

CORPORATE ENGAGEMENT WITH GREEN TAX INCENTIVES IN MALAYSIA: AWARENESS TO ACTION?

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Abstract: *The alarming challenge of climate change has intensified the need for sustainable business practices, particularly within the manufacturing sector. While governments worldwide, including Malaysia, have introduced fiscal instruments such as green tax incentives to encourage environmentally responsible practices, the extent to which these measures are understood and utilized by companies remains unclear. This study addresses this gap by examining the awareness and planning of green tax incentives among manufacturing companies in Malaysia. Data was collected through a structured survey to capture firms' levels of concern regarding climate change, their awareness of available tax incentive schemes, and their intentions to incorporate sustainability into corporate strategies. The study is significant as it draws attention to the gap between policy availability and corporate readiness to act, a gap that may limit the effectiveness of climate-responsive measures. The findings have important implications for policymakers, emphasizing the need for more effective communication, targeted advisory services, and financial facilitation to ensure that green tax policies achieve their intended environmental and economic outcomes.*

Keywords: *green tax incentives, climate change, environmental, sustainability*

Introduction

The Malaysian government has demonstrated a strong and sustained commitment to environmental preservation through the implementation of various incentives and initiatives. Back in 2009, the Ministry of Energy, Green Technology, and Water promoted and funded high-impact research projects aimed at advancing green technologies. Bursa Malaysia has required all publicly listed companies to prepare corporate social responsibility (CSR) reports, which serve as a platform to disclose and highlight their environmentally sustainable practices. Today, the adoption of green practices is increasingly recognized as a strategic necessity to mitigate long-term ecological damage, rather than merely a reputational exercise.

Recently, the Malaysian government has stepped to more green practices, for example Tenaga Nasional is channelling RM43 billion into upgrading the national electricity grid to support AI-driven industries and battery storage, and engaging in Energy Performance Contracts aimed at reducing electricity bills by up to 10%, alongside solar installations across walkways and parking zones in Putrajaya, which is part of the plan is to establish 200 low-carbon zones by 2030. Furthermore, Petronas embarks on developing three offshore carbon capture and storage (CCS) facilities in collaboration with global partners.

In general, environmental tax policies can generally be classified into two main categories, that is incentive-based mechanisms, such as tax incentives, and penalty-based measures, often referred to as green taxes. In the Malaysian context, the prevailing tax framework predominantly adopts an incentive-based approach rather than a penalty-oriented system. This policy orientation provides a range of targeted tax incentives, particularly directed towards specific industry-related groups, with the objective of encouraging environmentally responsible practices. Active participation from industries is important, as it not only promotes greater awareness of environmental sustainability but also fosters a shared sense of responsibility between the public and private sectors in addressing environmental challenges.

In many developed nations, the green tax has been widely adopted as an effective policy instrument to encourage environmental sustainability and reduce ecological degradation. However, in the Malaysian context, the implementation of a green tax is currently not a viable option. Although the Malaysian government has announced its intention to introduce a carbon tax, scheduled for implementation in 2026, several preparatory measures must be undertaken to ensure its effectiveness and acceptance. In the absence of a formal green tax framework, tax incentives have emerged as the primary mechanism for promoting environmentally friendly practices among companies, both directly through tax allowances and indirectly by encouraging sustainable operational strategies. Thus, this study seeks to explore corporate perceptions of government-initiated tax incentives, particularly emphasis on assessing their awareness, the environmental concerns, their participation, and their planning towards fostering a greener economic landscape. By exploring these dimensions, the study able to provide valuable insights into whether fiscal incentives influence corporate behaviour and decision-making in advancing a greener and more sustainable economic landscape.

Most existing studies on tax incentives have been conducted in international contexts, with limited research utilising Malaysian data. Moreover, the few studies that examine tax incentives in the Malaysian context predominantly focus on general tax incentives rather than specifically addressing green tax incentives. Consequently, the focus of previous research differs from that of the present study. This study offers a novel contribution by concentrating on green tax

incentives in Malaysia, thereby filling a significant gap in the existing literature that has largely overlooked this specific dimension.

Literature Review

The literature review is organized for three key themes, that is green tax, climate change, and tax incentives. These interconnected areas provide the foundation for understanding the role of fiscal policies in addressing environmental challenges while promoting sustainable economic development. Green tax represents a critical policy instrument aimed at reducing environmental degradation by internalizing the external costs of pollution. Climate change, as a global concern, underscores the urgency of adopting such measures to mitigate adverse environmental and socio-economic impacts. In addition, tax incentives are examined as complementary mechanisms designed to encourage corporate participation in environmentally responsible practices. Various forms of tax incentives are highlighted, that is the green investment tax allowance, reinvestment allowance, accelerated capital allowances, investment tax allowance, and pioneer status, all of which are important in stimulating sustainable investment, technological advancement, and cleaner production processes.

Green Tax

Green tax is an environmental tax imposed by the government on activities, products, or services that cause environmental harm. Its primary objectives are to discourage pollution by making environmentally damaging activities more costly, encourage individuals and companies to adopt sustainable practices through incentives, and generate revenue to fund environmental protection initiatives, renewable energy projects, or conservation programs. For example, carbon tax charges companies for each ton of carbon dioxide emitted, motivating them to switch to cleaner energy sources and reduce their overall environmental impact.

The Organization for Economic Co-operation and Development (OECD) defines a green tax as a tax that imposes specific negative impact on the environment. Four categories of green taxes are energy taxes, transport taxes, pollution taxes and resource taxes. Green taxes are a kind of economic instrument to address environmental problems. They are designed to preserve the environment and provide economic incentives for industries and individuals in promoting environmentally sustainable activities. Activities proven to have negative impacts on the environment will be taxed, whereas activities that contribute to the preservation of the environment will receive a tax break or tax incentives.

