

# UPHOLDING OUR COMMITMENT TO ASSURANCE



**As one of the largest players in the palm oil industry, we believe that the best strategy to ensure our continued success is to be the leading sustainable and responsible company.**

### VISION

To be the world's preferred supply chain partner for vegetable oils and derivatives.

### MISSION

Driven by a passion for excellence and commitment to continuous improvement, we strive to be the leader in the palm oil industry, producing all our palm products in an economically viable, socially responsible and environmentally appropriate manner, in full compliance with all relevant legal requirements.



**PILLAR 2:  
DELIVER POSITIVE  
ENVIRONMENTAL  
IMPACTS**



**PILLAR 4:  
DRIVE INNOVATION  
IN SUSTAINABLE  
PRACTICES**



**PILLAR 1:  
IMPROVE THE LIVES  
OF SMALLHOLDERS,  
WORKERS,  
AND  
COMMUNITIES**



**PILLAR 3:  
BUILD RELATIONSHIPS  
WITH SUPPLIERS,  
CUSTOMERS AND  
STAKEHOLDERS**

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# ABOUT THIS REPORT

GRI 102-15, 102-46-52, 102-54-56

This is the fourth Musim Mas Group ('Musim Mas' or the 'Group') report, which updates the Group's sustainability performance for the 2020 calendar year. It has been prepared with reference to the **Global Reporting Initiative (GRI) Standards: Core option**. GRI disclosures are included throughout the report and referenced under headings or sub-headings as *GRI XXX-XX*. The full GRI Content Index can be found on our [website](#). The report is structurally aligned with our updated Sustainability Policy (September 2020-2025) and is designed to be read in conjunction with the sustainability-related disclosures on our [website](#). This report also introduces our contributions to the United Nations' Sustainable Development Goals (SDGs) following a mapping and prioritization exercise conducted in Q1 2021.

## REPORT SCOPE AND BOUNDARIES

GRI 102-46, 102-49-50

This report covers Musim Mas-owned upstream operations, namely our plantations and mills in Sumatra and Kalimantan, including our newest mill commissioned in November 2020. Except for traceability and supply chain data at the refinery level, the report does not cover our downstream business or joint ventures. While we have received rights to develop plantations in Papua, there have been no land-right acquisition, land-clearing or other operational activities in the areas allocated to us, and we have therefore excluded them from the scope of this report.

Unless otherwise stated, performance data is from 1 January to 31 December 2020 and includes historical data where relevant and available. Given the timing of this report, we have also incorporated significant 2021 milestones. Roundtable on Sustainable Palm Oil (RSPO) and Indonesian Sustainable Palm Oil (ISPO) certification data have also been provided as of June and August 2021, respectively. Our 2016-2020 performance data is available on our [website](#).

## MATERIALITY

GRI 102-15, 102-21, 102-47

Our reporting covers the topics most material to our business and stakeholders. For this report, we have aligned key material topics with the four pillars of our 2020 Sustainability Policy.

### Materiality matrix



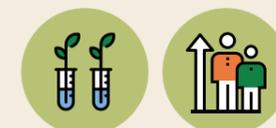
#### Corresponding policy pillar:

- Improve the Lives of Smallholders, Workers, and Communities
- Deliver Positive Environmental Impacts
- Maintain Responsible and Enduring Relationships with Suppliers, Customers, and Stakeholders
- Drive Innovation in Sustainable Practices

### Changes to material topics since our last report

GRI 102-49

#### Inclusion in material matters



- Innovation & R&D
- Employee development and talent retention

#### Increased in importance



- Pesticide and chemicals management
- Water management
- Anti-corruption and governance

#### Merged Indicators



- 'Conservation and management of HCS and HCV' now includes 'Peatlands'
- 'Labour rights' covers the previous 'Living wage' indicator
- 'Carbon GHG emissions' covers the previous 'Energy consumption' indicator
- 'Government engagement' now includes specific mention of 'landscapes' to cover our dedicated landscape initiatives

#### Updated/renamed Indicators



- Water usage > **Water management**
- Grievances > **Complaints and grievance resolution**
- Pesticides and chemicals > **Pesticide and chemical management**

## STAKEHOLDER INCLUSIVENESS

GRI 102-15, 102-21, 102-25

To ensure that we are responsive to themes and aspects important to all stakeholders, we have carried out stakeholder consultations with our customer base, implementation and program partners, and financial institutions. We also engaged our operational teams at the local and site levels. We are guided by international and sector-wide platforms and refer to leading benchmarks, such as the [Zoological Society of London's Sustainability Policy Transparency Toolkit \(ZSL SPOTT\)](#), [Carbon Disclosure Project \(CDP\)](#), [EcoVadis](#) and [Forest 500](#). To support our SDG mapping and prioritization exercise, we have referred to stakeholder consultations carried out for this and previous reports.

## SUSTAINABILITY CONTEXT

GRI 102-15

Throughout the report, we have sought to provide an appropriate context for our performance, particularly on its impact on the unique social and environmental landscapes in Sumatra and Kalimantan.

## STAKEHOLDER REVIEW

We engaged our technical consultants from the Consortium of Resource Experts (CORE) and Earthqualizer, as well as peers from the Livelihoods Funds for Family Farming (L3F) program, to review supply chain-related disclosures in this report. The scope of these reviews covered materiality, responsiveness to stakeholder concerns, and sustainability issues. It also included feedback on improvements.

## ASSURANCE

GRI 102-56

All information on our material topics is reviewed by our certification bodies, including our RSPO auditors, who have verified the related data published in this report. Furthermore, the calculations of our GHG emissions submitted to RSPO have been independently verified by external auditors. This year, we also contracted Ernst & Young LLP (EY) to provide limited independent assurance on selected disclosures in this report.

» [Independent assurance statement](#)

## 2020 SUMMARY PROGRESS

GRI 103-3



### PILLAR 1:

## IMPROVE THE LIVES OF SMALLHOLDERS, WORKERS, AND COMMUNITIES

### PRIMARY SDGs TO WHICH WE CONTRIBUTE:



#### 2020 highlights, unless otherwise stated

<b>90% of workers unionized</b> , up from <b>82%</b> in 2019	In addition to minimum wage, employees receive in-kind benefits amounting to <b>≥90% of minimum wage</b>	<b>56% decrease</b> in lost time accident rate (frequency rate) since 2016 and <b>52% decrease</b> in severity rate since 2018	<b>Ongoing donations and support</b> to communities during COVID-19 pandemic
<b>100%</b> of scheme smallholders covered by 2 programs: <b>Kredit Koperasi Primer Anggota (KKPA)</b> and <b>Village Development Program (VDP)</b>	<b>&gt;32,000</b> independent smallholders <sup>#</sup> covered by Musim Mas programs	CSR contributions of <b>IDR 22 billion</b> – <b>57%</b> allocated to schools	<b>14,439 houses</b> provided with access to basic amenities (e.g., safe drinking water, electricity, mosques/religious centers)
<b>5,785 ha</b> of scheme smallholders <b>RSPO-certified (88%)</b> as of June 2021	Over <b>2,000</b> independent smallholders <b>RSPO-certified with Musim Mas assistance</b>	Scholarships awarded to <b>69 students</b>	<b>7,873 hectares</b> of infrastructure area
<b>123,897 MT FFB</b> produced by scheme smallholders, a <b>14% increase from 2019</b> and a <b>41.5% increase from 2016</b>	New Livelihoods Fund for Family Farming (L3F): <b>10-year project for 2,500 smallholders</b> in Sumatra	<b>20 schools and 49 childcare centers</b> built/funded by Musim Mas	<b>35.6 hectares of land</b> set aside for employee food gardens
<b>New digital finance learning platform</b> for smallholders: AgriON	<b>98.6% of school-age children</b> living at plantations enrolled in school	<b>26 clinics</b> with free healthcare for workers and local communities	

Target	Target year	Progress in 2020, unless otherwise stated	Status
Zero fatalities	Ongoing	We regret to report seven fatalities in 2020	Not achieved
Maintain Smallholder Hubs in key landscapes to support third-party extension services for independent smallholders	2020	3 Smallholder Hubs set up at: Aceh Tamiang (Oct 2020) Aceh Singkil (Feb 2021) Dayun, Riau (Feb 2021) (small-scale hub)	Partially achieved

# EY has performed limited assurance procedures on these figures



### PILLAR 2:

## DELIVER POSITIVE ENVIRONMENTAL IMPACTS

### PRIMARY SDGs TO WHICH WE CONTRIBUTE:



#### 2020 highlights, unless otherwise stated

<b>28,210 ha</b> set aside for conservation, 14% of total titled land (~1/3 the size of Singapore)	<b>HCV/HCS assessments</b> conducted for 100% of own plantations	<b>Biodiversity and encroachment monitoring</b> covered for 100% of Musim Mas plantations	<b>144 fire trainings</b> conducted in 2020 <b>75 villages</b> under FFVP, covering 468,569 ha <b>32 villages</b> rewarded for remaining fire-free
<b>544,220 MT CO<sub>2</sub>e</b> avoided from 15 <sup>#</sup> methane capture facilities	<b>31,987,614 kWh</b> of electricity generated from methane exported to national grid	More than <b>5,000,000 GJ of energy</b> generated from PKS and palm fiber	<b>100%</b> zero-waste mills

Target	Target year	Progress in 2020, unless otherwise stated	Status
Collaborate with SEARRP to review and improve biodiversity monitoring methodology	2021	Partnership agreement in progress	On track
Reduce mill water usage intensity to below 1.2 m <sup>3</sup> /MT FFB	2021	We achieved water usage intensity of 1.17 m <sup>3</sup> /MT FFB <sup>#2</sup> , a reduction of 4.9% from 2019	Achieved ahead of schedule <b>New target:</b> Maintain water usage intensity below 1.2m <sup>3</sup> /MT FFB y-o-y
Phase out ten pesticides	2021	Successfully phased out 6 of the 10 pesticides since 2018, including Cypermethrin and Mancozeb in 2020	On track
Equip 17 of 18 mills with methane capture facilities	Target revised to 2022	15 <sup>#</sup> methane captures operational; no new methane captures commissioned in 2020	On track
Reduce GHG emission intensity by 55% for RSPO-certified mills against 2006 baseline	2025	Increase in GHG emission intensity of 13.2% <sup>#</sup> from 2019, however overall reduction in emission intensity of 47% against 2006 baseline	On track
Achieve 66% traceability to place of production <sup>1</sup> :	2020	Achieved 83% overall traceability to plantation, up from 60% in 2019	Achieved, surpassing Roadmap target. <b>Next target:</b> 100% by 2025
Achieve 100% of CPO traceable to the Group's plantations		Achieved 100%, up from 96% in 2019	Achieved
Achieve 100% of CPO traceable to the Group's supply base of independent smallholders		Achieved 100%, up from 85% in 2019	Achieved
Achieve 80% of CPO traceable to supplier groups' plantations, including 45% of CPO traceable to suppliers' independent smallholders using risk-based traceability		Achieved 80%, up from 58% in 2019	Achieved <b>Next target:</b> 100% by 2025

<sup>1</sup> Traceability to place of production means traceability to where FFB is produced, i.e., a company's plantation/concession or a smallholder's plot of land.<sup>2</sup> The water usage intensity refers to RSPO-certified mills.

# EY has performed limited assurance procedures on these figures



**PILLAR 3:**  
**BUILD RELATIONSHIPS WITH SUPPLIERS, CUSTOMERS AND STAKEHOLDERS**

**PRIMARY SDGS TO WHICH WE CONTRIBUTE:**



2020 highlights, unless otherwise stated

- Received **PROPER Green Awards in 8 categories** for palm oil companies
- SPOTT** ZSL SPOTT: **85.7% Score**; Ranked **6th out of 96** palm oil companies in 2020 assessment
- Green Tigers: Score of 79; Ranked 3rd out of 23** palm oil companies
- EcoVadis: Awarded Bronze Medal**
- Continued **partnerships and collaborations**
- Published **2021 NDP Risk Management Framework**
- Published and verified **NDPE IRF profile**
- Monitored **over 5.2 million hectares<sup>#</sup>** of suppliers' concessions for fire and hotspots<sup>3</sup>
- Began **developing new tools** to assess human and labour rights in supply chains in 2021
- Launched 5-year landscape **Aceh Strategy** in September 2020

Target	Target year	Progress in 2020, unless otherwise stated	Status
100% of new suppliers committed to NDPE	Ongoing	All new suppliers submitted commitments to NDPE	Achieved
Actively monitor for deforestation and peat development for 90% of suppliers	2020	Musim Mas is actively monitoring 100% of its suppliers' concessions	Achieved, surpassing target Next target: achieve 100%, inclusive of independent mills <sup>4</sup>
Conduct workshops on NDPE for 80% of supplying mills	2020	Workshops conducted for 76% of supplying mills, up from 51% in 2019	Not achieved, but progress made. Next target: 100% by 2025
Receive commitment from 90% of supplying mills to abide by NDPE principles	2020	Received commitment from 97% of supplying mills <sup>#</sup> , up from 80% in 2019.	Achieved, surpassing target Ahead of target to achieve 100% by 2025
Ensure 70% of suppliers have completed the Musim Mas Self-Assessment Tool (SAT)	2020	60% of suppliers <sup>#</sup> have completed the SAT, up from 24% in 2019	Not achieved, but progress made Next target: 100% by 2025
Develop system to report risk levels of suppliers for all sourcing areas	2021	Currently developing a consolidated reporting system in line with 2021 NDP Risk Framework for the Aceh province	On track

Note: Our NDPE Roadmap, which was launched in September 2019, will be reviewed and updated in 2021. Please refer to our [website](#) for the latest version.

<sup>3</sup> The figure and scope of monitoring has been restated.  
<sup>4</sup> Independent mills are mills under Musim Mas' control that source from independent smallholders instead of Musim Mas plantations.  
<sup>#</sup> EY has performed limited assurance procedures on these figures



**PILLAR 4:**  
**DRIVE INNOVATION IN SUSTAINABLE PRACTICES**

**PRIMARY SDGS TO WHICH WE CONTRIBUTE:**



2020 highlights, unless otherwise stated

- Musim Mas' **CPO yield 1.8 times higher than the global average** in 2020
- Worked with **Satelligence to conduct baseline land-use analysis study** using advanced imaging to detect planted and forested areas



**CROSS-CUTTING PILLARS:**  
**SUSTAINABILITY CERTIFICATION**

**PRIMARY SDGS TO WHICH WE CONTRIBUTE:**



Other sustainability highlights and targets

2020 highlights, unless otherwise stated

- 100% mills with plantations RSPO-certified** (as of June 2021)
- 152,547 ha RSPO-certified**, including scheme smallholders' land (as of June 2021)
- 11 out of 17 PTs are ISPO-certified** (65%) (as of August 2021)
- 13 out of RSPO 15 mills POIG verified** (87%)
- Updated Sustainability Policy 2020-2025** (launched in September 2020)
- Aligned **Musim Mas objectives with SDG goals** and targets

Target	Target year	Progress in 2020, unless otherwise stated	Status
Complete certification for remaining certifiable mill, PT Sarana Esa Cita	2021	Certified in June 2021	Achieved

## CHAIRMAN STATEMENT

### DEAR FRIENDS, COLLEAGUES, AND PARTNERS,

I am pleased to introduce the 2020 Musim Mas Sustainability Report, a comprehensive, detailed, and transparent overview of our business and ongoing sustainability efforts. This document outlines our performance, challenges, and ambitions in producing responsible palm oil.

The recent United Nations Intergovernmental Panel on Climate Change (IPCC) report is sobering. It highlights the urgent need to further cut emissions to prevent a catastrophic increase in average global temperatures. Since 2006, we have been unwavering in our efforts to reduce emissions at our operations. In 2020, our emission intensity was 47% less than our 2006 baseline, and we are well on track to achieve our 2025 target of a 55% reduction. We still have some ways to go, but we are moving in the right direction.

At Musim Mas, we continuously review and refine our sustainability commitments to meet global and local challenges. In 2020, we published our updated Musim Mas 2020-2025 Sustainability Policy. It incorporated learnings from the last six years of responsible palm oil production and adapted its provisions to the changing realities across our supply chains. Our updated Policy is not claiming to be revolutionary, but it is evolutionary. We have strengthened, expanded, and clarified our core commitments to better support our sustainability efforts.

The first and most fundamental pillar of our Policy is livelihoods. Better sustainability and better livelihoods support one another. Musim Mas firmly believes in a supply chain that is both sustainable and profitable for all producers, including smallholders who are planting palm to ensure their livelihoods and build better lives for themselves, their families, and their communities. In 2020 and early 2021, we launched three Smallholder Hubs in Aceh Tamiang, Aceh Singkil, and Dayun. In 2020, we also assessed the impact of our social programs on communities and smallholders at one of our operations in Riau. This assessment helped us better understand and improve the positive effect we are having on communities. Finally, we are embarking on the new Livelihoods Fund for Family Farmers (L3F) program, a ten-year project impacting 2,500 smallholders in Sumatra. Our next move is to engage in a decade of assurance to better measure our overall impact on smallholders.

In 2020, Musim Mas published our five-year Aceh Strategy, a holistic, structured, and measurable approach to engaging various stakeholders in transforming the landscape. While the Indonesian province of Aceh is a small sourcing area for us, it is a fragile and biodiverse ecosystem home to critically endangered species, including orangutans, tigers, and elephants. Our Aceh strategy establishes Musim Mas as a leader in the region's multi-pronged and multi-stakeholder sustainability efforts aimed at preserving the landscape for future generations. It is also an opportunity to develop and deploy new tools and methodologies, assess their impacts, and eventually deploy them in other regions. This strategy is a long-term investment beyond our supply chain and establishes a vision that will allow us to have an impact at scale.

Looking forward, we have aligned our objectives with the United Nations' SDGs in 2021 and are taking concrete steps to contribute to their achievement. We ask our employees and peers to look beyond our daily operations, think in the long term, and ponder the lasting impact of our actions. We must also shift our attention from today's palm oil supply chain and adapt our thinking and practices to what a responsible supply chain will look like in a few years.

Changing markets and evolving legislative frameworks require rigorous proof of our sustainability achievements. We must therefore certify and verify progress and claims towards meeting our sustainability commitments.

Certifications are an excellent way to demonstrate Musim Mas' progress to every actor along the supply chain. Certifications assure our customers and consumers that we honor our sustainability commitments and add value to the products that end up in consumers' hands. The leading certifying bodies in the palm oil sector are the RSPO and Palm Oil Innovation Group (POIG). National certification schemes, including ISPO and Malaysian Sustainable Palm Oil (MSPO), are also gaining prominence in our sector. Each of these certification schemes contributes to assuring our stakeholders that we are delivering on our sustainability commitments.

However, certifications alone do not cover all aspects of sustainability. We must do more to develop improved metrics and reporting practices, encourage stakeholder collaboration, co-develop and implement better and stronger regulations, and bolster investment incentives. Musim Mas also recognizes the urgent need to make progress against our sustainability commitments across our entire supply chain. In 2020, we achieved 100% traceability of CPO to the Group's supply base of independent smallholders. Overall, we have achieved 83% traceability to place of production (or traceability to plantation, TPP) and are on track to meet our target of 100% traceability by 2025. We are also making progress on how we manage supply chain risks. In 2021, we published our No Deforestation and No Peat (NDP) Risk Management Framework and are sharing our NDPE Implementation Reporting Framework (IRF) profiles, showing that 76% of volumes sourced in 2020 met our No Deforestation commitments, and 58% met our No Peat commitments. We continue to remotely monitor all our suppliers' concessions for deforestation and peat development.

This year, we also engaged a third-party auditor to verify our sustainability claims and assure Musim Mas and our partners that we are making progress on our sustainability commitments across our entire supply chain. We are pleased to report that 97%# of our suppliers have made NDPE commitments, the result of regular engagement through our NDPE workshops, direct contact, and progress monitoring by a dedicated team. This is a key area of progress made against our 2019 Musim Mas NDPE Roadmap.



This year, we are also reaffirming our commitment to No Exploitation through our partnership with labour non-profit, Verité. We continue to play active roles in the Palm Oil Collaboration Group (POCG), POIG, RSPO and the High Carbon Stock Approach (HCSA), among other initiatives. Most importantly, we continue to pursue government engagement and peer collaboration through Aceh, Riau, South Sumatra, and West Kalimantan landscape initiatives with partners such as Earthqualizer, CORE and IDH.

Through these efforts, we hope to demonstrate that certification and verification instill trust and inspire our partners, stakeholders, and other industry actors to embrace our vision for a responsible palm oil supply base.

Musim Mas continued to pursue our NDPE commitments despite COVID-19. At the time of publication, the world continues to grapple with the realities of the pandemic. While we experienced only minor disruptions to our operations and supply chains in Indonesia, we have had to scale back some of our sustainability efforts in the field following government regulations. The varying degrees of lockdown have impacted our face-to-face outreach, especially to smallholders and also suppliers. Nevertheless, we commissioned our 18<sup>th</sup> Indonesian mill in 2020, which achieved RSPO certification in 2021.

At Musim Mas, we have adopted flexible working conditions at our operations, work-from-home arrangements for our office staff globally, and stringent health and safety measures at all our facilities. Our workers have been vigilant throughout the crisis and have kept outbreaks to a minimum. We are working with government authorities to vaccinate our workers, their families, and members of surrounding communities. Musim Mas continues to monitor the situation across our international locations to ensure that our people remain safe.

Looking back at our 2020 achievements, I am inspired by everything we have accomplished through collaboration. Our people and partners have helped Musim Mas weather the pandemic while pursuing a leadership role in building a responsible and sustainable palm oil industry. Thank you for being supportive in these trying times.

I wish you good health, safety, and prosperity.

