

# **THE ESG PLAYBOOK: PRACTICAL STEPS FOR MANUFACTURING SMEs**



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# 1.0

## ABOUT THIS PLAYBOOK

# ABOUT THIS PLAYBOOK

“The ESG Playbook: Practical Steps for Manufacturing SMEs” is designed to support Small and Medium Enterprises (SMEs) in Malaysia’s manufacturing sector by providing practical guidance on how to integrate Environmental, Social, and Governance (ESG) principles into their business operations. It aims to help manufacturing SMEs remain competitive while contributing to Malaysia’s sustainable economic development.

Alliance Bank, together with Monash University Malaysia and Zurich Malaysia, is committed to fostering a resilient and inclusive economy by empowering SMEs on their ESG journey. We recognise that SMEs are the backbone of Malaysia’s industrial growth, and by equipping them with the right tools and knowledge, we can collectively drive positive environmental impact, strengthen social responsibility, and uphold strong governance practices.

Through this playbook, you will find:



## **Malaysia’s ESG Landscape**

This section provides a clear picture of how ESG principles are shaping the manufacturing sector in Malaysia, covering industry trends that encourage sustainable practices.



## **Success Stories from Local Manufacturers**

This section showcases success stories from Malaysian manufacturers who have integrated ESG principles into their operations, illustrating practical steps taken and the tangible benefits achieved.



## **Tools and Programmes for ESG Journey**

This section outlines available resources and support mechanisms, including government grants, initiatives, and financial incentives that ease the transition towards sustainable practices.

## FOREWORD BY GROUP CHIEF EXECUTIVE OFFICER, ALLIANCE BANK MALAYSIA BERHAD



“

As we build a more sustainable, equitable, and competitive Malaysia, every action small or large, counts. We hope that this playbook not only serves as a guide for businesses, but also as a catalyst for transformation.

”

**KELLEE KAM**

Group Chief Executive Officer,  
Alliance Bank Malaysia Berhad



At Alliance Bank, we recognise the vital role the manufacturing sector plays in driving Malaysia's economy. As one of the top contributors to the nation's GDP, it attracts investments, generates employment, and delivers innovative, value-added products.

The New Industrial Master Plan (NIMP) 2030 sets the stage for transformation, advancing high-value manufacturing, digital automation, and the journey to net zero by 2050. These shifts aim to create a more resilient and inclusive economy. SMEs in this sector are adapting to evolving consumer preferences for sustainable products while striving to remain competitive in global supply chains.

To support this transition, Alliance Bank has introduced "The ESG Playbook: Practical Steps for Manufacturing SMEs", developed in collaboration with Monash University Malaysia, Zurich Malaysia, and strategic partners including Malaysian Plastics Manufacturers Association (MPMA), Penang Green Council (PGC), and UN Global Compact Network Malaysia & Brunei (UNGCMYB).

This playbook provides practical guidance, grounded in Malaysian success stories, to help manufacturers embed ESG into their operations. It illustrates how the traditional manufacturing value chain evolves into an enhanced model through ESG integration.

Each example demonstrates how the Malaysian SMEs in the manufacturing value chain have embedded sustainability into core operations to deliver long-term growth and meaningful social impact. It also introduces ESG archetypes to help SMEs identify their positioning and plan strategies effectively.

Based on our ESG 2.0 Report published in 2025, "The Path to Sustainable Impact: Sectoral Insights of Malaysian SMEs", ESG awareness among SMEs in the sector stood at 84%, with 69% already adopting ESG practices, reflecting the level of maturity and understanding of the players in the industry.

Aligned with our Acceler8 2027 strategy, this playbook demonstrates Alliance Bank's commitment to enabling manufacturers to progress meaningfully in their ESG journey. We offer targeted support under the Bank's Sustainability Impact Programme (SIP) for SMEs in the manufacturing sector, helping them with practical banking and beyond-banking solutions so that ESG is embraced not just for compliance, but as a strategic driver of sustainable, long-term business value, while protecting the environment and uplifting the communities they serve.

As part of our broader commitment to sustainability, the Bank, together with Monash University Malaysia and Cradle Fund Sdn Bhd, has recently established the Innovation Impact Lab, Malaysia's pioneering platform dedicated to accelerating SMEs' transition toward a low-carbon and circular economy. The Lab is a timely and strategic platform designed to help SMEs test and refine tech-driven, commercially viable solutions that address real-world challenges, particularly in sustainability, waste management, and circularity.

As we build a more sustainable, equitable, and competitive Malaysia, every action, small or large, counts. We hope that this playbook not only serves as a guide for businesses, but also as a catalyst for transformation.

## FOREWORD BY PRESIDENT AND PRO-VICE CHANCELLOR, MONASH UNIVERSITY MALAYSIA



**PROFESSOR EMERITUS DATO'  
DR ADEEBA KAMARULZAMAN**

President and Pro Vice-Chancellor,  
Monash University Malaysia

As one of the region's leading research-intensive institutions, Monash University Malaysia is deeply committed to enabling a more just, sustainable, and inclusive future. We believe that higher education plays a pivotal role in shaping how society understands and responds to global challenges such as climate change, social inequality, and responsible governance.

This ESG Playbook, developed in collaboration with Alliance Bank and other partners, reflects our shared mission to support Malaysian SMEs, particularly those in the manufacturing sector, as they navigate the growing importance of Environmental, Social, and Governance (ESG) practices. SMEs form the backbone of Malaysia's economy, and their readiness to embrace sustainable principles will determine their future resilience and our nation's progress towards achieving the Sustainable Development Goals (SDGs). Grounded in research and informed by real-world local case studies, this playbook provides an easy guide to help make it easy for SMEs to adopt ESG principles.

Monash is proud to contribute its academic expertise and evidence-based perspectives to this initiative. We hope this resource empowers SMEs to take confident, strategic steps in embedding sustainability into their core operations, not only as a matter of compliance or conscience, but as a driver of innovation, competitiveness, and long-term growth.

At Monash University, we believe in our role as an anchor institution, not just here to teach and do research, but to embed ourselves in the environment and communities around us. This project is a great example of strong and impactful partnerships to address important local ESG issues while aligning with the broader SDGs and the global challenges we face.

## FOREWORD BY COUNTRY CEO, ZURICH MALAYSIA



### **JUNIOR CHO**

Country CEO,  
Zurich Malaysia

At Zurich Malaysia, we believe progress is defined not just by growth, but by how responsibly it is achieved. As climate risks intensify and consumer expectations shift, Environmental, Social and Governance (ESG) principles are now central to building resilience and deliver long-term value.

Malaysia's small and medium enterprises (SMEs) are the backbone of our industrial economy. Their innovation, adaptability and grit position them to lead sustainable transformation. This playbook provides a practical roadmap to support SMEs embed ESG into operations and strategy.

ESG awareness among manufacturing SMEs in Malaysia is high, and many are beginning to integrate sustainability. However, transformation brings challenges, whether in navigating evolving standards, securing financing or building partnerships. SMEs also face significant challenges accessing adequate insurance and takaful coverage, often due to limited awareness, perceived complexity, or cost concerns. This protection gap leaves SMEs vulnerable to disruptions, threatening their long-term sustainability.

As insurance and takaful providers, we aim to bridge this gap by offering accessible, relevant, and flexible coverage options, as well as by educating SMEs on risk protection as part of their ESG journey. By enabling SMEs to safeguard their assets, people, and operations, insurance and takaful play a vital role in ensuring the resilience and future-readiness of Malaysia's SME sector.

Through knowledge-sharing, ecosystem partnerships, and a long-term commitment to people and planet, we proudly support this initiative to empower Malaysian SMEs to Care For What Matters. Together, we can future-proof Malaysia's manufacturing sector and strengthen its global standing in a responsible economy.



## FOREWORD BY PRESIDENT, MALAYSIAN PLASTICS MANUFACTURERS ASSOCIATION (MPMA)



### CC CHEAH

President,  
Malaysian Plastics Manufacturers  
Association (MPMA)

The Malaysian Plastics Manufacturers Association (MPMA) is honoured to support the Environmental, Social and Governance (ESG) Playbook developed by Alliance Bank Malaysia Berhad, a timely, comprehensive and action-oriented guide to steer manufacturers, particularly SMEs, towards a more responsible and resilient future.

The global plastics conversation is intensifying as demand for sustainable materials, stricter ESG regulations, and evolving investor priorities reshape business. Locally, SMEs face mounting pressure to adapt but often lack resources and expertise.

At MPMA, we see both challenges and opportunities. ESG is now essential for competitiveness and continuity. Embedding it into business strategy unlocks efficiencies, strengthens supply chains, enables sustainable financing, and meets rising market and consumer expectations.

We champion a Circular Economy to drive a low-carbon, resource-efficient future, designing products for reuse and recyclability, innovating materials and processes, and boosting plastics waste collection and recycling. MPMA unites the plastics value chain to advance transparent, ESG-driven practices. Through advocacy, awareness, and capacity-building programmes, we help stakeholders adopt smart policies and sustainable solutions.

This playbook empowers manufacturers, especially SMEs, to integrate ESG into their operations. MPMA supports this journey by providing knowledge, tools, and platforms through ESG training and information sharing, while showcasing success stories of local plastics manufacturers embracing circularity and low-carbon practices for sustainable growth.

Amid rising environmental expectations and economic uncertainties, the plastics industry must commit to sustainability. This ESG Playbook is a catalyst for action, and MPMA is proud to help build a resilient, competitive, and responsible manufacturing ecosystem in Malaysia.

## FOREWORD BY CHIEF EXECUTIVE OFFICER, PENANG GREEN COUNCIL (PGC)



**JOSEPHINE TAN MEI LING**

Chief Executive Officer,  
Penang Green Council (PGC)

At Penang Green Council (PGC), we believe the journey towards a greener and more resilient industrial sector must be inclusive, collaborative, and future-focused. As Penang advances towards its vision of becoming Malaysia's greenest state and a leader in sustainability by 2030, the manufacturing sector remains a key driver of this transformation, championing innovation, productivity and strong environmental and social responsibility.

Penang's industrial growth has long been anchored in its dynamic electrical & electronics (E&E) and precision engineering sectors, which are deeply embedded in global value chains. Through the Penang Green Industry Programme (PGIP), we are committed to strengthening the capacity of local industries, especially SMEs, to adopt robust Environmental, Social and Governance (ESG) practices. Our mission is to support a transition towards cleaner production, improved resource efficiency and reduced pollution, while paving the way for opportunities in the growing green jobs sector. Embedding ESG at the local level helps ensure that Penang's industries remain competitive, resilient and aligned with international sustainability expectations.

To drive this transformation, PGC through PGIP, has built a strong support ecosystem and strategic roadmap that unites state leadership, financial institutions, technical experts and industry associations. This platform provides ESG readiness assessments, tailored guidance, sector-specific capacity building, access to green financing, pilot programme implementation and collaboration opportunities across the industrial landscape.

The case studies featured in this playbook highlight the bold, forward-looking actions of local manufacturers. From adopting circular economy principles to empowering employees through inclusive policies and good governance, these organisations demonstrate that embracing ESG is not only responsible, it is a strategic business advantage.

As we look ahead to 2030 and beyond, PGC remains committed to catalysing transformation and positioning Penang as a model for sustainable industrial development. We invite you to use this playbook as both a starting point and a catalyst for action. Every small step taken today strengthens resilience, competitiveness and Malaysia's green future. The time to act is now.

***"No man is an island. Each and every one of us has a role to play to ensure that we do not pass the world beyond repair to our next generation!"***





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# **INTRODUCTION: ESG OVERVIEW FOR MANUFACTURING SMEs**

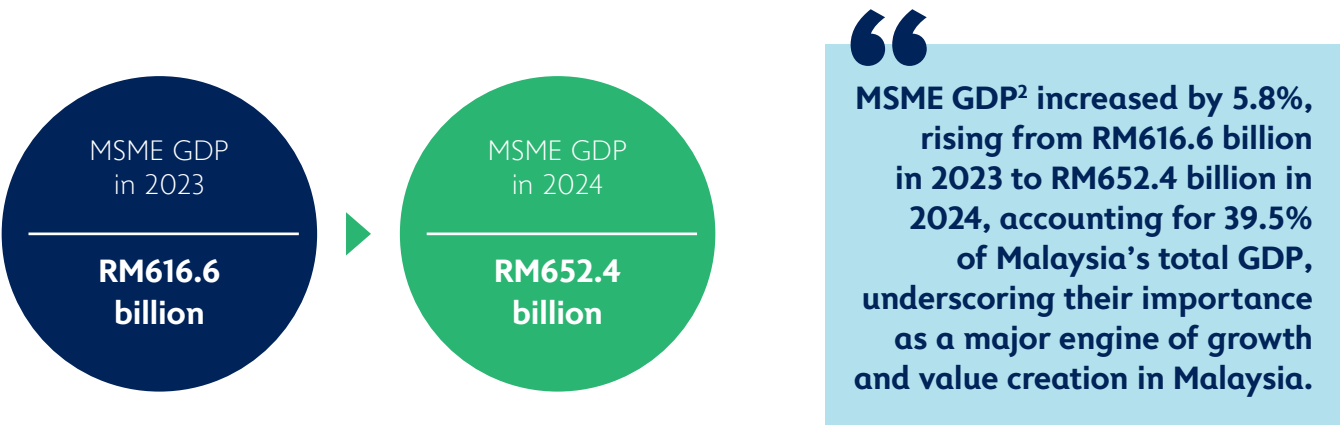
# OVERVIEW OF MANUFACTURING SMEs IN MALAYSIA

The manufacturing sector is a key pillar of Malaysia’s economy, contributing significantly to national growth, industrial development, and employment opportunities. Within this sector, SMEs play a crucial role by supporting supply chains, driving innovation, and sustaining local production capacity.

In Malaysia, manufacturing SMEs are classified<sup>1</sup> based on either annual sales turnover or number of employees:

<b>Small-sized enterprise</b>	Sales turnover: RM300,000 < RM15 million <u>OR</u> Employees: From 5 to < 75
<b>Medium-sized enterprise</b>	Sales turnover: RM15 million ≤ RM50 million <u>OR</u> Employees: From 75 to ≤ 200

As SMEs form the backbone of Malaysia’s business landscape, understanding their scale and economic contribution is essential for appreciating the sector’s overall impact. Consistent with the scope of currently available official data, the following overview is based on MSME statistics, which include Micro enterprises. These figures offer a useful snapshot of the broader enterprise ecosystem.



