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Evolution of Malaysia's Plans Policies, Initiatives and Strategies on Green Procurement Implementation: A Review

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Abstract: Malaysia's plans have evolved over the years, highlighting several goals to sustain economic growth and development in all constituent states of Malaysia. The five-year development plan comprises a comprehensive and integrated plan, policies, and strategies to lead the government in achieving the desired economic and socioeconomic goals. The first Malaysia plan was introduced in 1966-1970, and the development of Malaysia's plans has continued since then. In the Tenth Malaysia Plan, the government emphasised sustainable management, responding to global climate change, and focusing on strategies and mitigation adaptation to ensure sustainable growth. Keeping environmental sustainability is a global commitment, especially in the construction industry, which contributes the most to environmental issues. Green procurement has been introduced to the construction industry as a way forward and a strategy towards sustainability. The primary objective of this paper is to analyse the evolution of the five-year development plans policies, initiatives, and strategies that have been proposed by the government on green procurement practices in Malaysia's plans. The study employs integrative literature review to analyse the contents and features of Malaysia's plans and its related government policy documents on green procurement. The findings of this study will assist stakeholders in better understanding the significance of green policies, initiatives, and strategies on green procurement implementation in Malaysia's plans towards achieving inclusive, sustainable development in the construction industry.

Keywords: Malaysia's plans, green procurement, policies, strategies, initiatives, evolution, review

1. Introduction

'Sustainability development' is defined by the World Commission of Environment and Development as development that satisfies the current generation's demands without jeopardising the following generation's capacity to satisfy its demands. According to Zimmer et al. (2005), it is important to gather all efforts, including society and human activities,

to achieve sustainable development. Being introduced approximately 35 years ago, the term ‘sustainability’ indicates the ‘ability to sustain’ (Adams, 2006), where the concept of sustainable development is rooted in three main sustainability pillars, namely, economic sustainability, environmental sustainability, and social sustainability. Moreover, according to Musa et al. (2013), sustainability is one of the most important concerns that is now being debated worldwide. The green trend of conserving the Earth’s resources and protecting the environment is overwhelming as global awareness of environmental conservation grows. Currently, most developing countries strive to achieve sustainable goals within the construction industry, especially in relation to the environment, health, society, as well as economy. Focusing on the construction industry, the robustness of the industry has persistently positioned itself as a prime contributor to economic and social priorities. Based on the World Economic Forum 2016, the construction sector is one of the catalysts to intensify the national economy, where it has contributed 6% of the global gross domestic product and is one of the largest consumers of raw materials, while the construction materials contribute to 25-40% of the world’s total carbon emissions. It is also highlighted in the National Construction Policy 2030 (2021) that the construction sectors contribute to 50% of climate change, 40% of global energy usage, 50% of landfill waste, water, air, noise pollution, and natural habitat destruction. Therefore, it is vital to solve and protect the environment before climate change and other environmental issues are worsen.

Global awareness regarding the contribution of the construction sector to the environment encourages countries in the world to strive to achieve sustainable development goals in the construction sector. Countries in the world contribute through implementing policies and regulations to achieve sustainable construction (Agnes and Koestoer, 2021; Darko et al., 2017). Northeast Asian countries are rated as leaders in green development performance across Asia, but the greatest progress in a green economy has been achieved by countries such as China (Shao, 2022). Countries in Southeast Asia also contribute through different approaches and priorities. According to Asia and the Pacific SDG progress report 2022, Southeast Asia has been made progress towards no poverty, industry, innovation, and infrastructure and also life on land. The process of implementing sustainable development in developing countries in Southeast Asia is largely influenced by social conditions and economic markets. However, studies that have been conducted show that countries in Southeast Asia have shown a commitment to sustainable construction through the implementation green building standards and certification systems (Bin, 2023). Strengthening the institutional framework is also a process they strive to achieve sustainable development goals.

The development of sustainable construction in Southeast Asian countries is still in progress and continues. Countries in Southeast Asia have different problems and challenges in achieving sustainable construction. This is influenced by cultural, economic, and even geographical differences from these countries. The challenges faced include social prosperity factors. Countries that still prioritize development on eradication of poverty programs, it is still difficult to establish environmental sustainability as a priority issue. The lack of progress according to the SDG Asia and Pacific 2022 progress report in Southeast Asian countries is quality education, decent work and economic growth and partnerships to achieve goals. The major barriers to achieve sustainable construction in these countries are the lack of awareness, training and education owned by construction players, and ineffective procurement systems (Shafii et al., 2006). It is necessary to have a strong commitment from all parties involved in construction to achieve sustainable development goals.

In line with the sustainability agenda, Malaysia is keenly partaking in Sustainable Development Goals (SDGs) to achieve an inclusive, sustainable future for the global environment. Since the construction industry is one of the major contributors to environmental problems, it is important to minimise the environmental impacts of construction activities (National Construction Policy, 2021). Therefore, moving towards a sustainable approach to handling environmental issues is vital. One of the strategies that has been introduced by the government to cater to this issue is the introduction of green procurement, which provides various benefits to the environment and society (Alqadami et al., 2020). The definition of green procurement can vary based on different authors. Green procurement (GP) can be defined as purchasing products and services that mitigate the potential threat to the environment and humans (Najmi et al., 2020). Meanwhile, Bohari and Xia (2015) defined green procurement as the “act of obtaining sustainable goods and services from the commencement to the end of the procurement process by recognising, integrating, and implementing environmental-friendly practices throughout the development process.” Moreover, green government procurement (GGP) is defined as the acquisition of products, services, and works that consider environmental criteria and standards to conserve the natural environment and resources, which minimises and reduces the negative impacts of human activities (KeTTHA, 2014).