*Bachtiar Karim*

**BACHTIAR KARIM**

Executive Chairman and CEO, Musim Mas Group

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# ABOUT MUSIM MAS

GRI 102-1-10

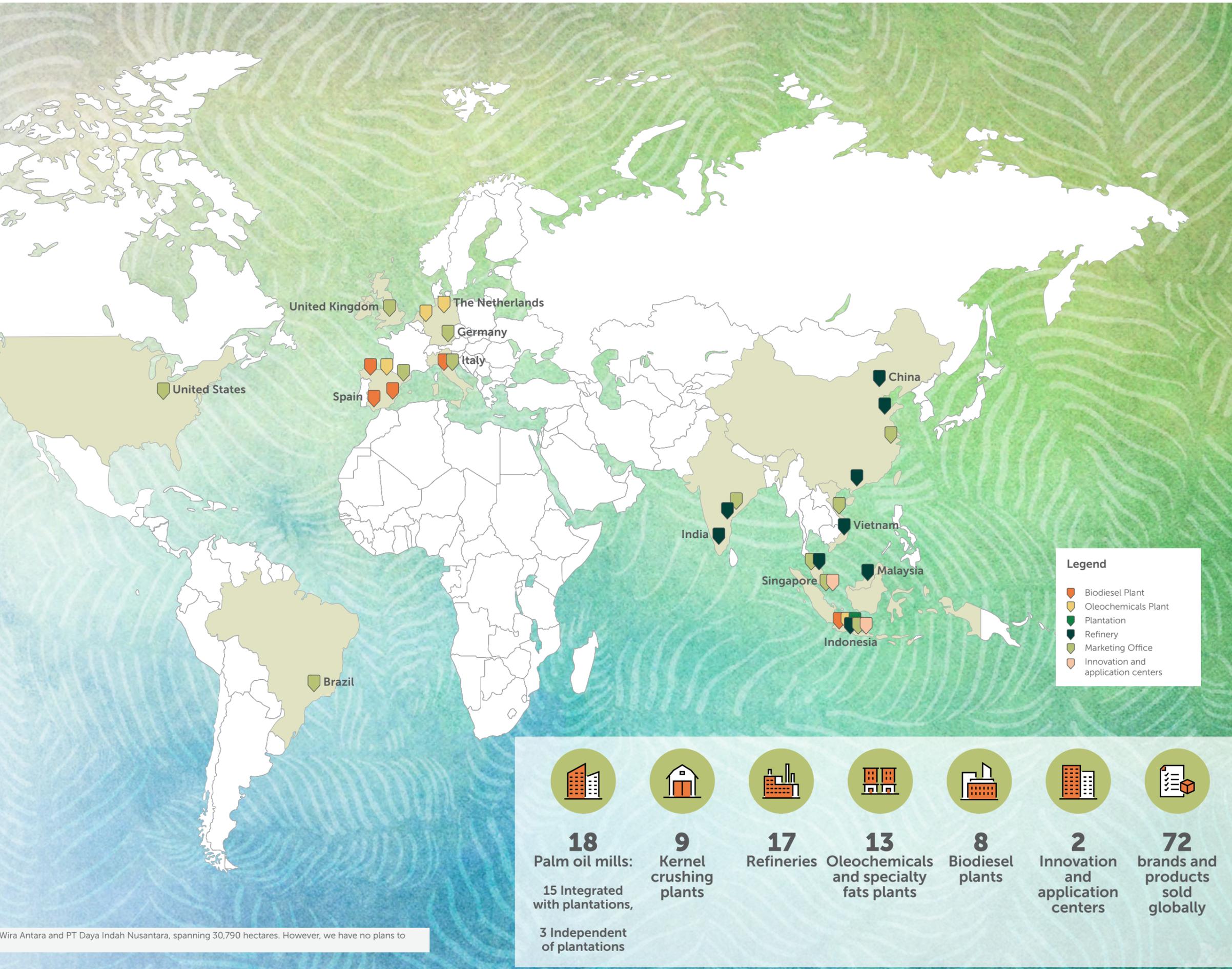
Musim Mas Group ('Musim Mas' or the 'Group') is a private limited company headquartered in Singapore. We operate across every link in the palm oil supply chain from plantation management to milling, refining, and manufacturing across 13 countries in Asia-Pacific and Europe through an integrated business model. Our operations are supported by an extensive fleet of storage tankers, tugboats, and other vessels, enhancing our reach and logistical capabilities. The Group also manages Inter-Continental Oils and Fats (ICOF), our global marketing division based in Singapore, and employs 36,563 people worldwide.

- » Musim Mas' integrated business
- » Musim Mas brands and products

## MUSIM MAS GROUP: GLOBAL AND OPERATIONAL PRESENCE

Musim Mas manages 199,154 hectares of plantations in Sumatra and Kalimantan, our main operational base<sup>5</sup>, including 123,591 hectares of planted area. We also operate 18 palm oil mills. Our newest mill, PT Lestari Abadi Perkasa, was commissioned in November 2020. Of these mills, 15 source fresh fruit bunches (FFB) from their own plantations, while the remaining three mills process FFB from independent smallholders. Our production plants are strategically located across Asia and Europe, and all operations are supported by research and development (R&D) centers based in Singapore and Indonesia.

- » Global presence



**Legend**

- Biodiesel Plant
- Oleochemicals Plant
- Plantation
- Refinery
- Marketing Office
- Innovation and application centers

<b>18</b> Palm oil mills: 15 Integrated with plantations, 3 Independent of plantations	<b>9</b> Kernel crushing plants	<b>17</b> Refineries	<b>13</b> Oleochemicals and specialty fats plants	<b>8</b> Biodiesel plants	<b>2</b> Innovation and application centers	<b>72</b> brands and products sold globally

<sup>5</sup> We also own two concessions in Papua, PT Wira Antara and PT Daya Indah Nusantara, spanning 30,790 hectares. However, we have no plans to develop the land within these areas.

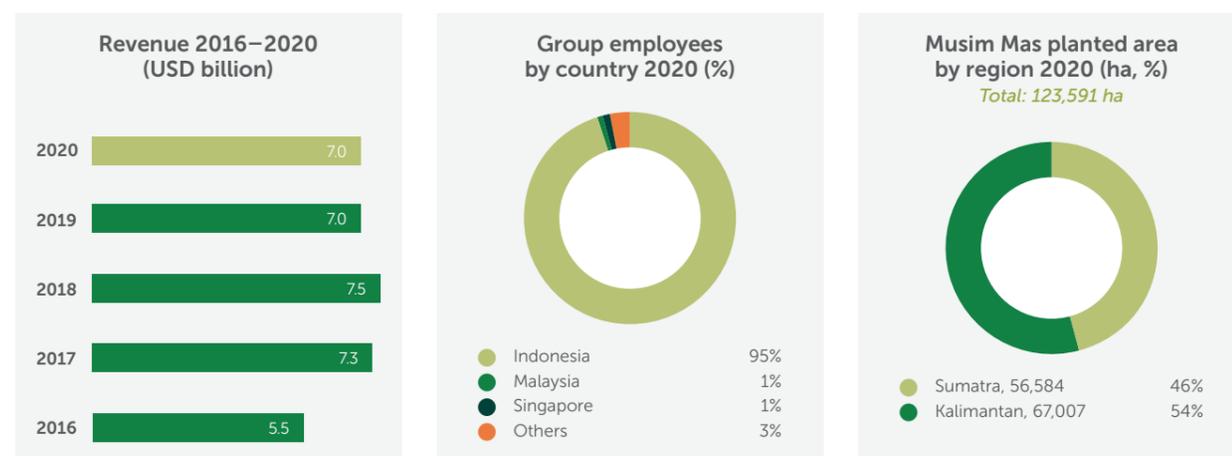
## 2020 BUSINESS IN BRIEF

GRI 201-1

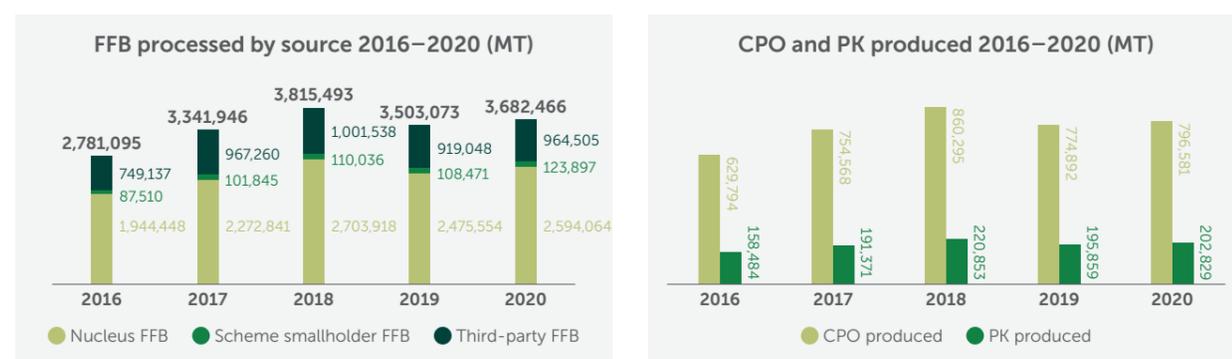
In 2020, our mills processed 3.68 million tonnes of FFB, 5.1% more than the previous year. Of our total FFB, 73.8% originates from our own and scheme smallholder plantations, while the remaining 26.2% is purchased from third parties. We saw a slight increase in yield in 2020, from 22.8 to 23.7 tonnes per hectare (4%). Our mills produced 796,581 tonnes of crude palm oil (CPO) and 202,829 tonnes of palm kernel (PK) in 2020, a 3% increase in combined production from 2019.

Despite the financial and economic disruptions created by the COVID-19 pandemic, we continued to operate at our usual capacity. As a result, our 2020 revenues matched our 2019 revenues of USD 7 billion.

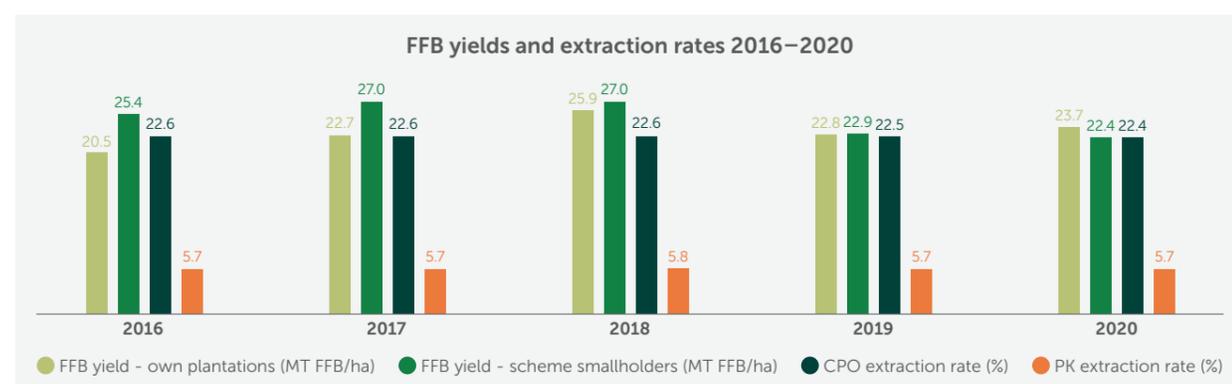
### Financial highlights and scale of operations



### Productivity and yield



Note: Volume of FFB processed in 2019 has been restated.



## STAYING RESILIENT IN 2020

In light of the challenges of the global pandemic, we are pleased to report only minor disruptions to our operations and supply chains in Indonesia. There have been a few outbreaks at our plantations, but our workforce has been vigilant in containing the spread of COVID-19 while maintaining normal operations and delivering quality work.

Like many other companies, we have had to find new ways to work safely and effectively during the pandemic.

Musim Mas has adopted flexible work schedules and work rotations to keep our major operational sites open and help us plan for worst-case scenarios. In addition, all Group entities worldwide share operations' lessons and implement best practices in line with government regulations. The pandemic has also pushed us to adopt a culture of working from home, which has proven transformative. Whereas remote work was rare for us two years ago, we have found that productivity at Musim Mas headquarters and offices has remained at the same level as when our people were working on site. We were able to roll out our 2020 Sustainability Policy and our five-year No Deforestation, No Peat, and No Exploitation (NDPE) strategy for Aceh, showing our continued commitments to sustainability, even in these unprecedented times.

Due to the remote location of our operations, we are mindful that available medical care must be sufficient to curb any outbreaks. Our focus in 2021 is to support the Indonesian government's vaccination program by ensuring all employees and surrounding community members can be inoculated. We are continuing to stay abreast of the situation as it evolves.

- » [Musim Mas COVID-19 response and updates](#)
- » [See Health and Safety section](#)

### Supporting communities during COVID

GRI 403-6

Providing local community support is the cornerstone of our strategy to tackle the pandemic in 2020 and beyond. Therefore, we have implemented proactive measures to ensure the health and safety of our staff and members of local communities while we continue to fulfill our commitments to our customers and partners.

### Examples of COVID-19 contributions



## APPROACH TO SUSTAINABILITY

GRI 102-11

### Updated Sustainability Policy: 2020-2025

Our Sustainability Policy covers the entirety of our global operations, including the activities of our third-party suppliers. First launched in 2014, the Policy established the framework for our NDPE commitments.

In September 2020, Musim Mas updated the Policy, laying out a renewed and deepened commitment to improving the livelihoods of smallholders, workers, and communities while maintaining a strict stance on NDPE. Thus, we expect compliance from our operations and our suppliers to the new Policy as of September 2020.

The new Policy focuses primarily on our suppliers and aims to strengthen the sustainability of small and mid-sized supplier groups and smallholders. In addition, to tracking progress in our supply chain, we published our Roadmap to Responsible Supply Base (2020 and Beyond) in September 2019. This document sets clear targets for bringing our suppliers into compliance and engaging with smallholders on becoming compliant with our Policy commitments.

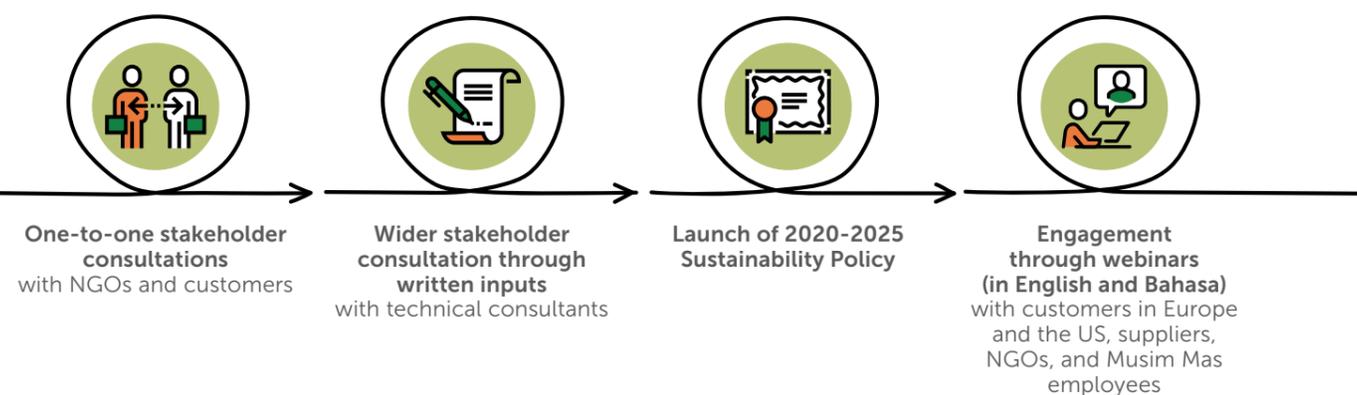
Our commitment to sustainability rests on four pillars:



The new Policy was subjected to extensive stakeholder consultations from June to September 2020, which included our financiers, sustainability technical consultants, civil society members, customers and internal stakeholders. Following its launch, we rolled out a series of webinars to publicize the Policy. These were attended by 100% of the stakeholders we invited.

### Consultation process

GRI 102-21



- » Musim Mas Sustainability Policy 2020-2025
- » Sustainability Policy FAQs
- » Musim Mas NDPE Roadmap

## Our contributions to the SDGs

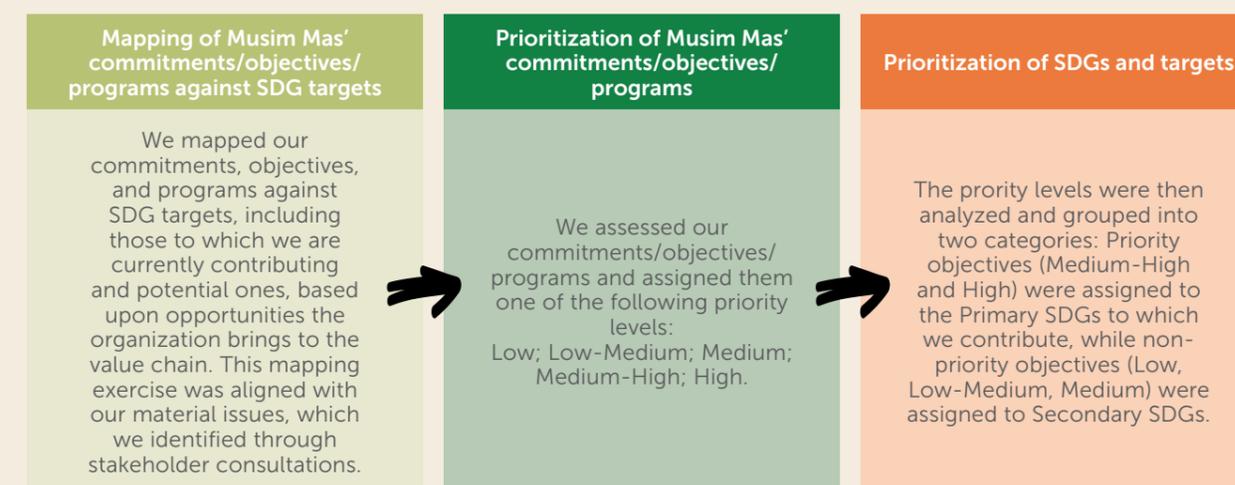
GRI 102-29



Musim Mas is actively contributing to the United Nations' Sustainability Development Goals (SDGs). We recognize the role businesses play in ensuring the success of the UN agenda and the importance of using a common language to communicate our sustainability progress. **In 2021, we carried out an SDG mapping exercise using existing guidance from the Global Reporting Initiative and the United Nations Global Compact to align our sustainability pillars and material topics with specific targets of the SDGs. We prioritized SDG targets aligned with our business objectives and upon which we could have the greatest impact based on our strengths and available opportunities.**

In 2021, we will review our current key performance indicators (KPIs) and targets to demonstrate our contributions more clearly to the SDG targets. We will present our findings in future reports.

### Overview of the process



### Outcomes

Musim Mas contributes to:

**Primary SDGs: 8 SDG goals and 13 SDG targets** the priority goals and targets we will report against and demonstrate contributions to. Corresponding SDG logos are placed throughout relevant sections of this report.

**Secondary SDGs: 9 SDG goals and 13 SDG targets** goals and targets we recognize to which we directly or indirectly contribute, with some level of reporting. Some of these goals and targets overlap with our primary SDGs.



Musim Mas primary SDG goals and targets by pillar<sup>6</sup>

Note: SDGs 2 and 12 apply to more than one pillar; target 12.7 overlaps for topics that fall under Pillar 3 and Crosscutting.

<sup>6</sup> In 2021, we released a Social Impact Report outlining substantial positive impacts towards key SDG targets for one of our plantations, PT Musim Mas Sorek, in Riau. While our programs contribute to those previous targets, our 2021 exercise reflects the final SDGs and targets after fully aligning all objectives and programs across all our operations.

» Our contributions to the SDGs

## Corporate and sustainability governance

GRI 102-16-33

The Musim Mas Board of Directors ('Board') considers sustainability a core component of our corporate identity, ensuring that material environmental, social, and governance (ESG) issues are embedded into our business strategies and decisions. The Board is led by our Executive Chairman and Chief Executive Officer and comprises four members, including one woman.

Our senior management team meets quarterly to review key ESG issues and performance. Our Executive Chairman leads these meetings, and monthly reports are provided to the Board. Our Director of Sustainable Supply Chain oversees the implementation and execution of our sustainability policy commitments, and an external senior strategic advisor supports the team's work. Our Director of Sustainability stepped down in August 2021, after 14 years with the Group. He pioneered and built up the sustainability division, taking the team from strength to strength over the years. Our sustainability team carries out the day-to-day implementation of our commitments and comprises more than 150 members across Indonesia and Singapore. We continue to invest in dedicated teams on the ground to implement training programs and smallholder outreach.

- » See Anti-corruption and ethics section
- » Sustainability governance structure

## Maintaining certification

GRI 102-11, GRI 308-1-2, GRI 414-1-2



100% mills with plantations RSPO-certified



152,547 ha RSPO-certified, including scheme smallholder land (as of June 2021)<sup>7</sup>



697,401 MT of CSPO & 175,555 MT of CSPK produced in 2020, including scheme smallholder volumes



11% of total palm oil and palm oil product volumes sourced RSPO-certified; 3% sourced as SG/IP

12% of CSPO and 77% of CSPK sold as RSPO SG/IP



11 out of 17 PTs are ISPO-certified (65%) (as of August 2021)



12 mills ISCC-certified



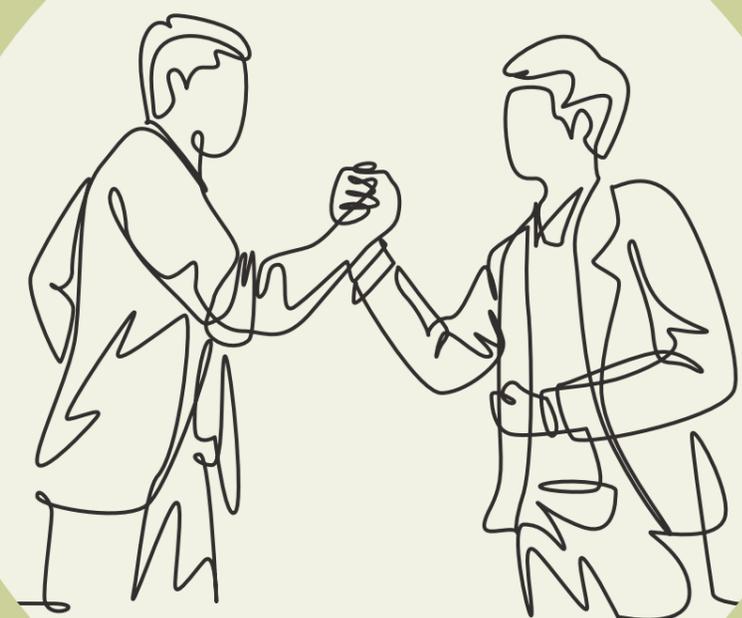
13 out of 15 RSPO mills POIG verified

Note: All data is as of December 2020, unless otherwise stated.