As of 2024<sup>3</sup>, there are approximately 1.09 million MSMEs, accounting for 96.1% of all business establishments. The manufacturing sector comprises 5.3% of these, representing 57,187 firms. While the services sector remains dominant in terms of overall numbers, manufacturing businesses play a crucial role in supporting Malaysia’s industrial base and export activities. In addition, the manufacturing sector exhibits relatively higher levels of ESG awareness and adoption compared to other sectors<sup>4</sup>.

As Malaysia moves towards a more sustainable future, manufacturing SMEs will continue to play a vital role. To strengthen this role, integrating ESG principles into business operations is essential. It enhances long-term competitiveness, builds resilience, and aligns with national sustainability goals.



## WHY ESG MATTERS FOR MANUFACTURERS?

Manufacturers today face growing pressure to operate responsibly due to increasing environmental risks, evolving social expectations, and rising demands for transparency and accountability. Issues such as carbon emissions, resource consumption, and ethical supply chain practices are under greater scrutiny.

ESG provides a practical framework for manufacturers to assess, manage, and enhance their sustainability performance across operations, supply chains, and workforce practices. This framework is built on four key elements that make ESG both actionable and relevant for SMEs.

### Defined Categories

ESG categorises sustainability into three core areas: **Environmental**, **Social**, and **Governance**, allowing businesses to focus on specific aspects rather than trying to address everything at once.

### Guiding Principles

It is guided by globally recognised standards and frameworks such as Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB), and International Organisation for Standardisation (ISO), which help companies identify what to measure, how to improve, and how to report their progress.

### Step-by-Step Implementation

ESG encourages a phased approach, starting with identifying material issues, setting clear goals, implementing targeted actions, and tracking progress over time.

### Consistency & Comparability

A structured ESG approach enables businesses to benchmark their performance and communicate transparently with stakeholders (for example: customers, investors, regulators) and build long-term trust.

## UNDERSTANDING ESG

To effectively adopt ESG, it is important to understand what it encompasses. ESG stands for Environmental, Social, and Governance; three interconnected pillars that define how a business manages its impact on the planet, people, and its leadership practices.

Each pillar addresses specific areas of responsibility that enable manufacturers to operate more sustainably, ethically, and transparently. The table below outlines key focus areas under each ESG component:



ENVIRONMENTAL	SOCIAL	GOVERNANCE
How a company manages its impact on the planet	How a company treats its people and communities	How a company is led and held accountable
<ul style="list-style-type: none"><li>• Energy usage and efficiency</li><li>• Climate change strategy</li><li>• Waste reduction</li><li>• Resource conservation</li><li>• Air and water pollution</li></ul>	<ul style="list-style-type: none"><li>• Employee compensation</li><li>• Diversity and inclusivity</li><li>• Employee relations</li><li>• Workplace health and safety</li><li>• Data protection and privacy policies</li><li>• Community engagement</li><li>• Corporate social responsibility (CSR) programmes</li><li>• Support for human rights</li></ul>	<ul style="list-style-type: none"><li>• Company leadership and management</li><li>• Board composition, including diversity and structure</li><li>• Executive compensation policies</li><li>• Financial and organisational transparency</li><li>• Ethical business practices</li></ul>



# BUILDING A SUSTAINABLE BUSINESS STRATEGY

Creating value through ESG requires more than isolated initiatives or annual reports. It demands a clear, integrated sustainability strategy, a roadmap that balances ESG responsibilities with business growth.

## KEY COMPONENTS OF AN ESG STRATEGY



### 1. Vision & Goals

Define a sustainability purpose aligned with your business mission (for example, carbon neutrality, community upliftment).

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### 2. Materiality Assessment

Identify ESG issues most relevant to business operations, such as energy use, waste management, climate risk, and worker safety.

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### 3. Governance & Accountability

Establish clear roles for ESG implementation, such as board-level oversight or dedicated sustainability teams.

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### 4. Action Plans & Targets

Set measurable goals across operations, supply chains, and products (for example, reduce plastic use by 50% by 2030).

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### 5. Performance Metrics & Reporting

Track progress using recognised standards. Transparent reporting builds trust and drives continuous improvement.

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### 6. Stakeholder Engagement

Engage employees, customers, investors, and communities throughout your sustainability journey.

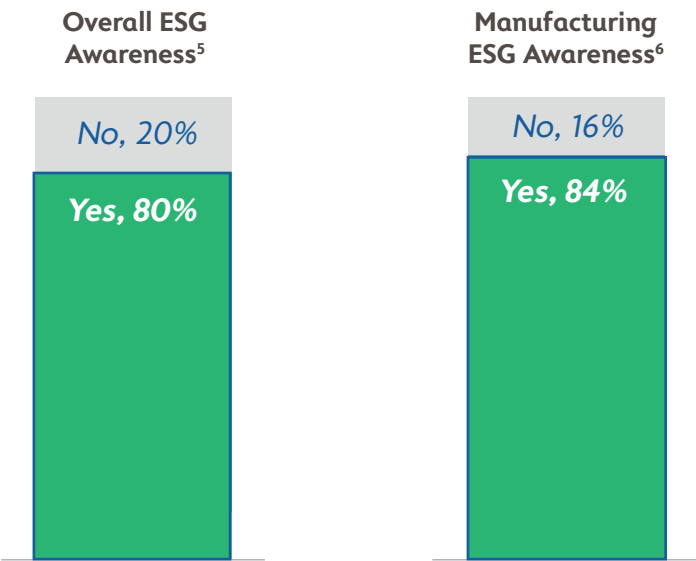
While these components provide a solid foundation for action, the challenge is to translate these principles into practical, resource-appropriate steps that deliver real impact. Embedding ESG into strategy and operations will not only improve compliance and efficiency but also position manufacturers for growth in a sustainability-driven market.

# OVERVIEW OF ESG LANDSCAPE WITHIN THE MANUFACTURING INDUSTRY

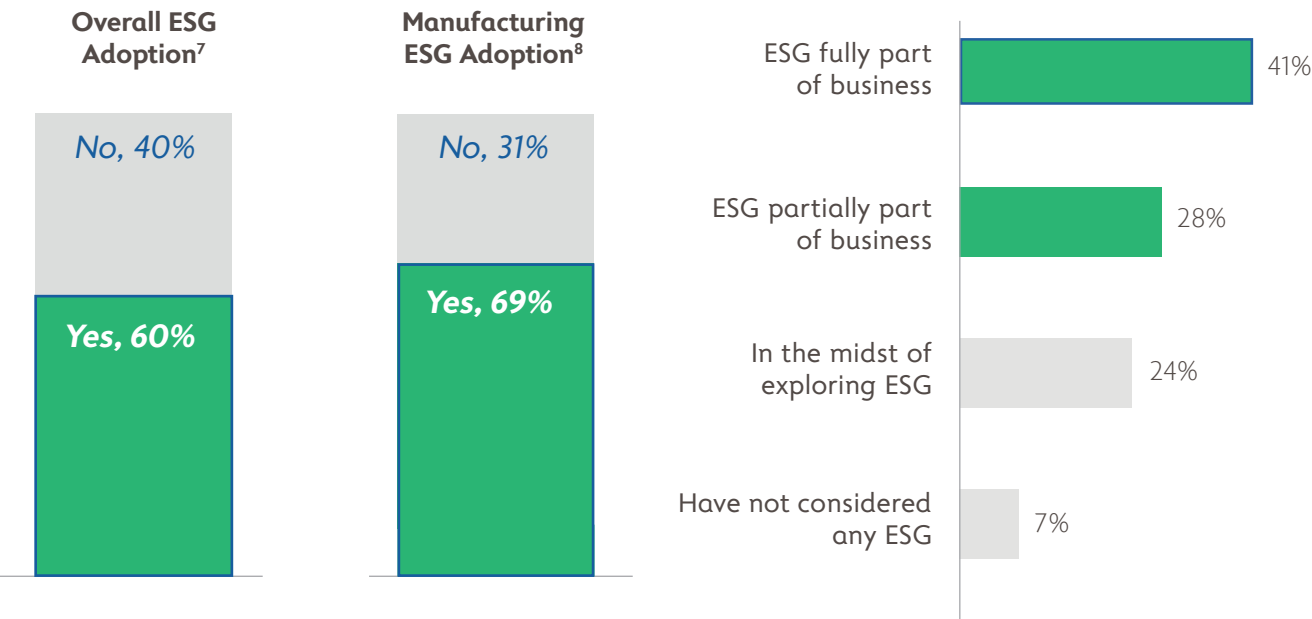
## ESG AWARENESS & ADOPTION TRENDS

ESG awareness among manufacturing SMEs in Malaysia is growing steadily, with more businesses recognising its value beyond regulatory compliance. Increasingly, ESG is seen not just as a requirement, but as a strategic enabler of growth, competitiveness, and long-term resilience.

### ESG Awareness: General vs. Manufacturing



### ESG Adoption: General vs. Manufacturing



The growing momentum behind ESG adoption in manufacturing sector is shaped by a combination of regulatory, market, and strategic factors. The visual below highlights four major forces influencing this shift; from government policies, national industrial strategies, global market pressures, and customers' expectations.



Increasing government regulations promoting sustainability



Rising consumer demand for eco-friendly products



Supportive initiatives like the New Industrial Master Plan (NIMP) 2030



Growing pressure to stay competitive in global markets where ESG standards are becoming essential

As these pressures intensify, ESG adoption is emerging as a key differentiator for manufacturing SMEs. For them, embracing these principles today will not only ensure compliance but unlock new growth opportunities in tomorrow's competitive landscape.

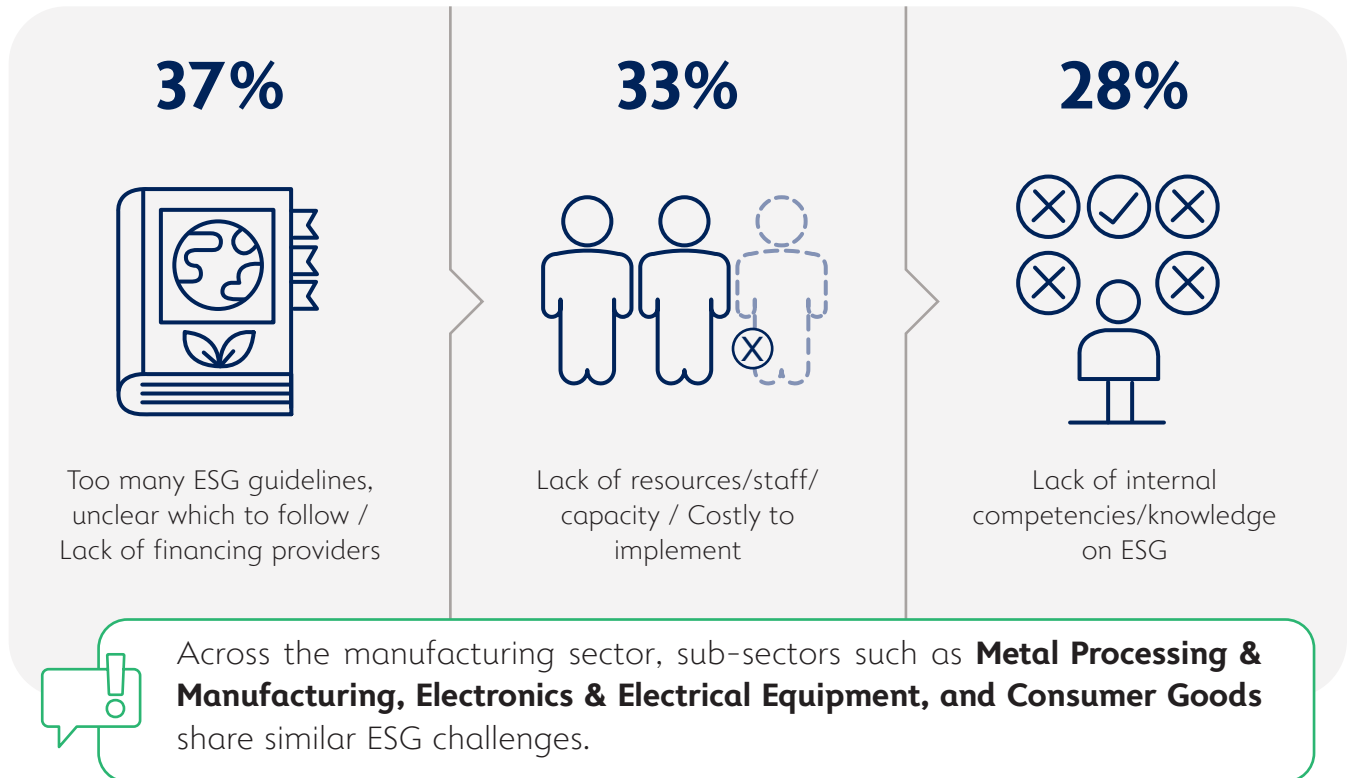




## CHALLENGES IN ESG ADOPTION

While ESG adoption is gaining momentum, many manufacturing SMEs that have already committed to sustainability find that translating ambition into measurable action is far from straightforward.

### ESG Adoption Challenges Among Manufacturers<sup>9</sup>



One of the most common barriers is information overload. With numerous frameworks, standards, and guidelines available, businesses often struggle to determine which ones are most relevant to their operations. This lack of clarity can delay progress and complicate decision making.

Cost is another major concern. ESG initiatives often require upfront investment in systems, training, and infrastructure. Without external support or incentives, many SMEs find it difficult to allocate the necessary resources.

Additionally, limited internal capacity poses a challenge. Many SMEs lack dedicated teams or expertise to manage ESG efforts, making it more challenging to integrate sustainability into daily operations. In some cases, restricted access to financing further limits their ability to move forward with ESG initiatives.

Despite these challenges, taking action remain crucial. Overcoming these hurdles can unlock meaningful opportunities as ESG adoption not only mitigates risks but also enhances business value, resilience, and stakeholder trust.

