

e ISBN No.: 978-967-0020-33-4

PUBLISHED BY:



MINISTRY OF INVESTMENT, TRADE AND INDUSTRY

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PREFACE

Malaysia's strength in the manufacturing sector has been significantly driven by the implementation of robust and forward-thinking Industrial Master Plans, first launched in 1986.

The success of the IMP3 (2006-2020) was anchored on innovation, research and development (R&D) and human capital development to drive high value-added industries to transform Malaysia into a knowledge-based economy.

The journey towards formulating the NIMP 2030 is underscored by the need to build a robust industrial sector as an important prerequisite to achieve socioeconomic prosperity. Three previous iterations of the Industrial Master Plans have driven industrial development in Malaysia, with the Government adopting industrial development strategies relevant to the period to transform the economy. Malaysia flourished from a low-productivity agrarian-based economy and is heading towards achieving developed nation status, underpinned by robust manufacturing and services sectors. The strategy has successfully raised the living standards of the Rakyat and propelled remarkable growth in Gross National Income (GNI) per capita, increasing 34 times between 1967 to 2019, making Malaysia one of the fastest growing economies in modern history.

Industrial policies have since become more diverse and complex, incorporating new imperatives including the integration into the global value chain (GVC), development of indigenous capabilities in a knowledge economy, evolution of environmental, social and governance (ESG) criteria and disruptions from the new industrial revolution. The question is not about the necessity of such policies, but rather what new policies are required and how to proceed.

Given the current challenging environment, benchmarking and learning from other country's experiences are no longer sufficient. Malaysia needs to embark on its own path into unchartered territory, to steer the nation into the challenging future. The combined impact of the new imperatives and the recent pandemic has compelled the Government to rethink Malaysia's industrial strategy.

With the NIMP 2030, Malaysia intends to transform the industry into greater heights, capitalising on emerging global trends, supply chain disruptions, current geopolitical landscape, digitalisation and ESG considerations. These trends are moving at an unprecedented pace and Malaysia has to act fast.

Therefore, the NIMP 2030 is designed to achieve the aspirations in a span of seven years and takes on a Mission-based approach for industrial development. This approach unites Malaysia by encouraging collaboration between the Government and the private sector to rally the industries.

The NIMP 2030 sets forth Malaysia's future direction in industrial transformation. It provides a national integrated plan for resilient industrial development until 2030 – setting the fundamentals for future policy development and enabling the industry at all levels. It articulates Malaysia's position and participation in the global economic environment. The NIMP 2030 serves to:

- · Provide national strategic direction to lead the industrial development policies;
- Be a conversation piece for investors and other economies on Malaysia's position and direction;
 and
- Feature the role of the Malaysian Government in shaping the economy.

INTRODUCTION

New Industrial Master Plan 2030

The Missions and Enablers identified will be executed through 21 Strategies and 62 Actions Plans to unlock the needed enabling ecosystems. Several catalytic Mission-based

Sector 15

Projects (MBPs) have been identified to catapult the mission-based implementation. The NIMP 2030 strategic framework is illustrated below:

VISION

Our vision for Malaysia is to have:

- Competitive industry with high economic complexity
- High income and skilled workforce
- Strong domestic linkages

GOALS



Increase economic complexity



Create high-value job opportunities



MISSIONS

MISSION 1

Advance economic complexity

MISSION 2

Tech up for a digitally vibrant nation

Expand to high value-added activities of the 1.1 value chain

- 1.1.1 Create global IC design champions from Malaysia
- 1.1.2 Attract global leader to establish wafer fabrication in Malaysia
- Shift from basic to specialty chemical
- 1.1.4 Build Malaysian champions for game changing advanced materials
- 1.1.5 Identify high value-added opportunities in the aerospace, pharmaceutical and medical devices sectors

1.2 Develop entire ecosystem to support the high value-added activities

- 1.2.1 Build strong local SMEs in manufacturing and related services to support the industry champions
- 1.2.2 Integrate value chains between:
 - M&E and Medical Devices
 - Semiconductor and EV
- Chemical and Pharmaceutical

1.3 Establish cooperative 'vertical integration' for global value chain

- Leverage alliance with ASEAN countries to integrate the semiconductor, advanced materials and clean energy value chain
- 1.3.2 Develop vertical integration programmes through IndustryConnect conferences

Foster Research, Development, Commercialisation and Innovation (RDCI) ecosystem

- 1.4.1 Assign specific topics and KPIs to universities for industrial-linked R&D
- 1.4.2 Digitalise IP application and launch enhanced National IP Policy

1.5 Increase manufacturing exports

- 1.5.1 Implement national trade advocacy campaign to increase industry utilisation of FTAs
- 1.5.2 Rejuvenate "Made in Malaysia" branding
- 1.5.3 Address trade restrictive non-tariff measures (NTMs) and compliance of standards
- 1.5.4 Update FTA based on geopolitical conditions

5 Strategies, 15 Action Plans

Mission-based Projects:

- MBP 1.1 Create global IC design champions in EV. RE and Al
- MBP 1.2 Attract new advanced wafer fabrication in Malaysia
- MBP 1.3 Deepen to specialty chemical vertical MBP 1.4 Groom champions in 4 game changing
 - advanced materials

