

Towards an Optimal Green Tax Framework in Malaysia: An Exploratory Study

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ABSTRACT

The use of tax legislations to encourage sustainability is not an uncommon exercise worldwide (such as in Europe and the US). While it can actually be implemented by providing incentives (for non-polluters) or imposing penalties (for polluters), the use of both carrot and stick approach has been claimed to be the more meaningful and fair approach to industry players and society at large. Malaysia has to date, adopted only the incentives approach in its effort to encourage a green environment. However, evidence of the positive impacts of this kind of approach is not discernible, considering the alarming level of environmental abuse reported in the media nowadays. Hence, this study proposed an optimal green tax framework as an alternative to the current practice, based on interviews with policymakers and industry players. The proposed framework suggests that in order to have an optimal green tax initiative, it should consider the elements of tax penalties, tax incentives, environmental education, continual review of legislation and technology/innovation. As an implication for future research, the study recommends that researchers consider a survey involving a larger group of stakeholders (including representatives from the community and non-governmental organisations) for empirical validation and testing of the framework.

Keywords: Green Tax Framework, Tax Penalty, Polluter-Pay, Environmental Abuse

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INTRODUCTION

It has been feared for a long time that human activity is severely destroying the earth, resulting in global warming, threats to the ecosystem, air and water pollution, hazardous waste, ozone depletion and rain forest destruction. Such threats are felt in every part of the world, and Malaysia is not the exception. In order to curb this environmental abuse and its associated risks, academicians, policymakers and the public at large in Denmark, Germany, the UK, and Australia, have collaboratively promoted various measures of taxation in their efforts to tackle and remedy the issue of environmental degradation in their countries (Fullerton et al., 2008; Mas' ud et al., 2020). These reforms, among others, include the enforcement of carbon taxes, border taxes and greenhouse gas emission trading for the polluters (Al-Alawi & Nobanee, 2020; Muhammad et al., 2021), in addition to the introduction of various incentives for non-polluters. Thus, it is not surprising that both the UK and Australian tax laws have been declared as examples of the most comprehensive green tax framework in the world (Hong, 2013). However, this is not the case in Malaysia, where the existing policies dwell more on achieving sustainability from a scientific point of view (Hong, 2013) rather than via tax laws.

To be at par with this global movement, Malaysia launched a National Green Technology Policy in July 2009 as part of its national policy. This policy is based on four pillars, namely energy, environment, economy and social perspectives. Consistent with this, the commitment to a sustainable Malaysia by reducing carbon emission by up to 40% was affirmed by the then Prime Minister's declaration at the United Nations Climate Change Conference in Copenhagen, Denmark in December 2009 (PwC, 2010). In September 2021, following the release of the 12th Malaysia Plan, the then Prime Minister announced a carbon-neutrality target of 2050 (The Star, 2022). Moreover, Malaysia has been strengthening the enforcement of the Acts relating to environmental protection, revising companies' financial reporting requirements and improving the current tax legislations, the third measure being the focus of this research.

Undeniably, the current Malaysian tax laws include a number of tax incentives to encourage industries to be more environmental friendly. The incentives include double deduction, pioneer status, research expenditure accelerated capital allowances and special deduction for environmental-related equipment. While this single-sided law benefit the non-polluters, it does not however address the issue of environmental abuse caused by the polluters. Moreover, the impact of incentive-based initiatives thus far is not discernible, considering the alarming level of environmental abuse reported in the media nowadays. Hence, there is a need for an improved green taxation framework which is more comprehensive to cope with this issue, which could possibly be the inclusion of a penalty-based approach.

Following the above background, the objective of this was to propose a comprehensive framework of green tax based on the views of the policymakers and industry players. In particular, this study attempted to answer the questions of (i) how does green tax incentives benefit the industry; (ii) is there any possibility of introducing penalty-based tax initiatives; and (iii) what is the optimal framework for green tax in Malaysia. This proposed framework, is not only in tandem with the Malaysian government's agenda, i.e. to protect the country's natural heritage, but also can help the government to formulate desirable legislations that have already been implemented and proven successful in countries, such as Denmark, Germany, the UK and Australia.

The paper is structured into five parts with this part as an introduction. The second part presents a literature review relating to green tax systems around the world, which encompasses green tax incentives and tax penalties. This is followed by overview on green tax frameworks adopted around the globe, as well as the current green tax practices in Malaysia. The third part presents the methodology deployed in the execution of the study. The fourth part presents the results obtained from interviews conducted with the stakeholders with respect to the optimal framework for green tax. The final part contains the conclusion and implications of the study.

LITERATURE REVIEW

The section begins with an overview of a green tax system globally. In the later section, tax incentives and tax penalties are delineated separately. This is followed by the prevailing green tax frameworks worldwide. The focus is then narrowed to the Malaysian context, delving into pertinent aspects including environmental legislation and policy, key agencies overseeing environmental conservation, and the extant of green tax practices.

Overview of Green Tax System

In the global context, the implementation of green taxation generally manifests through two predominant mechanisms: tax incentives and tax penalties. Many nations, as a means to safeguard the environment, commonly integrate both tax incentives and penalties within their fiscal framework. Among the 57 nations scrutinized, 31 incorporate both mechanisms, while 19 exclusively rely on tax penalties for environmental preservation (refer Table 1). The remaining seven countries—Brazil, Cambodia, Cyprus, Monaco, Panama, Turkey and Uruguay—concentrate solely on tax incentives (KPMG, 2023). This scenario suggests that a combined employment of both incentives and deterrents may hold greater appeal and efficacy as evidenced in Denmark, Germany, the UK and Australia (Fullerton et al., 2008; Mas'ud et al., 2020).

Table 1: Environmental Taxes and Tax Incentives across Countries

No.	Country	Environmental taxes	Incentives
1.	Albania	/	/
2.	Argentina	/	/
3.	Armenia	/	-
4.	Australia	/	/
5.	Austria	/	/
6.	Belgium	/	/
7.	Brazil	-	/
8.	Cambodia	-	/
9.	Canada	/	-
10.	Chile	/	-
11.	China	/	/
12.	Columbia	/	-
13.	Cyprus	-	/
14.	Czech Republic	/	/
15.	Denmark	/	/
16.	Estonia	/	-
17.	European Union	/	-
18.	Finland	/	/
19.	France	/	/
20.	Germany	/	/
21.	Ghana	/	-
22.	Greece	/	/
23.	Hong Kong	/	-
24.	Hungary	/	/
25.	India	/	/
26.	Indonesia	/	-
27.	Ireland	/	/
28.	Italy	/	/
29.	Latvia	/	-
30.	Lithuania	/	/
31.	Luxembourg	/	/
32.	Monaco	-	/
33.	Japan	/	/
34.	Netherlands	/	/
35.	New Zealand	/	-
36.	Norway	/	-
37.	Pakistan	/	/
38.	Panama	-	/
39.	Papua New Guinea	/	-
40.	Peru	/	-
41.	Poland	/	/
42.	Portugal	/	/
43.	Romania	/	/
44.	Serbia	/	/
45.	Slovakia	/	/

46.	South Africa	/	/
47.	South Korea	/	-
48.	Spain	/	-
49.	Sweden	/	-
50.	Switzerland	/	/
51.	Tunisia	/	/
52.	Turkey	-	/
53.	United Kingdom	/	/
54.	United States	/	-
55.	Uruguay	-	/
56.	Venezuela	/	-
57.	Vietnam	/	/

Source: KPMG (2023)

Green Tax Incentives

Tax incentives have emerged as a prominent policy tool employed by nations globally to foster environmentally sustainable practices. An examination of 57 countries revealed that 38 economies currently practice at least one form of green tax incentive (KPMG, 2023). These incentives are principally directed towards bolstering initiatives in renewable energy, sustainable energy, green power, innovation, and electric vehicle adoption.