Through various strategies that are introduced by the government to reduce the environmental impacts of construction, the industry players need to be more innovative and creative to mitigate the challenges in construction in order to stay competitive and significant with other countries. The Malaysia five-year development plan comprises a comprehensive, strategic, and integrated plan as a catalyst for sustainable green construction and development in the future. Malaysia plans to play an important role in promoting and shaping its sustainable construction industry through its strategic blueprint. Therefore, this study analyses the significance of the policies, initiatives, and strategies that are highlighted in the Malaysia Plan, focusing on related documents such as the Tenth, Eleventh, and Twelfth Malaysia Plans, which focus on green procurement implementation. Through these measures, Malaysia plans to promote adopting

sustainable practices, enhance environmental problems, and contribute to long-term sustainable development, especially in the construction industry.

2. Research Methodology

Integrative literature review was carried out to analyse the Malaysia plans, which focused on the focus area of each Malaysia plan, the policies, strategies, and initiatives of the documents that were related to the green procurement implementation. The evolution of the Malaysia plans can be further examined according to the focus area, where most of the inputs correspond to each other. According to Buheji et al. (2020), integrative review (IR) is a conventional analysis and synthesis of primary study findings, enabling the exploration of additional dimensions within research. Moreover, this method enables formulation of comprehensive conclusions about the research issue, simultaneously addressing specific inquiries and evaluating the existing body of knowledge. The integrative literature examined three (3) Malaysia plans, namely, the Tenth, Eleventh, and Twelfth Malaysia Plans, which highlighted green procurement. This study has adapted the integrative literature approach in examine the Malaysia Plans to provide an understanding of the whole document: each line of words is read using the skimming and scanning technique (SST), to obtain key information and the primary idea of the reading material by searching the text for specific information (Sutz & Weverka, 2009) which focuses on green procurement.

3. The Evolution of Malaysia Plans

The evolution of Malaysia's plans towards environmental sustainability was highlighted in the Tenth, Eleventh, and Twelfth Malaysia Plans. The Tenth Malaysia Plan includes initiatives that have been highlighted by the government to address environmental protection issues, climate change, and biodiversity.

In the Tenth Malaysia Plan, the focus area and the aspirations are the new economic model, which is premised on high income, inclusiveness, and sustainability. Regarding the policies, the government has pushed towards green technology investment. It can be seen in Table 1 that in the Tenth Malaysia Plan, the government highlighted the National Green Technology Policy (NGTP) in strategising towards a low-carbon economy, hence, achieving sustainable development. Moreover, looking at the opportunities to create innovation, the government is orientating towards green technology investment in green products and services, mainly for public procurement. Thus, in supporting these opportunities, the government is giving the green technology financing scheme to issue credit guarantees of 60% for companies that are embarking on the use of green technology. The evolution of introducing environmentally friendly and green product services has further been highlighted in the MyHijau Program, which also encourages green technology and green purchasing under the Ministry of Energy, Green Technology and Water (KeTTHA), and the Malaysia GreenTech Corporation (MGTC). The output from the government policy, the Government Green Procurement (GGP) guidelines, were developed and highlighted upon purchasing six (6) green products and services.

Subsequent to the green technology investment, the Eleventh Malaysia Plan continues to improve natural disasters and shift towards green growth. The evolution of Malaysia's plan which shows the government's commitment to promote sustainable development through one of the initiatives to address environmental challenges, is the introduction of green procurement. In 2016–2018, the Eleventh Malaysia Plan highlighted that the green government procurement (GGP) would create the demand for green products and services from the public sector. As for the construction industry transformation plan (CITP), one of the strategic thrusts emphasised environmental sustainability, encouraging the use of sustainable materials and products in construction works and collaborating with CIDB and other stakeholders to co-develop environmental sustainability specifications for government projects. Green growth is a game changer for Malaysia to achieve sustainable socio-economic development. Two outcomes have been set in the Eleventh Plan: to reduce GHGs emission intensity of GDP by up to 40% and to conserve at least 17% of terrestrial and inland water areas. In achieving these outcomes, the government has introduced a transformative green growth strategy framework, which reinforces the government's commitment to addressing the climate change impact and natural resources management in a sustainable and comprehensive manner. Accordingly, four focus areas are highlighted in the framework in pursuing green growth for sustainability and resilience, they are Focus area A: strengthening the enabling environment for green growth; Focus Area B: adopting sustainable consumption and production concept; Focus Area C: conserving natural resources for present and future generations, and Focus Area D: strengthening resilience against climate change and natural disasters. As for the policies, the government has issued the sustainable consumption and production (SCP) blueprint as a national mitigation plan and national policy on geospatial information management. Green Technology Master Plan Malaysia mentioned the strategic direction for the government to lead the way in green procurement implementation to review all aspects of its operations for the opportunities to adopt green technology-based practices, systems, and products. In Strategic Thrust 2, the market enablers have highlighted the government's green procurement (GGP) as the key area, and the outcome of this is to strengthen the readiness of the industry in green products and services production.