Green taxes are intended to improve the environment or minimize environmental damage and create a sustainable environment. Green taxes are believed to reduce the negative impact on the environment by encouraging behavioral changes in companies, industries, communities, households and individuals. Taxes on the environment is a clear signal for the relevant parties to seek out sustainable alternatives to reduce emissions and pollution. Furthermore, green taxes will help promote technological change among industries to boost the transition toward a sustainable economy and green growth. Consequently, companies will incorporate sustainable strategies into their business plans to comply with environmental tax policies. Furthermore, companies' business plans will avoid activities contributing to adverse climate change effects. Ariffin et al. (2023) noted that green tax has the ability to inspire and stimulate pro-environmental attitudes and behaviors. Green tax has become a popular environmental policy tool for many countries, reinforcing the belief that taxes create stronger incentives than regulations.

Ahmad et al. (2024) found that Swedish firms actively utilized green tax incentive schemes, highlighting the need to further strengthen such programs to attract foreign-based companies. Their study also revealed that younger firms are more engaged in sustainable activities and benefit more from tax incentives compared to older firms. Based on this finding, the authors recommend that future green tax packages include targeted incentives for older firms, with similar considerations extended to firm size. Rahman and Hossain (2025) examine the relationship of various green factors and their combined impact on the green economy, with particular attention to the mediating roles of green technology and sustainability. Their findings show that green tax, green logistics, green climate finance, green technology, and environmental sustainability each have a positive and significant influence on the green economy. Moreover, the study highlights that environmental sustainability serves as a mediator in the relationship between green climate finance and the green economy.

These studies show the important role of green tax policies in advancing environmental objectives and strengthening the green economy. Ariffin et al. (2023) emphasize that green taxation not only serves as an economic instrument but also cultivates pro-environmental behaviour, demonstrating its effectiveness over regulatory approaches. Ahmad et al. (2024) extend this view by illustrating how the design and targeting of green tax incentives can influence firm-level engagement, revealing that firm characteristics such as age and size shape their responsiveness to such policies. This finding suggests that a one-size-fits-all approach may limit the effectiveness of green tax schemes and that more tailored incentives could enhance their reach and impact. Complementing these insights, Rahman and Hossain (2025) situate green tax within a broader ecosystem of green factors, showing that its effectiveness is amplified when aligned with green technology, climate finance, and sustainability initiatives. Taken together, the literature highlights that while green tax policies are central to driving environmental and economic transformation, their success depends on adaptive policy design, firm-specific targeting, and integration with complementary sustainability strategies.

In Malaysia, a direct green tax is not yet in place, instead, the approach relies primarily on tax incentives. Although the government has announced plans to introduce a carbon tax in 2026, further preparatory measures are required before such a policy can be effectively implemented. In the meantime, tax incentives remain the key instrument for promoting environmental sustainability, both directly and indirectly.

Climate Change

Climate change refers to long-term rise in the earth's average surface temperature, primarily driven by human activities such as burning fossil fuels, deforestation, and industrial processes. These activities release greenhouse gases like carbon dioxide, methane, and nitrous oxide into the atmosphere, trapping heat and causing the temperature to rise, where a phenomenon known as global warming. The impacts of climate change include more frequent and severe extreme weather such as floods, droughts, and heatwaves, which will raise sea levels, loss of biodiversity, disruptions to agriculture, and threats to human health and livelihoods.

As highlighted by Cook et al. (2016) in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), this warming has unequivocally altered the global climate system, manifesting in atmospheric and oceanic temperature increases, accelerated melting of snow and ice, rising sea levels, and heightened concentrations of greenhouse gases. In the Malaysian context, the Institute of Climate Change at the National University of Malaysia has identified a clear warming trend, characterized by higher average temperatures, intensified

rainfall events, and measurable sea-level rise. Presently, the nation's pressing environmental concerns include pervasive air pollution, largely attributed to industrial activities and vehicular emissions. As Malaysia advances further into its industrial era, the environmental degradation it faces is intrinsically linked to the transformative yet pollutive forces of the modern industrial revolution.

Lie, Chen and Wei (2017) highlighted that environmental pollution and climate change have emerged as pressing global concerns in recent decades, largely driven by rapid industrialization and accelerated economic growth. These processes have not only intensified the depletion of natural resources but have also contributed significantly to large-scale environmental degradation and pollution. The deterioration of environmental quality, in turn, poses severe risks to ecological systems, undermines human health, and threatens the long-term survival and well-being of humankind. Chowdhary et al. (2018) investigated the issue of waste generation within the distillery industry, a sector that plays a significant role in the global economy. Their study revealed that industry is a major contributor to environmental pollution, primarily due to the discharge of large volumes of dark-colored wastewater. This effluent is characterized by high concentrations of toxic heavy metals and other hazardous substances, which pose severe ecological risks. Specifically, the wastewater impedes the penetration of sunlight into aquatic ecosystems, thereby disrupting photosynthetic activity and reducing the levels of dissolved oxygen. Such conditions not only threaten aquatic life but also contribute to broader ecological imbalances, highlighting the urgent need for effective waste management strategies in the distillery industry. Houser (2022) emphasized that climate change poses serious risks to national health, security, and stability, thereby requiring authorities to design preparedness and recovery strategies that not only enhance resilience but also support the transition towards a sustainable and green environment. The study concluded that addressing climate change requires emergency management to function at the crucial intersection of human society and the physical environment. Effective managers must not only understand the nature and risks of potential hazards within a community but also anticipate how people are likely to respond to such threats. A nation's resilience to disasters is ultimately shaped by the complex interplay of human, social, and economic vulnerabilities. Riesco et al. (2026) conducted a study on the impacts of current climate change and heat waves on freshwater environments, with a particular focus on fish species. Their findings emphasize that extreme temperature events pose an urgent threat to the sustainability of fish farming, as heat waves disrupt reproduction and development processes and ultimately affect the growth of fish to market size. To address these challenges, the authors stress the importance of identifying and implementing feasible, reliable, sensitive, integrative, and minimally invasive biomarkers as essential tools for early and accurate diagnosis of physiological status in fish under climate change conditions. This highlights the urgent need to intensify research on global climate challenges, with particular emphasis on their far-reaching impacts on environmental systems and the development of effective strategies for protection and long-term sustainability.

