritime training and education research through our education arm, ALAM. The participants established GlobalMET to support the IMO's goals of "safer ships and cleaner oceans" and recognise the vital importance of maritime education and training in meeting the demands of expanding trade and economic growth.
International Association of Independent Tanker Owners (INTERTANKO)	INTERTANKO promotes the interests of independent tanker owners in international forums and organisations. MISC has representatives sitting and actively involved in the Gas Tanker Committee (GTC) and the Human Element in Shipping Committee (HEISC). Our involvement in the GTC allows MISC to look at issues affecting the industry and also encourages best practices and standards that surpass regulations, provide owners with expert counsel on gas-tanker specific technical and commercial matters. Our work in the HEISC fosters the interests of industry on the role of the human element in the adoption of industry best practices for the safe operation of tankers and in the adherence to strict compliance with operational and environmental regulations and practices. We play an active role in INTERTANKO through collaborations with peers and constructively listening to feedback from industry partners and to resolve members' concerns.
Institute of Marine Engineering, Science and Technology (IMAREST)	ALAM is a member of IMarEST, the world's largest membership organisation and learned society for marine professionals working in marine engineering, science and technology. The institution is a member of the UK Science Council and an Engineering Council UK-licensed entity.

Membership	Our position
Malaysia Board of Technologists (MBOT)	ALAM is a member of MBOT that recognises technologists and technicians as professions capable of demonstrating the prestigious side of technology, alongside Technical and Vocational Education and Training (TVET), as critical components of weathering the Industrial Revolution 4.0 and propelling the National Transformation 2050 (TN50).
Malaysian Gas Association (MGA)	MGA promotes a vibrant and sustainable Malaysian gas industry. We are a Council Member of MGA and hold the Chairmanship of the Government and Regulatory Affairs Working Committee. This membership has broadened our business base and international ventures by participating in International Gas Union (IGU) events and offering the expertise of our collaborative projects.
Malaysia Shipowners' Association (MASA)	MASA frequently engages the government and the industry to strengthen existing relationships and form new ones. We play an active role in MASA by highlighting issues that develop the national shipping industry.
Malaysia Women in Energy (MyWiE)	MyWiE is an advocacy group that champions equal opportunity for women in the energy sector by bringing industry leaders together to encourage equal opportunity and diversity at all levels and categories. We play an active role as the Chairman of the Advisory Panel.
Maritime Anti-Corruption Network (MACN)	MACN is a global business network that envisages a corruption-free maritime industry that provides fair trade for the benefit of society. We align our contribution to MACN with the United Nation's Sustainable Development Goals, particularly goals 16 (Peace, Justice and Strong Institutions) and 17 (Partnership for Goals).
Oil Companies International Marine Forum (OCIMF)	OCIMF is widely recognised as the voice of the oil industry. It provides expertise in the safe and environmentally-responsible transport and handling of hydrocarbons in ships and terminals and setting standards for continuous improvement. MMS is officially a member of OCIMF, which qualifies us as the official marine assurance and compliance representative for PETRONAS Group of Companies.
Society of International Gas Tanker and Terminal Operators (SIGTTO)	MISC is a member of the SIGTTO and our representatives sit on the SIGTTO Board as well as the General Purpose Committee (GPC). The society provides a platform for the exchange of technical information and experience between industry members. Through SIGTTO's affiliation at IMO, we can influence to address common problems and derive agreed-upon criteria for best practices and accepted industry standards affecting safety of Gas Tankers.
The London P&I Club	The London P&I Club plays a crucial role in coordinating and promoting the collective strength of the P&I industry on behalf of the global shipowning community. We benefit from being a committee member by sharing knowledge and expertise of insuring and reinsuring shipowners' liabilities.




We contributed RM2.2 million to our trade association and membership in 2021.

STAKEHOLDER ENGAGEMENT PILLAR

TRANSPARENT, ENGAGING AND INCLUSIVE STAKEHOLDER RELATIONSHIPS

As a responsible member of the global maritime value chain, we also strongly support externally-developed economic, environmental and social charters and principles.

Principles or charters	Description of the principles/ charter	Our position
British Malaysian Chamber of Commerce (BMCC) Climate Action	The BMCC Climate Action Pledge is an avenue to raise awareness about climate change and implement climate-related initiatives among organisations and businesses that have yet to commit to climate-related goals.	We are a signatory of the BMCC Climate Action and committed to embarking on a climate action journey to support a just and inclusive transition towards a zero-carbon society to contribute to Malaysia's sustainable development agenda.
Call to Action	The Call to Action was developed by a multi-stakeholder task force convened by the Getting to Zero Coalition with members from the entire maritime ecosystem including shipping, chartering, finance, ports, and fuel production. The Call to Action was delivered to world governments in November 2021 before COP26.	We are signatory to the Call to Action for shipping decarbonisation.
Carbon Disclosure Project (CDP)	CDP is a not-for-profit organisation that administers the global disclosure system used by investors, businesses, cities, states and regions to manage their environmental impacts.	We are among the 13,000 cities and companies committing to environmental transparency through CDP in 2021.
Getting to Zero Coalition	Getting to Zero Coalition is a partnership between the GMF, Friends of Ocean Action and the World Economic Forum. The coalition is a powerful global alliance of more than 70 public and private organisations committed to developing zero-emission vessels by 2030 and furthering international shipping's decarbonisation in line with the IMO's aspirations.	<div>We collaborate with critical maritime strategic partners on a joint development project for an ammonia-fuelled tanker that supports the shipping industry's drive for a decarbonised future. The joint development enables industry players with a similar mindset to pursue decarbonisation and reduce the effect of climate change. The coalition aims to develop commercially viable zero-carbon emission, deep-sea-going vessels by 2030.</div> <div> For more details, please refer to The Castor Initiative</div>

Principles or charters	Description of the principles/ charter	Our position
The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships, 2009 (The Hong Kong Convention)	The Hong Kong Convention on Ship Recycling recognises ship recycling as the most environmentally sound method of disposal as most ship materials can be reused even after their end-of-life.	We develop and maintain an inventory of hazardous materials and dispose of vessels responsibly, following the Hong Kong Convention on Ship Recycling.
Neptune Declaration on Seafarer Wellbeing and Crew Change	COVID-19 caused an unprecedented crew change crisis in 2020. Many seafarers were left stranded working aboard ships beyond their initial contracts due to pervasive lockdowns, travel restrictions and border closures. Along with over 300 companies and organisations from the maritime value chain, we joined a worldwide call to action to end the crew change crisis, which caused seafarer fatigue and affected their physical and mental wellbeing.	We are a signatory to The Neptune Declaration on Seafarer Wellbeing and Crew Change, which defines four main actions to facilitate crew changes and keep global supply chains functioning: <div><div>1. Recognise seafarers as critical workers and prioritise COVID-19 vaccines for them.</div><div>2. Establish and implement gold-standard health protocols based on existing best practice.</div><div>3. Increase collaboration between ship operators and charterers to facilitate crew changes.</div><div>4. Ensure air connectivity between key maritime hubs for seafarers.</div></div>
The Task Force on Climate-related Financial Disclosures (TCFD) Supporter	The Financial Stability Board created the TCFD to improve and increase reporting of climate-related financial information.	We join more than 2,000 organisations around the world in declaring our support for The Financial Stability Board's Task Force on Climate-Related Financial Disclosures (TCFD). We recognise the need to improve the transparency of climate-related risks and opportunities, supporting more informed financial decision-making and establishing a resilient financial system across the public and private sectors. For more details, please refer to TCFD section.

