



**IOI GROUP**



# **PROGRESSING TOWARDS NET ZERO**

SUSTAINABILITY REPORT 2022

# INSIDE STORIES



## ABOUT THIS REPORT 1

The Focus of this Report	1
Reporting Period and Scope	1
Assurance and Forward-looking Statement	1



## MANAGEMENT KEY MESSAGES 2

Message from our Group Managing Director and Chief Executive	2
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## SUSTAINABILITY HIGHLIGHT 6

2 Years of Journeying Through the Pandemic	6
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## ABOUT IOI CORPORATION 8

Organisational Overview	8
Performance in Global Assessments & Indices and Our Awards	9



## OUR SUSTAINABILITY APPROACH 10

Our Sustainability Commitment	10
Value Creation Model	12



## GOVERNANCE 14

Sustainability Governance	14
Stakeholder Engagement	15
Sustainability Target & Contribution to UN SDG	16



## OUR MATERIAL MATTERS 21

Sustainability Materiality Matters	21
Double Materiality	21
Materiality Matters and Our Responses	22



## RESILIENT & PROGRESSIVE 28

Climate Change Action (CCA) Initiative	28
Mitigation and Adaptation (Plantations)	34
Mitigation and Adaptation (Resource-based)	36
Responsible Sourcing and Supply Chain Management	38



## REHABILITATE & REGENERATE 42

Safeguarding Natural Resources	42
Regenerative Agriculture and Precision Agriculture	46
Stewardship of Biodiversity and Carbon Sequestration	48



## SAFEGUARD & UPLIFT 54

Protecting Our Workforce	54
Uplifting Our People	60
Expanding Our Impact	64
Sharing Prosperity	67



## APPENDIX 68

Sustainability Performance Metrics	68
GRI Content Index	73
Glossary	77



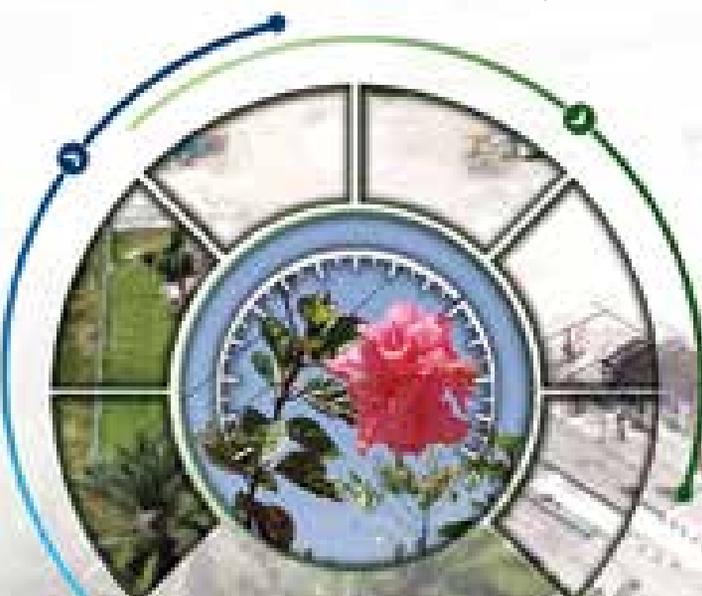
## SAFEGUARDING THE WELLBEING OF OUR WORKFORCE



## FEEDBACK AND COMMENTS

IOI Group is open and committed to listening to our stakeholder's opinions and ideas. Aside from making this report accessible online on our corporate website at <https://www.ioigroup.com>, the Group also encourages feedback from our readers. Any comments pertaining to our sustainability performance and management approach, as well as other matters regarding the report can be addressed to:

Attn : Corporate Sustainability Department  
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 62502 Putrajaya, Malaysia.  
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# ABOUT THIS REPORT



## THE FOCUS OF THIS REPORT

IOI Corporation Berhad (“IOI”, or “the Group”) is fully cognisant of the impact climate change has towards our businesses and operations and how imperative it is for IOI to manage and mitigate potential climate-related risks while not neglecting the possible opportunities arising when handled in a timely manner. Having expanded our green footprint by introducing more climate resilient activities and emphasising on our 7Rs of circularity, this year’s theme, **“Progressing Towards Net-Zero”** further demonstrates our determination towards achieving Net-Zero. This year’s report gives further evidence on our alignment with the recommendations on the Taskforce on Climate Related Financial Disclosure (“TCFD”). We will also be highlighting our increased efforts towards the practice of regenerative agriculture in our operations as part of our Climate Change Action (“CCA”) initiative. This report will also reveal the Group’s efforts in upholding the health and wellbeing of our workforce and the welfare of the communities we operate in. These topics will be discussed in line with our Environment, Social and Governance (“ESG”) considerations together with the subsequent progress and results in addressing these matters along with the advancement that we have made with the goals and targets of the six adopted United Nations Sustainable Development Goals (“UNSDG”).



## REPORTING PERIOD AND SCOPE

IOI has prepared this report based on national and global standards. This report contains the Group’s sustainability management approach, performance data as well as risks and opportunities for our identified Environment, Social and Governance/Economic material matters for the reporting period of 1 July 2021 to 30 June 2022, in line with IOI’s 2022 financial year (“FY2022”). We publish our Sustainability Report 2022 together with the Annual Report 2022 and Financial Report 2022 as part of Integrated Reporting. This Integrated Report is published annually, whereby the most recent publication was in September 2021. There are no significant changes to IOI’s size, or supply chain during this reporting and any changes in structure and ownership can be found in Annual Report 2022 and Financial Report 2022.

The report was prepared with reference to the Bursa Malaysia Sustainability Reporting Guide (2nd Edition) which sets out the sustainability-related disclosure obligations prescribed in the Main Market Listing Requirements of Bursa Malaysia Berhad and reporting framework recommendations. In line with Bursa Malaysia’s recommendations, this report has been prepared with reference to the Global Reporting Initiative Sustainability Reporting Standards (“GRI”) 2021 and adopted the content elements of the International Integrated Reporting Framework. Additionally, we continue to report our climate related disclosures in line with the TCFD recommendations, and with reference to International Sustainability Standards Board (“ISSB”) reporting framework.

Information and figures reported represent the latest available data as of the reporting period unless noted upon in the text. In some instances, information and data stated in the reports may differ from other reporting such as Roundtable on Sustainable Palm Oil (“RSPO”) Annual Communication of Progress (“ACOP”) on the basis of different reporting periods (yearly assessment period from January 2021 to December 2021). Where noted upon, such data and information have been used in this report. In some cases, figures reported in previous year’s Sustainability Reports are restated in correspondence with improvements made to our data collection and analysis.



*Sunbear Credit to: WaiPak.*

The scope of this report covers entities included in our consolidated financial statements. These entities are our headquarters in Putrajaya, Malaysia and core businesses including IOI Plantation (estates and mills) and Resource-Based Manufacturing refineries (“IOI Refinery”) and IOI Oleochemical Industries Berhad (“IOI Oleo”) operation activities in Malaysia, Indonesia and Germany. This report also marks the first year of reporting for IOI Pan-Century Edible Oils refinery. This report excludes IOI Group Sales Offices and the Group’s 30%-owned associate company, Bunge Loders Croklaan (formerly known as IOI Loders Croklaan).

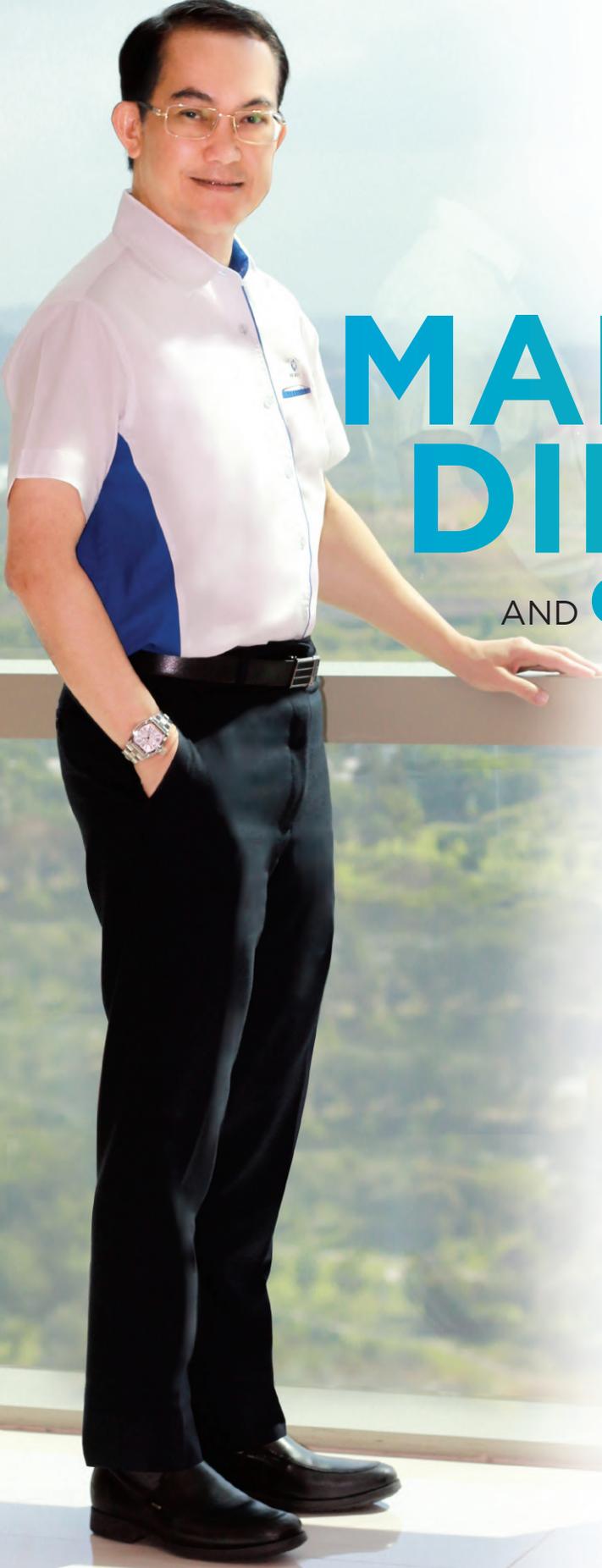
This report is intended to be read together with our Annual Report 2022 and Financial Report 2022. Throughout this report, there are sustainability-related disclosures that are also or would be referred to in our website.



## ASSURANCE AND FORWARD-LOOKING STATEMENT

This report has been reviewed by our Group Head of Sustainability, approved by the Group Managing Director and Chief Executive (“GMD”), and presented to the IOI Board of Directors. In connection with the audit of the financial statements of IOI Group contained in the IOI Corporation Berhad’s Financial Report 2022, BDO PLT, the external auditors have read the other information in accordance with ISA 720 (revised) *The Auditor’s Responsibilities Relating to Other Information*.

We endeavour to continuously improve our reporting disclosures, to be transparent regarding our operations and consider expanding the scope of assurance to full report verification in the future.



MESSAGE FROM OUR  
**GROUP  
MANAGING  
DIRECTOR**  
AND **CHIEF EXECUTIVE**

DEAR STAKEHOLDERS,

The 2021-2022 financial year continues to be a year full of challenges for IOI Corporation as a result of unusual wet weather, Covid-19 pandemic, workers shortage and the war in Ukraine causing energy and fertiliser price hikes. Nevertheless, we are determined as a company to adhere to our core values and face these adversities with commitment, team spirit, and innovative thinking.

The sustainable development priorities that we have embraced as evidenced by our materiality considerations (page 21) during our sustainable journey continue to be a foundational element of our Value Creation Model. Our Climate Change Action ("CCA") Initiative and initiatives in enhancing our social practices as well as environmental stewardship which are part of our overall Environmental, Social and Governance ("ESG") agenda, remain a strong focus in our ongoing engagements with both internal and external stakeholders.

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**DATO' LEE YEOW CHOR**  
Group Managing Director  
and Chief Executive

“

We continue on our CCA initiative commitment, first made in 2019, by setting out progressive steps to reduce our Scopes 1 and 2 emissions, with a long-term target to become Net-Zero by the year 2040.”

#### CLIMATE CHANGE ACTION ("CCA") INITIATIVE

Meeting the climate change challenge is a global responsibility which many governments and companies have accepted by way of adopting Net-Zero targets. IOI Corporation, as a responsible business corporation with a global presence, intend to play a meaningful role in this vital challenge. Broadly, we do so by reducing

GHG emissions and water leakage from our business operations, strengthening business resilience through smart risk management, and creating economic opportunities from circular economy solutions.

As underlined by the theme of this year's Sustainability Report, **"Progressing towards Net Zero"**, we continue on our CCA initiative commitment, first made in 2019, by setting out progressive steps to reduce our Scopes 1 and 2 emissions, with a long-term target to become Net-Zero by the year 2040. These steps are:

- Reaffirming our initial **short-term target** based on Scopes 1 and 2 to reduce operational GHG emission intensity by 40% by 2025 based on a 2015 baseline through energy efficiency measures and the 7Rs (Rethink, Repurpose, Reduce, Reuse, Recycle, Repair and Recover) of circularity. The importance of circularity in our operation are exemplified by the effluent-based biogas plants in all our Malaysian palm oil mills with power turbines affixed to most of them,

effluent-based biogas plant at our German oleochemical facility and palm biomass-based energy plants at our Sandakan refinery.

- Using science-based methodologies such as RSPO PalmGHG and ISCC (International Sustainability and Carbon Certification) to calculate our GHG emissions, as well as adopting TCFD (Taskforce for Climate-related Financial Disclosure) as the framework for our CCA Initiative.
- Setting a medium-term target based on Scopes 1 and 2, to be carbon neutral by 2030 through additional sequestration from our palms which are above 25 years old, forested HCV areas, other conservation areas, and tree crops. We are constructing a palm wood factory which will convert felled oil palm trunks to high-performance wood blocks and panels.
- Committing to a long-term target to achieve Net Zero for carbon emissions by 2040 covering Scopes 1, 2 & 3 by focusing on working collaboratively with our suppliers to lower their emissions intensity.



*Potential wildlife habitat at Laran trees planted area.*

## MESSAGE FROM OUR GROUP MANAGING DIRECTOR & CHIEF EXECUTIVE

IOI HAS EMBARKED ON A DIGITAL TRANSFORMATION JOURNEY TO DRIVE OPERATIONAL EFFICIENCY AND ENHANCE OUR LABOUR PRACTICE.

### ENVIRONMENTAL, SOCIAL AND GOVERNANCE ("ESG")

As part of IOI's Value Creation Model, ESG is well entrenched within our organisation. In this year's report, aside from the CCA Initiative, activities that strengthen and enhance both social practices and environmental stewardship are also highlighted.

#### • Strengthening and enhancing Social Practices

IOI has embarked on a digital transformation journey to drive operational efficiency and enhance our labour practice. Our enterprise resource planning ("ERP") system enables integrated tracking of working hours and ensures prompt and fair wage disbursement. Other digital programmes include E-wallet salary crediting system for the payment of wages, direct online interview during recruitment process at the source country to counter forced labour indicators and mobile app for workers to report any grievance 24/7 in their native languages.

We also supported ILO's Pledge on Countering Child Labour through Education last year by providing full day zero-cost education for nearly three thousand of our Sabah plantation employees' children. I am proud to say that IOI has been awarded the 2022 ASEAN Tech for ESG Award which recognises organisations which have embarked on ESG projects with proven impact and results by utilising digital tools and innovative technologies.

#### • Environmental Stewardship

Our biodiversity management initiatives includes collaboration with Nestle to enrich biodiversity through reforestation of around 100 hectares of our conservation area in our Sabah plantations, participation in "Achieving Coexistence with Elephants" ("ACE") project with various parties such as *Wildlife Conservation Society*, and *Earthworm Foundation* to ensure elephants in Peninsular Malaysia can coexist peacefully with human activities, and collaboration with Indonesia's *Badan Konservasi Sumber Daya Alam* ("BKSDA") to protect Rare, Threatened and Endangered ("RTE") species within our concession areas in Ketapang. Our manufacturing plants have also undertaken intensive water management measures which managed to recycle more than 54% of our production waste water for secondary usage.





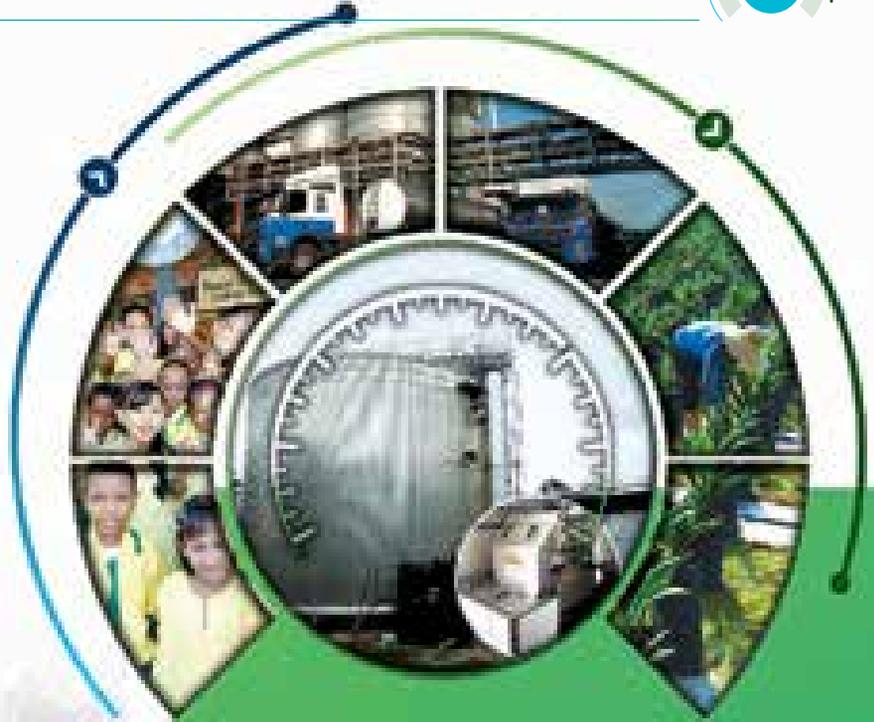
2022 ASEAN Tech for

# ESG Awards



## ZERO

Cost Educational Platform Access provided for around 3,000 of our Plantation employees' children in Sabah



## MOVING FORWARD

I believe the initiatives outlined in this report will position IOI well to adapt to various geopolitical events and climatic conditions, and maintain our good performance across different business cycles. As expectations rise and challenges continue, we will continue to engage in constructive dialogues with our stakeholders to understand their concerns and where appropriate, form smart partnerships with them to tackle some of the important issues. Lastly, we are committed to implement our climate change and ESG initiatives to the best of our abilities and report on the progress transparently, in line with our core value of “integrity”, simply explained as ‘doing the right things in all circumstances’.

