

Mcom tax research report (D Mokwena) final version - final edited version.docx

by Dankie Mokwena

Submission date: 07-Nov-2023 03:14AM (UTC+0200)

Submission ID: 2220015404

File name: Mcom_tax_research_report_28D_Mokwena_29_final_version_-_final_edited_version.docx (173.45K)

Word count: 23363

Character count: 138637

UNIVERSITY OF THE
WITWATERSRAND,
JOHANNESBURG



133

School of Accountancy

9 Faculty of Commerce, Law and Management

University of the Witwatersrand, Johannesburg

A research report submitted to the Faculty of Commerce, Law and Management, in partial fulfilment of the requirement for the degree of Master of Commerce (specialising in Taxation)

A COMPARATIVE STUDY OF GREEN TAXATION IN SOUTH AFRICA, AUSTRALIA, SINGAPORE, AND INDIA

Applicant: Dankie Mokwena

Student number: 722091

Supervisor: Professor Maeve Kolitz

173

Degree: Master of Commerce (specialising in Taxation)

Date: 30 June 2023

Declaration

I, Dankie Mokwena, declare that this submission is based on my own work, and where the work of others has been used as supporting evidence, it has been acknowledged and referenced accordingly.

Signature

Date

List of Abbreviations	vii
List of Tables	viii
Abstract	ix
Chapter one: Introduction, Background and Research Methodology	1
1.1 Introduction and Background.....	1
1.2 Problem Statement.....	3
1.3 Research Aim.....	5
1.4 Rationale	5
1.5 Theoretical Framework.....	6
1.6 Research Question.....	7
1.7 Sub-Questions.....	7
1.8 Definition of Terms	7
1.8.1 Green Taxation.....	7
1.8.2 Tax Incentives	8
1.8.3 Green Incentives	8
1.8.4 Green Taxation Incentive	9
1.9 Research Methodology.....	9
1.9.1 Research Design.....	9
1.9.2 Study Eligibility Criteria.....	10
1.9.3 Quality Assessment.....	10
1.10 Conclusion.....	10
1.11 Overview and Structure of Report	10
Chapter two: Green Taxation	12
2.1 Introduction.....	12
2.2 Climate Change and Impact on Taxation Policies	12

2.3 Green Taxation and What it Entails.....	13
2.3.1 Carbon Tax.....	14
¹⁷ 2.3.2 Energy Taxes	16
2.3.3 Pollution Taxes.....	16
2.3.4 Transport Taxes	16
2.3.5 Resource Taxes	17
2.3.6 Plastic Bag Tax	18
2.4 Measures Enacted Through Green Taxation Legislation	18
2.5 Tax Incentives	19
2.5.1 Green Taxation Incentives Introduced to Drive Investment.....	20
2.6 Benefits of Green Taxation and Green Taxation Incentives	20
2.7 Conclusion.....	21
Chapter three: Green Taxation ¹ in South Africa.....	22
3.1 Introduction.....	22
3.2 Environmental Legislation	22
3.3 Different Green Taxes in South Africa.....	23
3.3.1 Carbon Tax.....	24
¹ 3.3.1.1 Carbon Tax Act 15 of 2019.....	24
3.3.2 Electric Filament Lamps Levy.....	25
3.3.3 Plastic Bag Levy	26
3.3.4 Electricity Generation Levy.....	26
3.3.5 Carbon Dioxide Motor Vehicle Emissions Levy	27
3.3.6 Tyre Levy.....	28
3.4 Transport	28
3.5 Resources Tax	29
3.6 Green Taxation Incentives in South Africa	29
3.7 Conclusion.....	29

Chapter four: overview of Green Taxation in India, Singapore, and Australia ..	31
4.1 Introduction.....	31
4.2 India	31
4.2.1 Coal Taxation in India.....	33
4.2.2 Transport Tax	34
4.2.3 Carbon Tax.....	35
4.2.4 Plastic Bag Tax	37
4.3 Singapore	37
4.3.1 Carbon Tax.....	38
4.3.2 The Singapore Green Plan 2030	40
4.3.2.1 Carbon Dioxide Emissions	40
4.3.2.2 Energy	41
4.3.2.4 The Carbon Pricing (Amendment) Act 27 of 2022	41
4.3.2.3 Road and Transport Taxes.....	42
4.3.3 Plastic Bag Tax	43
4.4 Australia	44
4.4.1 Road and Transport	47
4.4.2 Minerals Resource Rent Tax	49
¹ 4.4.3 Plastic Bag Tax	49
4.5 Conclusion.....	50
Chapter five: a Comparison of Green Taxation Between Australia, India, Singapore, and South Africa.....	51
5.1 Introduction.....	51
5.2 Transport Tax	51
5.3 Carbon Tax.....	53
5.4 Plastic Bag Tax	54
Table 3. Comparative Analysis of Plastic Bag Taxes Between Australia, India, Singapore, and South Africa.....	54

5.5 Conclusion.....	55
Chapter six: ⁸² Conclusion	56
6.1 Introduction.....	56
6.2 Summary	56
6.3 Conclusions.....	58
6.4 Limitations to be Addressed in Future Research	60
References	61

List of Abbreviations

Abbreviations	Definition
CESS	Clean Environmental Cess
COF	Conference of the parties
⁴⁷ CO2	Carbon dioxide
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
L/100km	Liters per 100 kilometres
NET	National Emission Target.
¹⁷ OECD	Organisation for Economic Co-operation and Development
SARS	South African Revenue Service
¹⁷ UK	United Kingdom
UN	United Nations
VAT	Value Added Tax

List of Tables

Table 1. Comparative Analysis of Transport Taxes Between Australia, India, Singapore and South Africa.....	51
Table 2. Comparative Analysis of Carbon Taxes Between Australia, India, Singapore and South Africa.....	53
Table 3. Comparative Analysis of Plastic Bag Taxes Between Australia, India, Singapore and South Africa.....	54

ABSTRACT

Global warming and climate change have been on the agenda for years, with discussions on dealing with and mitigating their effects on humanity and the environment (Brink, 2019, para. 1). Industrialization, as the driver of economic development, has resulted in massive pollution emissions (Ahmad and Zhao, 2018:3). ⁷⁶ In an effort to protect the environment and encourage sustainability, tax policies and mechanisms have been used and trusted as effective methods for governments to influence society's behaviour (Brink, 2019, para. 2). Governments across different countries have introduced green taxation, including tax incentives, cash grants, and soft loans aimed at encouraging investment in environmental, social, and governance-related projects (PwC, 2023a:3).

Given the numerous tax regulations and incentives continuously being developed, the report aims to explore how different countries use green taxation to encourage environmental, social, and governance investment from society. ¹¹⁸ The report is a comparative study of green taxation in South Africa, Australia, Singapore, and India. It is a systematic review of studies published on the topic of green taxation and other supporting studies. The reviewed articles met specific inclusion criteria. Comparisons of the different tax systems employed by the four countries were made, and conclusions were drawn regarding areas of improvement for South African legislation.

Key words: green taxation, green taxation incentives, sustainability, emissions, renewable energy, environment

1 CHAPTER ONE: INTRODUCTION, BACKGROUND AND RESEARCH METHODOLOGY

1.1 Introduction and Background

To date, global warming and climate change have been two concepts that have been discussed for years, with conversations about dealing with and mitigating their effects on humanity and the environment (Brink, 2019, para. 1). Predictions dating back to 1982 have proven to be true, indicating an increase in atmospheric carbon dioxide and the negative effects of this emission increase on the environment (Brink, 2019, para. 1). While global warming and climate change may sometimes be seen as abstract topics, their impact on society is becoming more prevalent (Brink, 2019, para. 1). Furthermore, literature has brought this closer to home. For example, it explains that there seems to be a drastic increase in tropical cyclones in the Mozambique route and more intense and prolonged droughts experienced in South Africa (Brink, 2019, para. 1). Industrialisation, as the driver of economic development, has resulted in massive pollution emissions (Ahmad and Zhao, 2018:3). Increasingly, climate change influences decisions on tax policies (Gaspar, Mauro, Parry, and Pattillo, 2019, para. 1).

Climate change is regarded as a significant global risk, and in response, according to Arora and Mishra (2021:585), the United Nations and the United Nations Framework Convention on Climate Change collaborated to form the Conference of the Parties, known as COPs. The Conference of the Parties, or COPs, refers to an international summit on climate policies (Arora and Mishra, 2021:585). The Conference of the Parties was established to bring together every country in the world with the aim of advancing the goals of the Paris Agreement (2015). The 26th annual Conference of the Parties, or COP26, offers a promise of progress for climate change and nature and the necessary transition from a mere pledge to real action (Smith *et al.*, 2022:1). During COP26, held in 2021, the UK worked with every involved country to reach a consensus on addressing climate change (UN Climate Change Conference UK, 2021).

Additionally, tax policies and mechanisms to date have been used and trusted as effective methods for government to influence the behaviour of society (Brink,

2019, para.2). Despite the improved quality of life for society due to the rapid economic development experienced, environmental pollution has become an increasingly serious matter (Wang, Chen, Hao, and Dagestani, 2022:1). Green taxation and green taxation incentives are used as part of the solution. Governments across different countries have introduced green incentives, such as cash grants and soft loans, to encourage investment in environmental, social, and governance-related projects (Dippenaar, 2018:2; Maphosa, 2014:16; PwC, 2023a, para. 3).

According to Boglea (2011:160) 'Green taxes (also known as 'environmental taxes' or 'pollution taxes') are excise taxes on environmental pollutants or on goods that produce specified pollutants.' Boglea (2011:160) further distinguishes that 'green taxes to be including taxes on energy, transport, pollution, and resources.' Furthermore, Maphosa (2014:16), defines energy taxes as 'taxes on energy products and electricity used for transport, such as petrol and diesel, and for other purposes, such as fuel oils, natural gas, coal, and electricity used in heating'. Energy taxes are targeted toward individuals or organizations that make use of non-biodegradable energy consumption (European Commission, n.d.). Therefore, ¹⁵⁶ the objective of utilising green taxes is to decrease the effects of harmful activities on the earth due to harmful emissions (Maphosa, 2014:16).

Furthermore, the motive behind green taxation is to ⁴⁹ increase the net cash flow of enterprises, enabling them to accumulate money for investment in research and development and the redesign or reaccounting of their innovative creations, which could potentially result in them adopting more environmentally friendly practices at an efficient cost (Wang *et al.*, 2022:1). It takes capital investment in the form of money, human capital, and dedication to truly drive a greener and safer environment (Kamil, 2015). Tax regulatory agencies are aware of this and understand that everyone must cooperate to achieve this. Since environmental, social, and governance investment has become a more prominent topic over the years, tax regulatory bodies also disincentivise any deviation from initiatives focused on making a positive impact (Kamil, 2015).

According to Mohammad and Wasiuzzaman (2021), reporting requirements have evolved over time to place greater emphasis on the need to not only focus on

shareholders and profitability reporting but also to adopt a more stakeholder-oriented approach when communicating the performance and values of a company. Giving attention not only to investors but also to suppliers, customers, the media, the environment, society at large, and any other parties affected by the actions of the company has proven to ensure that companies have a more sustainable approach to business and has helped enhance the ethics and integrity of management by encouraging responsible leadership and greater accountability (Mohammad and Wasiuzzaman, 2021). This school of thought, which is also in line with triple bottom line reporting, has been instrumental in prompting companies to take a more holistic and inclusive approach to doing business (Mohammad and Wasiuzzaman, 2021).

It is, therefore, essential for the South African Revenue Service (SARS) together with the National Treasury to pay extra attention to ensuring that green taxation incentives given to companies and individuals are not used to avoid tax. Instead, these incentives should translate into a visible, measurable, and sustainable difference in the world.

1.2 Problem Statement

Developmental progress is threatened by changes in climate. In response to this threat, 196 nations ratified the Paris Agreement to decrease global emissions to 'net-zero' levels by mid-century and restrict them to under 2 degrees Celsius compared to pre-industrial levels (World Bank, 2023, para.1). An extraordinary economic revolution is necessary for this complete decarbonisation. Most economists point to tax reforms as a crucial policy tool to bring about this transformation while preserving economic development (World Bank, 2023, para.1).

Melinda and Wardhani (2020:149) point out that firms are under increasing pressure to 'do good' and to conduct themselves for more than financial gain. However, despite years of academic interest, significant gaps remain in understanding how the environment, society, and governance are perceived, how their undertaking is motivated and inspired, who exactly benefits from it, how those benefits manifest, and where that could potentially lead (Huang, 2021:4).

When social and regulatory demands become a financial burden for businesses, sustainability and consideration of environmental, social, and governance aspects become increasingly significant components of the investment strategy (The Schroders Sustainable Investment team, 2022:3). For instance, increased carbon costs, minimum wage or tax laws, and new regulations, like hiked tariffs on plastics or sugar production and usage, all have a growing effect on business profitability (The Schroders Sustainable Investment team, 2022:3).