LIST OF ESG DISCLOSURES

MISC provides ESG disclosures to the following:

- Carbon Disclosure Project (CDP)
- Dow Jones Sustainability Index (DJSI)
- FTSE4Good Bursa Malaysia
- Morgan Stanley Capital International (MSCI)
- Sustainalytics
- Transition Pathway Initiative (TPI)
- Vigeo Eiris (VE)

PERFORMANCE DATA

FINANCIAL PILLAR				
	Unit	2021	2020	2019
FINANCIAL PERFORMANCE				
Revenue	RM million	10,671.7	9,401.2	8,962.7
Operating profit	RM million	1,948.3	2,017.2	1,929.3
Profit/(Loss) before taxation	RM million	1,774.6	(123.6)	1,512.3
Profit/(Loss) after taxation	RM million	1,733.5	(169.8)	1,436.3
Tax for the year				
• Malaysia ¹	RM ‘000	28,940	41,199	47,549
• Foreign ²	RM ‘000	18,644	17,999	34,621
CLIMATE-RELATED INDICATORS				
Capital expenditure on climate-related	RM	14,698,849	3,821,891	n/a
REVENUE				
Dual-Fuel Vessels				
Aframax	RM	59,294,863		
DPST	RM	184,286,393		
Environmentally-friendly-vessels				
VLEC	RM	293,853,386		
LNG Carrier	RM	381,025,021		
2 nd generation DPST	RM	316,405,235		
Total	RM	1,234,864,898		
Others				
EEDI ³				
		Please refer to Environmental pillar data performance		
Scope 1, 2 and 3		Please refer to Environmental pillar data performance		

ENVIRONMENTAL PILLAR				
	Unit	2021	2020	2019
GHG EMISSIONS				
TOTAL GHG EMISSIONS	tonnes CO _{2e}	4,186,562	4,180,914	4,394,098
Scope 1	tonnes CO _{2e}	4,148,617	4,132,383	4,342,386
Scope 2	tonnes CO _{2e}	37,946	48,531	51,712
TOTAL SCOPE 1	tonnes CO _{2e}	4,148,617	4,132,383	4,342,386
Breakdown by Operations				
Shipping		4,121,458	4,311,872	4,103,313
Gas	tonnes CO _{2e}	2,506,131	2,319,137	2,300,260
Petroleum	tonnes CO _{2e}	1,557,596	1,714,706	1,789,880
Product	tonnes CO _{2e}	51,988	64,768	216,254
Workboat	tonnes CO _{2e}	5,744	4,702	5,478
Non-Shipping	tonnes CO _{2e}	27,158	29,070	30,514
TOTAL SCOPE 2	tonnes CO _{2e}	37,946	48,531	51,712
Non-Shipping	tonnes CO ₂	37,946	48,531	51,712
TOTAL SCOPE 3 (Based on initial inventory)	tonnes CO _{2e}	1,352,596		
Breakdown by Category				
Category 8 – Upstream Leased Assets	tonnes CO _{2e}	101,723	-	-
Category 13 – Downstream Leased Assets	tonnes CO _{2e}	1,229,410	-	-
Category 15 – Investments	tonnes CO _{2e}	21,463	-	-
AIR EMISSIONS				
NO _x emissions ⁶	tonnes	38,763	38,289	44,174
SO _x emissions ⁷	tonnes	3,922	3,352	30,500
PM10 emissions ⁸	tonnes	2	2	4,275
(2020 and 2021 data are for non-shipping only)				
Ozone depleting substances (ODS)	tonnes	0.93	2.11	1.76

PERFORMANCE DATA

	Unit	2021	2020	2019
CARBON INTENSITY AND ANNUAL EFFICIENCY RATIO				
ANNUAL EFFICIENCY RATIO (AER)				
MISC Shipping Fleet (Gas and Petroleum) *	gCO ₂ / ton-nm	6.28	5.77	5.54
ANNUAL EFFICIENCY RATIO (AER ^{CO2e})				
MISC Shipping Fleet (Gas and Petroleum) *	gCO ₂ e/ ton-nm	6.48	5.96	5.71
OPERATIONAL DATA				
Total distance traveled by vessels Gas, Petroleum ^{11*}	nautical miles (nm)	5,365,388	5,245,189	5,206,356
AVERAGE ENERGY EFFICIENCY DESIGN INDEX (EEDI ⁶) FOR NEW VESSELS				
Very Large Ethane Carrier (VLEC)	(gCO ₂ per tonne-mile)	6.080		
LNG Dual-Fuel Dynamic Positioning Shuttle Tanker (DPST)	(gCO ₂ per tonne-mile)		2.879	
Conventional Dynamic Positioning Shuttle Tanker (DPST)	(gCO ₂ per tonne-mile)		3.006	
LNG Dual-Fuel Aframax	(gCO ₂ per tonne-mile)			2.938
ENERGY				
TOTAL GROUP ENERGY CONSUMPTION ²	GJ	58,956,125	58,771,890	60,341,818
Heavy Fuel Oil ³	tonnes	70,130	68,854	535,775
Low Sulphur Heavy Fuel Oil	tonnes	330,863	255,470	16,395
Ultra-Low Sulphur Heavy Fuel Oil	tonnes	3,400	22,822	34,285
Marine Gas Oil	tonnes	190	3,500	316
Low Sulphur Marine Gas Oil	tonnes	5,333	9,377	8,628
Ultra-Low Sulphur Marine Gas Oil	tonnes	232,194	264,185	165,667
Liquified Natural Gas	tonnes	707,014	731,887	647,782
Diesel	Litre	5,609,360	5,900,968	6,102,294
Petrol	Litre	24,039	41,835	66,896
Compressed natural gas	m ³	298,920	280,671	263,769
Liquefied petroleum gas	tonnes	4	4	13
Electricity	kWh	55,452,999	70,913,588	75,562,847
Ethane	tonnes	15,709	-	-
Renewable energy ⁴	MWh	6,075	-	-

	Unit	2021	2020	2019
ENERGY INTENSITY RATIO				
Shipping operations - gas and petroleum fleet	(GJ per million transport work)	92	85	79
Heavy & Marine Engineering	(GJ per million revenues in RM)	144	172	279
Maritime Education & Training	(GJ per million sales in RM)	167	216	326
Port Management & Maritime Services	(GJ per hour)	4	4	4
WASTE				
NON-SHIPPING OPERATIONS				
TOTAL GENERATION HAZARDOUS WASTE/ NON-HAZARDOUS	tonnes	4,562	6,332	6,855
Total waste recycled/reuse/recovered	tonnes	157	418	465
Total final disposal	tonnes	4,405	5,914	6,391
TOTAL GENERATION HAZARDOUS WASTE				
Total waste recycled/reuse/recovered	tonnes	11,715	13,955	23,760
Total waste sent for disposal (incineration/landfill)	tonnes	7	36	219
SHIPPING OPERATIONS				
Ship oil sludge	m ³	4,903	3,259	4,253
Ship operational effluent discharge - comprises bilge water and cargo residues	m ³	46,600	60,822	51,437
Operational effluent discharge per vessel per month - bilge water	m ³	26.51	25.96	25.77
Ship garbage	m ³	6,492	7,405	6,969
Ship garbage disposed to reception facility	m ³	5,514	6,594	5,991
Ship garbage discharged to sea - Category B	m ³	450	424	499
Ship garbage incinerated onboard	m ³	528	387	478

PERFORMANCE DATA

	Unit	2021	2020	2019
Water				
TOTAL FRESHWATER WITHDRAWAL	m³	658,153	635,686	740,542
Total freshwater withdrawal from Surface Water	m³	0	0	0
Total Freshwater Withdrawal from Third Party Water	m³	658,153	635,686	740,542
BALLAST WATER				
Percentage of fleet implementing ballast water exchange and treatment	%			
• exchange ¹²	%	24	n/a	n/a
• treatment ¹³	%	76	n/a	n/a
Spills				
Total spills ⁹	Number	3	1	2
Average volume of spills and releases to the environment ¹⁰	Litre	140	30-40	1,542
Fines / Penalties and Audits				
Fines / penalties on environmental related non-compliance	Number	1	-	2
Audits conducted on environmental related matters	Number	21	15	17
ISO Certification				
ISO 50001 Energy Management System	Yes/No			
Gas Assets & Solutions		Yes		
Petroleum & Product Shipping		Yes		
Offshore Business		No		
Marine & Heavy Engineering		No		
Integrated Maritime Services		No		
Port Management & Maritime Services		No		
Maritime Education & Training		No		
ISO 40001 Energy Management System	Yes/No			
Gas Assets & Solutions		No		
Petroleum & Product Shipping		No		
Offshore Business		No		
Marine & Heavy Engineering		Yes		
Integrated Maritime Services		Yes		
Port Management & Maritime Services		Yes		
Maritime Education & Training		No		