# SUSTAINABILITY HIGHLIGHT

## 2 YEARS OF JOURNEYING THROUGH THE PANDEMIC

The Covid-19 pandemic that began in 2020 created a global turmoil that resulted in untold loss of lives and livelihoods unseen this past century. At IOI, we place the greatest value to our people, thus, ensuring our workforce and their families are protected from the virus became our top priority. Various health awareness and assistance as well as guidelines and preventive measures were introduced to prevent the spread of the virus on top of the numerous initiatives that involved protecting both their safety, health and mental well-being, not to mention their livelihood during this period.

2020

### February

#### Launch of E-wallet in Collaboration with Merchantrade Asia Sdn Bhd on Digital Wallet Service

E-wallet services for workers to manage their wages and expenses in real time as well as to safely remit money to their families in their home country.

### March

#### Covid-Awareness Presentations

A talk was given during our International Women's Day ("IWD") celebrations at our operating units by District Medical Officers to educate and raise awareness on Covid-19 and its prevention.

### April

#### Community Face Mask Project

IOI Plantation initiated a community face mask project conducted by the Women Empowerment Committee ("WEC") to overcome surgical face masks shortages in the market during the pandemic and to provide additional income to our workers' families.



*Precaution measures were taken to ensure good hygiene practices when making the face masks.*

#### Taskforce for Prevention of Covid-19

PT SNA, Indonesia established an Information and Response Centre/ Pusat Informasi dan Pelaporan Mengenai Covid-19 ("POSKO") to provide assistance and response to the community on Covid-19 cases within the plantation communities.



#### IOI Reusable Face Masks for Plantations School Children

14K reusable masks were distributed to the children of our Humana schools and Community Learning Centres ("CLC") in Lahad Datu and Sandakan, Sabah.



*Donating face masks to HUMANA school children.*

#### Establishing Covid-19 Standard Operating Procedures ("SOP")

Introduced comprehensive guidelines and SOP on preventive measures such as body temperature monitoring, physical distancing measures, sanitisation of common areas, contact-tracing, etc.



*Social distancing of 1 meter observed in all operating units.*



### Producing Hand-sanitizers for Employees

In-house hand sanitiser were made available to our employees at our IOI Edible Oils (“IOIEO”) operations.



### Enhancing Plant Your Own Food Initiative

The enhancement of our Plant Your Own Food Initiative launched in 2019 for our plantation employees and their dependants to ensure sufficient supply of fruits and vegetables during the Movement Control Order (“MCO”).

### Gratuity Payment for Plantation Foreign Workers

Due to the unusual stress and toll created by the pandemic to our workforce, IOI offered hardship allowance for eligible foreign workers in Peninsular Region as appreciation for their hardship and to share prosperity with them.

### June

#### Covid-19 Care Across Borders

Since mid-2020, IOI Oleo Gmbh has been providing free face masks and Covid-19 test kits, work from home arrangements and air cleaning devices in office spaces to help contain the pandemic.



### October

#### Supporting Frontliners

IOIEO donated spraying equipment to the Sandakan Fire and Rescue Department as well as bedsteads to the Sandakan Health Department as support to the frontliners.



### March

#### Haircut Initiative

IOI’s Haircut Initiative was launched for our WEC members as part of our capacity building efforts to improve their livelihood impacted by Covid-19.

### May

#### Vaccination Programme for IOI Group Workforce

A continuous vaccination outreach programme was conducted at all our business divisions in Malaysia, Indonesia and Germany in collaboration with local health services and the support of volunteers among our own staff.

### June

#### Yayasan Donations to Sg Buloh Hospital

Yayasan Tan Sri Lee Shin Cheng (“TSLSC”) donated life-saving medical equipment to Sungai Buloh Hospital to support the treatment of Covid-19 patients.

### August

#### Donations to Schools

IOI Oleochemical Industries Berhad (“IOI Oleo”) donated face masks and in-house hand sanitizers produced by the Quality Control Department to schools surrounding their operations.

### November

#### Launch of IOI Well-Being Series

A series of talks conducted by various medical practitioners and subject matter experts were provided for IOI employees to help them achieve better mental health.

### December

#### Providing Full-day Zero Cost Educational Platform for Workers’ Children

Prior school closures prompted IOI to further enhance our Child Education Initiative to enable our workers' children in Sabah to extend their learnings through after-school classes. The initiative also included free lunch, school supplies and school fees for eligible students.



### February

#### Food Aid for Covid-19 Positive Employees

Essential items such as food and hand sanitiser were given to Covid-19 positive colleagues to aid them and their families during their mandatory quarantine.

### March

#### Women and Digitalisation Initiative

Pandemic has increased our dependence on online transaction such as banking. So, IOI introduced the Women and Digitalisation initiative during the 2022 IWD celebration to ensure female employees and dependents are empowered by this digital literacy initiative.



# ABOUT IOI CORPORATION



## ORGANISATIONAL OVERVIEW

**IOI Corporation Berhad (“IOI” or “the Group”) is a leading integrated and sustainable palm oil player listed on the Main Market of Bursa Malaysia Securities Berhad.**

Headquartered in Malaysia, IOI has a global presence based on our operations and businesses in 8 countries and across 4 continents. The Group currently employs more than 24,000 people and is a leading global integrated and sustainable palm oil group with upstream (Plantation) and downstream (Resource-based Manufacturing) operations. Specifically, our business encompasses the entire palm oil value chain, from the Group’s upstream operations operated by the IOI Plantations division in Malaysia and Indonesia, to our resource-based manufacturing comprising of IOI Edible Oils (“IOI Refineries”) and IOI Oleochemical (“IOI Oleo Division”) situated in Malaysia and Germany<sup>1</sup>.

The IOI Plantations operations include tissue culture, seed breeding, cultivation and milling. Our downstream operations, i.e., IOI Refineries and IOI Oleo, are involved in the refining of Crude Palm Oil (“CPO”) and Palm Kernel Oil (“PKO”), as well as the processing of CPO and PKO into oleochemical products such as fatty acids, glycerine, soap noodles, fatty esters and specialty downstream oleochemical derivatives<sup>2</sup> respectively.

Our value creation model demonstrates how the principle 7Rs of circularity (concept of “Cradle to Cradle”) is incorporated into our vertically-integrated business model through waste-to-energy processes generating renewable energy for our operations, increased eco-efficiency and innovation to create value to our by-products while minimising waste.

A full description of the Group’s integrated business model, financial outcomes, information on our global and local presence as well as risk management and internal controls can be found in pages 109 of our 2022 Annual Report.

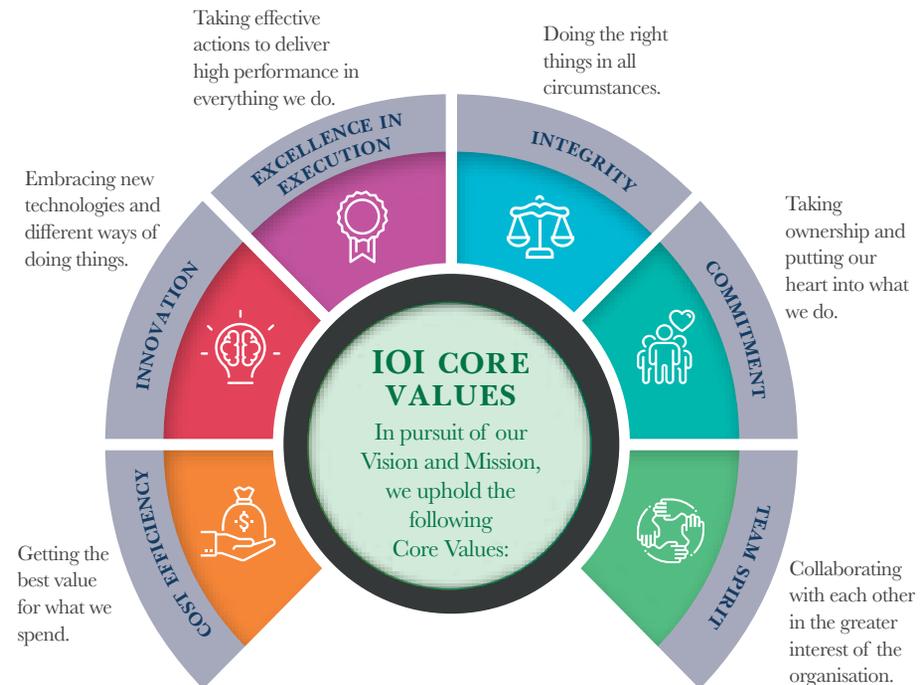
Sustainability matters are well embedded within our business strategy, specifically the Five-Year Strategic Plan unveiled in the 2020 financial year, and implemented throughout our operations. The commitments made in IOI’s Group Sustainable Palm Oil Policy (“SPOP”) further emphasise the importance of Environment, Social, and Governance (“ESG”) matters to our businesses, operations and supply chains. Further details on our sustainability initiatives, challenges and achievements are documented throughout this report.



**IOI VISION**  
Our Vision is to be a leading and sustainable Malaysian business corporation with global presence.



**IOI MISSION**  
Our Mission is to achieve responsible and sustainable commercial success by addressing the interests of all our stakeholders, caring for the community and the environment, and adopting best practices to be globally competitive.



<sup>1</sup> Operating unit excluding sales/procurement/regional offices

<sup>2</sup> [https://www.ioioleo.com/pro\\_prolist.html](https://www.ioioleo.com/pro_prolist.html)

## PERFORMANCE IN GLOBAL ASSESSMENTS & INDICES AND OUR AWARDS

IOI continues to participate actively in leading ESG ratings and indices as a way to manage sustainability criteria that are both industry-specific and financially material and to communicate to all interested stakeholders such as customers and investors, our commitments in addressing their concerns. Latest updates on our performance and awards can also be referred further in our website<sup>1</sup>.

### S&P Global Corporate Sustainability Assessment

As of Nov 12, 2021, we improved our percentile ranking from the 71<sup>st</sup> percentile in 2020 to the 77<sup>th</sup> percentile in the FOA Food Products industry in the S&P Global Corporate Sustainability Assessment as selection process of constituents for the Dow Jones Sustainability Indices (“DJSI”).

### CDP

IOI increased its scoring for Forest in 2021 to a score of B and remained the same for Water (B) and for Climate Change (C).

### FTSE4Good Index Series

IOI continues to be a constituent of the FTSE4Good Index Series following the FTSE4Good Index Series June 2022 review. We improved our overall score from 3.1 to 3.4 due mainly in the area of supply chain.

### Sustainalytics

As of November 2021, IOI received an ESG Risk Rating of 25 from Sustainalytics and was assessed to be at “Medium” risk of since we have high exposure to different material ESG issues but strong in managing its relevant issues.

### MSCI

Morgan Stanley Capital International (“MSCI”) scoring improved to ‘BBB’ from ‘BB’ for its Environmental, Social and Governance (“ESG”) performance in the latest assessment by MSCI ESG Research LLC.

### Asean Energy Awards

IOI Bio-Energy emerged as winner for its submission: Improved Steam Distribution to Reduce Steam Loss and Enhance Green Energy Generation, Winner of the Special Submission under Energy Management in Buildings and Industries of the ASEAN Energy Efficiency and Conservation Awards 2022.

IOI Edible Oils emerged as 1st runner up for its submission: - Energy Management Towards Efficient and Sustainable Process Operation, 1st Runner Up of the Large Industries under Industry - Energy Management in Buildings and Industries of the ASEAN Energy Efficiency and Conservation Awards 2022.

### SPOTT Palm Oil Assessment

IOI has achieved a percentage score of 76.4% for 2021 with a rank of 17 amongst 100 palm oil producers, processors and traders.

### EcoVadis

IOI Pan-Century Oleochemicals (“PCOC”) has been awarded with the Gold EcoVadis Medal Award. The EcoVadis Rating covers a broad range of non-financial management systems including Environmental, Labour & Human Rights, Ethics and Sustainable Procurement impacts.

### ASEAN Innovation Business Platform (“AIBP”) Award

IOI was announced as one of the winners for the inaugural ASEAN Tech for Environmental, Social, Governance Awards hosted by AIBP. More information on this award can be found in page 65 of this report.



*Our Biogas Plant at IOI Oleo GMBH, Wittenberge, Germany*

# OUR SUSTAINABILITY APPROACH

## OUR SUSTAINABILITY COMMITMENT



IOI’s commitment to embedding sustainability into our core business and operations is predicated on not only IOI’s Vision and Mission, but also by extension, on our **Sustainability Vision**, which is,

We believe we should meet the needs of the present without compromising that of the future generations by:

- Committing to protect, rehabilitate and preserve the environment where we live in.
- Ensuring that the economic, social wellbeing and health of our employees and families as well as the wider communities are safeguarded.
- Leading and innovating as well as embedding sustainability into our business.

This vision is further reflected in our sustainability pillars of **“People, Planet and Prosperity plus Partnership”** as we firmly believe that sustainability is a road that is best travelled together to have the greatest positive impact to the world at large and to humanity specifically.

We maintain that sustainability performance drives business success and that sustainability is not just the right thing to do, it is a critical driver of value for our business:



As a responsible, sustainable business corporation with a global presence, we are committed to the global initiative for a sustainable future by responding to the United Nation’s call for governments and organisations to contribute to the Sustainable Development Goals (“SDGs”).

As such we have identified and prioritised 6 UN SDGs most relevant to our operations which are:





**IOI Group Sustainable Palm Oil Policy (“SPOP”) Key Commitments**

- Continue to be an active supporter of certification schemes such as RSPO, MSPO, ISCC, and ISPO and work to strengthen their standards
- Mitigate climate change by progressively reducing Greenhouse Gas (“GHG”) emissions and enforcement of Zero Burning Policy.
- Eliminate all forms of illegal, forced, bonded, compulsory or child labour in our operations or supply chains and follow responsible recruitment practices including not charging recruitment related fees.
- Protection of High Conservation Value (“HCV”) and High Carbon Stock (“HCS”) areas in existing and new oil palm plantations.
- No Deforestation, No New Planting on Peat, No Social Exploitation (“NDPE”) and have maintain a moratorium on deforestation since 2016.
- Build a traceable and sustainable palm oil supply chain.
- Strive for the highest levels of transparency and stakeholder engagement.

**Compliance to Sustainability Certifications**



- More than 90% RSPO certified
- All Malaysian Estates and Mills are MSPO certified
- 33% of IOI oil palm mills are ISCC certified

- IOI Sandakan Edible Oils are ISCC certified since 2012
- Both refineries in Malaysia are RSPO SCCS certified

- All operations are certified ISO 45001:2018 Occupational Safety & Health Management Standards
- Progressing towards ISO14064-1:2018 Greenhouse gases - Part 1: Specification with guidance at the organisation level for quantification and reporting of greenhouse gas emissions and removals
- All Malaysian operations are certified MSPO SCCS and RSPO SCCS.