As for the Twelfth Malaysia Plan, the focus is more in-depth on advancing green growth for sustainability and resilience, which highlights enhancing the implementation mechanisms for green practices. Thereby, Chapter 7 highlighted advancing sustainability, Chapter 2: Restoring Growth Momentum, Chapter 7: Enhancing Socio-economic

Development in Sabah and Sarawak, and Chapter 8: Advancing Green Growth for Sustainability and Resilience. In 2018, the Government Green Procurement (GGP) guidelines 2.0 was established and highlighted 30 GGP criteria for green products and services, and two years later, in 2020, the government’s green procurement emphasised purchasing more than 40 products and services. Moreover, the plan has stated that the short-term action plan and GGP will be introduced to encourage green practices in the construction sector, as highlighted in Figure 1. The timeline on green growth, policies, and procurement in Figure 1 was extracted according to the evolution of Malaysia’s plans. Table 1 shows the evolution of the focus areas and policies for the Tenth, Eleventh, and Twelfth Malaysia Plan on green growth. Figure 1 shows the timeline for green growth, policies, and procurement.

Table 1 - The Evolution of the Tenth, Eleventh and Twelfth Malaysia Plan on Green Growth and Procurement

Plan	Tenth Malaysia Plan	Eleventh Malaysia Plan	Twelfth Malaysia Plan
Period	2011–2015	2016–2020	2021–2025
Focus Areas	Government Transformation Programme and New Economic Model (Economic Transformation Programme) Chapter 3 Creating the Environment for unleashing economic growth	Strategic Thrusts 6 - Pursuing green growth for sustainability and resilience Focus Area A Strengthening the enabling environment for green growth Focus Area B Adopting the sustainable consumption and production concept Focus Area C Conserving natural resources for present and future generations Focus Area D Strengthening resilience against climate change and natural disasters.	Chapter 8 – Advancing Green Growth for Sustainability and Resilience Theme 3 Advancing Sustainability <ul style="list-style-type: none"> • Advancing green growth for Sustainability and Resilience • Enhancing Energy Sustainability and Transforming the Water Sector
Policies	National Green Technology Policy (NGTP) Strategies: To move towards a low-carbon economy and achieve sustainable development Creating Innovation Opportunities Green Technology Investment: Green products and services for public procurement	Sustainable consumption and production (SCP) blueprint, Sustainable development blueprint, national mitigation plan, and national policy on geospatial information management.	Enhancing Implementation Mechanisms for green practices. Short-term action plan and guideline on GGP will be introduced to encourage green practices in the construction sector.

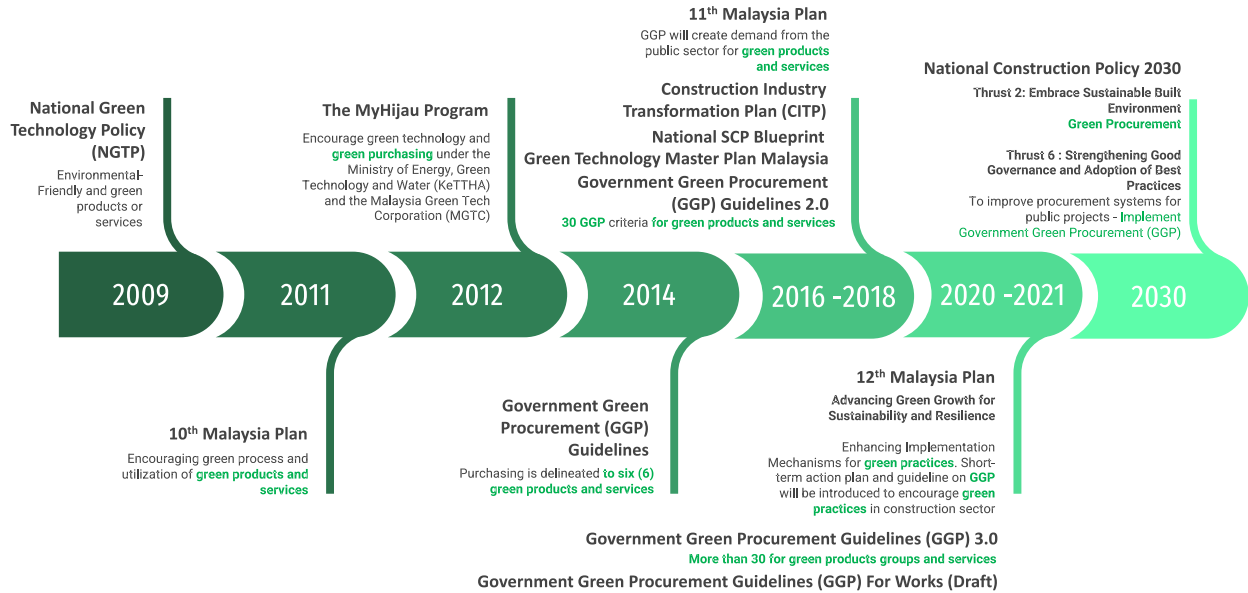


Fig. 1 - Timeline on green growth, policies, and procurement



Fig. 2 - Established Government Green Procurement (GGP) Guidelines

Fig 2. Shows the established government green procurement guidelines. Each of the guidelines highlighted various green products and services purchasing and the latest one is mainly for works which are indicated for construction sectors.

3.1 Green Procurement (GP) and Government Green Procurement (GGP)

Adham and Siwar (2012) have stated that the government green procurement is still a new concept in Malaysia during 2012, where most of the green procurement practices are implemented by foreign firms while many local industries are still far behind in implementing green procurement practices. Up until year 2021 green procurement is still not well-reviewed and the organisations, firms or construction stakeholders are still not aware of green procurement (Razali et al., 2021). However, several initiatives have been introduced to support the awareness of green procurement, for example, the National Green Technology Policy (NGTP) in 2009, which is driven towards reducing carbon growth as part of the nation’s long-term sustainability initiatives and purchasing environmental-friendly green products or services. Several government initiatives and strategies have been made to support the green approach through green procurement implementation.