In summary, these studies highlight the challenges posed by environmental degradation and climate change, underlining the urgent need for integrated and adaptive strategies. Chowdhary et al. (2018) demonstrate how industrial activities, such as those in the distillery sector, significantly contribute to ecological imbalance through hazardous waste discharge, revealing the direct link between industrial pollution and ecosystem disruption. Houser (2022) broadens this perspective by illustrating that climate change is not only an environmental concern but also a societal and national security challenge, requiring comprehensive preparedness and resilience strategies that bridge the gap between environmental risks and human responses.

Building on this, Riesco et al. (2026) focus on the ecological consequences of climate change, showing how rising temperatures and heat waves jeopardize freshwater ecosystems and threaten the sustainability of aquaculture. Together, these studies reveal that addressing climate-related issues demands a holistic approach that integrates pollution control, disaster preparedness, ecological monitoring, and innovative mitigation measures. Such an approach is vital to safeguard environmental systems, sustain biodiversity, and ensure long-term resilience against the escalating impacts of climate change.

The study of climate change is of paramount importance as it represents one of the greatest challenges to human society, ecosystems, and the global economy. Climate change increases extreme weather events, disrupts food and water security, threatens biodiversity, and undermines public health and safety. Its impacts extend beyond environmental degradation, influencing social stability, economic growth, and national security. Understanding the causes, consequences, and potential solutions to climate change is therefore essential to guide effective policies, adaptation strategies, and technological innovations. By advancing research in this field, societies can better anticipate risks, strengthen resilience, and ensure sustainable development for present and future generations.

Tax Incentives

Tax incentives are government measures that reduce the tax burden on individuals or businesses to encourage certain behaviors or activities that are considered beneficial for the economy, society, or the environment. These incentives can take various forms, such as tax deductions, tax credits, exemptions, or reduced tax rates. For example, a government might offer tax incentives to companies that invest in renewable energy, conduct research and development, or create jobs in specific regions. For individuals, tax incentives may include relief for education expenses, healthcare costs, or energy-efficient home improvements. The main purpose of tax incentives is to promote activities that align with national priorities while providing financial benefits to the taxpayer.

Zhu et al. (2023) describes tax incentives as provisions under tax laws and administrative rules that use tax strategies to reduce or exempt certain firms and taxpayers from their tax liabilities. Similarly, Liu et al. (2025) defines them as government measures, implemented in line with tax laws and administrative regulations, aimed at easing or removing the tax burdens of specific enterprises and taxable entities. They further explain that tax incentives fall into two categories, that is monetary and non-monetary. Monetary incentives primarily involve direct or indirect financial benefits, such as tax credits, exemptions, and refunds, which serve as subsidies to support business activities. Non-monetary incentives focus on supportive measures such as expedited approvals, eco-certifications, and access to sustainability programs, encouraging firms to adopt greener practices without direct financial aid. Wang et al. (2025) examine the effects of tax incentive policies on corporate innovation, particularly on data from publicly listed companies in China between 2011 and 2023. The findings reveal that tax incentives play a significant role in enhancing corporate innovation level. The result shows the importance of tax incentives in enhancing corporate innovation. Empirical evidence suggests that tax incentives play a pivotal role in shaping a wide range of organizational motivations and behaviors. Prior studies have demonstrated that such incentives significantly encourage environmental sustainability initiatives (Li & Sun, 2025), stimulate advancements in technological research and development (Liu et al., 2025), and enhance corporate performance in terms of environmental, social, and governance (ESG) practices (Zhu et al., 2023). Moreover, tax incentives have been shown to promote greater investment in research and development

activities (Sun, 2022), foster innovation (Liakhovets, 2014), and strengthen firms' propensity to engage in risk-taking behaviors (Wonglimpiyarat, 2018). Collectively, these findings underscore the multifaceted impact of tax incentives in driving corporate transformation, innovation, and sustainable development. According to Qian (2023), tax incentives can play a powerful role in driving industrial innovation, delivering both immediate and lasting benefits. In the short term, these incentives stimulate innovation output, while in the long term, they foster innovation sustainability, ensuring continuous progress and resilience in the industry. Innovation sustainability relates to the green environment by developing and applying new ideas, technologies, and practices that meet present needs without harming future resources. It focuses on creating solutions such as renewable energy systems, energy-efficient products, waste reduction methods, and eco-friendly materials, that reduce environmental impact while maintaining economic and social benefits. By driving cleaner production, conserving resources, and lowering pollution, sustainable innovation directly supports the protection and improvement of the green environment.

Overall, the literature highlights the essential role of tax incentives as strategic policy tools for driving innovation, sustainability, and corporate transformation. Zhu et al. (2023) and Liu et al. (2025) emphasize that tax incentives, whether monetary or non-monetary, function not merely as financial relief mechanisms but as instruments that shape organizational behavior and encourage greener business practices. This perspective is reinforced by Wang et al. (2025), whose empirical evidence shows that tax incentives significantly enhance corporate innovation, indicating their capacity to influence a broad spectrum of strategic decisions. Beyond stimulating innovation, prior studies (Li & Sun, 2025; Liu et al., 2025; Zhu et al., 2023) demonstrate that such incentives are instrumental in advancing sustainability initiatives, improving ESG performance, and fostering technological progress. Qian (2023) extends this understanding by linking tax incentives to both short-term innovation output and long-term innovation sustainability, illustrating how policy support can sustain continuous progress while addressing environmental concerns. Collectively, these studies underscore that well-designed tax incentive policies not only reduce financial burdens but also serve as substances for environmentally responsible innovation, resource efficiency, and sustainable industrial development, thereby aligning economic growth with ecological protection.