# ENVIRONMENTAL, SOCIAL & GOVERNANCE (ESG)



## Environment

### Climate Change

- Responsible land use
- No Deforestation, No New Planting on Peat including supply chain
- GHG emission management
- Risk and opportunity, strategy and target 7Rs of Circularity

### Resource Management

- Water management
- Energy
- Other natural resource

### Environmental Protection

- Biodiversity, Wildlife management and conservation
- Chemical and pest management
- Pollution and waste management
- Fire management



## Social

### Community Relations

- Free, Prior, Informed, Consent (“FPIC”)
- Social Impact Assessment (“SIA”)

### Health & Safety

- Workplace safety
- Employee’s wellbeing

### Human Rights

- Workers’ rights, labour practices and workplace condition
- Ethical Recruitment and responsible employment
- No Child Labour
- Equality and inclusivity

### Supply Chain Management (Social)

- Fair and ethical grievance resolution
- Labour standards



## Governance/ Economic

### Regulatory and Third-Party Compliances

- Ethical conduct and Business Ethics
- National Standard, laws and regulations
- International Standards and Certifications, Guidelines and Framework

### Transparency, Accountability & Responsibility

- Stakeholder engagement
- Whistleblowing procedure
- Grievance mechanism and reporting
- Risk Management
- Responsible Sourcing

### Communication & Reporting

- Transparent communication of our own and supplier grievance
- Traceability updates
- Reporting on sustainability metrics, target and action plan

### Technology

- Low Carbon Technology
- Palm Biotechnology & Product Innovation



# VALUE CREATION MODEL

## CAPITAL INPUTS



### Human

- Strong leadership and governance
- ≈24,000 talented and diverse people
- Succession and business continuity planning



### Natural

- 96 estates
- 207,113 hectares of landbank
- Seeds, plants and healthy soil to cultivate oil palm trees and other crops



### Financial

- Access to capital for investments in future success
- RM19.2 billion of assets
- RM10.9 billion of shareholders' equity



### Manufactured

- 15 mills
- 2 refineries
- 4 oleochemical plants/complexes
- 1 biotech centre
- 4 Research and Development ("R&D") centres



### Social & Relationship

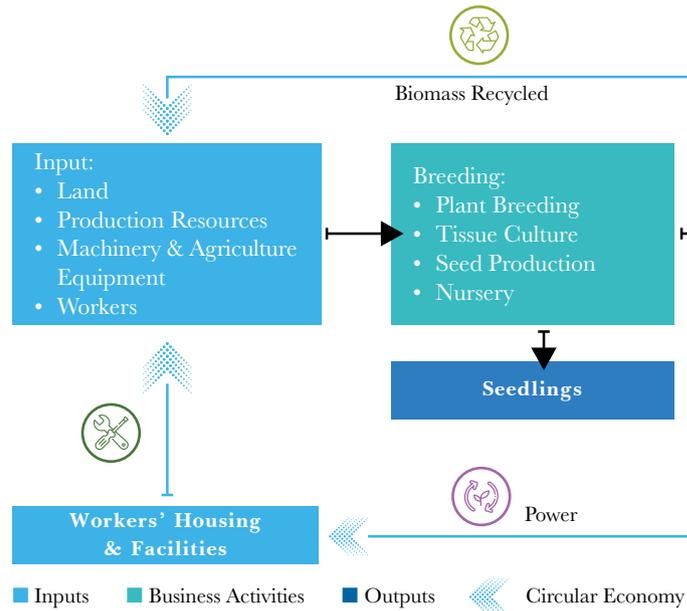
- Strong long-term relationships with shareholders, customers, suppliers, bankers, non-governmental organisations ("NGOs"), regulators and communities to create shared values



### Intellectual

- R&D capabilities and intellectual property
- Brand and reputation
- Best agronomy practices and estate management practices

## Plantation



• EFB: Empty Fruit Bunches • FFB: Fresh Fruit Bunches • CPO: Crude Palm Oil  
 • PK: Palm Kernel • PKO: Palm Kernel Oil • POME: Palm Oil Mill Effluent  
 ~ Associate (Bunge Lodgers Crokiaan Group B.V.)

## 3 Enablers

- **Human Capital Development & Culture:** Empowerment & Inclusion
- **Sustainability:** Developing Responsible Global Palm Oil Supply Chain
- **Technology & Digitalisation:** Strengthening R&D and Innovation Culture

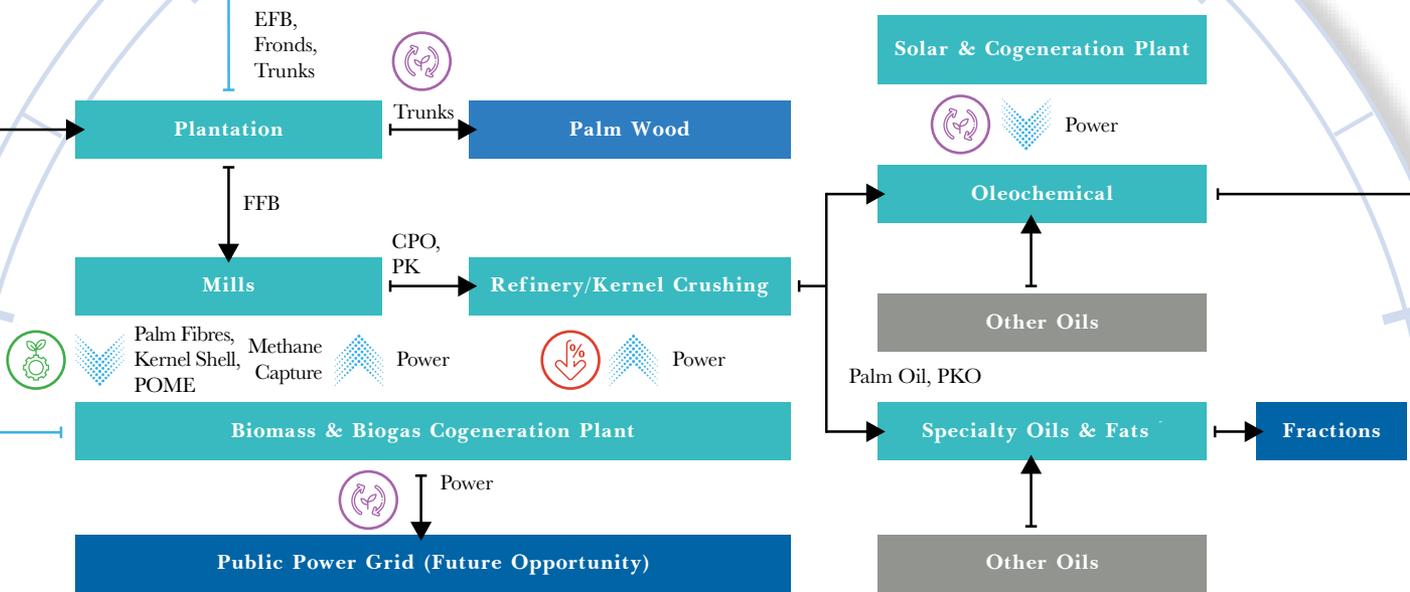
## 7Rs of Circularity

Refer to Annual Report Strategic Enablers in pages 43-45 and Strategic Priorities on pages 46-53 for more information.

Our Vision is to be a leading and sustainable Malaysian business corporation with global presence.

## IOI INTEGRATED VALUE CHAIN

### Resource-Based Manufacturing



### Strategic Priorities

Increase Yield

Optimise Workforce

Diversify Crops

Increase the Non-CPO Segment

Grow the Oleochemical Segment

### Competitive Edge

Integrated Value Chain

Integrated System

Strength in R&D

Sustainability Culture

Efficiency Culture

Innovative Culture

Strong Partnership

 **RETHINK**

 **REPURPOSE**

 **REDUCE**

 **REUSE**

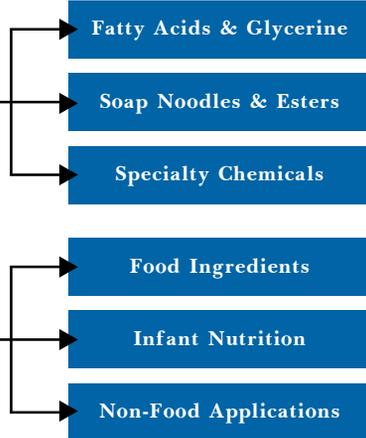
 **RECYCLE**

 **REPAIR**

 **RECOVER**

In alignment with our three pillars of sustainability (People, Planet, Prosperity) + Partnership, together with the six adopted relevant United Nations Sustainable Development Goals ("UN SDGs").

## VALUES DELIVERY & IMPACTS



### Human

- Training and upskilling opportunities to develop employees
- Fair and competitive wage
- Healthy and safe workforce



### Natural

- Sustainable palm oil practices support climate action and maintain ecosystem health
- Implement and introduce organic palm oil
- 14 mills: RSPO and MSPO-certified
- No deforestation and protection of High Carbon Stock Forests and High Conservation Value Areas
- Towards Group-wide net zero greenhouse gas emissions by 2040



### Financial

- Sustainable and profitable growth
- Good dividend payout
- Green and responsible investment
- Better economies of scale for vendors



### Manufactured

- State-of-the-art, certified and accredited manufacturing facilities
- Significant operational efficiencies and synergies



### Social & Relationship

- Quality products at competitive cost for customers to support quality of life and provide nutrition
- Improve livelihoods and uphold land rights of local communities
- Create economies of scale for suppliers



### Intellectual

- High-yielding germplasm
- Developed over 8 new formulations for personal care and cosmetic applications
- Filed 2 new patents for pharmaceutical applications
- ONE IOI Integrated Platform



### Risks

Human Capital & Talent

Supply Chain Compliance

Reliance on Manual Labour

Business Resilience

Environmental Sustainability

Refer to Annual Report pages 30-33 for External Environment.

• RSPO: Roundtable on Sustainable Palm Oil • MSPO: Malaysian Sustainable Palm Oil

# GOVERNANCE

## SUSTAINABILITY GOVERNANCE

To ensure our sustainability commitments especially in matters relevant to our Environment ("E") and Social ("S") commitments are delivered, high standards of Governance ("G") which provides clear lines on accountability, roles and responsibility, are integral in running our business with integrity. As such, we have a Corporate Governance Framework (please refer to our Annual Report 2022, page 97, to view the Corporate Governance Structure) as well as a Sustainability Governance Framework in place to enable IOI to address these matters transparently.

Within the Sustainability Governance Framework, the Board holds ultimate responsibility for the management, general affairs, direction, performance and long-term success of the Group. In addition, the Board also has oversight on material sustainability issues such as human rights, force labour, biodiversity and climate change. Sustainability risks and opportunities of the Group are also presented at the board level by the Group Head of Sustainability ("GHS").

The Group Sustainability Steering Committee ("GSSC") was set up to ensure that the Group's sustainability agenda, commitments and issues are effectively discussed, approved and implemented. The GSSC is chaired by the Group Managing Director and Chief Executive ("GMD"), and is attended by Independent Non-Executive Director, Dr Nesadurai Kalanithi, heads of operating units, GHS and senior management from the Group's support functions. GSSC meetings are held at least once a year. The GSSC works directly with the Board.

The Group's daily sustainability matters are led by IOI's GHS. In this position, the GHS communicates and reports directly to the GMD to ensure all the Group's sustainability commitments, policies, guidelines, etc., are developed and implemented by Operations' personnel. Sustainability functions across the business operations are assisted by regional sustainability teams to ensure sustainable practices are fully embedded within every operating unit. Operating units together with regional sustainability teams are responsible to ensure regular internal sustainability audits, engagement with local and surrounding stakeholders and regular regional sustainability meetings.

As part of IOI's Stakeholder Engagement and Governance, IOI introduced the Sustainability Consultation Forum ("SCF") that is backed, advised and participated by IOI's Sustainability Advisory Panel ("SAP") as its core external panel members. Essentially, the SCF is a platform to discuss complex sustainability topics together with external stakeholders such as NGO's, subject matter experts, governmental departments, customers, etc., and to gather bottom-up feedback from IOI's management, operations and sustainability team. The discussion outcomes provide a blueprint for how IOI, as well as our stakeholders and other industry participants can move forward in addressing Environment, Social and Governance ("ESG") related issues and challenges.

Current ESG matters managed and addressed by IOI, based on current trends, internal and external audits, as well as sustainability indices and assessments are detailed as follows:



Second SCF was conducted on regenerative agriculture and Net-Zero in May 2022.

## STAKEHOLDER ENGAGEMENT

Stakeholder engagement forms one of the important components in our sustainability approach. We continuously engage with various groups of stakeholders (IOI's internal workforce, regulatory and governmental bodies, civil societies and partners within our supply chain) throughout the 2022 financial year. Through these regular and proactive engagements with our key stakeholders, we manage to obtain trends and information, concerns and perspectives on what matters to our stakeholders, our business operations and sustainability performances. A full range of assessment on the value created through these stakeholder engagements is communicated transparently to illustrate our accountability in fulfilling these commitments. We believe that by effectively managing the expectations, needs and concerns of our key stakeholders and taking their feedback into consideration, our company can remain resilient and competitive. More information on our stakeholder engagements' can be found in our website<sup>1</sup>.

Stakeholder	Activities FY2022	Output/Values Created
 <p><b>Employees</b></p>	<ul style="list-style-type: none"> <li>• Conducted webinars on physical and mental health as well as surveys on employee wellbeing</li> <li>• Training, learning and development programmes via physical and virtual modes. Introduction of bite-sized e-learning content, IOI Grow</li> <li>• Dialogue with Group Managing Director and key panel members in a hybrid mode with Group-wide participation of IOI employees</li> <li>• Celebrate important events with our employees through programmes, engagements and initiatives such as IOI Earth Months and International Women's Day</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure overall good health and wellbeing of employees are being taken care of</li> <li>• Ensure continuous development, capacity building and upskilling for our employees</li> <li>• To gather questions, feedback and suggestions from IOI's employees for the continuous improvement of IOI's working environment</li> <li>• Uplifting employee morale, promoting positive impacts towards social and environmental value, and encourage engagement amongst IOI's workforce</li> </ul>
 <p><b>Customers</b></p>	<ul style="list-style-type: none"> <li>• Participated in IOI's Sustainability Consultation Forum ("SCF")</li> <li>• Responding to customer's request on Environment, Social, Governance ("ESG") performance submission via third party platforms such as CDP, etc</li> <li>• Exchange ideas via trade-shows and partnering with customers to host webinars on sustainability topics through collaborations with customers</li> <li>• Responded to customers' sustainability-related updates and enquiries</li> <li>• Partnership with our customers, Nestle for project RELeaf, 3rd party due diligence on IOI's recruitment agents with NESTE, etc</li> </ul>	<ul style="list-style-type: none"> <li>• SCF enables IOI to gather feedback and perceptions on sustainability issues of concern from our customers</li> <li>• Build trust among our customers by demonstrating continuous improvement in our sustainability performances</li> <li>• Collaborations with other industry players to strengthen sustainability awareness and implementation</li> <li>• Transparent communication of material issues and sharing of sustainability progress updates with our customers</li> <li>• Enhance positive impact in our value chain to promote reforestation, carbon sequestration, biodiversity conservation, ethical recruitment, etc</li> </ul>
 <p><b>Communities</b></p>	<ul style="list-style-type: none"> <li>• IOI provides full day education to our workers' children in Sabah plantations after school hours</li> <li>• Donations to charity homes, hospitals and schools through our operating units as well as IOI's charity arm Yayasan Tan Sri Lee Shin Cheng ("YTSLSC")</li> <li>• Support to our communities during the pandemic and disasters such as flood in 2021 etc</li> <li>• Engagement with smallholders to assist them with achieving Malaysian Sustainable Palm Oil ("MSPO") and Roundtable on Sustainable Palm Oil ("RSPO") certification</li> </ul>	<ul style="list-style-type: none"> <li>• Encourages education for children within our operating units and protects them from potential risks of child labour</li> <li>• Support the wellbeing, medical welfare and education of our surrounding communities</li> <li>• Assisting smallholders to improve sustainability practices as well as their yields and income help to ensure that IOI's supply chain are in line with our commitments</li> </ul>
 <p><b>Suppliers</b></p>	<ul style="list-style-type: none"> <li>• Webinar on Strengthening Child Protection in the Palm Oil Supply Chain for IOIEO and other capacity building activities on prevention of forced labour</li> <li>• Execute monitoring and traceability and programmes as well as to provide training and solutions for preventing forest clearance and eliminating deforestation ("NDPE")</li> <li>• Monitoring grievance and progress reporting</li> </ul>	<ul style="list-style-type: none"> <li>• Increasing supplier's awareness in addressing child labour and forced labour</li> <li>• Increased transparency and traceability of Fresh Fruit Bunches ("FFB") sources and able to assist our suppliers to improve and address gaps in the implementation of our No Deforestation, No New Planting on Peat, No Exploitation ("NDPE") commitments</li> <li>• Transparent and regular communication on grievances reported and progress of time bound action plan against our suppliers in our website</li> </ul>
 <p><b>Regulations</b></p>	<ul style="list-style-type: none"> <li>• Maintaining industry association memberships such as Malaysian Palm Oil Association ("MPOA"), RSPO, High Carbon Stock Approach ("HCSA"), etc</li> <li>• Adhering to relevant government and international policy and regulations</li> <li>• Engaged relevant regulators for discussion and forums on sustainability issues of concern such as via the SCF, webinars and forums</li> </ul>	<ul style="list-style-type: none"> <li>• Compliance with industry standards and regulations</li> <li>• Ensures compliance with relevant local and international policy and regulations</li> <li>• Gather constructive feedback to address complex sustainability issues</li> </ul>

<sup>1</sup> [https://www.ioigroup.com/Content/S/S\\_Stakeholders](https://www.ioigroup.com/Content/S/S_Stakeholders)