Noteworthy is Austria's comprehensive suite of incentives, facilitated through its Federal Climate and Energy Fund, which disburses grants to both corporate entities and private individuals engaged in endeavours associated with energy system transformation, mobility transformation, and climate change mitigation. To date, the fund has provided support to in excess of 137,000 projects. Moreover, the Environmental Aid Act in Austria offers grants to companies investing in measures aimed at environmental and climate protection, inclusive of energy-efficient construction methods for new business premises, which may receive subsidies up to 30% of the incremental investment costs. In the domain of innovation, Austria offers a research bonus of 14%, permitting deduction of expenses allocated for research and development. Notably, in 2018, this subsidy facilitated nearly 14,000 projects. In relation to electric vehicles, since 2019, Austria has offered a subsidy of €3,000 for each acquisition of an electric vehicle with purely electric propulsion. A recent tax reform further amplifies incentives for emission-free company vehicles and environmentally friendly modes of company mobility for support services, including cycling and electric bikes (CMS, 2023).

Similar to Austria, Belgium extensively relies on a diverse array of green incentives targeting renewable energy, sustainable energy, green power, innovation, and electric vehicle adoption. These include augmented deductions for investments in energy conservation, subsidies for the production of green energy in the form of green power certificates, support for combined heat and power engines generating CHP energy, and funding for sewerage entities to mitigate

spillage. Additionally, Belgium offers property tax discounts for renovations undertaken to reduce energy consumption, subsidies for the installation of heat pumps, heat pump boilers, and solar water heaters, and exemption from vehicle registration tax for purely electric and hydrogen-powered vehicles (CMS, 2023).

In France, a spectrum of subsidies, encompassing tax credits, deductions, and bonuses, are allocated to individuals and enterprises initiating endeavours with demonstrable positive environmental impacts. Notably, tax credits are extended to individuals undertaking enhancements to enhance energy efficiency in their residences or installing equipment reliant on renewable energy sources (CMS, 2023).

The Netherlands presents a comprehensive array of incentives in the domains of energy, innovation, and green power. These encompass credits for energy-saving investments, environmental investment credits, expedited depreciation for environmental investments, incentives for renewable energy production, grants for sustainable energy investments, and demonstration incentives for energy and climate innovation. Complementing these measures are additional incentives targeting energy conservation in owner-occupied residences, a landlord levy sustainability credit scheme, a green funds scheme, energy conservation loans, and a subsidy scheme for transitioning to natural gas-free housing (CMS, 2023).

Germany, in its pursuit of green taxation, places notable emphasis on encouraging the acquisition of electric vehicles by extending subsidies to owners of electric and hybrid cars. For instance, privately utilized electric or hybrid company cars enjoy tax privileges, and owners of such vehicles are exempted from motor vehicle tax for a period ranging from 5 to 10 years (CMS, 2023).

An examination of the popularity of these tax incentives, as depicted in Table 2, revealed that the majority of economies prioritize innovation incentives, with 24 countries adopting this approach, followed by incentives promoting the use of electric vehicles. Conversely, the least adopted incentives pertain to renewable energy and green power initiatives (KPMG, 2023). This discrepancy may be attributed, in part, to the substantial production costs associated with these forms of energy generation.

Table 2: Tax Incentives Across Countries

No.	Country	Renewable Energy	Sustainable Energy	Electric Vehicle	Innovation	Green Power
1.	Austria	/	/	/	/	/
2.	Belgium	/	/	/	/	/
3.	France	/	/	/	/	-
4.	Netherlands	/	/	-	/	/
5.	Germany	-	/	/	/	-
6.	Albania	/	/	-	/	/
7.	Australia	/	-	/	/	/
8.	Lithuania	/	-	/	/	/
9.	Poland	/	-	/	/	/
10.	Hungary	/	-	/	/	-
11.	India	-	/	/	/	-
12.	Ireland	/	-	/	/	-

13.	Monaco	/	-	/	-	/
14.	Argentina	-	/	/	-	-
15.	Brazil	-	/	-	/	-
16.	Czech Republic	-	-	-	/	/
17.	Luxembourg	-	-	-	/	/
18.	Japan	/	-	-	/	-
19.	Pakistan	-	/	/	-	-
20.	Panama	-	/	/	-	-
21.	Romania	-	-	/	-	/
22.	Serbia	-	-	/	-	/
23.	Turkey	-	-	/	/	-
24.	United Kingdom	-	-	/	/	-
25.	Cambodia	-	-	-	/	-
26.	China	-	-	/	-	-
27.	Cyprus	-	-	-	-	/
28.	Denmark	-	-	-	/	-
29.	Finland	/	-	-	-	-
30.	Greece	-	-	-	/	-
31.	Italy	-	/	-	-	-
32.	Portugal	-	-	/	-	-
33.	Slovakia	-	-	-	/	-
34.	South Africa	-	-	-	/	-
35.	Switzerland	-	/	-	-	-
36.	Tunisia	-	-	-	/	-
37.	Uruguay	-	-	/	-	-
38.	Vietnam	-	/	-	-	-

Source: KPMG (2023)

Green Tax Penalties

In 2023, KPMG introduced the ESG Tax Tracker 2023, detailing the spectrum of green tax penalties implemented across numerous countries globally. This comprehensive analysis encompassed fifty nations, each of which has instituted a diverse array of levies, encompassing carbon pricing, carbon tax, waste tax, landfill tax, air passenger tax, plastic tax, vehicle tax, coal tax, and fuel tax. Carbon pricing, a pivotal instrument in this context, serves to internalize the external costs associated with greenhouse gas (GHG) emissions. By imposing a cost on carbon emissions, this mechanism reallocates accountability for the environmental harm caused by GHG emissions back to the entities responsible for them, offering an economic incentive for emitters to either reconfigure their operations to curtail emissions or bear the associated costs (The World Bank, 2023). Notably, this system allows for the tradability of carbon credits as a means of exchange (Malaysia Investment Development Authority, 2023). Several countries, including Ireland, Netherlands, Switzerland, the UK, Austria, China, South Africa, Canada, Germany, India, Luxembourg, New Zealand and South Korea have adopted carbon pricing measures within their fiscal frameworks.