In Malaysia, innovation sustainability is helping to protect and enhance the green environment through diverse and impactful initiatives. For example, Agrivoltaic projects by Cypark Resources combine solar energy generation with agriculture, while the Biji-biji Initiative promotes a circular economy through upcycling and creative reuse of waste. Yinson GreenTech supports clean mobility by expanding electric vehicle charging infrastructure, and Petronas is investing in a large-scale biorefinery to produce sustainable aviation fuel. Companies like AirTrunk are integrating rooftop solar and energy-efficient systems into data centers, while Entomal Biotech and Life Origin convert food and agricultural waste into valuable products like animal feed and organic fertilizer. Together, these innovations improve resource efficiency, reduce greenhouse gas emissions, promote renewable energy adoption, and minimize waste, contributing significantly to Malaysia's transition toward a low-carbon and sustainable economy.

Zhu et al. (2023) found that tax incentives have a positive influence on corporate environmental, social, and governance (ESG) performance. The study highlights that the actual tax benefits received by firms can ease financing constraints by reducing tax liabilities and lowering operating costs. Similarly, Wang et al. (2022) observed that tax incentives help relieve financing

pressures, expand access to funding, and reduce financial risks, ultimately enabling companies to better fulfil their ESG commitments. Li and Sun (2025) reported that tax incentives play a crucial role in lowering corporate carbon emissions and pollution intensities while boosting production efficiency. Specifically, reductions in value-added tax, income tax, and business tax were shown to markedly decrease carbon and pollution levels, whereas cuts in consumption tax significantly enhanced operational efficiency. The study further highlights that tax incentives drive green transformation by enabling enterprises to expand their scale, invest in technological innovation, and adopt cleaner production practices.

In conclusion, these studies demonstrate that tax incentives are powerful mechanisms for advancing corporate sustainability goals by directly influencing both financial capacity and environmental performance. Zhu et al. (2023) and Wang et al. (2022) show that reducing tax burdens not only lowers operating costs but also eases financing constraints, thereby enabling firms to allocate more resources toward fulfilling their ESG commitments. This financial flexibility enhances companies' ability to invest in long-term sustainability initiatives and integrate responsible practices into their core operations. Li and Sun (2025) deepen this perspective by illustrating how targeted tax reductions can lower carbon emissions and pollution intensity while simultaneously improving production efficiency. Their findings emphasize that tax incentives do more than provide immediate financial relief, actively drive structural changes by supporting technological innovation, encouraging cleaner production, and promoting large-scale green transformation. Collectively, the literature highlights that well-designed tax incentive policies serve as a critical bridge between economic performance and environmental responsibility, fostering a corporate landscape where profitability and sustainability are mutually reinforcing.

Table 1: Prior Studies on Green Tax, Climate Change, and Tax Incentives

Author & Year	Focus of Study	Key Findings	Implications
Ariffin et al. (2023)	Green tax and environmental behavior	Green tax encourages pro-environmental attitudes and is more effective than regulation.	Shows behavioral impact of fiscal tools.
Ahmad et al. (2024)	Use of green tax incentives in Sweden	Younger firms utilize incentives more; tailored incentives needed for older and different-sized firms.	Advocates customized policy design.
Rahman & Hossain (2025)	Green factors and green economy	Green tax, logistics, finance, and sustainability positively influence the green economy.	Highlights integrated policy approaches.
Chowdhary et al. (2018)	Waste generation in distillery industry	Wastewater contains hazardous substances,	Calls for improved waste management.

		disrupting ecosystems.	
Houser (2022)	Climate change and national resilience	Climate change threatens health and security; requires preparedness and adaptive strategies.	Stresses holistic governance.
Riesco et al. (2026)	Climate change and freshwater ecosystems	Heat waves disrupt fish reproduction; biomarkers needed for early diagnosis.	Emphasizes research and mitigation.
Zhu et al. (2023)	Tax incentives and ESG	Tax incentives reduce liabilities and support ESG practices.	Shows incentives shape corporate behavior.
Liu et al. (2025)	Classification of tax incentives	Monetary and non-monetary incentives influence green practices.	Provides framework for incentive mechanisms.
Wang et al. (2025)	Tax incentives and corporate innovation	Tax incentives significantly boost innovation in listed firms.	Evidence of fiscal policy driving innovation.
Li & Sun (2025)	Tax incentives and environmental performance	Incentives reduce emissions and pollution while increasing efficiency.	Supports cleaner production and transformation.
Sun (2022)	Tax incentives and R&D	Incentives promote higher R&D investment.	Links policy to innovation outcomes.
Liakhovets (2014)	Tax incentives and innovation	Incentives foster corporate innovation.	Shows long-term innovation benefits.
Wonglimpiyarat (2018)	Tax incentives and risk-taking	Incentives increase firms' risk-taking behavior.	Indicates behavioral changes via tax policy.
Qian (2023)	Tax incentives and innovation sustainability	Incentives boost short-term output and sustain long-term innovation.	Connects fiscal tools to sustainable innovation.
Wang et al. (2022)	Tax incentives and ESG financing	Incentives relieve financial pressures and expand ESG funding.	Highlights financial pathways for sustainability.

The reviewed literature in Table 1 highlights the important role of fiscal instruments, particularly green taxation and tax incentives, in advancing environmental sustainability, innovation, and corporate transformation. Green tax policies are shown to influence pro-environmental attitudes and behaviors more effectively than regulatory approaches, while their impact can be strengthened through tailored designs that address firm-specific characteristics such as age and size (Ariffin et al., 2023; Ahmad et al., 2024). Concurrently, research on climate change underscores its extensive implications for ecosystems, public health, and national resilience, reinforcing the necessity of integrated management strategies and adaptive governance to mitigate its effects (Chowdhary et al., 2018; Houser, 2022; Riesco et al., 2026). Beyond taxation, tax incentives emerge as multifaceted policy tools that not only alleviate financial constraints but also enhance environmental, social, and governance (ESG) performance, reduce carbon emissions, stimulate technological innovation, and drive sustainable industrial development (Zhu et al., 2023; Wang et al., 2025; Li & Sun, 2025; Qian, 2023). Collectively, these studies emphasize that well-designed fiscal policies, when strategically aligned with broader environmental and economic objectives, are instrumental in facilitating green transformation and integrating sustainability into the core of corporate and national development agendas.