## GOVERNANCE

Stakeholder	Activities FY2022	Output/Values Created
 <p><b>Shareholders and Investors</b></p>	<ul style="list-style-type: none"> <li>• IOI responded to Sustainability questionnaires from our shareholders and investors channeled to our Investor Relations department</li> <li>• Responded to ESG indices (CDP, FTSE4Good Index, S&amp;P Global Corporate Sustainability Assessment, MSCI, Sustainalytics, SPOTT, and EcoVadis) and request of submission by investor groups for ESG disclosures and ratings including for CDP Climate, Water and Forest response</li> </ul>	<ul style="list-style-type: none"> <li>• Provides accurate and nuanced information and understanding on IOI's ESG performances and practices</li> <li>• Increases confidence among investors and shareholders as well as enhances IOI's reputation through transparent disclosures and continuous improvement on our ratings</li> </ul>
 <p><b>Industry Association/Civil Society</b></p>	<ul style="list-style-type: none"> <li>• IOI continues to be a corporate member of BSR since 2021</li> <li>• Partnership with Earthworms Foundation in supplier programmes</li> <li>• Activities with the Sustainability Palm oil Choice ("SPOC"), Malaysian Palm Oil Board ("MPOB"), Malaysian Oleochemical Manufacturers Group ("MOMG"), ASEAN Oleochemical Manufacturers Group ("AOMG"), Fire-Free Alliance ("FFA"), etc., to discuss sector's issues and concerns</li> <li>• Collaborations on elephant protection projects with HUTAN-Kinabatangan Orangutan Conservation Programme and Seratu Aatai in Sabah, as well as engaging in partnership for elephant coexistence project through Management &amp; Ecology of Malaysian Elephants ("MEME") in Southern Peninsular Malaysia</li> </ul>	<ul style="list-style-type: none"> <li>• Membership with Business for Social Responsibility ("BSR") provides access to the organisation's resources such as expertise, which can be leveraged to create lasting improvement to our sustainability practices</li> <li>• Traceability and monitoring to prevent forest clearance, hence, eliminating deforestation from our supply chain</li> <li>• Activities with Industry associations enable IOI to address concerns that are industry specific as a grouping</li> <li>• Enhances the protection of elephants and other biodiversity within our concession areas and conservation areas</li> </ul>

## SUSTAINABILITY TARGET & CONTRIBUTION TO UN SDG

IOI has committed to contributing towards the United Nations' Sustainable Development Goals ("UN SDGs") since 2018. We continue to monitor our performance in achieving the set KPIs for the 6 adopted UN SDGs most relevant to our operations. The clear targets and KPIs that we have set are monitored carefully, transparently shared and reported (refer SR 2020 and 2021) to ensure that all our initiatives are effectively implemented. Our performance for this reporting period is measured against the KPIs first set in 2020 as mapped in the table below:



Priority SDGs	IOI Contribution to SDGs	IOI Targets/ KPIs as stated in SR2020	Performance FY2022	Reference Page
 <p><b>Target 2.4</b></p>	<ul style="list-style-type: none"> <li>• Adopt circular economy model to ensure sustainable food production &amp; ensure food security</li> <li>• Conduct R&amp;D to produce high-yielding oil and crops with less chemical use, drought resistant, etc</li> <li>• Uses non-harmful agricultural methods to mitigate human-wildlife conflict; to ensure soil management to prevent soil erosion and degradation, etc</li> <li>• 'Plant Your Own Food' Initiative whereby plots of land, seedlings, etc., are allocated within our plantation to encourage fruits and vegetable plantings by our employees</li> </ul>	<ul style="list-style-type: none"> <li>• In order to meet global food security for oil and fats, improved OER by at least 15% from our clonal palms compared to conventional seedlings will result in higher oil yield</li> <li>• Continuous optimisation of nutrient uptake by the oil palm tree through fertiliser management and soil microbe enhancement</li> </ul>	<ul style="list-style-type: none"> <li>• IOI uses the high yielding clonal palms from our Biotech department for replanting in suitable areas and terrains</li> <li>• Achieved OER around 24% from our clonal palms</li> <li>• Implementation of Integrated Pest Management ("IPM") with biological controls to reduce use of chemical pesticides</li> <li>• Research by our agronomists to conserve soil fertility and practice precision agriculture via the use of drones which optimizes the use of fertilisers and enhances uptake of nutrients by palm trees</li> <li>• Adopting best agriculture practices such as application of palm waste by-products as organic fertiliser, which is also a part of circularity</li> <li>• Increased areas of lands utilised by our employees for the "Plant Your Own Food" Initiative</li> </ul>	<ul style="list-style-type: none"> <li>• 70 (Annual Report)</li> <li>• 35</li> <li>• 47</li> <li>• 46</li> <li>• 47</li> <li>• 62</li> </ul>

Priority SDGs	IOI Contribution to SDGs	IOI Targets/ KPIs as Stated in SR2020	Performance FY2022	Reference Page
 <p><b>Target 8.2</b></p>	<ul style="list-style-type: none"> <li>• Provide capacity building to IOI plantation workers to ensure our workforce is updated with new skills, efficient and productive</li> <li>• Invest in R&amp;D on our crops to increase productivity and decrease dependence on natural resources</li> <li>• Introducing mechanisation, automation and digitalisation especially in the labour-intensive parts of our operations</li> </ul>	<ul style="list-style-type: none"> <li>• Implementation of ‘Coaching the Coach Programme’ and ‘Train the Trainer Programme’ to cultivate employee potential</li> <li>• Use of technology to improve yields and productivity while contributing to upskilling workforce</li> <li>• IOI’s five-year strategic blueprint as stated in our Annual Report</li> </ul>	<ul style="list-style-type: none"> <li>• Continuous training and employee talent development conducted for employees and programmes to enhance capacity building through both physical and virtual platforms</li> <li>• Capacity building through IOI Grow to encourage continuous upskilling of employees</li> <li>• Implementation of mechanisation and digitalisation platforms in our operations to improve existing systems and processes; increase efficiency and productivity while at the same time upskill labour force with use of new technology</li> <li>• Progress and integration of IOI five-year strategic blueprint are reported throughout our Annual Report 2022</li> </ul>	<ul style="list-style-type: none"> <li>• 60</li> <li>• 42 (Annual Report)</li> </ul>
 <p><b>Target 8.8</b></p>	<ul style="list-style-type: none"> <li>• Operate in accordance with local and national laws, and adherence to international standards as stated in the SPOP</li> <li>• Collaborate with social, labour and human rights experts to continuously identify and adopt best practices in labour practices – case study on Respecting People, Retaining Workers by Earthworm Foundation</li> <li>• Conducted Fair and Decent Wage Study together with Monash University</li> <li>• Implement Occupational Health and Safety Management Systems that meet OHSAS 18001 Standard</li> <li>• Certifying IOI Oleo under ISO 45001 for Occupational Health and Safety systems and have policies, guidelines &amp; procedures disseminated to all workers</li> <li>• Launched the Women and Empowerment Committee &amp; have enhanced our guidelines on harassment at the workplace</li> </ul>	<ul style="list-style-type: none"> <li>• Ensuring that all our workers are safe from Covid-19 by following all SOPs and guidelines provided by our government</li> <li>• IOI targeted earnings of more than the minimum wage for each worker during normal working hours in Malaysia</li> <li>• Support women’s rights &amp; empowerment</li> <li>• Reduce Lost Time Injury Frequency Rate on the operation level</li> <li>• To proactively address the eliminating of forced labour specifically in strengthening our recruitment process to avoid payment of illegal monies by workers</li> </ul>	<ul style="list-style-type: none"> <li>• Programmes and measures such as vaccination programmes, masks, etc., were put in place to ensure the safety &amp; wellbeing of our workforce. The Group had also extended contributions to our communities and frontliners in Malaysia and Indonesia. Adhering to control movement order and ensure our workforce including foreign workers and children vaccinated to prevent the spread of Covid-19</li> <li>• Despite the pandemic situation that affected both Malaysia and Indonesia, the Group continues to maintain our workforce in the plantation without affecting their ability to receive at the very least minimum wages</li> <li>• Various activities and programmes conducted by WEC to empower the women in plantation e.g. Introduction of multiple initiatives to increase skills and generate alternative income</li> <li>• Celebration to showcase the achievement of our women employees during the International Women’s Day on 8th March 2022 at IOI HQ, joined virtually by plantation division in Peninsular, Sabah and Kalimantan, as well as IOI Refineries and IOI Oleochemicals</li> <li>• Socialisation of the Guideline for Handling Harassment at Workplace and monitoring on the implementation during internal and external sustainability audit</li> <li>• Lost Time Injury Frequency Rate (“LTIFR”) for IOI Oleo in FY2022 increased compared to FY2021 while LTIFR for IOI Refinery and IOI Plantations has reduced</li> <li>• Training for Safety and Health at the workplace continues in all operating units despite the on-going pandemic</li> <li>• Collaboration with International Organization for Migration (“IOM”) on matters concerning migrant workers</li> <li>• Sharing the best labour practices with International Labour Organisation (“ILO”) and other growers</li> <li>• Engaging with &amp;Wider to conduct assessment on working conditions and workers’ wellbeing at regular intervals</li> </ul>	<ul style="list-style-type: none"> <li>• 7</li> <li>• 61</li> <li>• 66</li> </ul>

## GOVERNANCE

Priority SDGs	IOI Contribution to SDGs	IOI Targets/ KPIs as stated in SR2020	Performance FY2022	Reference Page
 <b>Target 12.4</b>	<ul style="list-style-type: none"> <li>Adopts the circular economy model to minimise waste generation and maximise recycling in the plantation operations (refer to value creation model on page 12)</li> <li>Green initiatives in resource-based manufacturing to increase water recycling, reduce wastage and increase reprocessing waste material and energy efficiency</li> </ul>	<ul style="list-style-type: none"> <li>Target to increase power generation from solid waste, fibre and EFB from plantation operations to be used for mill processing</li> <li>100% treated POME for upcycling use for oil palm plantation operations</li> <li>Minimise pollution and waste generation</li> </ul>	<ul style="list-style-type: none"> <li>Oil palm biomass waste such as PKS and EFB from plantation operations are not being disposed but are either utilised to generate power for the mill operations or sold for value added products</li> <li>Installation of more methane capture facilities and optimising further on those already installed to reduce GHG emission to atmosphere and the use of gas the usage of diesel</li> <li>Treated dried POME residues were being recycled and used as organic fertilisers in our oil palm plantation operations. Our upstream operations continue to achieved 99 % recycling from the upcycling of organic wastes including POME</li> <li>IOI minimised pollution and waste generation by ensuring regulatory compliances and applications of 7R Circularity in our plantations and resource-based manufacturing facilities</li> <li>In FY2022, IOI Plantation and IOI Refinery Division recycled and reused 92% and 97% of the waste produced respectively</li> </ul>	<ul style="list-style-type: none"> <li>44</li> <li>31</li> <li>34</li> </ul>
 <b>Target 12.6</b>	<ul style="list-style-type: none"> <li>Publish Annual Sustainability Report based on GRI Standards</li> <li>Collaborate with MPOB to support smallholders in attaining MSPO certification</li> <li>Support suppliers on their transformation towards NDPE policy commitments</li> <li>Frequent reporting from time to time in IOI website with regards to grievance list, third party supplier traceability, sustainability updates</li> </ul>	<ul style="list-style-type: none"> <li>IOI Oleo to be fully ISO 50001: Energy Management certified</li> <li>100% MSPO and RSPO certification for estates and mills in Malaysia</li> <li>100% RSPO certification for all IOI plantations by 2023</li> <li>To publicly disclose sustainability implementation progress on a regular basis</li> </ul>	<ul style="list-style-type: none"> <li>IOI Oleo carried out efficiency improvement projects via ISO 50001</li> <li>Achieved 100% RSPO certification and 100% MSPO for estates and mills including smallholders in Malaysia</li> <li>Current progress in line with 100% RSPO certification for all IOI plantations in Malaysia and Indonesia by 2023</li> <li>Publicly disclose sustainability implementation progress and initiatives on a regular basis</li> <li>Publication and disclosures in the Annual Sustainability Report</li> </ul>	<ul style="list-style-type: none"> <li>36</li> </ul>
 <b>Target 12.A</b>	<ul style="list-style-type: none"> <li>Key Oil Palm player in Malaysia that is committed towards embedding sustainable approach in addressing our environmental and social footprint whilst also investing in R&amp;D to improve our production and manufacturing capabilities</li> </ul>	<ul style="list-style-type: none"> <li>Consistently achieve OER higher than the Malaysian average through palm biotechnology</li> <li>R&amp;D direction to improve oil-bearing characteristics and tree morphology</li> <li>Eco-friendly products developed by the oleochemical division</li> </ul>	<ul style="list-style-type: none"> <li>Since 2019, OER of around 24% has been achieved in the mills receiving FFB crops supplied by estates planted with high-yielding clonal palms comprising between 35% to 53% of total hectareage which is higher than the Malaysian average OER 2021<sup>1</sup></li> <li>Our research facilities continue to innovate research and development programmes to create better planting materials through cutting-edge tissue culture technology</li> <li>Products with key applications in pharmaceutical, nutritional, cosmetic and personal care segments</li> </ul>	<ul style="list-style-type: none"> <li>70 (Annual Report)</li> <li>35</li> <li>76 (Annual Report)</li> </ul>
 <b>Target 13.2</b>	<ul style="list-style-type: none"> <li>Implement measures to reduce GHG emissions</li> <li>Under our NDPE commitment, no deforestation and no new planting on peat</li> </ul>	<ul style="list-style-type: none"> <li>IOI is committed to a holistic approach in implementing its climate action strategy and to strive for reducing GHG emissions</li> </ul>	<ul style="list-style-type: none"> <li>Implementation of climate action strategy from upstream to resource-based manufacturing operations.</li> <li>Application of TCFD guidelines and ISSB for climate reporting.</li> <li>Engagement with consultants to analyse climate risks i.e., physical and transition risks and implementing adaptation and mitigation measures for addressing climate change</li> </ul>	<ul style="list-style-type: none"> <li>28</li> </ul>

<sup>1</sup> <https://bepi.mpob.gov.my/index.php/en/oil-extraction-rate/oil-extraction-rate-2021/oil-extraction-rate-of-crude-palm-oil-2021>

Priority SDGs	IOI Contribution to SDGs	IOI Targets/ KPIs as Stated in SR2020	Performance FY2022	Reference Page
 <p><b>Target 13.2</b></p>	<ul style="list-style-type: none"> <li>• New oil palm developments only after comprehensive stakeholder engagement and assessments (including ESIA, HCV and HCS assessment, LUC analysis, GHG assessment, soil suitability and topographic survey)</li> <li>• Fire Management implemented</li> </ul>	<ul style="list-style-type: none"> <li>• Installation of 10 methane capture facilities at major mill operations</li> <li>• Emission reduction target of 41% by 2025</li> </ul>	<ul style="list-style-type: none"> <li>• The practice of circularity within our operations to reduce waste generation by, amongst others, repurposing for other value-added products, recovering and recycling</li> <li>• Installed 10 methane capture facilities at major mill operations and on-track to install another 4 in the coming years</li> <li>• Progress to achieve emission reduction target for IOI Plantation, Refinery and IOI Oleo are reported here</li> <li>• New Medium &amp; Long-term target committed – Net Zero by 2040</li> </ul>	<ul style="list-style-type: none"> <li>• 34</li> <li>• 31</li> </ul>
 <p><b>Target 15.1</b></p>	<ul style="list-style-type: none"> <li>• As stated in our SPOP, we have set aside peatland and conservation areas to be managed and protected</li> <li>• Committed to NDPE commitments</li> <li>• New oil palm developments are permitted only after comprehensive stakeholder engagement and assessments (HCV, HCS &amp; GHG assessment, ESIA; LUC analysis; soil suitability &amp; topographic surveys) are conducted</li> <li>• Implement collaborative &amp; landscape approach, conservation &amp; biodiversity projects</li> </ul>	<ul style="list-style-type: none"> <li>• Committed to protection of peatland and rehabilitation and conservation of land where we operate</li> <li>• Identification and protection of HCV areas</li> <li>• Following best management practices in peatland management and biodiversity &amp; conservation</li> </ul>	<ul style="list-style-type: none"> <li>• IOI has a moratorium on deforestation based on our commitment on No Deforestations, No New Planting on Peat, No Exploitation (“NDPE”) in all our operations and reported no deforestation or development on peat for the reporting year</li> <li>• A total of 3,655.24 hectares of HCV area and total conservation area of 6,396.38 hectares in Malaysia and Indonesia were identified to be protected in FY2022</li> <li>• IOI utilises the application of High Conservation Value Network (“HCVN”) and High Carbon Stock Approach (“HCSA”) toolkit to help us identify and conserve HCV and HCS areas for land developments in all our operations</li> <li>• Adopted recognised best management practices including the Best Management Practices by RSPO</li> <li>• Strengthening of our guidelines on biodiversity</li> <li>• Conducting reforestation and rehabilitation projects such as RELeaf project</li> </ul>	<ul style="list-style-type: none"> <li>• 42</li> <li>• 48</li> <li>• 49</li> </ul>
 <p><b>Target 15.2</b></p>	<ul style="list-style-type: none"> <li>• Rehabilitation of forest reserve through Mini Landscape Level Approach for Peatlands adjacent to our Bukit Leelau Estate</li> <li>• Committed to NDPE commitments</li> <li>• Socialisation, dialogue and awareness programmes on fire prevention in forests to stakeholders</li> <li>• Identification of High Carbon Stock (“HCS”) forests</li> <li>• Utilises Global Forest Watch platform to map our concession areas, obtain daily information about forest fires, and obtain longer-term climate trends</li> <li>• Partnered with Earthworm Foundation to establish a near real-time deforestation monitoring capacity where IOI’s suppliers are operating</li> </ul>	<ul style="list-style-type: none"> <li>• Identifying and protecting HCV and HCS areas in where we operated</li> <li>• Uphold and promote NDPE throughout our third-party suppliers</li> <li>• Adopting Landscape Level Approach (LLA) where applicable by working in partnership with communities</li> </ul>	<ul style="list-style-type: none"> <li>• Protection of HCV, HCS and conservation areas within our operating units based on our policy commitments and specific developed guidelines.</li> <li>• Application of T4T assessments and collaboration with Earthworm Foundation on engagement programmes for suppliers and deforestation monitoring.</li> <li>• Partnership with external stakeholders including communities, local authorities and neighbouring plantations for Ketapang landscape level programmes as well as the continuation of our Bukit Leelau mini-LLA</li> </ul>	<ul style="list-style-type: none"> <li>• 42</li> <li>• 49</li> </ul>