Carbon tax, on the other hand, pertains to the levy imposed on carbon dioxide emissions arising from the combustion of fossil fuels (World Economic Forum, 2022). The execution of a carbon tax necessitates an initial determination of the

cost associated with each metric ton of greenhouse gas emissions. While the introduction of carbon tax is anticipated to incentivize enterprises towards the adoption of cleaner energy sources, such as solar, wind, and hydroelectric power, it has also faced criticism for its regressive implications. Specifically, carbon tax places a relatively heavier financial burden on individuals with lower income brackets, as they are compelled to allocate a larger proportion of their earnings towards essential commodities like gasoline, electricity, and food. Among the nations that have implemented carbon tax policies are Ireland, Netherlands, Switzerland, the UK, Albania, Sweden, Argentina, South Africa, Canada, Chile and Columbia.

Waste tax denotes the imposition of levies on fees associated with the collection, transfer, storage, or disposal of solid waste. The introduction of this tax framework is motivated by the aim of cultivating recycling practices among the populace, as exemplified by the case of Switzerland (Carattini et al., 2018). Indeed, waste tax emerges as the prevailing tax mechanism among the countries under study. Notably, among the nations that have adopted waste tax policies are Ireland, Netherlands, Switzerland, the UK, Austria, Albania, China, Sweden, Argentina, Armenia, Australia and Denmark.

Landfill tax constitutes a fiscal instrument employed in some countries to augment the cost associated with utilizing landfills for waste disposal. This tax is typically assessed in units of currency per unit of weight or volume. Australia, for instance, introduced landfill tax as early as 1971, as documented by the Ministry for the Environment (2014). Notably, the levy for landfill tax in Australia exhibited variability across states and is contingent upon the specific location of the landfill. In the United Kingdom, landfill tax marked the first environmental taxation mechanism within the nation. Much like waste tax, landfill tax also stands out as a widely adopted tax mechanism globally. Presently, several countries have instituted landfill tax policies, encompassing Ireland, Netherlands, Switzerland, the UK, Austria, Albania, China, Sweden, Argentina, Armenia, Australia and Denmark.

In addition to the aforementioned taxes, nations worldwide have also implemented levies encompassing air passenger tax, plastic tax, vehicle tax, coal tax, and fuel tax. The specific details pertaining to countries and their respective adoption of these taxes are delineated in Table 3.

Table 3: Environmental Taxes across Countries

No.	Country	Carbon Pricing	Carbon Tax	Waste Tax	Landfill Tax	Air Passenger Tax, Vehicle Tax, Coal Tax, Fuel Tax
1.	Ireland	/	/	/	/	/
2.	Netherlands	/	/	/	/	/
3.	Switzerland	/	/	/	/	/
4.	United Kingdom	/	/	/	/	/
5.	Austria	/	-	/	/	/

6.	Albania	-	/	/	/	/
7.	China	/	-	/	/	/
8.	Sweden	-	/	/	/	/
9.	Argentina	-	/	/	/	-
10.	Armenia	-	-	/	/	/
11.	Australia	-	-	/	/	/
12.	Denmark	-	-	/	/	/
13.	Finland	-	-	/	/	/
14.	France	-	-	/	/	/
15.	Italy	-	-	/	/	/
16.	Poland	-	-	/	/	/
17.	Portugal	-	-	/	/	/
18.	Romania	-	-	/	/	/
19.	Latvia	-	-	/	/	/
20.	Lithuania	-	-	/	/	/
21.	Serbia	-	-	/	/	/
22.	Slovakia	-	-	/	/	/
23.	South Africa	/	/	-	-	/
24.	Vietnam	-	-	/	/	/
25.	Canada	/	/	-	-	-
26.	Chile	-	/	-	-	/
27.	Columbia	-	/	-	-	/
28.	Germany	/	-	-	-	/
29.	India	/	-	-	-	/
30.	Indonesia	-	/	-	-	/
31.	Luxembourg	/	-	-	-	/
32.	New Zealand	/	-	-	-	/
33.	Peru	-	/	-	-	/
34.	Belgium	-	-	-	-	/
35.	Cyprus	-	/	-	-	-
36.	Czech Republic	-	-	-	-	/
37.	Estonia	-	-	-	-	/
38.	Ghana	-	-	-	-	/
39.	Greece	-	-	-	-	/
40.	Hong Kong	-	-	-	-	/
41.	Hungary	-	-	-	-	/
42.	Japan	-	-	-	-	/
43.	Norway	-	-	-	-	/
44.	Pakistan	-	-	-	-	/
45.	Papua New Guinea	-	-	-	-	/
46.	South Korea	/	-	-	-	-
47.	Spain	-	-	-	-	/
48.	Tunisia	-	-	-	-	/
49.	United States	-	-	-	-	/
50.	Uruguay	-	/	-	-	-
51.	Venezuela	-	-	-	-	/

Source: KPMG (2023)

Green Tax Frameworks

Consistent with environmental policies, green tax frameworks were developed from the survey of literature from developing and transition economies. In this, Bluffstone (2003) presented three types of green tax framework. The most

efficient green tax framework is when it effectively balances the costs and benefits of environmental protection, and consequently, maximises the total net benefits to society. This is an ideal framework but difficult to achieve, especially considering stringent information requirements. The second best green tax framework is by setting reasonable standards, such as 'safe minimum standards'. The limitation of this framework is that the quantity of effort is not optimized. Nonetheless, the framework enables the achievement of environmental performance at minimum cost. In this case, monitoring of environmental parameters and enforcement of regulations are largely required. The third best green tax framework is by levying taxes on products or inputs rather than actual environmental performance (Bluffstone, 2003). Examples of such taxes are energy tax, carbon tax and vehicle tax. The drawback of this tax framework is that it addresses the problem of environmentally harmful behaviour rather loosely. Yet, it is considered the most appropriate framework for developing and transition countries, like Malaysia (Bluffstone, 2003).

Regardless of any framework used, it must have optimal tax criteria, which include efficiency, equity, administration, compliance and revenue (Sadler, 2001). To be efficient, the framework should improve resource allocation and discourage corrupt production processes (Slemrod, 1989). Fairness, on the other hand, can be achieved by balancing policy costs and benefits across all affected parties. Administrative costs and policy effectiveness largely depend on the level of government control and the ministry responsible for tax administration. As for the compliance criteria, the cost of monitoring, acquiescing, evasion and avoidance, should be kept at a minimum level possible. Finally, in order to be an optimal tax framework, the taxes imposed should generate significant and consistent revenue yield for the government (Alm, 1996).

Environmental Laws and Policy in Malaysia

As mentioned earlier, although Malaysia has promulgated relevant laws and policies relating to the environment, the country is not at par with this global movement. In fact, it was in July 2009 that Malaysia launched a National Green Technology Policy as part of its national policy. The policy was built on four pillars, namely energy, environment, economy and social perspectives. Alongside this, several other laws and policies have been in existence in Malaysia. Therefore, this section reviews the relevant Acts and policy in relation to environmental preservation in Malaysia.

The Acts

In order to cope with the environmental problems, the Government of Malaysia has ratified some important environmental laws and policies. In 1974, Malaysia introduced the Environmental Quality Act (EQA) 1974, which is the main environmental act in Malaysia. The Act is in relation to prevention,

abatement and control of pollution, while enhancing the quality of the environment (Department of Environment, 2023). Later, other regulations were introduced to complement the EQA, i.e., the Environmental Quality (Crude Palm-Oil) Regulations 1977; Environmental Quality (Licensing) Regulation 1977; Environmental Quality (Control of Lead Concentration in Motor Gasoline) Regulation 1985 and Environmental Quality (Sewage) Regulation 2009. The Environmental Quality (Sewage) Regulation applies to any premises which discharges sewage onto or into any soil, or into any inland waters. Among others, the Sewage regulation requires the operation of the sewage treatment system to be supervised by competent persons. The owner is also required to operate and maintain the system in accordance with sound engineering practices (Department of Environment, 2023).