As taxation is an effective policy instrument that is simple to execute, many countries view it as the preferred approach to safeguard the environment (Maphosa, 2014:16). It is also argued that green taxation would be easier to implement and enforce than other methodologies, such as cap-and-trade, used to safeguard the environment (Avi-Yonah and Uhlmann, 2009:7). The cap-and-trade regulation would prove difficult, as this relies on various parties. Green taxation is one of the strategies used by many nations, including South Africa, in their policymaking as it is considered more effective.

Climate change is becoming a factor in determining tax policy. László (2021:284) also states that the climate crisis is becoming higher on the agenda of the world's decision-makers. This is supported by Baur, Bruchez, and Nicol (2021:3) in an article highlighting that climate change may have negative economic consequences that affect tax collections and the tax base, exacerbating fiscal imbalances. These exacerbating fiscal imbalances could be argued to have an impact on how incentives and tax policies are utilized to persuade companies to participate in environmental, social, and governance systems as well as sustainable development in the long term.

With concerns about the environment becoming increasingly prevalent, companies are adopting a more proactive approach to managing the environment (Derchi, Davila, and Oyon, 2023:1). For a firm to be considered environmentally friendly, it requires actions beyond what has been written on the corporate website (Derchi et al., 2023). One would argue that South Africa should aim to be at the forefront of green taxation development.

1.3 Research Aim

Given the numerous tax regulations and incentives continuously being developed, such as cash contributions, tax incentives, and soft loans, the report aims to explore how different countries effectively use green taxation to have a positive impact on the environment, society, and governance. This study is a comparative analysis of green taxation in South Africa, Australia, Singapore, and India. The motivation behind this comparison is to provide recommendations on how South Africa can strengthen its green taxation.

1.4 Rationale

In addition to South Africa, the three countries chosen for this study are Australia, India, and Singapore. The selection of these countries was not based on statistics, but rather on the specific information that each country would provide for the comparative study. Therefore, the writer acknowledges that the findings of this research report might differ if other countries were chosen for the same research question.

According to Sohail, Ullah, and Majeed (2023:2), countries with emerging economies, which are not fully developed, face the challenge of maintaining their growth rate while simultaneously ensuring environmental quality. Sohail et al. (2023:2) states that South Africa and India are among the countries with economies that grapple with managing the environment, energy, and growth simultaneously.

Moreover, both South Africa and Australia have large mining sectors (Spratt, 2012:30), which could be argued to have an adverse impact on the environment. Additionally, in South Africa and Western Australia, there are ongoing issues with abandoned mine sites, considered a legacy problem, which can potentially have significant impacts on the environment (Klopper and Wessels, 2017:1081). Abandoned mines are those that are no longer in operation, not actively managed or restored, and may cause significant social or environmental problems in the future (Klopper and Wessels, 2017:1081). In their study, Klopper and Wessels (2017:1085) stated that unlike Western Australia, South Africa did not have any specific policy, taxation incentives, or financial means to address the issue of abandoned mines.

In recent years, Singapore's commitment to the environment and sustainability has progressed. The country was the first in Southeast Asia to implement a carbon tax through the Carbon Pricing Act 26 in 2018 and the use of the Resource Sustainability Act in 2019 to incentivize companies for waste reduction (Chng and Ong, 2021:2). The rationale behind choosing Singapore is to compare the green taxation systems offered by a more advanced economy with those offered by South Africa. This comparison can provide deeper insight into South Africa's approach for future growth.

1.5 Theoretical Framework

The green taxation theory is the framework that underpins this report. According to Milne (2007:8), the green taxation theory has two sides: increasing taxes to discourage activities that are considered to have a harmful impact on the environment, and reducing taxes to promote activities that are less harmful to the environment and commodities. In both instances, the tax instruments used must be based on traditional principles of taxation, taking into account issues of fairness, economic impact, and administrative feasibility (Milne, 2007:8). However, Milne (2007:8) also emphasizes that the green taxation theory should be grounded on an additional basis, which is the impact of the tax instrument on the environment.

An increase in green tax may have an economically efficient impact on the environment under one or more overlapping theories. The theory is also based on the idea that regulating economic calculations can lead to outcomes that are more beneficial for the environment and are economically efficient (Milne, 2007:8). A decrease in tax payments is argued to have a more practical basis. The government can encourage environmentally positive goods or activities by providing tax incentives (such as tax credits, exemptions, deductions, or reduced tax rates) that would not have been available in a different context (Milne, 2007:8).

There are different fiscal effects for decreases in tax payments compared to increases in tax payments, which significantly reduce government revenue flow instead of increasing it (Milne, 2007:9). This difference can have significant political consequences. Increases in taxes are often politically unpopular unless

they are accompanied by tax relief, as citizens may be more receptive to tax reductions when they stand to benefit (Milne, 2007:9). One could argue that based on this theory, tax incentives are more favourably received by citizens compared to tax penalties, and it would be advisable for governments to explore policies that incentivize citizens rather than penalizing them.

This theoretical framework was chosen for this research report because the objective is to examine the development of green taxation to encourage improvements in tax regulations that influence environmental investments. This theoretical framework helps in understanding the impact of tax policies on encouraging human behaviour for the overall benefit of sustainable development.

1.6 Research Question

What are the current green taxation policies in South Africa, and how do they compare to those of Australia, Singapore, and India?

1.7 Sub-Questions

1.7.1 What is green taxation?

1.7.2 How has green taxation been applied in South Africa through the Income Tax 58 of 1962 and Carbon Tax Act 15 of 2019?

1.7.3 What green taxation policies are implemented in Australia, Singapore, and India?

1.7.4 How do South African green taxation policies on transport taxes, carbon emission taxes, and plastic taxes compare with those of Australia, Singapore, and India?

1.8 Definition of Terms

The following section defines the key terms used in this report:

1.8.1 Green Taxation

Boglea (2011:160) reports that 'green taxes (also called 'environmental taxes' or 'pollution taxes') are excise taxes on environmental pollutants or on goods whose use produces such pollutants.' Maphosa (2014) further states that 'environmental or green taxes include taxes on energy, transport, pollution, and resources.'

When green taxes are used, they are considered a means to ensure that resources are allocated optimally, further enhancing social welfare (Norouzi, Fani, and Talebi, 2022:1). Green taxation employs a variety of tax measures or tax collections for the purpose of protecting the environment (Ma, Zhao, and Ni, 2018:3). The terms green taxes and environmental taxes are frequently used interchangeably in the literature, and similarly, in this report, they will be used interchangeably (Talebi, 2022:1).

Additionally, it is stated that, as part of a broader policy mix, green taxation initiatives at both the European Union and Member State levels may assist in achieving environmental policy goals (European Commission, n.d.). This is achieved through encouraging the transition to cleaner energy and more sustainable practices in various industries (European Commission, n.d.). Furthermore, by internalizing the social costs, influencing decision-making, and incentivizing behavioural changes in individuals and companies, green taxation initiatives may help mitigate resource waste and environmental damage (European Commission, n.d.).

1.8.2 Tax Incentives

Tax incentives are defined as tax provisions intended to encourage certain behaviours associated with positive externalities (Batchelder, Goldberg Jr., and Orszag, 2006:31). 'In developed countries, tax incentives often take the form of investment tax credits, accelerated depreciation, and favourable tax treatment for expenditures on research and development' (Easson and Zolt, 2002:2). It is further stated that an effective tax incentive refers to a tax provision that is specific and granted to investment projects that qualify with the objective of reducing tax burdens (Munongo, Akanbi, and Robinson, 2017:153).

1.8.3 Green Incentives

Green incentives are defined as financial benefits that drive investments and projects with the aim of reducing harm to the environment (PwC, 2023a:3). Government cash grants for projects that reduce environmental harm, as well as tax incentives that lessen tax liabilities to encourage investments that alleviate negative impacts on the environment, are some examples of green incentives (PwC, 2023a:3). It is further stated that incentives also make it commercially

interesting and beneficial to invest in research and design activities for the development of technologies and consumer products with a lighter environmental footprint (OECD, n.d.).

1.8.4 Green Taxation Incentive

Green taxation incentives are aimed at providing incentives using tax reductions to lower the tax liability. Green taxation incentives such as investment tax credits and taxable income deductions aim to stimulate investments towards a greener world and to mitigate and minimize harmful impacts on the environment (Shafi et al., 2023: 32185). Various tax incentives related to projects, activities, and assets that are environmentally friendly exist (fDi Intelligence, 2023, para.4). These tax incentives are also considered as tax advantages, which are usually more than welcome, especially in times of economic crisis (fDi Intelligence, 2023, para.4).

1.9 Research Methodology

This section of the report outlines the research methodology that guided the report. The chosen research design is discussed, along with the study eligibility criteria and search strategy used for the comparative analysis. Quality assessment is also discussed to specify the quality of the literature and sources used. This section further outlines data extraction and the assessment of relevance of the selected studies or sources, as well as the method of data analysis and synthesis to ensure that the comparison between the different countries is done appropriately.

1.9.1 Research Design

Biereenu-Nnabugwu (2018:2) describes a research design as a formal plan or statement that guides how research should be conducted. This research report is a systematic review that compares literature on green taxation in South Africa, Australia, Singapore, and India. Given the nature of the research question, the applicable research design is the descriptive comparative research design. With this design, researchers 'seek to describe the occurrences of certain phenomena and how these occurrences vary between cases' (Esser and Vliegthart, 2017:17).

1.9.2 Study Eligibility Criteria

The articles eligible for this review include academic literature focusing on green taxation and how the implementation of policies in this regard compares among the four countries mentioned above. Although international studies have been included to build up arguments and theory, the focus of the report is on the selected four countries. Most of the articles used are research journals and other trusted internet articles from reputable sources.

1.9.3 Quality Assessment

Various articles and journals have been used to support the research to ensure its credibility and trustworthiness. The quality assessment process also provided the opportunity to ensure that each article was carefully selected and was necessary to answer the research question and sub-questions.

1.10 Conclusion

In this chapter, the research report introduced the study, provided a background as well as the problem that framed the research aim, research questions, and the rationale. The theoretical framework that guided the study was also discussed in detail in this chapter, together with the research methodology that shaped the study. Lastly, key terms were defined with an overview and structure of the report outlined.

1.11 Overview and Structure of Report

This chapter of the report introduced the research aim, the background, as well as the research methodology employed. As a comparative study, the rationale behind choosing the countries whose tax systems are compared is also detailed in this chapter.

With the report focusing on green taxation, the next chapter investigates the concept and shows the different taxation systems that may be employed by different countries to protect the environment. The second chapter also introduces some of the environmental taxes that are currently in place and goes on to highlight some of the benefits of green taxation. The third chapter of this report covers current green taxation policies in South Africa and how these are managed. This is important in setting a base for comparison with the green

taxation policies that India, Singapore, and Australia have. The fourth chapter provides context and analyses the policies in the three mentioned countries. Finally, in chapter five, the four countries including South Africa are compared side by side on their respective tax policies. The final chapter provides a summary of what was discussed for each country and what can be done to address gaps noted in South African related green taxation policies and thus provides a conclusion on ¹²⁵the study. The limitations of the study are also discussed.

CHAPTER TWO: GREEN TAXATION

2.1 Introduction

¹ Green taxes, also known as environmental taxes, are created and implemented to tax behaviours that are considered to have a harmful impact on the environment (Iberdrola, 2023, para. 1). The basis of environmental taxes is the ⁷⁵ 'polluter pays' principle, which simply means that those who pollute must pay, as they are essential in curbing the issues of climate change (Iberdrola, 2023, para. 1). When green taxes are used, they are considered a means of ensuring that resources are optimally allocated, further enhancing social welfare (Norouzi, Fani, and Talebi, 2022:1). This chapter defines green taxation (section 2.3), the various green taxation policies that exist (section 2.3), the measures enacted through green taxation legislation (section 2.4), ¹⁴⁴ the green taxation incentives introduced to drive investment (section 2.5), as well as the benefits of green taxation and green taxation incentives (section 2.6).

2.2 Climate Change and Impact on Taxation Policies

¹³² There has been an increase in pollution in recent years, resulting in discussions and initiatives related to protecting the environment and promoting sustainable development becoming newsworthy (Xu, 2012:304). These discussions regarding the environment and its sustainability are amplified by noticeable climate changes and man-made ¹⁰² greenhouse gas emissions, primarily from fossil fuel combustion and changes in land use (Eyraud, Clements, and Wane, 2013:852).

Eyraud *et al.* (2013:852) further highlight that changes in climate conditions may lead to harsh and negative outcomes, not only for the environment but also for society, with significant macro-economic consequences. For example, rising temperatures, sea-level increases, and extreme weather conditions could severely harm productivity and output (Eyraud *et al.*, 2013:852). Changing climate conditions will also have a detrimental effect on fiscal positions, directly affecting tax bases and spending programs. These necessary changes will come through ¹⁸ policies aimed at mitigating climate change, adjusting production methods, and changing behaviours toward the environment (Eyraud *et al.*, 2013:852).