In Malaysia, a variety of tax incentives are made available to stimulate industrial growth, competitiveness, and sustainable development. Among the well-known schemes are the Green Investment Tax Allowance (GITA), which encourages environmentally friendly investments, the Reinvestment Allowance, designed to support companies undertaking expansion, modernization, or production activities, and the Accelerated Capital Allowance, which facilitates faster capital recovery for qualifying assets. Additionally, Investment Tax Allowances are provided to promote new investments in targeted sectors, while Pioneer Status offers partial or full income tax exemptions to firms engaged in promoted activities or industries deemed strategically important to the nation's economic agenda. Collectively, these incentive mechanisms serve as vital policy instruments to attract investment, foster innovation, improve sustainability and enhance the overall resilience of the Malaysian industrial sector. Beyond their immediate role in stimulating investment and industrial development, these incentives collectively contribute to broader policy objectives by promoting greener business practices, encouraging sustainable production, and ultimately supporting Malaysia's transition toward a low-carbon economy and long-term environmental sustainability.

Green Investment Tax Allowances

The Green Investment Tax Allowance (GITA) is a tax incentive introduced by the Malaysian government to promote corporate investment in green technologies and projects. It grants up to 100% tax allowance on qualifying capital expenditure for approved green assets such as renewable energy systems, energy-efficient machinery, pollution control equipment, and sustainable waste management facilities. This allowance can be offset against 70% of statutory income annually, with any unutilized balance carried forward.

By easing the financial burden of green technology adoption, GITA makes sustainable investment more attractive to businesses. It encourages companies to cut greenhouse gas emissions, conserve energy and resources, and minimize waste, thereby reducing their overall environmental footprint. Beyond supporting corporate sustainability, GITA advances Malaysia's broader agenda of sustainable development and climate change mitigation through cleaner production, improved resource efficiency, and long-term environmental benefits.

Reinvestment Allowances

Reinvestment Allowance (RA) is a tax incentive introduced by the Malaysian government to support manufacturing and selected agricultural companies in expanding, modernizing, automating, or diversifying their operations. Beyond driving business growth, RA plays a crucial role in promoting environmentally responsible investment. By reinvesting profits into energy-efficient machinery, renewable energy systems, pollution control equipment, or sustainable waste management facilities, companies can simultaneously boost productivity and reduce their ecological footprint. Such green-oriented reinvestments help lower greenhouse gas emissions, minimize industrial waste, conserve natural resources, and improve energy efficiency. By making these upgrades more financially accessible, RA facilitates the shift toward cleaner production processes and sustainable practices. In the long run, this incentive not only strengthens corporate competitiveness but also contributes to Malaysia's broader agenda of environmental sustainability and climate change mitigation.

Accelerated Capital Allowances

Accelerated Capital Allowance (ACA) is a tax incentive in Malaysia that allows businesses to claim capital allowances on qualifying assets at a faster rate than the normal schedule prescribed under the Income Tax Act 1967. The purpose of ACA is to encourage companies to claim capital allowances on qualifying assets at a faster rate than the standard schedule. Its primary objective is to stimulate targeted investments in areas such as automation, green technology, energy-efficient equipment, and information and communication technology (ICT) by allowing companies to recover investment costs more quickly through reduced taxable income.

ACA also delivers environmental benefits by lowering the effective cost of adopting sustainable technologies. Through accelerated claims on capital expenditure, companies are incentivized to invest in renewable energy systems, energy-efficient machinery, pollution control equipment, and sustainable waste management facilities. This financial advantage motivates earlier adoption of green technology, resulting in reduced greenhouse gas emissions, lower energy consumption, and improved resource efficiency. By promoting cleaner production and sustainable industrial practices, ACA indirectly supports Malaysia's broader goals of environmental conservation and climate change mitigation.

Investment Tax Allowances

The Investment Tax Allowance (ITA) is a Malaysian tax incentive aimed at stimulating new investments in manufacturing, agriculture, tourism, and other promoted sectors approved by the Malaysian Investment Development Authority (MIDA). By reducing the after-tax cost of large-scale capital projects, ITA encourages private sector participation in priority industries, promotes industrial growth, and enhances Malaysia's overall competitiveness.

In addition to driving economic development, ITA can generate significant environmental benefits when granted for green investments. By lowering the effective cost of acquiring renewable energy systems, energy-efficient machinery, pollution control equipment, and sustainable waste management facilities, ITA makes eco-friendly technologies more financially attractive to businesses. This encourages companies to transition to cleaner energy sources, adopt waste reduction and recycling systems, and strengthen pollution control measures. Collectively, such initiatives contribute to reduced greenhouse gas emissions, improved resource efficiency, and better air and water quality, supporting Malaysia's long-term agenda of environmental protection and sustainable development.

Pioneer Status

Pioneer Status (PS) is a tax incentive introduced under Malaysia's Promotion of Investments Act 1986 to attract companies engaged in promoted activities or the production of promoted products approved by the Malaysian Investment Development Authority (MIDA). Designed to stimulate investment in new, high value-added, or strategically important industries, PS provides partial or full income tax exemptions for a specified period, enabling eligible companies to retain more earnings during their critical start-up and growth phases.

Beyond its economic role, PS can also advance environmental sustainability when applied to eco-friendly activities or products. By easing the financial burden on companies developing renewable energy technologies, producing energy-efficient products, implementing pollution control systems, or adopting sustainable manufacturing practices, PS creates strong incentives for green innovation. These investments contribute to lower greenhouse gas emissions, improved resource conservation, and reduced industrial waste. Over time, the expansion of environmentally focused PS projects supports Malaysia's broader transition toward a greener and more sustainable economy.

Method

This study adopts a descriptive research design with the primary objective of examining companies' perceptions of tax incentives offered by the Malaysian government, with particular emphasis on their awareness, concerns, participation, and planning in relation to green environmental initiatives. A descriptive approach is deemed appropriate as it enables a systematic and factual representation of existing conditions, attitudes, and practices without manipulating variables, thereby providing an in-depth understanding of how companies perceive and respond to environmentally oriented tax policies. Through this design, the study seeks to capture the prevailing state of corporate awareness and behavior regarding green taxation, offering insights that may inform policymakers, industry practitioners, and scholars in the fields of sustainability and fiscal policy.