Accelerate technology adoption

- Enhance Industry4WRD programmes to increase technology adoption
- 2.1.2 Accelerate digital infrastructure rollout (JENDELA)

2.2 Shift away from low-skilled labour model

- 2.2.1 Introduce multi-tiered levy mechanism for lowskilled labour to accelerate automation
- 2.2.2 Introduce automation condition in new Manufacturing Licence

Spur technology innovation

- 2.3.1 Nurture local technology solution providers to support Technology Adoption Programme
- 2.3.2 Develop generative and industrial AI solution leaders and system integrators
- 2.3.3 Drive data analytics through a national digital platform for manufacturing
- Accelerate government digitalisation and integration
- 2.4.1 Digitalise end-to-end government touch points across business life cycle

PLANS 21 Strategies

62 Action Plans

STRATEGIES

AND ACTION

4 Strategies, 8 Action Plans

Mission-based Projects:

MBP 2.1 Transform 3,000 smart factories MBP 2.2 Establish Malaysia as Generative AI Hub

- New and existing industry clusters
- Balanced and inclusive participation

MISSION 4 Safeguard economic

security and inclusivity

Sustainable development



Develop new & existing clusters



Enhance ESG practices

MISSION 3 **Push for Net Zero**

Accelerate transition towards 3.1 sustainable practices

- 3.1.1 Develop sectoral decarbonisation pathways to guide transition
- 3.1.2 Decarbonise "hard-to-abate" sectors
- 3.1.3 Introduce carbon policy, accounting and tax
- 3.1.4 Launch iESG framework and transition programmes

Transition to renewable and clean energy

- 3.2.1 Enhance adoption scheme for energy efficiency or renewable energy
- 3.2.2 Accelerate availability and accessibility of renewable energy source for the industry

3.3 Catalyse new green growth areas

- 3.3.1 Catalyse EV as a key growth driver
- 3.3.2 Grow carbon capture, utilisation and storage (CCUS) as a new sector
- 3.3.3 Develop circular economy framework for the industry

3.4 Shift towards green infrastructure

3.4.1 Accelerate transformation of industrial estates into ecoindustrial parks

Develop resilient supply chain

- Identify specific supply chain 4.1.1 resilience strategies for critical sectors
- 4.1.2 Establish supply chain cooperation and collaboration through G2G and G2B programme
- 4.1.3 Introduce National Mineral Policy for downstream processing of critical minerals

4.2 Foster climate resilient development

- 4.2.1 Develop sectoral adaptation pathways
- 4.2.2 Foster an adaptation industry to provide adaptation products and services (including exports)
- 4.2.3 Instil climate resilience measures for critical economic infrastructure

Strengthen industrial clusters 4.3 for regional development

- 4.3.1 Expand clusters for spillover regional impact
- 4.3.2 Align industrial development plan between Federal and States

Empower Bumiputera participation and create inclusive workforce

- 4.4.1 Uplift capabilities of Bumiputera companies in manufacturing via Tindakan Pembangunan Bumiputera 2030
- 4.4.2 Develop programme to increase women participation in high-skilled manufacturing employment

ENABLERS

E.1 Mobilise financing ecosystem

- Introduce NIMP Industrial Development E.1.1 Fund and NIMP Strategic Co-Investment Fund
- E.1.2 Boost financing for digitalisation and decarbonisation transition
- Establish green sukuk to facilitate transition E.1.3
- E.1.4 Establish supply chain financing for SMEs
- F15 Increase utilisation of the capital market E.1.6 Expand the imSME platform to show
- all available funding options including government funding and capital market E.1.7
- Review government funding for consolidation

E.2 Foster talent development and attraction

- Leverage mynext and MYFutureJobs for strategic workforce planning to address longterm demand-supply requirement
- E.2.2 Introduce progressive wage system policy
- E.2.3 Improve policy to enable fast and hassle-free access to high-skilled foreign talents
- E.2.4 Expand TVET programmes for high-skilled jobs in critical sectors
- E.2.5 Raise profile of high-tech manufacturing career to attract interest in STEM subjects

E.3 Establish best-in-class investor journey for ease of doing business

- F31 Establish a unified investment strategy and align investment evaluation to new parameters under NIA
- E.3.2 Harmonise and streamline functions and KPIs across IPA landscape
- E.3.3 Review and design competitive, agile and relevant incentives
- E.3.4 Improve One-Stop Portal for seamless investor experience

Introduce whole-of-nation governance **E.4** framework

- E.4.1 Establish public-private collaborative councils
- E.4.2 Set up NIMP 2030 Delivery Management Unit
- E.4.3 Develop NIMP 2030 dashboard system

4 Strategies, 10 Action Plans

Mission-based Projects:

MBP 3.1 Create decarbonisation pathway role models

MBP 3.2 Launch locallymanufactured EV

MBP 3.3 Deploy large-scale CCUS solutions

4 Strategies, 10 Action Plans

4 Strategies, 19 Action Plans

NIMP 2030 SECTORAL PLAN

There are individual enclosures of 21 sectors included as a supplementary reference to the main NIMP 2030 document.