In working toward mitigating the negative impact of climate change, there is pressure on governments to identify ways to minimise damage to the environment (Mpofu, 2022:2). Governments need to simultaneously try to reduce the negative impact on natural resources and energy consumption exploited by individuals and firms (Mpofu, 2022:2). Environmental taxation has received considerable attention from policymakers and scholars in various fields, such as law, economics, political science, and related areas, with the intention of implementing effective laws and regulations to monitor and control human actions and their impact on the environment (Xu, 2012:304).

Green taxation has thus gained recognition as an economic tool that effectively creates incentives to support greener production and consumption habits (Freire-González, 2018:2). Mpofu (2022:2) also states that green taxation has been gradually perceived as a productive economic tool to provide incentives that inspire consumption and production choices and trends that are more environmentally friendly. Environmental challenges, such as the irresponsible use of natural resources, which could potentially lead to health complications or global warming, have led to the need for the implementation of green taxes (Mpofu, 2022:2).

2.3 Green Taxation and What it Entails.

According to the OECD (2011:1), challenges related to the environment are increasingly pressuring governments to think of and identify ways that will minimize harm to economic growth while also reducing overall environmental damage. The OECD (2011:1) further points out that governments have an array of tools at their disposal, including information programs, regulations, innovation policies, environmental taxes, and environmental subsidies. Taxes, in particular, form a crucial part of this equation (OECD, 2011:1).

Green taxes refer to several tax measures or tax collections aimed at protecting the environment (Ma *et al.*, 2018:3). These measures are grouped into classes as follows:

- Direct taxes levied on standard pollutant emissions,
- Indirect taxes on goods or services (which may refer to tax on raw materials or products),

- Preferential taxes - referring to tax incentives and tax expenditures primarily aimed at protecting the environment (Ma *et al.*, 2018:3).

It is further stated that ¹⁷ green taxes or environmental protection taxes collectively refer to the various tax policies aimed at reducing environmental harm (Ma *et al.*, 2018:3). Green taxation incentives are a form of green taxes aimed at providing tax relief through tax reductions or tax exemptions to taxpayers who invest in environmentally friendly initiatives (Ma *et al.*, 2018:3).

According to Schlegelmilch and Joas (2015:2), ⁴⁹ the most common rationale for environmental fiscal reform is its positive impact on the environment. The implementation of a government intervention, such as the use of green taxation to increase the price of environmentally harmful behaviour, can have various impacts (Schlegelmilch and Joas, 2015:2). Schlegelmilch and Joas (2015:2) further argue that ⁹ environmental taxation has the potential to push towards the correction of market failure if the harm to the environment of a particular action creates a negative externality.

To understand the functioning and impact of fiscal reform, knowing the kind of environmental damage caused by various actions or emissions is important (Schlegelmilch and Joas, 2015:7). However, there is no one way to perfectly differentiate between the areas of fiscal reform. Nevertheless, categorization is beneficial and essential in understanding how and where revenues are raised (Schlegelmilch and Joas, 2015:7). A differentiation between tax bases is detailed below.

2.3.1 Carbon Tax

⁴⁵ A carbon tax refers to an excise that exclusively taxes carbon-based fuel consumption (Kuo, Hong, and Lin, 2016:1). Policymakers around the globe have stepped up efforts with the aim of reducing carbon dioxide emissions and ⁴⁵ greenhouse gases (Zimmer *et al.*, (2015) in Kuo *et al.*, 2016:2). Some European countries, such as Sweden, the Netherlands, Finland, and Norway, have effectively executed carbon taxes for a long time (Kuo *et al.*, 2016:2). Tax systems ¹¹⁰ have a direct impact on the reduction of greenhouse gas emissions (Kuo *et al.*, 2016:2). At a national level, imposing a carbon tax may have an impact on

gross domestic product, competitiveness, as well as on the exportation and importation of goods (Kuo *et al.*, 2016:2).

To achieve the objective of reducing carbon emissions, numerous ¹²⁷countries have put in place policies on carbon tax, making the pricing of carbon a vital tool (Kuo *et al.*, 2016:1). Even though governments have numerous ⁶⁴economic instruments at their disposal, environmental taxes have ⁵¹significantly contributed to becoming a productive economic instrument in the fight against climate change and in preserving the environment (Mpofu, 2022:1).

Moreover, the challenge experienced by governments is setting appropriate legislation on carbon tax that reduces emissions and has a positive economic impact (Chelly, Nouira, Hadj-Alouane, and Frein, 2022:2). This explains why finding an appropriate strategy on carbon taxation is important, as it will encourage ³¹companies to invest in green technology without compromising their profits (Chelly *et al.*, 2022:2). When such legislation is applied, most governments implement progressive carbon taxation strategies (Wu, Huang and Liu, 2017:1; Chelly *et al.*, 2022:2). Governments ³¹often start with relatively low carbon prices and announce their intention to increase them over the years until a targeted carbon price has been reached (Chelly *et al.*, 2022:2).

Governments should expand the role of taxation and implement tax laws and policies that are more efficient in reducing pollution and prohibiting activities that are harmful to the environment in a cost-effective manner (Ganda, Ngwakwe, and Ambe, 2015:45). Taxation, as a market-based instrument, along with various other instruments like regulation, could assist the government in meeting environmental protection targets. These taxation and regulation measures, as stated by Xu (2012:304), may either be set by the government or enshrined in the government's national development plan. Intrinsically, when environmental laws are enforced by regulators, the primary focus becomes putting across objectives on 'compliance,' focusing on collaboration, influence, pacification, as well as negotiation (Ganda *et al.*, 2015:45).

⁶⁰The increase in natural disasters globally, shifts in weather patterns, and rising carbon emissions have and will continue to affect business operations (Eyraud *et*

al., 2013:852; Ganda *et al.*, 2015:45). Consequently, organizations are compelled by morals or persuasion to consider the environment's capability to provide productive resources and the resulting limitations due to a lack of environmental preservation (Ganda *et al.*, 2015:48).

2.3.2 Energy Taxes

The category of energy taxes includes taxes on the production of energy and on energy products utilized for both transport and stationary purposes (Schlegelmilch and Joas, 2015:7). Petrol and diesel are products deemed vital for energy in transport purposes. Natural gas, fuel oils, as well as coal and electricity, are the energy products used for stationary purposes (Schlegelmilch and Joas, 2015:7). Carbon dioxide taxes are considered energy taxes, not pollution taxes (Matheson, 2021:3). This is mainly due to the fact that identifying carbon dioxide taxes separately is often not possible, especially in tax statistics, as they are included in energy taxes (Schlegelmilch and Joas, 2015:7).

2.3.3 Pollution Taxes

Having a better understanding of the determining factors of pollution reduction may lead to a significant improvement in well-being. Understanding the factors of pollution reduction also positively contributes to sustainable development (Kong, Xiong, and Qin, 2022:1). The category of pollution tax includes taxes on estimated or measured emissions to water and air (Schlegelmilch and Joas, 2015:7).

2.3.4 Transport Taxes

Transport is a specific sphere of human activity requiring immediate and active regulation, assisted by tax instruments, among other things (Leontyeva and Mayburov, 2016:194; Schmidheiny, 1992). This category primarily includes taxes related to the ownership and sales of motor vehicles, especially in the case of congestion charges (Schlegelmilch and Joas, 2015:7). Taxes on other modes of transport, such as ships, planes, or railway stocks, also form part of transport taxes. In line with the general definition of environmental taxes, other related transport services, such as duties on charter or scheduled flights, are also included in the category of transport taxes (Schlegelmilch and Joas, 2015:7). Moreover, Aydin and Bozatli (2022:54183) cite OECD (2011) to point out that

revenues collected through transport taxes account for about 25% of total environmental tax revenues in most countries (where resource and pollution taxes are small). It is estimated that in the future, transport taxes will play an important role in green taxes (Aydin and Bozatli, 2022:54183).

Transport plays an important role in every individual's life and daily activities; however, it is argued that road transport, in particular, accounts for higher emissions of carbon dioxide and other greenhouse gases (Gupta, 2016:46). Road transport alone accounts for 73% of total carbon dioxide emissions in the transport sector (Gupta, 2016:46). Economists have argued that one of the major reasons for excessive car usage is the unrealized external costs of driving, such as pollution and congestion (Diao, 2019:3). Therefore, Diao (2019:3) proposes that the cost of driving should be increased to show the negative externalities of road travel.

2.3.5 Resource Taxes

For many countries, natural resources form a significant part of their wealth. The contribution of natural resources to government revenues could have a significant impact, whether good or bad, and, as a result, on the success and economic development of a country (Boadway and Keen, 2010:1). The resource tax category includes taxes connected to the use or extraction of natural resources, including resources like trees (forests), water, wild vegetation, as well as wildlife, among others. The tax policies in this category are crucial because these activities deplete natural resources and affect future generations (Schlegelmilch and Joas, 2015:7).

Currently, a vast majority of countries have introduced and initiated policies on resource tax, leveraging taxes to ensure that the value of natural resources is compensated and ultimately halting the perilously accelerated growth of resource production and processing industries (Sun, Ren, and Wang, 2022:1). According to Sun *et al.* (2022:1), using resource tax can not only increase the cost of resources and ensure control and limitation on how fast resources are utilized but also expand fiscal revenue indirectly for the government to spend on improving individuals' livelihoods, developing infrastructure, and supporting high-tech industries (Sun *et al.*, 2022:1). Using resource tax is done to promote the

advancement of industrial structure and sustainable economic development in resource-based areas (Sun *et al.*, 2022:1).

2.3.6 Plastic Bag Tax

According to O'Brien and Thondhlana (2019:320), the consumption of single-use plastic shopping bags is considered one of the leading causes of environmental and socio-economic issues globally. These environmental problems have led to calls for interventions worldwide and strategies aimed at reducing the use of single-use plastic shopping bags (O'Brien and Thondhlana, 2019:322).

Teasdale-Hensby and Lye (2015:132) point out that 'Plastic bag use reduction has increasingly become one of the most popular government-imposed policies worldwide to reduce the environmental impact of consumers.' Macintosh, Simpson, Neeman, and Dickson (2020:1) further state that banning single-use plastic shopping bags is one of the policy interventions commonly used by governments to address the environmental harm associated with their usage.

2.4 Measures Enacted Through Green Taxation Legislation

Ganda *et al.* (2015:45) cite Burnett and Hansen (2008) who stated that environmental legislation has exponentially progressed in the later years of the 20th century, and its growth rate continues to develop gradually. Globally, governments have adopted various forms of progressive carbon taxation strategies (Chelly *et al.*, 2021:1). As a result, companies, due to these progressive carbon taxation strategies, are provided with different levels of flexibility to modify their decisions. These decisions are modified in accordance with the new environmental regulations and help reduce their carbon emissions without compromising their profits (Chelly *et al.*, 2021:1).

Furthermore, to encourage the understanding of extended producer responsibility, coercive measures endorsed through financial instruments and governmental green legislation are used in Europe, Japan, and North America (Sheu and Chen, 2012:201). Therefore, it is likely that operational business goals will be met while addressing environmental challenges such as end-of-life product recycling and waste disposal (Sheu and Chen, 2012:201).

At the same time, environmental regulators are looking for policy instruments to motivate firms to make environmentally friendly choices. Among other instruments, using taxes has gained significant traction among regulators (Krass, Nedorezov, and Ovchinnikov, 2013:1). The introduction of green taxation does not necessarily encourage businesses to choose green technology (Ganda *et al.*, 2015:47). Ganda *et al.* (2015:47) further mentioned that studies have pointed out that corporate green investment activities are unaffected by legislation. The 'conventional wisdom' holds that higher environmental taxes should result in technological advancements or upgrades (Krass *et al.*, 2013:2). Another important aspect is how environmental innovation and policy are often related. Calvo, Varela-Candamio, and Novo-Corti (2014) argue that market-based tools, such as taxes, subsidies, and other incentives, are perceived to be better than legislation for the promotion of environmental innovation.

However, it is argued that the impact of environmental harm is spread across a large number of people and has little to no direct financial cost to those that pollute (OECD, 2011:2). Therefore, since that is the case, no market incentive exists for businesses or households to consider without the government getting involved (OECD, 2011:2). As a result, environmental conservation requires collective action, usually with the government's direction and leadership. It is further stated that 'command-and-control' rules have historically dominated environmental regulation (OECD, 2011:2). These methods were generally rigid and highly targeted; for example, limiting or banning particular substances or mandating that certain industries use specific technologies. Over decades, there has been growing interest in the use of market-based tools such as tariffs and tradable emission permits (OECD, 2011:2).

2.5 Tax Incentives

According to OECD (2011:3), there is an alternative to requiring taxes for bad or harmful activities. This can be achieved by providing tax relief for environmentally friendly actions or behaviours, such as offering VAT exemptions for energy-efficient appliances or favourable depreciation rates for capital investments in pollution reduction or renewable energy (OECD, 2011:3).