## KEY REASONS OF IMPLEMENTING ESG PRACTICES

Despite these implementation challenges, manufacturers are increasingly adopting ESG practices not only for their inherent sustainability benefits, but because they bring real business benefits. These include improving environmental and social outcomes and strengthening business performance and long-term resilience.

### ESG Adoption Reasons Among Manufacturers<sup>10</sup>



**60%**

Obtain cost savings from energy/waste efficiencies



**49%**

Meet market demand



**48%**

Enhance risk management



ESG adoption is also driven by manufacturers' goals to innovate and reach new customers.

### Cost Savings (60%)

ESG practices such as energy efficiency, waste reduction, and resource optimisation can significantly reduce operating costs. For manufacturers, this means lower energy consumption, reduced material wastage, and leaner production processes. These savings directly improve profitability and create room for reinvestment in innovation and business expansion.



#### Spotlight

*The office of The Green Factory<sup>11</sup>, a manufacturer of sustainable wood products, is designed for natural light harvesting, eliminating the need for artificial lighting during the day, and it also collects rainwater for reuse, cutting down on utility costs.*

### Meeting Market Demand (49%)

As sustainability becomes a priority for customers, clients, and supply chain partners, ESG adoption helps manufacturers stay competitive and relevant. Demonstrating responsible practices strengthens brand reputation, meets evolving buyer expectations, and opens access to new and expanding markets.



#### Spotlight

*Foodabox<sup>12</sup>, a manufacturer of sustainable food packaging, recognised the importance of sustainable packaging and the environmental impact of polystyrene and plastic waste, leading the company to develop eco-friendly alternatives that reduce waste and support a greener future.*

## Enhancing Risk Management (48%)

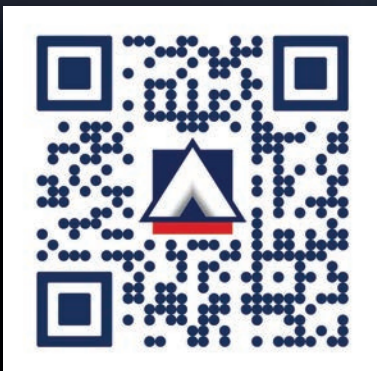
Integrating ESG measures enables manufacturers to proactively identify and mitigate risks related to regulations, supply chain disruptions, workplace safety, and climate impacts. This strengthens business resilience and helps avoid costly disruptions.



### Spotlight

*Fire Fighter Industry Sdn Bhd<sup>13</sup> is the only fire extinguisher manufacturer in Malaysia to obtain both ISO 9001 and ISO 14001 certifications, demonstrating its commitment to quality management and environmental standards in fire safety while meeting customer and regulatory requirements.*

These drivers show that ESG is more than a compliance exercise; it is a pathway to building stronger, more resilient businesses. By leveraging these benefits, SMEs can position themselves for long-term success in a sustainability-focused economy.



### SCAN HERE

to view the complete findings on the ESG landscape among SMEs in Malaysia



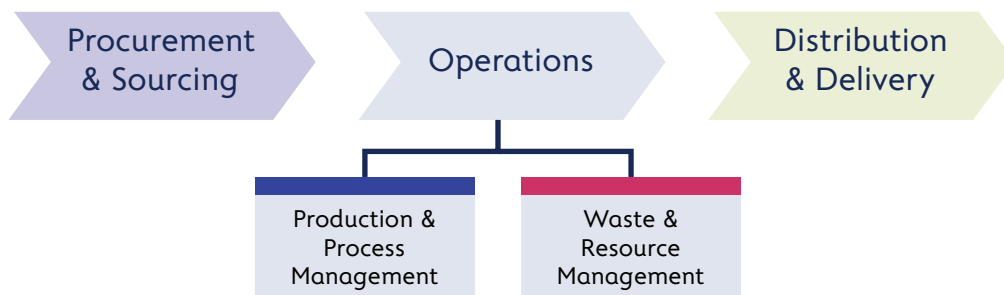


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# TRANSFORMING VALUE CHAINS: ESG PRACTICES AND INDUSTRY ARCHETYPES

# REIMAGINING THE MANUFACTURING VALUE CHAIN THROUGH ESG

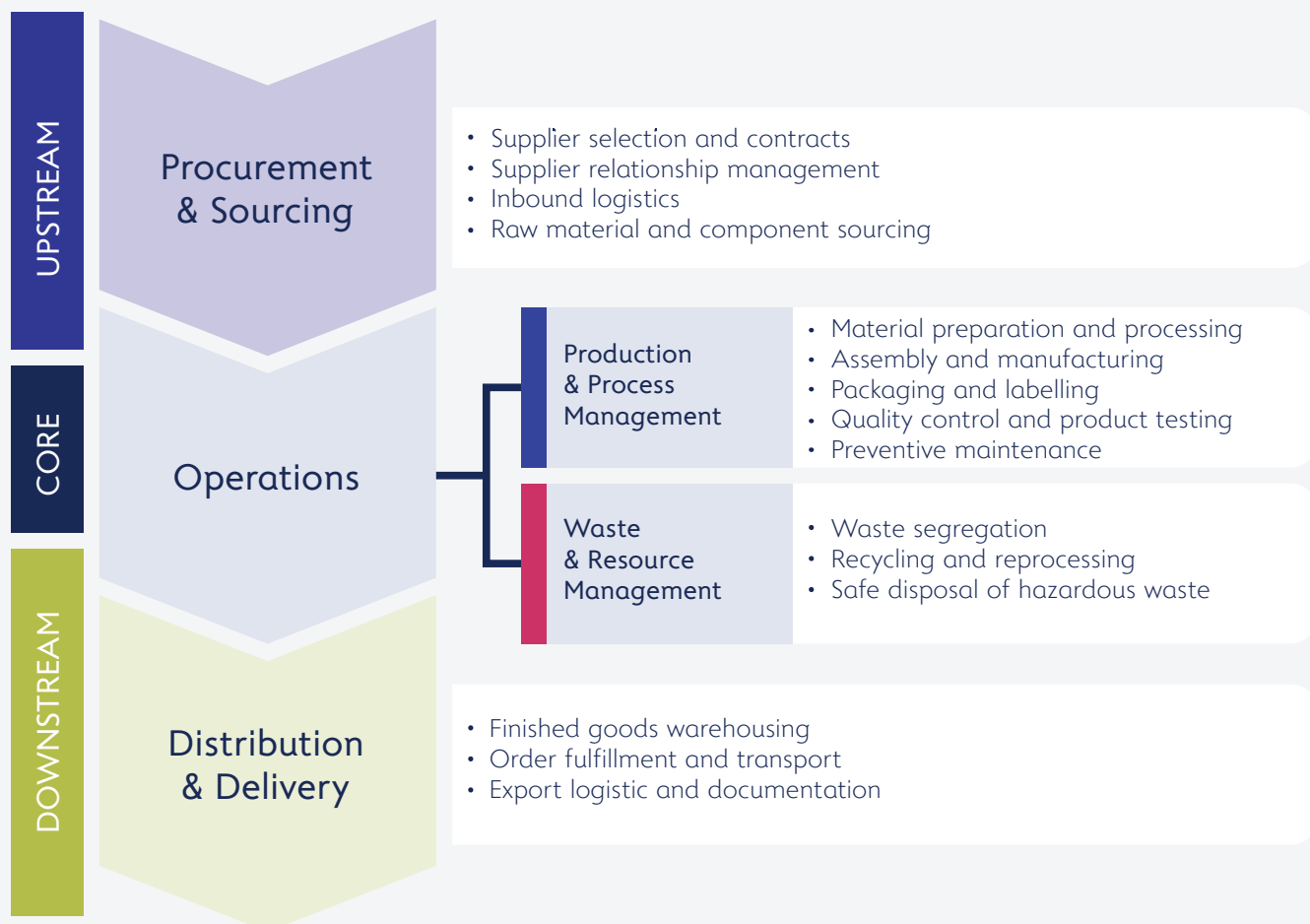
Traditionally, the manufacturing value chain was designed to optimise cost, efficiency, and output across three key stages:



This linear approach delivered economic value but lacked mechanisms to address sustainability risks or stakeholder expectations beyond financial performance.

## TYPICAL MANUFACTURING VALUE CHAIN

Below is an overview of the typical manufacturing value chain, outlining its key stages and typical activities across upstream, core, and downstream processes:



Note: Upstream and downstream activities often overlap with core operations, as procurement, logistics, and delivery are integral to operational processes.

## HOW CAN ESG ENHANCE EACH STAGE OF THE VALUE CHAIN?

Today, ESG transforms the manufacturing value chain from a linear, cost-driven model into a circular responsible, and future-ready system. By embedding ESG into each stage, SMEs can unlock efficiencies, meet stakeholder expectations, and build resilience in a rapidly evolving market. Below illustrates how ESG integration enhances each process across the value chain:

UPSTREAM	<b>Procurement &amp; Sourcing</b>			
	Traditionally focused on cost and speed, procurement is now a gateway to sustainability. ESG encourages manufacturers to prioritise suppliers that uphold environmental and ethical standards.	<b>ESG Initiatives</b> <ul style="list-style-type: none"> <li>Sustainable sourcing and fair-trade practices strengthen supply chain resilience.</li> <li>Ethical material choices improve brand credibility and export readiness.</li> <li>Consolidated logistics reduces emissions and transport costs.</li> </ul>	<b>ESG Impact</b> <p>Builds a responsible supply base, reduces reputational risk, and aligns with global buyer expectations.</p>	<b>Business Impact</b> <p>Enhances supplier reliability, reduces procurement disruptions, and improves access to premium markets and financing.</p>
CORE	<b>Operations: Production &amp; Process Management</b>			
	Manufacturing operations are typically resource-intensive. ESG introduces efficiency, accountability, and innovation into the production process.	<b>ESG Initiatives</b> <ul style="list-style-type: none"> <li>Energy-efficient machinery lowers electricity consumption.</li> <li>Lean manufacturing reduces waste and improves throughput.</li> <li>Sustainable packaging enhances product appeal and reduces landfill impact.</li> <li>Safety and compliance measures protect workers and ensure product integrity.</li> </ul>	<b>ESG Impact</b> <p>Drives operational excellence while reducing environmental footprint and improving workforce wellbeing.</p>	<b>Business Impact</b> <p>Lowers operating costs, boosts productivity, and strengthens workforce retention and product quality.</p>
DOWNSTREAM	<b>Operations: Waste &amp; Resource Management</b>			
	Often seen as a cost centre, waste management becomes a value generator under ESG.	<b>ESG Initiatives</b> <ul style="list-style-type: none"> <li>Circular economy practices reprocess defective goods.</li> <li>Closed-loop recycling reduces raw material dependency.</li> <li>Safe disposal ensures compliance and prevents environmental harm.</li> </ul>	<b>ESG Impact</b> <p>Minimises waste, lowers disposal costs, and supports regulatory alignment.</p>	<b>Business Impact</b> <p>Unlocks new revenue streams, reduces material costs, and avoids penalties or reputational damage.</p>
DOWNSTREAM	<b>Distribution &amp; Delivery</b>			
	Logistics contribute significantly to carbon emissions. ESG encourages green logistics and responsible trade.	<b>ESG Initiatives</b> <ul style="list-style-type: none"> <li>Renewable energy in warehousing (for example, solar-powered cold storage) cuts utility costs.</li> <li>Electrified fleets reduce transport emissions.</li> <li>Compliance with international standards (for example, RoHS, REACH) facilitates smoother exports.</li> </ul>	<b>ESG Impact</b> <p>Enhances supply chain sustainability, reduces carbon footprint, and improves market access.</p>	<b>Business Impact</b> <p>Improves delivery efficiency, reduces fuel and energy costs, and accelerates entry into regulated global markets.</p>

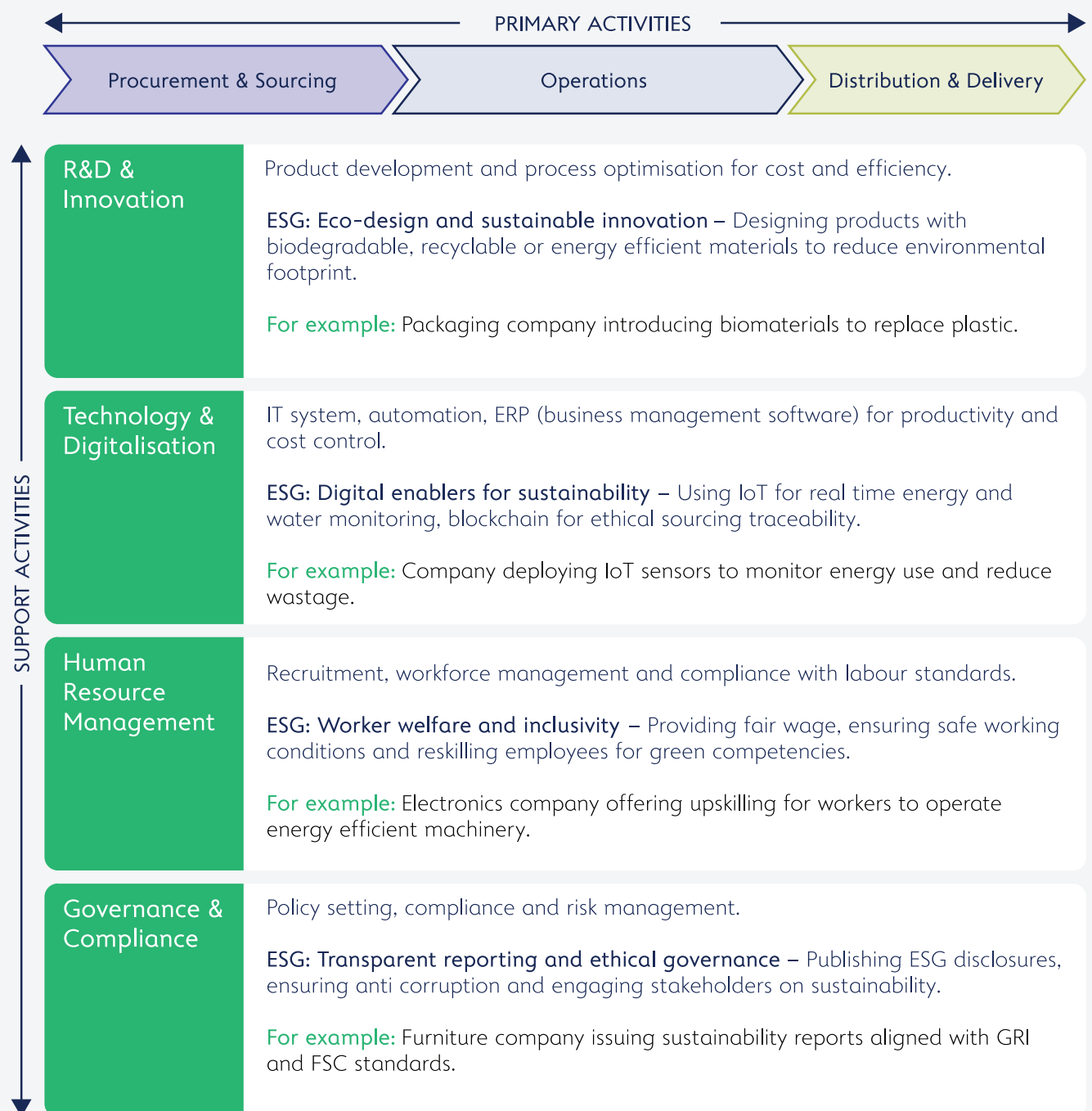
Note: Upstream and downstream activities often overlap with core operations, as procurement, logistics, and delivery are integral to operational processes.