## GOVERNANCE

Priority SDGs	IOI Contribution to SDGs	IOI Targets/ KPIs as stated in SR2020	Performance FY2022	Reference Page
 <p><b>Target 15.5</b></p>	<ul style="list-style-type: none"> <li>• New oil palm developments are permitted only after comprehensive stakeholder engagement and assessments</li> <li>• Uses natural and non-harmful agricultural methods to mitigate human-wildlife conflict</li> <li>• Employs forest rangers and collaborates with local society and regulators to monitor RTE species</li> <li>• Collaboration with HUTAN-PONGO for Ecological Study on Orangutan Population at Kinabatangan</li> </ul>	<ul style="list-style-type: none"> <li>• Strengthening our Environmental Management Guidelines by having clear specific stages in handling fire, peat and biodiversity within our operations</li> <li>• Working with relevant authorities on biodiversity conservation and protection of RTE species</li> </ul>	<ul style="list-style-type: none"> <li>• Introduced Biodiversity Management Guideline which defined the steps that the management takes in conservation and biodiversity protection, especially within the estates</li> <li>• Implementation of the Peat Protection and Management guideline which provides general guidance on peatland protection and conservation, best management practices, rehabilitation of degraded peatland, fire prevention and control, as well as providing necessary trainings to internal and external stakeholders on the management of peatland within our plantation</li> <li>• Collaborative projects with NGOs and local authorities in protections of RTE species including projects on elephant co-existence and orangutan rescue monitoring and missions</li> </ul>	<ul style="list-style-type: none"> <li>• 48</li> <li>• 51</li> </ul>
 <p><b>Target 17.16</b></p>	<ul style="list-style-type: none"> <li>• Collaborate with industry experts to share information and solve challenges in social and environmental projects</li> <li>• Key partnerships and associations include Proforest, Earthworm Foundation, Aidenvironment, Global Environment Centre, MPOA, Sustainable Palm Oil Choice Member, International Sustainability &amp; Carbon Certification ("ISCC"), High Carbon Stock Approach ("HCSA") Steering Group Member and RSPO</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborate with other palm oil producers, processors, food companies, NGOs and governmental bodies in improving industry-wide palm oil sustainability commitments</li> <li>• Collaborate with various stakeholders including suppliers, customers, civil societies, governments and independent verification bodies in the implementation of our SPOP commitments</li> </ul>	<ul style="list-style-type: none"> <li>• IOI had collaborated with customers, food companies, civil societies, regulatory body, and local authorities in joint sustainability projects including project REleaf and certification programmes for smallholders</li> <li>• IOI works in partnership with multi-stakeholders in different projects which are illustrated in every section of the focus areas discussed in this report. The projects cover the Environment, Social and Economic spectrums</li> <li>• Introduction of SCF as a platform for IOI to gather expectation on selected sustainability issues from external stakeholders including those from international bodies</li> <li>• Sharing our expertise with the industry and other external stakeholders (NGOs, Customers, Investors, etc.) through webinar, training or workshop. IOI has been actively involved in forums, discussions, working groups, taskforces in organisations such as RSPO, MSPO, HCSA, ILO, MPOA, etc., and other knowledge sharing platforms such as Securities Industry Development Corporation ("SIDC"), Business Council of Sustainable Development ("BCSD"), etc., virtually in communicating sustainability agenda and to improve perceptions towards sustainable palm oil</li> </ul>	<ul style="list-style-type: none"> <li>• 49</li> <li>• 64</li> <li>• 33</li> </ul>
 <p><b>Target 17.17</b></p>	<ul style="list-style-type: none"> <li>• New oil palm developments are only allowed following comprehensive stakeholder engagement and assessments</li> <li>• Collaborate with industry experts to share information and solve challenges</li> <li>• Key partnerships and associations include Civil societies, MPOA, ISCC, HCSA and RSPO</li> </ul>	<ul style="list-style-type: none"> <li>• Active collaboration for capacity building to create awareness on sustainability matters</li> <li>• Active collaboration with academia, industrial associations and working groups for information sharing and drive sustainability agenda</li> </ul>	<ul style="list-style-type: none"> <li>• We collaborated with different organisations to improve capacity building for our suppliers, smallholders and our own workforce which were discussed in all focus areas in this report</li> <li>• Involvement in research on Climate Change, Environmental Degradation and Labour Migration in Asia: Exploring the Role of Business conducted by IOM</li> <li>• Collaborations with HUTAN PONGO, Nottingham University, WCS &amp; Nestle</li> </ul>	<ul style="list-style-type: none"> <li>• 64</li> <li>• 65</li> </ul>

# OUR MATERIAL MATTERS

## SUSTAINABILITY MATERIALITY MATTERS

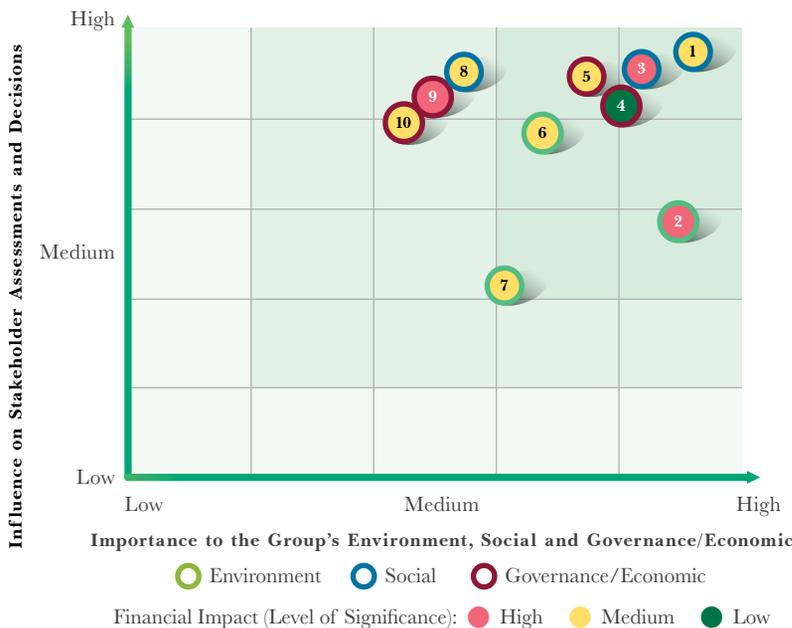
IOI conducts our annual material matters assessment based on material matters that are significant to our stakeholders and business on Environment, Social and Governance/Economic (“ESG”) topics. These material matters are determined from current global sustainability issues in the palm oil industry, stakeholders’ feedback, requirements from ESG rating and assessment as well as risks and opportunities relevant to IOI. The identified material matters will then be assimilated in company’s strategy, commitments and shared in the current reporting.

Our materiality assessment is guided by Bursa Malaysia’s Sustainability Reporting Guide and Bursa Malaysia’s Materiality Toolkit. The process of determining the material matters is as follows:



Based on the process above, we have identified ten top sustainability matters that have the most significant impact to our business and our stakeholders

### Materiality Matrix



### IOI's Sustainability Matters 2022 in Order of Significance

- 1 Safety & Health
- 2 Climate Change and Circular Economy
- 3 Labour Practices and Human Right
- 4 Transparent Grievance Resolution and Communication
- 5 Traceability & Responsible Sourcing: Policy & Practices
- 6 Water & Wastewater Management
- 7 Deforestation and Land Use
- 8 Ethical Recruitment and Responsible Employment
- 9 Supply Chain Management
- 10 Regulatory and Third Party Compliance

## DOUBLE MATERIALITY

The concept of double materiality describes both the external impacts of the company’s operations have towards society, economy and surrounding environment (*sustainability materiality*), as well as the internal impact of each significant material matters identified towards a company’s financial performance and its ability to create economic value for investors and shareholders (*financial materiality*). This year, for the first time, IOI will incorporate a qualitative assessment of our financial risks and opportunities as related to the top 10 sustainability material matters identified in accordance to the process mentioned in above. The financial impact assessment for each of the identified material matter is categorised into significant low, medium and high, based on our ERM Framework for risk classification scoring.

The outcomes of the materiality matter analysis are plotted on a materiality matrix as shown in the graph - *Materiality Matrix*. The top 10 identified material matters are plotted based on the “Importance to the Group’s Economic/Governance, Environment and Social” Impacts (x-axis) against the “Influence on Stakeholder’s Assessments and Decisions” (y-axis). The significance of “Financial Impact” (low, medium or high) to our business is also considered for each of the identified material matter.

# OUR MATERIAL MATTERS

## MATERIALITY MATTERS AND OUR RESPONSES



Zero Hunger



Decent Work and Economic Growth



Responsible Consumption and Production



Climate Action



Life on Land



Partnerships for The Goals

Material Matter	Why this material matters to our business?	Why this material matter to environment and society?
 <p><b>Safety &amp; Health</b></p>	<p>Our workforce is the backbone of our operations, thus ensuring the wellbeing of our workers ensures the highest productivity and a sustainable business.</p> <p>In addition, any hazardous incidence to our workforce or the surrounding communities can affect our reputation, result in legal liability and cause our business to halt.</p>	<p>Safety hazards within and around the workplace would potentially affect the livelihoods, health and wellbeing of our employees, their family members and the surrounding communities.</p> <p>Furthermore, a hazardous environment can result in a workforce that are not motivated to perform, high incidence of medical absenteeism and high turnover.</p>
 <p><b>Climate Change &amp; Circular Economy</b></p>	<p>Assessing and mitigating risks of climate change is crucial for our medium and long-term impact to ensure that the impact of climate change towards our operations are safeguarded and to reduce the cost of doing business impacted by climate related incidences. Embedding 7Rs of circularity within our business helps to reduce our GHG emissions and the possible impact of carbon tax on GHG emissions.</p>	<p>Irresponsible business contributes to increasing GHG emissions and cause global warming and climate change (i.e., long-term shifts in weather patterns and temperatures) that poses risk due to extreme weather causing floods, droughts, wildfires, hurricanes, etc., not to mention impact our food security and job security.</p>
 <p><b>Labour Practices &amp; Human Right</b></p>	<p>It is crucial to ensure a safe working environment to safeguard our workforce from illegal, forced, bonded, compulsory or child labour because these issues can lead to legal, financial and reputational risk which can ultimately affect our business negatively.</p> <p>Responsible labour practice can be translated through expanded market, higher productivity, reduced cost of compliance and reduced turnover.</p>	<p>Unfair labour practices and human rights violation would affect the wellbeing of our workforce, and create a poor work life balance that can ultimately lead to a poor moral within the workforce.</p>
 <p><b>Transparent Grievance Resolution &amp; Communication</b></p>	<p>Failure to communicate grievances and complaints transparently can damage our company's reputation and affect the businesses negatively.</p>	<p>Being able to address grievances and complaints transparently will demonstrate accountability that help to build trust and respectful connection with the affected complainant (workers, communities and stakeholders of concern).</p>
 <p><b>Traceability &amp; Responsible Sourcing: Policy &amp; Practices</b></p>	<p>Sourcing from responsible and traceable third-party suppliers is a priority for IOI to ensure adherence to our policies, guidelines, etc as this enables IOI to have clear accountability and transparency within its supply chain.</p>	<p>Irresponsible sourcing can create issues such as forced or child labour along the supply chain, deforestation, illegal land seizure, etc.</p> <p>Non-transparent sourcing practices such as bribery and corruption can lead to legal problems and imprisonment.</p>



Our Response	Reference Page	Links to UN SDG and Capital Inputs	Links to Stakeholders	Links to Corporate Risks
<ul style="list-style-type: none"> <li>• Provide a safe and conducive healthy working environment with clear SOPs/ Guidelines and regular training on safety to maintain business continuity</li> <li>• Provide financial and health insurance to provide protection to our workforce, as well as the wellbeing of their immediate families</li> <li>• Regular monitoring on safety performance and proactive mitigation measure to maintain safety and health</li> </ul>	56-58		<ul style="list-style-type: none"> <li>• Employees</li> <li>• Regulators</li> <li>• Suppliers</li> <li>• Communities</li> <li>• Customers</li> </ul>	<ul style="list-style-type: none"> <li>• Human Capital &amp; Talent</li> <li>• Reliance on Manual Labour</li> <li>• Environmental Sustainability</li> <li>• Business Resilience</li> </ul>
<ul style="list-style-type: none"> <li>• Climate change action in alignment with TCFD</li> <li>• Climate risks evaluated either to be mitigated or adapted while opportunities are to be exploited to increase our business resiliencies</li> <li>• Initiatives, mitigation activities and implementation measures are being put in place to reduce GHG emissions</li> <li>• Investment in low carbon technology and innovation</li> <li>• Implementing automation, mechanisation and digitalisation</li> <li>• Practice responsible land use, zero deforestation and no new development on peat</li> <li>• Responsible water management</li> <li>• Maintaining &amp; ensuring strong fire management systems</li> </ul>	28-39, 42-47		<ul style="list-style-type: none"> <li>• Regulators</li> <li>• Customers</li> <li>• Shareholders &amp; Investors</li> <li>• Industry Association/ Civil Society</li> <li>• Suppliers</li> <li>• Employees</li> <li>• Communities</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental Sustainability</li> <li>• Business Resilience</li> </ul>
<ul style="list-style-type: none"> <li>• Enhancing policies, guidelines and practices that strengthens the rights of our workers</li> <li>• Clear accountability, implementation and practices on prevention of forced labour and child labour</li> <li>• Upholding workers' rights to collective bargaining</li> <li>• Commitment to pay all our workers according to or beyond the statutory minimum wages as per the national labour regulations</li> <li>• Assisted &amp; participated in the independent fair and decent wage study together with industry players. Cooperated in third-party audit on labour practice and human right related issues</li> </ul>	54-63, 65-66		<ul style="list-style-type: none"> <li>• Employees</li> <li>• Regulators</li> <li>• Industry Association/ Civil Society</li> <li>• Customers</li> <li>• Communities</li> <li>• Suppliers</li> <li>• Shareholders &amp; Investors</li> </ul>	<ul style="list-style-type: none"> <li>• Human Capital &amp; Talent</li> <li>• Reliance on Manual Labour</li> </ul>
<ul style="list-style-type: none"> <li>• Ensure clear accountability and transparency in response to grievances and complaints including updates in our website</li> <li>• Various means for grievances to be reported such our 24/7 IOI Mesra App, hotlines, etc</li> </ul>	42, 54, 56, 58, 59, 64, 66		<ul style="list-style-type: none"> <li>• Employees</li> <li>• Regulators</li> <li>• Customers</li> <li>• Industry Association/ Civil Society</li> <li>• Communities</li> <li>• Suppliers</li> <li>• Shareholders &amp; Investors</li> </ul>	<ul style="list-style-type: none"> <li>• Human Capital &amp; Talent</li> <li>• Reliance on Manual Labour</li> </ul>
<ul style="list-style-type: none"> <li>• Due diligence and verification conducted to ensure both current and new suppliers meet IOI's Responsible Sourcing Guideline and SPOP requirement</li> <li>• Transparent reporting in IOI's sustainability dashboard</li> <li>• Engagement and monitoring of compliance of our policies and guidelines our by Responsible Sourcing team</li> </ul>	38-39		<ul style="list-style-type: none"> <li>• Regulators</li> <li>• Customers</li> <li>• Industry Association/ Civil Society</li> <li>• Suppliers</li> <li>• Shareholders &amp; Investors</li> </ul>	<ul style="list-style-type: none"> <li>• Supply Chain Compliance</li> <li>• Business Resilience</li> </ul>

# OUR MATERIAL MATTERS



Zero Hunger



Decent Work and Economic Growth



Responsible Consumption and Production



Climate Action



Life on Land



Partnerships for The Goals

Material Matter	Why this material matters to our business?	Why this material matter to environment and society?
 <p><b>Water &amp; Wastewater Management</b></p>	<p>Water stress is one of the potential physical risks faced by our operations due to climate change. So, strong water and wastewater management systems are important to ensure business continuity and resiliency.</p>	<p>Water is a source of life and poor management of it can result to in hunger and famine. Inadequate wastewater management can result in pollution and environmental degradation, loss of natural habitats and wildlife and poor human health.</p>
 <p><b>Deforestation &amp; Land Use</b></p>	<p>Deforestation and irresponsible land use change can lead to extreme weather patterns, soil erosion, etc., and affecting our operations of our product and reducing our revenues.</p>	<p>Irresponsible land use change can lead to community conflict and loss of livelihood while deforestation can result in loss of biodiversity, increased wildlife conflicts and ecosystem services.</p>
 <p><b>Ethical Recruitment &amp; Responsible Employment</b></p>	<p>A high percentage of IOIs' workforce is migrant workers. To maintain a stable workforce, it is critical for our businesses to uphold fair employment and ethical practices.</p>	<p>Unethical recruitment practices and irresponsible employment would increase the risks of human rights violations such as abuse, debt bondage and trafficking. Unfair employment practices result in high turnover and an unproductive workforce.</p>
 <p><b>Supply Chain Management</b></p>	<p>Ensuring commitment towards sustainability practices is understood and implemented within our supply chain is important as a means to deliver sustainable palm oil in our value chain.</p>	<p>Poor supply chain management can result in unsustainable production of raw materials and finished product that have detrimental environmental and social impact locally and globally.</p>
 <p><b>Regulatory &amp; Third-Party Compliance</b></p>	<p>Adherence to legal compliances and regulations enable the company to continue operating safely within the laws and a prerequisite for IOI as public listed company.</p>	<p>Poor regulatory and third-party compliance can lead to adverse impact on environment and social effects (e.g., child and forced labour, human health and wellbeing, etc.).</p>