2.5.1 Green Taxation Incentives Introduced to Drive Investment

There is a constant evolution in the use of tax incentives, which is becoming more prevalent in many countries. Tax incentives are used to encourage investment and overall economic growth (Liu and Mao, 2019:261). High taxes on the usage of fossil fuels and their emissions make it more attractive to consider alternative forms of energy production, resulting in increased innovation (Schlegelmilch and Joas, 2015:2). Additionally, Schlegelmilch and Joas (2015:2) mention the Porter Hypothesis, which states that regulating the environment, including the use of incentives, may help overcome market failures regarding innovation. Green taxation incentives further provide companies with an opportunity to gain a competitive advantage over their competitors, especially in states that do not yet have taxes that incentivize such innovation. As a result, companies are motivated to look after the environment and, in doing so, also boost their company reputations (Schlegelmilch and Joas, 2015:2).

2.6 Benefits of Green Taxation and Green Taxation Incentives

When the right financial incentives are offered through 'environmental pricing,' these incentives become a key factor in policies aimed at sustainable economic growth (Vollebergh, 2013:4). Since the focus has shifted toward achieving a green economy, various countries see the advantages and benefits of green taxation incentives. Some of the benefits of green taxation and green taxation incentives include the promotion of sustainable practices among companies and individuals as well as pollution reduction (Tamplin, 2023, para.3). It is further stated that carbon emission taxes and fuel efficiency taxes are useful strategies that aid the transition toward a green economy and away from fossil fuels (Tamplin, 2023, para.3). Moreover, the aim of a carbon tax is the reduction of energy consumption and pollutant emissions (Moosavian, Zahedi, and Hajinezhad, 2022:13). Carbon tax also helps reduce labour costs and labour tax, which further work as incentives in creating new jobs (Moosavian *et al.*, 2022:13). In the same light, Norouzi *et al.* (2022:2) point out that using green taxes can help prevent the release of social pollutants.

International green taxation incentives have increased quotas and opened markets, resulting in reduced entry barriers and helping new competitors enter

markets (Sand, 2001 in Clemens, 2006:6). The increased quotas and reduced entry barriers improve net welfare but disadvantage companies that have been in the market for some time. In summary, green taxation incentives have benefited the public and helped program participants in the long term, even though at a cost in the short term. These incentives have also motivated recipients, contributed to profitability in the long term, and assisted new participants (Clemens, 2006:6).

To respond to the environmental challenges caused by man-made activities, many countries have adopted a variety of tools to achieve the goals and objectives of sustainable development and environmental preservation. Governments employ an array of economic tools, including policies on innovation, regulatory principles, environmental grants, information sharing, awareness programs, and environmental taxes (Mpofu, 2022:1).

2.7 Conclusion

As seen in section 2.2 of this chapter, the noticeable climate changes observed, as well as man-made greenhouse gas emissions, have increased discussions on environmental sustainability. Green taxes, referring to various tax measures or tax collections aimed at protecting the environment, were discussed in detail in section 2.3. These include carbon tax, energy taxes, pollution taxes, transport taxes, and resource taxes. In section 2.4, it was highlighted that governments around the world have adopted different strategies of progressive carbon taxation, while in section 2.5, tax incentives were discussed with the objective of encouraging investment and economic growth. Lastly, in section 2.6, the benefits of green taxation and green taxation incentives, such as promoting sustainable practices and pollution reduction, were elaborated on. The next chapter focuses on green taxation in South Africa.

CHAPTER THREE: GREEN TAXATION IN SOUTH AFRICA

3.1 Introduction

The global momentum in responding to climate change has gradually changed due to the effects it continues to spread. In South Africa the impacts of global climate changes are also rapidly escalating (Chersich and Wright, 2019:2). This chapter provides a background on South Africa's environmental legislation (section 3.2), and in section 3.3 of this chapter, the various green taxes and levies in South Africa are discussed, such as the carbon tax, electric filament lamps levy, plastic bag tax, electricity generation levy, motor vehicle carbon dioxide emissions tax, and the tyre levy (Ambareen, 2023). The South African taxation incentives are also discussed, as well as the Income Tax Act 58 of 1962 (section 3.4), and lastly, an overview of the Carbon Tax Act 15 of 2019 is provided (3.3.1.1).

3.2 Environmental Legislation

Environmental legislation is defined by Ganda *et al.* (2015:46), quoting McGarity (2004), as regulatory in nature and intended to alter private conduct in ways that will help preserve and protect human health, as well as the environment. These laws consistently assign the implementation details to a regulatory agency authorised to write regulations, set standards, and issue permits, all of which are specifically designed to ensure environmental protection to a certain degree (Ganda *et al.*, 2015:46). In addition, environmental legislation is defined as the law that governs renewable resources such as minerals, air, soil, water, as well as vegetation (Ganda *et al.*, 2015:46).

Environmental legislation comprises essentially interrelated systems of laws, acts, rules, customary agreements, as well as common law addressing the corporate practices' impact on sustainable development and the natural environment (Ganda *et al.*, 2015:45). The design of environmental legislation enforcement is aimed at protecting, preserving, and improving the quality of the environment and ensuring the protection of human health. Another aspect included in the design of environmental legislation is to make certain that natural resources are used practically, rationally, and responsibly (Ganda *et al.*, 2015:46).

South Africa has magnified its legislation focusing on environmental protection (Ganda *et al.*, 2015:45). According to the literature reviewed, some examples of environmental legislation in South Africa include the National Environmental Management Act 107 of 1998, the National Environmental Management: Biodiversity Act 10 of 2004, and the National Environmental Management: Protected Areas Act 57 of 2003. In addition, according to Wentworth (2014:13), South Africa has sent the right signals to indicate the country's commitment to endorse a change towards a greener economy and world. This is stated to be particularly done by accepting a more diversified energy mix away from relying on coal (Wentworth, 2014:13). Several economic policy documents adopted by the country have direct reference to climate action, energy security, and greener economic growth (Wentworth, 2014:13).

South Africa faces a crucial challenge of ensuring that the supply of electricity is secured, as the demand for electricity continues to grow within an environment where supply is constrained (Dippenaar, 2018:1). South Africa faces the problem of ensuring that its greenhouse gas emissions are reduced, as this directly contributes to climate change (Dippenaar, 2018:1). In the list of global emitters of greenhouse gases and carbon dioxide, South Africa falls within the top 20 in the world and is classified as the biggest emitter in Africa, mostly due to its energy sector (Dippenaar, 2018:1).

Therefore, in response to such challenges, most countries initiate environmental regulations and tax policies to curb the industry's coal and oil usage (Sanderson, Mukarati, Jeke, and Le Roux, 2023:484). With the aim of controlling the energy industry's heavy pollution, South Africa passed the carbon tax policy, ensuring that the environment is safe and healthy (Sanderson *et al.*, 2023:484). This is done through constructive regulation of the activities that emit and generate pollution into the environment (Sanderson *et al.*, 2023:484).

3.3 Different Green Taxes in South Africa

Green taxation is not a foreign concept in the South African economy; levies on transport, vehicles, and aviation have existed for a long time (Nel, 2010:3). For many years, due to an increasing awareness of the environmental impact of industries, such as global warming, there seemed to be an identified need for

fiscal reform (Nel, 2010:3). South Africa has introduced taxes and levies to protect the environment, namely the motor vehicle carbon dioxide emissions tax, plastic bag tax, carbon tax, electric filament lamps levy, electricity generation levy, and tax on tyres. These are also briefly discussed below:

3.3.1 Carbon Tax

²⁴Carbon tax is a tax on the carbon content of fuels (mainly coal, oil, and natural gas) that emit carbon dioxide emissions when burned. Carbon tax is the most direct price instrument to reduce carbon emissions' (Ojha, Pohit, and Ghosh, 2020:1; Hoeller and Wallin, 1991; Poterba, 1991). According to the South African Revenue Service (2021a, para.8), the carbon tax is one of the new taxes that have been put in place in response to climate change. One of its objectives is the reduction of greenhouse gas emissions in an economical and sustainable manner (Yang, McCollum, McCarthy, and Leighty, 2009; South African Revenue Service, 2021a, para.8). It is stated that by making sure that individuals and firms take into account the unfavourable costs of climate change, carbon tax gives effect to the principle that states that the polluter should pay (Khan, 2015; South African Revenue Service, 2021a, para.8). This helps ensure that future decisions on consumption, production, and investment consider climate change and overall environmental protection. According to the South African Revenue Service (2021a, para.10), the Carbon Tax was implemented through the Carbon Tax Act 15 of 2019, which was passed on 1 June 2019.

3.3.1.1 Carbon Tax Act 15 of 2019

The primary purpose is to decrease greenhouse gas emissions in an economical, efficient, and sustainable manner (South African Revenue Service, 2021). Carbon tax in South Africa was implemented to help fulfil the 2015 Paris Agreement, which intended to significantly reduce greenhouse gas emissions globally (Greenblatt and Saxena, 2015). It is, therefore, anticipated that carbon tax will increase in the future, as Subban, Da Silva, and Royuela (2022) suggest.

⁶¹Businesses in carbon-intensive industries have reported that the significant investment required to reduce emissions is affecting their profits, particularly when it comes to funding renewable energy and green hydrogen (Subban *et al.*, 2022). Many have urged for the implementation of carbon price alternatives since

they will have to give up important components of their growth strategies (Subban *et al.*, 2022).

Challenges related to energy are increasingly assuming a more significant role in both developing and developed nations (Gago *et al.*, 2014:2). This is due to the fact that the availability of reliable and sufficient energy is key for the development of economic activities, making the energy sector vital and sizable in most economies (Gago *et al.*, 2014:2). However, energy is also the source of significant external harmful impacts on the environment, mainly related to greenhouse gas emissions and climate change (Gago *et al.*, 2014:2).

There is an increasing demand for legislation or incentives to reduce exposure to the carbon tax in the renewable energy sector (Subban *et al.*, 2022, para 1). Carbon trading, both locally and internationally, seems to be gaining traction at a faster rate, while tax legislation struggles to keep up (Subban *et al.*, 2022). There are specific instances that require either specific tax laws or incentives, even though general principles can be applied (Slattery and Zidar, 2020:98). Specific tax provisions provided by the Carbon Tax Act 15 of 2019 may benefit all stakeholders, with everyone's needs being observed and evaluated with equal importance (Hillenbrand *et al.*, 2019:412). It is suggested that more policies providing incentives for reducing carbon emissions and transitioning to clean energy are likely to be introduced over time (Subban *et al.*, 2022, para 1).

3.3.2 Electric Filament Lamps Levy

Electric Filament Lamps, also known as non-energy-saving light bulbs, are required to pay an environmental levy if manufactured within South Africa (South African Revenue Service, 2021b, para.1; Vuzane, 2020:85). Manufacturers are expected to pay this levy (South African Revenue Service, 2021b, para.2), which, as of 1 April 2020, has been charged at R10 per bulb (South African Government, 2023).

In summary, the primary objective of this tax is to increase the cost of electric filament lamps, often known as "old light bulbs," to create a demand and inclination towards fluorescent bulbs, which are not only durable but also affordable (Vuzane, 2020:85).

3.3.3 Plastic Bag Levy

To discourage the usage of single-use plastic bags, a market-based instrument known as the plastic bag levy is used (Xanthos and Walker, 2017, cited in Muposhi, Mpinganjira, and Wait, 2021:2). According to Dikgang, Leiman, and Visser (2012:59), in September 2002, South Africa's labour representatives and industry representatives signed a memorandum of agreement concerning the use of disposable polythene plastic bags.

Dikgang *et al.* (2012:59) further state that the primary components included in this agreement regulate the minimum thickness of the plastic bag, promote and market recycled materials, and include a levy charge to support environmental protection.

The plastic bag tax, in its application, is understood and interpreted as part of environmental tax reforms aimed at alleviating climate change and pollution effects (Muposhi *et al.*, 2021:2). Certain types of plastic bags, which are the cause of littering and pollution, are subjected to an environmental levy payable by manufacturers if used in South Africa (South African Revenue Service, 2021c, para.1). This levy is then allocated to set up recycling facilities (South African Revenue Service, 2021c, para.1).

The South African government implemented a plastic bag levy in response to the issue of plastic bags in 2003. The South African Government (2023) points out that the plastic bag tax, as of April 1, 2020, has been charged at 25 cents per bag. The goal of the levy was to reduce the environmental effects caused by and associated with plastic bag litter (O'Brien and Thondhlana, 2019:322; Nyathi and Togo, 2020:4). During the tax year 2018/2019, the plastic bag levy resulted in a tax revenue of R300 million (SARS 2019, cited in Ambareen, 2023:8).