In the 1980s, Malaysia introduced the Fisheries Act 1985, the National Parks Act 1980 and the National Forestry Act 1984. Other than that, some International Environmental Laws have also been implemented in order to attain sustainable environment and development in the country. However, according to Mohammad (2011) and, these laws and policies have not been properly implemented due to some problems, such as non-coordination, weak enforcement, public's attitude (habit).

The then Director General of the Department of Environment (DOE), Datuk Dr. Ahmad Kamarulnajib Che Ibrahim (The Star, 2017), said a new environmental protection act is needed to deal with current environmental complexities. He said, "Environmental issues have become complex with the rapid change in the economy and emergence of many new pollutants". He added that the new act will replace the EQA 1974, because the present Act is insufficient to deal with the new and complex environmental issues. He noted that inefficient enforcement of existing laws, has also been a major hindrance to more efficient environmental protection and this needs to be changed.

Policy

In 2002, Malaysia announced the National Policy on the Environment, which sets out the principles and strategies for Malaysia to exploit its natural resources in a sustainable way and develop its economy (Department of Environment, 2023). The Policy is based on eight principles to harmonise economic development goals with environmental imperatives as follows: Stewardship of the Environment, Conservation of Nature's Vitality and Diversity, Continuous Improvement in the Quality of the Environment, Sustainable Use of Natural Resources, Integrated Decision-Making, the Role of the Private Sector, Commitment and Accountability and Active Participation in the International Community.

Later in 2009, Malaysia introduced the National Green Technology Policy; the policy is based on four primary pillars, i.e., energy, environment, economy and

social perspectives. One of the main aims is to provide a conducive environment for Green Technology development. This includes the introduction and implementation of innovative economic instruments, as well as the establishment of effective fiscal and financial mechanisms to support the growth of green industries (Malaysia Investment Development Authority, 2020).

The recent development in Malaysia underscores its commitment to achieving net-zero emissions by the year 2050, while concurrently striving to reduce the carbon dioxide intensity relative to gross domestic product by 45% by 2030. This concerted effort aligns with the commitments articulated in the Conference of Parties (COP) 26 and anticipates COP 27 within the United Nations Framework Convention on Climate Change. In pursuit of these objectives, Malaysia has identified ten pivotal large-scale priorities: (i) safeguarding and augmenting Malaysia's natural assets; (ii) effecting the decarbonisation of the energy sector; (iii) expediting the transition to low-carbon transportation; (iv) instituting carbon pricing mechanisms; (v) mobilizing climate finance; (vi) catalysing innovation and upscaling high-potential technologies; (vii) fortifying safeguards to ensure holistic societal and environmental benefits; (viii) augmenting human capital and guaranteeing an equitable transition in the workforce; (ix) fostering behavioural change and encouraging consumer action; and (x) assuming climate leadership and governance responsibilities across both the public and private sectors (Boston Consulting Group, 2021).

In tandem with the pursuit of net-zero emissions, the Twelfth Malaysia Plan has delineated three paramount priorities aimed at advancing green growth for sustainability and resilience. These priorities encompass: (i) the implementation of a low-carbon, clean, and resilient development paradigm; (ii) the efficient management of natural resources to safeguard our invaluable natural capital; and (iii) the fortification of an enabling environment conducive to effective governance. Focusing on the initial priority, concerted endeavours involving Federal, state, and local governments, in tandem with private sector stakeholders, will be intensified to facilitate the transition towards a low-carbon nation. This collaborative approach assumes particular significance in sectors identified as primary contributors to greenhouse gas emissions, notably energy, transportation, industrial processes and product utilization, waste management, agriculture, forestry, and land use. Additionally, initiatives to promote the adoption of electric vehicles will be championed in order to enhance the sustainability of people's mobility. Similarly, endeavours to expand the utilization of renewable and sustainable energy sources will be bolstered to curtail GHG emissions. The renewable energy sector will be incentivized to explore ventures in floating solar and waste-to-energy projects. Furthermore, there will be a concerted drive to shift from the traditional linear economic model towards a circular economy paradigm, whereby the principles of reduction, reuse, and recycle (3R) will be paramount. This approach seeks to minimize resource consumption, maximize product reuse,

and reintegrate materials into the manufacturing cycle, thereby allowing for the responsible management of unavoidable waste (Economic Planning Unit, 2021).

Major Agencies in Green Preservation in Malaysia

Three major agencies, namely the Malaysian Investment Development Authority (MIDA), the Inland Revenue Board Malaysia (IRBM) and the Department of Environment (DOE) are responsible agencies for environmental policy in Malaysia.

MIDA, which was incorporated under the Malaysian Industrial Development Authority Act 1967, is a governmental agency for the promotion of the manufacturing and services sectors in Malaysia. MIDA assists companies which intend to invest in the manufacturing and services sectors, and facilitates the implementation of their projects. The wide range of services provided by MIDA includes information on the opportunities for investments and facilitating companies which are looking for joint venture partners. One of MIDA's roles is the one-stop processing centre for the application of tax incentives. Malaysia offers a wide range of tax incentives for manufacturing projects under the Promotion of Investments Act 1986 and the Income Tax Act 1967. The main incentives are Pioneer Status, Investment Tax Allowance, Reinvestment Allowance, Incentives for High Technology Industries, Incentives for Strategic Projects and Incentives for the Setting-up of International/Regional Service-based Operations (Malaysian Investment Development Authority, 2023).

The IRBM, on the other hand, is one of the main revenue collecting agencies of the Ministry of Finance. In order to promote investment in the country, the IRBM offers a wide range of tax incentives, ranging from tax exemptions and allowances based on capital expenditure to enhance tax deductions. For incentives by way of allowances, any unutilised allowances can generally be carried forward until fully utilised. These tax incentives are generally available for tax resident companies. In relation to tax incentives for green environment, Malaysia focuses on three green areas, i.e. renewable energy and fuels; material resources and waste; and pollution and ecosystems (Inland Revenue Board Malaysia, 2023).

The DOE of Malaysia was established in 1975. The responsibilities of DOE include the prevention, control and abatement of pollution in the country through the enforcement of the EQA 1974 and its subsidiary legislations. The agency is guided by the vision to conserve the uniqueness, diversity and quality of the environment with the objective of maintaining health, prosperity, security and well-being for present and future generations. It defines its mission as promoting, ensuring and sustaining sound environmental management in the process of nation building. The DOE is a federal authority in Malaysia that also monitors air and water quality and noise and manages toxic and hazardous wastes (Department of Environment, 2023).