The present study employed a questionnaire survey as the primary data collection method, targeting manufacturing companies operating in Malaysia. The unit of analysis comprises managers and accountants, as these individuals are key decision-makers and financial practitioners who possess in-depth knowledge of organizational operations and reporting practices. To ensure the representativeness of the sample, respondents were selected from companies registered under the Federation of Malaysian Manufacturers (FMM), which serves as a leading industry association representing the interests of the manufacturing sector in Malaysia.

A multi-stage cluster sampling technique was applied in this study to identify the respondents. This sampling method was deemed appropriate given the structural diversity within the manufacturing sector. Specifically, the technique accounted for the fact that while the respondents within each cluster (companies belonging to the same group or sector) are heterogeneous in terms of individual roles and experiences, the clusters themselves are relatively homogenous across the broader industry. This design increases the reliability and validity of the findings by reducing potential sampling bias and ensuring proportional representation. Furthermore, although the manufacturing companies share certain structural similarities, they remain heterogeneous in terms of product type, production processes, and operational practices, thus allowing the study to capture variations across different segments of the industry.

The respondents comprise of managers or accountants from manufacturing companies that are members of the Federation of Malaysian Manufacturers (FMM). The selected sample size of 80 is considered adequate and appropriate for the objectives of this research. This is consistent with the guidelines proposed by Roscoe (1975) and Sekaran (2003), who suggest that a sample size between 30 and 500 is generally suitable for behavioral science research. Furthermore, given the specific focus of this study on green tax incentives within the manufacturing sector and the targeted population of industry professionals, a sample size of 80 is sufficient to generate meaningful insights and support robust statistical analysis. Thus, the chosen sample size is justified and contextually within the scope of this research.

A pilot study was conducted prior to distributing the questionnaire to the full sample of respondents. As part of this process, the questionnaire items underwent expert review to assess their clarity and relevance, followed by reliability and content validity analyses. Reliability was evaluated using Cronbach's alpha, with the results indicating that the values for all construct ranged from 0.76 to 0.95, which are considered acceptable to excellent (Hair et al., 1998). To examine the content validity of the instrument, factor analysis was performed to ensure that the questionnaire items were clearly understood and accurately measured the intended constructs. Factor analysis is one of the key indicators to measure content validity, that is Kaiser Meyer Olkin (KMO). According to Hair et al. (2010), a KMO index above 0.50 is considered sufficient and acceptable. The findings of this study revealed KMO values exceeding 0.50, indicating that the sample was adequate and that the instrument demonstrated satisfactory content validity.

Findings and Discussions

This section presents and discusses the key findings of the study, focusing on four main areas, that is the demographic profile of the respondent companies, their level of awareness of climate change and green tax incentives, the extent to which tax incentives are currently being utilized, and the degree of corporate planning undertaken to benefit from such incentives. These dimensions provide a comprehensive view of how manufacturing firms in Malaysia perceive and respond to the opportunities and challenges associated with green tax measures, thereby offering insights into both existing practices and potential areas for policy intervention.

Table 2: Demographics of the Companies (n=80)

Items	Frequency	Percentage (%)
Type of Industry		
Chemical/Wood	20	25.0
Plastic, Rubber/Metal	13	16.3
Electrical	7	8.8
Automotive/Machinery	14	17.5
Building Materials	12	15.0
Food/Tobacco	5	6.3
Others	9	11.3
Total	80	100.0
Paid-up Capital		
Less than RM2.5M	42	52.5
More than RM2.5M	38	47.5
Total	80	100.0

Ownership

Local	47	58.8
Foreign	23	28.7
Joint venture	8	10.0
Others	2	2.5
Total	80	100.0

Planning on tax incentives

Yes	13	16.3
No	67	83.8
Total	80	100.0

The demographic distribution of the participating manufacturing companies reflects a diverse representation of Malaysia's industrial landscape. As shown in the Table 2, the largest proportion of respondents (25%) belonged to the chemical and wood-based industries, indicating the prominence of these sectors within the Federation of Malaysian Manufacturers (FMM). This was followed by companies in the automotive and machinery sector, account for 17.5% of the sample, which imply Malaysia as a regional hub for automotive assembly and engineering-related activities. Firms in the plastic, rubber, and metal industries constituted 16.3% of the respondents, reflecting the country's strong foothold in resource-based and downstream manufacturing sectors. In addition, 15% of the surveyed companies were engaged in the production of building materials, highlighting the sector's role in supporting Malaysia's construction and infrastructure development. Meanwhile, electrical and electronic manufacturers represented 8.8% of the respondents, consistent with Malaysia's position as one of the key players in the global electronics supply chain. Food and tobacco companies comprised 6.3% of the sample, illustrating the contribution of consumer-based industries to the manufacturing sector. Finally, 11.3% of the respondents were classified under "other industries," which included a mix of smaller, and specialized sectors. Overall, the sample composition provides a well-rounded representation of Malaysia's diverse manufacturing sector, thereby ensuring that the findings of this study capture perspectives across both traditional and high-technology industries.

The respondents are relatively balanced in terms of their paid-up capital, which provides insight into the financial strength and scale of the participating companies. A slight majority of the firms (52.5%) reported having a paid-up capital of less than RM2.5 million, indicating that more than half of the sample comprised small and medium-sized enterprises (SMEs). This is consistent with the broader structure of Malaysia's manufacturing sector, where SMEs form the backbone of industrial activities by contributing significantly to employment generation, innovation, and domestic supply chains. On the other hand, 47.5% of the respondents reported a paid-up capital exceeding RM2.5 million, representing larger and more established enterprises with greater investment capacity, financial resilience, and market reach. This distribution highlights a relatively balanced representation between SMEs and larger corporations within the sample. Such a composition is valuable for the study as it ensures that the findings capture the perspectives of companies across different scales of operation, ranging from resource-constrained firms that may face challenges in adopting advanced technologies to financially robust companies that are more capable of investing in green innovations and sustainable practices.