3.3.4 Electricity Generation Levy

If electricity generation sources are generated within South Africa and are environmentally hazardous (such as nuclear) or use non-renewable (fossil) fuels, they are subject to paying an environmental levy (South African Revenue Service, 2021d, para.1). Producers of this form of electricity are responsible for paying the electricity generation levy (South African Revenue Service, 2021d, para.2).

The introduction of the electricity generation levy came as a provisional plan for managing coal requirements (Vuzane, 2020:83). Initially, the government introduced the electricity generation levy as an energy-saving measure through the management of demand to reduce reliance on non-sustainable resources (Vuzane, 2020:83). Further reasons for the introduction of the electricity generation levy include funding solar water heaters and rehabilitating damaged roads in the Mpumalanga province due to ²the haulage of large volumes of coal by trucks (Gray, McDonagh, O'Shea, Smyth, and Murphy, 2021; Vuzane, 2020:83). Lastly, Vuzane (2020:83) cites the National Treasury (2015) and Promethium Carbon (2015) in stating that ²another reason for introducing the electricity generation levy was to issue signals in advance as a warning for expected carbon taxation.

¹According to Seymore *et al.* (2010:1), in the budget by the Minister of Finance in 2008, the government proposed a two-cents-per-kilowatt-hour tax on electricity sales generated from non-renewable sources.

After the general fuel levy (a tax charged on each litre of fuel, not discussed in the report as various specific taxes and levies are discussed), ⁴³the electricity generation levy from non-renewable resources became the second-highest single source of energy tax revenue ⁶⁷(Bridle *et al.*, 2022:27). Since 2020, the electricity levy has been charged at R0.035 per kilowatt-hour for electricity ⁴³generated from fossil fuels and nuclear energy (Bridle *et al.*, 2022:27). Furthermore, Bridle *et al.* (2022:27) state that the levy raised R8,141 million in 2019/2020, with 95% from coal-fired power.

3.3.5 Carbon Dioxide Motor Vehicle Emissions Levy ¹¹

South African passenger vehicles make ¹¹a significant contribution to the amount of carbon dioxide emissions into the atmosphere (Nienaber and Barnard, 2018:1). Nienaber and Barnard (2018:1) cite the National Treasury (2013) to state that the emissions of the transport sector account for about 9% of South Africa's ¹¹⁵total greenhouse gas emissions, with road transport accounting for a substantial part of the 9% (Nienaber and Barnard, 2018:2). According to the South African Government (2023), 'the carbon dioxide motor vehicle emissions levy on

passenger and double-cab vehicles was introduced to encourage the manufacturing and purchase of more energy-efficient motor vehicles.'

Moreover, Nienaber and Barnard (2018:2) further explain that 'consumers who bought a new passenger vehicle after 1 September 2010 paid a one-off carbon dioxide emissions tax based on the amount of carbon dioxide that vehicle emits beyond a specified threshold.' The South African Revenue Service (2021e, para.1) states that motor vehicle carbon dioxide emissions exceeding the specified threshold and harmful to the environment are required to pay an environmental levy if used within South Africa. According to the South African Revenue Service (2021e, para.1), the goal of the carbon dioxide motor vehicle emissions levy is 'to influence the composition of the country's vehicle fleet to be more environmentally friendly and energy efficient.'

3.3.6 Tyre Levy

According to Ambareen (2023:9), the tyres of motor vehicles are known to have adverse effects on the environment because of their characteristic makeup of synthetic and natural rubber. The environmental levy on tyres was introduced in 2017 (Ambareen, 2023:9). If used in South Africa, the disposal of new, used, or re-treaded pneumatic tyres (resulting in environmental contamination) is subject to an environmental levy payment, which is set aside for recycling (South African Revenue Service, 2021f, para.1). Manufacturers are responsible for paying the environmental levy on tyres (South African Revenue Service, 2021f, para.2).

According to the literature review, the motivation for this levy is to decrease the utilisation of waste and ensure a reduction in the disposal of tyres in landfills (Vuzane, 2020:86). Ambareen (2023:9) states that the current rate of the environmental levy on tyres is R2.30 per kilogram net mass per tyre.

3.4 Transport

In South Africa, the transport sector is considered the fourth largest contributor to greenhouse gas emissions, and the country appears to lack a focused plan to address this challenge (Averchenkova, Gannon, and Curran, 2019:14). The primary focus of policies in this sector has been on the use of fiscal tools from the National Treasury, which includes an environmental levy on new car sales (2010)

and the addition of a carbon tax to the fuel levy (2019) (Averchenkova *et al.*, 2019:14). According to the South African Government (2019, para.1), the Minister of Finance announced an increase in the fuel levy on petrol and diesel in the 2019 Budget speech. The increment was by 15 cents per litre (South African Government, 2019, para.1).

3.5 Resources Tax

Regarding the resources tax, and in order for South Africa to comply with prevailing international norms, the Department of Minerals and Energy introduced the Mineral and Petroleum Resources Development Act 28 of 2002 (South African Revenue Service, 2023, para.1). Through this Act, mineral and petroleum resources are recognized as part of every South African's common heritage, with the State as the overseer, to ensure that all South Africans can benefit (South African Revenue Service, 2023, para.1).

3.6 Green Taxation Incentives in South Africa

According to Green Energy Solutions (2016, para.1), as of 1 January 2016, Section 12B of the Income Tax Act 58 of 1962 was introduced to encourage investments in renewable energy. It was proposed by the government in 2005 to extend this accelerated depreciation allowance to other environmentally friendly energy sources (Republic of South Africa, 2023:6). This provides an even larger allowance for taxpayers and potentially accelerates investment in solar power, which is a necessary incentive given the recent power shortages. In Section 12C of the Income Tax Act 58 of 1962, there is a provision for an allowance for the cost of machinery and plant directly utilized in a manufacturing process, as stated by Green Energy Solutions (2016, para.2). Green Energy Solutions (2016, para.1) further quotes that 'Section 12C of the Income Tax Act 58 of 1962 states that there is a deduction equal to 20 percent of the cost of such machinery, plant, implement, utensil, article, ship, or aircraft (hereinafter referred to as an asset).'

3.7 Conclusion

This chapter discussed and elaborated on the green taxation system in South Africa. Different kinds of environmental levies that are part of the green tax system in South Africa were also discussed in detail, as well as the Carbon Tax Act 15 of 2019 and the Income Tax Act 58 of 1962. The following chapter

(Chapter 4) provides an overview of specific components of the taxation systems implemented in Australia, India, and Singapore.

CHAPTER FOUR: OVERVIEW OF GREEN TAXATION IN INDIA, SINGAPORE, AND AUSTRALIA

4.1 Introduction

There are differences in ¹⁶⁸the development and implementation of green taxation policies in various countries around the world. The fourth chapter of this report provides an overview of green taxes in India (Property tax, Clean Energy Cess tax, Environment (Protection) Act of 1986), Singapore (Carbon Tax and Carbon Pricing Act 22 of 2018 and the Carbon Pricing (Amendment) Bill 27 of 2022, ³the Singapore Green Plan 2030, ¹²the Resource Sustainability Act in 2019, and the Energy Conservation Act of 2012), and Australia (¹⁰the Environment Protection and Biodiversity Conservation Act of 1999, fuel excise taxes, ⁵⁵the Clean Energy Act 131 of 2011, and the petroleum resource rent tax). The purpose of this chapter is to analyse how the green taxation systems in these countries operate and the legislation governing these green taxes.

4.2 India

¹⁴²Asian cities are known to be some of the most polluted cities in the world (Dulal, Dulal, and Yadav, 2015:2). India is among the top five greenhouse gas-emitting countries, with India alone having ¹¹⁴10 of the 20 most polluted cities globally (Dulal *et al.*, Yadav., 2015:2). In 2018, ¹¹⁴the World Health Organization reported that the majority of the most polluted cities worldwide, with the highest air pollution levels, were in India (Harrison, Hyman, Martin, and Nataraj, 2015:2). Delhi has the highest level (153 micrograms) of airborne particulate matter, which is considered the most harmful to health (World Health Organization, 2023; Dulal *et al.*, 2015:2). Airborne fine particulate matter, as defined by Roberts and Wooster (2021:1), poses the largest immediate risk of air pollution to health. A significant source of particulate matter is wildfires and managed burns, which can negatively impact air quality even in areas not geographically close to the fires themselves (Roberts and Wooster, 2021:1).

What is concerning is not only the emissions in the Indian region and their contribution to global warming but also the increasing impact of emissions on the economy and the local population (Dulal *et al.*, 2015:2). The outcomes of pollution in India persist, despite environmental legislation and policies at the national,

state, and municipal levels for water and air emissions, as well as waste disposal (Harrison *et al.*, 2015:2). Most of this environmental legislation develops from directives inspired by command-and-control (Dulal *et al.*, 2015:2). According to Harrison *et al.* (2015:2), the Central Pollution Control Board and the State Pollution Control Boards have implemented directives to impose specific requirements on factories, automobiles, and power plants. However, while there is a wide range of environmental regulations, India's institutions are relatively weak at implementing these regulations (Harrison *et al.*, 2015:2).

For example, Greenstone and Hanna (2014:5) state in their study that India has relatively extensive regulations designed to improve the quality of both water and air. However, Greenstone and Hanna (2014:7) argue that the National River Conservation Plan, the foundation of water policies in India, was not successful. They claim that the National River Conservation Plan did not lead to significant improvements in any water pollution measures considered in their study, as its effectiveness could not be measured due to insufficient evidence (Greenstone and Hanna, 2014:27).

India is one of the Asian countries that has implemented tax incentives for green buildings (Shazmin, Sipan, and Sapri, 2016:544). Property tax in India is levied based on a property's annual rental value (Shazmin *et al.*, 2016:544). The green taxation incentives related to green buildings mainly focus on solar water heating and rainwater harvesting systems (Shazmin *et al.*, 2016:544). According to Shazmin *et al.* (2016:544), the percentage or amount of the tax rebate ranges from 5% to 10% of the invested amount.

Additionally, the government of India has undertaken various policy initiatives to contribute to the green economy transition (Dulal *et al.*, 2015:4). The National Clean Energy Fund was established using the proceeds of the Clean Energy Cess tax for the promotion and funding of clean energy. In 2010, the Indian government introduced the Clean Energy Cess tax of 50 Indian Rupees per metric ton of coal, for both domestic and imported coal (Dulal *et al.*, 2015:4). The Clean Energy Cess tax is collected as excise duty on items listed (coal, lignite, and peat) in the tenth schedule to the Finance Act 2010 (Perti, 2020, para.1). Furthermore, the Indian government increased the Clean Energy Cess tax to 100

Indian Rupees ¹⁶ per metric ton of coal in 2014 in response to the rising demand for financing from the renewable energy industry (Dulal *et al.*, 2015:4).

In addition to national-level measures and projects, the central governments of Indian states have also introduced policies to enhance renewable energy sources like solar (Dulal *et al.*, 2015:4). ¹⁶ For example, power purchase agreements (market incentives) for solar power facilities are in place in the states of Rajasthan and Gujarat through the year 2025 (Dulal *et al.*, 2015:4). As a financial ¹⁶ incentive for renewable energy, one Indian state, Tamil Nadu, offers up to 12 Indian Rupees ¹⁶ per kilowatt-hour for electricity produced using solar photovoltaic technology and 10 Indian Rupees ¹⁹² per kilowatt-hour for electricity produced using solar thermal technology (Shekhar, 2013 in Dulal *et al.*, 2015:4).

4.2.1 Coal Taxation in India

Sumarno and Laan (2021:8) argue that India has demonstrated that a tax on coal can be a successful way to raise revenue and account for externalities in coal pricing. India further levies a unique 'Cess' on coal in addition to royalties, goods and service tax, and customs tax. According to Sumarno and Laan (2021:8), a cess is a tax or charge levied in India to collect funds for a specific cause. Gerasimchuk (2018), as referenced in Sumarno and Laan (2021:8), explains that the coal cess was first enacted in 2010 as the 'Clean Energy Cess' or 'Clean Environment Cess,' with 30% ⁶³ of the proceeds going to the National Clean Environment Fund. Both local and imported coal are subject to the coal cess. The cess is included in India's 2015 Nationally Determined Contribution as the primary funding source for the National Clean Environment Fund, responsible for supporting clean energy technology and related projects, as well as serving as a mechanism for carbon pricing. Cess revenue totalled 12 billion United States dollars from the start of the cess through the financial year 2017–2018, of which 5.6 billion United States dollars was allocated to 55 clean energy and environmental initiatives (Sumarno and Laan, 2021:8).

The year 1986 witnessed the initial introduction of the Environment (Protection) Act (Pathak and Srivastava, 2017:254). However, ²⁹ the state of Maharashtra and the International Resource Group Systems of South Asia (Pty) Ltd took the lead in enacting ²⁹ a separate law on waste electrical and electronic equipment a few

years ago' (Pathak and Srivastava, 2017:254). Additionally, Sections 6, 8, and 25 of the Environment (Protection) Act of 1986 were invoked in 2010 to establish the waste electrical and electronic equipment management. According to schedule-I of the e-waste legislation notification from 2010 (Pathak and Srivastava, 2017:255), it outlined the 'obligations of manufacturers, dealers, collection centres, dismantlers, recyclers, auctioneers, and bulk consumers involved in the production, sale, purchase, and processing of electrical and electronic equipment or components.'