Our Response	Reference Page	Links to UN SDG and Capital Inputs	Links to Stakeholders	Links to Corporate Risks
<ul style="list-style-type: none"> <li>• Risk assessments conducted to identify current and future water stressed areas based on Climate Modelling Datasets and Hazard Models</li> <li>• Annual Environmental Impact Assessment (“EIA”) and Water Management are practiced by our operations</li> <li>• Regular monitoring on water and wastewater and strict adherence to laws and regulations governing these matters</li> </ul>	30-31, 35, 43-45		<ul style="list-style-type: none"> <li>• Regulators</li> <li>• Industry Association/ Civil Society</li> <li>• Suppliers</li> <li>• Customers</li> <li>• Communities</li> <li>• Shareholders &amp; Investors</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental Sustainability</li> <li>• Business Resilience</li> </ul>
<ul style="list-style-type: none"> <li>• As part of No Deforestation, No Peat and No Exploitation (“NDPE”), IOI commits to no deforestation and responsible land use in all our operations and suppliers</li> <li>• Monitor and assess NDPE compliance within our supply chain</li> </ul>	35, 42, 48-50		<ul style="list-style-type: none"> <li>• Regulators</li> <li>• Shareholders &amp; Investors</li> <li>• Industry Association/ Civil Society</li> <li>• Communities</li> <li>• Suppliers</li> <li>• Customers</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental Sustainability</li> <li>• Business Resilience</li> <li>• Supply Chain Compliance</li> </ul>
<ul style="list-style-type: none"> <li>• Practice commitment of no recruitment fee</li> <li>• CoC on Ethical Recruitment and Responsible Employment in many languages to ensure our workers understand their rights</li> <li>• Due diligence audit on recruitment agency by third-party</li> <li>• Online interviews with potential workers at the source country to make sure they understand the job, our policies such as no recruitment fees, etc</li> </ul>	44, 54-56, 58-61, 65-66		<ul style="list-style-type: none"> <li>• Employees</li> <li>• Regulators</li> <li>• Industry Association/ Civil Society</li> <li>• Customers</li> <li>• Suppliers</li> <li>• Shareholders &amp; Investors</li> </ul>	<ul style="list-style-type: none"> <li>• Business Resilience</li> <li>• Human Capital &amp; Talent</li> <li>• Reliance on Manual Labour</li> <li>• Supply Chain Compliance</li> </ul>
<ul style="list-style-type: none"> <li>• Proactive engagement and capacity building programmes to support suppliers to adopt our sustainable practices</li> <li>• Monitoring of suppliers’ sustainability commitments through the Tools for Transformation (“T4T”) platform</li> <li>• Those in breach will have to submit Time Bound action plans or risk being delisted from our list of suppliers</li> </ul>	38-39, 42		<ul style="list-style-type: none"> <li>• Regulators</li> <li>• Shareholders &amp; Investors</li> <li>• Industry Association/ Civil Society</li> <li>• Suppliers</li> <li>• Employees</li> <li>• Customers</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental Sustainability</li> <li>• Human Capital &amp; Talent</li> <li>• Supply Chain Compliance</li> <li>• Reliance on Manual Labour</li> <li>• Business Resilience</li> </ul>
<ul style="list-style-type: none"> <li>• Adherence to all applicable legislation and codes of practice</li> <li>• Certification under MSPO, RSPO, ISCC, etc</li> <li>• Ensure sustainability is embedded within all our operations by having trainings and Management Reviews at all levels of operations</li> <li>• Complying with third party requirement such as ILO Forced Labour indicators, HCV &amp; HCSA requirements, etc</li> </ul>	10, 14, 16, 29, 38, 42, 48, 54, 56, 59-60, 64		<ul style="list-style-type: none"> <li>• Regulators</li> <li>• Industry Association/ Civil Society</li> <li>• Communities</li> <li>• Employees</li> <li>• Customers</li> <li>• Suppliers</li> <li>• Shareholders &amp; Investors</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental Sustainability</li> <li>• Human Capital &amp; Talent</li> <li>• Business Resilience</li> <li>• Supply Chain Compliance</li> <li>• Reliance on Manual Labour</li> </ul>



RETHINK



REPURPOSE



REDUCE



REUSE



RECYCLE

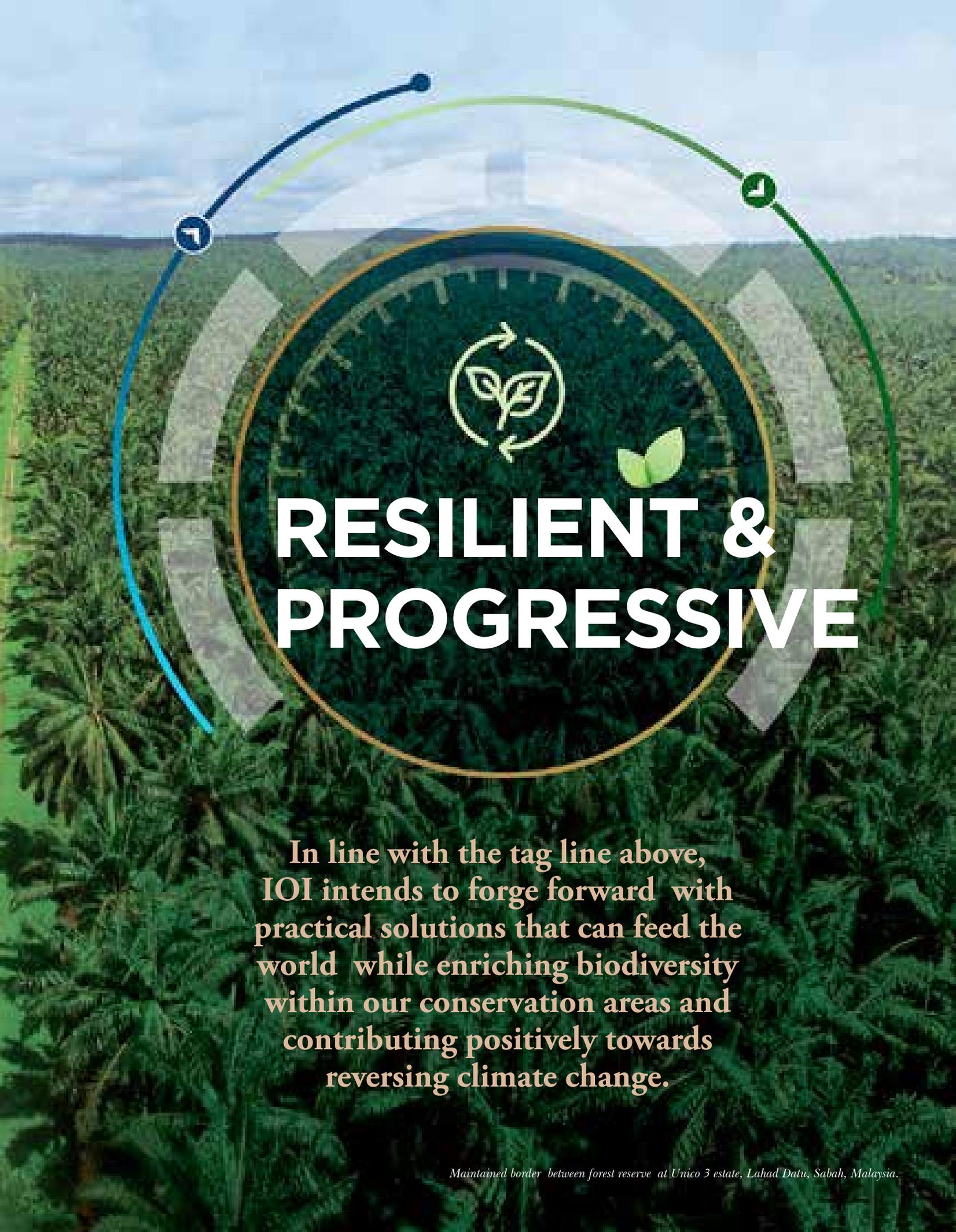


REPAIR



RECOVER





# RESILIENT & PROGRESSIVE

**In line with the tag line above, IOI intends to forge forward with practical solutions that can feed the world while enriching biodiversity within our conservation areas and contributing positively towards reversing climate change.**

# RESILIENT & PROGRESSIVE

## CLIMATE CHANGE ACTION ("CCA") INITIATIVE

### MANAGEMENT APPROACH

Climate change is an undeniable threat to the agricultural sector as it is highly intertwined with the extremes events climate can wrought. IOI recognises the risks of climate change and has initiated the Climate Change Action ("CCA") initiative since 2019 as part of our long-term action plan to manage climate-related risks and opportunities within our operations. One of the key objectives of the CCA initiative is to achieve Net-Zero within the Group, by incorporating circularity in our operations while exploring new technologies and innovations to reduce our GHG emissions and impact to the environment. These approaches which are very much in line with our 5 Strategic priorities AR (page 46-53), would enable us to adapt to new circumstances arising from climate change. The CCA initiatives is reported in alignment with the recommendations from the Task-force on Climate Related Financial Disclosure ("TCFD") with reference to the International Sustainability Standards Board ("ISSB") climate disclosures. The TCFD recommendations have four thematic areas that are represented as our core operational elements in implementing our CCA as shown:

### Our Governance

The CCA initiative is spearheaded by the Group Managing Director ("GMD") and is part of the Key Performance Index ("KPI") for the GMD and top management as reported in the Annual Sustainability Report ("ASR"). All strategies, programmes and development of the CCA are overseen by IOI's Group Sustainability Steering Committee ("GSSC") and will be brought to the Board for approval. To ensure group-wide implementation, accountability and monitoring of the CCA, similar KPIs are applied to the rest of the organisation that will be managed and overseen by the Group Head of Sustainability ("GHS") and assisted by sustainability units of each business division. Under double materiality assessment, climate change is recognised as a sustainability risk and have financial impact, therefore it is also being reviewed under the Group's Enterprise Risk Management ("ERM") framework.

### Strategy

To achieve Net-Zero carbon emissions, IOI is committed to continuously improve our climate change action plans through mitigation and adaptation of our environmental performance within our operations to include:



To further enable IOI to strategise in a more holistic way in responding to the potential climate risks, IOI conducted a quantitative group-wide climate change assessment forecasting climate scenarios for climate impact valuation.

### Risk Management

IOI conducted a quantitative group-wide climate change assessment with an expert TCFD consultant to help identify our climate-related transition and physical risks. Physical risks across all our operational sites in Malaysia, Indonesia and Germany were assessed and the resulting from climate change across different climate scenarios were assessed until 2050 to evaluate inherent economic risks with low-carbon transition. Summary of mitigation and adaptation solutions of the identified risks are listed in pages 30&31.

### Metrics and Targets

The company group-wide GHG emission intensity baseline and short-term targets for Scope 1 and Scope 2 were published in 2020. Annually our GHG emission intensity reduction is estimated to be at least 4%. Therefore, IOI's GHG emissions intensity is expected to be reduced by about 40% by 2025 based on a 2015 baseline. However, with improved low carbon technologies, intensified rehabilitation and regeneration efforts in our conservation areas as well as further activities in circularity to potentially remove or capture more CO<sub>2</sub> from the atmosphere than emitted, IOI is targeted to possibly achieve negative amounts of GHG emissions or at least carbon neutral for Scopes 1 and 2 by 2030 against our 2015 baseline. IOI has also announced its group-wide GHG emissions target to achieved Net-Zero emissions for Scopes 1, 2 and 3 by 2040. IOI's current and targeted GHG emissions figures are available in pages 31-33.



*Cogeneration Plant in Pasir Gudang, Johor, Malaysia.*

## OUR PERFORMANCE

### Climate Related Risks and Opportunities

The climate-related transition and physical risks analyses are based on IOI's specific sourced data, from recognised international climate organisations and relevant third-parties. The climate-related risk assessments are in alignment with TCFD and based on a moderate scenario (to reduce greenhouse gas emissions and limit climate change not exceeding 2°C).

#### Transition Risk

IOI's carbon pricing risk exposure for 2050 could range between 9.1 - 37.2% based on the updated carbon pricing risk projections analysis under the low to high carbon pricing scenario in October 2021. The carbon pricing risk exposure can significantly reduce by as much as 17 - 25% and 19 - 28% when carbon sequestration from the plantation operations in GHG scenario 1<sup>1</sup> and 2<sup>2</sup> are taken into account, respectively. When IOI achieve Net-Zero (Scope 1 and 2) by 2030, carbon pricing risk exposure can further reduce by up to 30%.

Type of Transition Risk	Risk	Opportunities
Policy and Legal	<ul style="list-style-type: none"> <li>Negative financial consequences associated with GHG emission reduction policies (e.g., carbon pricing) due to higher cost of compliance and cost of doing business</li> <li>Additional costs due to carbon taxes imposed on fossil fuels (e.g., diesels)</li> <li>New legislations like the European Union regulation on deforestation-free products that are climate-related that can impact the way we do business</li> </ul>	<ul style="list-style-type: none"> <li>Increased carbon price can constrain a company to adopting a low carbon operation that would significantly reduce operational cost</li> <li>Reduced dependency on non-renewable fuels would give IOI's businesses competitive advantage</li> <li>Companies who are well prepared would have first mover advantage to address and adapt the way businesses are conducted to any climate related legislations</li> </ul>
Technology	<ul style="list-style-type: none"> <li>New or replacement of products that are perceived to be produced or derived from processes that can affect climate change negatively</li> <li>Outdated systems that are energy intensive would significantly increase operating costs</li> </ul>	<ul style="list-style-type: none"> <li>Producing products in a sustainable way via waste management and circularity like the use of methane capture, biomass that not only negate negative perception of our products but create value added products from wastes</li> <li>Promoting efficiency in energy usage and sustainable use of natural resources through innovation and technology</li> </ul>
Market	<ul style="list-style-type: none"> <li>Loss of market positioning from buyers and customers when expectations for low carbon products are not met</li> <li>Loss of market due to high GHG emissions or perceived as laggard in reducing GHG emissions</li> <li>Loss of Branding value when company's climate change strategy and targets are not evident</li> </ul>	<ul style="list-style-type: none"> <li>Gain competitive advantage in the marketplace for early adoption to low carbon emission operations</li> <li>Ability to penetrate markets that have strict regulations on carbon emissions</li> <li>Positive brand recognition as a climate friendly company</li> </ul>
Reputation	<ul style="list-style-type: none"> <li>Reputation of a company is threatened when stakeholders perceived that the company is exposed to climate risks while there is no evidence of effective management and supervision of these climate-related risks</li> </ul>	<ul style="list-style-type: none"> <li>Improved environmental scoring and reputation of the company</li> <li>Steps taken to introduce strategy and management of these climate related risk along with adaptation and mitigation measures that will help the company face these risks</li> </ul>

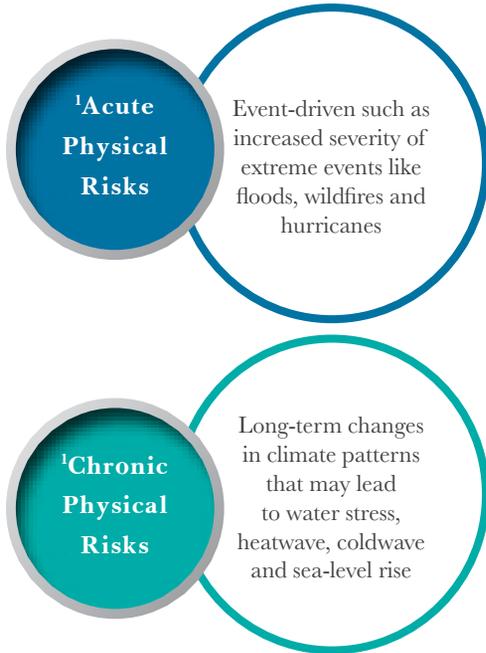
Note:

- Scenario 1: Carbon sequestration from oil palms calculated until one cycle, 25 years (calculated based on RSPO PalmGHG calculator methodology)
- Scenario 2: Carbon sequestration calculated from oil palms calculated more than 25 years

## RESILIENT & PROGRESSIVE

### Physical Risks

Globally, IOI’s operating units was first assessed quantitatively in 2020 by using relevant climate modelling datasets and hazard models from the low to high climate change scenarios until 2050. The physical risks have been categorized as:



We have continued with this assessment and out of the 123 locations assessed globally where we operate, we have that our plants are primarily exposed to heatwaves with a few locations having either water stress or the possibility of sea level rise with only 8 having a high-risk exposure classification. In general, IOI as a group have been assessed to have the following physical risk scores:



### Mitigation and Adaptation

As stated earlier, climate change could pose certain risks of various magnitudes to some of our facilities and landholdings. However, there are opportunities and competitive advantages for IOI when these risks are managed strategically. Our mitigation and adaptation solutions for the identified transition and physical risks in IOI operations are as follow:

Climate Related Risks	Risk Exposure Type	Mitigation Solutions	Adaptation Solutions
Transition risks	Carbon pricing	<ul style="list-style-type: none"> <li>Continuous exploration in innovation and low carbon technologies to effectively reduce our operational GHG emissions</li> <li>Enhance supply chain engagement to form smart partnerships for collaborative projects involving low carbon alternatives and reducing scope 3</li> <li>Implementation of Internal Carbon Pricing to promote utilisation of energy efficiency processes</li> </ul>	<ul style="list-style-type: none"> <li>Initiate carbon sequestration projects such as conservation and reforestation of set aside vegetation areas e.g., RELeaf project</li> <li>Continuous improvement of the yield and planting materials of oil palm to resist climate change and maximise carbon sequestration within our estates</li> <li>Practice Regenerative Agriculture in our estates to improve soil quality in maximising carbon sequestration and ecosystem services</li> </ul>
Physical risks	Heatwave	<ul style="list-style-type: none"> <li>No new developments on peatlands and protection of the peatlands through water management and fire prevention</li> <li>Installation of appropriate heat insulation in our buildings and facilities</li> <li>Utilise low energy cooling systems (e.g., vapor absorption chillers and Open Loop Cooling spray)</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring and improving workers’ health and productivity by making appropriate adjustments within our operations e.g., recommendation of suitable working hours and through innovation in Artificial Intelligence (“AI”)</li> <li>Install air ventilation system to reduce dependency on air conditioning in our buildings</li> <li>Application of green technology in heating (e.g., solar thermal power system)</li> </ul>

<sup>1</sup> Refer to ASR 2021 pg 31

Climate Related Risks	Risk Exposure Type	Mitigation Solutions	Adaptation Solutions
Physical risks	Water stress	<ul style="list-style-type: none"> <li>• Re-utilisation of reject reverse osmosis water</li> <li>• Install rainwater harvesting and retention system</li> <li>• Utilisation of treated and recycled effluent and waste water</li> <li>• Enhanced Metering and Monitoring: Network enabled water use monitoring technologies to enable real-time feedback, control over water consumption, respond to water leaks and infrastructure damage</li> </ul>	<ul style="list-style-type: none"> <li>• Improvement of planting materials for oil palms that are water stress resistant</li> <li>• Initiate projects and awareness engagement programme to promote responsible water usage</li> <li>• Increase efficiency of water use on key plantation/ refinery processes</li> <li>• Constructing a silt pit perpendicular to slopes to collect surface water runoff</li> <li>• Conserve soil moisture by enhancing soil structure and its holding capacity</li> </ul>
	Sea level rise	<ul style="list-style-type: none"> <li>• Coastal Management: Implementation of beach nourishment, cliff stabilisation, coastal setbacks, dune rehabilitation and wetland restoration may reduce the extent of coastal flooding</li> <li>• Flood Defenses. Infrastructure such as sea walls and storm surge barriers may aid in protecting key facilities from flood</li> <li>• Minimise flooding in the estates through smart water management e.g., enlarge existing drainage for better flow, improve drainage system using water gate etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Relocation of sensitive machinery or electrical instrument to higher level area</li> <li>• Elevate the machine foundation, equipment footing, pump plinth and base frame of motor</li> <li>• Ensure drainage passages are clear from dirt and foreign material accumulated by conducting routine maintenance</li> </ul>

**GHG Emissions Intensity and Target (Scope 1 and 2)**

As reported in our 2020 Annual Sustainability Report, at the initial launch of our CCA Initiative, IOI established a GHG emissions reduction target of 40% by 2025 for Scopes 1 and 2 as a short-term target. This year, we further commit to a medium-term target for Scopes 1 and 2 to achieve Carbon Neutral with minimal offsetting by 2030.

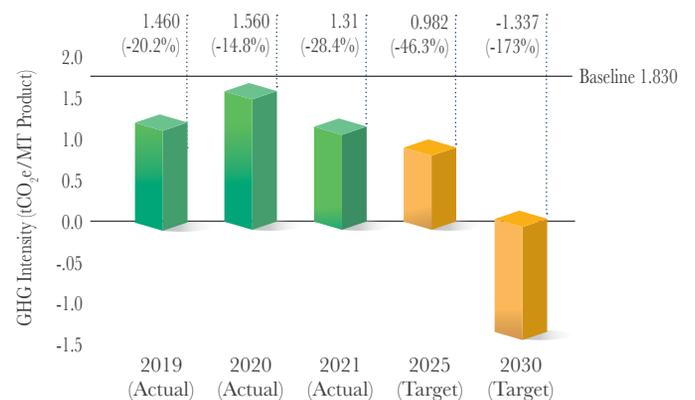
**Plantation (Estate and Mills)**

In 2021, GHG emissions intensity for plantations reduced significantly by nearly 20% from last year. Reduction of GHG emission intensity was due to reduced methane emissions from palm oil mill effluent (“POME”) and, increased utilisation of biogas from methane capture plant for boiler burners and electricity generation in the operations. IOI Plantation currently has 10 methane capture facilities and will be installing 4 additional plants in the coming years. On top of that, there are also plans to increase usage of biofuel at the plantations in the near future. Utilisation of biogas and biofuels allow the plantations to transition to greener energy sources as compared to fossil fuels usage.

IOI Plantation is expected to reduce emission intensity by about 46% for 2025 based on the current reduction trajectory. IOI Plantation can also be expected to remove or capture more CO<sub>2</sub> from the atmosphere than emitted by 2030 when additional sequestration from palm greater

than 25 years, other rehabilitated and reforested conservation areas and tree crops are taken into account. In addition, offsets from projects that creates value added products from our wastes or by-products such as oil palm trunk (“OPT”) used for wood product manufacturing, animal feeds, palm kernel shells, etc., can also be added to represent GHG emissions that have been captured.

**Plantation (Estate and Mills) (Emissions intensity)**

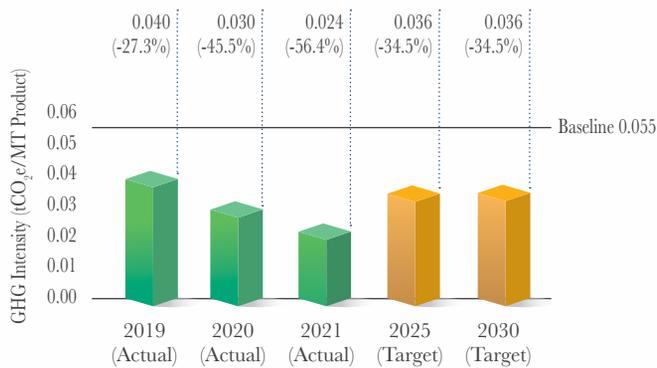


## RESILIENT & PROGRESSIVE

### Refinery

IOI Refineries (“IOIEO”) continues its excellent performance and surpassed the 2025 GHG reduction targets by ~20%. As of FY2022, IOI Refinery had recorded a 56% reduction in GHG emissions compared to the 2015 baseline, with an emissions intensity of 0.024 tCO<sub>2</sub>e/MT product. The emissions reduction was largely contributed by the utilisation of renewable energy from IOI Bio Energy and LNG as alternative source of energy to fossil fuels. IOIEO is also making efforts to reduce their emissions by improving energy efficiency of its operational equipment and adoption of digitalisation and automation. Further GHG emission reductions are expected from IOIEO in the next couple of years when these initiatives are fully operationalised.

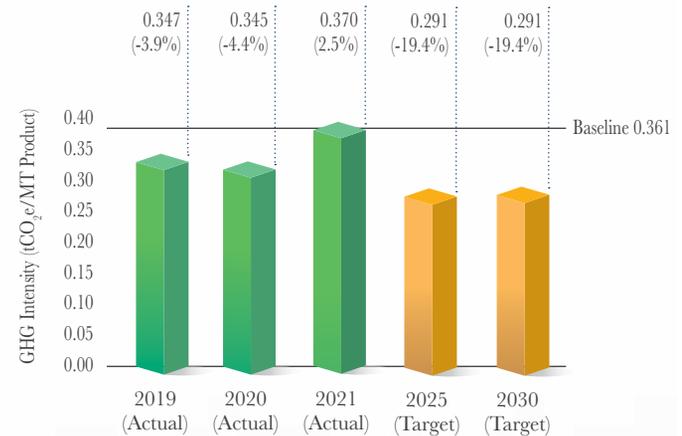
#### Refinery (Emissions Intensity)



### Oleochemical

This year, IOI Oleo recorded an increase in GHG emission intensity by 6.9% compared to 2020 due to reduction in operational volume by nearly 13%. Although emission intensity was hovering between 0.345 and 0.370 tCO<sub>2</sub>e/MT product over the last few years, the targeted emission reduction is expected to be achievable due to the implementation of energy efficiency initiatives and transition to greener energy in its operation (e.g, optimisation of solar energy system and biogas plant). Emission intensity would also be further reduced via implementation of digitalisation and automation as means to improve operational efficiency in achieving higher production output.

#### Oleochemical (Emissions Intensity)



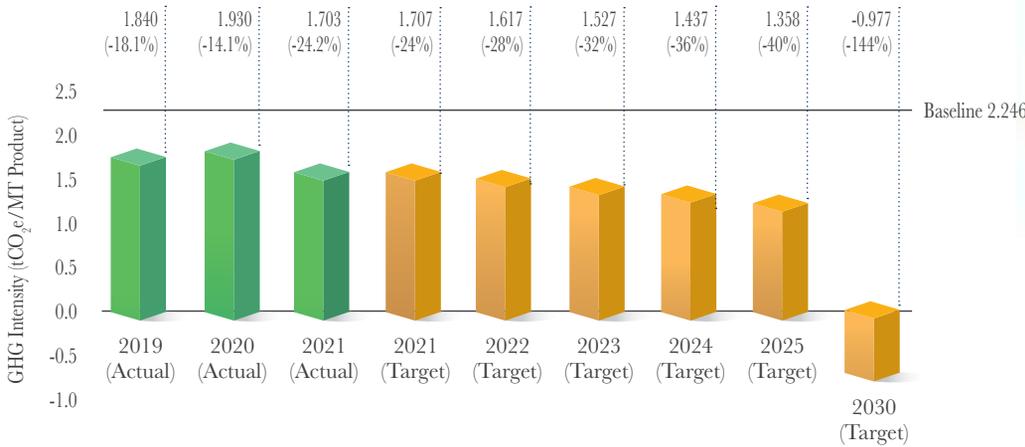
### Group

As of FY2022, IOI Group’s current emission intensity is recorded at 1.703 tCO<sub>2</sub>e/MT and is on track towards achieving our GHG emissions intensity reduction targeted at ~40% by 2025. As mentioned earlier, IOI foresees the opportunity to remove or capture more CO<sub>2</sub> from the atmosphere than emitted by 2030 for Scopes 1 and 2 when sequestration of our palms greater than 25 years as well as other conservation and rehabilitation projects, including emission reduction initiatives such as biomass utilisation, increased adoption in renewable energy and energy efficiency technologies etc, are further accounted for.



*Aerial view of Leepang Palm Oil Mill, Lahad Datu, Sabah, Malaysia*

**Group (Emissions Intensity)**



*A technician from Wittenberge, Germany during the installation of new tank fan.*

**Internal Carbon Pricing**

IOI is planning to use internal carbon pricing (“ICP”) to enable us to put monetary values on carbon emissions for internal decision-making process and risk analysis involving our investments in low-carbon technology that can help reduce our GHG emissions. An internal working group has been formed to established our ICP. The ICP will consider Scopes 1, 2 and 3 GHG emissions of the Group as well as the effects of future carbon regulations and costs associated to carbon emission.

**IOI Sustainability Consultation Forum (“SCF”) on Climate Strategy and Net Zero**

The second SCF was conducted on Climate Strategy and Net-Zero and facilitated by ERM on 19<sup>th</sup> May 2022 in a hybrid mode mix of in-person attendees at IOI HQ and virtually through Zoom. A total of 40 stakeholders which included representatives from Malaysian government agencies, certification bodies, customers, academia, assessment and indices agency, members of IOI’s Sustainability Advisory Panel as well as senior leadership and management team attended the forum. The key objective of this year’s SCF was to gather feedback and suggestions from experts and thought leaders on their concerns as well as best practices for enabling IOI to reach Net-Zero. Several key outcomes were identified during the SCF to address the challenges in achieving Net-Zero which revolved around 3 main themes: 1) Net-Zero target setting; 2) Scope 3 emissions; and, 3) Regenerative Agriculture. The SCF was held under the Chatham House Rule to enable participants to share their honest feedback and ideas openly in a trusted and safe environment.

Some of the key recommendations from the SCF are as follow:

- 

Develop Net-Zero roadmap consisting of a timebound emissions reduction plan and targets as well as the key GHG emission reduction initiatives
- 

Develop Scope 3 mitigation plan for Net-Zero target by

  - Initiating a more comprehensive Scope 3 hotspot screening assessment
  - Executing external verification of Scope 3 baseline calculations to ensure credibility and robustness
  - Setting up supplier engagement plans to impart suppliers with relevant GHG emission accounting and reporting information
- 

Assess and enhance current practices and approaches that align to Regenerative Agriculture, including management of our Peatland and other conservation area

IOI has begun having discussions with relevant parties to address some of the recommendations by our stakeholders during the SCF. Among the recommendations, IOI is planning to set up a Steering Committee to make directional decisions on risk management and opportunities particularly on financial aspects related to climate change to pare down our GHG emissions towards achieving Net-Zero by 2040.

## RESILIENT & PROGRESSIVE

### MITIGATION AND ADAPTATION (PLANTATIONS)

#### MANAGEMENT APPROACH

Our approach on climate-related risks mitigation and adaptation emphasises the importance of the 7Rs of circularity (Rethink, Repurpose, Reduce, Reuse, Recycle, Repair, Recover) and the adoption and use of technologies and innovations within the plantation. For example, the 7Rs is practiced when we utilise by-products or optimise secondary raw materials use and reduce wastage from palm oil production that results in GHG emission reduction. Exploration of potential renewable energy is part of our circularity practices to reduce dependency on the non-renewable energy within the operations. Our plantations installed methane capture facilities to repurpose the methane gas captured from the Palm Oil Mill Effluent (“POME”) waste into biogas as alternative greener energy compared to fossil fuels.

We have conducted physical risks analysis on all of our operations and found that most sites are expected to experience moderate heatwave conditions in the near future. We are aware that heatwaves can affect our workforce and ultimately impact productivity at the plantations. One of the ways to handle the matter of high temperature is to introduce flexible working hours. Heatwaves may also exacerbate droughts. To counter this, our plantations had installed water gates and water collection systems as part of our water conservation activities. IOI continuously adopt appropriate technologies and innovations to curb the increasing risks of climate change. Our operations conducted R&D to develop high yielding and climate resilient planting materials to achieve yield improvement. Increased mechanisation has taken place to improve workers’ performance, at the same time, mitigating health hazards, upskilling their capabilities and increasing their income in plantation operations, which have been described in the IOI’s five strategic priorities.

#### OUR PERFORMANCE

##### Mitigation and Adaptation Measures at Plantation

###### Methane Capture

Emissions from POME mill emits methane which has a global warming potential 25 times stronger than carbon dioxide. To curb these methane emissions from POME, our plantations have initiated the installation of methane capture facilities since 2013. To date, IOI has 10 methane capture facilities that can generate around 45 million m<sup>3</sup> of biogas in total, with an additional facility to be commissioned by the end of 2022. The biogas is being utilised as a cleaner fuel source for boiler and power generation through gas engine when compared to fossil fuels used in conventional diesel engines.

Our methane capture facility in Ladang Sabah Palm Oil Mill, for example, can potentially generate up to 3.9 million Nm<sup>3</sup> methane (approximately 7.8 million kWh). However, the methane utilisation at that facility was only around 80% which was still not at full capacity for the financial year due to maintenance issues. The remainder was being flared but we expect the proportion of methane flaring to reduce as the facility’s methane boiler burner resumes operation.

Low utilisation of methane gas was due to delays, in part exacerbated by the pandemic its restriction, in maintenance and construction of gas engines and boiler burners. With most maintenance issues expected to be resolved by the end of FY2022, we expect an increase in biogas utilisation.



One of our methane capture facilities at Ladang Sabah Palm Oil Mill, Sandakan.

**10** methane capture facilities

##### Bio-Fuel Usage in Indonesia

In line with our decarbonisation efforts, IOI is in the process of adopting biodiesel in our estate operations. Though diesel is widely used in heavy vehicles and machinery, its combustion is highly polluting, releasing large quantities of particulate matter which may impair lung function in addition to carbon emissions. The adoption not only aids in our journey towards Net-Zero, it also improves the working environment of workers as replacing diesel with biodiesel would also reduce our workers’ exposure and health risk from diesel exhaust. In FY2022, roughly 1.18 million liters of biodiesel was consumed in our Indonesian estates instead of conventional diesel, resulting in the reduction of approximately 43% GHG emissions compared to using conventional diesel.

## Innovation and Technology

### Bio-technology

In response to anthropogenic climate change, IOI Palm Biotech Sdn. Bhd. and IOI Research Centre are driving R&D on oil palm variants which can better tolerate stressful environmental conditions. R&D are crucial tools for climate adaptation as droughts and floods are expected to intensify. Currently, field trials of oil palm seedlings that can better withstand environmental stresses are underway at IOI Research Centre in Gemenchih. In addition, to adhere to our no deforestation commitment while maintaining financial growth, IOI Palm Biotech Sdn. Bhd. undertakes tissue culture research to produce clonal palms that are resilient to climate change and produce high yield. Since early 2019, our mills receiving FFB from estates with 35 - 53% clonal palm coverage researched by IOI, achieved an oil extraction rate of over 24% which is higher than the national average of 19.72% in 2022.

### Mechanisation

As climate change increases the likelihood of extreme weather (heatwaves, floods, etc.), workers' health and productivity are adversely impacted especially those workers doing labour intensive tasks and are exposed to these weather elements. To adapt to such risks while optimising our operational efficiencies, we have increased the use of mechanisation in our operations. Among the machineries that are currently in use are battery barrow, motorised crawler, battery cutter, mechanical fertiliser spreader and various mechanically-assisted in-field machines.