In terms of ownership structure, most of the surveyed companies were locally owned, accounting for 58.8% of the sample. This reflects the strong presence of domestic firms within Malaysia's manufacturing sector, many of which play a critical role in supporting national economic growth and contributing to industrial development. Foreign-owned companies represented 28.7% of the respondents, underscoring Malaysia's attractiveness as a destination for foreign direct investment (FDI). Joint venture firms, comprising 10% of the sample, highlight the collaborative nature of ownership arrangements in the industry, where both local and foreign partners leverage complementary resources, technologies, and expertise to strengthen competitiveness. A small proportion (2.5%) fell under the category of "others," which may include specialized forms of ownership.

In relation to strategic planning on tax incentives, the findings revealed that only a small proportion of the respondent companies (16.3%) reported having explicit plans to utilize tax incentives, whereas the majority (83.8%) indicated that they did not currently engage in such planning. This result suggests that although a range of fiscal incentives is available to the manufacturing sector in Malaysia, awareness, utilization, or strategic integration of these incentives into business planning remains relatively limited among companies. The low level of proactive planning may be attributed to factors such as lack of knowledge regarding eligibility criteria, the complexity of application processes, or the perception that the benefits of such incentives are marginal compared to the administrative burden involved.

The imbalance between companies that plan to use tax incentives and those that do not point to a wider gap in policy uptake. This suggests that while some companies are able to take advantage of these schemes, others face difficulties in doing so. Although the exact reasons are unclear, differences in capacity, readiness, or access to information may influence how effectively firms benefit from such incentives. The uneven finding highlights the need for greater outreach, capacity-building initiatives, and policy support to enhance the accessibility and utilization of tax incentives, particularly as they play a crucial role in encouraging investment, innovation, and environmentally sustainable practices within the manufacturing sector.

Table 3: Awareness of Environmental

Items	Frequency	Percentage (%)
Aware of the term climate change		
Yes	77	96.3
No	3	3.8
Total	80	100.0
Concern about climate change in Malaysia		
Do not care at all	3	3.8
Not concern	1	1.3
Not sure	13	16.3
Concern	47	58.8
Strongly concern	16	20.0
Total	80	100.0

**Awareness of Various Tax Incentives
available for Companies**

Yes	44	55
No	36	45
Total	80	100

Table 3 presents the respondents' awareness of climate change, their level of concern, and their knowledge of existing tax incentives available to companies. The findings reveal a notably high degree of awareness, with 96.3% of companies indicating familiarity with the concept of climate change, whereas only 3.8% reported having no awareness. This finding reflects the growing recognition of climate change as a critical global and national issue, reinforced by extensive media coverage, governmental policies, and international commitments such as the Paris Agreement and the Malaysia Sustainable Development Goals (SDGs). The widespread awareness among manufacturing companies is encouraging, as it suggests that industry players are increasingly conscious of the environmental challenges associated with industrial activities and the potential need for adaptive strategies. Nevertheless, the small proportion of respondents who indicated no awareness of climate change, though minimal, underscores the existence of knowledge gaps that may hinder proactive engagement in environmental initiatives. Awareness, however, does not necessarily translate into action, while most firms recognize climate change as an important issue, the extent to which this awareness influences corporate decision-making, sustainability strategies, or investment in green technologies remains a critical area for further exploration. This distinction highlights the importance of aligning awareness with concrete actions, particularly through supportive policies, incentives, and industry engagement programs that encourage the integration of environmental considerations into core business operations.

Table 3 also shows the degree of concern among manufacturing companies regarding climate change in Malaysia. The results reveal that a substantial majority of respondents expressed either concern (58.8%) or strong concern (20%) about the issue, indicating that nearly four out of five firms acknowledged climate change as a matter of serious importance. This demonstrates that climate-related risks are increasingly perceived as relevant to industrial operations. At the same time, a smaller proportion of companies exhibited lower levels of concern, with 16.3% reporting that they were unsure about the significance of climate change, while 3.8% admitted to not caring at all and 1.3% stating they were not concerned. This segment of the sample highlights the persistence of varying attitudes across the industry. Overall, the findings suggest that while climate change is widely recognized and taken seriously by most of the manufacturing companies in Malaysia, there remains a minority that either lacks conviction or prioritization of the issue. This underlines the importance of policy interventions, awareness programs, and targeted incentives to translate concern into actionable strategies that can drive sustainable industrial practices and strengthen Malaysia's response to climate challenges.

The survey also investigated the level of awareness among manufacturing firms regarding the range of tax incentives available to them. The results reveal a relatively balanced distribution, with 55% of respondents indicating that they were aware of existing tax incentives, while 45% reported having no knowledge of such schemes. This finding suggests that although most companies recognize the existence of fiscal support mechanisms provided by the government, a significant proportion of firms remain uninformed, which may limit their ability to benefit from policies designed to promote investment, innovation, and sustainable practices.

The relatively high percentage of respondents lacking awareness of availability of tax incentives underscores persistent challenges in the dissemination and communication of relevant policies. Limited awareness may hinder the effectiveness of green tax initiatives, as companies that are uninformed are unlikely to take advantage of the available incentives. This highlights the need for more proactive and accessible outreach strategies, alongside clearer guidance, to ensure that policy objectives are fully realized.

Table 4: Companies Utilization of Tax Incentives

Items	Frequency	Percentage (%)
Green Investment tax allowances		
Yes	14	17.5
No	66	82.5
Total	80	100.0
Reinvestment allowances		
Yes	6	7.5
No	74	92.5
Total	80	100.0
Accelerated Capital Allowances		
Yes	7	8.8
No	73	91.3
Total	80	100.0
Investment tax allowances		
Yes	17	21.3
No	63	78.8
Total	80	100.0
Pioneer Status		
Yes	18	22.5
No	62	77.5
Total	80	100.0

The survey also examined the extent to which manufacturing firms were actively utilizing the various tax incentives provided by the Malaysian government. The findings, in Table 4, reveal relatively low levels of adoption across all incentive schemes. Only 17.5% of the respondents reported benefiting from the Green Investment Tax Allowance (GITA), while the vast majority (82.5%) indicated they had not made use of this scheme. Similarly, uptake of the Reinvestment Allowance was limited, with just 7.5% of firms utilizing it, suggesting that few companies have systematically reinvested in expansion, modernization, or diversification activities under this incentive framework. Utilization of the Accelerated Capital Allowance was also low, with only 8.8% of companies reporting engagement, pointing to underutilization of opportunities to accelerate capital recovery on qualifying assets.