They provide a view of the respective sectoral perspective in the context of the main NIMP 2030 document, and were developed with reference to individual sectoral roadmaps, where applicable.

The 21 sectors are:

Category	Industry
Priority Sectors	 Aerospace Chemical Electrical and Electronics (E&E) Pharmaceutical Medical Devices
Sectors	 Digital and Information and Communication Technology (ICT) Automotive Food Processing Global Services and Professional Services Halal Machinery and Equipment (M&E) Manufacturing-Related Services (MRS) Metal Mineral Palm Oil-based Products Petroleum Products and Petrochemicals Rail Rubber-based Products Shipbuilding and Ship Repair (SBSR) Textile, Apparel and Footwear Wood, Paper and Furniture

This document is the NIMP 2030 Sectoral Plan – Palm Oil-based Products Industry.

OVERVIEW OF THE DOCUMENT

This NIMP 2030 Sectoral Plan – Palm Oil-based Products Industry (Document) provides insights into the sector and its prospects during the NIMP 2030 period.

This Document offers a comprehensive understanding of the industry's direction during the NIMP 2030 period based on its historical performance, opportunities and strategies to overcome existing challenges and achieve its targets.

The Document is presented in five sections:

1. Background

- · This section sets the foundation to help readers understand the industry.
- It delves into the industry's focus area, encompassing its sub-sectors, for a comprehension of the industry's breadth.¹
- Readers will find details about the industry's value chain and its key players, including the relevant industry associations, in this section.
- · The section lists the policies that are related to the industry.

2. Performance

- · This section reports the industry's performance during specific periods.
- · There are two notable periods for the review of the industry's historical performance:
 - the IMP3 period (2006 to 2020); and
 - from 2021 to 2022.
- The performance review of the industry's development includes its investment trends, export and import dynamics, employment figures, value-added and productivity measures.

3. Trends and Opportunities

• This section highlights the opportunities and potential avenues for growth that the industry can leverage during the NIMP 2030 period.

4. Challenges

• This section provides insights into potential obstacles that could impact the industry's growth and development.

5. Strategies and Action Plans

- · The final section of the document outlines the future trajectory for the industry.
- This section provides the Strategies and Action Plans that are intended to catalyse the industry during the NIMP 2030 period.
- The Strategies and Action Plans set in this Document have been aligned to the Missions set in the main NIMP 2030 document.

¹ Incentives available for this industry as of time of writing can be found in Appendix 1

SECTION 1 BACKGROUND

Areas Covered

1. The industry is divided into four product categories (Table 15.1):

Table 15.1: Categories of Palm Oil-based Products

Products	Description
Palm oil and palm oil products	 Processed palm oil (refined palm oil, palm olein and palm stearin) Palm kernel oil and its products Palm kernel cake Downstream processing of palm oil products such as margarine
Oleochemicals	 Basic oleochemicals, e.g. fatty acids, fatty alcohols, methyl esters and glycerine Oleochemical derivatives, e.g. fatty amides, fatty esters, metallic stearates and soap noodles Oleochemical preparations, e.g. soap, cosmetics, personal care and toiletry products Other palm oil-based products, e.g. printing ink, polyols, carotenoids and tocotrienols
Biofuel	Renewable fuel used as a substitute or additive to petroleum diesel
Other palm products	Include products from palm biomass such as 'green plywood' from palm oil trunks, particleboards or fibreboards

Value Chain

2. The value chain for the palm oil-based products industry is illustrated in Figure 15.1.

Figure 15.1: Value Chain of Palm Oil-based Products Industry



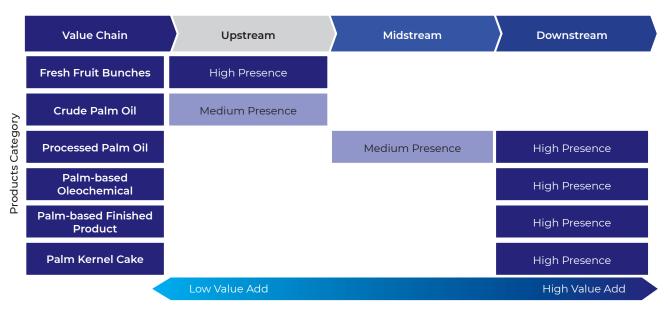
Source: Malaysian Palm Oil Board (MPOB)

- 3. The palm oil-based products value chain can be divided into three segments:
 - i. Upstream covering:
 - a. cultivation and harvesting involves planting of palm oil trees and gathering fruit bunches; and
 - b. milling and crushing processes that transforms palm fruit bunches into crude palm oil (CPO) and palm kernel oil (PKO).
 - ii. Midstream, covering refining and fractionation processes CPO and PKO into olein and stearin; and cultivation and harvesting involves planting of palm oil trees and gathering fruit bunches; and
 - iii. Downstream, covering hydrolysis and transesterification processes in which palm oil are transformed into food and fats, oleochemicals and biodiesel.
- 4. The upstream segment, consisting of plantations and agriculture activities are not covered as part of the industry's focus area for the NIMP 2030.