<sup>7</sup> All 45 of our downstream operations are also RSPO-certified.

One of our top priorities is supporting and complying with leading industry sustainability certification and verification schemes. Musim Mas was the first company in Indonesia to join the RSPO when it was established in 2004 and remains an active member. However, due to the pandemic, 2020 surveillance audits were conducted remotely.

As of June 2021, all our 15 mills with plantations have achieved RSPO certification. This includes PT Lestari Abadi Perkasa, our newest mill commissioned in November 2020, and PT Sarana Esa Cita, whose certification was initially delayed to land use permit (*Hak Guna Usaha*) issues and further delayed due to site audit limitations resulting from COVID-19 restrictions. We now operate 146,762 hectares of RSPO-certified plantations. This represents 76.16% of our total land titled area as of June 2021.



## PILLAR 1: IMPROVE THE LIVES OF SMALLHOLDERS, WORKERS, AND COMMUNITIES

GRI 203-1-2

Palm oil is a people business. As a major palm oil producer in Indonesia, we see our investments in our smallholders, workers, and communities as a strategic component of our business objectives and an essential contribution to sustainable development. Musim Mas is committed to respecting human rights, land rights, and labour rights. We endeavour to establish a lasting, positive legacy everywhere we operate.

### KEY HIGHLIGHTS

#### KEY HIGHLIGHTS: WORKFORCE

 <p><b>22,195 employees</b> at Musim Mas plantations and mills, 94% of whom are workers</p>	 <p>In addition to minimum wage, employees receive in-kind benefits equivalent to <b>≥90% of minimum wage</b>; employees paid well above calculated DLW</p>	 <p><b>56% decrease in lost time accident rate</b> (frequency rate) since 2016 and <b>52% decrease</b> in severity rate since 2018</p>
 <p><b>Women make up 26% of our workforce</b></p>	 <p>Workers have access to free healthcare with <b>26 clinics</b> and <b>2,401 first aid kits</b> available around estates</p>	 <p><b>90% of workers unionized</b>, up from 81% in 2019</p>
<p><b>COVID-19 task forces</b> formed and isolation centers established to protect workers' health and safety</p>		

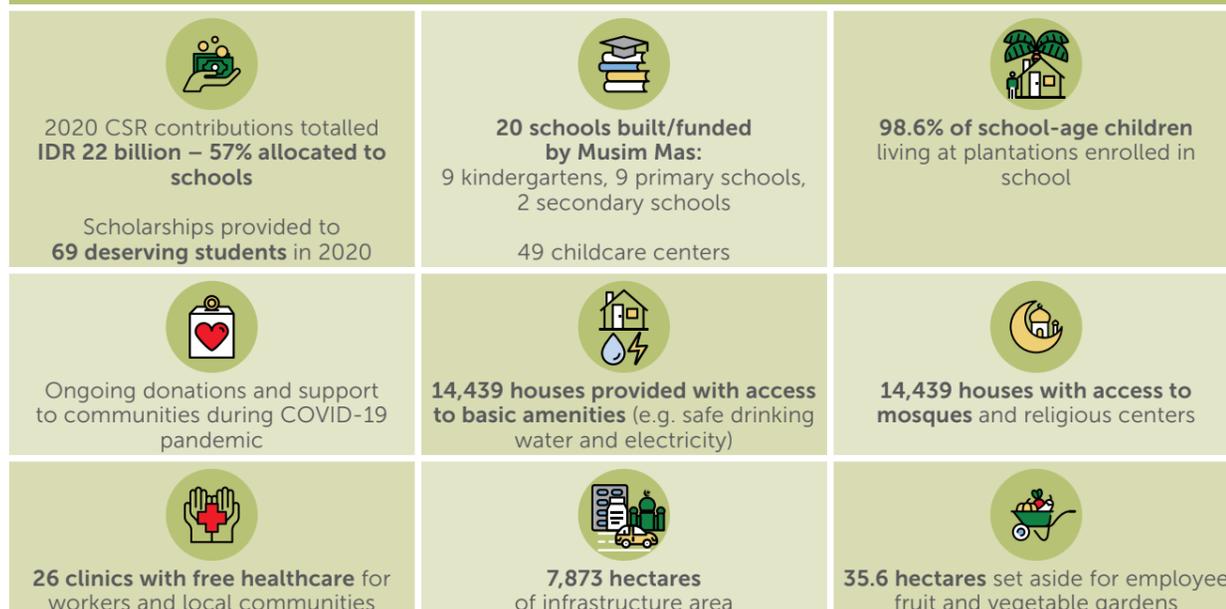
#### KEY HIGHLIGHTS: SMALLHOLDERS

 <p><b>Scheme smallholders</b> (&gt;5.3% of Musim Mas' CPO supply)</p>	 <p><b>100% of scheme smallholders covered</b> by 2 programs: KKPA and VDP</p>	 <p><b>47% increase in KKPA smallholders</b> since 2016</p> <p><b>2x more villages</b> under VDP since 2016</p>	 <p><b>123,897 MT FFB produced</b> by scheme smallholders, a 14% increase from 2019 and a 41.6% increase from 2016</p>
<p><b>KKPA was the first smallholder scheme</b> in Indonesia to be RSPO-certified in 2010</p>		<p><b>5,785 ha of scheme smallholders RSPO-certified</b> (88%) as of June 2021</p>	
 <p><b>Independent smallholders</b> (&gt;30% of Musim Mas' CPO supply)</p>	 <p><b>&gt; 32,000 independent smallholders<sup>#</sup> covered</b> by Musim Mas programs (including smallholders beyond our supply base)</p>	 <p><b>&gt;2,000 independent smallholders RSPO-certified</b> with Musim Mas' assistance</p>	<p><b>3 Smallholder Hubs established:</b> Aceh Tamiang, Aceh Singkil and Dayun, Siak</p>
 <p><b>New Livelihoods Fund for Family Farming (L3F):</b> 10-year project for 2,500 smallholders in Sumatra</p>		 <p>New digital finance learning platform for smallholders: <b>AgriON</b></p>	

<sup>#</sup> EY has performed limited assurance procedures on this figure

# PILLAR 1: IMPROVE THE LIVES OF SMALLHOLDERS, WORKERS, AND COMMUNITIES

## KEY HIGHLIGHTS: COMMUNITIES



## Our Social Impact Framework

Through consultations with local and regional stakeholders, and by consulting existing local and regional development plans, we execute programs for people within and surrounding our operations. Our Social Impact Framework guides our strategies to ensure we focus our resources on programs that have the greatest impact on improving people's lives.

## IMPROVE THE LIVES OF SMALLHOLDERS, WORKERS, AND COMMUNITIES



## Assessing the impact of our social programs

In 2020 we worked with Corporate Citizenship to assess our programs aimed at improving the lives of smallholders, workers, and communities; and to establish their social impact, particularly at our Sorek plantation, which is part of PT Musim Mas in Pelalawan, Riau. In May 2021, we published our first Social Impact Report based on a study of our five most established programs, outlining the context of our key challenges and opportunities:

Smallholder Oil Palm Development Program (KKPA)	Village Oil Palm Development Program (Kebun Kas Desa (KKD))	Rural education improvement	The Fire-Free Village Program (Masyarakat Bebas Api (MBA))	Cultural, religious and infrastructure investments
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» Musim Mas Social Impact Report

## Pilot to test HCSA social requirements for existing operations

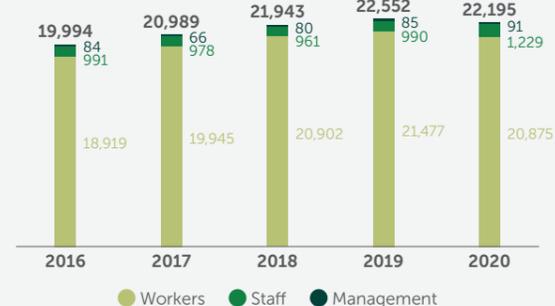
In 2021, Musim Mas will partner with the Forest Peoples Programme and an independent consultant to jointly conduct a pilot project on implementing Social Requirement 13 of the HCSA when applying HCSA to existing operations. We will use what we learn to develop recommendations for revisions to the HCSA social requirements and guidance documents and support the development of integrated conservation land-use plans (ICLUP). We expect to complete the project by the end of the first quarter of 2022.

## THE MUSIM MAS WORKFORCE

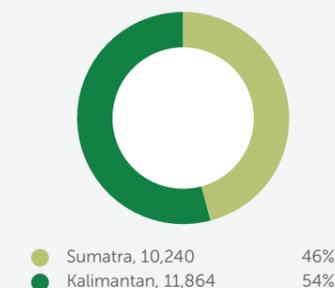
GRI 102-8, GRI 202-1, GRI 203-1–2, GRI 401-2, GRI 412-3

Musim Mas employs 22,195 people, of whom 94% work at our operations in Sumatra and Kalimantan. Of our total workers, only 2.2% are temporary employees.

## Employees by category 2016–2020 (no.)



## Palm oil workers and staff by region 2020 (no., %)



## Workers by contract type 2016–2020 (no.)



## Employee rights and benefits

GRI 102-41, GRI 202-1, GRI 401-2–3, GRI 407-1, GRI 412-3

In 2016, Musim Mas engaged with Verité, a global organization focused on addressing labour and human rights issues in companies and supply chains, to conduct an independent labour compliance assessment against the POIG Charter labour standards. In the second half of 2021, we have re-engaged with Verité to assess four mills and plantations to showcase how our internal procedures have been consistently applied across our operations and help identify new gaps and areas for improvement. Due to the pandemic, the assessment will be conducted remotely.

» Verité labour assessment report 2016

## Fair employment and decent living standards

GRI 202-1

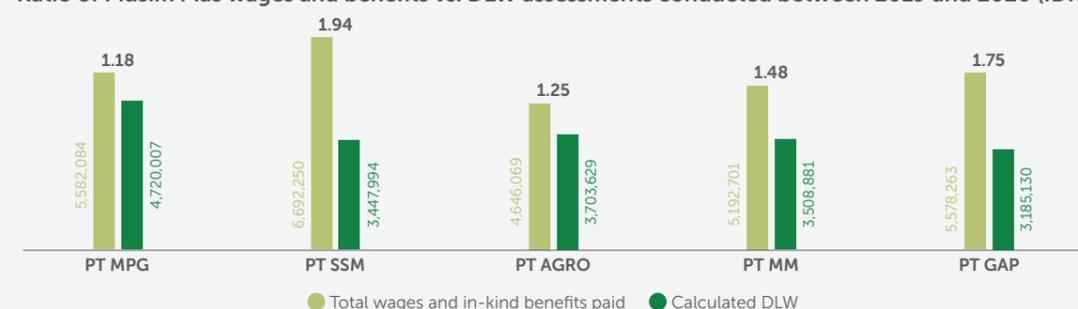


All salary and employment conditions for staff and workers, including temporary workers, meet legal minimum wage standards in their respective provinces and districts. In addition to this, we provide employees at our operations with the following in-kind benefits:

Housing	Healthcare	Electricity	Water	Transportation	Childcare	Education for children
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Our approach is in line with the RSPO guidance on Implementing a Decent Living Wage (DLW). To date, we have conducted DLW assessments at five of our sites and have concluded that workers are paid well above DLW requirements. In addition to minimum wage, the monetary value of the in-kind benefits we provide is equivalent to 90% or more of the minimum wage set by the Indonesian government.

Ratio of Musim Mas wages and benefits vs. DLW assessments conducted between 2019 and 2020 (IDR)



Note: The components of a living wage, including food, housing, and health insurance, as well as the components of additional benefits, such as transportation, access to water, and electricity, vary across provinces and states. Wage and benefit levels are therefore not identical across operations.

All men and women are paid equally, where salaries paid to employees is equal regardless of gender (ratio of 1:1).

## Employee development and talent retention

GRI 404-2

We provide regular and relevant training to equip workers for their jobs. We also invest in capacity building and technical skills programs and offer development opportunities that help employees achieve their career goals while contributing to the company's growth. Finally, we meet with workers to set their harvesting targets, which we then integrate into their performance assessments.



## Gender equality

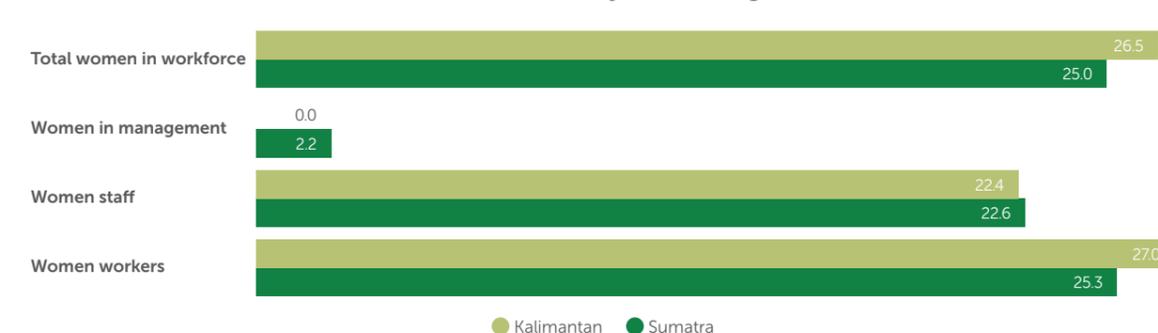
GRI 202-1, GRI 405-1-2



All employees are hired, promoted, and provided equal pay and opportunity based on merit without discrimination. Employees are regularly trained on our no discrimination policies. Recognizing that many women prefer temporary or part-time work to balance household duties and childcare commitments, we strive to promote gender equality and support the inclusion of women across our operations. Some examples of our efforts include dedicated Gender Committees at each estate, providing Family Cards to family heads regardless of gender, and providing facilities such as breastfeeding areas and childcare centers at our operations. We actively engage external parties such as provincial Women's Empowerment Offices to conduct workshops and share knowledge with the Committees.

Women make up 25.8% of our total workforce. We employ two women in Sumatra as middle managers, representing 2% of our management staff in the region. There are currently no women employed as senior managers at our operations<sup>8</sup>.

Total women in workforce by level and region 2020 (%)



## Health and safety

GRI 403-1-6, 403-9



Our Occupational Safety and Health (OSH) policy safeguards the health and safety of our workers. We train employees at our operations on health and safety issues and supply them with personal protective equipment specific to their work. All workers have access to free healthcare at 26 clinics located in the vicinity of our operations.

In 2020, we formed COVID-19 taskforces at each of our operations to enforce strict measures and procedures to maintain good hygiene, minimize physical interaction between employees, and detect potential cases. We continue to conduct regular briefings, communicate COVID-19 safety measures, and provide hand sanitizer, masks, and other personal protective equipment (PPE). Musim Mas has also set up isolation centers with healthcare facilities and equipment to treat suspected and confirmed COVID-19 cases and house workers serving quarantine notices. Workers who must isolate continue to receive full pay and have all their meals provided by Musim Mas.

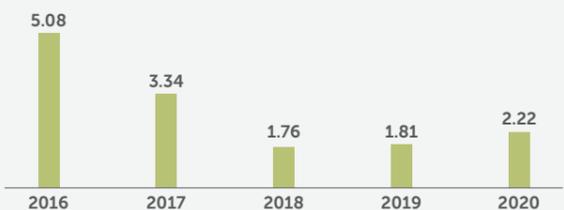
Musim Mas remains vigilant about health and safety measures, resulting in a 56% reduction in our lost time accident rate (frequency rate) (LTAR (FR)) since 2016. However, our LTAR (FR) has increased by 22.3% and 26.2% since 2019 and 2018, respectively. Despite this, severity rates have decreased by 52% from 2018, an indicator of less serious injuries.

We deeply regret to report seven fatalities in 2020. This is the highest rate in the past few years. Three of these fatalities resulted from road incidents, specifically, high-speed motorcycle accidents on wet and slippery roads. Three more were due to employees succumbing to long-term illnesses such as asthma and epilepsy, while one worker died after being attacked by a wild animal.

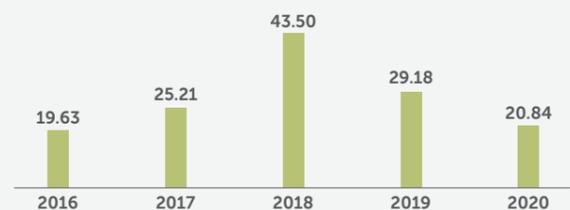
We take every employee fatality seriously, investigate the cause of each incident, and report to the Regional Manpower Office (*Dinas Tenaga Kerja*). After each case, we review and revise safety protocols, including our Hazard Identification and Risk Assessment (HIRA) process. Employees are then educated on relevant safety measures to prevent the recurrence of similar incidents.

<sup>8</sup> At Group level, nine women hold senior management positions and are employed at our Singapore Headquarters.

**Group LTAR (FR) 2016–2020**  
per 200,000 working hours



**Group severity rates 2016–2020**



Notes:

- 1 LTAR (FR) measures productivity lost due to accidents and is calculated as follows: number of accidents divided by total hours worked, multiplied by 200,000.
- 2 The severity rate measures the seriousness of accidents and is calculated as follows: total number of days lost divided by the total number of accidents.

**Fatalities by region 2016–2020 (no.)**



**IMPROVING THE LIVELIHOODS OF SMALLHOLDER FARMERS**

GRI 102-12, GRI 203-1-2, GRI 413-1-2

Smallholder farmers, or individuals with farms smaller than 25 hectares, play a key role in the Indonesian palm oil sector. However, smallholders face complex and interlinked barriers around yields, plantation management, land ownership, financial access, market access, and economies of scale. Musim Mas has established and manages a number of programs to support all smallholders linked to our supply chain.

Our smallholder outreach work faced significant disruptions due to the pandemic. We have been unable to travel into the field, carry out in-person training, meet with smallholders currently engaged in our program, or connect with new ones. We have also faced restrictions in meeting with government stakeholders. Nevertheless, we continue to communicate with our stakeholders through online meetings and phone calls, whenever possible.

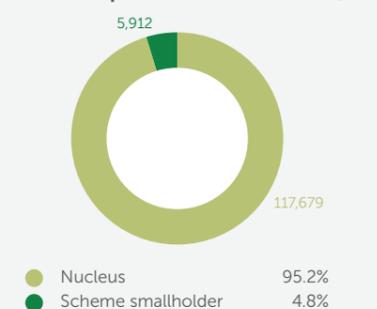
**Supporting scheme smallholders**

GRI 203-1-2, GRI 413-1-2

Of our total planted area, 5,912 hectares – or 4.8% – belong to scheme smallholders. Musim Mas operates two dedicated programs that support all our scheme smallholders: the **KKPA** – for individual family units – and the *Kebun Kas Desa* or **Village Development Program (VDP)** – for community plantations. We voluntarily set up these programs before the Indonesian government established regulations in 2007 requiring companies to facilitate the creation of plasma smallholder schemes in surrounding communities.

» See our website for more on the programs

**Musim Mas nucleus and scheme smallholder planted area 2020 (ha, %)**



**Program beneficiaries**

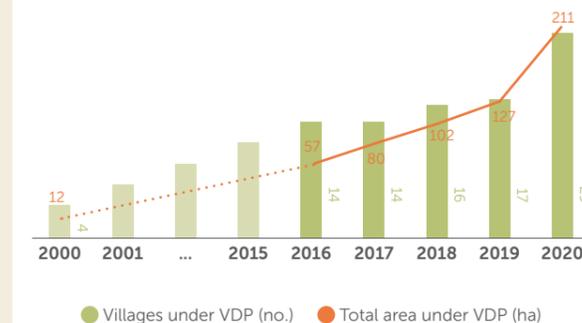
Musim Mas operates 38 local initiatives under our scheme smallholder programs, comprising nine KKPA programs and 29 VDP programs. The KKPA began with 262 smallholders<sup>9</sup> and has grown to 3,571 smallholders<sup>#</sup> who manage a total of 6,327 hectares – a 47% increase since 2016. The VDP started with four villages in 2000 and has expanded sevenfold to 29 villages managing 211 hectares. In 2020, we extended the VDP to 12 villages and 84 hectares of land around our new plantation at PT Lestari Abadi Perkasa.

In 2020, Musim Mas conducted 119 training sessions for KKPA scheme smallholders and 64 training sessions for VDP scheme smallholders. These were conducted as virtual meetings and videoconferences due to the pandemic travel restrictions.

**KKPA smallholders and area 1996–2020**



**VDP villages and area 2000–2020**



**Production and income**

In 2020, scheme smallholders under both programs produced a total of 123,897 tonnes of fresh fruit bunches (FFB), a 14% increase from 2019 and a 41.5% increase from 2016. Their total income from its sale was IDR 113.11 billion, an increase of 38% since 2019, despite a reduction in yield from 22.92 to 22.41 tonnes per hectare. This can be attributed to a spike in crude palm oil (CPO) prices in 2020.

**Certified supply**

As of June 2021, 88% of the total land belonging to scheme smallholders is RSPO-certified, representing 5,683 hectares under the KKPA and 102 hectares under the VDP, totalling 5,785 hectares.

» Additional details about our scheme smallholder programs can be found in our 2021 Social Impact Report.

**Scheme smallholder production and income 2016–2020**



**Scheme smallholder area RSPO-certified as of June 2021 (ha, %)**



<sup>9</sup> Data restated.

<sup>#</sup> EY has performed limited assurance procedures on this figure

## SUPPORTING INDEPENDENT SMALLHOLDERS

GRI 203-1-2, GRI 413-1-2

Since 2015, Musim Mas has developed and implemented programs to integrate independent smallholders into palm oil supply chains. We engage these smallholders and assist them in meeting the same efficient farming standards as industrial plantations and completing program modules covering agronomy and NDPE commitments, thus empowering them to produce sustainably. In 2015, we began with a mill-based approach engaging independent smallholders. Our programs and approaches have since evolved and are now focused on engagement at the district office level.

### Overview of Musim Mas independent smallholder programs



#### Objective

Build Indonesia's largest independent smallholder program for oil palm producers, assisting independent smallholders in North Sumatra and Riau in meeting the same efficient farming standards adopted by large palm oil organizations.