Training and Awareness Conducted in 2021

No		Total Number of Programmes	Total Number of Participants
1	Environment	11	748

Scope of ISO certification

Certification	Entity	Scope
ISO50001:2018 Energy Management System	Eaglestar Shipmanagement (L) Pte Ltd	Provision of Fleet Management Services
ISO50001:2011 Energy Management System	Eaglestar Shipmanagement (S) Pte Ltd	Shore Management of operation of tanker
ISO 14001:2015 Environment Management System	Eaglestar Shipmanagement (L) Pte Ltd	Provision of Fleet Management Services
	Eaglestar Shipmanagement (S) Pte Ltd	Shore Management of operation of tanker
	MISC Berhad (Offshore Business)	Provision of Engineering, Procurement and Construction Management of Subcontractors, Installation, Commissioning, Operation & Maintenance and Decommissioning of Offshore Floating / Mobile Facilities
	Malaysia Marine and Heavy Engineering Sdn. Bhd.	<ul style="list-style-type: none">Repair, Construction, Refurbishment and Conversion of Ships & Marine VesselsEngineering, Procurement, Construction, Hook Up, Testing & Commissioning and Maintenance of Production System and Its FacilitiesFabrication, Testing, Commissioning and Maintenance of Onshore Production Systems and Its FacilitiesProject Management for Transportation and Installation of Offshore Production System and Its Facilities

Note:
^{1 – 13} referring to SASB indicator
* Exclude our LNG bunkering vessel (LBV)

PERFORMANCE DATA

SOCIAL PILLAR – HEALTH AND SAFETY				
	Unit	2021	2020	2019
WORKING HOURS	Hours	48,224,000	45,580,000	49,273,000
FATALITIES	Number	0	1	0
Employees	Number	0	1	0
Contractor	Number	0	0	0
NUMBER OF LOST TIME INJURY (LTI) ¹	Number	7	2	5
Employees	Number	5	1	1
Contractor	Number	2	1	4
LOST TIME INJURY FREQUENCY (LTIF)	Per 1 million man-hours	0.15	0.04	0.10
Employees	Per 1 million man-hours	0.16	0.03	0.03
Contractor	Per 1 million man-hours	0.12	0.07	0.26
TOTAL RECORDABLE CASE	Number	19	8	13
Employees	Number	13	4	6
Contractor	Number	6	4	7
RECORDABLE CASE FREQUENCY (TRCF)	Per 1 million man-hours	0.39	0.18	0.26
Employees	Per 1 million man-hours	0.41	0.13	0.18
Contractor	Per 1 million man-hours	0.36	0.28	0.45
FINES/PENALTIES/AUDITS				
Incidents of non-compliance (fines and penalties) concerning the health and safety impacts of products and services	Number	2	0	1
Health and Safety Audits (as part of the HSEMS assurance)	Number	21	15	17

ISO Certification

	Unit	2021	2020	2019
ISO 45001 Occupational Health and Safety Management System / ISO18001 Occupational Health and Safety Management System Certification	Yes/No			
MISC Berhad		Yes		
AET		No		
MHB		Yes		
ALAM		No		
MMS		Yes		
Eaglestar		Yes		
ISO 9001 Quality Management System	Yes/No			
MISC Berhad		Yes		
AET		Yes		
MHB		Yes		
ALAM		No		
MMS		Yes		
Eaglestar		Yes		

PERFORMANCE DATA

Training and Awareness Conducted in 2021

No		Total Number of Programmes	Total Number of Participants
1	Safety	7	4,555
2	Health	8	3,263
3	HSSE Policy	5	282
4	HSSE Assurance	3	1,438
5	Security	5	835

Scope of ISO certification

Certification	Entity	Scope
ISO 45001:2018 Occupational Health and Safety Management System	MISC Berhad (Offshore business)	Provision of Engineering, Procurement and Construction Management of Subcontractors, Installation, Commissioning, Operation & Maintenance and Decommissioning of Offshore Floating / Mobile Facilities
	Eaglestar Shipmanagement (L) Pte Ltd	Provision of Fleet Management Services (Shipboard Operations)
	Eaglestar Shipmanagement (S) Pte Ltd	Management of Operation Tanker
ISO 9001:2015 Quality Management System	MISC Berhad (Offshore business)	Provision of Engineering, Procurement and Construction Management of Subcontractors, Installation, Commissioning, Operation & Maintenance and Decommissioning of Offshore Floating / Mobile Facilities
	AET Tankers Pte Ltd	Asset Acquisition, Commercial Management and Management of Operations of owned and in chartered vessels, commercial activity of lightering and associated support services
	Eaglestar Shipmanagement (L) Pte Ltd	Provision of Fleet Management Services
	Eaglestar Shipmanagement (S) Pte Ltd	Management of Operation of Tanker
	Malaysia Maritime Services Sdn. Bhd.	<ul style="list-style-type: none">Provision of Maritime ServicesProvision of Corporate Support ServicesProvision of Port & Terminal Management Services
	Sungai Udang Port Sdn. Bhd.	Provision of Port & Terminal Management Services

Note:
¹referring to SASB indicator

SOCIAL PILLAR – TALENT EXCELLENCE

	Unit	2021		2020		2019	
Total employees	Number	8,851		8,632		8,839	
EMPLOYEES BY LOCATION (SEA/SHORE) AND GENDER							
Sea	Number (%)	4,516	51.0%	4,348	50.4%	4,947	56.0%
Shore	Number (%)	4,335	49.0%	4,284	49.6%	3,892	44.0%
FEMALE EMPLOYEES	Number (%)	1,178	13.3%	1,126	13.0%	1,105	12.5%
Sea	Number (%)	59	5.0%	59	5.2%	107	9.7%
Shore	Number (%)	1,119	95.0%	1,067	94.8%	998	90.3%
MALE EMPLOYEES	Number (%)	7,673	86.7%	7,506	87.0%	7,734	87.5%
Sea	Number (%)	4,457	58.1%	4,289	57.1%	4,840	62.6%
Shore	Number (%)	3,216	41.9%	3,217	42.9%	2,894	37.4%

EMPLOYEE AGE GROUP							
30 and below	number (%)	2,069	23.4%	2,097	24.3%	2,741	31.0%
31 - 50 years old	number (%)	5,731	64.7%	5,501	63.7%	5,046	57.1%
Over 50 years old	number (%)	1,051	11.9%	1,034	12.0%	1,052	11.9%

EMPLOYMENT POSITION BY GENDER							
SENIOR LEADERSHIP	number (%)	108	1.2%	102	1.2%	99	1.1%
Female	number (%)	18	16.7%	16	15.7%	16	16.2%
Male	number (%)	90	83.3%	86	84.3%	83	83.8%

MIDDLE MANAGEMENT	number (%)	861	9.7%	828	9.6%	734	8.3%
Female	number (%)	208	24.2%	200	24.2%	173	23.6%
Male	number (%)	653	75.8%	628	75.8%	561	76.4%

EXECUTIVES/OFFICERS	number (%)	4,188	47.4%	4,004	46.4%	4,206	45.6%
Female	number (%)	637	15.2%	594	14.8%	554	13.8%
Male	number (%)	3,551	84.8%	3,410	85.2%	3,472	86.2%

NON-EXECUTIVES/ RATINGS	number (%)	3,694	41.7%	3,698	42.8%	3,980	45.0%
Female	number (%)	320	8.7%	322	8.7%	360	9.0%
Male	number (%)	3,374	91.3%	3,376	91.3%	3620	90.9%