Table 2 shows various definition of green procurement (GP) and government green procurement (GGP) by different authors;

Table 2 - Green Procurement and Government Green Procurement definition

Green Procurement (GP)	Government Green Procurement (GGP)
An approach that prospectively reduces the environmental impact produced by products and	Consistent process obtaining sustainable development principles such as building strong and healthy society,

services, compared to others that provide the same function (Mosgaard, 2015)	living within the environmental perimeters and promotes good governance (Walker and Brammer, 2009)
Sustainable procurement is considered as a key practice of supply chains in many industrialized countries (Mathivathanan et al., 2018)	Procurement of supplies, services and works by the government that takes into account environmental criteria to conserve and minimize the impact on the environment, accelerate the national economy and promote sustainable development” (Adham and Siwar, 2012).
Sourcing of products and services that mitigates the potential threat to the environment and human health (Najmi et al.,2020)	A process to reduce the environmental impact of purchasing goods through their whole life cycles by motivating the manufacturers to implement eco-friendly product design and production (Musa et al.,2013)

Basically, green procurement is purchasing product and services that conserve, minimizing the environmental impacts to promote sustainable development. The existing construction procurement in plays important roles in infrastructure development because it involved identification, selection and commission process of the inputs needed to construct a project (Department of Business Innovation and Skills, 2012). Razali et al. (2021) stated that green procurement is still not positively evaluated and most of the organization, firms or construction stakeholders are still not aware on green procurement even though there are several policies, government initiatives and strategies available. It is important for all the construction stakeholders to understand and comprehend the significance of the policies, government initiatives, and strategies in driving and implementing green procurement within organization. This is to provide structure, clear direction, and coherence to efforts aimed at achieving the specific goals. It is an essential tool for driving positive change, achieving goals, and ensuring effective governance.

3.2 Significance of Policies, Government Initiatives and Strategies on Green Procurement Implementation

There are several government initiatives in supporting sustainability, especially in green procurement, as displayed in Table 2. The policies, government initiatives, and strategies are important in implementing green procurement. The key significances of these aspects are that they can drive towards sustainable development, which will encourage agencies and organisations to adopt green procurement practices that can help reduce environmental impacts, resource conservation, and ecosystem protection. Moreover, the initiatives can drive the expansion of the market by creating a demand for green products and services. Integrating environmental measures in the procurement processes can indicate the demand for sustainable and eco-friendly solutions for the suppliers and manufacturers. Moreover, this encourages more innovation of green products for the construction industry.

Moreover, the significance of these policies and strategies can enhance environmental performance, especially in reducing the environmental impacts that have been highlighted in the National Construction Policy. These impacts concern climate change, global energy usage, landfill waste, water, air, noise pollution, and natural habitat destruction; the strategies can lead to a significant reduction of all these environmental problems.

The construction industry involves various stakeholders in its activities. Considering the government initiatives and strategies, this can foster collaboration among the construction stakeholders. Thus, governments can facilitate knowledge sharing and discussion on the best practices and promote green procurement throughout the supply chain. The collaborative approach is a significant aspect of encouraging green procurement implementation.

Increasing awareness and education are the important factors the government needs to focus on because awareness and knowledge are the elements that contribute to the implementation of green procurement. Rais et al. (2018) and Alqadami et al. (2020) highlighted that the lack of knowledge and awareness of green procurement concepts and understanding of the current scenario and procurement practices hindered the implementation of green procurement. Therefore, policy enforcement, government initiatives in providing training programs, and discussion on green procurement are important to help the stakeholders understand the benefits, opportunities, and available resources for green procurement. Increasing the awareness and knowledge of green procurement among the construction stakeholders will drive behavioural change towards more green purchasing decisions. The whole evolution of Malaysia’s plans plays a significant part accordingly. However, the next step is to delve deeper into the government initiatives and strategies on green approaches. Table 2 shows the overall government initiatives and strategies towards green practices and procurement from 2009 to 2021.

Table 2 - Government initiatives and strategies towards green practices and green procurement

Government Initiatives & Strategies	Year	Highlight	Key Catalyst
National Green Technology Policy (NGTP)	2009	Aim to reduce carbon growth as part of the nation's long-term sustainability initiatives. Purchasing environmental-Friendly and green products or services.	Ministry of Energy, Green Technology and Water (KeTTHA)
National Policy on Climate Change (NPCC)	2010	The framework to mobilize and guide government agencies, industry, community as well as other stakeholders and major groups in addressing the challenges of climate change.	Ministry of Natural Resources and Environment
The Green Technology and Eco-Products Exhibition	-	Green technology exhibitions and conferences, linking entrepreneurs and investors as well as showcasing the latest innovations to policymakers, government organisations, investors and the general public to create sustainable economic development and inspire impactful climate action across the region.	Malaysian Green Technology and Climate Change Corporation
10th Malaysia Plan	2011	Encouraging green processes and utilisation of green products and services.	Economic Planning Unit
MyHijau Program	2012	Platform to encourage green technology and green purchasing. Green procurement tool to manage the environmental problem. Green Labelling (MyHijau Mark)	Ministry of Energy, Green Technology and Water (KeTTHA) Malaysia Green Tech Corporation (MGTC).
Government Green Procurement (GGP) Guidelines	2014	Purchasing is delineated into six (6) green products and services.	Ministry of Finance and the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC)
Construction Industry Transformation Plan	2015	A detailed programme to transform the construction industry to be highly productive, and environmentally sustainable with globally competitive players and a razor focus on quality and safety standards.	Ministry of Works through CIDB
The National Sustainable Consumption and Production (SCP) Blueprint	2016-2030	Multi-sectoral document aiming at giving directions to deliver green growth and providing the mechanisms to gain more prosperity with fewer resources, waste and emissions	Economic Planning Unit
SIRIM Eco-labelling programs	2016	Provide guidelines and create awareness to help stakeholders in choosing green products and services.	SIRIM QAS International
11th Malaysia Plan	2016	GGP will create demand from the public sector for green products and services.	Economic Planning Unit