Besides the EQA 1974, the DOE is responsible for the implementation of the resolutions decided by international environment conventions, such as the Vienna Convention for the protection of the Ozone Layer 1985, Montreal Protocol on Substances that Deplete the Ozone Layer 1987 and the Basel Convention on the Transboundary Movement of Hazardous Waste and their Disposal Act 1989. The core services implemented by the DOE are divided between headquarter, states and branches. The headquarter is the enforcement division which to develop strategies and enforcement; to manage and handle environmental pollution complaints; to manage and analyse data related to enforcement action; to plan, develop and implement an audit (Department of Environment, 2023).

Two main divisions under DOE is air division and water, marine division and hazardous substances division. The primary function of the air division is to ensure that air quality is kept clean and preserved for the people, whereas water and marine division is to monitor the enforcement programme and control of marine pollution oil spill. The main function of the hazardous substances division is to plan and implement strategies on standard operating procedure of waste or hazardous substances (Department of Environment, 2023).

Green Tax Practices in Malaysia

Malaysia places substantial emphasis on the utilization of tax incentives as a primary instrument in its environmental preservation endeavours. These incentives predominantly pertain to the domains of renewable energy, electric vehicle adoption, innovation, and the utilization of green power sources. For instance, Malaysia has instituted a policy allowing companies to claim a full allowance on qualifying capital expenditure for the acquisition and utilization of designated green technology assets between 2013 and 2023. This allowance is applicable for offsetting up to 70% of statutory income. Green technology assets, as defined by Malaysia's policy framework, encompass products, equipment, or systems designed to uphold and conserve the natural environment, concurrently mitigating and alleviating the adverse impacts of human activities.

Green technology is one of the drivers of the economy that can contribute to overall green growth and sustainable development. In line with this, the cross-sectoral green technology focuses on four sectors, that is efficient utilization of energy, greening the building sector, recycle waste management and greening the transport sector. Under Budget 2014, the Green Investment Tax Allowance (GITA) for the purchase of green technology assets and Green Income Tax Exemption (GITE) on the use of green technology services and system, were introduced to further strengthen the development of green technology. Projects which qualify for this incentive are renewable energy, energy efficiency, integrated waste management and green building or green data centre projects. In addition, eligible services activities include system integration of renewable energy, energy services, services related to green building or green data centre,

green certification of products, equipment & building and Green Township. Green technology incentives for qualifying activities are divided into three, i.e., tax incentive for green technology projects, services and assets (Hoong, 2022).

The tax incentive for green technology projects involves investment tax allowance of 100% of qualifying capital expenditure incurred on a green technology project from the year of assessment 2013 until the year of assessment 2022. The allowance can be offset against 70% of statutory income in the year of assessment. Unutilised allowances can be carried forward until they are fully absorbed. Green technology projects related to renewable energy, energy efficiency, green building, green data centre and waste management, can qualify for this tax incentive. While the tax incentive for green technology services offers ITE of 100% of statutory income from the year of assessment 2013 until the year of assessment 2023 (Ministry of Development Authority, 2023).

The tax incentive for the purchase of green technology assets involves investment tax allowance of 100% of qualifying capital expenditure incurred on green technology assets from the year of assessment 2013 until the year of assessment 2023. The allowance can be offset against 70% of statutory income in the year of assessment. Unutilised allowances can be carried forward until they are fully absorbed. Green technology assets are listed in MyHijau Directory (www.greendirectory.my) and are certified by the Malaysia Green Technology Corporation (MGTC) and approved by the Ministry of Finance. Qualifying activities for GITA assets and GITA projects are highlighted in Tables 4 and 5, respectively.

Table 4: Qualifying Activities for GITA Assets

Sector/Area	Technology	Product categories
Energy efficiency	Transformer	Energy efficient transformer (up to 33kV)
Building	Energy efficient appliances	<ul style="list-style-type: none"> • Solar air-conditioning equipment/system • Thermal energy storage equipment/system • Variable air volume (VAV) equipment system • Variable-refrigerant-volume (VRV) equipment/system
Transport	Electric vehicle	<ul style="list-style-type: none"> • Electric motorcycle/scooter • Electric bus • Electric MPV/truck
	Infrastructure	Electric vehicle (EV) charging equipment/system

Source: GreenTech Malaysia (2019)

Table 5: Qualifying Activities for GITA Projects

Sector/Area	Activities
Renewable energy	Commercial and industrial business entities which undertake generation of energy using renewable energy resources, such as biomass, biogas, mini-hydro, geothermal and solar power.
Energy efficiency	Companies investing in energy efficiency equipment or technologies and invest in energy saving equipment.
Green building	Building owners of the commercial/industrial building that have been awarded green

Source: GreenTech Malaysia (2019)

In Budget 2020, GITE was extended to investors of solar photovoltaic systems (Solar PV). The incentive was made available to companies approved to undertake solar leasing activities by SEDA and listed in its registered solar PV investor directory. Qualifying companies can enjoy tax exemption equivalent to 70% of the company’s statutory income for a period of five or 10 years depending on the installed capacity. If the installed capacity is between 3MW to 10MW, the exemption is given for five (5) years. As for companies with installed capacities of 10MW to 30MW, the exemption is for 10 years (Hoong, 2022). The summary of GITA and GITE is depicted in Figure 1.



Figure 1: Four Categories of Green Technology Tax Incentives

Source: Hoong (2022)

The other tax incentives available are the incentives for establishment of WEPs. WEPs aim to promote waste recycling, recovery and treatment activities by the industries and provide a sustainable solution to the waste management problem. This will encourage investments in facilities and infrastructure towards holistic waste management activities. In order to promote the activities, there are incentives available for: (i) WEP Developers; (ii) WEP Managers; and (iii) WEP Operators (companies operating in the WEP).

Tax incentive for WEP developers (companies) is income tax exemption of 70% on statutory business income derived from rental of building, fees received from the usage of waste collection and separation facility and fees received from wastewater treatment facility located in the WEP. Tax incentive for WEP managers (companies) is income tax exemption of 70% on statutory business income derived from service activities relating to management, maintenance, supervision and marketing of the WEP. Tax incentive for WEP operators (companies) is income tax exemption of 100% on statutory business income for a period of five years, derived from the qualifying activities, i.e., waste treatment, waste recovery and waste recycling, undertaken in the WEP. The ITA of 100% qualifying capital expenditure incurred (within five years) can be offset against 70% of statutory business income.

Furthermore, companies undertaking generation of energy from renewable resources are eligible for pioneer status incentives, which provide income tax exemption of 100% of statutory income for 10 years. Other than that, certain locally and non-locally produced machinery and equipment purchased for the generation of energy using biomass are exempt from import duty and sales tax.

As previously highlighted, Malaysia's reliance on green tax incentives is pronounced. When compared to both developed and developing nations, Malaysia appears to lag behind in the implementation of tax penalties. According to the KPMG (2023), Malaysia presently enforces solely an air passenger tax, which is notably limited in scope, primarily targeting air travellers. Even neighbouring Indonesia has instituted a diverse array of taxes, encompassing coal tax, water tax, air passenger tax, fuel tax, plastic tax, and vehicle tax. Notably, Indonesia had introduced a carbon tax in 2022. Intriguingly, however, the nation does not provide any corresponding green tax incentives. Meanwhile, Vietnam has embraced a multifaceted tax framework, incorporating levies such as waste tax, landfill tax, coal tax, water tax, greenhouse gas tax, fuel tax, and plastic tax. Vietnam, in contrast, extends incentives focused on sustainable energy (KPMG, 2023). In light of these observations, it is imperative to solicit the perspectives of stakeholders, encompassing both authoritative bodies and industry stakeholders, to ascertain the imperative for optimizing the green tax framework within Malaysia.