Among the available schemes, the Investment Tax Allowance and Pioneer Status recorded the highest levels of adoption, yet still modest overall. Approximately 21.3% of companies reported benefiting from the Investment Tax Allowance, while 22.5% of firms had enjoyed Pioneer Status, which offers significant tax exemptions for companies involved in promoted activities

or industries. Despite these slightly higher adoption rates, more than three-quarters of firms had not taken advantage of either incentive.

Taken together, these findings suggest that although Malaysia has introduced a comprehensive framework of tax incentives to stimulate industrial development, innovation, and green transformation, actual utilization among manufacturing companies remains limited. This gap may be attributed to several factors, including lack of awareness, perceived complexity in application processes, limited technical expertise among SMEs, or insufficient alignment between firm-level strategies and policy incentives. Further study is necessary to address this gap, providing deeper insights and more comprehensive evidence to guide both policy development and practical implementation. The underutilization of incentives, particularly those aimed at promoting environmentally sustainable investments, highlights a critical area for policy refinement and targeted capacity-building to ensure that these mechanisms achieve their intended objectives of driving industrial competitiveness, innovation, and sustainability.

Table 5: Companies Planning for Green Tax Incentives

Items	Frequency	Percentage (%)
Yes	38	47.5
No	42	52.5
Total	80	100.0

The survey further explored whether companies had concrete plans to engage in activities that would allow them to benefit from green tax incentives (Table 5). The findings show that 47.5% of the respondents indicated having such plans, while a slightly higher proportion (52.5%) reported no intention to undertake activities linked to green tax incentives. This distribution suggests that while nearly half of the companies recognize the potential benefits of aligning with environmentally focused incentive schemes, more than half of the manufacturing companies have yet to integrate such considerations into their business strategies.

The relatively limited planning may reflect a range of underlying challenges, such as uncertainties regarding the scope of eligible activities, limited technical expertise to adopt and manage green technologies, and concerns that the costs of compliance may outweigh the perceived benefits of incentives. More broadly, firms may also encounter barriers related to information gaps, administrative complexity, or competing business priorities that delay sustainability initiatives. Small and medium-sized enterprises (SMEs) often experience greater resource constraints, which can restrict their capacity to pursue substantial green investments, even when they recognize the potential long-term advantages. These issues suggest the need for further studies to explore in greater depth the specific barriers by companies and the strategies that may enhance the effectiveness of green tax incentives. Conversely, the proportion of companies already planning for such activities demonstrates a growing shift towards sustainable practices within the industry, reflecting broader national and international pressures for climate action and sustainable economic growth.

Overall, these findings highlight a critical interval for policy and industry engagement. While there is encouraging evidence of interest among nearly half of the companies, a substantial proportion of firms remain hesitant or unprepared to align with green tax incentive programs. This underscores the importance of enhanced awareness campaigns, advisory services, and supportive financing mechanisms to encourage more widespread planning and adoption of environmentally sustainable initiatives in Malaysia's manufacturing sector.

Conclusions

The manufacturing companies in Malaysia exhibit a high level of awareness and concern regarding climate change, however, the existence of a small proportion of companies with limited awareness or concern highlights persistent knowledge gaps and varying attitudes within the industry. Importantly, while awareness is encouraging, it does not necessarily translate into proactive action, underscoring the need for supportive policies, incentives, and engagement initiatives to foster meaningful integration of environmental considerations into business strategies. Furthermore, the mixed level of awareness regarding the availability of tax incentives indicates that many firms may not be fully equipped to leverage available fiscal measures, which could otherwise enhance their capacity for sustainable transformation. Collectively, these findings emphasize the importance of bridging the gap between awareness and action through targeted interventions that encourage greater participation in climate-responsive and resource-efficient practices across the manufacturing sector. The substantial proportion of respondents who remain unaware of available tax incentives points to ongoing challenges in policy communication and dissemination. Such limited awareness reduces the potential impact of green tax measures, as firms that are uninformed are less likely to utilize these benefits. This underlines the necessity for more effective outreach efforts and clearer guidance to enhance accessibility and ensure that the intended policy outcomes are achieved.

The study underlines a significant gap between the availability of tax incentives and their actual utilization by manufacturing companies in Malaysia. Although the government has introduced a comprehensive framework to encourage industrial growth, innovation, and sustainability, however, the uptake by the companies remains low. This emphasizes the importance of government efforts in encouraging companies to maximize the use of tax incentives, while also providing technical guidance and financial support. Such measures are essential to accelerate Malaysia's transition toward a greener environment and to strengthen the resilience and sustainability of its industrial sector. The findings indicate that while a considerable number of companies have begun planning to leverage green tax incentives, a slightly larger proportion remain unprepared or reluctant to do so. This limited engagement reflects underlying challenges such as uncertainty about eligibility, resource constraints, and the perceived costs of compliance. Nonetheless, the growing interest among many companies signals a gradual shift towards sustainable practices in response to national and global environmental imperatives. Strengthening policy communication, technical support, and financial assistance will therefore be crucial in fostering broader participation and accelerating the integration of green initiatives within Malaysia's manufacturing sector. Future studies could further explore the specific barriers faced by companies of different sizes and sectors, assess the effectiveness of government outreach and communication strategies, and examine comparative practices in other countries to provide insights for enhancing the design and implementation of green tax incentive policies. Furthermore, due to limited studies on green tax incentives, it is proposed that future studies should further explore corporate involvement in green investments and the utilization of the related tax incentives.

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