Government Initiatives & Strategies	Year	Highlight	Key Catalyst
Green Technology Master Plan Malaysia	2017-2030	<p>Outlines the strategic plans for green technology development to create a low-carbon and resource-efficient economy</p> <p>Encourage the growth of local SMEs to adopt green practices and produce local green products and services.</p> <p>Engaging big corporations to embark on greening supply chains and green procurement which in turn will entice many thousands of SMEs to go green.</p>	<p>Ministry of Energy, Green Technology and Water (KeTTHA)</p> <p>KeTTHA and MGTC</p>
Government Green Procurement (GGP) Guidelines 2.0	2018	20 GGP criteria for green products and services.	Ministry of Finance and the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC)
12th Malaysia Plan	2021-2025	Enhancing Implementation Mechanisms for green practices. Short-term action plans and guidelines on GGP will be introduced to encourage green practices in the construction sector.	Economic Planning Unit
Green Procurement (GGP) Guidelines 3.0	2020	More than 30 green products groups.	Ministry of Finance and the Ministry of Energy, Science, Technology, Environment and Climate Change (MESTECC)
National Construction Policy 2030	2021	<p>Thrust 2: Embrace Sustainable Built Environment Green Procurement</p> <p>Thrust 6: Strengthening Good Governance and Adoption of Best Practices To improve procurement systems for public projects - Implement Government Green Procurement (GGP).</p>	Ministry of Works

Based on Table 2, the government initiatives to promote green practices, especially green procurement, have evolved based on changing needs and circumstances. Each of the government’s initiatives that are highlighted in the various aspects is moving towards green practices in construction. The policy is one of the important elements to provide a framework for decision-making and action in a particular area. To achieve the desired outcome, and henceforth address the issues and challenges, the policy must be followed to set out the goals, principles, and guidelines to ensure consistency and accountability. A clear policy direction will establish clear expectations, ensuring that the decisions are structured to achieve goals. The key catalysts are also important for enforcing the initiatives. To move towards a green approach, more commitment needed to have initiatives in place, but a comprehensive strategy is required to guide decision-making and ensure that the efforts are coordinated and effective. Strategic approaches are needed to ensure that the initiatives by the government to move towards green practices are collaborative and consistent. The sustainability strategies that are highlighted in the Malaysia plans are comprehensive and integrated, which outline a clear vision, goals, and actions to achieve a more sustainable future. This sustainability strategy can ensure that the government initiatives are aligned with the overall sustainability objectives and provide a more holistic and coordinated approach. Table 3 highlights detailed government strategies and initiatives that are underlined in the Tenth, Eleventh, and Twelfth Malaysia Plans.

Table 3 - Government Strategies and Initiatives in the Tenth, Eleventh and Twelfth Malaysia Plans

<i>Plan</i>	<i>Tenth Malaysia Plan</i>	<i>Eleventh Malaysia Plan</i>	<i>Twelfth Malaysia Plan</i>
Period	2011–2015	2016–2020	2021-2025
Strategies and Initiatives	<p>Green Technology Financing Scheme (GTFS) – RM1.5 billion fund</p> <p>National Eco-labelling Scheme</p>	<p>Strategy A1: Strengthening governance to drive transformation by enhancing regulatory and institutional framework, coordination, and capacity.</p> <ul style="list-style-type: none"> • Formulating and strengthening relevant policies and legislations • Strengthening institutional framework • Enhancing capacity and capability • Improving monitoring and evaluation mechanisms <p>Strategy A2: Enhancing awareness to create a shared responsibility.</p> <ul style="list-style-type: none"> • Comprehensive communication and awareness • Platform for knowledge sharing and collaboration <p>Strategy A3: Establishing sustainable financing mechanisms</p> <ul style="list-style-type: none"> • Expanding existing economic instruments • Funding green growth through new economic instruments <p>Strategy B1: Creating green markets through buildings criteria and strengthening green certification.</p> <ul style="list-style-type: none"> • Implementing government green procurement • Encouraging widespread adoption of green buildings criteria • Strengthening green certification <p>Other initiatives</p> <ul style="list-style-type: none"> • SCP in education – Integrating SCP in the formal syllabi to instil sustainable behaviour among students • SCP portal – Developed to 	<p>Chapter 2: Restoring Growth Momentum</p> <p>Strategy A2: "Moving up the Value Chain Increasing High Value-Added Activities" The GREEN PROCUREMENT INITIATIVE in the construction sector will promote sustainable resource sourcing and increase demand for high value-added green construction materials.</p> <p>Strategy A5: "Scaling Up Green Practices Accelerating the Adoption of Green Practices among Industries" The expansion of GREEN PROCUREMENT INITIATIVES will increase demand for green products and services, and catalyst the industries to shift towards green practices.</p> <p>Strategy A5: Enhancing Implementation Mechanisms for Green Practices" A short-term action plan and a guideline on government green procurement (GGP) on works will be introduced to encourage green practices in the construction sector.</p> <p>A nationwide implementation of the GGP on works, including materials, will catalyst the shift towards more sustainable and green construction practices.</p> <p>Chapter 7: Enhancing Socioeconomic Development in Sabah and Sarawak</p> <p>Strategy B5: "Accelerating Green Initiatives" Government green procurement initiatives will also be implemented in Sabah and Sarawak as a catalyst in expanding the green market, including the green construction sector.</p>