#### Smallholders engaged at

**4 Musim Mas mills:** PT SRR (North Sumatra), PT SAR, PT BANI, PT ISB (Riau)

#### Collaboration with

Musim Mas mills, International Finance Corporation (IFC), local governments, Indonesian banks

#### Status as of December 2020, unless otherwise stated

**32,101 smallholders<sup>#</sup> engaged, of whom at least 14% supply directly to Musim Mas.** The remaining 86% are smallholders from areas that have access to and benefit from the program.

**2,092 of these smallholders have become RSPO-certified** with Musim Mas' assistance. These smallholders now sell RSPO Credit to companies like Nestle, Unilever, and PepsiCo.

#### Objective

Expand Musim Mas smallholder extension services to independent smallholders among our third-party suppliers and other Musim Mas mills.

#### Smallholders engaged at

**Musim Mas mills and third-party mills in South Sumatra, Riau, and West and Central Kalimantan:** PT Pati Sari, PT BOS (supplier mills), PT GIN, PT MPG, PT SEC, PT LAP (Musim Mas mills)

#### Collaboration with

Third-party suppliers, Musim Mas mills

#### Status as of December 2020, unless otherwise stated

**1,466 smallholders<sup>#</sup> engaged.**

#### Objective

Create a common platform where palm oil companies can share their expertise and resources to train agricultural officers who can then train independent smallholders within a specific district, regardless of whom they sell to.

#### Smallholders engaged at

**District government level/Bupati Offices in Aceh Tamiang, Aceh Singkil, and Dayun in Siak, Riau.**

#### Collaboration with

Landscape-level collaborations with mills, local governments, buyers, NGOs and CSOs, growers, consultants, implementation partners, and smallholders

#### Status as of December 2020, unless otherwise stated

**3 smallholder hubs established**

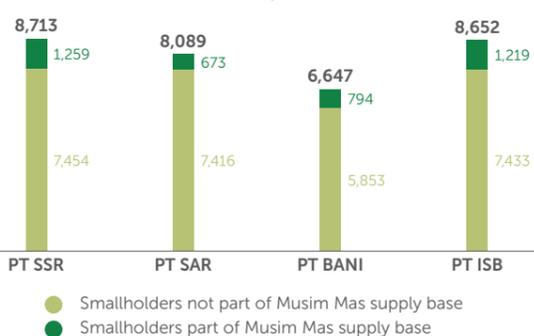
- Aceh Tamiang (Oct 2020)
- Aceh Singkil (Feb 2021)
- Dayun, Siak, Riau (Feb 2021) – small-scale hub

**148 agricultural officers trained** as of June 2021 (73 at Aceh Tamiang and 75 at Aceh Singkil).

The Village Extension Officers (VEOs) at our Smallholder Hubs can offer training to all smallholders and villages in their area of responsibility, no matter to whom the smallholders sell their produce.

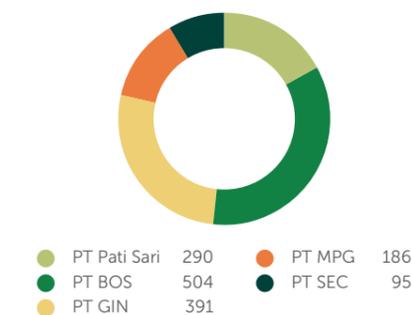
### Smallholders engaged under Musim Mas-IFC Smallholder Program by mill (no.)

Total: 32,101<sup>#</sup>



### Smallholders engaged under Extension Services Program by mill (no.)

Total: 1,466<sup>#</sup>



### From sustainable practices to improving livelihoods

Our programs respect Indonesia's ethnic diversity and complexity and promote positive relationships with village chiefs and community members at all times. Consequently, Musim Mas has evolved and adapted our curriculum and approach to engaging smallholders over the years to reflect the issues they are interested in or which they face on the ground. **While we began by training smallholders on efficient farming standards and sustainable practices, our programs have expanded to help farmers acquire life skills to improve their way of living.** This includes educating smallholders on topics such as personal financial literacy and proper nutrition. These programs are supported by government extension service officers who reside in villages for extended periods and provide long-term coaching beyond initial training.

» For detailed findings of the project, see the Musim Mas-IFC Smallholders Program Report published in March 2021



<sup>#</sup> EY has performed limited assurance procedures on these figures

### A focus on access to finance

Many smallholders need assistance to access financing. The lack of legal land titles and other factors, such as low income and unfavourable debt repayment history, reduce the probability of smallholders receiving loans. Consequently, they may not be able to replant or replace ageing palms, switch to higher yield seeds, purchase fertilizer, or obtain relevant certifications. The Musim Mas-IFC program helps smallholders access governmental replanting subsidies by advising them on the needed paperwork and finding partnerships with financial institutions or banks. Musim Mas has assisted 50 farmer associations in their replanting process to date. The program also teaches smallholders financial literacy and management techniques, such as keeping logbooks of profits and losses. This financial assistance encourages smallholders to adopt more sustainable methods of replanting and improves their productivity per hectare.

<sup>#</sup> EY has performed limited assurance procedures on these figures

### A district-level approach: Smallholder Hubs

We have learnt from our years on the ground that smallholders need an enabling environment and the appropriate infrastructure to implement sustainable practices and thrive. Our focus in 2020 has been establishing and running Smallholder Hubs in Aceh and working with other actors in the Aceh Tamiang and Aceh Singkil districts to integrate them with existing government- and private sector-run multi-stakeholder programs at the district level. Our [five-year landscape strategy for Aceh](#) explains why the province is a Musim Mas priority.

This approach allows all the palm oil companies within the region to share their expertise and resources by training independent smallholders, regardless of whom they sell to. Specifically, Musim Mas trains government agricultural officers stationed in villages on our current smallholder program modules, including good farming practices, financial literacy, NDPE training, and soft skills. Field assistants from Musim Mas also support these officers, especially during the early phases of their training and the establishment of these smallholder hubs. In turn, the agricultural officers become qualified to train smallholders in their villages.

**In October 2020, the first Smallholder Hub was established in Aceh Tamiang** as part of a larger landscape project that aims to reduce deforestation, promote sustainable agricultural production, improve livelihoods, and create a Verified Sourcing Area (VSA)<sup>10</sup> in the province. **By February 2021, we had successfully launched a second hub in Aceh Singkil, and a small-scale hub in Dayun, Siak in Riau.** The Dayun Smallholder Hub was established as part of our commitment to the wider Riau District and has the same aims as the Siak-Pelalawan project established by the Consortium of Resource Experts (CORE).

The Aceh hub is part of our [five-year NDPE roadmap for Aceh](#). We will continue to explore further partnerships to meet our goal of establishing more Smallholder Hubs across Aceh between now and 2025 as part of our Aceh Strategy.

#### Benefits of establishing Smallholder Hubs at the district level:

Eases the resource burden on private companies running isolated programs and having different commitment levels

Makes it easier to deploy field assistants in remote areas

Builds local governmental capacity towards self-sustainability without private sector intervention

As a local government initiative, the program is more credible; smallholders are more likely to be receptive to a neutral party

A program like this at scale encourages the holistic planning of the livelihoods of smallholders and their communities



<sup>10</sup> The Verified Sourcing Area links up large palm oil buyers to the government of Aceh Tamiang to protect the remaining natural forest on private, state, and community land with a specific focus on the world-renowned Leuser Ecosystem. Using a model developed by IDH (Inisiatif Dagang Hijau, The Sustainable Trade Initiative), this project provides access to relevant and verified information from key sourcing regions. It is designed to lead to more sustainable sourcing at scale and supports projects relevant to buyers' and sellers' sustainability agendas.

### Progress through partnerships

#### Government engagement

Effective outreach to all smallholders, regardless of whom they supply to, requires increased government intervention and leadership. For example, the Smallholder Hub in Aceh Tamiang is part of a Verified Sourcing Area and a partnership under the Production-Protection-Inclusion (PPI) Compact. This initiative aims at improving productivity, protecting efforts, and engaging local communities to drive the sustainable production of commodities under the auspices of the government's Green Growth Plan in Aceh. The Hub sits within a Center of Excellence (*Pusat Unggulan Perkebunan Lestari (PUPL)*), a platform set up by the government that manages Aceh Tamiang's sustainable crops, beyond palm oil, in the VSA. Working alongside the government, producers, and consumer goods companies, the Leuser Conservation Forum (*Forum Konservasi Leuser (FKL)*) is a civil society organization and instrumental player in implementing the Hub's projects. This enabling environment bridges supply chains and sourcing areas while addressing the ongoing issues with deforestation and peatland conversion.

» See [Government engagement and landscapes initiatives section](#)

#### Working with the private sector

Other agricultural and consumer goods companies have been instrumental in supporting the Smallholder Hubs.

In Aceh Tamiang, the VSA is being implemented with the support of private companies like Musim Mas and buyers like Unilever and PepsiCo. In Aceh Singkil, we are collaborating with General Mills and the local government to establish a Smallholder Hub. General Mills has pledged to fund the first year of this two-year program that aims to reach 1,000 smallholders. The program leverages General Mills' experience advancing regenerative agriculture and sustainable sourcing innovations across a growing list of global commodities. Musim Mas will support this work by providing satellite-tracking reports on deforestation and training agricultural officers on the Musim Mas curriculum.

We are also part of the Coalition for Sustainable Livelihoods (CSL), a multi-stakeholder initiative launched in 2018 to advance government programs and policies and also contribute to supply chain sustainability for companies operating in and purchasing products from North Sumatra and Aceh.

#### A large-scale sustainable palm oil project with the Livelihoods Fund for Family Farming (L3F)

In the third quarter of 2021, Musim Mas will embark on an unprecedented ten-year project in partnership with the Livelihoods Fund for Family Farming (L3F) to help 2,500 palm oil smallholder farms in Sumatra. This initiative will cover the Musim Mas supply shed in districts located within 50 kilometers of our PT Siringo Ringo mill in Labuan Batu and Labuan Batu Utara. It is a first for Musim Mas and possibly the entire palm oil industry. The project aims to build a transparent and deforestation-free supply chain based on locally adapted agroforestry models, regenerative agriculture, and biodiversity enhancement.

The program is spearheaded by leading fast-moving goods companies, long-time Musim Mas partners, and L3F investors, Mars, Incorporated and Danone, and L'Oréal, a leading cosmetics brand. As a leading palm oil processor, Musim Mas will implement the program locally with SNV, an NGO that works closely with palm oil smallholders. The project will extend Musim Mas' current smallholder initiatives and leverage our activities on the ground to connect smallholders to Mars' US supply chain through our PT Siringo-Ringo mill.

The program will introduce regenerative agricultural practices and replanting with certified seedlings to smallholders to improve crop yields and reduce total planted area. It will use non-palm species to restore buffer zones in fragile ecosystems. The program will also explore other approaches to improving farmer resilience and autonomy, including diversifying crops through intercropping and agroforestry, improving soil fertility and regenerating soil health, developing integrated and biological pest control, and enhancing biodiversity. We hope to scale our learnings and experience after the program ends.

The project will help regenerate 8,000 hectares of palm farms in degraded land areas while restoring an additional 3,500 hectares of local biodiversity over ten years.

» [Learn more about the L3F project](#)  
» [Learn more about the coalition of actors](#)

#### New digital finance learning platform for smallholders

In July 2021, we announced a new digital finance and financial learning platform called AgriON — a scalable and bank-agnostic digital payment and financing solution that supports traceability and sustainability across the agricultural supply chain. It is a joint effort between Musim Mas Group, MUFG Bank, PT. Bank Danamon Indonesia Tbk (Danamon), and iAPPS.

The AgriON platform complements and strengthens Musim Mas' existing financial literacy classes with a comprehensive series of workshops and introduces smallholders to products aligned with their financial goals, including customized savings plans. The platform will soon be made available to independent smallholders enrolled in our smallholder program.

### COMMENTARY FROM MARK MCCULLOUGH, GLOBAL IMPACT DIRECTOR | GENERAL MILLS

Musim Mas' core values and commitments towards smallholders align with General Mills' principles. For instance, both our companies believe that the focus of smallholder initiatives should extend beyond agronomy and advance into regenerating livelihoods, inclusion, and gender diversity training. That's why we agreed to partner with Musim Mas through a multi-year landscape investment initiative in Aceh Singkil. This initiative is part of an overall strategy to reduce deforestation by improving livelihoods, primarily focused on education and agronomy training for smallholder capacity-building within the landscape and sector. These focal areas provide an opportunity to embark on a transformation within the landscape and potentially expand it to the entire sector.

We encourage Musim Mas to continue its work with smallholders, expand it beyond agroforestry training, and focus on livelihood development that prioritizes inclusion, thus paving the way for progressive changes in the industry. Hopefully, this initiative will set a precedent for how palm-producing companies and countries systematically address challenges like human rights abuses and deforestation in the palm oil sector through increased involvement and support from local and national governments.

*About: Mark leads sustainable sourcing and operations integration at General Mills, including a team of subject matter experts who ensure that General Mills' sustainability commitments remain on target. General Mills indirectly sources palm oil from Musim Mas (as a tier two supplier) and partners with Musim Mas' smallholder extension services in Aceh Singkil, Indonesia.*

### COMMENTARY FROM DAVID PENDLINGTON, GLOBAL SUSTAINABLE SOURCING DIRECTOR | MARS WRIGLEY CONFECTIONERY

In May 2021, Mars announced launching another 10-year project with Danone and L'Oréal as part of their continued commitment to the Livelihoods fund for Family Farming to help 2,500 smallholder palm oil farmers achieve sustainable livelihoods in North Sumatra, Indonesia. The project aims to build a transparent and deforestation-free supply chain thanks to locally adapted agroforestry models, regenerative agriculture and biodiversity enhancement. The program implemented builds on Musim Mas' smallholder program and is supported by implementing NGO partner SNV under the coordination of L3F teams.

We appreciate Musim Mas' approach of holding its suppliers accountable at the group level while still working with smallholders on the ground because it aligns well with Mars' Palm Positive Plan. We also find that Musim Mas' village hub approach supports Mars' learning that it is far more effective to create aggregation points in reaching out to smallholders instead of tackling single farmers.

Moving forward, Musim Mas can further step up and advance its sustainability efforts by strategically joining up direct and indirect customers on joint projects. Collaborating this way in the pre-competitive space increases the scale and impact of project outcomes. It also drives Musim Mas' commitments to reduce land use change and create alternative livelihoods while remaining competitive in sourcing oil palm. This approach also creates opportunities for Musim Mas to reach out to industry peers to seek support for their current government engagement work on the ground.

*About: David Pendlington is the sustainable sourcing director at Mars Wrigley Confectionery. His team, as part of Mars commercial, co-pilots the execution of Mars' sustainable sourcing strategies as part of their Sustainable in a Generation Plan. Mars indirectly sources palm oil from Musim Mas (tier two supplier).*

## COMMUNITY RIGHTS AND LIVELIHOODS

GRI 102-12, GRI 203-1-2, GRI 303-1, GRI 411-1, GRI 413-1-2

Musim Mas uses every means at our disposal to support rural communities, including, but not limited to, providing jobs, basic amenities, medical services, and education. Through long-term partnerships with communities and civil society organizations, we work to address critical issues impacting communities in areas where we operate.

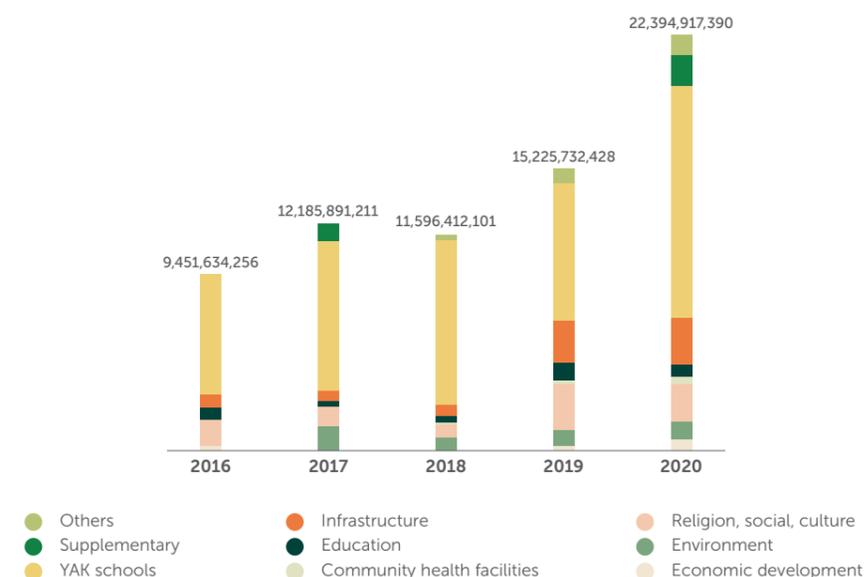
### Upholding land and community rights

We respect and uphold the human rights of all community members and obtain Free, Prior and Informed Consent (FPIC) before any development or expansion of our operations. Compensation for lost benefits or the relinquishing of rights is negotiated voluntarily, as agreed upon by the affected communities. We carry out participatory mapping with local communities and use the results to support our management, monitoring, and land use plans. We have dedicated personnel who continuously engage with stakeholders from neighbouring communities at each of our locations to minimize risk of disagreement or conflict. We also integrate our conservation and land use plans into our existing community programs.

### The Anwar Karim Foundation

Musim Mas operates a long-standing outreach initiative through The Anwar Karim Foundation, or *Yayasan Anwar Karim* (YAK), which runs programs that address needs like economic development, community facilities, education, and infrastructure. Over the years, we have increased our investment in the livelihoods of our communities. In 2020, our CSR contributions through the Foundation amounted to IDR 22 billion, of which 57% was allocated to our YAK schools.

CSR contributions 2016–2020 (IDR)



## Improving rural education

Since 2002, we have been supporting children's education across Indonesia through the Anwar Karim Foundation. Musim Mas has built and funded schools that provide an education to children of employees and children from surrounding communities across our operations. The curriculum taught in our schools is based on a syllabus approved by the Ministry of Education and Culture (*Kementerian Pendidikan dan Kebudayaan*). Our schools have received an 'A' grade from the education ministry. This honour is typically awarded to schools that maintain high standards in teaching, curriculum, school administration and management, and educational facilities and infrastructure. We provide free transportation to schools in neighbouring communities for all children who do not have access to one of our local schools.

We annually conduct surveys of children attending schools across our plantations and have ascertained that 14,507 children of mill and estate workers under the age of 18 live at our plantations. Of the total school-aged children, 98.6% attend either one of our *Yayasan Anwar Karim* schools or other schools in surrounding areas. We encourage all parents to send their children to school and address concerns they may have about not doing so.

All pre-school children have access to one of our 49 childcare centers.

Musim Mas schools create employment opportunities for teachers from local communities, particularly women. Our teachers are paid well above the provincial average, and we offer financial incentives to those who receive positive evaluations.

### Maintaining Access to Education during COVID-19

The pandemic has impacted children's education and their social and physical development. To maintain access to education, our Anwar Karim schools have been providing online learning to children across our operations since March 2020, in accordance with the decision of the East Kotawaringin Regency Education Office. During this period, teachers have continued to work on school premises to produce educational videos, assess students' assignments, and conduct other learning activities. While present in schools, teachers are required to follow strict SOPs and COVID-19 guidelines. Musim Mas facilitates the online learning process by providing Internet data packages and online training videos to teachers.

Despite being given access to infrastructure for online learning, teachers are finding it difficult to monitor the progress of students who are not physically present in classrooms. To overcome this barrier, schools have engaged field assistants who provide and guidance and support to help parents and guardians motivate their children as they continue to learn from home. Apart from preparing and delivering online lessons, teachers also contribute to community-wide COVID-19 efforts by sewing masks that are distributed to students through the government-funded school operational assistance platform, *Bantuan Operasional Sekolah*.

## Improving infrastructure in remote communities and worker compounds

GRI 303-1

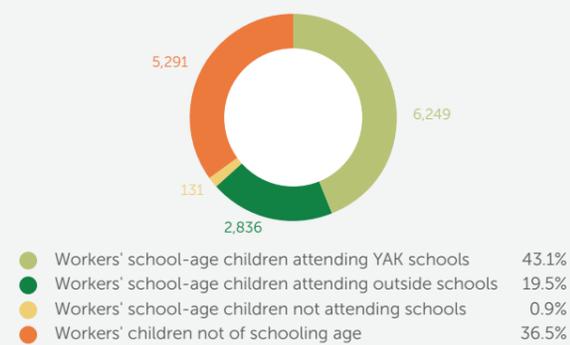
To ensure we are meeting communities' unique needs, we maintain an open dialogue with local representatives, including village heads. Every year, we invite villages bordering our operations to submit proposals on how to best use our infrastructure development budget. Over the years, these infrastructure development initiatives have improved communities' access to essential services.

» Musim Mas Social Impact Report



Children living at plantations 2020 (no., %)

Total: 14,507



- Workers' school-age children attending YAK schools 43.1%
- Workers' school-age children attending outside schools 19.5%
- Workers' school-age children not attending schools 0.9%
- Workers' children not of schooling age 36.5%

## ANTI-CORRUPTION AND ETHICS

GRI 102-16, GRI 205-3

We are committed to conducting business fairly and ethically and prohibit all forms of corruption and bribery. These commitments are informed by our Code of Business Conduct and an internal Anti-corruption Policy that is communicated to Musim Mas employees as is relevant. Our Supplier Code of Business Conduct imposes similar obligations upon all external parties who supply Musim Mas.



# PILLAR 2: DELIVER POSITIVE ENVIRONMENTAL IMPACTS



## PILLAR 2: DELIVER POSITIVE ENVIRONMENTAL IMPACTS

GRI 102-11-12, 102-15, GRI 308-1-2

We are committed to maintaining the ecological integrity of our plantations and surrounding areas and mitigating or minimizing the adverse impacts of our operations on the environment and neighbouring communities. Musim Mas regularly assesses the impacts of our operations on climate and ecosystems using widely recognized tools like the RSPO PalmGHG Calculator, GHG Protocol Life Cycle Assessments, the Water Footprint Network calculators and online assessment tool, and the annual CDP Forests Climate Change and Water questionnaires.