The National Plan on Climate Change, which includes the National Mission for Enhanced Energy Efficiency, was enacted in 2008 (Fekete *et al.*, 2021:7). The Perform, Achieve and Trade scheme, a market-based initiative to improve energy efficiency, is part of the National Mission for Enhanced Energy Efficiency. This scheme requires industries to meet the energy-saving targets by implementing measures to save energy or offsetting any excess energy consumption through the purchase of energy-saving certificates (Fekete *et al.*, 2021:7).

4.2.2 Transport Tax

Gupta (2016:46) cites Badami (2005) to explain that in India, rapid growth in motor vehicle-related activities contributes to high pollution levels in urban areas and has adverse impacts on welfare, the environment, socioeconomics, and public health. The indirect tax system in India has undergone significant reforms over the past decades (Singh and Deswal, 2012:1). Indirect tax policies have the potential to encourage environmentally responsible decisions by increasing the relative costs of polluting inputs and outputs, thus addressing negative externalities associated with pollution (Singh and Deswal, 2012:1).

Additionally, it is stated that the Indian government is considering imposing a green tax on vehicles at the time of renewing their registration documents. Vehicle owners will be held accountable for any environmental harm' (ICICI Lombard General Insurance, 2023, para.4). Commercial vehicles older than eight years and private vehicles older than 15 years will be subject to this vehicle green taxation (ICICI Lombard General Insurance, 2023, para.4). The rationale behind imposing a green tax on old vehicles with older motors is that these cars are more likely to be responsible for generating significant pollution (ICICI Lombard

General Insurance, 2023, para.5). The green taxation policy ⁸ 'acts as a behavioural restraint on people who continue to ignore global warming and drive old vehicles that emit substantial carbon emissions' (ICICI Lombard General Insurance, 2023, para.5).

According to an article by Insights on India (2023, para. 3), vehicles like strong hybrids, electric vehicles, and those using ¹³⁰ alternative fuels such as compressed natural gas, propane/liquefied petroleum gas, and ethanol will be exempt from the green taxation. This exemption aims to encourage responsible actions towards the environment.

According to ICICI Lombard General Insurance (2023, para.4), there is an official order by the government stating that commercial car owners ⁸ pay a green tax. This green tax can range from 10% to 25% of the owners' unpaid road tax obligations. For example, if their road tax is 6000 Indian Rupees, the highest green tax would be 1500 Indian Rupees (ICICI Lombard General Insurance, 2023, para.4). In addition, as green taxes, ⁸ private vehicles may be required to pay up to 50% of their required road taxes (ICICI Lombard General Insurance, 2023, para.4). ⁴² For example, if the road tax is 6000 Indian Rupees, ¹⁷⁴ the green tax may be about 3000 Indian Rupees (ICICI Lombard General Insurance, 2023, para.4). ¹⁹ The exact rate of the green tax depends on the pollution levels in the residential city (ICICI Lombard General Insurance, 2023, para.4).

4.2.3 Carbon Tax

¹⁹ The introduction of a Carbon Tax (referred to as the 'Clean Environmental Cess') and the resulting National Clean Energy and Environment Fund ¹⁹ is considered a crucial policy reform in India's pursuit of energy security and reduced carbon intensity of energy (Bhat and Mishra, 2020). 'This has been done to fulfil the voluntary commitment of reducing emission intensity by 2020 by 20% to 25% through sector-specific support in terms of financial outlay, technology choices, and research and innovation' (Bhat and Mishra, 2020).

⁶⁶ In India's effort to achieve energy security and ¹⁹ reduce the carbon intensity of energy, the country introduced the carbon tax (also known as the 'Clean Environmental Cess') and the resulting National Clean Energy and Environment

Fund, which are seen as significant policy measures (Bhat and Mishra, 2020). This was done to fulfil the voluntary promise to achieve a 20% to 25% reduction in emission intensity by 2020 through sector-specific support in terms of financial outlay, technology choices, and research and innovation (Bhat and Mishra, 2020).

In India, research and development of low-carbon emission or green technology is being financed using the revenue from the carbon tax (Bhat and Mishra, 2020). The concept of employing a carbon tax as a tool for boosting economic growth as well as lowering carbon emissions is called the double dividend hypothesis (Bhat and Mishra, 2020). If properly designed, there may be benefits to using a policy instrument of carbon tax as a 'double dividend' by promoting low carbon-producing fossil fuel substitutions with those that produce high amounts of carbon dioxide (Bhat and Mishra, 2020).

In 2015, subsidies were reduced in India, and taxes on fossil fuels (petrol and diesel) increased, which transformed carbon subsidy management into one involving carbon taxation, ensuring an effective price was put on emissions (Press Information Bureau Government of India Ministry of Finance, 2015). As a result, petrol and diesel prices significantly increased, serving as a price signal for reducing fuel consumption and subsequently carbon dioxide emissions (Press Information Bureau Government of India Ministry of Finance, 2015).

In India, a positive net effective carbon rate applied to 54.7% of greenhouse gas emissions in 2021. This percentage has remained unchanged since 2018 (OECD, 2021:2). The average carbon pricing score across the 44 nations in 2018 was 12%. The effective carbon rate refers to the 'sum of tradeable emission permit prices, carbon taxes, and fuel excise taxes, all of which result in a price on carbon emissions' (OECD, 2021:2). According to OECD (2022), India does not impose an explicit carbon price. Fuel excise taxes averaged 13.16 Euros in 2021, which was a 36% increase compared to 2018 (3.48 Euros). Since 2018, there has been an 89.5% decrease in fossil fuel subsidies, resulting in an average of 0.17 Euros per tonne of carbon dioxide (OECD, 2022).

Additionally, according to ²⁷ Press Information Bureau Government of India Ministry of Finance (2015), there has been an increase in the coal cess from 50 rupees per ton to 100 rupees per ton, which, when compared to rates in the United States, amounts to about 1 US dollar per ton of Carbon Tax. 'A higher tax on coal offsets the domestic externalities, including health costs of coal for power generation' ²⁷ (Press Information Bureau Government of India Ministry of Finance, 2015). According to ³⁵ the Economic Survey, any rationalization of coal pricing should take into account the consequences related to power prices and, thus, access to energy for economically disadvantaged communities in India, which is and should remain an essential policy goal ²⁷ (Press Information Bureau Government of India Ministry of Finance, 2015).

⁵⁴ 4.2.4 Plastic Bag Tax

In 2002, the production of single-use plastic bags was banned in India, but due to poor enforcement, its effectiveness was hampered. More intensive bans that were localised across the country yielded mixed results (Kish, 2018:236). In 2016, ⁴¹ the state of Karnataka in India ensured a complete ban on ⁵⁹ plastic bags, including all plastics such as cling wrap, plastic plates, plastic spoons, plastic cups, and carrier bags (Kish, 2018:236). 'There is evidence of strong enforcement, as shown by the seizure of over 39,000 kg of illegal plastic in the capital city of Bengaluru, but rural areas show lax enforcement, rendering the ban ineffective' (Kish, 2018:236).

¹⁵ 4.3 Singapore

Singapore is a small city-state covering 716 square kilometres with one of the highest population densities in the world, with 7829 people per square kilometre (Yousefpour, Prinz, and Ng, 2020:5). Global projections of the impact of climate change have shown that the 'main risks faced by low-lying coastal cities such as Singapore are mean sea-level rise and more extreme rainfall events.' ¹⁵ Most of Singapore's land area lies less than '15m above mean sea level, and about 30% of Singapore is within 5m above mean sea level' (Yousefpour *et al.*, 2020:5).

¹¹ Singapore is regarded as one of the worst offenders in terms of carbon emissions per capita, according to the International Energy Agency's publication of Singapore's emission profile (Pham *et al.*, 2019:2). The Singaporean

government's adoption of environmental regulations demonstrates ¹¹ its concern for ensuring that the natural ecosystem is protected in response to climate change and global warming (Pham *et al.*, 2019:2).

The government of Singapore ⁷ submitted its Intended National Determined Contribution to the United Nations Framework Convention on Climate Change in July 2015, and stated that one of its objectives is to reduce its emissions intensity by 36% from the 2005 levels by 2030 and ensure that ⁷ its emissions are stabilized around 2030. As a small island city-state, Singapore ⁵¹ is responsible for about 0.11% of the greenhouse gas emissions globally and has embarked on measures and policies to reduce its emissions (Li and Su, 2017:1240). Some of the motivating factors for reducing emissions include (a) 'reducing its vulnerability to the impacts of climate change, such as increased sea levels, accelerated coastal erosion, changed weather patterns, and threatened global food supply chains'; (b) preserving economic competitiveness by moving towards an economy with low carbon emissions; as well as (c) participating in global efforts with objectives that include combating climate change (Li and Su, 2017:1240).

4.3.1 Carbon Tax

The carbon tax in Singapore reinforces efforts on net-zero targets and climate mitigation by providing an effective economic signal to encourage producers and consumers to shift away from carbon-intensive goods and services (National Climate Change Secretariat, 2023, para.1). According to the National Climate Change Secretariat (2023, para.1), these efforts are designed to hold businesses accountable for their pollution and emissions, while also enhancing the business case for developing low-carbon solutions. ¹⁶³ The carbon tax is estimated to cover approximately 80% of all greenhouse gas emissions from around 50 facilities across various sectors, including manufacturing, power, waste, and water (National Climate Change Secretariat, 2023, para.1). Therefore, the carbon tax in Singapore is considered part of ¹⁸⁴ a comprehensive set of measures aimed at mitigating carbon emissions and supporting the transition to a low-carbon ¹³⁸ economy (National Climate Change Secretariat, 2023, para.1).

It is stated that every year, facilities emitting at least ¹⁷² 25,000 tonnes of carbon dioxide equivalent are subject to the carbon tax (National Climate Change

Secretariat, 2023, para. 10). Currently, the six greenhouse gases subject to the ⁹⁹ carbon tax are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulphur hexafluoride (National Climate Change Secretariat, 2023, para. 10). As of 2024, the National Climate Change Secretariat (2023, para. 10) states that nitrogen trifluoride emissions will also be covered by the carbon price, marking a continued effort to improve environmental quality.

An article by PwC (2023b, para.1) points out that Singapore offers various tax incentives to taxpayers engaged in activities or industries identified as beneficial to the country's economic development. For instance, the Green Mark Incentive Schemes is one such tax incentive, benefiting building owners, developers, project architects, and engineers who meet the scheme's criteria (PwC, 2023b, para.2). It's important to note that applications for tax incentives undergo an approval process, with the administering agency conducting a detailed evaluation of the applicant's business plans (PwC, 2023b, para.2). Therefore, successful applicants are required to meet demanding requirements and make significant economic commitments in Singapore (PwC, 2023b, para.2).

In general, applicants in Singapore must commit to a specific amount of local business spending and skilled employment, engage in high-value activities, and contribute to expanding research, design, and innovation capabilities, with potential benefits for the entire economy (PwC, 2023b, para.3).

According to Section 16(1) of the Carbon Pricing Act 2018, ²⁸ 'carbon tax is charged on the total amount of quantifiable greenhouse gas emissions from a taxable facility of a registered person in a reporting period, as specified in an emissions report or the portion of an emissions report for the reporting period that is verified under section 12 and approved by the Agency, respectively.'

The Carbon Pricing (Amendment) Bill 27 of 2022 aims ²³ to advance Singapore's transition towards net-zero by encouraging greenhouse gas emitters to proactively reduce emissions through taxes and incentives.

⁴⁴ The carbon tax will provide incentives for emissions reductions across all sectors, supporting the shift to a low-carbon economy (Ministry of Sustainability and the Environment, 2023, para.2). It is further stated that no exemptions will be granted

⁴⁴ for covered facilities to maintain a transparent, fair, and consistent price signal across the economy (Ministry of Sustainability and the Environment, 2023, para.2).

Legislative amendments, including the gradual ²³ increase in carbon tax rates from SGD 5 per tonne of greenhouse gas emissions, are set to take effect on 1 January 2024 (National Environment Agency, 2023, Para.1).

4.3.2 The Singapore Green Plan 2030

³ The Singapore Green Plan 2030 was introduced in the Singapore Parliament on 1 February 2021. Marking a significant shift in Singapore's national strategy, the Green Plan represents a nationwide effort ³ to proactively advance the sustainability agenda (Chng and Ong, 2021:3). It outlines the nation's goals and plans for going green.