METHODOLOGY

This study adopted a qualitative approach with a semi-structured interview to achieve the research objective. This approach was considered appropriate as the researchers were interested to have an in-depth understanding of the issue. Semi-structured, face-to-face interviews were conducted with an officer each from IRBM, DOE and MIDA, representing the policymakers. In addition, interviews were conducted with eight personnel from the hotel industry. Their views were

obtained to represent the respective industry. The selection of hoteliers seemed to be appropriate considering that the industry already accounted for 1% of global emissions (United Nation World Tourism Organisation, 2019). In addition, hotel industries contribute to various types of pollution such as water pollution, air pollution, soil and noise pollution (Rajak, 2023). Two sets of interview guidelines were designed by the researchers as a guide to conduct the interviews. The guidelines were formulated based on the topic of the study, i.e. to understand in-depth the current practices of green tax and their views with respect to penalty-based tax. This study was cross-sectional in nature, whereby data were collected at one point in time. A cross-sectional design is simple, inexpensive and allows for the collection of data in a relatively short period of time.

The participants were contacted via email and follow-up calls in order to obtain consent for the interview. Upon obtaining the agreement, appointment was set at the officers' convenience in 2018. Prior to the interview session, participants were briefed on the objective of the research and the confidentiality of the identity. The interview sessions which took approximately 45-120 minutes each, were recorded with the consent of the participants. In order to ensure that correct information was gathered, note taking was also performed. To a certain extent, internal documents were also reviewed to complement the findings from the interviews.

The recorded interviews were transcribed accordingly and then analysed using thematic analysis, following Braun and Clarke (2006). Thematic analysis is a method that identifies, analyses and reports patterns within data. This thematic analysis was performed in six phases following the step-by-step guide by Braun and Clarke (2006). The phases were data familiarisation, initial code generation, themes search, review of themes, defining the themes and naming the themes. It was hoped that the information obtained from both parties would enable the researchers to make significant contributions to both theoretical and practical knowledge.

RESULTS AND DISCUSSION

As indicated earlier, three (3) representatives from government agencies and eight (8) personnel from the industry were interviewed. Participant 1 had over 20 years' experience in dealing with incentives of the companies. She was directly involved in the meetings related to incentives given to companies. Participant 2 was a State-based enforcement officer who dealt with environmental degradation activities. She had over 10 years' experience in the field. Similar to Participant 1, Participant 3 also had experience in dealing with incentives offered to the companies. As for industry representatives, the eight (8) personnel interviewed were the persons in-charge of green matters in their respective companies. However, due to confidentiality issue, the identities of all participants cannot be revealed.

Benefit Green Tax Incentives for the Industry

Interviews with the industry on how green tax incentives benefit them indicated that the carrot approach may be fruitful to some but not all. For instance, out of eight interviews conducted with hoteliers, two hoteliers seemed to have no idea at all about green tax incentives offered by the government. Among the comments when they were asked about the incentives were:

“Not yet. No one (in the hotel) knows about it.” (Participant 4)

“We have never received any incentives. We don’t have the info.” (Participant 5)

Another three hoteliers claimed that they were aware of the green tax incentives but were hesitant to admit whether or not they had applied for it. These could be due to their lack of information or confidentiality status. This could be traced through their comments when asked about the incentives:

“That one (incentive), I’m not in the position to discuss.” (Participant 6)

“This one (incentive), I’m not so sure. All the monetary terms I don’t know. Probably you can provide information how we can do that.” (Participant 7)

“I think we leave it (incentive) blank...not applicable.” (Participant 8)

The remaining three participants appeared to be knowledgeable about the green tax incentives available to the hotel industry. This was demonstrated through their responses to the researchers. For instance:

“MIDA actually came to us and said if certain things were invested based on environmental friendly project and it is a tourism project, we can get tax incentive. Yet, we did not apply on our own, but our holding company applied for that on a larger scale. There are only three companies within the group that can apply for it.” (Participant 9)

“Yes. Now we get tax incentive for the solar panel.” (Participant 10)

“I understand that we had allocated a lot of money for this chiller. We did not claim capital allowance. Instead, we got rebate of RM200 per tonne, we got 300 tonnes, so RM66,000 rebate. But there is a lot of procedure. Not flexible.” (Participant 11)

Notwithstanding the claim by the participants on their limited knowledge on incentives and their hesitant to claim the incentives, the statistics extracted from Investment Data (2017-2022) on the number of companies which had enjoyed the tax incentives indicated otherwise. Generally, the majority of the companies enjoying the incentives (including green incentives) were those in the services sector with over 4,000 in both 2017 and 2018. The number slightly declined in 2019 to 2022 (perhaps as a result of COVID-19 pandemic). This was followed by

manufacturing companies with about 700 to 1000 companies in the respective years. The least was the primary sector with 23 to 72 companies enjoying the incentives for the periods 2017 to 2022. The primary sector refers to agriculture, mining, plantation and commodities. The summary is demonstrated in Table 6.

Table 6: Number of Approved Private Investments by Sector for 2017-2022

	2017	2018	2019	2020	2021	2022
Primary Sector	48	63	65	23	59	72
Manufacturing Sector	687	721	988	1,049	702	801
Services Sector	4,731	4,234	3,917	3,527	3,807	3,581
Total	5,466	5,018	4,970	4,599	4,568	4,454

Source: Ministry of Development Authority (2023)

In alternative terms, the statistics implied that the incentives provided thus far had, to some extent, positively impacted the industry. It is crucial to highlight that the statistics presented in Table 6 encompass not only green incentives but also other forms of incentives. In contrast, the interviews specifically focussed on green incentives.

Both the interviews and the report findings converged in indicating that these incentives did yield a certain degree of benefit to the industry. However, there was room for improvement in communication between regulatory authorities and industrial stakeholders to ensure comprehensive awareness of available incentives and the associated application procedures. Given their role as responsible taxpayers, industries will naturally seek to maximize opportunities for tax reduction through the utilization of available incentives. If these incentives are effectively leveraged, it holds the potential to lead to environmental conservation. With this in mind, it is recommended that the tax incentives be upheld within an optimized tax framework tailored to the Malaysian context. Such a framework has proven successful in various developed nations, as evidenced by empirical studies.

Possibility of Incorporating Penalty-based Green Tax

When asked about the possibility of including penalty-based (polluter pay) green tax, one participant began by sharing her views on the current practice with regard to penalty. She admitted that her agency had not collaborated with other agencies to a certain extent in dealing with green preservation.