### KEY HIGHLIGHTS

 <b>28,210 ha set aside for conservation</b> – 14% of total titled land (1/3 the size of Singapore)	 <b>HCV/HCS assessments conducted</b> for 100% of Musim Mas plantations	 <b>Biodiversity and encroachment monitoring covered</b> for 100% of Musim Mas plantations
 <b>144 fire trainings conducted</b> in 2020	 <b>75 villages under FFVP</b> , covering 468,569 hectares	 <b>32 villages rewarded</b> for remaining fire-free
 <b>Reduction of 47% in GHG emission intensity</b> against 2006 baseline (RSPO-certified mills)	 <b>544,220 MT CO<sub>2</sub>e in overall emissions avoided</b> from 15 <sup>#</sup> methane capture facilities	
 <b>100% zero-waste mills</b>	 <b>31,987,614 kWh of electricity generated</b> from methane exported to national grid	 <b>More than 5,000,000 GJ of energy generated</b> from PKS and palm fiber
Achieved mill water usage intensity of 1.17 m <sup>3</sup> /MT FFB <sup># 11</sup> , the lowest since 2016		<b>6 out of 10 pesticides phased out</b>



Note: Picture was taken prior to the COVID-19 pandemic

<sup>11</sup> The water usage intensity refers to RSPO-certified mills

<sup>#</sup> EY has performed limited assurance procedures on these figures

## CONSERVATION AND RESTORATION

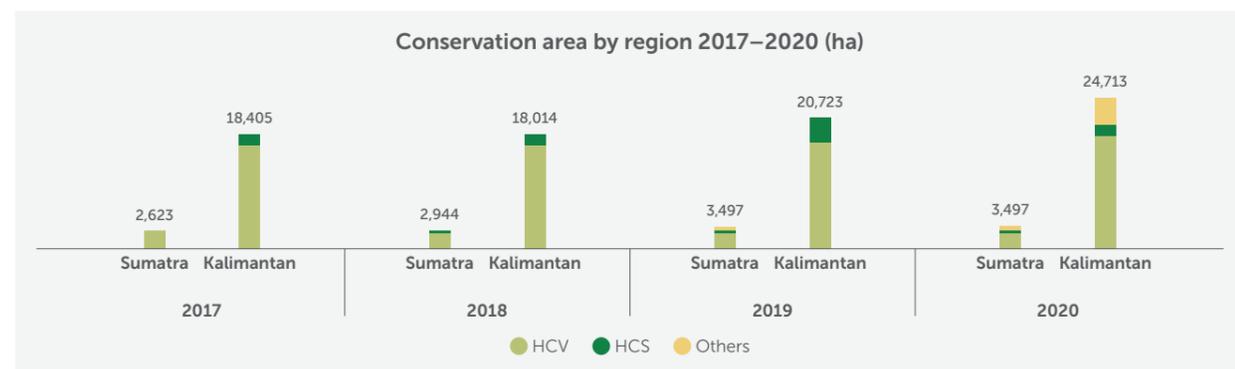
GRI 304-1-4



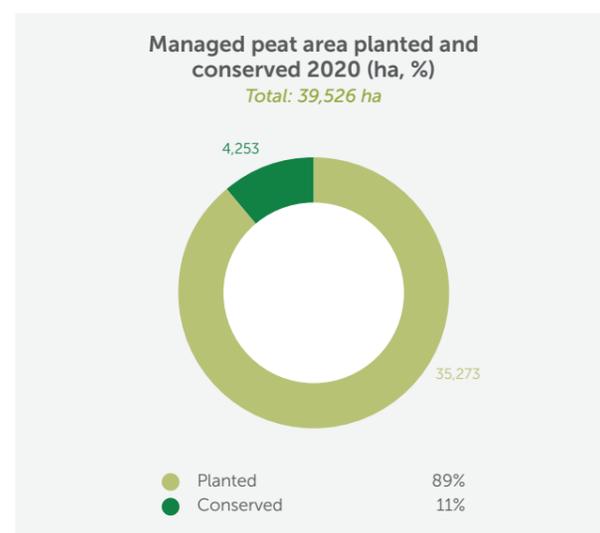
Musim Mas adheres to relevant RSPO requirements for new developments and the expansion of plantation areas<sup>12</sup>. We are committed to zero conversion of any natural ecosystems within our operations, particularly high conservation value (HCV) areas, peatlands, and high carbon stock (HCS) forests. We also expect suppliers to refrain from converting such ecosystems.

We manage and protect all identified conservation areas using dedicated conservation and management monitoring plans. Our commitment to restoration is as of September 2020, when the updated Policy was launched. This includes restoring and regenerating any areas under our management or control affected by fires or encroachment in compliance with RSPO and POIG cut-off dates. We also adhere to best practices aligned with RSPO guidelines and legal requirements to manage peatlands and fragile soils and seek out expert advice as needed. A key part of our approach is involving surrounding communities in every stage of the development and execution of our conservation management plans. In addition, our conservation teams regularly conduct biodiversity surveys, ground patrols, and satellite monitoring for encroachment to prevent illegal development and hunting.

**As of December 2020, we manage 28,210 hectares of conservation area. Since 2017, this area has increased by 34% because of areas identified for conservation through HCV and HCSA assessments.**



Notes:  
 1. Overlaps in HCV and HCS areas are reflected as HCV figures.  
 2. 'Others' includes steep areas, wildlife corridors, and riparian buffer zones not identified by HCV and HCSA assessments.



We are collaborating with the South East Asia Rainforest Research Partnership (SEARRP), a Borneo-based scientific research facility with expertise in habitat restoration and sustainable plantation management. Through this partnership, we hope to quantify our conservation efforts and review our management and monitoring plans. This program was set to kick off in 2020 but was delayed until Q3 2021 due to resourcing challenges.

» IUCN Red List of Threatened Species identified at our operations

### A focus on a deforestation-free supply chain through traceability



We strictly adhere to our No Deforestation commitment and there has been zero non-compliant land clearing across all our operations since our RSPO and POIG cut-off dates. We also trace all FFB we source to the place of production (to the plantation or smallholder farm), thus ensuring that our supply chains are free of deforestation.

» See the supply chain section for our approach and progress

<sup>12</sup> All HCV assessments after January 2015, HCSA assessments after April 2015, and HCV-HCSA integrated assessments have been quality reviewed per HCSA and HCV Resource Network guidelines. All HCV and HCV-HCSA integrated assessments under the ALS scheme have received a 'satisfactory' status from the HCVRN.

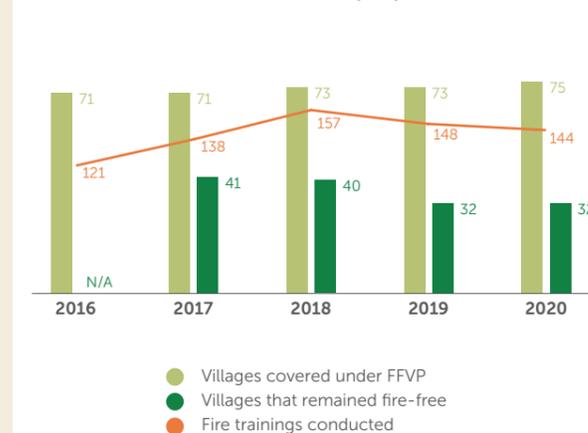
## MONITORING AND MANAGING FIRES

Musim Mas strictly prohibits the use of fire within our operations and those of our suppliers. In addition to impacting people's health, fires lead to forest loss, release large quantities of carbon dioxide into the atmosphere, and threaten biodiversity in Indonesia's most fragile ecosystems, adversely affecting the habitat of some of the country's most iconic species.

We monitor our concessions and surrounding areas for hotspots using satellite surveillance. When we detect a hotspot, we dispatch a geographic information system (GIS) team on the ground to confirm a fire. We train and equip firefighting teams at all our plantations within these concessions to take action at the first sign of an outbreak and report to headquarters immediately. Our firefighting crews also assist district and provincial governments in combatting blazes. Musim Mas engages and supports local communities through our Fire Free Village Program (FFVP) – or *Masyarakat Bebas Api (MBA)*. We educate communities on the risk of fires and adopting practices to transition away from traditional slash-and-burn land clearing methods. Under this initiative, we raise awareness, provide agricultural equipment, and incentivize communities that remain fire-free with infrastructure improvements and services.

The forest fires of 2020 proved to be far less severe than the blazes of August and September 2019. In 2020, our monitoring systems identified 151 hotspots within our concessions during forest fire season. Only 11 of these turned out to be fires, amounting to 23 hectares of unplanted area and representing a significant reduction over the area affected in 2019 (49 hectares). All of these fires broke out at our Kalimantan operations. Beyond our concessions, we detected 289 hotspots in areas surrounding our estates, 71 of which turned out to be fires, affecting 202 hectares. The number of fires in areas surrounding our estates in 2020 amounted to only 7% of 2019 levels. Despite COVID-19

Status of Fire Free Village Program 2016-2020 (no.)



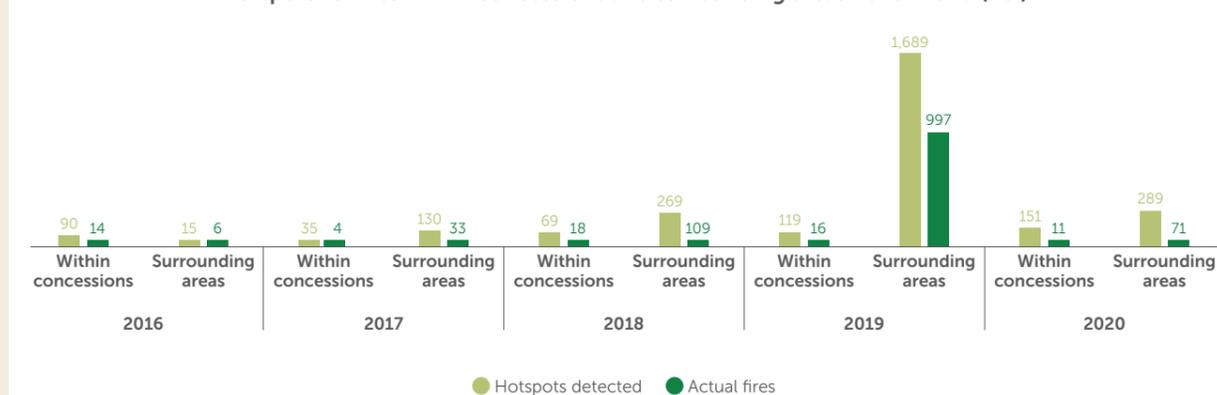
Note: Fire-free village monitoring began in 2016, so data is unavailable for that year.

restrictions, we conducted 144 fire trainings in 75 villages covered by the FFVP and rewarded 32 villages for remaining fire-free.

We continue to engage our suppliers on our No Burn policy and address the illegal use of fire through our grievance mechanism. We also educate smallholders on our NDPE requirements and teach them alternatives to setting fires to manage their crops.

» See supplier section on our fire and deforestation monitoring approach  
 » Fire Management and Prevention – Musim Mas

Hotspots vs. fires within concessions and surrounding areas 2016-2020 (no.)



**CARBON FOOTPRINT AND ENERGY**

GRI 305-1-2, GRI 305-4-5



Musim Mas takes the impact of climate change seriously and is strongly committed to minimizing greenhouse gas (GHG) emissions within our operations. Since 2006, we have continually reduced emissions, primarily through no new planting on peat and in conservation areas, and by employing good water management practices on existing planted peat, maintaining soil health and structure, and operating zero-discharge mills. We are also well on track to installing methane capture facilities at all our mills and are focusing on improving our yields while reducing reliance on emission sources such as fertilizers. We use the GHG Protocol methodology to track the GHG emissions at all our operations and the latest RSPO PalmGHG calculator to track GHG emissions at our RSPO-certified mills.

Our primary emission sources derive from peat and land-use change. In 2020, our overall net GHG emissions were 2,595,344 tonnes of carbon dioxide equivalent (MT CO<sub>2</sub>e), a 4.7% increase from 2019. Our GHG emission intensity was 3.17 MT CO<sub>2</sub>e per tonne of crude palm oil<sup>#</sup> processed (MT CO<sub>2</sub>e/MT CPO), a 13.2%<sup>#</sup> increase from 2019 figures<sup>13</sup>. These increases are due to a combination of reasons. We commissioned a new mill, PT Globalindo Alam Perkasa, at the end of 2019, resulting in higher methane emissions from palm oil mill effluent (POME), as treatment systems require some time to achieve optimum operating conditions. We also increased our replanting program in 2019, which lowered crop yields and resulted in higher intensity figures. Despite this, our intensity was 47% less than our 2006 baseline and we are well on track to reaching our 2025 target of a 55% reduction (2.68 MT CO<sub>2</sub>e/MT CPO).

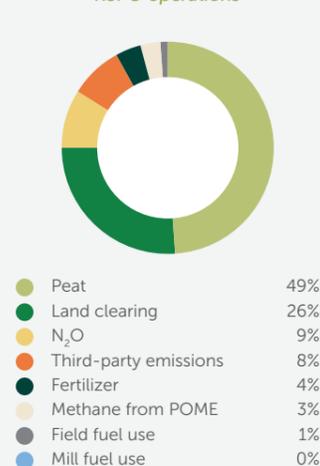
We have 15<sup>#</sup> methane capture facilities across our operations to harness methane generated from the treatment of POME, which in turn prevents emissions from being released into the atmosphere. In 2020, we avoided the release of 544,220 MT CO<sub>2</sub>e using these methane captures. We plan to build a 16<sup>th</sup> methane capture facility by the end of 2021 and another facility at our most recently commissioned mill by 2022.

**Scope 1 & Scope 2 emissions 2020 (MT CO<sub>2</sub>e) – All operations**

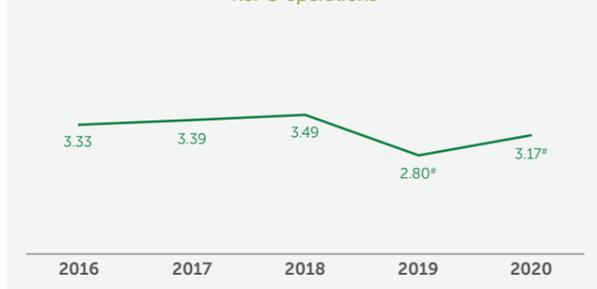
	Indonesia	Oil palm plantations	Palm oil mills
Scope 1	1,135,462	368,038	54,476
Scope 2	272,249	0	105

Note: See Sustainability performance data: 2016-2020 for Group-level data.

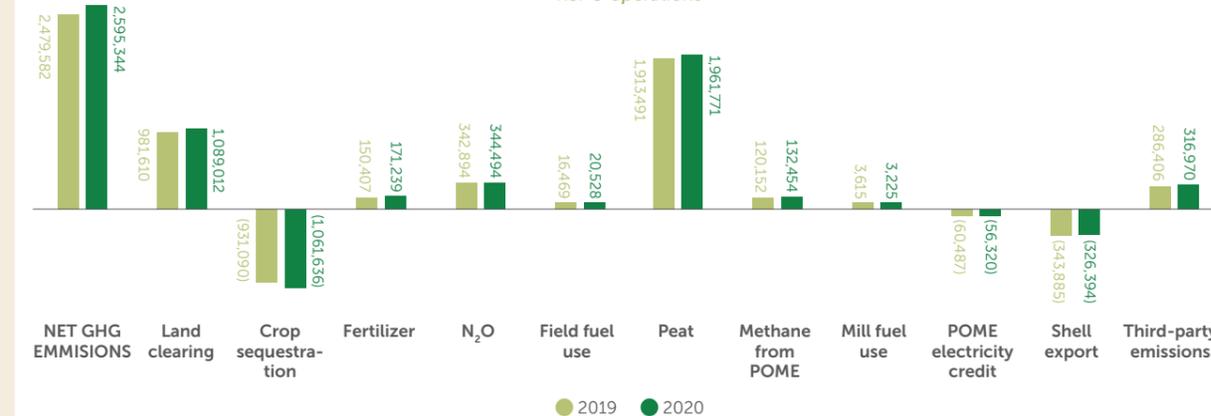
**Emissions by source 2020 (%)**  
RSPO operations



**GHG emission intensity 2016–2020 (MT CO<sub>2</sub>e/MT CPO)**  
RSPO operations

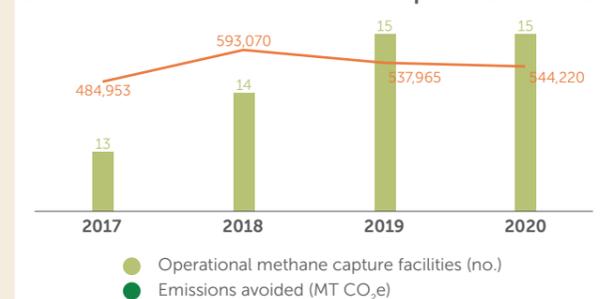


**GHG emission sources and sinks 2019–2020 (MT CO<sub>2</sub>e)**  
RSPO operations



Note: We do not include offsets from conservation area.

**Emissions avoided due to methane captures 2017–2020**



**Renewable energy from waste**

GRI 305-5

Musim Mas is proud to operate zero-waste mills. We reclaim 100% of the waste we produce and recycle it back into our processes. The stems and leaves from our plantations are mulched and applied as organic fertilizer. Dried decanter solids and boiler ash from our mills are repurposed as organic fertilizer at our plantations. We also reuse treated POME for irrigation and recover energy from empty fruit bunches, palm kernel shells (PKS), and palm fiber to fuel our boilers.

In addition to the above, our methane capture facilities reclaim methane from POME and harness it to generate electricity that powers our mills, estates, and workers' housing. **Any surplus electricity we generate is exported to the national grid, amounting to 31,987,614 kilowatt-hours (kWh) in 2020.**

**WATER MANAGEMENT**

GRI 303-1-2, 303-5

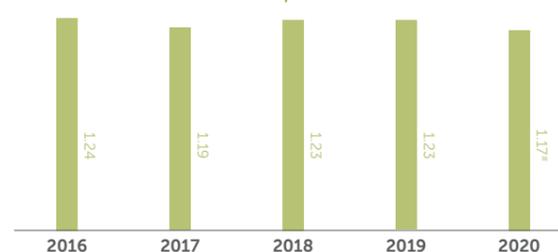


Recognizing that water is a finite global resource, Musim Mas has adopted comprehensive measures to maintain the availability and quality of surface water and groundwater for our business and surrounding communities. We draw surface water and groundwater at our plantations and mills for industrial uses, like steam generation, pesticide-mixing, seedling irrigation, and for domestic uses, such as cleaning and cooking.

**Water usage at mills**

Over the years, we have improved the efficiency of water usage at our mills. **In 2020, we achieved a water usage intensity of 1.17 cubic metres per tonne of fresh fruit bunches processed<sup>#14</sup> (m<sup>3</sup>/MT FFB), our lowest since 2016.** We have therefore reached our 2021 target of 1.2 m<sup>3</sup>/MT FFB ahead of schedule and will continue to maintain water usage intensity to below 1.2 m<sup>3</sup>/MT FFB year-on-year going forward.

**Mill water usage intensity 2016–2020 (m<sup>3</sup>/MT FFB)**  
RSPO operations



Note: In this report, we make clear that mill water usage intensity data is calculated at our RSPO-certified mills only.

<sup>13</sup> All GHG data in this section reflects data from the previous year, due to auditing cycles.

<sup>#</sup> EY has performed limited assurance procedures on these figures

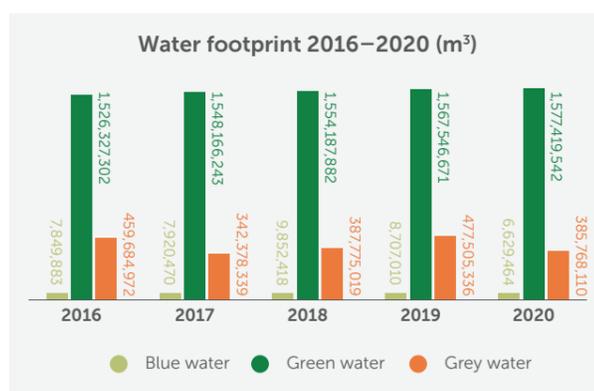
<sup>14</sup> The water usage intensity refers to RSPO-certified mills

<sup>#</sup> EY has performed limited assurance procedures on these figures

## Water footprint

Musim Mas is one of the few palm oil companies that employ the Water Footprint Methodology to calculate our annual water footprint. This approach measures the amount of rainfall our plantations receive and our total water consumption to calculate our water balance. We have maintained a positive water balance since 2016.

We continue to gather year-on-year data to build and understand our baseline. Once we collect sufficient data, we will assess whether our water use is environmentally sustainable, resource-efficient and equitably allocated, and draft a water footprint strategy in response to these findings.



Note: Blue water is fresh surface water or groundwater, green water is rainwater, and grey water is the amount of water used to dilute pollutants. Source: [Water Footprint Network](#). Data is derived from operational parameters including planted area, and concentrations of fertilizers, herbicides and pesticides, in addition to measured water consumption.

## Maintaining water quality<sup>15</sup>

We treat all POME before we discharge it. Biological oxygen demand (BOD) levels and chemical oxygen demand (COD) levels are strictly managed and kept below regulatory thresholds to avoid any impact on groundwater and nearby water sources. The BOD and COD data can be found on our [website](#). EY has performed limited assurance procedures on FY2020's figures. We also monitor phosphorus and nitrogen levels in watercourses at inlet and outlet points situated upstream and downstream of where rivers cross our concessions.