Market Players

5. Presently, there are over 580 companies operating in the industry – mainly within the upstream and downstream segments (Figure 15.2) and operate facilities such as palm oil mills, refineries and oleochemical plants for domestic and international markets.

Figure 15.2: Presence of Industry Players along the Value Chain of Palm Oil-based Products Industry



Source: MPOB

- 6. Industry associations in Malaysia's palm oil-based products industry play important roles in representing the interest of manufacturers, influencing regulations and safeguarding the welfare of manufacturers and consumers. Non-exhaustive examples of these associations include:
 - i. Malaysian Palm Oil Association (MPOA);
 - ii. Palm Oil Refiners Association of Malaysia (PORAM);
 - iii. Malaysian Estate Owners' Association (MEOA);
 - iv. Malayan Edible Oil Manufacturers' Association (MEOMA);
 - v. East Malaysia Planters Association (EMPA);
 - vi. Palm Oil Mill Association; and
 - vii. Malaysian Biodiesel Association (MBA).
- 7. Several Ministries and Government Agencies have a prominent role in Malaysia's palm oil-based products industry, including:
 - i. Ministry of Plantation and Commodities (KPK);
 - ii. Ministry of Investment, Trade and Industry (MITI);
 - iii. Malaysian Palm Oil Board (MPOB);
 - iv. Malaysian Palm Oil Council (MPOC);
 - v. Malaysian Palm Oil Certification Council (MPOCC);
 - vi. Malaysian Investment Development Authority (MIDA); and
 - vii. Malaysia External Trade Development Corporation (MATRADE).

Policies, Laws and Regulations

- 8. The industry's development is guided by the National Agricommodity Policy 2021-2030 (DAKN2030).
- 9. Laws and regulations related to the palm oil-based products industry are:
 - i. Malaysian Palm Oil Board Act 1998 (Act 582);
 - ii. Land Acquisition Act 1960;
 - iii. Protection of Wildlife Act 1972;
 - iv. Pesticides Act 1974 (Pesticides Registration) Rule 1976;
 - v. Environmental Quality (Clean Air) Regulation 1978; and
 - vi. Biofuel Licence.

SECTION 2 PERFORMANCE

IMP3 Focus and Performance

- 10. During the IMP3 period (2006 to 2020), the industry focused on four key areas:
 - i. expansion of downstream activities;
 - ii. commercialising research and development (R&D) activities;
 - iii. strengthening market access and acceptance; and
 - iv. adopting a sustainable approach in product development.
- 11. The industry continued to be a main driver of Malaysia's economic growth, contributing RM12.8 billion (4.6 per cent) to Gross Domestic Product (GDP) and RM21.0 billion to total national exports in 2020. Malaysia is the second-largest palm oil exporter globally.

Investments

12. The investment performance of the palm oil-based products industry (2006 to 2022) is tabulated in Table 15.2 below.

Table 15.2: Approved Investments of Palm Oil-based Products Industry

lha ma	I I I I I I I I I I I I I I I I I I I		IMP	3	2021	2022	2021-2022
Items	Units	2006	2020	2006-2020	2021	2022	
Total Investment	RM billion	8.4	0.5	33.9	0.8	1.6	2.4
Domestic Investment	RM billion	5.8	0.4	20.3	0.7	0.4	1.1
Foreign Investment	RM billion	2.6	0.06	13.6	0.1	1.2	1.3
Number of projects	#	95	13	421	7	13	20
Employment	persons	4,218	752	19,337	298	661	959

Source: MIDA

- 13. During the IMP3, a total of 421 projects were approved in the palm oil-based products industry with a total investment of RM33.9 billion. These investments committed 19,337 job opportunities. In 2020, the industry's investments were affected by the global downturn during the COVID-19 pandemic.
- 14. In 2021 and 2022, a total of 20 projects were approved with total investment of RM2.4 billion. These investments committed a total of 959 job opportunities. During this period, the industry began to recover from the impact of the pandemic and slowly returning to its prepandemic level.
- 15. From 2006 to 2022, 287 (65.1 per cent) of the 441 approved projects were implemented.

Exports

16. Table 15.3 depicts export performance of the industry (2006 to 2022).

Table 15.3: Exports of Palm Oil-based Products Industry

lt o wo		IMP3		2021	2022	2006-2020	2020-2021	2021-2022	
Item	2006	2020	2006-2020	2021	2022	CAGR ²	Annual	ual Growth	
Exports ³ (RM billion)	9.4	21.0	255.1	32.7	41.4	5.9%	55.7%	26.5%	