# SUPPORTIVE ENABLERS FOR ESG-DRIVEN TRANSFORMATION

Having reimagined the manufacturing value chain through ESG, it is clear that sustainability is not confined to isolated stages; it must be embedded holistically across the entire ecosystem. This brings us to the supportive enablers that underpin and amplify ESG integration throughout the value chain.

## MANUFACTURING SUPPORT ENABLERS



To operationalise ESG across procurement, operations, and distribution, manufacturers should activate four key enablers that cut across all stages:

## R&D and Innovation

Innovation is no longer about performance; it is about purpose. ESG-aligned R&D focuses on eco-design and sustainable materials, enabling manufacturers to reduce environmental impact while meeting evolving customer expectations.



**Spotlight:** Due to the surge in demand for rubber gloves during the Covid-19 pandemic, which created an environmental challenge, Geomax Rubber Innovative Products Sdn Bhd<sup>14</sup>, a manufacturer of sustainable rubber products, pioneered the process to upcycle rejected nitrile rubber gloves into eco-friendly footwear, effectively tackling the issue of glove waste.

## Technology & Digitalisation

Digital tools are critical for both efficiency and ESG tracking. Automation, ERP systems, and IoT enable real-time monitoring of energy and water usage, while blockchain ensures ethical sourcing transparency.



**Spotlight:** Bioloop Sdn Bhd<sup>15</sup>, a biotechnology company, leverages advanced climate control, modular cage systems, and wavelength-specific lighting to optimise Black Soldier Fly propagation. Digital monitoring ensures precise control of fly size, mating frequency, and egg yield, enabling scalable and sustainable bioconversion.

## Human Resource Management

ESG starts with people. Fair wages, safe working conditions, and inclusive workforce policies not only meet compliance but also improve morale and retention. Reskilling for green competencies ensures workforce readiness for sustainable operations.



**Spotlight:** Thumbprints Utd Sdn Bhd<sup>16</sup>, a printing company, fosters an inclusive and safe workplace, prioritises employee welfare through profit-sharing, upholds global ethical standards via Sedex and EcoVadis audits, and actively supports community engagement and sustainability awareness.

## Governance & Compliance

Strong governance ensures ESG efforts are credible and measurable. Transparent reporting, stakeholder engagement, and anti-corruption policies build trust and align with global standards.



**Spotlight:** *Emerging EPC<sup>17</sup>, a system integrator specialising in customised oil and gas equipment and process packaging, demonstrates its leadership in sustainable business practices through comprehensive ESG reporting, underscoring its commitment to transparency, accountability, and responsible growth.*

These enablers are not siloed; they support every stage of the manufacturing value chain, ensuring that ESG is not just a strategy but a way of doing business.





## ESG ARCHETYPES IN MANUFACTURING

Having explored the supportive enablers that help operationalise ESG across the manufacturing value chain, the next step is to understand how these principles manifest in practice. Manufacturers are not all at the same stage of ESG maturity, nor do they approach sustainability in the same way. This is where ESG archetypes come in to provide a practical lens to identify how different players lead ESG transformation based on their strategic focus and operational strengths.

These archetypes span the entire value chain, from upstream sourcing to downstream product stewardship, and include enabling roles that support ESG integration across all stages.

### ARCHETYPES OF ESG LEADERS IN MANUFACTURING SECTOR

UPSTREAM	<b>Green Material Innovators</b> (Raw materials sourcing & sustainable inputs)	<b>E</b>	Develop sustainable, renewable, or low carbon alternatives to traditional inputs.
	<b>Ethical Supply Chain Stewards</b> (Sourcing, supplier responsibility, traceability)	<b>G</b>	Ensure traceable, transparent, and ethical sourcing.
CORE	<b>Clean Energy &amp; Efficiency Champions</b> (Energy efficiency and low-carbon production processes)	<b>E</b>	Integrate renewable energy, carbon neutral ops, energy efficient production.
	<b>Lean / Operational Excellence Leaders</b> (Process optimisation, waste reduction, productivity)	<b>E</b> <b>G</b>	Use Lean, Kaizen, Six Sigma, TPM to eliminate inefficiency, reduce defects, save resources.
DOWNSTREAM	<b>Circular Economy Innovators</b> (Recycling, reuse, closed-loop production, end-of-life management)	<b>E</b>	Reuse, recycle, and valorise waste streams into new inputs.
	<b>Responsible Design Champions</b> (Design for sustainability, lifecycle accountability, customer use impacts)	<b>E</b> <b>S</b>	Design safe, eco friendly, inclusive products with life cycle responsibility (take back, repair).
ENABLERS	<b>ESG Tech &amp; Data Enablers</b> (Digital, data, and AI solutions supporting ESG integration across the chain)	<b>G</b>	Use IoT, AI, blockchain for ESG monitoring, reporting, optimisation.
	<b>Responsible Employer &amp; Community Builders</b> (Human capital, workplace practices, and community engagement outcomes)	<b>S</b>	Prioritise worker safety, inclusivity, welfare, and community impact.

LEGEND: **E** Environmental **S** Social **G** Governance

## Upstream Archetypes

### Green Material Innovators

Focused on environmental impact, these manufacturers develop sustainable, renewable, or low-carbon alternatives to traditional inputs.

*They lead ESG by transforming the raw material base.*

### Ethical Supply Chain Stewards

With a governance focus, these players ensure traceable, transparent, and ethical sourcing practices.

*They build trust and resilience through responsible procurement.*

## Core Operations Archetypes

### Clean Energy & Efficiency Champions

These manufacturers integrate renewable energy, carbon-neutral operations, and energy-efficient production methods.

*They reduce emissions and operational costs while boosting ESG credentials.*

### Lean / Operational Excellence Leaders

Combining environmental and governance strengths, they apply Lean, Kaizen, Six Sigma, and Total Productive Maintenance (TPM) to eliminate inefficiencies, reduce defects, and conserve resources.

*They drive ESG through disciplined process improvement.*

## Downstream Archetypes

### Circular Economy Innovators

These companies reuse, recycle, and valorise waste streams into new inputs, closing the loop on resource use.

*They turn waste into value and reduce landfill impact.*

### Responsible Design Champions

Focused on lifecycle responsibility, they design safe, eco-friendly, and inclusive products, and offer take-back or repair programmes.

*They embed ESG into product design and post-sale responsibility.*

## Cross-Cutting Enablers

### ESG Tech & Data Enablers

These players deploy digital, data, and AI solutions to support ESG integration across the value chain.

*They make ESG measurable, traceable, and scalable.*

### Responsible Employer & Community Builders

With a social focus, they champion human capital development, workplace wellbeing, and community engagement.

*They ensure ESG is felt by people, not just processes.*

These archetypes help manufacturers identify their current ESG strengths and potential pathways for growth. Whether you are an SME just starting out or a mature player refining your strategy, understanding your archetype can guide investment, innovation, and stakeholder engagement.



4.0

# MANUFACTURING WITH PURPOSE: ESG SUCCESS STORIES



## ESG IN PRACTICE: CASE STUDIES FROM THE MANUFACTURING SECTOR

Having explored the principles, strategies, and enablers of ESG integration, it is important to see how these concepts come to life in real business settings. The following case studies showcase how manufacturers are applying ESG in practical, impactful ways across different industries, business models, and stages of maturity. These examples highlight the diverse approaches companies are taking to embed sustainability into their operations, and the tangible benefits they are achieving in the process.

In addition, the case studies classify each company according to its ESG archetypes, providing insights into how their strategic priorities and operational capabilities shape their approach to ESG transformation. The four Malaysian manufacturers presented below illustrate these distinctions.



A manufacturer specialising in spices, herbs, and seasoning products for both retail and industrial markets<sup>18</sup>.

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A producer of advanced, low-VOC nanotechnology-based coatings under the IGL Coatings brand<sup>19</sup>.

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A printing and packaging company offering a wide range of sustainable paper-based packaging solutions<sup>20</sup>.

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A provider of modern office furniture solutions with a strong focus on green manufacturing practices<sup>21</sup>.

CASE STUDY 1: HEXA FOOD SDN BHD

FROM FARM TO FUTURE: ESG LEADERSHIP THROUGH SMART SUPPLY CHAINS



ARCHETYPES:

Green Material Innovators	Clean Energy & Efficiency Champions	Circular Economy Innovators	ESG Tech & Data Enablers
Ethical Supply Chain Stewards	Lean / Operational Excellence Leaders	Responsible Design Champions	Responsible Employer & Community Builders

ESG JOURNEY

Hexa Food Sdn Bhd is a homegrown food manufacturing company based in Shah Alam, Malaysia. Established in 1997, the company produces over a hundred different types of products, including herbs, spices, seasonings, marinades, and ready-to-cook premixes.

Hexa Food’s products hold HALAL, Hazard Analysis and Critical Control Point (HACCP), and ISO 22000 certifications. It serves various market segments, including consumers, food services, food manufacturers, supplying retail chains and multinational clients across Southeast Asia and the Gulf region.

The company was founded by Gary Gan, who transformed a struggling family venture. By 2007, Gan had started Hexa Food from scratch, driven by a simple “survival mindset” that was fundamental to his approach to operational discipline.

What differentiates Hexa Food is how sustainability has been woven into its core operations, not as a checklist, but as a core strategy for continuity and competitiveness.

For an agri-food manufacturer operating in Malaysia, Hexa Food’s ESG materiality is defined by the resilience of its supply chain, food safety, and the stability of its partner ecosystem.



## ENVIRONMENTAL

Material risks include waste minimisation, particularly product spoilage and error margins in production. A long-term material issue is reducing the carbon footprint and increasing supply chain resilience by reducing reliance on imported ingredients from South America, India, China, and Turkey.



## SOCIAL

The company identifies financial empowerment of its staff and suppliers, particularly local farmers and SMEs, as highly material. This focus is linked to strengthening the value chain, especially in a community context facing socio-economic challenges. Maintaining high standards for product safety and quality is also essential to uphold consumer trust, which is a critical concern in the food industry.



## GOVERNANCE

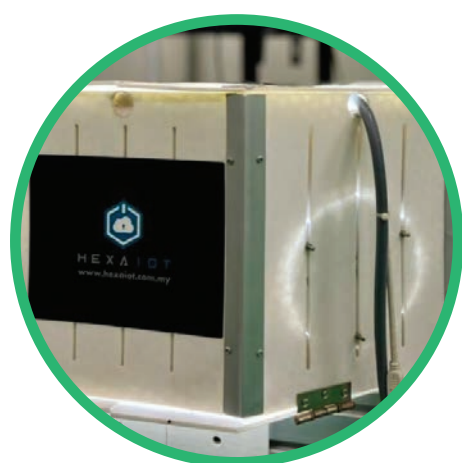
Materiality includes transparent traceability across the production chain and upholding stringent standards to meet the compliance demands of major international retailers.

Hexa Food systematically integrates sustainability across its operations, moving from a pragmatic focus on operational discipline to long-term strategic transformation.

**Environmentally**, integration focuses on minimising waste and enhancing supply chain resilience. The company was an early adopter of sustainable packaging in Malaysia, introducing resealable packaging for its herbs and spices in 2011.

For long-term environmental sustainability and to reduce its carbon footprint, Hexa Food is actively pursuing the localisation of sourcing for high-value specialty crops through contract farming, aiming to replace imported ingredients from countries such as China, India, and South America. Operational efficiency is further enhanced by Hexa-IoT systems that monitor shelf life and production cycles to reduce errors and product waste.

**Socially**, Hexa Food prioritises the financial empowerment and stability of its stakeholders. It offers internal zero-interest loan schemes to employees for purchasing property, education, or emergencies, which supports long-term staff retention. The company also ensures the financial viability of its smallholder farmers by paying local suppliers ahead of schedule and is exploring risk-sharing models, such as offering monthly payments to help farmers absorb agricultural risks. The core commitment to consumer safety is reflected by holding HALAL, HACCP, and ISO 22000 certifications for all its products.



**Governance** is strengthened through transparency, technology, and strategic compliance. Hexa Food established the spin-off Hexa-IoT to develop affordable, traceability-driven systems that monitor raw material flow and automate inventory control. This traceability software can link each batch of ingredients down to the specific farm and field method. Crucially, the company views meeting the stringent ESG audits demanded by major retailers, which cover environmental impact, wages, and safety standards, as a business opportunity that drives high standards and positions the company for growth, both in scale and exports.





## CHALLENGES

Hexa Food faces challenges typical of companies transitioning into emerging agri-food markets:



### SCALING SUSTAINABLE FARMING

Implementing contract farming requires significant patience, capital, and partnerships. The company must evolve farming models to ensure long-term stability, such as exploring monthly payments to farmers instead of solely paying per harvest, to help share the inherent agricultural risks.



### OPERATIONAL TRANSITION

While Hexa Food prioritises local sourcing to reduce imports, scaling up local production for specialty crops while ensuring quality and competitive economics remains a continuing focus.