<i>Plan</i>	<i>Tenth Malaysia Plan</i>	<i>Eleventh Malaysia Plan</i>	<i>Twelfth Malaysia Plan</i>
Period	2011–2015	2016–2020	2021-2025
Strategies and Initiatives		<ul style="list-style-type: none"> • enhance awareness, knowledge and capacity of all levels towards green growth. • Development of SCP indicators – to assess the impact on SCP on the economy, society and environment 	<p>Chapter 8: Advancing Green Growth for Sustainability and Resilience</p> <p>Strategy A1</p> <p>“Expanding the Green Market and Government Green Procurement”</p> <p>Increased share of government green procurement to 25%. Procurement of green labelled</p> <p>The GGP initiative will be expanded to state governments and local authorities. More local green products and services will be made available to support the expansion. The GGP implementation will also be expanded to include procurement of works for construction and renovation. This will be the catalyst in greening the construction sector. Green labels, designs and methods as well as the use of green and recycled materials will be promoted.</p> <p>To further promote green construction, a short-term action plan and guidelines for GGP works will be developed. The promotion of green products and services, including green buildings and infrastructure, will be intensified to boost demand from the private sector and the general public.</p>

In the Eleventh Malaysia Plan, it is apparent that in Strategic Thrust 6, the government has emphasised pursuing green growth for sustainability and resilience. The strategies that it has brought attention to are more on strengthening governance as the driver of the transformation, increasing knowledge and consciousness to foster a collective sense of accountability, developing sustainable funding mechanisms, alternatively generating green markets through government green procurements, incorporating green building criteria, and reinforcing the green certifications. Other highlighted initiatives are the introduction and education on sustainable consumption productions for the students, a portal to develop awareness; knowledge improves individuals’ understanding, expertise, and ability to promote environmentally sustainable growth. Moreover, the SCP indicators are developed to evaluate the impact of SCP on the economy, society, and environment.

As for the Twelfth Malaysia Plan, various government strategies and initiatives are highlighted. The important policies on green growth are the development of a short-term action plan and government green procurement guidelines that will be developed and expanded to focus on the construction sector. The government indicated in Strategy 5 that to accelerate the implementation of green practices among the industries, scaling up the green practices by expanding green procurement initiatives can increase the demand for green products and services and act as catalysts for the industries to transition towards sustainable practices. These initiatives will benefit not only the public sector but also the private sector.

By reviewing the evolution of Malaysia’s plans, policies, strategies, and initiatives on green growth and green procurement. Ultimately the goals are to reduce carbon footprints, minimise waste and pollution, and conserve natural sources, especially when focusing on construction activities. These significant impacts on green procurement demonstrated the government’s environmental sustainability efforts. The implementation of green procurement in

industries has led to an increment of sustainable products and services that will help to reduce environmental problems. Moreover, these also encourage industries to shift towards environmentally friendly practices. Overall, the evolution of Malaysia's plans, policies, strategies, and initiatives that have been highlighted, especially on green procurement, has played a crucial part in advancing the country's sustainability agenda and promoting a more environmentally friendly economy.

4. Evolution of Malaysia's Plans Policies, Initiatives, and Strategies on Green Procurement Implementation

Figure 3 thoroughly discusses the evolution of Malaysia's plans, policies, guidelines, initiatives, and strategies for green procurement implementation. Four (4) critical aspects were explored: government policies and guidelines, government strategies and initiatives, the impact of green procurement implementation, as well as targeted achievement. In the Tenth Malaysia Plan, two (2) policies, namely the National Climate Change Policy and the National Green Technology Policy, were highlighted as the government moving towards a low-carbon economy, hence achieving sustainable development. Moreover, the MyHijau Program is one of the government initiatives to promote the sourcing and purchasing of green products and services in Malaysia. In addition to encouraging green technology among the stakeholders, the Green Technology Financial Scheme, amounting to RM1.5 billion, was established to promote green technology. This initiative indirectly enables green technology and purchasing tools to manage environmental problems. For companies developing or using green technology, the issuance of credit guarantees of 60% will be given to support this green technology, and purchasing will be the preferred choice for public procurement.

During the Eleventh Malaysia Plan, a few policies were introduced to pursue green growth for sustainability and resilience, such as the sustainable consumption and production (SCP) blueprint and SIRIM Eco-labelling Programs, which include the guidelines for choosing green products and services. The guidelines are vital in providing structure, consistency, and clarity in purchasing green products and services. Structured guidelines are essential for organizations to provide clear directions and expectations, efficiency in doing the processes, training for organizations to establish the procedures, and the most critical aspect is that guidelines can facilitate effective communication. Shared understanding is essential for easier collaboration and communication within the organizations. Bohari et al. (2017) highlighted that green procurement implementation is fragmented. Some organizations need more experience and in-house knowledge in identifying green products and services, and it is challenging to integrate green procurement policy elements into existing policy. Chong et al. (2009) stated that low awareness and knowledge among stakeholders are due to limited practical guidelines for procuring green projects and need help initiating sustainable concepts in their works. Therefore, the existence and available structured guidelines that focus on green practices need to be clear and practical to provide directions for the stakeholders as a basis of best practices to improve work quality in their activities. The Green Technology Master Plan outlines the strategic plans for green technology development to create a low-carbon and resource-efficient in line with Focus Area C to conserve natural resources for present and future generations. This master plan encourages the growth of local SMEs to adopt green practices and produce local green products and services and engages big corporations to embark on greening supply chains and green procurement, which will attract many thousands of SMEs to go green. This action can positively impact economic, environmental, social, and innovation domains.