Source: MATRADE

- 17. Between 2006 to 2020, the industry's exports grew by a CAGR of 5.9 per cent from RM9.4 billion (2006) to RM21.0 billion (2020).
- 18. In 2021, exports grew significantly by 55.7 per cent to 32.7 billion. Subsequently, in 2022, total exports increased further by 26.5 per cent to RM41.4 billion.
- 19. The upward trend in exports can be attributed to several factors such as:
 - i. increased demand, particularly from United Arab Emirates (UAE), Saudi Arabia, Japan, Bangladesh, Egypt and Turkiye;
 - ii. increased demand for major oleochemicals such as stearic acid and glycerine as economic activities resumed post relaxation of China's COVID-19 restrictions;
 - iii. improved positioning of Malaysian Ringgit against United States (US) dollar, making palm oil more affordable and competitive than other vegetable oils; and
 - iv. geopolitical landscape which affected global supply of sunflower oil, thus increasing demand for palm oil as a substitute.
- 20. As of 2022, major export destinations for the industry included:
 - i. China (RM6.6 billion, 15.9 per cent);
 - ii. Netherlands (RM5.6 billion, 13.6 per cent);
 - iii. India (RM2.6 billion, 6.2 per cent);
 - iv. Japan (RM2.6 billion, 6.2 per cent); and
 - v. US (RM2.3 billion, 5.9 per cent).
- 21. In 2022, the top exported products were:
 - i. oleochemical (RM33.6 billion, 81.3 per cent);
 - ii. biodiesel (RM2.8 billion, 6.7 per cent);
 - iii. margarine and shortening (RM2.4 billion, 5.8 per cent);
 - iv. palm kernel cake (RM1.7 billion, 4.1 per cent); and
 - v. other palm oil-based manufactured products (RM0.9 billion, 2.1 per cent).

² Compound annual growth rate

³ Comprises of Palm Oil-based Manufactured Products

Imports

Table 15.4 presents the import performance of the palm oil-based products industry.

Table 15.4: Imports of Palm Oil-based Products Industry

lhous	IMP3		2021	2022	2006-2020	2020-2021	2021-2022		
Item	2006	2020	2006-2020	2021	2022	CAGR	Annual	Annual Growth	
Imports ⁴ (RM billion)	1.2	5.1	48.7	8.3	11.1	10.9%	63.6%	34.2%	

Source: MATRADE

- 23. During the IMP3 period, the industry's imports grew by a CAGR of 10.9 per cent from RM1.2 billion (2006) to RM5.1 billion (2020).
- 24. In 2021 and 2022, the industry's imports increased further by 63.6 per cent and 34.2 per cent amounting to RM8.3 billion and RM11.1 billion, respectively.
- The rise in imports can be attributed to the higher domestic demand arising from reduced 25. CPO production. Majority of the crude and processed palm oil imported were sourced from Indonesia.

Value-added

The value-added (GDP) of palm oil-based products industry from 2006 to 2022 is recorded in Table 15.5 below.

Table 15.5: Value-added of Palm Oil-based Products Industry

le a un	IM	P3	2021 2022		2006-2020	2020-2021	2021-2022
Item	2021 2022 2021 2022	CAGR	Annual Growth				
Value-added⁵ (RM billion)	5.0	12.8	11.7	11.4	7.0%	-9.1%	-2.0%

Source: Department of Statistics Malaysia (DOSM)

- During the IMP3 period, the industry's GDP contribution has grown by a CAGR of 7.0 per 27. cent from RM5.0 billion (2006) to RM12.8 billion (2020) - mainly driven by the competitive prices of processed palm oil products such as refined, bleached and deodorised (RBD) palm oil and crude palm oil.
- In 2021 and 2022, the industry's value-add declined by 9.1 per cent and 2.0 per cent to RM11.7 28. billion and RM11.4 billion respectively.
- 29. The decline in the industry's contribution to GDP was mainly attributed to higher CPO prices due to firmer prices of soybean oil and brent crude oil in the global market as well as lower domestic stock of palm oil.

⁴ Comprises of Palm Oil-based Manufactured Products

⁵ Value added is measured by the GDP of the industry; 2006 GDP data is based on constant 2005 prices, while 2020 to 2022 data are based on constant 2015 prices

Employment

30. The palm oil-based products industry's employment (2019 to 2022) is depicted in Table 15.6 below.

Table 15.6: Employment in Palm Oil-based Products Industry

lhous	IM	P3	2021	2022	2019-2022
Item	2019	2020	2021	2022	CAGR
Employment ⁶ (persons)	72,205	71,293	73,243	77,672	2.5%

Source: DOSM

- 31. Employment in the palm oil-based products industry grew by a CAGR of 2.5 per cent, from 72,205 persons (2019) to 77,672 persons (2022).
- 32. The growth of industry employment can be linked to the expansion of palm oil plantation areas as the industry heavily relied on manual labour.

Labour Productivity

33. The industry's labour productivity (2019 to 2022) is tabulated as follows (Table 15.7).

Table 15.7: Labour Productivity of Palm Oil-based Products Industry

lhom	IM	P3	2021	2022	2019-2022
Item	2019	2020	2021	2022	CAGR
Labour Productivity ⁷ (RM)	182,507	179,736	159,087	147,042	-6.9%

Source: DOSM

- 34. Labour productivity of the industry declined from RM182,507 (2019) to RM147,042 (2022), a decline by a CAGR of 6.9 per cent.
- 35. The decrease in productivity can be attributed to lower harvesting and processing activities due to the COVID-19 pandemic.

⁶ This employment data is based on Monthly Manufacturing Statistics December 2022 and includes manufacture of vegetable and animal oils and fats

⁷ Annual labour productivity is derived from value added per employment

NIMP 2030

Sectoral Plan

36.