### CULTURAL SHIFT AND LITERACY

Embedding ESG principles requires sustained change management across diverse teams and suppliers with varying levels of ESG literacy.

## KEY LEARNINGS

Hexa Food's journey provides key takeaways for businesses in emerging markets, particularly within the agri-food sector:



### Pragmatic sustainability

ESG must be “rooted in a company’s core purpose” and applied practically within the business’s means; the business must be sustainable financially before pushing environmental or social goals.



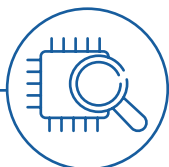
### Compliance as competitive advantage

Viewing stringent regulatory requirements (like ESG audits for large retailers) as opportunities for scale and performance improvement rather than administrative hurdles is crucial for long-term competitiveness.



### Ecosystem-level engagement

Meaningful ESG impact requires collaborating across the value chain. Hexa Food demonstrates this through deep engagement with smallholder farmers, offering financial support and risk-sharing models.



### Technology as an enabler

Investing in affordable, dedicated traceability technology (Hexa-IoT) allows a medium-sized company to achieve high standards of transparency and control, strengthening resilience against risks like food waste.

CASE STUDY 2 : IGL COATINGS

REDEFINING RESPONSIBILITY:  
SUSTAINABLE MATERIALS, ETHICAL  
SOURCING AND PRODUCT DEVELOPMENT



ARCHETYPES:

Green Material Innovators	Clean Energy & Efficiency Champions	Circular Economy Innovators	ESG Tech & Data Enablers
Ethical Supply Chain Stewards	Lean / Operational Excellence Leaders	Responsible Design Champions	Responsible Employer & Community Builders

ESG JOURNEY

Founded in 2015, Ominent Sdn Bhd, through its flagship brand IGL Coatings, has redefined Malaysia’s automotive and industrial coatings industry by embedding sustainability and safety into its business practices.

Based in Shah Alam, the company manufactures high-performance, low- and zero-VOC (volatile organic compound) ceramic coatings that protect surfaces while reducing environmental impact.

The ESG journey began as an engineer’s curiosity to create safer chemical solutions, evolving into a mission-driven SME that champions environmental stewardship, employee welfare, and transparent governance, long before “ESG” became a market buzzword.

IGL Coatings’ **environmental** initiatives stem from practical efficiency and ethical innovation. The company’s eco-friendly coating technologies replace harmful chemicals with water-based or high-solids formulations that minimise VOC emissions. Its products are non-toxic and low-emission, reducing risks to both users and ecosystems. IGL Coatings has also implemented smart energy systems, including automated lighting and paperless operations, to minimise waste and energy consumption in the office. These initiatives suggest that sustainability remains integral to its cost-saving and operational strategies. The company also transitioned from plastic to recyclable glass bottles, encouraging customers to reuse packaging, a small but significant step towards circular production.

On the **social** front, IGL Coatings fosters a supportive and safety-conscious work environment that values continuous learning and personal development. The company employs around 50 staff, including a 12-member production team that handles chemicals daily. It places strong emphasis on occupational safety and employee wellbeing through continuous training on safe chemical handling and transparent access to product information. These initiatives have cultivated a culture where safety and responsibility take precedence over profit. For customers, education is equally vital. The company actively communicates product risks and promotes sustainable usage.



**Governance** stands as IGL Coatings' strongest ESG pillar. The company maintains robust self-governance through meticulous documentation, strict compliance with international chemical safety standards across the United States, Korea, and Japan, as well as rigorous internal tracking of product materials and logistics. IGL Coatings extends this commitment to its supply chain by engaging with transparent and ethically responsible partners. Raw materials are sourced from suppliers that meet eco-friendly and safety standards, while the company actively encourages greater disclosure and compliance among its vendors. Beyond formal compliance, IGL Coatings emphasises ethical integrity, embedding accountability, transparency, and responsible decision-making into its daily operations. This pragmatic yet principled approach reflects the company's belief that long-term business success must be built on trust, credibility, and consistent adherence to global best practices.



The company has steadily grown from a niche SME into a globally recognised coating innovator, generating RM85.6 million in total revenue since inception. Its products now span the automotive, marine, and industrial sectors. Facing competition from larger multinationals, IGL Coatings carves its niche through R&D agility and close customer engagement. Rather than focusing on mass-market volume, it prioritises customised sustainability solutions, proving that ESG can coexist with profitability and innovation.

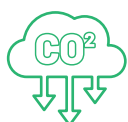


## ESG OUTCOMES



### Green Innovation

Achieved measurable reductions in emissions and environmental impact through the adoption of low- and zero-VOC coating formulations.



### Low-Carbon Logistics

Lowered transportation-related carbon footprint for raw material imports and product shipments through the use of sustainable aviation fuel (SAF) under the DHL GoGreen Plus programme.



### Workplace Safety

Improved employee wellbeing and reduced occupational risks through continuous safety training and transparent access to product data.



### Regulatory Compliance

Ensured full adherence to international chemical safety standards (the United States, Korea, Japan) through robust documentation and internal monitoring systems.



### Innovation Leadership

Enhanced market competitiveness and brand reputation through consistent product innovation, sustainable R&D practices, and international market expansion.



## CHALLENGES

IGL Coatings experienced several setbacks during its ESG transition:



### **COST AND RESOURCE CONSTRAINTS**

As an SME, IGL Coatings had to balance ESG investments with profitability while competing against larger multinationals.



### **ESG LITERACY GAPS**

Employees had varying levels of understanding of ESG principles, requiring continuous engagement and training.



### **SUPPLY CHAIN TRANSPARENCY**

Ensuring raw material suppliers adhered to eco-friendly and safety standards demanded rigorous screening and compliance checks.



### **MARKET PRESSURE**

Maintaining competitive pricing while prioritising sustainability and innovation posed ongoing challenges.



### **OPERATIONAL TRANSITION**

Moving from plastic to glass packaging and implementing paperless systems required logistical adjustments and customer education.

## KEY LEARNINGS



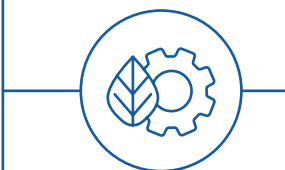
### **Responsibility before regulation**

Ethical intent can drive meaningful action even before formal frameworks are established, concurring that ESG begins with responsibility, not regulation.



### **The power of transparency**

Transparency is transformative as knowledge sharing and best practices can elevate safety, trust, and industry standards.



### **Align cost efficiency with environmental value**

Sustainability must align with practicality, demonstrating that cost efficiency and environmental benefits can reinforce each other to create lasting value.



### **Governance and innovation drive competitive advantage**

SMEs can lead by example, illustrating how self-driven governance and continuous innovation can generate competitive advantage even without large-scale resources.

CASE STUDY 3: THUMBPRINTS UTD SDN BHD

FROM SME BEGINNINGS TO GLOBAL GROWTH THROUGH GOVERNANCE AND COMMUNITY IMPACT

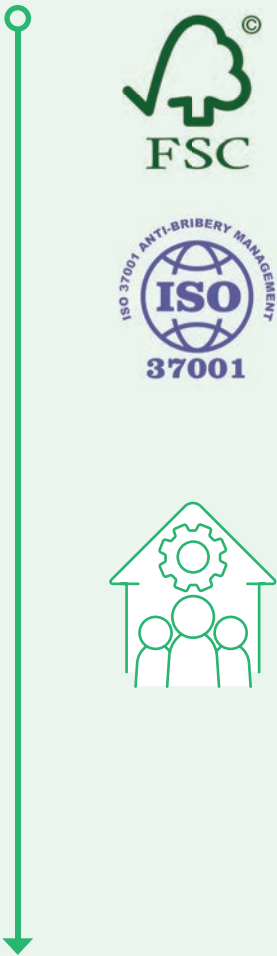


ARCHETYPES:

Green Material Innovators	Clean Energy & Efficiency Champions	Circular Economy Innovators	ESG Tech & Data Enablers
Ethical Supply Chain Stewards	Lean / Operational Excellence Leaders	Responsible Design Champions	Responsible Employer & Community Builders

Thumbprints started as a small offset printer in the early 1990s and has grown into a regional player serving both local and international markets. Today, it employs around 300 people and generates significant export revenue, but its ESG journey began when it was still an SME.

ESG JOURNEY



Early Foundations (1997–2007):

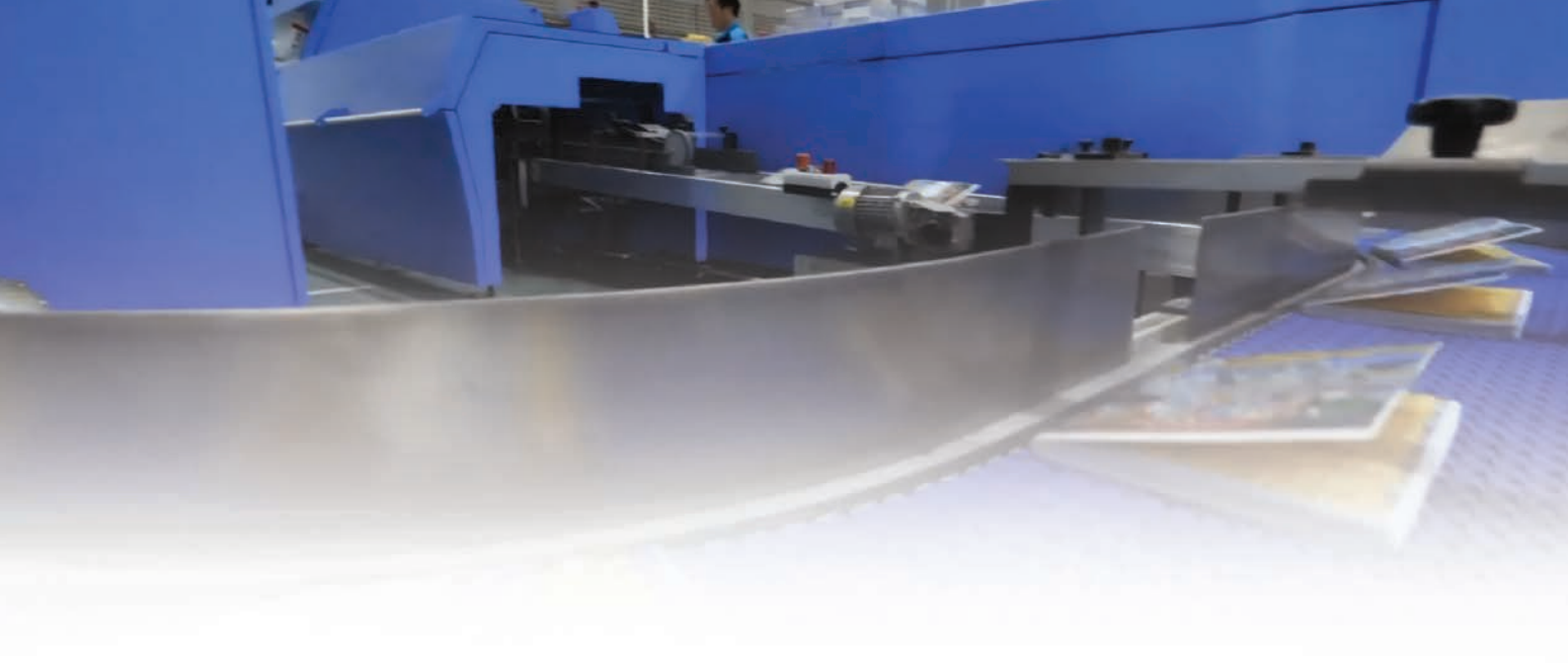
Governance and Environmental Commitment

Thumbprints introduced corruption-free policies and pursued ISO 37001 certification to strengthen governance. In 2007, an internal “Go Green Committee” championed the 5Rs: Recycle, Reuse, Reduce, Repair, and Refuse, leading to initiatives such as solar panel installation, wastewater treatment, and ISO 14001 certification. By 2010, FSC® certification was achieved to promote responsible paper sourcing.

2008–2022:

Community Enterprise Vision

During the 2008 economic downturn, Thumbprints adopted a “community enterprise” model to prioritise employee well-being. Initiatives included profit-sharing productivity-linked wages, and improved housing for foreign workers. These changes initially increased costs but later boosted retention, morale, and productivity. The company also aligned wages based on the New Industrial Master Plan (NIMP) 2030 goal and global social compliance audits (SEDEX, EcoVadis).



## ESG AS PART OF BUSINESS STRATEGY

Beyond social initiatives, Thumbprints embedded ESG into its core operations. Governance was reinforced through anti-corruption measures, culminated in ISO 37001 Anti-Bribery Management System certification in 2020 and several other accreditations. Environmental practices are advanced with Lean Manufacturing and a structured carbon reduction plan covering Scope 1, 2, and 3 emissions. Investments included solar panels covering 90% of the facility roof and a wastewater treatment plant. These efforts positioned the company to meet stringent global audit standards and customer organisation requirements.

## ESG OUTCOMES



### Governance Leadership

Established strong anti-corruption frameworks and transparency practices, positioning the company as a trusted global supplier.



### Workplace Wellbeing

Improved employee retention and productivity through profit-sharing, fair wages, and better living conditions, while reinforcing its commitment to well-being by fostering positive working conditions and preventive measures for a safe, healthy workplace, certified ISO 45001 since 2024.



### Green Innovation

Reduced environmental impact through solar energy adoption, wastewater treatment, and responsible material sourcing.



### Low-Carbon Operations

Implemented Lean Manufacturing and renewable energy solutions to cut emissions across Scope 1, 2, and 3.



### Regulatory Compliance

Achieved ISO certifications (9001, 14001, 37001, and 45001) and global audit standards, enabling access to international markets.

## CHALLENGES

Thumbprints faced several hurdles in its ESG journey:



### WINNING BOARD BUY-IN FOR LONG-TERM ESG INVESTMENTS

Convincing the board to invest in governance and social initiatives, as payoffs took time.



### ENGAGING SUPPLIERS IN RESPONSIBLE SOURCING PRACTICES

Bringing suppliers along on the ESG journey, especially for responsible sourcing.



### BALANCING SUSTAINABILITY WITH MARKET COST PRESSURES

Navigating market pressures where customers often prioritised lowest-cost producers over sustainability.