“So far, there is no collaboration between IRBM and DOE in respect of environmental preservation. We work separately (from IRBM). However, our purpose is the same, that is to preserve the environment. However, officer from DOE may be invited to attend meeting with MIDA to decide on the incentives to be given to companies.”
(Participant 2)

She further explained that penalty-based mechanism is under the responsibility of DOE. The framework or SOP to follow in dealing with environmental offences begin with statutory order, compound, notice, banning/closure, penalty and imprisonment, as expressed in her comments:

“We already have the Act and Regulations for the industry to comply. For instance, in the case of housing development, the developer has to do the Environmental Impact Assessment (EIA) to prove that the project will not affect the environment in a negative manner. The DOE will review the EIA for approval. Once approved, they may start the project. In case of the failure to comply what is written in the EIA, the developer will be charged accordingly depending on the degree of the offence.”
(Participant 2)

“There is SOP for certain offence. Surely, it depends on the level of the offence, but in general terms, the SOP may begin with statutory order, followed by compound and then notice. However, there are circumstances where compound and notice are sent together. For more serious matters or unresolved issues, it will involve court order and banning or closure of the premise. This is followed by penalty and imprisonment (for offences related to illegal dumping). However, the number of offenders that were brought to jail is very minimal.”
(Participant 2)

While the number of offences according to types of sentences is treated as confidential, the report by DOE provides the summary of court cases handled from 2008 to 2020 as set out in Table 7.

Table 7: Summary of Court Cases from 2008-2020

	Licencing	Types of Offences					Others	Total
		Air Pollution	Water Pollution	Noise Pollution	Scheduled Waste	Environmental Impact Assessment		
2020	68	3	14	2	29	24	112	252
2019	50	9	20	0	1	24	79	183
2018	30	27	21	1	2	17	17	115
2017	39	11	29	0		11	14	104
2016	60	37	26	0	3	3	66	195
2015	58	73	10	2	7	8	96	254
2014	67	97	8	0	2	8	129	311
2013	61	98	8	1	2	11	157	338
2012	69	78	68	0	3	8	76	302
2011	114	539	95	0	5	7	51	811
2010	125	682	215	1	8	15	18	1,064
2009	152	571	173	0	0	13	31	940
2008	111	418	154	0	13	8	6	710

Source: Department of Environment (2023)

As indicated in Table 7 the number of offences was reducing, particularly from 2010 to 2018. The figures however increased in 2019 and 2020 but at a lower rate. The scenario may reflect two possible explanations. One explanation could be that the awareness of industries on environmental issues had improved over the

years. Another explanation could be the low enforcement by the DOE. However, referring to the interview, DOE had been actively engaged in environmental enforcement activities. Hence, companies' awareness appears to be the more plausible explanation.

Further, when asked on the possibility of having a blend of both incentive-based and penalty-based mechanisms for the green tax framework, the participant commented:

"I think it's time to apply sticks in addition to carrots. We have so many incentives, you name it, we have it. Why do we continue having this incentive-based? Why can't sometimes we have stick? Sometimes sticks are more effective. When you give incentive-based, there will be tax revenue reduction. If the companies are involved in pollution, the Government has to treat the environment using government fund. It's double loss to the government (tax revenue and treatment cost)"
(Participant 1)

Her statement on treatment cost concurs with another participant's view:

"We have established a provident fund for environment preservation. The funds come from penalties and allocation paid by high-risk companies, such as oil and gas. The funds will be used to perform cleaning or recovery activities" (Participant 2)

In sum, it is reasonable to conclude that penalties play an important role in preserving the environment, and hence should be considered as an important element of a green tax framework.

A Proposed Optimal Green Tax Framework

With reference to the literature and findings from this study, an optimal green tax framework is proposed. In this instance, optimal green tax is defined as a system with optimal tax criteria namely efficiency, equity, administration, compliance, revenue generation (Slemrod, 1989; Alm, 1996; Sadler, 2001) and green preservation. The framework suggests that in order to be optimal, it should consider the elements of green tax incentives, tax penalties, environmental education, continual review of legislation and technology/innovation. In terms of green tax incentives, the incentives should be attractive, with proper evaluation and facilitation. Additionally, scrutiny in terms of cost and benefit analysis should be performed. This is consistent with Fang and Zhao (2023) and Huang, Fan and Wang (2020) who highlighted the necessity of efficient green subsidies to encourage small and medium enterprises and start-ups to engage sustainable activities.

As for tax penalties, statutory order, compound, fines and imprisonment are mechanisms to be considered. If these penalties relating to business activities are placed under the jurisdiction of the tax authority, the DOE may be able to concentrate on other environmental issues of national importance. Furthermore, stringent enforcement needs to be in place to ensure taxpayers highly comply with rules and regulations. The effect of tax penalties on environmental sustainability has been evidenced in Bangladesh (Uddin, Rahman & Saha, 2023).

The environment is a natural heritage that needs to be preserved for future generations. Every single citizen has the right to live in a clean and healthy environment. Hence, an optimal green tax framework should consider the interests of stakeholders. Examples of stakeholders would be the industry or business entities, the community and government agencies. An equally important element is environmental education for school children, students of higher education institutions, industry players as well as the community at large.

In ensuring an optimal tax green framework, continuous review of legislation, namely the rules, regulations or acts, is also crucial. This should be done to be up-to-date with the changes over time as well as national agenda/policies. For example, in 1990s the wood furniture industry was given incentives in order to boost the industry. However, in the present condition, where there is a crucial need to preserve the forest and its produce, the revision should consider removing or minimizing the incentives. In other words, the activities/products that were listed before as promoted products or activities may not be relevant now.

Similarly, an optimal green tax framework should also consider technological advancement and innovation. For instance, the present aim is to ensure that every sector, whether industrial or commercial, must be aware of the green tax incentives and apply for them. Hence, industries are encouraged to use solar panels, install energy efficient equipment and enjoy the incentives. However, the incentives may not last long as the forthcoming technology is not about energy generation but energy storage. In short, the incentives should keep pace with technological changes.

Below are some comments shared by participants on the elements of an optimal green tax framework:

“In our effort to increase foreign investment, we do carefully evaluate the applications to invest in Malaysia. Various aspects are looked into, and one of them is latest technology that promotes green environment with high productivity. I had an experience where we came across one foreign application to invest in Malaysia. We decided firmly to reject the application as the technology used is outdated that will be damaging to the environment. We did not compromise with our green environment even though the investment may be worth few hundred million. We are very clear on this matter. That’s why we invite various parties for the meeting.” (Participant 2)

“Generally, our aim is to encourage investment in various sectors, and to bring the technology and capital investment into Malaysia. However, in respect of green preservation, we go beyond that. We offer green tax incentives in order to support National Green agenda, i.e., to reduce gas emission by 40% by 2020 and 25% by 2030. That is our ultimate objective. In other words, green incentives act as pushing factor.” (Participant 2)

“We organize seminars, provide briefings and collaborate with Federation of Malaysian Manufacturers and other service providers. We have B2B meetings, one-on-one meeting with companies, facilitation, etc. We assist companies who want to invest in green until they obtain the approval...incentives offered in Malaysia are very pragmatic. It is performance-based. Companies can only enjoy incentives if they have invested in particular expenditure. For instance, if companies want to enjoy green incentives, they have to use solar panel, reduce carbon emission and save energy. These incentives will expire in 2020. But of course, we will review whether or not to continue the green incentives after that. This decision depends on target set, achievement and National Green agenda.” (Participant 2)

“We conduct education programme even to pre-schoolers. We collaborate with Department of Education to conduct environmental awareness activities at various levels. For companies, we organise seminars that are compulsory to be attended by company representative. The representative should be the ‘competent person’ who is in-charge of the environmental equipment/matters in the company. In other words, we practice specialisation. For instance, if he is a competent person in scheduled waste, he will need to attend seminar relating to scheduled waste every year to renew his competency.” (Participant 3)

This framework may be an initial framework that requires validation and empirical testing that would eventually have policy implications and provide insights to the policymakers. Over time, it can be extended to further explain the ever-changing green tax environment.