Troduction

Table 15.8 presents the production of palm oil products (2006 to 2022).

Table 15.8: Production of Palm Oil Products

Items	IMP3				2006-2020	2020-2021	2021-2022
(million metric tonnes)	2006	2020	2021	2022	CAGR	Annual	Growth
RBD palm oil	13.4	14.2	12.1	12.9	0.4%	-15.0%	6.8%
RBD palm olein	9.2	10.1	8.9	9.2	0.7%	-12.3%	3.8%
RBD palm stearin	2.5	2.9	2.5	2.6	1.0%	-11.8%	2.6%
Crude palm oil	15.9	19.1	18.1	18.5	1.3%	-5.4%	1.9%
Palm kernel cake	2.2	2.5	2.3	2.5	0.9%	-7.2%	2.4%
Crude palm kernel oil	2.0	2.2	2.0	2.1	0.9%	-7.0%	2.3%
Other oil palm products	2.2	3.4	3.2	3.2	3.2%	-7.3%	1.0%
Basic oleochemicals ⁸	2.6	4.7	4.2	4.5	4.3%	-9.3%	5.7%

Source: MPOB

- 37. During the IMP3 period, the production of palm oil products experienced an uptrend with basic oleochemicals recording the highest growth at a CAGR of 4.3 per cent, from 2.6 million metric tonnes (2006) to 4.7 million metric tonnes (2020).
- 38. Between 2006 to 2020, growth factors include the:
 - i. increased demand for cleaning and disinfectant products in 2020 due to the COVID-19 pandemic;
 - ii. increased demand in cosmetics and personal care products due to changing consumer trends; and
 - iii. higher yield due to expansion of palm oil planted and matured areas.
- 39. In 2021, overall production of palm oil products declined. RBD palm oil recorded a decrease of 15.0 per cent to 12.1 million metric tonnes. In comparison, 14.2 million metric tonnes of RBD palm oil was produced in 2020.
- 40. The overall downtrend in production during the period was attributed to:
 - i. lack of manpower in palm oil plantations due to the closed borders during COVID-19 pandemic; and
 - ii. adverse weather conditions which resulted in lower yield of palm.
- 41. Subsequently, in 2022, overall production of palm oil products increased. RBD palm oil and basic oleochemicals experienced significant growth of 6.8 per cent and 5.7 per cent, to 12.9 million metric tonnes and 4.5 million metric tonnes respectively.
- 42. The increase in production of palm oil products were mainly due to higher yield and higher productivity as a result of new technology adoption.

⁸ Basic oleochemicals include fatty acids, fatty alcohols, methyl esters, glycerine and others

Research and Development

- During the IMP3 period, the Government, through MPOB, has engaged in various R&D 43. activities to sustain the growth and competitiveness of the palm oil-based products industry.
- Among the outcomes of the R&D undertaken by MPOB is the development of innovative palm oil processes which include:
 - continuous sterilisation process The continuous sterilisation system utilises a doubleroll press that crushes fresh fruit bunches before steaming. This system simplified the process as well as the facilities and equipment needed, which in turn lower building costs and better environmental viability;
 - ii. rolek nutcracker MPOB has conducted R&D to invent the rolek nutcracker, which makes use of the dynamic interactions of adjustable rods. This enables it to break nuts of various sizes at a significant cracking rate of 99 per cent; and
 - iii. oil palm phenolics MPOB has developed and patented a breakthrough process to recover valuable phenolic antioxidants, comprise phenolic acids and water-soluble vitamins, from the aqueous stream of the palm oil milling process. The antioxidants have various applications in nutraceutical, cosmeceutical and food industries, aiding in reducing environmental pollution by reducing the waste generated and transforming it for valuable use.

Institutional Support

Malaysia Palm Oil Board (MPOB)

Established in May 2000 and incorporated by the Malaysian Palm Oil Board Act 1998 (Act 582), Malaysian Palm Oil Board is a Government agency entrusted to serve the palm oil industry. Its main role is to promote and develop national objectives, policies, and priorities for the wellbeing of the Malaysian palm oil industry.

Malaysia Palm Oil Council (MPOC)

- The organisation is established to promote the market expansion of Malaysian palm oil and its product worldwide. It aims to improve the reputation of palm oil and increase its acceptance by creating awareness about its technological, economic and environmental benefits.
- 47. A key focus area of the MPOC is the promotion of sustainable practices in the palm oil industry. This involves promoting environmentally friendly cultivation methods, biodiversity conservation and responsible land use.

Malaysia Sustainable Palm Oil (MSPO)

- Introduced in 2015, the Malaysian Sustainable Palm Oil (MSPO) Certification scheme is the national scheme in Malaysia for palm oil plantations, independent and organised smallholding, and palm oil processing facilities to be certified against the requirements of the MSPO standards.
- MSPO was introduced as an alternative to the Roundtable of Sustainable Palm Oil (RSPO) and was made mandatory for plantations, including smallholders', effective January 2020 – making sustainability certification more affordable for smallholders.