PERFORMANCE DATA

Unit		2021		2020		2019	
EMPLOYEE BASIC SALARY BY GENDER (MALE:FEMALE)	ratio	1.3 :1		1.2:1		1.3:1	
EMPLOYEE WITH DISABILITY							
Female	number (%)	-	-	-	-	-	-
Male	number (%)	3	0.03%	3	0.03%	3	0.03%
EMPLOYEE BY COUNTRIES OF OPERATIONS (SHORE EMPLOYEES ONLY)							
Malaysia	number (%)	3,998	92.2%	3,941	92.0%	3,532	90.8%
Asia	number (%)	217	5.0%	215	5.0%	204	5.2%
Europe	number (%)	29	0.7%	34	0.8%	37	1.0%
Middle East	number (%)	1	0.0%	2	0.0%	2	0.0%
North and South America	number (%)	90	2.1%	92	2.2%	117	3.0%
NATIONALITY							
Malaysian	number (%)	5,894	66.6%	5,674	65.7%	5,755	65.1%
Non-Malaysian	number (%)	2,957	33.4%	2,958	34.3%	3,084	34.9%
EMPLOYMENT TYPE							
Permanent	number (%)	5,894	66.6%	5,674	65.7%	5,755	65.1%
Contract and third party	number (%)	2,957	33.4%	2,958	34.3%	3,084	34.9%
NEW HIRES							
TOTAL SHORE NEW HIRES		1,189		950		772	
BY AGE GROUP	number (%)						
30 and below	number (%)	294	24.7%	393	41.4%	277	35.8%
31 – 50 years old	number (%)	776	65.3%	498	52.4%	439	56.9%
Over 50 years old	number (%)	119	10.0%	59	6.2%	56	7.3%
BY GENDER	number (%)						
Female	number (%)	371	31.2%	181	19.1%	213	27.6%
Male	number (%)	818	68.8%	769	80.9%	559	72.4%
BY COUNTRIES OF OPERATIONS	number (%)						
Malaysia	number (%)	1,096	92.2%	910	95.8%	711	92.1%
Asia	number (%)	54	4.5%	25	2.6%	33	4.3%
Europe	number (%)	11	0.9%	5	0.5%	5	0.6%
North and South America	number (%)	28	2.4%	10	1.1%	21	2.7%
Others	number (%)	-	-	-	-	2	0.3%
TOTAL SEAFARERS' NEW HIRES		403		397		144	

TURNOVER							
	Unit	2021		2020		2019	
TOTAL SHORE TURNOVER		598		435		378	
BY AGE GROUP	number (%)						
30 and below	number (%)	222	37.1%	75	17.3%	101	26.7%
31 – 50 years old	number (%)	276	46.2%	205	47.1%	204	54.0%
Over 50 years old	number (%)	100	16.7%	155	35.6%	73	19.3%
BY GENDER	number (%)						
Female	number (%)	127	21.2%	96	22.1%	104	27.5%
Male	number (%)	471	78.8%	339	77.9%	274	72.5%
BY COUNTRIES OF OPERATIONS	number (%)						
Malaysia	number (%)	539	90.2%	396	91.0%	320	84.7%
Asia	number (%)	28	4.7%	24	5.5%	38	10.0%
Europe	number (%)	14	2.3%	3	0.7%	6	1.6%
North and South America	number (%)	17	2.8%	12	2.8%	14	3.7%
TOTAL SEAFARERS TURNOVER		392		473		492	
TOTAL VOLUNTARY TURNOVER		311		589		366	
SEAFARERS' THAT JOINED CORPORATE POSITION		7		6		9	
Female	number	1		1		3	
Male	number	6		5		6	
TOTAL TRAINING HOURS							
AVERAGE TRAINING HOURS - EMPLOYEE CATEGORY							
Executive/Officers	hours	26		21		27	
Non-Executive/Ratings	hours	19		13		15	
TOTAL AMOUNT TRAINING INVESTED	USD (million)	14.8		11.3		15.2	
AVERAGE AMOUNT INVESTED PER EMPLOYEE	USD	1,673		1,314		1,717	

PERFORMANCE DATA

	Unit	2021		2020		2019	
PARENTAL LEAVE	hours						
EMPLOYEES TAKING PARENTAL LEAVE	number	163		142		198	
Female	number (%)	49	30.0%	46	32.4%	63	31.8%
Male	number (%)	114	70.0%	96	67.6%	135	68.2%
EMPLOYEES RETURNED AFTER PARENTAL LEAVE ENDED	number	157		142		198	
Female	number (%)	43	27.4%	46	32.4%	63	31.8%
Male	number (%)	114	72.6%	96	67.6%	135	68.2%
EMPLOYEES WHO RETURNED AFTER PARENTAL LEAVE ENDED, AND STILL EMPLOYED 12 MONTHS AFTER RETURN TO WORK	number	155		138		191	
Female	number (%)	43	27.7%	43	31.2%	59	30.9%
Male	number (%)	112	72.3%	95	68.8%	132	69.1%
EMPLOYEES COVERED BY COLLECTIVE BARGAINING	number (%)	1,267	14.3%	1,326	15.4%	1,744	19.7%

GOVERNANCE PILLAR				
	Unit	2021	2020	2019
ANTI-BRIBERY AND CORRUPTION				
Anti-bribery Management System (ABMS) Number of assurances	Number	8	6	4
Monetary losses as a result of legal proceedings associated with bribery or corruption	Number	0	0	0
WHISTLEBLOWING				
Number of cases received	Number	14	4	6
Number of cases on-going	Number	2	0	0
Number of cases investigated	Number	14	4	6
Number of cases closed (as of 28 Feb 2022)	Number	12	4	6
COMPETITION PROTOCOLS AND OTHER CRITICAL LAW				
Legal actions for anti-competitive behaviour, anti-trust, monopoly practices and other critical law	Number	0	0	0
PERSONAL DATA AND INFORMATION				
Breaches of Customer Privacy	Number	0	0	0
PUBLIC POLICY POSITIONS/POLITICAL CONTRIBUTIONS				
Contribution to Political related Agenda	Number	0	0	0
THIRD PARTY COMPLIANCE DUE DILIGENCE				
Know Your Counterparty (“KYC”) Questionnaires completed	Number	327	266	n/a
CYBERSECURITY				
Number of major cybersecurity incidents	Number	1 (no business impact)	0	0
HUMAN RIGHTS				
Number of major cybersecurity incidents	Number	2	1	1
Number of training sessions conducted	Number	8	8	8
Operations that have been subject to human rights impact assessments	Number	2	1	1
Employees trained of human rights	Number	1,461	1,780	1,018
Significant investments agreements and contracts that include human rights clauses (MISC Berhad only)	Number and %	40 (100%)	n/a	n/a

PERFORMANCE DATA

Training and Awareness Conducted in 2021

No		Total Number of Programmes	Total Number of Participants
1	Compliance and business ethics	21	4,997
2	Cybersecurity	4	183

Note: Compliance and business ethics related trainings and awareness sessions covering six (6) critical legal areas i.e. Ethics and Integrity, Sanctions, Export Control, Data Privacy, Competition, and Human Rights

Scope of ISO certification

Certification	Entity	Scope
ISO 37001:2016 Anti-Bribery Management System	MISC Berhad	Anti-Bribery Management System covering integrity and compliance processes, procurement, vendor management and business development for GAS Business Unit and Offshore Business Unit (OBU).
	Malaysia Marine and Heavy Engineering Sdn. Bhd. (MMHE)	Corporate support services of the business and service units for its activities in: <ul style="list-style-type: none">Repair, construction, refurbishment and conversion of ships & marine vessels in the yardFabrication, hook up, testing & commissioning and maintenance of onshore & offshore production system and its facilities Yard operation and business services of MHB in Pasir Gudang (West and East Yard) and MMHE EPIC ("MEMS") in Kemaman for: <ul style="list-style-type: none">Repair, construction, refurbishment and conversion of ships & marine vessels in the yardFabrication, hook up, testing & commissioning and maintenance of onshore & offshore production system and its facilities
	AET Tankers Pte. Ltd. (AET)	Asset acquisition, commercial management and management of operations of owned and in chartered vessels including provision of ship lightering and support services.
	MISC Maritime Services Sdn. Bhd. (MMS)	Provision of support services, Port & Terminal Management services & Maritime services, at all regional sites where MMS operates namely in East & West Coast, Peninsular Malaysia and East Malaysia.

DATA PRINCIPLES AND ASSUMPTIONS

SUSTAINABILITY FRAMEWORK

Our Sustainability Report 2021 has been prepared based on the following sustainability frameworks, standards and indexes:

- The Global Reporting Initiative (GRI) Standards - Core option
- Bursa Malaysia Sustainability Reporting Guide (2nd Edition)
- Sustainability Accounting Standards Board (SASB) Standards
- Dow Jones Sustainability Index (DJSI)
- FTSE4Good Bursa Malaysia
- Carbon Disclosure Project (CDP)
- Transition Pathway Initiative (TPI)
- Task Force on Climate-related Financial Disclosures (TCFD)
- AA1000 Stakeholder Engagement Standard
- United Nations Global Compact Guiding Principles
- United Nations Guiding Principle on Human Rights
- Principles of Climate Governance by World Economic Forum

Our reporting period covers the period from 1 January to 31 December 2021, unless specified and any material events that occurred after this date up to the date of publication.