Moreover, it can lead to more sustainable market conditions, job opportunities, and economic growth. These policies align with the focus area of Strategic Thrust 6 in strengthening the enabling environment for green growth, adopting the sustainable consumption and production concept, conserving natural resources for present and future generations, and strengthening resilience against climate change and natural disasters. The government needs to develop strategies to provide a structured approach to achieve green growth for sustainability. Government strategies are crucial to guide decision-making and resource allocation to maximize the chances of success in implementing green procurement.

In the Eleventh Malaysian plan, the government emphasized that green government procurement (GGP) will be made mandatory for all government ministries. This is important to ensure that legal responsibilities are met, and it will help create the demand for green products and services among the stakeholders involved. Purchasing environmentally friendly products and services will spur demand for green industries. The impact of these mandatory regulations and the implementation of green procurement will be taken seriously, and the specific standards will be achieved. Furthermore, this will encourage the private sector to emulate government efforts in green procurement and support the industries to raise the standard and quality of their products to meet the green requirement. Consistent with the Eleventh Malaysia Plan's aspiration to pursue green growth for sustainability and resilience, the government has set at least 20% of government procurement to be green by 2020. In other words, targeted achievement is important to ensure that efforts are focused on specific outcomes, tracking progress, and better evaluation performance. Subsequently, achieving targeted goals can be a stepping stone toward broader aspirations. During the Eleventh Malaysia Plan, government Green Procurement Guidelines (GGP) 2.0 was produced and highlighted green purchasing involved twenty (20) green products and services. As a result, more products were added and available if compared to GGP 1.0, which only listed six (6) green products and services. Since then, the government has put together initiatives to run a pilot project in July 2013, and the five (5) ministries involved have procured green products and services worth RM352 million as of April 2015. The five (5) implementing agencies are the Ministry of Defense (MinDef), Ministry of Health (MoH), Ministry of Home Affairs

(MOHA), Ministry of Rural and Regional Development (KKLW) and Ministry of Urban Wellbeing, Housing and Local Government (KPKT). The pilot test served as a small-scale, controlled trial phase before rolling out the full-scale implementation of government green procurement. This pilot test will offer valuable insights into the risk mitigation of the implementation opportunity to improve before committing to a complete rollout. In 2016, the implementation of GGP evolved, and twelve (12) ministries and their agencies implemented GGP, resulting in a cumulative value of GGP amounting to RM482 million. In 2017, twenty-five (25) ministries and government agencies must incorporate green specifications in procuring GGP product groups.

During the Eleventh Malaysia Plan period, several strategies and initiatives were implemented to pursue green growth in achieving environmental sustainability and resilience. Several challenges must be addressed to accelerate green growth, including unsustainable consumption and production practices, biodiversity loss, and lack of a supportive enabling environment. Therefore, a way forward in the Twelfth Malaysia Plan, 2021-2025, is set to propel environmentally sustainable growth by enacting a comprehensive clean, green, and resilient development strategy. Malaysia also conserves planetary well-being and aims for long-term carbon neutrality. Low-carbon and climate-resilient socioeconomic development, as well as preserving natural resources and ecosystems, will be the main priority. The National Construction Policy 2030 was launched during International Construction Week 2021 and ASEAN Super 8, and this policy aims to guide the entire construction sector into the era of digitalization. Focusing on the 4.0 The National Construction Policy 2030 Thrust 2: Embrace Sustainable Built Environment Green Procurement, the Ministry of Work (MoW) is committed to consistently advancing sustainable development across the entire lifecycle of the construction sector, with green procurement as one of the particular focus. This commitment encompasses various aspects, which include development planning, design implementation, construction management methods, asset operation and maintenance, asset management, renovation, demolition costs, low carbon development, resilience against natural disasters, inclusivity, and the efficient utilization of resources while minimizing construction waste.

Moreover, clause 4.6.1 Thrust 6: Strengthening Good Governance and Adoption of Best Practices highlighted improving procurement systems for public projects and emphasized incorporating the government green procurement (GGP) approach into government processes to protect the environment, minimize pollution, and preserve valuable resources. In 2020, government green procurement (GGP) Guidelines 3.0 was made available, which highlighted purchasing more than thirty (30) green products and services. Moreover, in the Twelfth Malaysia Plan, Strategy A5 highlighted enhancing implementation mechanisms for green practices. A short-term action plan and comprehensive government green procurement (GGP) guidelines for construction works will be introduced. This is the way forward to enhance the green procurement approach for the construction sector, and its initiatives aim to promote ecologically responsible practices within the construction sector and encourage green practices in the construction sector. As for the performance of selected targets in the Eleventh Malaysia Plan to achieve green growth, the average proportion of government green procurement (GGP) for selected green products and services was 20.7% between 2016 and 2019, exceeding the target of 20%. Therefore, the target has been increased with 25% by the year 2025, which is the latest target allocation for GGP implementation.

In summary, Figure 3 highlights Malaysia's journey toward green procurement implementation, which has evolved through successive plans, policy enhancement, and proactive initiatives. The focus has been integrating green practices into various sectors, fostering sustainable growth, and creating a resilient environment. Government commitments and efforts, including refined guidelines and intensification of green practices implementation like purchasing green products and services, have collectively contributed to the country's progress and aspirations toward a more environmentally conscious and sustainable future.