One such example is the Mainline Fresh Fruit Bunch ("FFB") Evacuation system that has been introduced in 2019. The system managed to reduce labour usage by half which also served as a measure to address labour shortage issues in the long run. By using this system, the number of farm tractors used reduced by 67% while an increase in FFB evacuation efficiency by 113% are observed. This financial year, IOI Plantation transitioned to a 2-tier in-field FFB evacuation system that uses Mini Tractor Grabbers ("MTG"). The efficiency in crop evacuation not only reduces fuel usage and the associated carbon emission, it also improves the OER of our production. We continually review our mechanisation progress and adopt new initiatives to simplify labour intensive tasks. To date, average FFB evacuation efficiency in our Peninsular Malaysia estates increased by 74% as a result of our mechanisation efforts and led to higher income for workers. Moving forward, we aim to implement our mainline FFB evacuation system in about 50% of our estates and explore the option of using drones to apply pesticides. This would further reduce workers' workload and minimise the exposure to climate change effects to our workers.



Research to produce high yielding palm clones are conducted at IOI Palm Biotech Sdn. Bhd. to increase OER.

### Water Management

Water conservation is vital to build resilience against extreme weather brought about by climate change. IOI had installed water gates in vicinity or close to peatlands in our existing plantations to prevent excessive water loss from the peatlands. In addition, as vegetated areas have higher moisture retention potential, IOI delineates riparian areas and buffer zones and rehabilitate or restores them when required to increase moisture retention thereby reducing water usage. An example of such efforts is the RELeaf Project in Sabah (details of the project can be referred in page 49). Cover crops were also planted to increase moisture retention apart from other benefits like reduced soil runoff, increased water infiltration rates and more. As for areas susceptible to flooding, adaptation measures like planting crops on mounds and effective irrigation systems were taken to increase crop tolerance towards excessive water conditions. IOI's performance on water management for FY2022 can be found in page 44.



Mechanical tractors used to transport FFB to mainline collection tractors.

## RESILIENT & PROGRESSIVE

### MITIGATION AND ADAPTATION (RESOURCE-BASED)

#### MANAGEMENT APPROACH

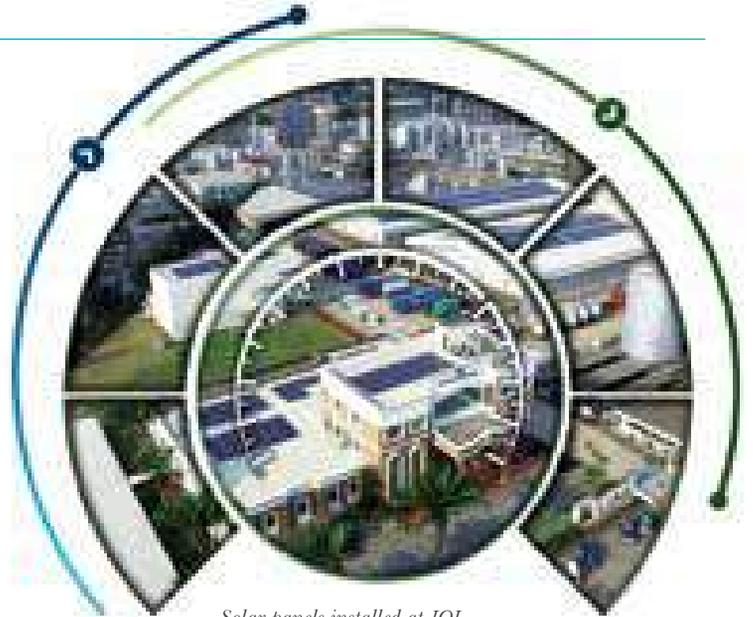
Processing of palm oil can be energy-intensive and thus, it is crucial to explore alternative sources of energy which are more efficient and greener than non-renewable energy. In order to reduce this dependency on non-renewable energy, the operations are actively adopting green energy technologies like solar and heat harvesting panels which are being installed progressively, to meet the energy demand of the operations. To optimise energy consumption, energy-efficient equipment was installed at the facilities. Digitilisation and automation offer the potential to enhance our manufacturing efficiency. Integrating digitilisation and automation to our existing management systems has also improved energy efficiency, accuracy of critical process as well as automation of regular process in the manufacturing operations.

Aside from improving operational efficiency, adaptive water management measures are crucial for the manufacturing business to alleviate impacts of climate change. Further analyses on our physical risk (TCFD) show that some of our operations could experience increasing water stress risk in the coming years. Thus, our operations are constantly exploring appropriate measures to improve water efficiency to minimise negative environmental impacts and increase our resilience towards water stress.

#### OUR PERFORMANCE

IOI Oleo is proactively carrying out efficiency improvement projects via ISO 50001 and making transitions to renewable energy sources depending on the availability of appropriate technology. Our IOI Oleo GmbH plant in Germany has switched completely to green electricity in January 2021. Full adoption of green electricity at the facility has contributed to reducing GHG emissions by up to 7,500 MT annually. The transition of green energy at this facility exerts a positive influence on our manufacturing business and conserving the environment. In July 2021, IOI Oleo GmbH has undergone technical upgrades on the biogas plant which generates methane gas from waste water and aqueous organic solutions. The biogas is utilised for substituting natural gas in operating steam generators which subsequently reduce the GHG emissions and energy costs at the facility.

Over 600 solar panels have been installed at IOI Oleo's buildings (e.g., offices and canteen) and manufacturing plants rooftop. The solar energy system can generate up to 487,000 kW/h per annum while reducing over 300 tCO<sub>2</sub>e emissions annually from the operations. Moving forward, IOI Oleo is planning to expand the solar panels installation on the rooftops of other buildings and facilities (e.g., weighbridge, warehouses and workshops) which will amount to 1074 pieces of solar panels and generate about 804,960 kW/h of solar



*Solar panels installed at IOI Oleochemical, Pasir Gudang, Johor Malaysia.*

energy annually. This project is expected to be completed by the end of 2022 and will potentially reduce GHG emissions by 470.9 tCO<sub>2</sub>e per annum. On top of that, installation of thermal oil heater with air pre-heater system showed a 5% reduction in natural gas consumption for IOI Oleo. Combined Heat and Power ("Cogeneration") systems installed at IOI Oleo also contribute to reducing non-renewable energy usage and resulted in improving power plant efficiency by more than 90%.



*Solar panels installed at the rooftop of office and warehouse.*

IOIEO constantly makes effort to reduce its energy consumption through upgrades to its operational equipment. The compressed air system of Palm Kernel Dry Fractionation has been divided into two pressure systems (i.e., low (4.5 bar) and high (7.0 bar) pressure) to optimise operational efficiency in producing palm kernel olein. IOIEO Sandakan has upgraded its cooling system to have higher efficiency, a more compact in size with lower operation costs. The blowing time of reactor tanks and CPO washing process were also improved by 33% and 63% respectively to reduce electricity consumption. The operation at Sandakan also opted for cleaner energy usage at boilers by substituting diesel fuel with Liquefied Natural Gas ("LNG") and biomass waste (e.g., EFB fibres and palm kernel shells) as measure to reduce dependency on non-renewable fuels.

This year, a new thermal insulation system was also installed at our storage tanks in IOIEO Sandakan to reduce heat loss and thus, reduce energy consumption. For example, for a tank storing palm products that required heating prior to shipment or transfer such as refined palm stearin, we observed an average rate drop of 3.4°C/day after it is being heated up. The installation of 50mm, 100kg/m<sup>3</sup> insulation resulted in an average temperature drop per day of 0.9°C. Total steam savings is estimated at 6.81 MT/day which is equivalent to RM1,090 daily expense saved.

The adoption of digitisation and automation can contribute to the improvement of operational efficiency and consistency for the manufacturing business. For IOI Oleo, the implementation plan of the Realtime Prod Organiser Operation Management (“RPO-OM”) which worked together with the Energy Management System could assist to monitor and optimise energy usage at the operation. For IOIEO Sandakan, the Kernel Crushing Plant (“KCP”) plants are currently equipped with analogue equipment without any sensors and automations. Implementation of Industry 4.0 can help transition KCP into a digitalised plant through the use of the latest technologies such as LiDAR sensor, vibration sensor, power smart meter and in-house customised system that are equipped with Artificial Intelligence (“AI”) through MyPalm system. This project is currently at the installation stage with the aim to not only optimise electricity usage but to improve yield as well when the project is completed in 2022.

Water is an essential ingredient for palm oil processing. Thus, extreme events such as prolonged drought creates water stress and negatively impact to our operations. To alleviate this impact, mitigation measure such as use of recycled water and rainwater have been initiated at the operation. For example, IOI Oleo had installed reverse osmosis (“RO”) reject water recycling system to reduce the withdrawal of fresh water. The recycled water is used for general purposes and cooling towers. To further reduce freshwater withdrawal, IOI Oleo had also installed rainwater harvesting system and extended its effort to recycle water discharged from its effluent treatment plants for usage at the cooling towers.



*Rain harvesting system at IOI Oleochemical, Prai, Pulau Pinang, Malaysia.*

For IOIEO Sandakan who experienced several rounds of water disruptions or freshwater shortages especially during long periods of drought, the measures taken to mitigate these shortages were to construct water catchment ponds and rainwater harvesting system. This year, IOIEO has installed two rainwater harvesting systems to further reduce its dependency on freshwater withdrawal. The operation also installed RO reject water recycle system and used the treated water in cooling towers and for cleaning activities. Moving forward, IOIEO Sandakan is also implementing Industry 4.0 at the KCP to optimise consumption and reduce wastage of water through MyPalm system. The system is targeted to be completed by end of 2022.

*Side view of IOI Edible Oil, Sandakan, Sabah, Malaysia.*



## RESILIENT & PROGRESSIVE

### RESPONSIBLE SOURCING AND SUPPLY CHAIN MANAGEMENT

#### MANAGEMENT APPROACH

**Responsible sourcing** is one of the top materiality matters identified for IOI. It is a key priority for us to ensure that our products are produced in a sustainable manner and to deliver the produced goods to our customers in adherence to all our commitments stated in the Group Sustainable Palm Oil Policy (“SPOP”). In addition, all suppliers within our supply chain are also required to adhere and commit to our SPOP and Responsible Sourcing Guidelines (“RSG”).

Another key material matter identified for IOI is **Supply Chain Management**. This year, the role of supply chain management would be even more vital. Specifically, we will not only be tracing and identifying our supplier’s sustainability compliance and performances in adherence to our SPOP but we will also be tracking their GHG emissions. As has been our approach, suppliers that are not in compliance with our SPOP will be required to undertake corrective actions in accordance with a specific time bound action plans, failing which, IOI will re-consider our commercial relationship with the suppliers.

#### OUR PERFORMANCE

##### Responsible Sourcing

IOI continues to engage with our suppliers to improve their sustainability practices through various awareness programmes and initiatives. This year, with the easing of Covid-19 pandemic restrictions, we have resumed with some limited physical engagement as well as through virtual events with our suppliers to increase awareness in workers’ and children’s right.

On Feb 2022, IOI partnered with Earthworm Foundation (“EF”) to undertake a pilot project at Bukit Senorang estate and mill, Pahang. This project is about capacity building regarding workers’ right and avoidance of human rights violations in their operations by using EF’s Ethical Recruitment & Human Rights Due Diligence Tool (“ERDD”). Output from this pilot project will be referenced for engagements with our suppliers to improve migrant recruitment practices.

IOI also collaborated with EF regarding environmental and social risks within our suppliers. In one of the engagement programmes, IOI partnered with EF to share with our suppliers a three-step process to develop interventions for children living in plantations. The steps included ways to turn policies into actions, how to conduct child-risk assessments and to develop a child-sensitive remediation mechanism.



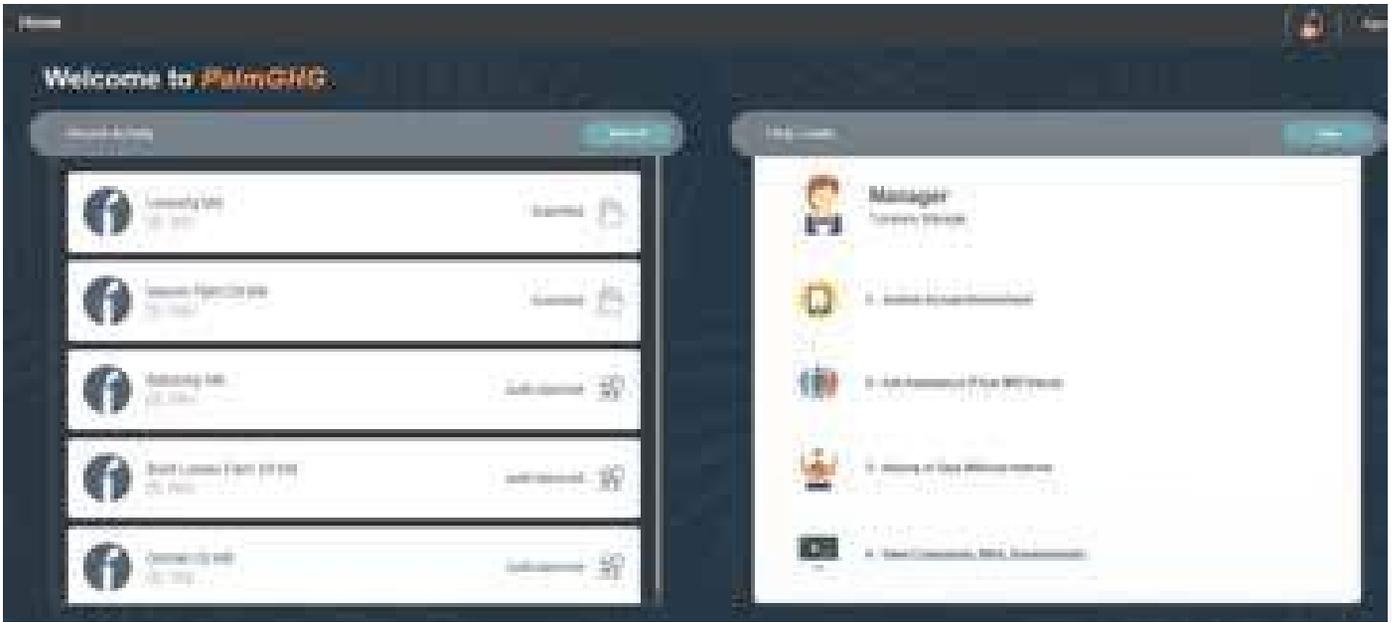
This year, IOI joined as a member of the Pharmaceutical Supply Chain Initiative (“PSCI”) to build a responsible supply chain for our pharmaceutical products. The PSCI’s Principles addresses five key areas of responsible business practices as follow: ethics, human rights & labour, health & safety, environment, and related management systems.

##### Supply Chain Management

###### **Traceability**

On March 2022, IOI in corporation with EF and Meridian Plantations Sdn. Bhd. organised an engagement event to enhance traceability and increase sustainability awareness within our supply base in Sabah. During the event, representatives from Malaysian Palm Oil Board (“MPOB”) and EF gave talks to smallholders on sustainability best practices. During the talk, MPOB stressed the importance of Oil Palm plantations and its processing facilities to comply with the new MSPO 2022 standards to ensure their traceability and the legality of their FFB sold and processed.

As of December 2021, palm oil sourced by IOI is fully traceable (i.e., 100%) to the supplying mill and 83% traceable to the plantation. Similarly, palm kernel oil (“PKO”) sourced by our company is also 100% traceable to the mills and around 71% of the PKO traceable to the plantation. Most of the palm oil and PKO we sourced are RSPO certified with 59% for palm oil and 67% of PKO.



Palm GHG calculator at RSPO website.

**Scope 3 Emissions**

For the Plantation Division, emissions from Scope 3 accounts for less than 5% of IOI’s total Plantation emissions. Also, based on available information, the most significant source of Scope 3 emissions is from Category 1 - Purchased goods and services, specifically the purchase of agrochemicals. Furthermore, for the plantation operations, the Scope 3 emissions has been taken into consideration under the PalmGHG calculation.

With our commitment to Net-Zero in place, IOI is extending our GHG emissions reporting to include Scope 3 emissions from our resource-based manufacturing supply chains this year. The current Scope 3 emissions are calculated using average-data method and spend-based method based on GHG Protocol, depending on the relevant categories and data availability.

Scope 3 emissions for our resourced-based divisions (Refineries and Oleochemicals) have been consistent over the past 3 years due to no significant changes to our supply chain. Scope 3 intensity of our manufacturing operations is as follow:

Operating Group	2019	2020	2021
Refinery Intensity (tCO <sub>2</sub> e/MT Product)	3.00	3.03	3.13
Oleochemical Intensity (tCO <sub>2</sub> e/MT Product)	5.31	4.62	5.54

IOI Edible Oils, Sandakan, Sabah Malaysia.



One of our Methane Capture facilities.

Just as in the Plantation Division, the main contributing category for the Scope 3 emissions for both the Refinery and Oleochemicals divisions is from Category 1, specifically the purchase of PO, PKO, & their corresponding processed products, which makes up around 99% and 96% of Scope 3 emissions for IOI Refineries and IOI Oleochemicals, respectively.

This highlights how crucial it is for IOI to have a strong supply chain management framework, especially in terms of traceability and supplier engagement if we are to effectively manage and reduce our Scope 3 emissions.