SECTION 3 TRENDS AND OPPORTUNITIES

- 50. The global palm oil-based industry is expected to grow significantly, reaching RM443.1 billion⁹ by 2030.¹⁰
- 51. Biodiesel, biofuel and biomass are key contributors to the growth of the industry.
- 52. This prospective growth has created opportunities for Malaysia to expand and strengthen the local industry, enabling it to remain competitive globally.

High Value-added Products and Activities

- 53. At present, the industry is susceptible to higher degree of price volatility and unforeseeable market conditions due to its dependency on commodity exports.
- 54. The industry has the opportunity to shift towards high value-added products such as:
 - i. biofuel for sustainable aviation fuel;
 - ii. second-generation biodiesels from palm waste and used cooking oil;
 - iii. bioethanol as a substitute for fuel in powering automobiles; and
 - iv. biomass as fuel for electricity generation as well as biochemical products.
- 55. To take advantage of this opportunity, it is essential for the industry to focus on promoting investments, particularly in the downstream segment. This can be done through joint ventures (JV) or acquisition of companies with expert knowledge. Through collaborative efforts, local players will have wider access to capital, thereby facilitating a transition towards higher value-added products and activities.
- 56. This would accelerate adoption of new technologies and increase local capabilities as it allows for transfer of knowledge and technologies. This would increase the competitiveness of the industry, thus strengthening its positioning in the global palm oil market and enabling its penetration into new markets.
- 57. Refer to Action Plan 1 (AP1) in Section 5 for strategies and action plans related to development of high value-added products and activities.

⁹ USD98.9 billion, converted based on exchange rate USD1.0 to RM4.48

¹⁰ Source: Grand View Research



Recognition of MSPO

- 58. At present, a total of 5.5 million hectares (97.9 per cent) of palm oil planted areas have obtained the MSPO certification. Despite its recognition in the local landscape, the MSPO certification have yet to gain recognition internationally.
- 59. To address this, the industry must engage relevant stakeholders to promote and enforce the MSPO certification internationally. This include stakeholders in palm oil importing countries including Governments, non-governmental organisations and industry associations. Industry players are encouraged to leverage Malaysia's Free Trade Agreements (FTAs) and introduce MSPO-certified condition within the agreements.
- 60. Principles and criteria under MSPO should be revised regularly to ensure alignment with global sustainability standards and traceability requirements. For example, the MSPO principles and criteria has to be aligned with European Union's (EU) Protectionist policies.
- 61. As such, the global recognition of MSPO would strengthen the industry's position in the global market creating a larger demand for Malaysia palm oil-based products.
- 62. Refer to Action Plan 2 (AP2) in Section 5 for strategies and action plans related to the recognition of MSPO globally.

Diversification

- 63. The local palm oil-based products industry is facing challenges with policies or prohibitions that have been enforced in specific countries, which include:
 - i. EU policy on forest and deforestation enforces manufacturers to abide by mandatory due diligence and provide proof that products are deforestation free; and
 - ii. Indonesian export policy restricts global palm oil supply thus creating higher demand for Malaysian palm oil. This will impact the cost of raw materials thus driving the cost of production for palm oil-based products higher.
- 64. To address this challenge, the industry could consider diversifying its value-creation through new product application and increased complexity throughout the supply chain. This includes intensifying research, development and commercialisation in sectors such as food and beverage and diversifying products made with palm oil.
- 65. Collaborative efforts between the industry and research institutes could be strengthened in order to commercialise R&D findings, thus allowing for greater profitability through successful commercial ventures.
- 66. Refer to Action Plan 3 (AP3) in Section 5 for specific palm oil-based products industry action plan related to increasing industry's profitability.

SECTION 5 STRATEGIES AND ACTION PLANS

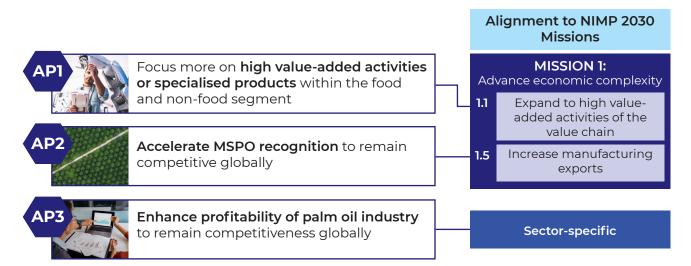
NIMP 2030 Focus

- 67. During the period of the NIMP 2030, the industry will continue to:
 - i. increase global market share of Malaysian palm oil-based products;
 - ii. maximise current resources and prioritise high-value activities or specialised products; and
 - iii. institutionalise ESG standards and waste management framework in line with Net Zero emission goals.

Action Plans

68. Strategies and Action Plans relating to the NIMP 2030's Missions and Enablers are applicable to this industry (Figure 15.3).