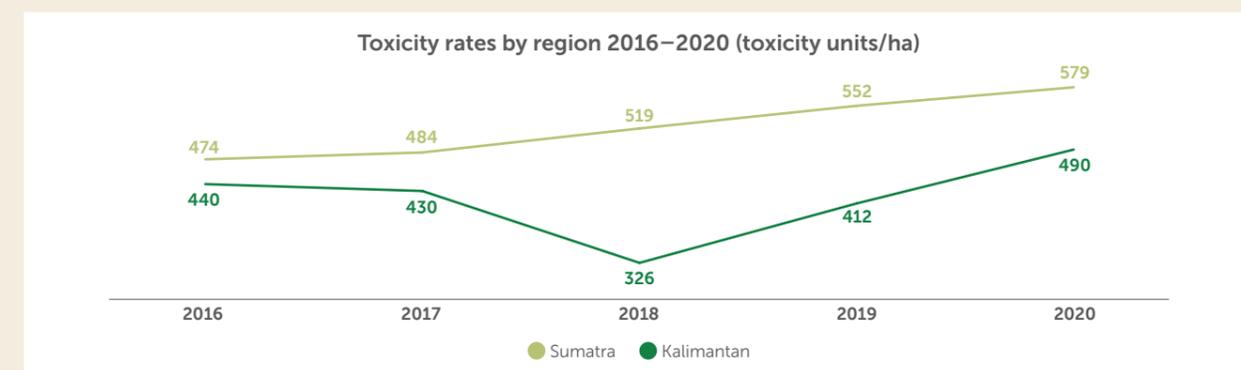
## CHEMICALS AND PESTICIDES

We are striving to reduce our reliance on chemical fertilizers and pesticides by optimizing their use and replacing them with organic substitutes where possible, which includes implementing an integrated pest management (IPM) strategy through research and development (R&D). In 2018, we issued a pesticide phase-out plan for ten pesticides after an independent review of the pesticides used at one of our Riau plantations against POIG requirements. **We have successfully phased out six of the ten pesticides, including Cypermethrin and Mancozeb, as of December 2020.** We are working on phasing out Chlorpyrifos, Coumatetralyl, and Warfarin by 2021 and continue to dialogue with POIG on our progress. Musim Mas is collaborating on a POIG working document that will showcase grower members' innovations on weed management and other IPM methodologies.

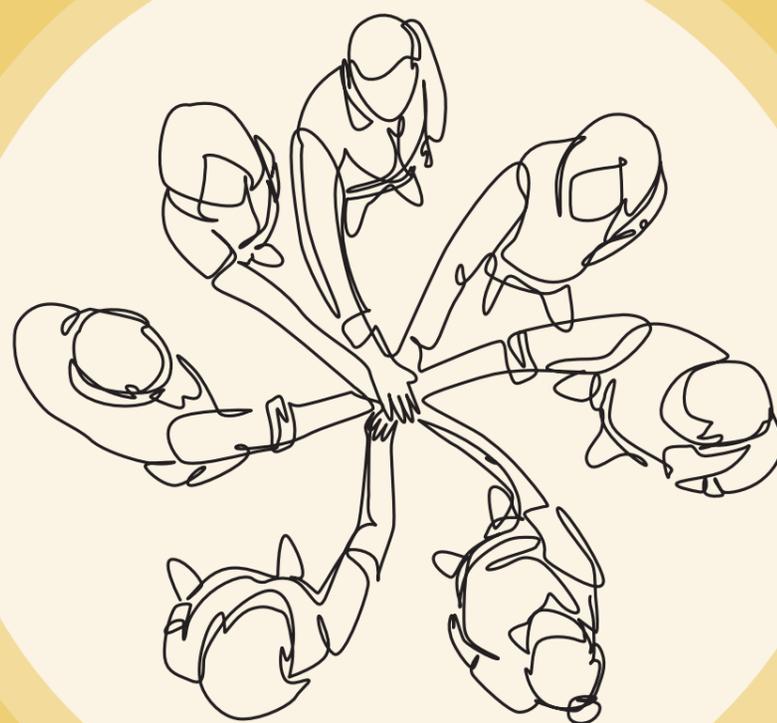
We track inorganic fertilizer use at our operations. In 2020, this amounted to 2.08 and 1.64 tonnes per mature hectare (MT/ha) for Kalimantan and Sumatra, respectively. We also track and monitor toxicity levels of the pesticides used at our estates. We strive to maintain our current levels at 400-600 toxicity units per hectare, closely aligned with palm oil industry best practices.

### Pesticide phase-out plan

Active ingredient	Type	Toxicity (rats) mg/kg LD50	Expected phase-out date	Progress/remarks
Brodifacoum	Rodenticide	0.4	Dec 2018	Achieved
Permethrin	Insecticide	430-4,000	Dec 2018	Achieved
Benomyl	Fungicide	>5,000	Dec 2019	Achieved
Glufosinate-ammonium	Herbicide	2,000	Dec 2019	Achieved
Cypermethrin	Insecticide	240-4,150	Dec 2020	Achieved
Mancozeb	Fungicide	>5,000	Dec 2020	Achieved
Chlorpyrifos	Insecticide	135-163	Dec 2021	Conducting trials for alternatives
Coumatetralyl	Rodenticide	16.5	Dec 2021	Awaiting government approval for use of alternatives
Warfarin	Rodenticide	186	Dec 2021	Awaiting government approval for the use of alternatives
Carbosulfan	Insecticide	250	For emergency use only	Currently no alternative. Musim Mas to seek POIG OC approval for emergency use.



<sup>15</sup> See our [website](#) on how Musim Mas manages palm oil refinery effluent (PORE) at our refineries.



## PILLAR 3: BUILD RELATIONSHIPS WITH SUPPLIERS, CUSTOMERS, AND STAKEHOLDERS

### PILLAR 3: BUILD RELATIONSHIPS WITH SUPPLIERS, CUSTOMERS AND STAKEHOLDERS

#### KEY HIGHLIGHTS: NOTABLE PARTNERSHIPS 2020-2021

##### CONTINUED PARTNERSHIPS

Smallholder Hubs in Aceh (Aceh Tamiang and Aceh Singkil) and Siak, Riau (Dayun) through government and peer partnerships (using platforms such as VSA, the PPI Compact, and partnerships with Proforest)		Landscape initiatives in Aceh Tamiang, Aceh Singkil, Siak, Pelalawan, Musi Banyuasin and Sambas with stakeholders including consumer goods companies, CORE (Daemeter and Proforest), Earthqualizer, Earthworm Foundation, Fire Free Alliance, IDH, Rainforest Alliance, TFA, LTKL, district governments, local NGOs and CSOs, peers and suppliers	
Musim Mas-IFC Smallholder Program with IFC	NDPE implementation, traceability to plantation and smallholder pilots with CORE	Satellite monitoring with Earthqualizer	Radar-based forest monitoring system, Radar Alerts for Detecting Deforestation (RADD)
Fire Free Village Program (FFVP) with local communities	NDPE IRF with the POCG	Palm oil multi-stakeholder initiatives, such as RSPO, POIG, HCSA and POCG, including working groups	Relaunching the Decent Rural Living Initiative (DRLI)
Coalition for Sustainable Livelihoods (CSL)	COVID-19 support for communities with local governments	Assessing impact of social programs at our Sorek plantation, Pelalawan with Corporate Citizenship	

##### NEW PARTNERSHIPS

AgriON platform launch in partnership with MUFG Bank, PT Bank Danamon Indonesia Tbk (Danamon), and iAPPS	Pilot project for HCSA's Social Requirement 13 with Forest Peoples Programme and independent consultant, Helen Newing	Ten-year project to help smallholder farmers in Sumatra with the Livelihoods Fund for Family Farming (L3F)	Labour assessment of our operations to develop and test supply chain tools with Verité
Improving biodiversity monitoring methodology with SEARRP	Assessing Musim Mas' systems and processes addressing human rights for own operations and supply chain with Proforest	Baseline land-use analysis of planted palm oil area around the Rawa Singkil Wildlife Reserve in Aceh Singkil with Satelligence	

#### KEY HIGHLIGHTS: 2020 RECOGNITIONS

Received PROPER Green Awards in 8 categories for palm oil companies	ZSL SPOTT: 85.7% Score; Ranked 6 <sup>th</sup> out of 96 palm oil companies in 2020 assessment	Forest500: 57% Score; Ranked 66 <sup>th</sup> out of 84 palm oil companies
Green Tigers: Score of 79; Ranked 3 <sup>rd</sup> out of 23 palm oil companies	EcoVadis: Awarded Bronze Medal	CDP: Forests 2020 (B) Climate Change 2020 (B-)* Water Security 2020 (B-)

\* EY has performed limited assurance to ensure that climate risk assessments were performed and are publicly available

## KEY HIGHLIGHTS: SUPPLY CHAIN

Musim Mas purchased CPO and PK from 610 supplier mills belonging to 279 supplier groups	Supplier engagement: 97%# submitted NDPE commitments 76% attended NDPE workshops 60%# completed SAT	100% traceability to mill 100% traceability to our supply base of independent smallholders 83% traceability to plantation for supply chain, up from 60% in 2019	 2021 NDP Risk Management Framework published
 Published and verified NDPE IRF profile 78% of volumes sourced are delivering on No Deforestation commitments	 Conducted 100% remote monitoring of our suppliers' concessions for deforestation, peat development, and fires 5.2 million hectares# of suppliers' concessions being monitored for fire and hotspots <sup>16</sup>	 Began developing new tools to assess human and labour rights in supply chains in 2021	 Launched five-year Aceh Landscape Strategy in September 2020

## STAKEHOLDER COLLABORATION

GRI 102-9, 102-13, 102-15, 102-21, 102-29, 102-40, 102-42-43



## Maintaining transparency

We maintain an open dialogue with our stakeholders, welcome constructive feedback to improve our operations, and strive to be transparent by keeping stakeholders informed on Group-wide matters. Musim Mas participates in several benchmarking and public assessment programs to evaluate our sustainability commitments and measure our progress.

Collaborating with stakeholders is a Musim Mas priority. We believe it is the only way the industry can effect meaningful change and tackle pertinent issues such as deforestation and labour concerns within and beyond our supply chains. Consequently, we participate in bilateral and multi-stakeholder partnerships that are industry-, landscape-, and issue-focused.

» [Musim Mas stakeholder table](#)

## COMMENTARY FROM ROGER CHARLES, EXECUTIVE DIRECTOR, ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT | STANDARD CHARTERED BANK (SCB), SINGAPORE

Standard Chartered believes that palm oil can be truly sustainable. However, many investment opportunities continue to remain inhibited due to a perceived negative image of the industry's sustainability credentials. Therefore, it is imperative that stakeholders across the value chain, including financial institutions, certification bodies, second-party opinion providers, and palm oil companies like Musim Mas, rise to the occasion by demonstrating and disclosing how palm oil can be produced sustainably.

Whilst the big palm oil players have implemented NDPE policies governing supply chains, banks understand the real-world challenges of managing these supply chains. We therefore seek transparency and proof of concrete measures addressing illegal deforestation, human rights abuses, negative impacts of land-use change on biodiversity and community ecosystem services, and other issues in the supply chains of organizations like Musim Mas. We commend Musim Mas' transparent grievance mechanism that keeps all stakeholders informed. However, there is room for continual improvement, and we recommend that Musim Mas implement key performance indicators (KPIs) that are more proactive than the reactive grievance mechanism. Today, we need to see disclosures that demonstrate credible action on RSPO certification, show progress on implementing NDPE policies within supply chains, and bringing some form of verification (such as certification) to suppliers.

About: Roger heads SCB's Environmental and Social Risk Management team, which reviews client transactions for alignment with the bank's sustainability policies and position statements. He works with Musim Mas within the context of the bank's palm oil portfolio. Musim Mas and SBC sit on the RSPO Board and have a long-standing business relationship that pre-dates Roger's six years at the bank.

<sup>16</sup> The figure and scope of monitoring has been restated.

# EY has performed limited assurance procedures on these figures

## COMMENTARY FROM MEIXI GAN, DEPUTY DIRECTOR OF SUSTAINABILITY | SINGAPORE INSTITUTE OF INTERNATIONAL AFFAIRS (SIIA)

Musim Mas is an important agribusiness sector stakeholder and often provides context and information supporting the SIIA's sustainability and palm oil sector research. This includes data that establishes a context for tracking agribusiness sustainability efforts for reports such as the SIIA's annual Haze Outlook. One of Musim Mas' strengths is the Group's active engagement and ongoing communication with its stakeholders through formal industry platforms and informal updates.

The SIIA regularly engages Musim Mas and other agribusiness and sustainability stakeholders because ensuring sustainable practices in the region is a responsibility shared by the entire industry. We highly recommend that Musim Mas leverage its partnerships and engagements to understand the supply chain down to smallholders and achieve 100% traceability to plantation. Smallholders comprise 40% of global palm oil supply and have a tremendous impact on sustainability issues in the sector. Therefore, it is essential that large companies, like Musim Mas, continuously engage with the smaller players in their supply chains, including mid-sized companies as well as independent and plasma smallholders, in addressing haze-related issues.

About: The SIIA is Singapore's oldest non-profit independent think tank. Musim Mas partners with the SIIA and regularly engages in the Institute's industry-related initiatives, including dialogues and workshops. Musim Mas has also provided grants for a number of SIIA projects, including a 2018 working paper exploring green financing for independent smallholders. As the SIIA's Deputy Director of Sustainability, Meixi Gan oversees the Institute's sustainability program focusing on environmental and social issues impacting the ASEAN region.

## THE MUSIM MAS SUPPLY CHAIN

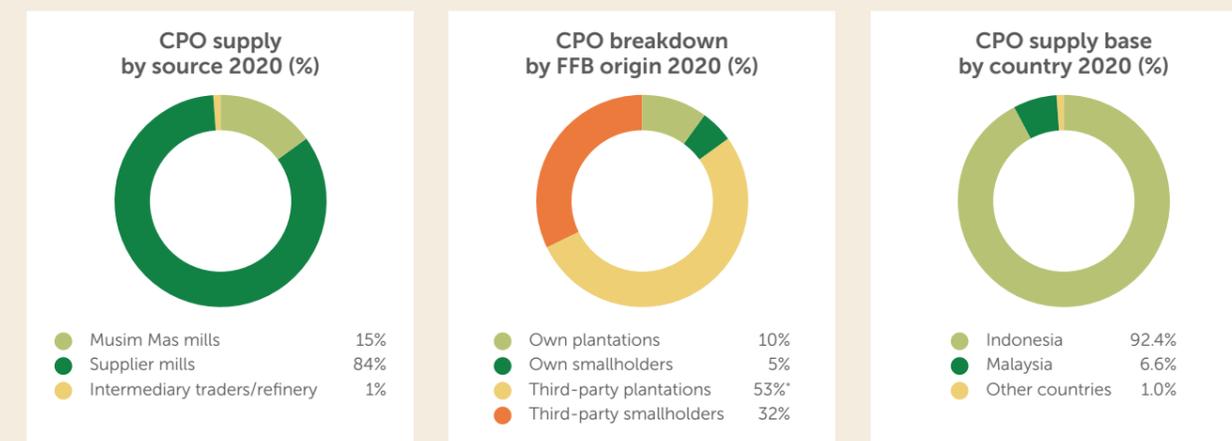
GRI 102-9, GRI 204-1, GRI 304-1, GRI 308-1-2, GRI 414-1-2



## Overview

Our refineries source from 610 third-party suppliers. In terms of volumes, 84% of our total crude palm oil (CPO) comes directly from third-party supplying mills and 1% indirectly from intermediary refiners and traders. Of this total, 53% originates directly from these third-party suppliers' plantations, and 32% comes from smallholders that sell to them. The remainder is sourced from 18 Musim Mas-owned mills (10%) and scheme and independent smallholders who directly supply to us (5%).

The bulk of this supply originates in five Indonesian provinces, where we actively maintain supplier engagement and landscape initiatives.



Note: Some significant difference in data compared to 2019 figures. This is because there is an improvement in the quality of 2020 data compared to 2019 figures due to our progress on traceability.

\* This represents our third-party supplying mill's FFB sourced from own plantations and third-party plantations

## Suppliers' progress on NDPE commitments

Engaging with suppliers to adopt the standards comprising Musim Mas' NDPE commitments is at the forefront of our efforts. Because their progress will determine the success of our entire supply chain, we engage with all suppliers on our policy obligations and require them to:

Attend our NDPE workshops

Submit NDPE commitments

Complete the Musim Mas SAT

Third-party mills that supply palm oil products to our refineries must adhere to individual action plans to meet these commitments. Our engagement plan for suppliers can be found on our [website](#).

As of December 2020, 97% of our supplying mills<sup>#</sup> have signed and delivered their NDPE commitments to Musim Mas, representing almost 99%<sup>#</sup> of the total volumes we sourced in 2020. Of this volume, 98.2%<sup>#</sup> originates from direct suppliers, while less than 1%<sup>#</sup> originates from indirect suppliers.

**By 2025, 100% of our suppliers will have been engaged on NDPE requirements through the three approaches (workshops, commitments and SATs).**

» [Musim Mas NDPE Roadmap](#)

Supplier progress on NDPE commitments 2019–2020 (%)



## NDPE Roadmap challenges and updates

We developed our initial NDPE Roadmap in 2019 in response to stakeholder needs at the time. The Roadmap clarified our definitions and outlined our distinct approaches to primary and secondary suppliers (based on the percentage of volume). It also committed Musim Mas to reporting on suppliers at the group level. We initially focused on the level of influence we had on suppliers according to our commercial relations and our engagement efforts targeted senior management at corporate headquarters instead of individual mill managers.

However, as we progressed, we realized that, for practical reasons, we must report on and monitor the situation at the mill level to ensure that suppliers adhere to our NDPE commitments. We have also adopted mill-level reporting in line with the industry-led POCG NDPE IRF. Additionally, the palm oil industry has published the [Universal Mill List](#), a global database of palm oil mills that aims at improving transparency at the mill level<sup>17</sup>. Despite these advances, we recognize that engaging suppliers at the group level is essential to our sustainability efforts.

In 2021, we will be updating our NDPE Roadmap to reflect lessons learnt on supplier categorization, mill-level engagement, and plans to bring suppliers into compliance with our NDPE commitments. The revision will also incorporate the latest developments from our revised Sustainability Policy, our new Aceh Strategy, and our 2021 NDP Risk Management Framework. [See our website for updates.](#)

<sup>17</sup> The Universal Mill List is a publicly available list of mills accessible across a number of platforms including Global Forests Watch (GFW), GFW Pro, RSPO PalmTrace and Starling.

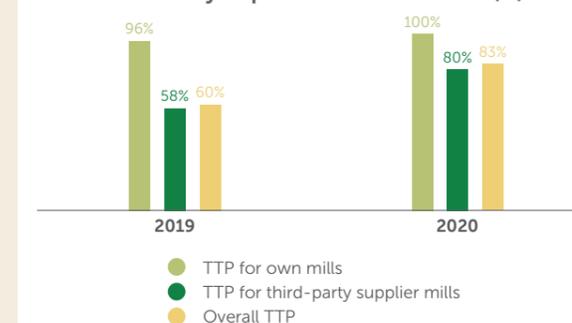
<sup>#</sup> EY has performed limited assurance procedures on these figures

## Achieving traceability to plantation



To fully address deforestation and peat development risks, we need detailed knowledge of the supply sheds of our independent mills<sup>18</sup> and third-party suppliers. Therefore, we have focused our efforts on achieving traceability to plantation (TTP) or place of production as part of our NDPE Roadmap<sup>19</sup> and have arrived at full visibility across our plantations. **In 2020, we achieved 100% TTP to our supply base of independent smallholders supplying our own mills and 80% TTP to third-party supplier mills. This means our overall traceability to plantation is 83%, up from 60% in 2019. We are on track to reach 100% by 2025.**

Traceability to plantation 2019–2020 (%)



## Assessing and managing NDP risk in the supply chain

We use traceability data supplied by mills to overlay supply sheds with maps of conservation areas, peat and forest cover. Based on the extent of overlap, we classify mills as high, medium and low risk. High-risk mills are subject to detailed mapping and/or ground truthing to eventually eliminate any palm oil fruit linked to deforestation or peat.

In 2020, we conducted a preliminary assessment of the 359 mills that had completed 100% traceability to plantation (roughly 59% of our full supply base of mills, including our own mills). Of the total mills that underwent this assessment, 40%<sup>#</sup> were classified as low-risk, 37%<sup>#</sup> as medium-risk, while the remaining 23%<sup>#</sup> were designated high-risk mills<sup>20</sup>.

We attempt to limit NDPE risks at mill level through written NDPE commitments from suppliers and the Musim Mas SAT. Musim Mas conducts supplier NDPE workshops<sup>#</sup> at our own and third-party mills to familiarize suppliers with potential deforestation and peat risks in their supply sheds. We also have internal verification teams carry out ground checks on traceability information and supply shed data at mills involved in grievances. By establishing Smallholder Hubs at the jurisdictional level, we are also equipping provincial and district extension officers with training skills and materials for outreach to independent smallholders, including those outside our current sourcing areas. An NDPE training module and a dedicated NDPE handbook have been developed for this purpose.

We view high-risk mills in the Aceh province as our top priority. For this reason, we launched our [Aceh Strategy](#), which spells out our approach and details the other pilot projects we have lined up to corroborate the traceability information we have collected. We will soon launch strategies for other landscapes within our supply base with 'risky' mills. We will also continue to use external tools, such as concession monitoring by Earthqualizer and the Radar for Detecting Deforestation (RADD) system to support our risk monitoring.

## NDP Risk Management Framework

While our NDPE Roadmap outlines how we will engage our operations and suppliers on NDPE commitments by 2025, we recognize the need for a better-defined procedure to quantify and mitigate NDPE risks at our independent mills and those of our third-party suppliers. **Our NDP Risk Management Framework was released in September 2021 and clearly outlines our approaches to risk identification, assessment, mitigation and monitoring. We will pilot these approaches at our Aceh sourcing area before a full launch and roll out to all our suppliers at the end of 2021.** From 2022 onwards, we will use the new Framework as the foundation of all NDP risk reporting across our entire supply base, including our annual sustainability reports.

» [NDP Risk Management Framework](#)

<sup>18</sup> Independent mills are mills under Musim Mas' control that source from independent smallholders instead of Musim Mas plantations.

<sup>19</sup> Unless otherwise stated, all traceability data refers to volume of CPO. Plantation refers to the place of production, be it a large industrial plantation with concessions, a large farm without a mill, or a smallholder farm.

<sup>20</sup> Data may be subject to change as we enhance and refine our methodology.

<sup>#</sup> EY has performed limited assurance procedures on these figures and information

**Certified suppliers**

As of December 2020, we have identified our suppliers who are RSPO, ISPO or International Sustainability and Carbon Certification (ISCC) certified (including those with multiple certifications). In 2021, we will use the guidelines outlined in our NDP Risk Framework to better identify suppliers' respective risk levels based on these certifications.



**Reporting on NDPE progress using the Implementation Reporting Framework (IRF)**

Since 2019, we have evaluated the progress of each of our supplying mills against NDPE commitments via the industry-led NDPE IRF. This tool systematically assesses how supplying mills deliver on NDPE commitments. It also clarifies how far they have progressed towards full compliance. The framework currently covers No Deforestation and No Peat criteria, while the No Exploitation component is under development.