SCOPE

Except for GHG data, all our sustainability performance data are reported based on operational control. Based on the operational control scope, data are accounted from assets or facilities where MISC or its subsidiaries have the authority to introduce and implement our operational and health, safety and environment (HSE) policies. Please refer to the scope for GHG data under the section *4.1 Environment Pillar*.

CONSOLIDATION

For operational scope, 100% of the data reported is accounted irrespective of the percentage of ownership where MISC has operational control. Assets and operations, in which MISC does not have operational control, are excluded. Please refer to the operational scope for GHG data under the section *4.1 Environment Pillar*.

TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Global warming of 1.5 degree Celsius (best case scenario) and 4 degree Celsius (worst case scenario) diagram.

The amount and rate of warming expected for the 21st century depends on the total amount of greenhouse gases that humankind emits. Models project the temperature increase for a business-as-usual emissions scenario (in red) and aggressive emission reductions, falling close to zero 50 years from now (in blue). Black is the modelled estimate of past warming. Each solid line represents the average of different model runs using the same emissions scenario, and the shaded areas provide a measure of the spread (one standard deviation) between the temperature changes projected by the different models. All data are relative to a reference period (set to zero) of 1986 – 2005.

Source: Based on IPCC AR5.

DATA PRINCIPLES AND ASSUMPTIONS

Assumptions	Source
Reference of Historical data	1850-1958 Global, Regional, and National Fossil-Fuel CO2 Emissions, Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, Oak Ridge, Tenn., U.S.A. 2013. Early value for each economic region is the sum of yearly values for individual nations 1959-2016: Global Carbon Budget 2017
CO2 FF Data	1850-2015: Global and Regional Fluxes of Carbon from Land Use and Land-Cover Change, Houghton, R.A. and A. A. Nassika. 2017.
Population data	1850-1950: Historical Statistics for the World Economy 1950-2018: UN World Population Prospects: The 2019 Revision
GDP data	World Bank, World Development Indicators, 1960-2017
Methane Nitrous oxide, and F-Gases (PFC, SF6, and HFC) emissions	The PRIMAP-hist national historical emissions time series (1850-2015)
MP Gas concentrations	Concentrations from Scientific Assessment of Ozone Depletion: 2006. Chapter 8. Halocarbon Scenarios, Ozone Depletion Potentials, and Global Warming Potentials

ENVIRONMENT PILLAR

GREENHOUSE GAS (GHG) DATA

Scope

We adopt the GHG Protocol Corporate Standard’s financial control approach for our GHG emissions (Scope 1 and 2) accounting which includes assets owned or leased that are used by MISC to gain economic benefits, with the exclusion of the following assets and operations:

- Downstream leased assets which are owned by MISC but leased out to other parties;
- Assets where MISC has minority equity ownership and no control;
- Upstream leased assets where MISC has no control; and
- Short term leases with a lease term of 6 months or less.

The above listed assets and operations will be included in our Scope 3 GHG emissions (where material).
The followings gases are included in our GHG accounting:

- Carbon dioxide (CO₂);
- Methane (CH₄); and
- Nitrous oxide (N₂O).
- Ethane (C₂H₆) – from our very large ethane carriers which uses ethane as fuel

Consolidation

Our accounting for GHG emissions adopts the GHG Protocol Corporate Standard’s financial control approach. Emissions from assets and facilities where MISC has financial control are accounted as MISC’s Scope 1 and 2 emissions in full (100% of the emissions), except for joint venture (JV) assets. JV assets where MISC has joint financial control over the operations are accounted as Scope 1 or 2, with emissions apportioned according to MISC’s ownership share of the venture. Joint ventures in which MISC does not have financial control, are excluded.

Scope 3 emissions included in this report is our initial inventory which covers three Scope 3 categories out of a total 15 categories as described in the Performance Data section (Environment Pillar).

A similar consolidation approach for our Scope 1 and 2 emissions, according to the financial consolidation methodology, is adopted for our Scope 3 emissions.

Third Party Assurance

Each of our vessel’s fuel consumption and relevant activity data used for our emission accounting have been verified by a third party i.e., DNVGL confirming the data were collected and reported in accordance with the methodology and processes set out in the ship’s Ship Energy Efficiency Management Plan (SEEMP) as required by Regulation 22A of Annex VI of MARPOL Convention.

Vessel’s fuel consumption and relevant activity data are reported and consolidated through an online reporting tool, with ship specific plausibility checks that provides data validation, alert generation and thus improving data quality.

GHG Emissions Calculations

The methodology MISC has adopted for the quantification of GHG emissions is through the application of documented emission factors. GHG emissions from our marine combustion sources are calculated in accordance with the International Maritime Organisation (IMO) guidelines and uses emission factors as published by IMO. Two primary references are used namely the Fourth IMO GHG Study 2020 and the Guidelines for Voluntary Use of the Ship Energy Efficiency Operational Indicator (EEOI).

Methane emissions from our LNG dual-fuel engines are calculated using engine specific methane slip levels. Methane emissions from all other vessels (non-dual fuel engine) and nitrous oxide emissions are calculated using emission factors published in the Fourth IMO GHG Study 2020.

For non-marine sources, our primary scheme used is the API Compendium 2009. On specific elements not available in the API Compendium, IPCC and USEPA emission factors are used.

We measure our vessel’s carbon intensity performance using two metrics as follow:

Annual Efficiency Ratio (AER)

- AER measures a vessel’s total CO₂ per transport work (unit is gCO₂/t-nm)
- Transport work is calculated by multiplying the vessel’s deadweight with the distance travelled
- AER is chosen to align with the metric adopted by IMO for ships Carbon Intensity Indicator (CII) scheme which will take effect in 2023.

GHG intensity (AER^{CO2e})

- Measures a vessel’s total emissions of carbon, methane and nitrous oxide using a common unit termed as carbon dioxide equivalent per transport work (gCO₂e/t-nm).
- Transport work is calculated by multiplying the vessel’s deadweight with the distance travelled.

DATA PRINCIPLES AND ASSUMPTIONS

Indicator	Assumptions
Vessel garbage	Sum of all garbage categories in volumetric unit (m3) disposed to reception facilities, discharged to sea, and incinerated, as recorded in the vessel's Garbage Record Book
Operational effluent discharge	Sum of the volumes of bilge water and cargo residues discharged to sea and at shore reception facility, as recorded in the vessel's Oil Record Book
Hazardous waste	Sum of all hazardous waste types generated from MISC's shore operations. Hazardous wastes managed through reuse, recovery and recycle (3R) is the sum of all hazardous waste types generated which are sent to 3R facilities and excludes the quantity of hazardous wastes sent to final disposal sites i.e. landfill or incineration sites.
Non-hazardous waste	Sum of all non-hazardous waste types generated from MISC's shore operations. For ALAM and Wisma MISC, assumptions are used to estimate the non-hazardous waste generation, where actual data is not available.
Freshwater withdrawal	Actual volume of freshwater drawn into MISC facilities from municipal supply, as recorded in water bills.
Spill	Unplanned or uncontrolled releases of liquid or solid associated with current operations from primary or secondary containment, into the environment (i.e. soil and surface water).
Average Energy Efficiency Design Index (EEDI) for new vessels*	Total EEDI for new vessels divided by total number of new vessels.
Fines / penalties	A sum of money required to be paid to the regulatory agency/local authority as a penalty for an offence such as non-compliance with rules and regulations.

SOCIAL PILLAR

HEALTH AND SAFETY

Data regarding working hours, fatalities, injuries and recordable cases under the health and safety are reported through our consolidated reporting tool based on submitted data from all reporting entities within the Group.