Singapore became ⁹⁵ the first country in South-East Asia to implement a carbon tax through the Carbon Pricing Act 22 of 2018 (Chng and Ong, 2021:3). The country also passed ³ the Resource Sustainability Act in 2019, which encourages businesses ³ to reduce waste, signalling Singapore's commitment to sustainability in recent years (Chng and Ong, 2021:3). ³ The Green Plan comprises five main pillars that represent ³ priority areas for Singapore's sustainable development from 2020 to 2030. These five pillars are city in nature which is inclusive of natural elements in urban design; sustainable living which fosters the conservation of resources; energy reset which focuses on increasing energy efficiency and making use of greener energy; green economy which looks at the switch to sustainability as the economy's driver for growth; as well as a resilient future which includes making adaptations towards the reduction and management of climate change. The Green Plan has sector-based objectives that are continually improved in the hopes that it would function as a spur for widespread action (Chng and Ong, 2021:3).

4.3.2.1 Carbon Dioxide Emissions

²¹ Singapore committed to the Paris Agreement made under the United Nations Framework Convention on Climate Change in December 2015 (National Climate Change Secretariat, 2023). After signing the Paris Agreement, Singapore ¹⁵⁸ committed to lowering its peak carbon dioxide emissions to less than 65 million

tons by 2030, halving them by 2050, and eliminating them by 2100 (Lau *et al.*, 2021:2). Despite being a small nation, Singapore is greatly impacted by climate change (Bhati, Hansen, and Chan, 2017:230).

4.3.2.2 Energy

It is stated that "households account for approximately 15% of electricity consumption in Singapore" (Bhati *et al.*, 2017:230). Under the Energy Conservation Act (2012), mandatory energy labelling was introduced for registered goods in Singapore. These registered goods refer to any regulated goods registered under Section 13(2) of the Energy Conservation Act (2012), such as refrigerators and air conditioners. This means that all electrical appliances sold in Singapore, such as refrigerators and air conditioners, must be energy-labelled (Bhati *et al.*, 2017:230). An energy label summarises information about the goods, including annual energy cost, and ensures that energy use can be tracked and recorded to measure emissions.

In 2007, Singapore's Ministry of Trade and Industry developed the National Policy Energy Framework with the objective of addressing the importance of energy security and environmental sustainability while balancing sustained competitiveness and economic growth efforts (Bhati *et al.*, 2017:230). The emphasis is on strategies and policies aligned with the residential sector to improve energy efficiency (Bhati *et al.*, 2017:230).

4.3.2.4 The Carbon Pricing (Amendment) Act 27 of 2022

The Carbon Pricing (Amendment) Act 27 of 2022, which came into effect on 7 March 2023, amends the Carbon Pricing Act of 2018 and aims to advance Singapore's transition towards a net-zero emissions future (Leck *et al.*, 2023, para.1; Ministry of Sustainability and the Environment, 2023). The Act seeks to encourage greenhouse gas emitters to proactively reduce emissions by progressively increasing carbon tax rates and reviewing the greenhouse gases list and their potential global warming values. It also introduces an industry transition framework to provide transitory allowances to organization sectors exposed to emissions-intensive trade.

Based on the Carbon Pricing (Amendment) Act 27 of 2022, large emitters will be able to use high-quality international credits to offset up to 5% of their taxable

emissions from 2024, thus lowering their tax liability. In Singapore, it is stated that using domestic offsets has been a conventional characteristic of carbon pricing schemes. However, the country's hybrid model, is regarded as innovative as it allows the use of international carbon credits for compliance purposes. It is also pointed out to be one of the first applications that allow countries to use carbon credits in fulfilling their nationally determined contributions (Wei, Ai and Tan, 2022, para.3). In this regard, the approach that Singapore has taken calls attention to how the boundaries are becoming increasingly blurred when it comes to compliance and voluntary markets (Wei, Ai and Tan, 2022, para.3). This is done by allowing for the use of carbon credits meeting the requirements of the Paris Agreement's Article 6 and are also certified by independent standards (Wei, Ai and Tan, 2022, para.3).

4.3.2.3 Road and Transport Taxes

The Green Plan also includes changes to tax laws (Chng and Ong, 2021:7). As part of the energy reset pillar, aimed at increasing the adoption of electric cars at the mass-market level, one adjustment is the reduction of road fees and registration costs for customers purchasing electric vehicles (Chng and Ong, 2021:7). The Green Plan 2030 reduces road taxes for larger electric vehicles by combining the road tax brackets for vehicles with a maximum electric power rating of 30 to 90 kilowatts and 90 to 230 kilowatts, with vehicles in the upper bracket subject to the road tax formula of the lower bracket. According to Chng and Ong (2021:7), this reduction is expected to result in a 30% to 40% decrease in road tax for electric cars in the top band. The government also increased gasoline tax rates, which became effective on the day the green plan policy was implemented in 2023 in Parliament to make electric cars and other cleaner alternatives more appealing to customers (Chng and Ong, 2021:7).

Moreover, due to severe congestion, the Road Transport Action Committee introduced various systems to curb this challenge. These included priority lanes for buses, staggered working hours, and other measures to manage traffic demand (International Transport Forum, 2020:7). The Road Transport Action Committee also proposed the introduction of congestion pricing schemes or a license charge, charging cars entering the central business district during

morning peak hours. ²⁰ Congestion pricing schemes have been successfully implemented by very few cities, including Singapore, with the aim of reducing traffic resulting from excessive vehicles (Diao, 2019:3). Singapore has continuously adjusted its transport policies as road travel has increased over the years (Diao, 2019:3).

A low-carbon alternative is potentially offered by electric vehicles compared to petrol-powered vehicles. ⁸¹ In line with global trends, part of Singapore's Green Plan 2023 is the promotion of electric vehicles on its shores (Government of Singapore, 2023, para.1). ⁶⁹ The development of electric vehicles is driven by the need for cleaner and more efficient road transport (Nian, Hari, and Yuan, 2019:1106). Additionally, Singapore introduced an electric vehicle early adoption incentive that started on 1 January 2021, and is intended to run until 31 December 2023 (Ministry of Transport, 2023, para.2). ¹⁴⁸ With this incentive, owners who register fully electric cars will receive a 45% deduction off the additional registration fee, which is limited to \$20,000 (Ministry of Transport, 2023, para.2). This incentive aims to narrow the upfront cost gap between electric cars and cars with internal combustion engines (Ministry of Transport, 2023, para.2).

²⁰ Over the years, three pillars have underpinned efforts to achieve sustainable transport in Singapore, including discouraging private motorized mobility, promoting public and shared mobility, and adopting an integrated approach to land use and transport planning (Nian *et al.*, 2019:1107). These three pillars are reinforced by ongoing efforts involving green taxation policies, such as the electric vehicle early adoption incentive, the introduction of priority lanes for buses, staggered working hours, measures to manage traffic demand, and congestion pricing schemes, which aim ⁷² to reduce the number of vehicles on the road (Nian *et al.*, 2019:1107).

4.3.3 Plastic Bag Tax

In 2016 alone, the amount of plastic disposed of in Singapore reached 147 kg per person, and in 2017, over 2,000 plastic bags were recorded to be discarded every 3 seconds, yet the plastic recycling rate remained at only 7% since 2003 (Hui, 2018, para.2). Singapore is often considered an example of sustainable development; however, by 2015, the country still lacked legislation addressing

the plastic bag issue (Teasdale-Hensby and Lye, 2015:132). It has been argued that the environmental impact of this overuse is unclear at this time, as well as the clear steps or actions that should be taken (Teasdale-Hensby and Lye, 2015:132). Nevertheless, the National Environment Agency (2023, para.1) states that as of 3 July 2023, it will be required that large supermarket operators, holding a license with the Singapore Food Agency and having an annual turnover above \$100 million, charge at least 5 cents for a disposable carrier bag provided at their supermarkets. Furthermore, the charge will be applicable to all disposable carrier bags made from any material type (National Environment Agency, 2023, para.1).

4.4 Australia

As a share of gross domestic product, among 34 OECD and 5 partner economies, Australia is said to have the 16th lowest tax revenue that is environmentally related. It is stated that tax revenues related to the environment were at 1.86% of the gross domestic product in 2014, compared to the average of 2.0% among the 39 countries (OECD, 2022:20). It is further stated that when comparing it to the 70% on average among the 39 countries, Australia's taxes on energy constituted 65% of the total tax revenue that is environmentally related (OECD, 2022:2).

According to the Australian Department of Climate Change, Energy, the Environment, and Water (2022), climate change is already impacting Australia by warming the climate, increasing the frequency and severity of disasters, raising sea levels, and affecting native species. Climate changes are expected to intensify over the coming decades, and some impacts are inevitable, even with strong actions to reduce greenhouse gas emissions. The Australian Government is taking practical adaptation actions to make environmental and water assets more resilient to these challenges (Department of Climate Change, Energy, the Environment and Water, 2022).

Considered Australia's essential piece of environmental legislation is the Environment Protection and Biodiversity Conservation Act of 1999 (Department of Climate Change, Energy, the Environment, and Water, 2021, para.2). The Act provides a legal framework for the protection and management of nationally and internationally important flora, fauna, ecological communities, and heritage places (Department of Climate Change, Energy, the Environment, and Water,

2021, para.2).¹² The Environment Protection and Biodiversity Conservation Act of 1999 defines issues of national significance concerning environmental protection¹² (Department of Climate Change, Energy, the Environment and Water, 2021, para.2).

Additionally,¹² the Environment Protection and Biodiversity Conservation Act of 1999 confers jurisdiction over actions that significantly affect the environment¹⁰⁸ (Department of Climate Change, Energy, the Environment, and Water, 2021, para.2). This jurisdiction covers actions directly impacting Commonwealth land or³⁶ carried out by a Commonwealth agency, even if they don't relate to one of the³⁶ nine matters of 'national environmental significance'¹² (Department of Climate Change, Energy, the Environment, and Water, 2021, para.2).

It is stated that for all Australians, issues of national environmental significance are important and due to the global interconnection, these issues are spread internationally as well¹² (Department of Climate Change, Energy, the Environment and Water, 2021, para.2). Therefore, balancing the society's economic and social¹¹⁹ needs with protecting the vital environmental and cultural standards is one of the objectives of the Environment Protection and Biodiversity Conservation Act of 1999. This balance is done through the creation of a legal framework¹⁸¹ as well as the decision-making process¹² founded on the guiding ideologies of ecologically sustainable development (Department of Climate Change, Energy, the Environment and Water, 2021, para.2).

Moreover, in total, '14.9% of greenhouse gas emissions in Australia have been subject to a positive Net Effective Carbon Rate in 2021, unchanged since 2018' (OECD, 2022:1). It is further⁴⁸ stated that an explicit carbon tax is not levied in Australia (OECD, 2022:1). Fuel excise taxes, an implicit form of carbon pricing, cover 14.9% of emissions in 2021, unchanged since 2018 (OECD, 2022:1). Fossil fuel subsidies cover 1.3% of emissions in 2021, unchanged since 2018 (OECD, 2022:1). Although such a tax was introduced in 2011, it was repealed in 2014, as discussed in the next paragraph.

¹⁰ The Australian government, using the Clean Energy Act 131 of 2011, presented¹⁴ a carbon pricing scheme or 'carbon tax'. The initiative was introduced to regulate

the country's emissions and support economic growth by developing clean energy technologies (Centre for Public Impact, 2017, para.1). The Climate Change Authority and the Clean Energy Regulator were both responsible for supervising this initiative. The introduction of the carbon pricing scheme or 'carbon tax' resulted in a reduction in the country's carbon emissions; however, the initiative faced substantial challenges from the public and opposition (Centre for Public Impact, 2017, para.1). Owing to these challenges, it led to increased energy prices for households and industry, and it was finally repealed in 2014 (Centre for Public Impact, 2017, para.1).

According to the now-repealed Clean Energy Act 131 of 2011, selected entities were required to surrender one emissions unit for every tonne of carbon dioxide equivalent they produced each year. In the first year (2012-13), carbon units could be purchased from the Clean Energy Regulator for a fixed price of 23 Australian Dollars per unit, and in 2013-14, carbon units could be purchased for 24.15 Australian Dollars per unit. A 'unit shortfall charge' would be incurred by those who did not surrender enough units or no units at all. This charge provided an incentive for companies to surrender extra units under the mechanism, rather than paying a higher unit shortfall charge (Centre for Public Impact, 2017, para.1). Introducing incentives for companies to surrender extra units instead of paying a higher unit shortfall charge could be beneficial if implemented in South Africa.

In addition to the company tax, the oil and gas sector in Australia is also subject to the petroleum resource rent tax (Kraal, 2019:216). To attract foreign direct investment for petroleum exploration and development and to increase tax revenue, the petroleum resource rent tax was implemented in 1987 (Kraal, 2019:216). In Australia, extra revenues, also known as economic rent, from oil and gas projects are taxed (Kraal, 2019:216). Investors may find this tax attractive because it is only due when prescribed cash inflows exceed prescribed cash outflows. In other words, the tax is payable once a project becomes profitable, compared to a levy for production royalty based on the value of the resource upon extraction (Kraal, 2019:215). For example, Qatar receives royalties on the gross value of its gas sales before profit is calculated (Kraal, 2019:215).