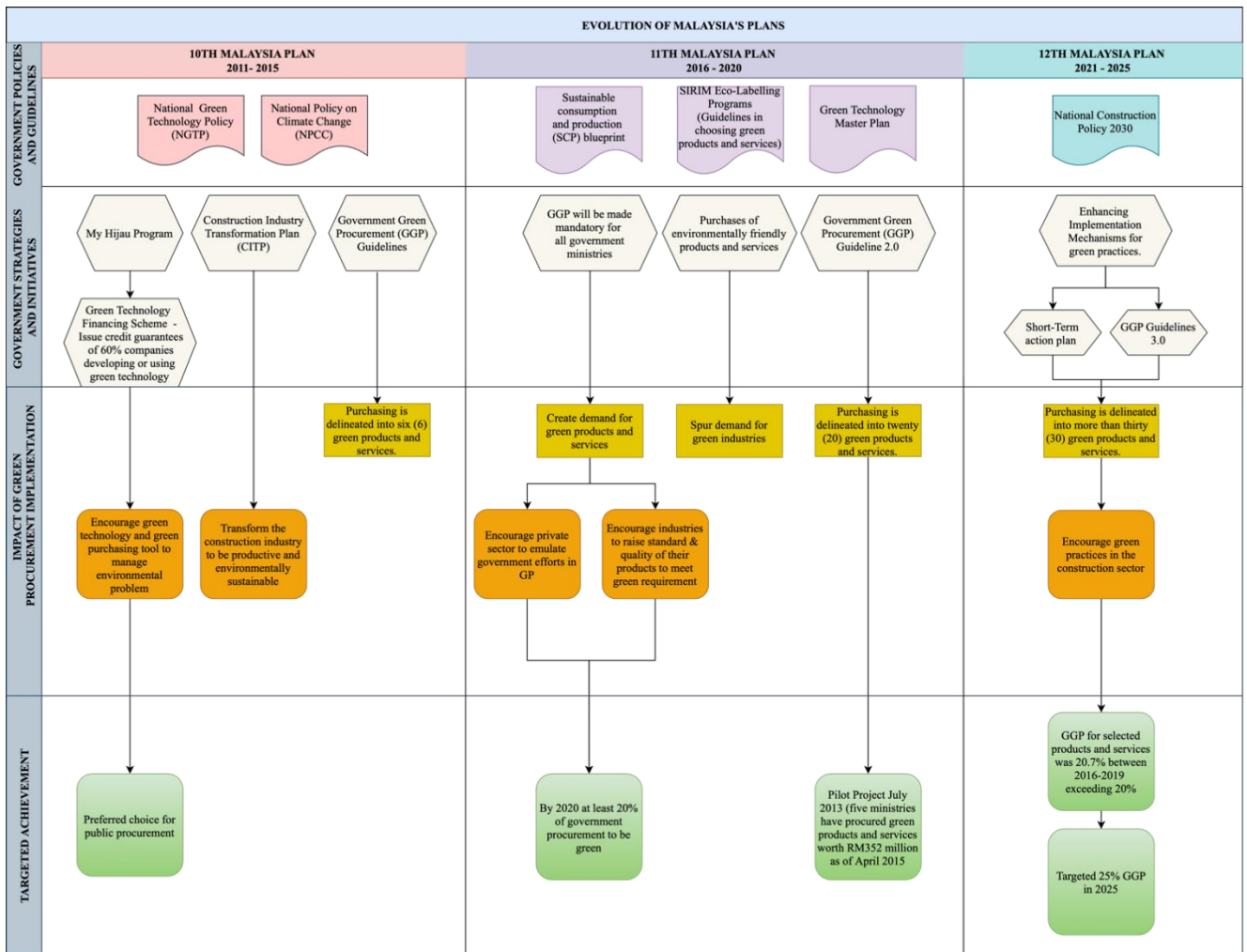


Fig. 3 - Evolution of Malaysia’s Plans Policies, Initiative and Strategies on Green Procurement Implementation

5. Conclusion

This review has provided an overview of the evolution of Malaysia’s plans policies, initiatives, and strategies that are related to green procurement implementation. The review highlights the important progress in integrating environmental considerations into procurement practices. The evolution of the Malaysian government policies, initiatives and strategies align with the sustainable agenda in addressing environmental challenges and promoting sustainable development. The first part of the review identifies the focus area of each of the Malaysia Plans through the evolution of the Tenth, Eleventh, and Twelfth Malaysia Plans. The second part explains on the green procurement and government green procurement and the significance of policies, government initiatives and strategies on green procurement implementation. The last part highlighted on the evolution of Malaysia’s plans policies, initiatives, and strategies that focuses on green procurement implementation. From the five-year development plans, the government has evolved initiatives and strategies to achieve green goals, such as developing government green procurement (GGP) guidelines. These guidelines aim to promote green procurement practices, establish clear goals and objectives, and provide guidance on the implementation, evaluation, and monitoring. Green procurement is still not well reviewed, and the stakeholders are not well aware of green procurement. Nonetheless, there are still opportunities for growth in increasing the stakeholders' knowledge of the benefits and effectiveness of green procurement implementation. Based on the review, the construction stakeholders need to collaborate to implement sustainable practices because it is only achievable through collaboration. Also, the policy needs to be monitored and evaluated for improvement to achieve the desired goals or outcomes. It is important to pursue the effort to promote the implementation of green procurement and integrate environmental considerations into the procurement practices. These efforts will assist in promoting sustainable development and addressing environmental problems, ultimately contributing to a more sustainable and resilient future for Malaysia.

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