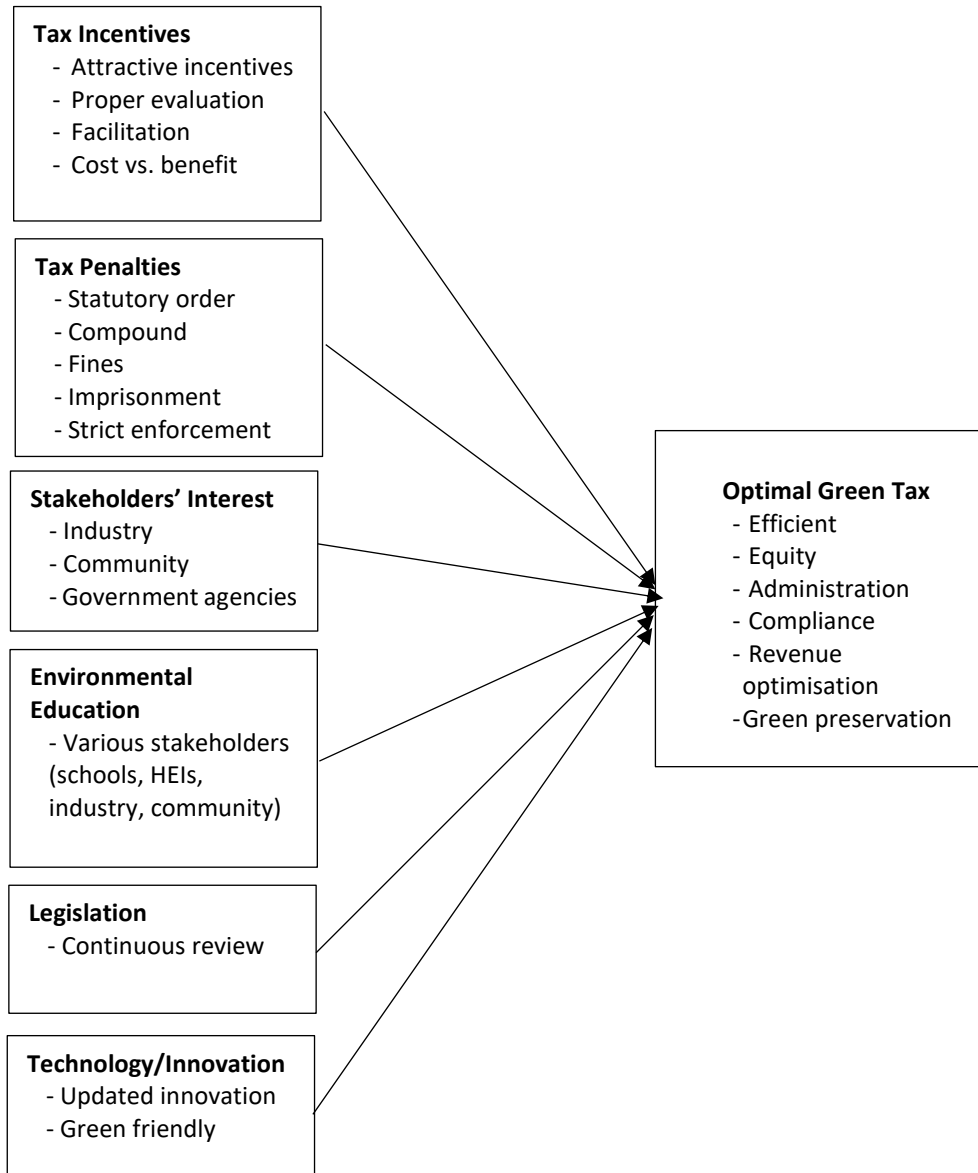


Figure 1: An Optimal Green Tax Framework

CONCLUSIONS AND IMPLICATIONS

This paper explored the perception of the policymakers and industry players on the inclusion of the penalty-based (polluter pay) initiative in green tax framework. While green preservation is a critical issue and of national importance, limited research has been conducted from the perspective of taxation. Hence, there was a

need for this study. For that purpose, a qualitative approach with document reviews was conducted to answer the objectives of the study. Specifically, 12 participants representing government agencies (3) and industry players (9) were interviewed. In addition, annual reports and performance reports were also reviewed.

The findings indicated that Malaysia has both incentives and penalties in relation to green preservation. Incentives are under the jurisdiction of IRBM and MIDA; while penalties are under the DOE. The practice was somewhat different from other developing and developed countries, where both regimes are placed under the jurisdiction of the tax authority. Further, the reports indicated that Malaysia approved investments of over 3,500 companies in the services sector every year from 2017 to 2022. While the report may indicate that many companies are enjoying tax incentives in Malaysia, no information is available on the number of companies enjoying the green tax incentives. Interviews with industry representatives also indicated that they were not really aware of the tax green incentives available. Only a few were found to be knowledgeable about such incentives. With regards to penalties, a report by the DOE showed that the number of pollutants was also alarming although the trend was declining.

In relation to the inclusion of penalty-based tax, one participant strongly encouraged a blend of both tax incentives and tax penalties to be implemented following the practice of other developing and developed countries. Other participants admitted that the agencies must collaborate in certain areas but not to a large extent to avoid crossing the lines. The findings would definitely provide empirical evidence to support practitioners particularly the agencies involved as well as industry players. Furthermore, the study proposed an optimal green tax framework based on the information gathered from participants. This information, provides a good basis for the relevant agencies to formulate strategies on mechanisms to preserve the environment. Theoretically, this study would add to the limited literature available. The proposed framework which requires validation and empirical testing, may be a platform to extend the knowledge boundary on the green tax setting.

LIMITATION OF THE STUDY AND FUTURE RESEARCH

This study is not without its limitations. First, is the use of interviews, which may create bias and possibility of researchers' influence on the participants. However, measures were taken to reduce such issues. For instance, participants were reminded that their responses will be reported collectively rather than on an individual basis. The interview session also allowed the participants to express their views openly with minimal intervention from interviewers. Even so, some participants were relatively hesitant to share the incentives enjoyed, probably due to confidentiality issues. Notwithstanding this, the information was adequate to meet the objectives of the study. The findings of the study may be limited as it focuses on the perception of government agencies and industry representatives

only. The findings and observed limitations provide insights into the potential for future studies. First, researchers may consider a survey involving a larger group of stakeholders. This can be undertaken to validate and empirically test the proposed green tax framework. Second, the scope of respondents can be extended to include representatives from the community and non-governmental organisations (NGOs) in order to obtain richer data and meaningful information.

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