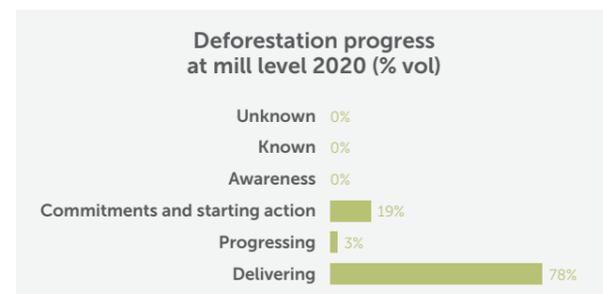
Using our **supplier engagement process**, we determined which mills supply volumes that respect NDPE IRF framework guidelines. **Of our total volumes sourced in 2020, 78% originated at mills delivering on their No Deforestation commitments, while 58% came from mills delivering on their No Peat commitments.** All of these Mills are RSPO Identity (IP) or Mass Balance (MB) certified, while some are also monitored via satellite for deforestation and development on peat. Of the remaining volumes sourced, 19% originated at mills that have promised or have taken action to ensure their volumes comply with our No Deforestation commitments, while 2% have done this for our No Peat commitments. Another 3% have made No Deforestation action plans and made progress on bringing their directly managed areas and third-party suppliers into alignment with our commitments, while 40% have made progress on their No Peat action plans.

At the production level, we know that 84% of suppliers are delivering on their No Deforestation commitments, while 16% have made commitments and are planning or initiating action. This data covers production bases directly managed by third party mills that are known sources (where TTP has been achieved). We can therefore claim a higher percentage of compliance with NDPE commitments at

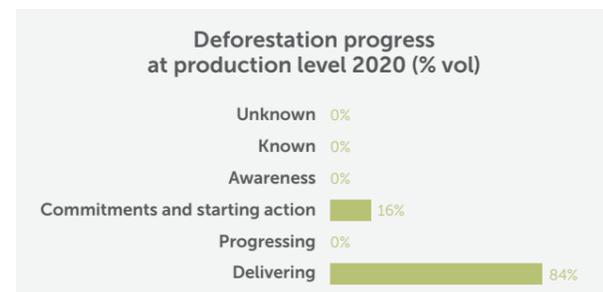
these sites compared to those that participate in mill-level reporting, which may include third-party supply bases that are currently unknown.

In July 2021, Control Union independently verified our NDPE IRF reporting for all Musim Mas refineries in Indonesia. This exercise followed a partial verification completed in 2020 per a customer's request and covered six refinery profiles and 153 mills. After years of self-reporting, our 2021 verification process represents a natural evolution and significant next step towards the development of a robust independent verification process governing our NDPE commitments, paving the way for trustable NDPE disclosure across the entire palm oil value chain.

**Supplier deforestation progress using NDPE IRF**

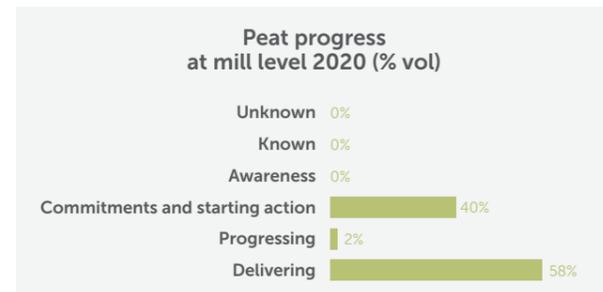


Note: If not indicated, equal volume per mill is assumed



Note: Volumes are based on an estimate of FFB proportions from directly managed production

**Supplier peat progress using NDPE IRF**



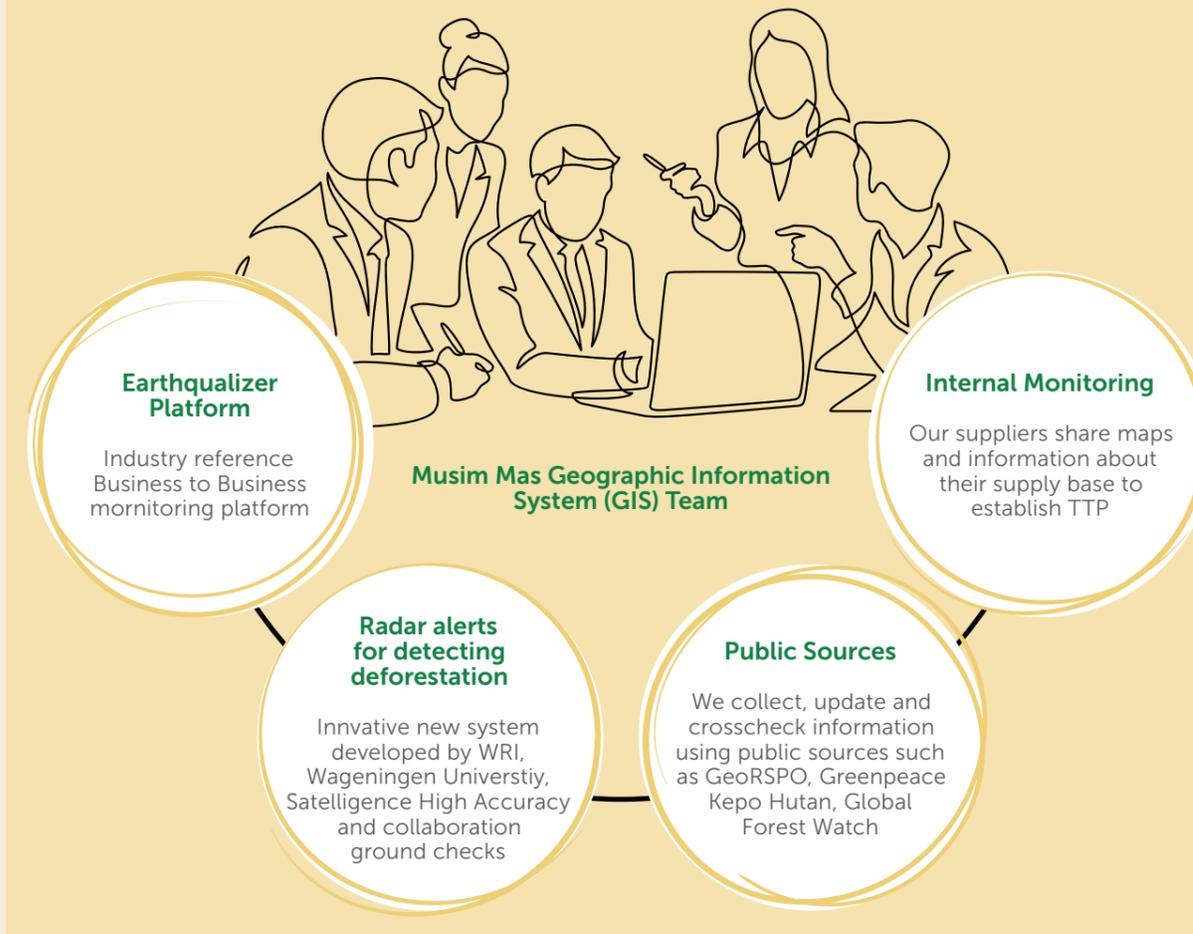
Note: If not indicated, equal volume per mill is assumed

Musim Mas sees the NDPE IRF platform as a way for the industry to monitor progress collectively and to focus our actions according to how we categorize suppliers within the Framework. Suppliers that fall into the 'commitments', 'progressing', and 'delivery' categories are on their way to meeting industry-wide NDPE commitments either because they are RSPO IP or MB certified or because we have achieved traceability to plantation and are able to monitor their concessions using satellite surveillance. As an industry, we must endeavor to use the Framework to identify and address the challenges faced by suppliers categorized as 'aware' or 'known' and avoid using the assessment to cherry-pick or 'green-pick' suppliers from the first two or three categories. Our approach is to work collaboratively to support these suppliers through our supplier engagement programs, landscape initiatives and Smallholder Hubs. We actively participate in the Production and Protection Beyond Concessions Working Group of the POCG to address some of these issues and to realize the collective ambition of a sustained, inclusive transformation of our industry.

**Deforestation monitoring**

As we progress on our suppliers' implementation of NDPE commitments, we proactively monitor our supply chains to detect and confirm deforestation, development on peat, and fires. Our Geographic Information System (GIS) team uses a combination of internal and external methods and platforms to monitor landscapes across Indonesia and Malaysia. Confirmed cases of NDPE violations by existing suppliers will trigger our grievance mechanism and, depending on their severity, may also trigger our Controlled Purchase Protocol (CPP). We support alert systems and field-checking initiatives that collect landscape-level spatial development information that can guide future expansion, and help steer development into legal areas. We augment this work with our outreach programs and landscape initiatives.

**In 2020, our GIS team carried out remote monitoring of 100% of our suppliers' concessions for deforestation, peat development, and fires.**



## COMMENTARY FROM STEFANO SEVERI, RESPONSIBLE SOURCING TEAM | FERRERO TRADING LUX S.A.

Ferrero has sourced sustainable palm oil that is 100% segregated, RSPO-certified and traceable back to plantation since 2015. For a time, we stopped sourcing from Indonesia because no palm oil suppliers met our strict sustainability and quality criteria. Musim Mas was a crucial partner on reversing this decision.

Musim Mas excels at managing sustainability issues at its mills and plantations and across its entire supply chain, sharing best practices with third-party suppliers, including smallholders. Musim Mas also consistently rates amongst our top palm oil suppliers with respect to worker health and safety at the plantation and mill levels.

Musim Mas' integrated supply chain model is a precondition for doing business with Ferrero. Adherence to this model maximizes food quality and safety and allows greater control over sustainability. The resulting product is unmatched by the bulk of Indonesian producers, so Musim Mas is the main supplier of the palm oil we source from Indonesia.

Ferrero is looking forward to Musim Mas' upcoming projects, including landscape development in Indonesia. We hope that Musim Mas continues to partner with industry players, governments, and NGOs to implement progressive policies and programs that promote sustainability and push the boundaries of ethically sourced palm oil.

*About: Stefano Severi is Ferrero's Raw Material (formerly cocoa and hazelnuts) Responsible Sourcing Senior Manager. Ferrero mainly sources its Indonesian palm oil from Musim Mas and updated its Palm Oil Charter in June 2021 to 'go beyond the baseline for responsible palm oil sourcing'.*

### Addressing No Exploitation in supply chains

The industry has clear guidelines for assessing and monitoring No Deforestation and No Peat risks within supply chains. However, developing the same level of guidance for No Exploitation is more challenging due to the potentially broad scope of 'no exploitation'. Within the POCG, we are developing a Human Rights Due Diligence (HRDD) Framework to support companies in delivering on their No Exploitation commitments. In the meantime, our current approach to addressing the elements of No Exploitation is based on our own due diligence. We have put into place a self-reporting questionnaire for suppliers to assess compliance with our social NDPE commitments. In addition, we monitor and address public concerns raised against suppliers regarding land, labour and social conflicts, and other 'exploitation'-related issues on a case-by-case basis. However, we recognize the reactive nature of this approach and the need for a more proactive process that aims at preventing human and labour rights violations. We will refine this component as new approaches become available.

### New tools in development to assess human and labour rights

In 2021, Musim Mas will engage Verité to develop and test tools that assess the human and labour rights component of the 'No Exploitation' pillar of our NDPE policy. This exercise will result in a robust monitoring system following a review of our current due-diligence procedures and supplier-monitoring systems relating to human and labour rights. Verité will also facilitate a risk mapping and risk prioritization exercise to segment our suppliers based on their level of risk. Upon its completion, suppliers will have to undergo labour assessments or demonstrate other ways they are complying with these commitments.

These upcoming tools will align with POCG's HRDD Framework and other reporting protocol requirements. They will comprise program strategies, controls and other interventions Musim Mas can implement to improve our suppliers' adherence to human and labour rights requirements.

### Baseline assessment: non-certified suppliers

Verité will conduct a comprehensive review of three non-certified suppliers' systems, policies, and practices against human and labour rights standards established by RSPO, POIG and other

relevant industry and government bodies. This baseline assessment will focus on non-certified suppliers, whom we consider the most at-risk. The gaps and challenges impacting these highest-risk suppliers will inform the baseline indicators used in future assessments.

We will then test these tools to determine whether we can use them to close these gaps and reduce the impact of the challenges facing these highest-risk suppliers. We will also verify how these tools can help high-risk suppliers prepare and implement a labour compliance management system.

We will review our existing human rights due diligence methodologies and supplier monitoring systems during a baseline assessment scheduled from Q4 2021 to Q2 2022. Due to the ongoing COVID-19 pandemic, Verité will be conducting this assessment remotely.

### New engagement with Proforest to assess Musim Mas' systems and processes

In August 2021, Musim Mas engaged with Proforest to assess and provide a complete overview of the systems and processes we have in place to address human rights and the actions required to properly embed human rights concerns across our business operations and supply chain.

## GRIEVANCES

GRI 102-17, GRI 408-1,  
GRI 409-1, GRI 411-1,  
GRI 414-2



### RSPO cases against Musim Mas

From 2020 to March 2021, three complaints were raised against Musim Mas through the RSPO, one of which has since been dismissed. One of these cases was raised in January 2021, alleging that one of our subsidiaries operates without a valid land use permit (*Hak Guna Usaha* or *HGU*). The case has been adjourned pending the outcome of ongoing legal proceedings.

Another case was raised against two of our subsidiary mills in North Sumatra alleging breaches to labour rights. However, after a special audit report conducted by a certification body, we were deemed to operate in compliance with the RSPO Principles and Criteria 2018. As per the Complaints Panel's *Decision Letter*, the case was dismissed in July 2021, pending the expiry of the 60 day appeal period.

The remaining case, involving a series of potential environmental breaches, was raised by an anonymous complainant against our PT Musim Mas operations in

Riau. Musim Mas provided a response to the RSPO documenting the complaint management process. Riau is an area developed more than 20 years ago and has long been certified as RSPO IP. A special audit was commissioned to confirm the accuracy of these allegations, and we are awaiting the RSPO decision at the time of this report's publication.

» [Latest progress on PT Musim Mas case](#)

### Supplier grievances

In 2020, 17 grievances were filed against our suppliers through the Musim Mas grievance mechanism. Of these, 35% were closed during the year. We are working with the affected suppliers and stakeholders to resolve the remaining 11 cases and active cases from previous years. Of the total grievances raised, 14 cases were linked to non-compliant deforestation covering approximately 2,620 hectares. Including 2019 grievances, the total hectareage linked to non-compliant deforestation amounts to 5,684 hectares.<sup>21</sup>

Grievances filed after December 2019 are subject to our Controlled Purchase Protocol (CPP), which ties grievance management to the way we conduct

business with our suppliers. The controlled purchase approach helps suppliers meet the NDPE commitments they have breached and offers incentives to those suppliers who demonstrate their intent to become sustainable. This protocol is based on three principles: suppliers' willingness to engage, positivity to act, and demonstration of progress against agreed-upon milestones and criteria.

» [Controlled Purchase Protocol](#)

As of December 2020, **Musim Mas stopped purchasing from PT Arjuna Utama Sawit because the supplier was found to have breached our NDPE commitments.** However, we continue to engage with them to address their issues, and in August 2021, they successfully met our CPP re-entry criteria<sup>22</sup>. Another supplier, **KPN Plantation, was re-admitted into our supply base after submitting evidence showing compliance with CPP re-entry criteria.** We will continue to monitor the implementation of KPN Plantation's action plans before normal business relations can resume. Musim Mas continues to monitor progress on 28 grievances raised since 2015 that remain active. Further details are available on our Grievances webpage.

### Grievances raised and closed 2020

Grievance raised by category	Raised	Closed
Deforestation	14	6
Sourcing of FFB from protected areas	1	0
Labour rights	0	0
Deforestation/social conflict	0	0
Land disputes	2	0
<b>Total</b>	<b>17</b>	<b>6</b>

### Cumulative grievances raised and closed 2015–2020

	Raised	Closed	Active
<b>Total</b>	<b>100</b>	<b>72</b>	<b>28</b>

Note: the number of active cases may include repeated cases.

» [Musim Mas' grievances](#)

<sup>21</sup> Data not available prior to 2019.

<sup>22</sup> See our website for the [latest updates](#) on PT Arjuna Utama Sawit.

## SPOTLIGHT: THE CHALLENGES OVERCOME BY MUSIM MAS' SUPPLIER MOPOLI RAYA

### BACKGROUND

In 2015, a subsidiary of Mopoli Raya, PT Aloer Timur, was linked to the clearance of HCS forests for palm oil expansion in the Aceh Leuser Ecosystem. Upon verification of this grievance, we stopped sourcing from this supplier. Following a continuous engagement process, the company demonstrated its clear intent to adhere to our NDPE commitments. In 2019, Mopoli Raya confirmed its sustainability commitments, published its relevant policies, signed a declaration to conserve 1,382 hectares of HCV area, and conducted and published a HCSA assessment. As a result of these actions, Mopoli Raya met the conditions of our CPP, and Musim Mas resumed sourcing from this supplier.

### UNDERSTANDING THE CHALLENGES

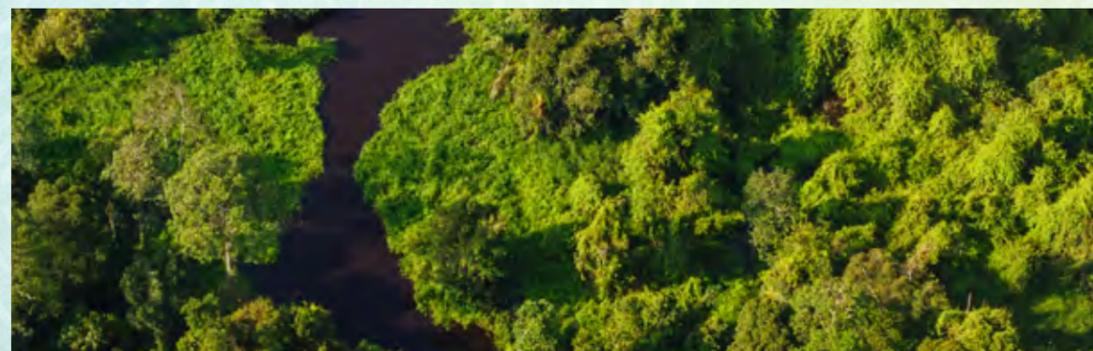
In the course of our engagement on the ground, we saw first-hand that the Mopoli Raya team was committed to resolving the issues raised in the NGO reports and remained cooperative and receptive to our guidance. However, the company needed extra financial and human resources to align its commitments with industry NDPE standards.

**Grievance resolution timeline:** The grievance took **four years** to resolve, primarily for the following reasons:

- **6 months** for Mopoli Raya to engage consultants to conduct HCS and pre-HCV assessments.
- **11 months** for Mopoli Raya to carry out field checks after our desktop spatial analysis indicated land clearing activities on the identified HCS areas following the initial assessment. Mopoli Raya determined local communities occupying the land had carried out these clearing activities and vigorously engaged with Musim Mas during this period.
- **1 year** for Mopoli Raya to conduct a tenure assessment and closely coordinate with local village heads to address land occupation issues and manage the resulting conflict. Progress was also dependent on the communities' willingness to be engaged.
- **1 year** for Musim Mas to engage with Mopoli Raya to resolve the 2015 grievance to our satisfaction and to review the company's demonstrated commitment to sustainability.

**Finding the needed human and financial resources:** Mopoli Raya needed extra human and technical resources to manage the environmental and social issues to the satisfaction of Musim Mas and our stakeholders. Many of our suppliers do not have the resources or the available talent pool to hire people in remote areas to work on sustainability issues. HCS/HCV assessments are also expensive, and the cost can present a barrier for many companies.

The Mopoli Raya story represents one company's challenges. The resolution of grievances can vary, based on the size and type of supplier and the willingness of a company to manage its environmental and social risks. Musim Mas continues to work with individual suppliers on a case-by-case basis to resolve grievances and guide them towards NDPE compliance using customized roadmaps based on their unique situations and available resources.



### COMMENTARY FROM YULANDA CHUNG, HEAD OF SUSTAINABILITY, INSTITUTIONAL BANKING GROUP | DBS BANK LTD, SINGAPORE

DBS supports Musim Mas' approach of supplier engagement over complete suspension and considers the Controlled Purchase Protocol a sound and credible initiative. Musim Mas is an industry leader and a recognized champion of environmental, social, and governance (ESG) issues amongst palm oil producers. While other industry ESG campaigns and conversations can feel one-sided, Musim Mas is responsive and open to constructive feedback about its ESG policies. They understand that promoting responsible and sustainable production is the best way forward for the company, the industry, and oil palm-producing countries.

*About: Yulanda Chung is responsible for sustainability at the Institutional Banking Group (IBG), the corporate banking arm of DBS. Her work encompasses ESG management and integrating ESG issues in financial products and services. Musim Mas is a long-time DBS client.*

### GOVERNMENT ENGAGEMENT AND LANDSCAPE INITIATIVES

GRI 203-1-2, GRI 304-1, 304-3, GRI 413-1-2



Focusing on mills is an obvious strategy for having an impact on our supply base, but it is not enough to effect lasting change in our economic sector. To have a tangible, long-term impact, we must integrate smallholders, communities, suppliers, and geographic regions into our approaches. To achieve this goal, we must collaborate closely with other oil palm processors, downstream actors in consumer markets, civil society entities, and governments, especially at the local level.

We have identified **four provinces** in Indonesia as priority landscapes based on our sourcing areas, the volumes of oil palm sourced, and the pertinence of NDPE issues to their landscapes and ecosystems. We are pursuing tailored programs in these priority landscapes to engage mills and smallholders with the support of local governments, various implementation partners, and peer collaborators.

**Due to COVID-19 restrictions, Musim Mas has temporarily suspended our on-the-ground sustainability efforts in these priority landscapes. Instead, we have focused our efforts exclusively on our five-year landscape strategy for Aceh in 2020.**



- » Musim Mas landscape approach
- » See Smallholder Hubs section

## New five-year landscape strategy for Aceh

In November 2020, Musim Mas launched an NDPE landscape roadmap for the Aceh province. This framework will guide our approach to ensuring that suppliers within this landscape adopt NDPE commitments. While we do not own any mills, plantations, or refineries in Aceh, we source crude palm oil and palm kernel from approximately 31 mills across the province, making it an important landscape for Musim Mas. Our Aceh Strategy summarizes our efforts to ensure NDPE compliance in our supplier base while also contributing to the economic development of the province's smallholders.