Despite these challenges, Thumbprints persisted with its ESG agenda, including paying above minimum wage and maintaining compliance standards. Today, it stands as an exemplar of how an SME, through a governance-led model cascading into social and environmental practices, can build global reputation and scale from a small enterprise to a large, competitive player.

## KEY LEARNINGS



### Governance as the anchor for ESG integration

Strong governance frameworks can cascade into social and environmental practices, creating a holistic ESG culture.



### Turn compliance into a competitive advantage

Compliance should be treated as a strategic investment, enabling international market access and long-term resilience.



### Empower the people

Positioning employees at the center of ESG strategy fosters loyalty, productivity, and operational efficiency.



### Drive impact through incremental change

Incremental improvements in energy and waste management can deliver measurable environmental impact without large upfront costs.



## CASE STUDY 4: ARTMATRIX TECHNOLOGY SDN BHD

# WALKING THE TALK: A GREEN FACTORY JOURNEY IN OFFICE FURNITURE INDUSTRY



### ARCHETYPES:

Green Material Innovators	<b>Clean Energy &amp; Efficiency Champions</b>	Circular Economy Innovators	ESG Tech & Data Enablers
<b>Ethical Supply Chain Stewards</b>	Lean / Operational Excellence Leaders	Responsible Design Champions	<b>Responsible Employer &amp; Community Builders</b>

Artmatrix Technology, established in 2005, is a specialist office-furniture manufacturer headquartered in Balakong, Selangor. The group positions itself as a one-stop solution provider in the design, manufacture and supply of office furniture. Within the manufacturing value chain, Artmatrix Technology sits in the midstream, acting as:

### #01

A design and engineering hub for system furniture.

### #02

A manufacturer and assembler, combining in-house production with outsourced processes to qualified vendors.

### #03

A project integrator, coordinating design, production, logistics and installation for large corporate fit-outs.

## ESG JOURNEY



Over two decades, the company has expanded from a domestic SME into a regional player with showrooms in the United Kingdom, Indonesia and Thailand and product footprints across five continents.



A critical inflection point came in 2010 to 2012, when Artmatrix Technology acquired an old abandoned industrial building and decided to fully refurbish it as a “Green Factory” aligned to the Green Building Index (GBI) industrial tool, at a time when Malaysia had almost no framework for certifying green factories. This decision effectively anchored ESG at the heart of Artmatrix Technology’s business model long before such practices became mainstream.



Today, the company’s initiatives span across environmental, social and governance pillars, enabling Artmatrix Technology to contribute to 11 of the 17 United Nations Sustainable Development Goals (SDGs).

Artmatrix Technology's **environmental** focus centres on waste management, energy, carbon footprint, and green-building performance. Waste reduction is enforced through ISO 14001 practices, with aluminium, steel, plastics and glass recycled via certified partners, and products designed to achieve 90 to 95% recyclability supported by a Product Stewardship Policy. The company tracks energy consumption through multiple meters, enabling more precise monitoring and efficiency improvements, while transitioning to renewable energy through a rooftop solar installation financed via green loans. Maintaining its GBI-certified green factory and multiple international eco-labels is equally material, supporting compliance, export competitiveness and alignment to green-building requirements. These commitments underline the company's long-term positioning as an environmentally responsible and globally competitive manufacturer.



**Social** priorities revolve around fair and decent work, labour-rights compliance and community engagement. Artmatrix Technology ensures equal treatment for its 150 employees, including 60 migrant workers, who receive the same working hours, wages and benefits and live in government-approved accommodation. The company adheres strictly to international labour standards, including non-retention of passports, meeting the export-market social-compliance requirements. Continuous ESG training builds workforce literacy and embeds sustainability responsibilities into daily roles. Beyond internal practices, Artmatrix Technology engages consistently in CSR activities, such as tree planting, flood-relief support, coastal clean-ups and elderly-home visits, and collaborates with universities, using its green factory as a hands-on learning platform for students.



**Governance** integration is anchored in ethical conduct, robust certifications and transparent oversight. Artmatrix Technology enforces a zero-tolerance stance on bribery through structured vendor qualification and procurement controls, while maintaining certifications as part of an ongoing compliance cycle. A dedicated whistleblowing channel allows employees to report concerns, supported by HR-led investigation processes. Artmatrix Technology manages its suppliers by first supporting and guiding smaller SME vendors to improve their governance and environmental practices. However, if suppliers repeatedly fail to meet the required standards, the company takes decisive action, including temporarily suspending them. In addition, Artmatrix Technology undergoes regular independent audits, covering ISO, eco-labels, carbon-footprint assessments and GBI, to ensure that all its sustainability and governance practices are credible and externally verified.



## CHALLENGES

Despite being an early ESG adopter among Malaysian SMEs, Artmatrix Technology continues to face several challenges:



### **MANAGING HIGH AND RECURRING ESG CERTIFICATION COSTS**

The most significant is the high and recurring cost of certifications, as maintaining ISO standards, eco-labels and carbon-footprint assessments requires additional expenses every few years.



### **KEEPING PACE WITH EVOLVING TECHNICAL AND REGULATORY STANDARDS**

Artmatrix Technology faces growing technical and regulatory complexity, requiring continuous upskilling to keep pace with evolving standards such as ISSB, EU/UK sustainability reporting rules and emerging carbon-tax requirements.



### **DRIVING CHANGE INTERNALLY AND ACROSS THE SUPPLY CHAIN**

Internally, change management remains demanding, as employees initially resisted new ESG processes and documentation, while externally, SME suppliers often struggle to meet ESG expectations due to cost pressures and limited capability.



### **INNOVATING FOR LOWER-IMPACT MATERIALS WITHOUT COMPROMISING QUALITY**

R&D teams face constant pressure to source lower-impact materials and redesign products without compromising quality or affordability, though not all efforts lead to successful outcomes.



### **OVERCOMING MARKET PRICE SENSITIVITY FOR GREEN PRODUCTS**

Market readiness and price sensitivity pose commercial challenges; while some markets value eco-labels, many buyers remain highly price-driven, and Artmatrix Technology notes that genuinely green products can cost about 15% more.

## ESG OUTCOMES



### Waste Management

Achieved high material recovery rates by recycling aluminium, steel, plastics and glass through ISO 14001-aligned processes, reducing landfill dependency and production waste.



### Energy Efficiency

Improved energy performance through multi-zone metering, enabling measurable reductions in operational consumption.



### Low-Carbon Product Design

Reduced product-level emissions via carbon-footprint assessments, lightweighting and material substitution in key furniture components.



### Fair Employment

Strengthened labour outcomes through full compliance with international standards for wages, working hours, accommodation and human rights for both local and migrant workers.



### Governance Assurance

Enhanced credibility through consistent renewal of ISO 9001 and ISO 14001 certifications and third-party audits for GBI, MyHIJAU, GECA and SGBP eco-labels.



### Commercial Competitiveness

ESG as a commercial enabler: despite the cost of maintaining certifications, strong ESG credentials directly boost revenue by opening access to high-value tenders and enabling the company to secure major corporate and green-building projects where sustainability compliance is a key differentiator.



### Leadership Recognition

Awarded the UNGCMYB Forward Faster CEO Award, affirming Artmatrix Technology's commitment to responsible and sustainable business practices.



## KEY LEARNINGS



### **ESG as a survival and door-opening strategy**

For Artmatrix Technology, ESG is not about branding, but about staying in the game against multinational competitors and meeting stringent export requirements. Without ESG, the company believes many tender doors would simply remain closed.



### **Incremental steps over perfection**

The journey has taken more than 15 years. The founder's advice to other SMEs is clear: *don't try to become fully ESG-compliant in three years, but start with one or two initiatives, then build step by step.*



### **Third-party validation builds trust**

Relying on external eco-labels, audits and carbon-footprint assessments has helped Artmatrix Technology build trust with international buyers and green-building professionals.



### **Suppliers must be part of the journey**

Artmatrix Technology's soft-pressure approach, sharing knowledge, setting expectations, and, when necessary, suspending non-compliant suppliers, shows how an SME can influence upstream practices even without formal power.

For Artmatrix Technology, ESG is not a completed checklist but a continuous journey of refinement. The company's experience highlights that when SMEs treat ESG as a strategic enabler, not a regulatory burden, they can compete with larger players, build global credibility, and help shape a more sustainable manufacturing ecosystem in Malaysia.

# GETTING STARTED: YOUR ESG QUICK-START GUIDE

You have just seen how SMEs have successfully embedded ESG into their operations, proving that sustainability is achievable even for smaller businesses. But where do you begin? This quick-start guide is designed to help you take the first steps without feeling overwhelmed. It offers a simple, phased approach so you can start small, build momentum, and scale up over time without requiring big budgets or dedicated teams.

## Phase 1

### Awareness & Commitment



#### Understand ESG Basics

- Review the three pillars: Environmental, Social, Governance.
- Identify why ESG matters for your business (for example, cost savings, market access, risk reduction).
- Promote a shared understanding of what “ESG” encompasses among internal and external shareholders.

#### Leadership Buy-In

- Secure commitment from owner or management and assign an ESG champion (can be part-time).
- The “tone at the top” is critical to building an ESG-focused culture, mobilising resources, and driving behavioural change across all tiers of the company.

## Phase 2

### Materiality & Baseline



#### Understand ESG Basics

List top 3 to 5 issues relevant to your operations (for example, energy use, waste, worker safety).

#### Assess Current Practices

Use a simple checklist:  
Do you track energy? Waste? Safety incidents?

#### Define Business Identity and Impact

Review your core strengths and ESG priorities to identify which archetypes fit your business. You may align with more than one, depending on practices across sourcing, operations, waste, product design, and workforce engagement.

#### Set Initial Goals

Example: Reduce electricity by 10%, improve safety training coverage.

### Phase 3

## Action & Communication



### Start Small, High-Impact Actions

#### #01

##### Environmental:

For example, switch to LED lighting, reduce packaging waste.

#### #02

##### Social:

For example, document a key policy such as anti-corruption, health & safety.

#### #03

##### Governance:

For example, conduct basic safety training, review fair wage compliance.

### Engage Employees

Share ESG goals in team meetings

### Track & Report

Use a simple table for monthly tracking (for example, energy, waste, training hours)

ESG integration is a long-term differentiator, but the real advantage lies in how your company uses it to shape its unique identity. Beyond compliance, this journey reinforces your core strengths: innovation, trust, and purpose, creating a value proposition that sets you apart. By embedding sustainability into your strategy, you position your business as a leader that customers, partners, and talent choose for its integrity and forward vision.







5.0

# EMPOWERING GROWTH: AVAILABLE GRANTS AND GUIDELINES



## APPLICABLE GRANTS FOR MANUFACTURING SMEs

The long-term success and resilience of Malaysia's manufacturing sector depend on the ability of SMEs to embrace sustainable practices and adopt cutting-edge technologies. Strategic grant programmes play a vital role in facilitating this transformation by providing crucial financial support and incentives. To guide manufacturing SMEs through the available support, the following section provides a roadmap of key grant programmes, detailing their objectives, forms of assistance, eligible recipients, and managing agencies.

Grants	Details	Form of aid	Target Group	Agencies in Charge
<b>NCER Grant<sup>22</sup></b>	The project must have a strategic impact on the ecosystem development & value chain in NCER, in accordance with the NTIC framework and have a business model for long-term self-sustainability.	<ul style="list-style-type: none"> <li>Matching grant of RM100,000, 50:50 ratio.</li> <li>Max capped at RM100,000.</li> </ul>	Malaysian companies in NCER to carry out high technological activities in E&E, Machinery & Equipment, Medical Technology & Devices, Aerospace, and Agritechnology.	NCER Technology Innovation Center (NTIC)
<b>CIP Sprint<sup>23</sup></b>	Funding utilisation for CIP Sprint: At least 60% is for industrial and commercialisation expenses & maximum of 40% for other expenses such as product development and/or enhancements.	Up to RM600,000 for a maximum duration of 18 months, covers the commercialisation of tech and covers SMEs.	Entrepreneurs that need funds to fund their technology-based business venture and cover expenses such as product enhancement, market access, market expansion and others.	Cradle Fund Sdn Bhd
<b>CIP Spark<sup>24</sup></b>	Funding utilisation for CIP Spark: At least 60% is for developmental expenses & maximum of 40% for non-developmental expenses (including commercialisation expenses).	Up to RM150,000 for a maximum duration of 18 months.	Entrepreneurs that need fundings to cover the development and pre-commercialisation of their technology start-ups.	Cradle Fund Sdn Bhd

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Grants	Details	Form of aid	Target Group	Agencies in Charge
<b>MATRADE's Market Development Grant (MDG)<sup>25</sup></b>	A support initiative in the form of a reimbursable grant. MDG was introduced in 2002 with the objective of assisting exporters in their efforts to promote Malaysian made products or services globally.	Reimbursable grant of the lifetime limit of RM300,000.	<ul style="list-style-type: none"> <li>Applicants must participate in international trade fairs or exhibitions held in Malaysia/ overseas physically or virtually.</li> <li>The expenses covered by this grant include the expenses of utilising digital marketing tools in virtual events.</li> </ul>	MATRADE
<b>Malaysia Digital X-Port Grant<sup>26</sup></b>	Aims to stimulate high-value digital exports that lead to the development and commercialisation of market-driven, disruptive, innovative, and sustainable products or services for the global market.	<p>For Local Owned Company:</p> <ul style="list-style-type: none"> <li>Up to 50% of total project cost or up to RM1 million, whichever is lower.</li> <li>Project Duration: Up to 1 Year.</li> </ul> <p>For Majority Foreign Owned Company:</p> <ul style="list-style-type: none"> <li>Up to 30% of total project cost or up to RM1 million, whichever is lower. Headquarters must be in Malaysia.</li> <li>Project Duration: Up to 1 Year.</li> </ul>	Malaysian technology companies that have demonstrated export readiness and are seeking to expand their global market presence.	Malaysia Digital Economy Corporation (MDEC)

Note: Information is current at the time of publication. Full sources and links are provided in the References section.