Indicator	Assumptions
Lost Time Injury (LTI)	Sum of Fatalities, Permanent Total Disability (PTD), Permanent Partial Disability (PPD) and Lost Workday Case (LWC) but excluding Restricted Work Cases (RWC) and Medical Treatment Case (MTC).
Lost Time Injury Frequency (LTIF)	The number of lost time injuries occurring in a workplace per 1 million hours worked
Total Recordable case (TRC)	The sum of Fatalities, Permanent Total Disabilities (PTD), Permanent Partial Disabilities (PPD), Lost Workday Cases (LWC), Restricted Workday Cases (RWC) and Medical Treatment Cases (MTC).
Total Recordable case Frequency (TRCF)	The number of Total Reportable Cases per million Exposure Hours worked during the period
Working Hours	Actual "hours worked" including overtime and training but excluding off-duty hours (although the time is spent at the worksite or premise), leave, sickness and other absences. For shipping operations (Eaglestar), man-hours accumulation starts when the staff signs on and ends when the employees signs off from the vessel.
Work-related	Work-related is described as those activities for which management controls are, or should have been, in place. Incidents occurring during such activities are reportable and will be included in the statistics.
Fines / penalties	A sum of money required to be paid to the regulatory agency/local authority as a penalty for an offence such as non-compliance with rules and regulations. This shall include traffic summons and fines by municipal bodies issued to company-owned vehicles.

DATA PRINCIPLES AND ASSUMPTIONS

TALENT EXCELLENCE

Data regarding number of employees and seafarers, gender, employment position, age group, nationality, new hires, turnover, training hours, parental leaves and collective bargaining are generated SAP System (HR System).

Indicators	Assumptions
Headcounts	Regular employees not on leave, and on paid leave. Permanent and contract employees, third party, joint ventures and project are included in the scope.
Middle Management	Manager and Senior Manager are categorised as middle management unless if specifically stated otherwise.
Senior Leadership	Senior Leadership is General Manager level and above unless if specifically stated otherwise.
Training Hours	Total hour that an employee spent on attending training, including physical training, virtual training, e-learning training, seminars and conference.
Average Training Hours	Total training hours divided by the total number of employees.
Unionised Employees	Employee who is eligible and opted to join a Union that is recognised by the company.

GOVERNANCE PILLAR

Data regarding number of anti-bribery and corruption, whistleblowing, competition protocol and other critical laws, personal data and information, political contribution, third party due diligence, human rights and cybersecurity are generated through internal data consolidation system.

Indicators	Assumptions
Significant Investments Agreements and Contracts	Significant investment agreement and contract referring to those that require approval at higher level i.e. PGCEO and Board.
Major Cybersecurity Breach	A cybersecurity breach that has major adverse impact on any of our asset, data, environmental, functional, people or reputation as per MISC Cyber Security Incident Response Plan definitions

SUSTAINABILITY REPORTING STANDARDS (GRI AND SASB)

GRI CONTENT INDEX

The GRI content index lists all GRI disclosures included in the report, including references to where they can be found in the report. The GRI standards have been used as a one of the main references in preparing this Sustainability Report.

GRI Content Index		Location of the disclosures
GRI 102: General Disclosures		
Organisational profile		
Disclosure 102-1 Name of the organisation	About Us	
Disclosure 102-2 Activities, brands, products, and services		
Disclosure 102-3 Location of headquarters		
Disclosure 102-4 Location of operations		
Disclosure 102-5 Ownership and legal form		
Disclosure 102-6 Markets served		
Disclosure 102-7 Scale of the organisation		
Disclosure 102-8 Information on employees and other workers	Our People, Our Strength	
Disclosure 102-9 Supply chain	The Bigger Picture: Embracing A Sustainable Supply Chain	
Disclosure 102-10 Significant changes to the organisation and its supply chain	No significant changes recorded	
Disclosure 102-11 Precautionary Principle or approach	About this Report	
Disclosure 102-12 External initiatives	Transparent, Engaging & Inclusive Stakeholder Relationships	
Disclosure 102-13 Membership of associations		
Strategy		
Disclosure 102-14 Statement from senior decision-maker	Leadership Statements	
Disclosure 102-15 Key impacts, risks, and opportunities	Taskforce on Climate-related Financial Disclosures Integrated Annual Report 2021- Our Risks and Mitigation Strategies	

Ethics and integrity		
Disclosure 102-16 Values, principles, standards, and norms of behavior	Ethics, Governance and Sustainability	
Disclosure 102-17 Mechanisms for advice and concerns about ethics		

SUSTAINABILITY REPORTING STANDARDS (GRI AND SASB)

GRI Content Index	Location of the disclosures
Governance	
Disclosure 102-18 Governance structure	Sustainability Governance
Disclosure 102-19 Delegating authority	
Disclosure 102-20 Executive-level responsibility for economic, environmental, and social topics	
Disclosure 102-21 Consulting stakeholders on economic, environmental, and social topics	Prioritising What Matters Most
Disclosure 102-22 Composition of the highest governance body and its committees	Sustainability Governance Integrated Annual Report 2021 - Governance
Disclosure 102-23 Chair of the highest governance body	
Disclosure 102-24 Nominating and selecting the highest governance body	
Disclosure 102-25 Conflicts of interest	
Disclosure 102-26 Role of highest governance body in setting purpose, values, and strategy	
Disclosure 102-27 Collective knowledge of highest governance body	
Disclosure 102-28 Evaluating the highest governance body's performance	
Disclosure 102-29 Identifying and managing economic, environmental, and social impacts	
Disclosure 102-30 Effectiveness of risk management processes	Integrated Annual Report 2021 - Statement on Risk Management and Internal Control
Disclosure 102-31 Review of economic, environmental, and social topics	Prioritising What Matters Most
Disclosure 102-32 Highest governance body's role in sustainability reporting	About This Report - Responsibility Statement
Disclosure 102-33 Communicating critical concerns	Our Stakeholders' Universe
Disclosure 102-34 Nature and total number of critical concerns	
Disclosure 102-35 Remuneration policies	Sustainability Governance Integrated Annual Report 2021 - Nomination & Remuneration Committee Report
Disclosure 102-36 Process for determining remuneration	
Disclosure 102-37 Stakeholders' involvement in remuneration	
Disclosure 102-38 Annual total compensation ratio	
Disclosure 102-39 Percentage increase in annual total compensation ratio	
Stakeholder engagement	
Disclosure 102-40 List of stakeholder groups	Our Stakeholders' Universe
Disclosure 102-41 Collective bargaining agreements	Our People, Our Strength
Disclosure 102-42 Identifying and selecting stakeholders with whom to engage	Our Stakeholders' Universe Transparent, Engaging & Inclusive Stakeholder Relationships
Disclosure 102-43 Approach to stakeholder engagement	
Disclosure 102-44 Key topics and concerns raised	

GRI Content Index	Location of the disclosures
Reporting practice	
Disclosure 102-45 Entities included in the consolidated financial statements	About Us
Disclosure 102-46 Defining report content and topic Boundaries	About This Report
Disclosure 102-47 List of material topics	Prioritising What Matters Most
Disclosure 102-48 Restatements of information	About This Report
Disclosure 102-49 Changes in reporting	
Disclosure 102-50 Reporting period	
Disclosure 102-51 Date of most recent report	
Disclosure 102-53 Contact point for questions regarding the report	
Disclosure 102-54 Claims of reporting in accordance with the GRI Standards	
Disclosure 102-55 GRI content index	
Disclosure 102-56 External assurance	

Disclosure Management Approaches

Indicators	Location of the disclosures	
GRI 200: ECONOMIC		
201: Economic Performance	Direct economic value generated and distributed	Economic Value Creation: A Rising Tide Lifts All Boats Taskforce on Climate-related Financial Disclosures
	Financial implications and other risks and opportunities due to climate change	
	Defined benefit plan obligations and other retirement plans	
203: Indirect Economic Impacts	Infrastructure investments and services supported	About Us
	Significant indirect economic impacts	Economic Value Creation: A Rising Tide Lifts All Boats
205: Anti-corruption	Operations assessed for risks related to corruption	Ethics, Governance and Sustainability
	Communication and training about anti-corruption policies and procedures	
206: Anti-competitive Behavior	Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	

SUSTAINABILITY REPORTING STANDARDS (GRI AND SASB)