The three objectives of our Aceh Strategy comprise a defined set of measurable targets that indicate progress. These targets extend beyond our suppliers' immediate sourcing areas through collaborations with extension agents and cover entire districts through Smallholder Hubs, not just existing supply sheds. The Strategy also encompasses our partnerships and participation in initiatives that monitor and forecast oil palm development in the areas surrounding the threatened Leuser Ecosystem. These include participating in the Radar Alerts for Detecting Deforestation (RADDD) initiative, supporting the Earthworm Foundation's spatial planning work in the area, trialling a simplified HCSA checklist for smallholders, collaborating on an integrated HCV/HCS assessment in Aceh Timur, and partnering with Satelligence to detect oil palm development trends in Rawa Singkil.

The scope of the strategy covers our supply base in Aceh and an initial period from 2020 to 2025. We will augment the strategy, as needed, with specific action plans lasting two to three years and will also explore developing similar strategies for our other three priority landscapes.

» [Aceh Strategy 2020-2025](#)



## Government collaboration is critical to smallholder engagement at the landscape level

Strong local government engagement and support have resulted in an empowering environment that can guide the industry towards implementing NDPE commitments at scale. We need to understand local governments' plans and objectives and align our goals with theirs to build capacity at the local level.

The Smallholder Hub in Aceh Tamiang is part of a Verified Sourcing Area, a model developed by IDH (*Inisiatif Dagang Hijau*, The Sustainable Trade Initiative) and recently adopted by agricultural producers in Indonesia. This multi-stakeholder partnership is steering a landscape-wide collaborative project that aims to implement the national Green Growth Plan across agribusiness sectors in Aceh while reducing deforestation, promoting sustainable agricultural production, and improving livelihoods.

The government has been instrumental in supporting the project and establishing a Center of Excellence (*Pusat Unggulan Perkebunan Lestari* or PUPL). This collaborative space brings together the government, private industry, smallholders, NGOs and other stakeholders. The project is also supported by the Leuser Conservation Forum (*Forum Konservasi Leuser* (FKL)), an organization assisting with planning and implementing activities such as monitoring and patrolling the Leuser Ecosystem.



## COMMENTARY FROM FITRIAN ARDIANSYAH, CHAIRPERSON, AND FETRIZA RINALDY, PROGRAM MANAGER OF LANDSCAPES AND COMMODITIES | INISIATIF DAGANG HIJAU (IDH) THE SUSTAINABLE TRADE INITIATIVE

IDH recognizes Musim Mas as an outstanding provider of training on agricultural best practices to farmers on the ground. The company offers guidance in the form of well-structured modules that engage farmers and build enthusiasm for the adoption of improved farming methods. In addition, Musim Mas' learning programs extend beyond capacity building to cover pressing issues, like access to financing, replanting, and the legality of land ownership titles. By addressing these concerns, the company is increasing productivity while improving livelihoods.

To be a leader, Musim Mas can strengthen its leadership role by helping smallholders access financing, as they have done in the past with the IFC, thus raising agricultural standards and safeguarding local ecosystems through sustainability provisions in loan agreements.

Musim Mas and IDH are collaborating on a Smallholder Hub in Aceh Tamiang to develop a Verified Sourcing Area that connects both local and global buyers and sellers. As part of this pilot, our companies are working with local and government stakeholders on several initiatives and sharing our expertise to help educate trainers who can then provide agricultural and other training to improve smallholders' yields and livelihoods. A key determinant of the success of the Smallholder Hub will be how well the program is linked to buyers of and sellers from the Verified Sourcing Area, specifically how buying and selling from the VSA improves farmer productivity and livelihoods and protects forests.

We are looking to scale the programs and materials Musim Mas developed for the Aceh Tamiang Smallholder Hub beyond the 2,000 farmers in the VSA to the entire district. As a next step, we are helping Musim Mas introduce its materials to local governmental plantation agencies, thus advancing and improving the knowledge of a wider circle of local trainers.

On top of our continuing partnership in Aceh Tamiang, IDH will be partnering with Musim Mas at Musi Banyuasin in South Sumatra. Together, and with local government and stakeholder support, we will be exploring a VSA adapted to that particular landscape.

About: Musim Mas and IDH partner and collaborate through initiatives that include the Tropical Forest Alliance (TFA) and the Fire Free Alliance (FFA). In 2020, the two organizations entered into a bilateral agreement to help protect the Leuser Ecosystem in Aceh, thus connecting Musim Mas' NDPE policy commitments with the Indonesian government's Green Growth Program and its Protection-Production-Inclusion (PPI) Compact. We are working on a similar project in Musi Banyuasin.



# PILLAR 4: DRIVE INNOVATION IN SUSTAINABLE PRACTICES



## PILLAR 4: DRIVE INNOVATION IN SUSTAINABLE PRACTICES

Demand for palm oil will continue to grow over the next three decades. For this reason, agri-businesses like Musim Mas must focus on improving land-use efficiency and productivity and maximizing yields today. Increasing crop yield reduces the need to expand plantations, reducing our impacts on biodiversity and forests and lowering emissions.

### INNOVATION AND R&D



Musim Mas R&D teams are currently researching and developing premium seedlings that enhance the quality of fresh fruit bunches (FFB), increase our yield per hectare, and improve oil extraction rates. **We lead the industry in crude palm oil (CPO) yield, which was 5.69 tonnes per hectare in 2020, 1.8 times higher than the global average.**

Our R&D department conducts field trials to reduce our reliance on pesticides by improving their effectiveness. Musim Mas also shares our knowledge and lessons learnt by training smallholders and engaging continuously with our suppliers.

### Innovation case study: Using advanced imaging to detect planted and forested areas

In 2021, we worked with Satelligence to conduct a baseline land-use analysis of the planted palm oil area around the Rawa Singkil Wildlife Reserve in Aceh Singkil, a priority landscape for Musim Mas. We mapped a combined 37,410 hectares using datasets derived from high-resolution 7–10 meter/pixel Sentinel-1 and Sentinel-2 radar and Landsat images. This high-resolution imagery enabled us to confirm that 47% of this total hectareage belongs to industrial plantations, 53% comprises smallholder farms, and 1.4% of planted palm is inside a protected area.

Using advanced imaging, we can detect even the smallest smallholder plantations, including plantations that are better managed and more mature. With the help of Radar Alerts for Detecting Deforestation (RADD), we have far more accurate information on land clearance and deforestation activities than was previously possible, which will enable Musim Mas to adopt evidence-based strategies and allocate our resources better.

Musim Mas CPO yield vs. global average 2016–2020 (MT CPO/ha)



Source of global data: [www.oilworld.biz/p/palm-oil#palm-oil](http://www.oilworld.biz/p/palm-oil#palm-oil) (available for purchase)





## ASSURANCE STATEMENT

### INDEPENDENT LIMITED ASSURANCE STATEMENT IN CONNECTION WITH THE SUBJECT MATTERS INCLUDED IN THE SUSTAINABILITY REPORT OF MUSIM MAS HOLDINGS PTE LTD FOR THE YEAR ENDED 31 DECEMBER 2020

In connection with our Engagement Letter dated 6 May 2021 and our addendum dated 30 June 2021, we have performed a limited assurance engagement on the Subject Matters set out in the *Subject Matter Information* section below. These Subject Matter are included in the Sustainability Report of Musim Mas Holdings Pte Ltd ('Musim Mas') for the financial year ended 31 December 2020 ('the Sustainability Report').

#### Subject Matter Information

Our limited assurance engagement covers the following Subject Matters for the above-mentioned period:

No	Material matter	Information for assurance	Scope for Palm Oil segment	
1	Carbon footprint and energy	Climate risks assessment for 2020 is conducted and published	Not applicable	
2	Monitoring and managing fires	Total hectares of suppliers' concession monitored across Indonesia through a combination of methods as at 31 December 2020	Concession land owned by monitored suppliers	Indonesia
3	Carbon footprint and energy	GHG emissions intensity across palm operations in 2019 and 2020	RSPO-certified mills only	Indonesia
4	Carbon footprint and energy	Number of mills with operating methane capture facilities as at 31 December 2020	Scoped-in mills	Indonesia
5	Water management	Water use intensity (m <sup>3</sup> /MT FFB processed) in 2020	RSPO-certified mills only	Indonesia
6	Maintaining water quality	BOD and COD quality (mg/l) for POME in 2020	RSPO-certified mills only	Indonesia
7	Improving the livelihoods of smallholder farmers	Number of schemed and independent smallholders involved in Musim Mas Programmes as at 31 December 2020	Scoped-in mills and Plantations	Indonesia



No	Material matter	Information for assurance	Scope for Palm Oil segment	
8	Suppliers' progress on NDPE commitments	Percentage of suppliers who have completed the self-assessment tool as at 31 December 2020	All supplying suppliers during the year	Indonesia and Malaysia
9	Suppliers' progress on NDPE commitments	Percentage of suppliers that have an NDPE policy or adopted Musim Mas Sustainability policy as at 31 December 2020	All supplying suppliers during the year	Indonesia and Malaysia
10	Suppliers' progress on NDPE commitments	Proportion of direct and indirect supply (volume) in 2020 that are compliant to sourcing policies	All supplying suppliers during the year	Indonesia and Malaysia
11	Assessing and managing NDP risk in the supply chain	Programmes in place to support high-risk mills identified as at 31 December 2020	Scoped-in mills	Indonesia
12	Assessing and managing NDP risk in the supply chain	Percentage of suppliers classified under low- to medium- to high-risk mills as at 31 December 2020	Suppliers that had completed 100% traceability to plantation	Indonesia and Malaysia

A hash symbol (#) in the Sustainability Report denotes statements and claims on which we have performed limited assurance procedures.

#### Criteria applied by Musim Mas

In preparing the report, Musim Mas applied the criterion of "Accuracy" as defined by GRI and specific criteria determined by Musim Mas as being relevant for its sustainability performance. Such Criteria were specifically designed for sustainability performance; as a result, the Subject Matter Information may not be suitable for another purpose.

#### Management's and Board of Directors' responsibility

Management is responsible for selecting Criteria, and for presenting the Subject Matter Information in accordance with that Criteria, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records and making estimates that are relevant to the preparation of the subject matter, such that it is free from material misstatement, whether due to fraud or error.

The Board has ultimate responsibility for the company's sustainability reporting. For the purpose of the Sustainability Report, there are no legally prescribed requirements relating to the verification of sustainability reports.



### Auditor's responsibility

Our responsibility is to express a conclusion on the presentation of the Subject Matter Information based on the evidence we have obtained.

We conducted our engagement in accordance with the International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information ('ISAE 3000') and the terms of reference for this engagement as agreed with Musim Mas on 6 May 2021 and our addendum dated 30 June 2021. Those standards require that we plan and perform our engagement to obtain limited assurance about whether, in all material respects, the Subject Matters are presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error. We believe that the evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusions.

Our review was limited to the information on the select indicators set out within the Report from 1 January 2020 to 31 December 2020 and our responsibility does not include:

- Any work in respect of sustainability information published elsewhere in Musim Mas' annual report, website and other publications,
- Sustainability information prior to 1 January 2020 and subsequent to 31 December 2020, unless otherwise stated, and
- Management's forward-looking statements such as targets, plans and intentions.

### Auditor's independence and quality control

We have complied with the independence and other ethical requirements of the Accounting and Corporate Regulatory Authority (ACRA) Code of Professional Conduct and Ethics for Public Accountants and Accounting Entities (ACRA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Our firm applies Singapore Standards on Quality Control 1 of the Institute of Singapore Chartered Accountants and, accordingly, maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements. We have the required competencies and experience to conduct this assurance engagement. Our professionals have experience in both assurance skills and in the applicable Subject Matters including environmental, social and financial aspects.

### Description of procedures performed

Procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Our procedures were designed to obtain a limited level of assurance on which to base our conclusion and do not provide all the evidence that would be required to provide a reasonable level of assurance.

Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

A limited assurance engagement consists of making enquiries, primarily of persons responsible for preparing the Subject Matter Information and related information, and applying analytical and other appropriate procedures.



Our procedures included:

1. Inquiries with Musim Mas' Sustainability team to:
  - a. Understand principal business operations,
  - b. Appreciate key sustainability issues and developments,
  - c. Map out information flow for sustainability reporting and the relevant controls,
  - d. Identify data providers with their responsibilities, and
  - e. Recognise the likelihood of possible manipulation of sustainability information and data
2. Virtual interviews with and sought clarifications from employees and Management in Singapore and Indonesia (e.g. Sustainable Supply Chain team, Independent Smallholder team, Sustainability team for own operations) to understand key sustainability issues related to the selected indicators, data collection processes and accuracy of reporting.
3. Conducting of process walk-through of systems and processes for data aggregation and reporting with relevant personnel to understand the quality of checks and control mechanisms, and assess and test the controls in relation to the concerned Subject Matters
4. Performing of analytical reviews on data and inquire with relevant personnel when anomalies are observed
5. Obtaining of documentation through sampling methods to verify assumptions, estimations and computations made by Management in relation to the concerned Subject Matters.
6. Checking data and statements had been correctly transcribed from corporate systems and / or supporting evidence, in relation to the concerned Subject Matters.
7. Obtaining of relevant certifications and reports in relation to the concerned Subject Matter Information in the Report

### Conclusion

Based on our procedures and the evidence obtained, we are not aware of any material modifications that should be made to the Subject Matter Information as of 18 October 2021 for the year ended 31 December 2020, in order for it to be in accordance with the Criteria.

### Restricted use

This report is intended solely for the information and use of the Management of Musim Mas and is not intended to be and should not be used by anyone other than those specified parties.

**Ernst & Young LLP**  
Signed for Ernst & Young LLP by  
**Simon Yeo**  
Partner, Climate Change and Sustainability Services  
Singapore  
18 October 2021

## GLOSSARY

**Biodiversity** The diversity (number and variety of species) of plant and animal life within a region.

**Biological oxygen demand (BOD)** The amount of oxygen used when organic matter undergoes decomposition by micro-organisms. Testing for BOD is done to assess the amount of organic matter in water.

**Carbon dioxide equivalents (CO<sub>2</sub>e)** Carbon dioxide equivalents provide a universal standard of measurement against which the impacts of releasing (or avoiding the release of) different greenhouse gases can be evaluated.

**Chemical oxygen demand (COD)** The measurement of the amount of oxygen required to oxidize soluble and particulate organic matter in water. COD testing involves using a strong chemical oxidizing agent to chemically oxidize the organic material in a sample of wastewater under controlled conditions.

**Concession** Musim Mas uses the term 'concession' to specifically refer to the physical boundaries of an area within a plantation, for example, when using satellites to monitor suppliers' lands and operations.

**Consortium of Resource Experts (CORE)** A group led by two organizations, Proforest and Daemeter Consulting, that ensures sustainable commodity production and sourcing. Musim Mas has been working with CORE to meet its commitments on sourcing sustainable palm oil since 2015.

**Decent living wage (DLW)** Remuneration for a standard workweek affording a decent standard of living for a worker and their family within a specific area. Elements of a decent standard of living include food, water, housing, education, healthcare, transportation, clothing, and other essential needs, including provisions for unexpected events.

**Effluents** Water, such as mill process water, discharged from one source into a separate body of water.

**Fire Free Alliance (FFA)** A multi-stakeholder group launched in 2016 committed to resolving Indonesia's persistent fire and haze issues arising from forest and land burning. Corporate members, including Musim Mas, implement the FFVP as a means to engage local communities in preventing forest fires.

**Fresh fruit bunch (FFB)** Bunch harvested from an oil palm tree. The weight of the fruit bunch ranges from 10 kg to 40 kg, depending on the size and age of the tree.

**Free, Prior and Informed Consent (FPIC)** The principle that a community has the right to give or withhold its consent to proposed projects that may affect the lands they customarily own, occupy, or use.

**Global Reporting Initiative (GRI)** A multi-stakeholder standard for sustainability reporting. It provides guidelines on report content and indicators.

**Greenhouse gas (GHG) emissions** Gases in the atmosphere that absorb and emit radiation within the thermal infrared range. The primary greenhouse gases in the Earth's atmosphere are water vapour, carbon dioxide, methane, nitrous oxide, and ozone. Scope 1 GHG emissions are emissions released into the atmosphere as a direct result of an activity, or series of activities, at the facility level. Scope 2 GHG emissions are those released into the atmosphere from the indirect consumption of an energy commodity.

**High Carbon Stock Approach (HCSA)** A global methodology used in agricultural land development planning and currently applied in fragmented tropical landscapes on mineral soils in the humid tropics. The methodology distinguishes between HCS forest areas that require protection and degraded lands with low carbon and biodiversity values that may be considered for development.

**High Conservation Value (HCV)** Ecosystems of outstanding significance and critical importance due to their high biological, ecological, social or cultural value. There are six types of HCVs, covering the social and environmental value of natural forests. These areas must be carefully managed and protected to maintain or enhance these identified values.

**Identity Preserved** An RSPO supply-chain model wherein sustainable palm oil from a single identifiable certified source is kept separate from ordinary palm oil across every link in the supply chain.

**Independent mills** Mills under Musim Mas' control that source from independent smallholders instead of Musim Mas plantations.

**Independent smallholders** Small growers who cultivate up to 50 hectares, are self-financed, managed, and equipped, but are not bound to any one mill.

**Indonesia Sustainable Palm Oil (ISPO)** The mandatory national sustainable palm oil standard in Indonesia.

**Integrated pest management (IPM)** The careful consideration of all available pest-control techniques and subsequent integration of appropriate measures that discourage the development of pest populations. IPM aims at keeping pesticides and other interventions to levels that are economically justified and reduce or minimize risks to human health and the environment. It also promotes the growth of healthy crops with the least possible disruption to agroecosystems and natural pest control mechanisms.

**International Finance Corporation (IFC)** An international financial institution that offers investment, advisory, and asset-management services to encourage private-sector development in developing countries.

**International Sustainability and Carbon Certification (ISCC)** A global biomass and bioenergy certification scheme.

**IUCN Red List** Based in Switzerland, the International Union for Conservation of Nature and Natural Resources (also known as The World Conservation Union) is an organization involved in the preservation of natural resources. IUCN publishes the Red Data Book, which lists the endangered species of every nation.

**Kredit Koperasi Primer Anggota (KKPA)** A smallholder primary cooperative credit scheme, voluntarily initiated by Musim Mas in 1996. It provides smallholders with practical support to acquire the skills and technology needed to undertake palm oil cultivation.

**No-deforestation, No-peat and No-exploitation Implementation Reporting Framework (NDPE IRF)** A reporting tool that helps companies understand and systematically track progress in delivering on their NDPE commitments in their palm oil supply chains.

**No Deforestation, No Peat, No Exploitation (NDPE) policies or commitments** Companies that adhere to these policies and commitments, typically in the palm oil sector, adopt and support practices that promote land development that does not lead to deforestation, to not develop on peatlands and to not exploit workers, communities, and smallholders.

**PalmGHG** The RSPO PalmGHG tool calculates the emissions generated and sequestered from activities and processes engaged during agricultural and mill stages. See how it works [here](#).

**Palm Oil Collaboration Group (POCG)** A multi-stakeholder initiative that brings together companies from every link in the palm oil supply chain to accelerate effective implementation of NDPE commitments.

**Palm Oil Innovation Group (POIG)** A multi-stakeholder initiative that works towards the adoption of responsible palm oil production practices by key players in the supply chain by developing and sharing a credible and verifiable benchmark that builds upon RSPO Principles and Criteria and creating and promoting innovations.

**Palm oil mill effluent (POME)** A by-product of processed FFB.

**Peat** An accumulation of partially decayed vegetation matter. Peat forms in wetlands or peatlands, variously called bogs, moors, muskegs, pocosins, mires, and peat swamp forests.

**Plantation** Musim Mas uses the term 'plantation' to refer to the place of production, be it a large industrial plantation with concessions and mills, a large farm without a mill, or a smallholder farm.

**Program for Pollution Control, Evaluation, and Rating (PROPER)** Indonesia's national environmental reporting initiative. It uses a colour-coded rating scheme to grade factories' performance in pollution control against regulatory standards.

**Radar for Detecting Deforestation (RADD)** A radar-based forest monitoring system used to detect and monitor tropical deforestation and degradation.

**Roadmap** The term 'roadmap' has two distinct meanings in this report. Our **Roadmap to Responsible Supply Base (2020 and Beyond)** is the Musim Mas communication piece on targets and plans to bring suppliers into compliance with commitments. We also compile supplier **roadmaps** with timebound plans and clear implementation milestones to achieve compliance with our NDPE commitments.

**Roundtable on Sustainable Palm Oil (RSPO)** A multi-stakeholder organization that has developed a certification scheme for sustainable palm oil. All RSPO members must comply with the RSPO Principles and Criteria (P&C), a set of stringent standards that governs the production of sustainable palm oil.

**Scheme smallholders** Smallholders operating under a program initiated by the Indonesian Government to encourage the development of smallholder plantations, where plantation companies (nucleus estates) assist and support surrounding community plantations.

**Segregated** A supply-chain model assuring that RSPO-certified palm oil and its derivatives delivered to the end-user originate only from RSPO-certified sources. It permits the mixing of RSPO-certified palm oil from a variety of sources.

**Self-Assessment Tool (SAT)** A Musim Mas-developed tool for suppliers to self-declare operational information against Musim Mas sustainability criteria.

**Supply shed** A group of suppliers made up of mills and their associated plantations, as well as independent plantations and smallholders that supply them.

**Toxicity** Measures the degree to which a substance is harmful to living organisms. Toxicity in agricultural chemicals is measured using the LD50 methodology, i.e., the number of toxicity units corresponding to a lethal dose for 50% of a population of rats.

**Village Development Program (VDP)** A Musim Mas program developed for scheme smallholders and tailored to villages where plantations are community-managed rather than individually owned.

**Verified Sourcing Area (VSA)** An area-based mechanism developed by the Sustainable Trade Initiative (IDH) and its global partners. It provides a new sustainability solution that directly connects buyers of agricultural commodities to coalitions of stakeholders in production areas, empowering collaborations and partnerships that have a maximum impact on sustainability.



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SCAN ME