Grants	Details	Form of aid	Target Group	Agencies in Charge
<b>National Technology &amp; Innovation Sandbox (NTIS)<sup>27</sup></b>	A facility that allows researchers, innovators, startups and high-tech entrepreneurs to test their products, services, business models and delivery mechanisms in a live environment. Purpose of NITS is to drive the development of talent so that the country achieves its potential to become a high-tech nation.	<ul style="list-style-type: none"> <li>• Sandbox Fund 1 (Single Site Sandbox): 100% grant for all eligible costs*.</li> <li>• Sandbox Fund 2 (Multiple Site Sandbox): 70% grant of all eligible costs* according to the determined maximum quantum</li> <li>• Sandbox Fund 3 (Commercialisation Sandbox): 70% funding (In the form of grant and Convertible Promissory Notes) of all eligible costs* according to the determined maximum quantum.</li> <li>• Sandbox Fund 4 (Corporate Sandbox): The funding mechanism will be mutually decided between MTDC and the corporate investor/ entity.</li> </ul> <p>The quantum of funding is between RM250,000 and RM5 million depending on the funding schemes.</p>	<ul style="list-style-type: none"> <li>• All Malaysian companies (exclude sole proprietorships) that hope to test their products, services, business models and delivery mechanisms in a live environment.</li> <li>• Target sector includes manufacturing, agriculture, education, travel &amp; tourism, and Medical &amp; Healthcare Technology.</li> </ul>	Malaysian Technology Development Corporation (MTDC)
<b>RiSE4WRD<sup>28</sup></b>	<p>Funding for training courses in the following areas:</p> <ul style="list-style-type: none"> <li>• Connectivity</li> <li>• Automation</li> <li>• Cyber security</li> <li>• Internet of Things (IoT)</li> <li>• Cloud computing</li> <li>• Big data</li> <li>• Advanced simulation</li> <li>• Autonomous systems</li> <li>• Universal integration</li> <li>• Augmented reality</li> <li>• Additive manufacturing</li> <li>• Any relevant technology</li> </ul>	The company / employer will be given a training fund of maximum allocation of RM25,000 and not exceeding RM5,000 for each trainee.	<p>SMEs from the manufacturing and related sectors that:</p> <ul style="list-style-type: none"> <li>• Have participated in the Industry4WRD Readiness Assessment.</li> <li>• Want to identify suitable training programmes as recommended in the Industry4WRD Readiness Assessment report to start or accelerate their digital transformation journeys.</li> </ul>	HRD Corp

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Grants	Details	Form of aid	Target Group	Agencies in Charge
<b>Business Recapitalisation Facility (BRF)<sup>29</sup></b>	Supports SMEs to recover and grow, while managing their level of indebtedness through innovative financing solutions.	<ul style="list-style-type: none"> <li>Financing Amount: Up to RM5 million.</li> <li>Financing Period: Up to 10 years.</li> <li>Financing Rate: Up to 3.5% – 5%.</li> </ul>	Malaysian-owned SMEs including micro enterprises from all economic sectors.	Bank Negara Malaysia (BNM)
<b>SME Revitalisation Financing (SMERF)<sup>30</sup></b>	Provides a comprehensive financial solutions and accessibility to assist viable SMEs by providing working Capital and asset financing (i.e. Purchase of Machinery/ Equipment/ Commercial Motor Vehicle/ ICT Hardware/ Software).	<ul style="list-style-type: none"> <li>Financing amount: Up to RM250,000 / 90% of total costs of eligible items.</li> <li>Financing rate: 3% p.a.</li> <li>Financing tenure: Up to 7 years.</li> </ul>	SMEs in all economic sectors.	Malaysian Industrial Development Finance (MIDF)
<b>Service Export Fund (SEF)<sup>31</sup></b>	Provides assistance to Malaysian Service Providers (MSPs) to undertake activities to expand and venture into the international market.	Reimbursable grants of a maximum of RM4.3 million per business entity.	All service sectors, except tourism, real estate, banking and insurance services.	MATRADE
<b>Domestic Investment Accelerator Fund (DIAF)<sup>32</sup></b>	A matching grant for ESG adoption that was introduced to support Malaysian-owned Small and Medium Enterprises (SMEs) and Mid-Tier Companies (MTCs) in the manufacturing and selected services sectors for the transition into ESG practices.	<ul style="list-style-type: none"> <li>The grant is given on a matching basis of either 50:50 or 70:30 based on a case-to-case basis with a maximum reimbursable amount of RM500,000 per company.</li> </ul>	Small and Medium Enterprises (SMEs), Mid-Tier Companies.	Malaysian Investment Development Authority (MIDA)

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Grants	Details	Form of aid	Target Group	Agencies in Charge
<b>ESG START (ESG Readiness Assessment Tool for SMEs)<sup>33</sup></b>	<p>A digital tool designed to help SME's assess their Environmental, Social, and Governance (ESG) maturity. Through a short assessment of eight ESG indicators aligned with global and local frameworks, businesses receive an ESG report that:</p> <ul style="list-style-type: none"> <li>• Shows your company's ESG maturity level</li> <li>• Provides peer benchmarking</li> <li>• Maps your readiness against the UN Sustainable Development Goals (SDGs)</li> </ul>	<ul style="list-style-type: none"> <li>• Serves as an easy first step into sustainability reporting, helping SMEs communicate their ESG performance to corporate buyers, banks, and financiers.</li> </ul>	Small and Medium Enterprises (SMEs)	UN Global Compact Network Malaysia & Brunei (UNGCMYB)
<b>SME Sustainability Action Guide<sup>34</sup></b>	<p>A practical resource designed to help SMEs integrate Environment, Social and Governance (ESG) principles into their business strategies and operations.</p>	<ul style="list-style-type: none"> <li>• It provides a structured 6-step framework for implementing sustainability in SMEs, along with real-life examples of sustainability initiatives taken by Malaysian SMEs and how they have gained from this venture.</li> </ul>	Small and Medium Enterprises (SMEs)	UN Global Compact Network Malaysia & Brunei (UNGCMYB)
<b>ESG for SMEs Resilience: Case Insights for a Sustainable Future<sup>35</sup></b>	<p>This report showcases ten case studies of Malaysian SMEs, from traditional enterprises to innovative digital start-ups, that have reimaged their operations with a sustainable lens.</p>	<ul style="list-style-type: none"> <li>• Through diverse case studies, it demonstrates the practical applications and outcomes of Environment, Social and Governance (ESG) adoption, serving as an inspiration and guide for SMEs seeking to strengthen business resilience, enhance competitiveness, and create long-term value.</li> </ul>	Small and Medium Enterprises (SMEs)	UN Global Compact Network Malaysia & Brunei (UNGCMYB)

Note: Information is current at the time of publication. Full sources and links are provided in the References section.

## APPLICABLE GUIDES FOR MANUFACTURING SMES

Guides	Details
<b>New Industrial Master Plan 2030 (NIMP 2030)<sup>36</sup></b>	The Action Plan laid out under the New Industrial Master Plan 2030 (NIMP 2030), as detailed on the official website, provides industry-specific strategies aimed at steering individual sectors towards sustainable practices. This plan aligns closely with the overarching goals of the NIMP, focusing on innovation, energy efficiency, and decarbonisation.
<b>Green Practices Guideline<sup>37</sup></b>	Complementing the NIMP, the Green Practices Guideline developed by the Malaysian Green Technology and Climate Change Corporation offers a comprehensive resource for industries striving to incorporate sustainability into their production and consumption processes. This guideline underscores the growing necessity for green regulatory compliance and can be accessed via MGTC.
<b>Carbon Border Adjustment Mechanism (CBAM)<sup>38</sup></b>	On a global scale, the European Union's Carbon Border Adjustment Mechanism (CBAM) demands international traders adhere to rigorous environmental standards, levelling import carbon pricing with domestic production. This underscores the pressing need for SMEs to integrate ESG principles to meet international trade standards. The full enforcement of CBAM by 2026 represents a significant regulatory shift that Malaysian manufacturers must navigate, as outlined by the European Commission.
<b>National Automotive Policy (NAP 2020)<sup>39</sup></b>	This is another key regulatory framework promoting sustainable development within the automotive sector through the adoption of environmentally friendly products and processes. It aims to position Malaysia as a regional leader in sustainable automotive manufacturing, with the comprehensive policy document accessible through Bursa Malaysia.
<b>The Circular Economy Policy Framework<sup>40</sup></b>	This framework, introduced by the Ministry of Investment, Trade, and Industry (MITI), encourages the Malaysian manufacturing sector to transition towards sustainable production through resource efficiency and waste minimisation. It seeks to reformulate fossil-fuel-based models and catalyse green growth across the manufacturing value chain.

Note: Information is current at the time of publication. Full sources and links are provided in the References section.

Guides	Details
<b>Malaysia Plastics Sustainability Roadmap 2021–2030<sup>41</sup></b>	The Malaysia Plastics Sustainability Roadmap 2021–2030 further elucidates a commitment to circular economy principles, emphasising extended producer responsibility to encourage manufacturers’ accountability for waste management, a detailed strategy viewable via FAOLEX.
<b>i-ESG Framework<sup>42</sup></b>	Furthermore, the i-ESG Framework acts as a comprehensive guide for manufacturers to embed ESG principles into operations, aligned with NIMP 2030’s decarbonisation missions. The framework’s phased approach, alongside its focus on training, financial support, and competitive market mechanisms, provides a structured pathway for manufacturing firms to achieve ESG compliance.
<b>MyHIJAU SME &amp; Entrepreneur Development Programme<sup>43</sup></b>	Existing regulatory initiatives in Malaysia not only focus on emission reduction and sustainability metrics but also provide incentives through the MyHIJAU SME & Entrepreneur Development Programme, aimed at enhancing manufacturers’ access to resources and certifications, like the Green Investment Tax Allowance.
<b>National Energy Transition Roadmap (NETR)<sup>44</sup></b>	Lastly, the National Energy Transition Roadmap (NETR) sets forth industrial decarbonisation strategies across sectors, emphasising renewable energy, electrification, and hydrogen adoption to foster sustainable growth.

Note: Information is current at the time of publication. Full sources and links are provided in the References section.



6.0

## **SUPPORT MECHANISMS: PARTNERSHIPS AND NETWORKS**



## FROM AWARENESS TO ACTION: HELPING SMEs TOWARDS A JUST TRANSITION



To address the growing demand for sustainable business practices, Alliance Bank launched the Sustainability Impact Programme (SIP) to empower manufacturers, especially SMEs, to thrive in a competitive market while embracing sustainable practices. The Programme forms part of Alliance Bank's broader mission to promote the adoption of ESG principles in a way that creates long-term value for businesses, communities, and the environment. It is also designed to help manufactures enhance their competitiveness, strengthen market resilience, and adapt to evolving sustainability demands.

The Programme is built around the  
**3A's Approach: Advocacy, Advisory, and Answers**



### **Advocacy**

Raising awareness and encouraging ESG adoption through thought leadership resources, industry events, and engagement activities aimed at inspiring sustainable transformation.



### **Advisory**

Providing practical consultations and ESG diagnostic tools in collaboration with subject matter expert, strategic partners, and certification bodies, enabling businesses to assess and improve their sustainability performance.



### **Answers**

Offering practical banking solutions and green financing options to bridge knowledge and capability gaps in sustainability and innovation, ensuring that businesses are better equipped to meet both current and future expectations.

Under the Answers Approach, the Programme connects SMEs to targeted grants, resources, and financing scheme, ensuring they are well supported when it comes to implementing any relevant sustainability initiatives. The table below outlines the SME Green and Transition Financing Schemes available for manufacturers.

## SME Green, Digitalisation, and Transition Financing Scheme

Types of Green Financing	Overview of financing	Structure of Financing	Target Group (SME)	Purpose of financing
<b>Low Carbon Transition Facility (LCTF)</b>	Established to support SMEs in adopting sustainable and low-carbon practices. It has now expanded beyond solar solutions to encompass a broader range of green initiatives.	<ul style="list-style-type: none"> <li>Financing Amount: Up to RM10 million.</li> <li>Financing Rate: 5% (Effective rate).</li> <li>Financing Period: Up to 10 years.</li> </ul>	SMEs in all sectors that are committed to transform their business operations towards low carbon operations.	Improving energy efficiency, increasing use of sustainable material for production, and obtaining sustainability certification.
<b>High Tech and Green Facility (HTGF)</b>	Designed to help SMEs and innovative start-ups to grow their businesses and invest in strategic sectors and technologies fields (digital tech, green tech and biotech).	<ul style="list-style-type: none"> <li>Max RM10 million.</li> <li>3.5% pa.</li> <li>Up to 10 years.</li> </ul>	<ul style="list-style-type: none"> <li>E&amp;E, Chemicals.</li> <li>Refined Petroleum.</li> <li>Machinery &amp; Equipment.</li> <li>Medical devices &amp; Pharmaceuticals.</li> <li>Automotive &amp; transport equipment.</li> <li>ICT &amp; R&amp;D.</li> </ul>	<ul style="list-style-type: none"> <li>For a sustainable and entrenched economic recovery.</li> <li>Working capital and/or capital expenditure (CAPEX).</li> </ul>
<b>SME Automation and Digitalisation Facility (ADF)</b>	Incentivises SMEs to automate processes and digitalise operations, to increase productivity and efficiency.	<ul style="list-style-type: none"> <li>Max RM3 million.</li> <li>4% pa.</li> <li>Up to 10 years.</li> </ul>	<ul style="list-style-type: none"> <li>Malaysian SMEs in all sectors.</li> <li>Registered with SSM/ authorities.</li> <li>Shareholding by PLC &amp; GLCs (if any) in the SMEs do not exceed 20%.</li> <li>Malaysians residing in Malaysia hold a minimum of 51% shareholding in the SMEs.</li> </ul>	Purchase of equipment, machinery, computer hardware and software, IT solutions and services, technology support services and other intangible assets to enhance productivity and efficiency.
<b>Sustainability Bonds (for Corporates)</b>	A capital market instrument that enables companies to raise medium to long term funding to support environmentally sustainable or transition-related projects. Proceeds are allocated to selected eligible green or sustainability initiatives in line with recognized international standards such as the ASEAN Green/Social/ Sustainability Bond Standards and the ICMA Principles.	Alliance Bank provides comprehensive end-to-end advisory services, making Sustainability Bonds issuance impactful, strategic and successful for our customers.	Companies with significant financing requirements in sustainable, energy-efficient or low-carbon transition ambitions and with the financial capacity or growth strategy to access capital market for bond financing.	Proceeds can be allocated to finance or re-finance green projects such as: <ul style="list-style-type: none"> <li>Green buildings or Green Township.</li> <li>Large scale renewable energy projects (for example, solar PV, biomass, mini-hydro).</li> <li>Energy efficiency upgrades.</li> <li>Water &amp; waste management improvements.</li> </ul>