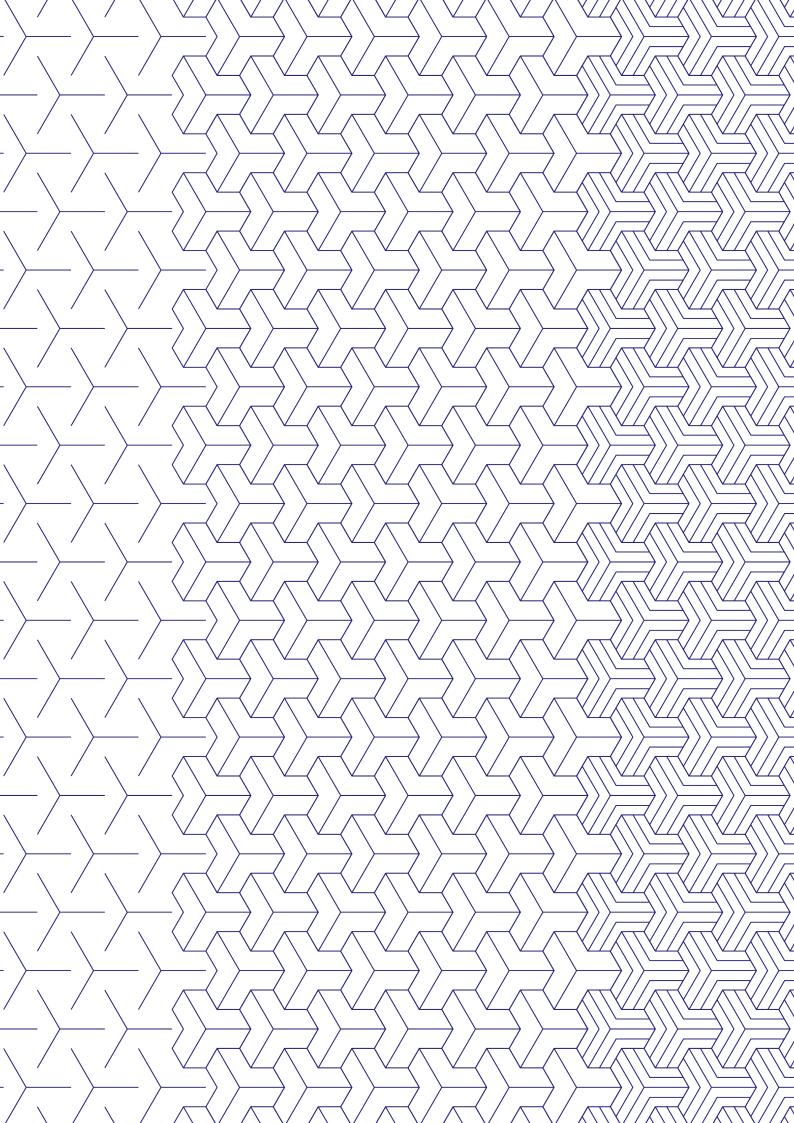
Figure 15.3: Strategies and Action Plans for Palm Oil-based Products Industry

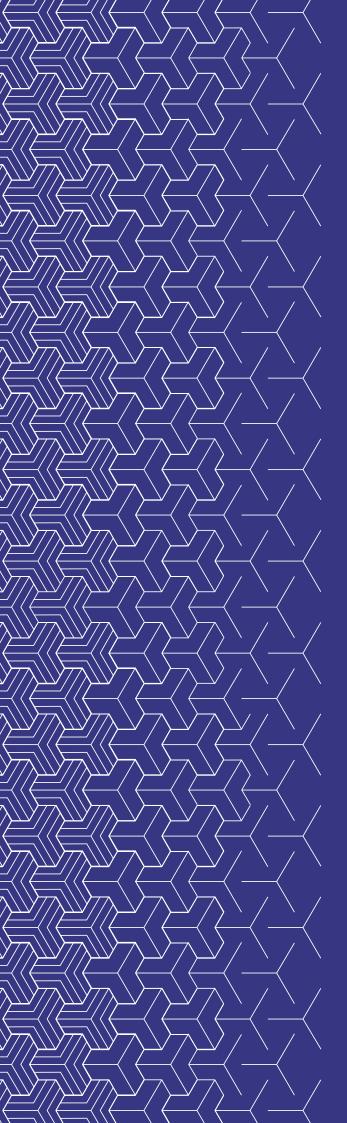


APPENDIX 1 INCENTIVES

There is an array of incentives offered for key players of palm oil-based industry, these include the following:

Incentives	Agency
Incentives for General Investment	Malaysian Investment
Incentives for Small Scale Companies	Development Authority (MIDA)
Incentives for Investments in Selected Industries – Utilisation of Oil Palm Biomass to Produce Value-Added Products	
Commercialisation of Public Sector R&D Findings in Resource-based and Non-Resource-based Industries	
Incentives for Research and Development (R&D): In-House R&DContract R&D CompanyR&D Company	
 Incentives for Reinvestments by Existing Company Resource-based Industry Utilisation of Oil Palm Biomass to Produce Value Added Products 	
Second Round Incentives for Investment by Subsequent Company Formed by Existing Company	
Incentive for Automation Capital Allowance (Automation CA)	
Import Duty and/or Sales Tax Exemption on Machinery/ Equipment/ Raw Materials/ Components	
Reinvestment Allowance	Inland Revenue Board of Malaysia (LHDN)





e ISBN 978-967-0020-33-4