Indicators		Location of the disclosures
GRI 300: ENVIRONMENTAL		
302: Energy	Energy consumption within the organization	Our Environmental Milestones: How Far Have We Come
	Energy consumption outside of the organization	
	Energy intensity	
	Reduction of energy consumption	
303: Water	Water withdrawal by source	Our Environmental Milestones: How Far Have We Come
	Water withdrawal	
	Water discharge	
	Water consumption	
305: Emissions	Direct (Scope 1) GHG emissions	Our Environmental Milestones: How Far Have We Come
	Energy indirect (Scope 2) GHG emissions	
	Other indirect (Scope 3) GHG emissions	Our Pathway Towards Decarbonisation
	Reduction of GHG emissions	
306: Effluents and Waste	Waste by type and disposal method	Our Environmental Milestones: How Far Have We Come
	Significant spills	
307: Environmental Compliance	Non-compliance with environmental laws and regulations	
308: Supplier Environmental Assessment	Negative environmental impacts in the supply chain and actions taken	The Bigger Picture: Embracing A Sustainable Supply Chain

Indicators		Location of the disclosures
GRI 400: SOCIAL		
401: Employment	New employee hires and employee turnover	Our People, Our Strength
	Benefits provided to full-time employees that are not provided to temporary or part-time employees	
	Parental leave	
402: Labour/Management Relations	Minimum notice periods regarding operational changes	
403: Occupational Health and Safety	Workers representation in formal joint management-worker health and safety committees	Health and Safety, Our Utmost Priority
	Types of injury and rates of injury, occupational diseases, lost days, and absenteeism, and number of work-related fatalities	
	Occupational health services	
	Worker participation, consultation, and communication on occupational health and safety	
	Worker training on occupational health and safety	
	Promotion of worker health	
	Prevention and mitigation of occupational health and safety impact directly linked by business relationships	
	Workers covered by an occupational health and safety management system	
404: Training and Education	Average hours of training per year per employee	Our People, Our Strength
	Programs for upgrading employee skills and transition assistance programs Disclosure	
	Percentage of employees receiving regular performance and career development reviews	
405: Diversity and Equal Opportunity	Diversity of governance bodies and employees	
	Ratio of basic salary and remuneration of women to men	
406: Non-discrimination	Incidents of discrimination and corrective actions taken	
412: Human Rights Assessment	Operations that have been subject to human rights reviews or impact assessments	Respecting Human Rights at Sea and Shore
	Employee training on human rights policies or procedures	
	Significant investment agreements and contracts that include human rights clauses or that underwent human rights screening	
413: Local Communities	Operations with significant actual and potential negative impacts on local communities	Partnering with the Community

SUSTAINABILITY REPORTING STANDARDS (GRI AND SASB)

SASB			
MISC recognises the value of SASB’s approach to create disclosures expectations based on the material issues for each sector. SASB Standards identify the subset of environmental, social and governance issues most relevance to financial performance. For the first time in 2021, MISC publishes an index to guide users to its disclosures according to the SASB Sustainability Accounting Standard for the transportation and maritime industry.			
Topic	Accounting Metric	Unit	Data/Location of Disclosures
Greenhouse Gas Emissions	Gross global Scope 1 emissions	Metric tons (t) CO ₂ e	<ul style="list-style-type: none">Our Environmental Milestones: How Far Have We ComeOur Pathway Towards DecarbonisationData Performance Metrics
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	n/a	
	(1) Total energy consumed, (2) percentage heavy fuel oil, (3) percentage renewable	Gigajoules (GJ), Percentage (%)	
Air Quality	Average Energy Efficiency Design Index (EEDI) for new ships	Grams of CO ₂ per ton-nautical mile	<ul style="list-style-type: none">Our Environmental Milestones: How Far Have We ComeData Performance Metrics
	Air emissions of the following pollutants: (1) NO _x (excluding N ₂ O), (2) SO _x , and (3) particulate matter (PM10)	Metric tons (t)	
	Percentage of fleet implementing ballast water (1) exchange and (2) treatment	Percentage (%)	
Economic Impacts	(1) Number and (2) aggregate volume of spills and releases to the environment	Number, Cubic meters (m³)	<ul style="list-style-type: none">Our Environmental Milestones: How Far Have We ComeData Performance Metrics
Employee Health & Safety	Lost time incident rate (LTIR)	Rate	<ul style="list-style-type: none">Health and Safety, Our Utmost PriorityData Performance Metrics

Topic	Accounting Metric	Unit	Data/Location of Disclosures
Business Ethics	Number of calls at ports in countries that have the 20 lowest rankings in Transparency International's Corruption Perception Index	Number	16
	Total amount of monetary losses as a result of legal proceedings associated with bribery or corruption	Reporting currency	Data Performance Metrics
Accident & Safety	Number of marine casualties, percentage classified as very serious	Number, Percentage (%)	
	Number of Conditions of Class or Recommendations	Number	3
	Number of port state control 1. deficiencies 2. detentions	Number	26 0

Activity Metrics		
Activity Metric	Unit	Location of Disclosures
Number of shipboard employees	Number	4,516
Total distance travelled by vessels	Nautical miles (nm)	5,365,388
Operating days	Days	33,885
Number of vessels in total shipping fleet	Number	98 (excluding workboats)
Number of vessel port calls	Number	3,806

TASKFORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

Recommended Disclosures		Location of Disclosures in TCFD Section
Governance		
a.	Board's oversight of climate-related risks and opportunities	Climate Governance
b.	Management's role in assessing and managing climate-related risks and opportunities	
Strategy		
a.	Risks and opportunities identified in the short, medium, and long-term	Climate-related Risks and Opportunities
b.	Actual and potential impacts on the business, strategy, and financial planning	Climate Strategy
c.	Scenario analysis of impacts including a 2°C scenario	Strategy - Scenario Analysis, Results and Resilience
Risk Management		
a.	Processes for identifying and assessing climate-related risks	Risk Management
b.	Process for managing climate-related risks	
c.	Integration of climate-related risk into overall risk management	
Metrics & Targets		
a.	Metrics used to assess climate-related risks and opportunities	Metrics and Targets
b.	All GHG emissions (Scopes 1,2 and 3 related) and related risks	Data Performance Section
c.	Targets used to manage climate-related risks and opportunities and performance against targets	Metrics and Targets

ABBREVIATIONS

ABMS	Anti-Bribery Management System	CII	Carbon Intensity Indicator
ABS	American Bureau of Shipping	CIMC Raffles	Shipyard for Offshore and Marine Engineering owned by CIMC Group
AER	Annual Efficiency Ratio		
AER ^{CO2e}	Annual Efficiency Ratio Carbon Dioxide Equivalent	CLA	Critical Legal Areas
		CO ₂	Carbon Dioxide
AET	American Eagle Tankers Private Limited	CO ₂ e	Carbon Dioxide Equivalent
AGM	Annual General Meeting	CoBE	Code of Conduct and Business Ethics
ALAM	Malaysian Maritime Academy Sdn Bhd	CMS	Cultural Maturity Survey
ALARP	As Low As Reasonably Practicable	COI	Conflict of Interest
ANATEL	Brazilian National Telecommunications Agency	COP	Community of Practice
		CPD	Corporate Planning Division
API	American Petroleum Institute	CRS	Condensate Recovery System
APPEC	Asia Pacific Petroleum Conference	CWW	Compressed Work Week
AR	Annual Report	DF	Dual-Fuel
ASA	Annual Surveillance Audit	LNG	Liquified Natural Gas Dual-Fuel
ASB	Asia School of Business	DDRA	Due Diligence Risk Assessment
ASC	Advanced Safety Communication	D&I	Diversity and Inclusion
ATW	Around The World	DIP	Declaration and Integrity Pledge
AWS	Alternate Work Site	DJSI	Dow Jones Sustainability Indices
BAC	Board Audit Committee	DOE	Department of Environment
BAU	Business As Usual	DOSH	Department of Occupational Safety and Health
BCM	Business Continuity Management		
BCP	Business Continuity Planning	DLP	Data Leakage Prevention
BCRA	Bribery and Corruption Risk Assessment	DNV GL	Det Norske Veritas and Germanischer Lloyd
BGRC	Board Governance and Risk Committee		
BHCKL	British High Commission in Kuala Lumpur	DP	Dynamic Positioning
b-HSSE	Behavioural-Health, Safety, Security and Environment	DPST	Dynamic Positioning Shuttle Tanker
		DWT	Deadweight Tonne
BMCC	British Malaysian Chamber of Commerce	EAP	Employee Assistance Programme
BWMS	Ballast Water Management System	ECDD	Enhanced Compliance Due Diligence
BWTS	Ballast Water Treatment System	EDS	Executive Development Series
CAPEX	Capital Expenditure	EEDI	Energy Efficiency Design Index
CASB	Cloud Access Security Broker	EES	Execution Excellence Series
CCS	Carbon Capture and Storage	EEXI	Energy Efficiency Existing Ship Index
CDP	Carbon Disclosure Project	ELP	Emerging Leaders Programme
CEO	Chief Executive Officer	EPCICODD	Engineering, Procurement, Commissioning, Operations and Maintenance, Decommissioning and Demobilisation
CGM	Climate Governance Malaysia		
C ₂ H ₆	Ethane		
CH ₄	Methane		
CHRA	Chemical Health Risk Assessment	EPF	Employee Provident Fund
CI	Community Investment	ERM	Enterprise Risk Management