ESG Resources (Tools & Programmes)				
Types of ESG Resources	Overview of Tools or Programmes	Methodology	Target Group (SME) Purpose of the Tools & Programmes	Partners
<b>PROMoting Green Resilient &amp; Sustainable SMEs (PROGRESS)</b>	Provides a peer benchmark and generates a tailored climate transition action plan for business owners. The assessment measures climate performance across three dimensions: climate governance, GHG emissions and business integration.	Foundation/basis: <ul style="list-style-type: none"> <li>ISO 14001 (EMS) &amp; ISO 14064 (GHG) as common ground.</li> <li>Other relevant standards-ISO 14090 (climate adaption) etc.</li> <li>CCPT Guiding principles (GP).</li> </ul>	<ul style="list-style-type: none"> <li>SMEs.</li> <li>Digital climate diagnosis tools to help businesses get started.</li> <li>To provide business a compass in term of direction on climate improvements.</li> </ul>	UN Global Compact Network Malaysia & Brunei (UNGCMYB)
<b>Corporate Green Supply Chain Programme</b>	Engages SME within corporate supply chain for ESG understanding and develop climate baseline. Intern supporting the corporate to reduce Scope 3 emission through targeted initiatives and collaboration.	<ul style="list-style-type: none"> <li>Tailored programme incorporating global and local ESG standards and frameworks.</li> <li>Sector focused.</li> </ul>	<ul style="list-style-type: none"> <li>SMEs</li> <li>Businesses supplying to corporates.</li> <li>Help strengthen supplier relationship and embark on green procurement practices.</li> </ul>	UNGCMYB
<b>Sustainability Enhancement Programme (SEP)</b>	Supports listed PLCs using Bursa Malaysia's CSI solution to enhance ESG ratings and meet sustainability disclosure and reporting requirements.	<ul style="list-style-type: none"> <li>Develop using FTSE4Good metrics.</li> <li>Leveraging IFRS standards S1 and S2.</li> <li>Applying IFRS S1 and S2 standards to enhance ESG disclosures and strategic alignment.</li> </ul>	<ul style="list-style-type: none"> <li>Public listed companies.</li> <li>To help companies with FTSE4Good rating improvement.</li> <li>To help ensure companies' sustainability report are IFRS aligned.</li> <li>Conduct supply chain engagement workshop for Scope 3 reporting.</li> </ul>	Bursa Malaysia
<b>Innovation Impact Lab</b>	<ul style="list-style-type: none"> <li>Co-develop solutions that resolve real business challenges and improve market fit.</li> <li>Support testing, validation and scaling of emerging tech solutions.</li> <li>Provide funding, market access and commercialisation support.</li> </ul>	Collaboration across academia, FI and government to provide holistic support to Malaysian businesses for growth.	<ul style="list-style-type: none"> <li>SMEs, Corporates, Tech / Circular / Waste management solution providers.</li> <li>To accelerate sustainable, tech driven solutions for Malaysian businesses tackling circular economy challenges.</li> </ul>	Alliance Bank, Monash University & Cradle Fund

# PARTNERING FOR IMPACT: SUPPORTING MALAYSIAN SMEs ON THEIR ESG JOURNEY

At the School of Business, Monash University Malaysia, it is committed to shaping a more sustainable and inclusive future for Malaysian businesses. As a UN Principles for Responsible Management Education (PRME) Champion School, the School places sustainability and responsible management at the core of its teaching, research, and partnerships. It prepares future leaders while working alongside today's changemakers. It also invites SMEs, corporate partners, government bodies, and non-profits to collaborate and co-create solutions that deliver real impact.

## 1. Education: Equipping Future Business Leaders with ESG Mindsets

The School's undergraduate, postgraduate, and doctoral programmes integrate ESG thinking into the student learning experience. Sustainability is not a standalone subject but a lens embedded throughout its curriculum.

The School offers:

- Authentic Assessments where students tackle real challenges faced by organisations through curricula co-designed with industry insights.
- The Monash Innovation Guarantee (MIG), which invites organisations to bring real problems into the classroom, where multidisciplinary student teams develop practical solutions.
- Industry engagement activities such as guest lectures, Ask Me Anything (AMA) chats, and case-based learning experiences that connect students with current trends, challenges, and career insights.

“

**If your organisation has a business or ESG-related challenge, the School's students can help explore fresh perspectives while you inspire the next generation of leaders.**

“

**The School welcomes research collaborations, data sharing, joint industry-academia research funding and co-authorship opportunities with partners from all sectors.**

## 2. Research: Generating Knowledge That Advances ESG Practice

The School's researchers are focused on solving practical ESG challenges across various sectors. Sustainable Business as a research cluster focuses on topics such as:

- ESG adoption strategies, particularly among SMEs
- Sustainable finance and fintech innovations
- Consumer behaviour and circular economy
- Policy and regulatory frameworks for energy and digital markets

Recent collaborations include:

- A study with Alliance Bank on ESG readiness among Malaysian SMEs, including the development of practical ESG guides
- An impact assessment study, with UN Global Compact, on the sustainability/ ESG practices adopted by a selected group of business organisations.
- Research on blockchain applications for energy trading and a behavioural study promoting eco-conscious decisions through social accountability, funded by public and private grants.





### 3. Executive Education and Industry Engagement: Empowering Today's Changemakers

The School offers tailored training, industry roundtables, and executive education programmes to strengthen ESG leadership and innovation capabilities.

Recent partnerships include:

- **Capacity-building programmes** for sustainability practitioners and senior executives
- **Workshops and forums** focused on sustainability, digital transformation, and ethical leadership
- Co-designed learning and **mentoring programmes for young entrepreneurs and emerging startups**

Through its Partner with Monash Business initiative, the School also offers:

- **Joint research and advisory opportunities** with its academic experts
- Access to **student-led consulting** and innovation projects
- **Thought-leadership initiatives** and other opportunities to guide conversations forward on ESG.

#### Partner with Monash Business

The transition towards a more sustainable economy depends on meaningful collaboration between universities, industry, and society.

Are you:

- An SME looking to strengthen your ESG practices?
- A business leader exploring innovation and talent development?
- A policymaker or NGO championing social and environmental progress?



*Monash University Malaysia is ready to work with you. Scan to explore how your organisation can collaborate with Monash Business Malaysia.*


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# BUILDING A SUSTAINABLE AND RESILIENT PLASTICS SECTOR IN MALAYSIA



The Malaysian Plastics Manufacturers Association (MPMA) has been championing sustainability in the plastics sector since the early 1990s. Since the establishment of the Plastics Waste Management Task Force in 1992, MPMA has built comprehensive programmes that address the three pillars of Environmental, Social and Governance (ESG), while enabling the industry to remain competitive, compliant and socially responsible.

## Proactive Solutions for Plastic Containment

**Operation Clean Sweep (OCS)** is an environmental initiative that targets the elimination of plastic pellets, flakes and powder loss. Through improved housekeeping, effective containment systems, staff training and annual reporting, OCS reduces the risk of environmental pollution, lowers cleanup costs and demonstrates due diligence to regulators and customers alike.

## Community Outreach for a Cleaner, Greener Future

The **“Don’t Be a Litterbug” Campaign** is one of MPMA’s longest-running public outreach efforts, combining anti-litter messaging, school engagement, and community clean-ups to instil lasting behavioural change. The **Green Truck Programme** complements this by bringing mobile recycling demonstrations, renewable energy showcases, and 3Rs (Reduce, Reuse, Recycle) education to schools and communities, inspiring the next generation towards sustainable habits. Furthermore, driving innovation is the **Design for Plastics Circularity Challenge**, a national competition engaging university students with industry mentors to develop real-world circular design solutions that keep plastics in the economy and out of the environment.

## Advancing the Plastics Industry Towards Net Zero

MPMA is an early adopter of the Simplified ESG Disclosure Guide, running regional workshops to equip SMEs with the tools and know-how to produce credible ESG disclosures and measure greenhouse gas emissions.



To strengthen industry capacity, MPMA offers in-house ESG training on GHG accounting and reporting aligned with recognised international protocols, helping members establish accurate baselines, set reduction targets, and prepare for customer or regulatory audits. The MIDA–MPMA Circular & Low-Carbon Conference serves as a vital platform for connecting businesses to government policies, financial incentives, and low-carbon technologies.

MPMA’s collaboration with Plus Xnergy and Sunview Group enables members to explore and implement rooftop solar photovoltaic systems with technical due diligence, reducing energy costs, enhancing energy security, and cutting Scope 2 emissions.

Ongoing engagement comes through webinars, factory visits, policy briefings, and standards awareness sessions, ensuring members are always informed about the latest regulatory changes, market demands, and sustainability trends. Collectively, these initiatives empower plastics manufacturers to adopt circular economy principles, meet the 3Rs goals, and maintain their social licence to operate.

## LOOKING AHEAD

By integrating environmental responsibility, social engagement, and governance transparency, MPMA’s programmes not only protect ecosystems but also create long-term business value, strengthen industry resilience, and contribute meaningfully to Malaysia’s sustainable development goals.



**SCAN HERE**

for more information about MPMA’s sustainability activities/initiatives



## PENANG'S ESG JOURNEY: LOCAL ACTION FOR GLOBAL GOALS



As Malaysia charts its course towards net-zero emissions by 2050, the Penang State Government has taken bold and proactive steps to align with national and global climate goals. Through the **Penang Green Council (PGC)**, the state is leading with action to embed environmental, social, and governance (ESG) principles into its industrial and energy landscape — particularly through the **Penang Green Industry Programme (PGIP)** and the **Penang Energy Framework (PEF)**.



### PENANG GREEN INDUSTRY PROGRAMME (PGIP)

The **Penang Green Industry Programme (PGIP)** is Penang's industry-facing platform designed to support manufacturing companies in navigating ESG requirements and strengthening sustainable manufacturing practices. Led by the **Penang Green Council (PGC)**, PGIP translates state-level sustainability ambitions into practical, industry-relevant actions, particularly for **Mid-Tier Companies and SMEs**. PGIP supports the manufacturing ecosystem through **four key execution mechanisms**:

- **Industry Platform & Network Establishment:** PGIP connects Penang's industrial ecosystem through annual networking, active LinkedIn engagement, industry roundtables, and a growing digital resource hub. These initiatives strengthen collaboration, visibility, and peer learning across MNCs, SMEs, government agencies, and technical partners.
- **Green Manufacturing Hub (GMH) Policy & Technical Research:** PGIP develops Penang's Green Manufacturing Hub framework through policy research, technical benchmarking, and feasibility studies, aligning stakeholders towards a competitive, sustainable, and innovation-driven manufacturing future. Pilot planning and early-stage implementation aims to commence from 2027.
- **Partnerships & Pilot Programmes:** PGIP facilitates MNC-SME partnerships and co-develops pilot projects in areas such as energy, water, waste management, circularity, and sustainable technologies, supporting capability upgrading and the adoption of resource-efficient practices.
- **Capacity Building & Stakeholder Engagement:** PGIP drives continuous industry engagement through dialogues, roundtables, flagship networking events, and an active Penang Green Industry LinkedIn Community, enabling ongoing knowledge-sharing and peer learning.



**SCAN HERE**  
to join the  
Penang Green  
Industry LinkedIn  
Community

PGIP contributes to strengthening Penang's position as a forward-looking, innovation-led manufacturing hub that is prepared for future trade, finance, and environmental expectations.

## PENANG ENERGY FRAMEWORK (PEF)

As a state-level commitment to Malaysia's Paris Agreement targets and national energy roadmaps, PEF outlines a strategic framework to reduce carbon intensity and accelerate the adoption of renewable energy (RE) and energy efficiency (EE) practices in Penang.

### Key Highlights

- **RE Adoption:** Penang's RE share increased from 1.5% (51MW) in 2018 to 5% (233MW) in 2023. The Malaysia RE Roadmap estimates Penang's solar potential (rooftop & floating) at 3,287MW.
- **Target:** Achieve **10% RE share by 2030** through expanded solar PV deployment, supportive policies, and regulatory integration.
- **Building Energy Standards:**
  - New commercial/industrial buildings must meet RE sourcing quotas based on usage category or install PV on 75% of their roof.
  - Non-residential buildings will be required to report their **Building Energy Index (BEI)** annually from 2026.
  - New buildings post-2030 must meet stricter BEI benchmarks.
- **Regulatory Updates:** MS1525-based OTTV requirements will be integrated into the development approval process for all new developments, including residential buildings.

### Four Implementation Pillars

Capacity Building	Awareness & Education (CEPA)
Incentives & Certifications	Data Collection & Enforcement

PEF is implemented by PGC, working with local councils, GLCs, professional bodies, and federal agencies to mainstream sustainable energy practices in the built environment and industrial sector.



**SCAN HERE**  
for more information about  
**Penang Energy Framework**



### LOOKING AHEAD

Penang is poised to scale its ESG progress by deepening industry collaboration, expanding green financing access, and strengthening compliance and reporting standards. Through continued efforts like PGIP and PEF, Penang aims to lead the region in sustainable manufacturing and low-carbon development.

**SCAN HERE** to access PGIP & PEF updates, case studies & training info.



## **CONCLUSION: EMPOWERING MALAYSIAN MANUFACTURERS THROUGH ESG**

Malaysia's manufacturing SMEs are entering a new era, one where sustainability and business success go hand in hand. ESG is no longer just a global trend; it is a local opportunity to build stronger, more resilient businesses that are ready for the future.

This playbook aims to provide practical guidance, actionable strategies, and real-world examples to help manufacturers integrate ESG into their operations. From improving efficiency and reducing costs to enhancing brand reputation and managing risks, ESG offers clear value at every stage of the manufacturing journey.

The path forward is not about perfection; it is about progress. Whether you are just starting or scaling up, every step towards ESG strengthens your business and contributes to Malaysia's sustainable growth.

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