ABBREVIATIONS

ESG	Environment, Social and Governance	IMO	International Maritime Organisation
FC	Functional Checklist	IMO CII	International Maritime Organisation Carbon Intensity Indicator
FCPA	Foreign Corrupt Practices Act		
FGRS	Flare Gas Recovery System	INTERTANKO	International Association of Independent Tanker Owners
FPSO	Floating Production, Storage and Offloading	IPCC	Intergovernmental Panel on Climate Change
FCS	Forest Stewardship Council	JDP	Joint Development Project
FSO	Floating Storage and Offloading	JHA	Job Hazard Analysis
FSU	Floating Storage Unit	KYC	Know Your Counterparty
FTSE4GOOD	Financial Times Stock Exchange for Good	LCSC	Legal, Corporate Secretarial and Compliance
FVSB	FPSO Ventures Sdn. Bhd.	LBV	LNG Bunkering Vessel
gCO ₂	Gram CO ₂	LNG	Liquefied Natural Gas
gCO ₂ /ton-nm	Gram CO ₂ per tonnage nautical miles	LNGC	Liquefied Natural Gas Carrier
GCMP	Group Crisis Management Plan	LOPC	Loss of Primary Containment
GCMT	Group Crisis Management Team	LR	Lloyds Register
GHG	Greenhouse Gas	LTIF	Lost Time Injury Frequency
GHSSE	Group Health, Safety, Security and Environment	MACC	Malaysian Anti-Corruption Commission
GIA	Group Internal Audit	MACN	Maritime Anti-Corruption Network
GlobalMET	Maritime Seafarer Training & Education Association	MaMPU	Malaysian Administrative Modernisation and Management Planning Unit
GMF	Global Maritime Forum	MARPOL	International Convention for the Prevention of Pollution from Ships
GRAC	Grievance Resolution/Appeal Committee	MASA	Malaysia Shipowners' Association
GRI	Global Reporting Initiative	MASRA	Malaysian Sustainability Reporting Awards
GTC	Gas Tanker Committee		
HKC	Hong Kong Convention	MBMs	Market-Based Measures
HMM	Harvard Manage Mentor	MBOT	Malaysia Board of Technologists
HRA	Health Risk Assessment	MC	Management Committee
H&S	Health and Safety	MCCG	Malaysian Code of Corporate Governance
HSE	Health, Safety and Environment	MCV	Modular Capture Vessel
HSEMS	HSE Management System	MDM	Mobile Device Management
HSSE	Health, Safety, Security and Environment	MDS	Managers Development Series
HW	Hybrid Working	MEAT	Management Effectiveness Assessment Tool
IEA	International Energy Agency		
IGU	International Gas Union	MEGI	M-Type Electronically Controlled Gas Injection
IH	Industrial Hygiene		
IHM	Inventory of Hazardous Materials	MEPC	Marine Environment Protection Committee
ILO	International Labour Organisation		
IMarEST	Institute of Marine Engineering, Science and Technology		

MESTEC	Ministry of Energy, Science, Technology, Environment and Climate Change	PCBF	Propeller Boss Cap Fin
MFS	(New) Managers Foundation Series	PDPA	Personal Data Protection Act
MGA	Malaysian Gas Association	PGCEO	President and Group Chief Executive Officer
MHB	Malaysia Marine & Heavy Engineering Holdings Berhad	PMHA	Prime Minister Hibiscus Award
MIA	Malaysian Institute of Accountants	POB	Person on Board
MIROS	Malaysian Institute of Road Safety Research	POCS2020	PETRONAS Organisational Cultural Survey 2020
MLC	Maritime Labour Convention	PPE	Personal Protective Equipment
MMHE	Malaysia Marine and Heavy Engineering Sdn. Bhd.	PRA	Project Risk Assessment
MMD	Marine Department Malaysia	PRM	PETRONAS Resiliency Model
MMS	Port Management and Maritime Services	PSM	Process Safety Management
MMscfd	Million Standard Cubic Feet Per Day	PSPI	Process Safety Performance Indicators
MMWQS	Malaysia Marine Water Quality Standard	PTG 19.90.05	PETRONAS Technical Guideline on Social Risk Assessment
MOF	Ministry of Finance	PTW	Permit-to-Work
MOT	Ministry of Transport	P&I	Protection and Indemnity
MPA	Maritime and Port Authority of Singapore	PV	Solar Photovoltaic
MRV	Monitoring, Reporting and Verification	PVU	Pump Vaporiser Unit
MSOSH	Malaysian Society for Occupational Safety and Health	RACI	Responsible, Accountable, Consulted, Informed
MSS	Medical Standards for Seafarers	RCM	Reef Check Malaysia
MTCO ₂ e	Metric Tonnes of Carbon Dioxide Equivalent	RCP	Representative Concentration Pathways
		RMC	Risk Management Committee
MVOT	Malaysia Vietnam Offshore Terminal Limited	R&L	Regulatory and Legislation
MyWIE	Malaysia Women in Energy	SASB	Sustainability Accounting Standards Board
NGO	Non-Governmental Organisation		
NOPSEMA	National Offshore Petroleum Safety and Environmental	SCDD	Standard Compliance Due Diligence
		SCR	Selective Catalytic Reduction
NO _x	Nitrogen Oxide	SEATRU	Sea Turtle Research Unit
N ₂ O	Nitrous Oxide	SEEMP	Ship Energy Efficiency Management Plan
OBU	Offshore Business Unit	SeMS	Security Management System
OCIMF	Oil Companies International Marine Forum	SHI	Samsung Heavy Industries Co Ltd
		SIGTTO	Society of International Gas Tanker and Terminal Operators
ODS	Ozone Depleting Substances		
OVID	Offshore Vessel Inspection Database	SIRE	Ship Inspection Report Programme
OVMSA	Offshore Vessels Management and Self-Assessment	SKM	Malaysian Skills Certificate
		SLP	Strategic Leaders Programme
OWS	Oily Water Separator	SO _x	Sulphur Oxide
PCB	Printed Circuit Board	SOP	Standard Operating Procedures
		SSP	Shared Socioeconomic Pathways

ABBREVIATIONS

STL	Zhejiang Satellite Petrochemical
STS	Ship-to-Ship
TAMUG	Texas A&M Galveston Maritime College
TBD	To Be Determined
TBT	Tributyltin
TCFD	Task Force on Climate-Related Financial Disclosures
TGLO	Texas General Land Office
TMS	Talent Management System
TMSA	Tanker Management and Self-Assessment
TN50	National Transformation 2050
TPCDDOG	Third Party Compliance Due Diligence Operational Guidelines
TPI	Transition Pathway Initiative
TRCF	Total Recordable Case Frequency
TVET	Technical and Vocational Education and Training
UCUA	Unsafe Condition and Unsafe Act
UMAS	University Maritime Advisory Services
UMT-MMS	University Malaysia Terengganu - Port Management and Maritime Services
UMT-SEATRU	University Malaysia Terengganu - Sea Turtle Research Unit
UNFCCC	United Nations Framework Convention on Climate Change
UNSDG	United Nations Sustainable Development Goals
VLCC	Very Large Crude Carrier
VLCC LNGDF	Very Large Crude Carrier LNG Dual Fuel
VLEC	Very Large Ethane Carrier
VOC	Volatile Organic Compound
VP	Vice President
WB	Whistleblowing
WBC2	Whistleblowing Committee 2
WtV	Waste-To-Value
W4T	Walk For Trees
YARA	Yara International ASA
YLP	Young Leaders Programme
YOY	Year-On-Year
ZEV	Zero-Carbon Emission Vessel

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