According to Kraal (2019:216), the 2015 productivity commission report showed that the research and development tax offset is the primary form of tax incentive for large and foreign-owned extractive companies in Australia. Although Australia's annual tax expenditure statements are made public, they do not include a value for many concessional elements of the petroleum resource rent tax, such as tax ring fence concessions (Kraal, 2019:216).

4.4.1 Road and Transport

According to Pearce (2017:1), Australia's transport sector heavily relies on oil, accounting for 18.1% of the country's yearly greenhouse gas emissions. Moreover, among OECD member countries, Australia has one of the highest rates of vehicle ownership, with vehicle ownership at 0.76 per capita in 2015 (Marriott and Mortimore, 2017:35). The vehicle fleet is old, with an average age of all registered vehicles being 10.1 years. Marriott and Mortimore (2017:35) further point out that 77.7% of the total vehicle fleet is powered by petrol, while those powered by diesel account for 19.7%. Road transport is heavily taxed in Australia, as in many countries, generating a total revenue of over \$27 billion for both Federal and State levels of government. Australia imposes significant green taxation on vehicle use to discourage and reduce road activity (Lignier, 2011:138).

Moreover, one of the country's largest contributors to the growth of emissions is transport emissions, which had a 50.9% increase from 1990 to 2013 (Marriott and Mortimore, 2017:33). In response, the Anu Tax and Transfer Policy Institute (2022:1) mentions that passenger vehicles are subject to the goods and services tax at a flat rate of 10%. Additionally, there is a luxury car tax, which is applied to all passenger vehicle sales for vehicles not older than 2 years. This luxury car tax is charged at a rate of 33% on top of the goods and services tax, including the value of the vehicle above the luxury car tax threshold (Anu Tax and Transfer Policy Institute, 2022:1). For 2021/2022, these thresholds were \$79,569 for vehicles considered fuel-efficient (fuel consumption not exceeding 7L/100km) and \$69,152 for all other vehicles (Anu Tax and Transfer Policy Institute, 2022:1).

As part of the Australian government's Powering Australia Plan, the country introduced the National Electric Vehicle Strategy, aiming to improve the

affordability of electric vehicles, create jobs, and reduce emissions. It offers a consistent national framework to move the road transport sector in Australia toward a net-zero emissions pathway (National Electric Vehicle Strategy, 2023:1). While Australia lags behind other advanced and emerging economies in electric vehicle demand, there is still growth in this sector (National Electric Vehicle Strategy, 2023:1). To illustrate, in 2021, electric vehicle sales accounted for around 9% of the global car market, indicating slow but promising progress toward a cleaner world (National Electric Vehicle Strategy, 2023:8).

Moreover, on the Australian Government website, a variety of tax benefits may be provided for operations connected to the Australian shipping industry. The Australian Government website (Australian Government, n.d.) defines one ⁵ key goal of the shipping exempt income tax incentive as attracting both existing and new ⁵ vessels to be registered in Australia. According to section 51-100 of the Income Tax Assessment Act 1997, this tax incentive allows certain forms of income generated from activities in the shipping industry to be relieved from income tax if they meet specific criteria and are qualified vessels (Australian Government, n.d.). ⁵ The income from incidental shipping activities may fall under the shipping exempt income tax incentive only if the total incidental shipping income does not exceed 0.25% of the total core shipping income in any one income year (Section 51-100 of the Income Tax Assessment Act 1997 refers) (Australian Government, n.d.).

⁵ These incentives are designed to encourage investment in the Australian shipping industry, create sustainable employment opportunities, and enhance skills for seafarers in Australia. Additionally, they aim to reduce on-road activity by redirecting investment from on-road vehicles to shipping methods, especially among logistics companies (Australian Government, n.d.). Companies can claim applicable tax incentives once they have obtained a certificate, and this claim is made through the company's ⁵ tax return, submitted to the Australian Tax Office. ⁵⁶ The Income Tax Assessment Act 1997 and the Income Tax Assessment Act 1936 (as amended by the Tax Laws Amendment (Shipping Reform) Act 2012) contain additional criteria for each of the incentives (Australian Government, n.d.).

4.4.2 Minerals Resource Rent Tax

According to the Australian Taxation Office (2016, para.1), the minerals resource rent tax is a tax applied to specific profits from extracting taxable resources. Taxable resources include iron ore, coal, and coal seam gas extracted as a necessary occurrence of coal mining (Australian Taxation Office, 2016 para.1). The minerals resource rent tax applies to entities with a mining project interest or those who hold a pre-mining project interest (Australian Taxation Office, 2016 para.2). The effective rate of the minerals resource rent tax is 22.5% (Australian Taxation Office, 2016 para.3).

In addition, Australia has introduced the petroleum resource rent tax (Deloitte, 2023:2). This tax applies to projects related to oil and gas located offshore in Australian Commonwealth waters (Deloitte, 2023:2). The petroleum resource rent tax is applied to taxable profits obtained from petroleum projects in a tax year and is levied at a rate of 40%.

4.4.3 Plastic Bag Tax

Australia began its efforts to limit the use of single-use plastic shopping bags in 2003 (Macintosh *et al.*, 2020:2). This initiative was introduced when the Environment Protection and Heritage Council set a goal to gradually eliminate lightweight bags by 2008. The Environment Protection and Heritage Council, comprising environment ministers from Australia and New Zealand, sanctioned an industry voluntary code of practice for reducing the consumption of single-use plastic bags (Macintosh *et al.*, 2020:2). The council sanctioned an industry voluntary code of practice for the reduction of the consumption of single-use plastic bag (Macintosh *et al.*, 2020:2). South Australia took the lead among all nine states in Australia by passing legislation in 2008 to ban the distribution and sale of plastic shopping bags as of May 2009. The requirement was that these plastic shopping bags needed to be at least 35 microns, excluding biodegradable bags and those essential for sealing packaged goods (Macintosh *et al.*, 2020:2). In 2021, seven out of eight states or territories in Australia had bag bans in place (National Retail Association, 2021, p.1).

4.5 Conclusion

This chapter provides an overview of Australia, India, and Singapore regarding environmental plans and taxation in general. It is noteworthy that despite India's environmental legislation and policies, there are concerns about the country's growing impact on emissions affecting the local population and economy. Similarly, Singapore has introduced environmental regulations to address these concerns, yet, like India, it is still considered one of the major contributors to environmental issues, especially in terms of carbon emissions. In contrast, Australia established ¹⁰ the Climate Change Authority and the Clean Energy Regulator, contributing to ³³ the reduction of carbon emissions in the country, despite facing significant challenges from the public. The following chapter will focus on comparing green taxation practices between ³³ Australia, India, Singapore, and South Africa.

CHAPTER FIVE: A COMPARISON OF GREEN TAXATION BETWEEN AUSTRALIA, INDIA, SINGAPORE, AND SOUTH AFRICA

5.1 Introduction

Based on the research conducted in chapters three and four, this chapter presents a comparison of the green taxation policies of Australia, India, Singapore, and South Africa. The taxation policies discussed in this chapter include transport tax, carbon tax, and plastic tax.

5.2 Transport Tax

The comparative analysis of each country's green taxation policies concerning transport is detailed below:

Table 1. **Comparative Analysis of Transport Taxes Between Australia, India, Singapore, and South Africa**

Details	Australia	India	Singapore	South Africa
Transport Tax	Goods and Services Tax is applied on passenger vehicles at a flat rate of 10% (Anu Tax and Transfer Policy Institute, 2022:1). Luxury Car Tax is imposed on all sales of passenger vehicles that	Commercial car owners subject to pay a green tax of 10% - 25% of the unpaid road tax obligations (ICICI Lombard General Insurance, 2023, para.4). Private vehicles may have to pay up to 50% of	Road tax forms part of the vehicle ownership tax. Every registered vehicle ought to have valid road tax (One Motoring, 2023, para.1). There is a road tax surcharge on top of the vehicle's original road	The carbon dioxide motor vehicle emissions levy is charged at R120 for every gram above 95g carbon dioxide per kilometre for passenger vehicles and R160 for every gram above 175g of carbon

	37 are two years old or less, at a rate of 33% (Anu Tax and Transfer Policy Institute, 2022:1; Greene, Patterson, Singh, and Li, 2005.)	8 their required road taxes as green taxes. For instance, if the road tax is 6000 Indian Rupees, the Green Tax could be as much as 3000 Indian Rupees (ICICI Lombard General Insurance, 2023, para.4).	tax of 10% - 50% for vehicles older than 10 years (One Motoring, 2023, para.1).	2 dioxide per kilometre for double cab vehicles (The South African Government, 2023).
--	--	---	--	--

As shown in Table 1, Australia, India, and Singapore impose a minimum rate of 10% for their transport taxes. However, each country increases the percentage depending on their specific additions to the tax. For example, Australia added a Luxury Car Tax at a rate of 33%, while commercial car owners in India may pay up to 25%. South Africa does not specify a percentage, but charges based on emissions per gram. For example, the charge is R120 for every gram above 95g carbon dioxide per kilometre for passenger vehicles. This calculation is not based on the cost of the vehicle, but rather on the vehicle's continuous impact on the environment.

5.3 Carbon Tax

The comparative analysis of each country's green taxation policies concerning carbon tax is detailed below:

Table 2. **Comparative Analysis of Carbon Taxes Between Australia, India, Singapore, and South Africa**

Details	Australia	India	Singapore	South Africa
Carbon Tax	¹⁴ Carbon pricing scheme or 'carbon tax' through the Clean Energy Act 131 of 2011 (Centre for Public Impact, 2017, para.1). Although such a tax was introduced in 2011, it was repealed in 2014.	No explicit Carbon Tax. This clean environment cess is over ²⁴ and above the 5% to 6% excise duty on coal which predates the launch of climate change mitigation policies (Ojha <i>et al.</i> , 2020:2).	The Carbon Pricing (Amendment) Bill 27 of 2022	Carbon Tax Act 15 of 2019

All for countries have tried to deal with carbon emissions through the introduction of legislation; however, India does not seem to have introduced an Act in this regard. For example, even though India does not have an Act that explicitly deals with carbon tax, the country introduced the Clean Environment Cess in 2010 which was a fiscal tool aimed at reducing coal usage as well as related carbon emissions. This can be argued to ¹³⁶ have a lasting positive impact on the environment and the country's efforts in environmental preservation compared to Australia, which introduced an Act (Clean Energy Act 131 of 2011) and later

having it repealed. Both Singapore and South Africa in this regard are similar in that they both have an Act that specifically addresses carbon Tax and pricing, and these were introduced a few years later after Australia.

5.4 Plastic Bag Tax

The comparative analysis of each country's green taxation policies concerning plastic tax is detailed below:

Table 3. Comparative Analysis of Plastic Bag Taxes Between Australia, India, Singapore, and South Africa

Details	Australia	India	Singapore	South Africa
Plastic Bag Tax	⁴ The sale and distribution of plastic shopping bags less than 35 microns is banned in Australia. Exceptions are made where plastic bags are part of packaging goods prior to sale or are biodegradable bags.	⁵⁴ In 2002, the use of single-use plastic bags was banned. Enforcement has been lacking, hampering its effectiveness (Kish, 2018:236).	Charge at least 5c for a disposable carrier bag provided at supermarkets. Applicable to all disposable carrier bags made from any material type (National Environment Agency, 2023, para.1).	A plastic bag levy was introduced in ⁷² an effort to reduce and possibly eliminate the use of plastic bags, encourage reuse, and reduce littering. ⁷⁷ Bags were charged at 25 cents each starting from 1 April 2020.

These four countries implemented their plastic bag tax initiatives in the early 2000s. However, the approach to reducing plastic bag usage varies. Australia ⁴ banned the sale and distribution of plastic shopping bags less than 35 microns, with exceptions for biodegradable bags. India initially banned the production of

plastic bags but faced enforcement challenges. Singapore and South Africa introduced a levy or tax on plastic bags, with South Africa charging 25 cents per bag, while Singapore charged 5 cents per bag.

5.5 Conclusion

This chapter provides ¹¹² a comparative analysis of the green taxation policies of Australia, India, Singapore, and South Africa ¹⁵⁹ in the context of transport tax, carbon tax, and plastic tax. There appeared to be varying degrees of improvement, development, and success, or lack thereof, among the four countries, and this can be attributed to each country's economic development. For instance, the differences between Singapore's and South Africa's plastic bag levy can be attributed to their respective levels of economic development and what best serves the interests of each country's citizens. The following chapter summarizes and concludes the study based on the comparisons made.

CHAPTER SIX: CONCLUSION

9

6.1 Introduction

This chapter will summarise the research findings, provide concluding remarks, and make recommendations for addressing future research gaps.

6.2 Summary

With Asian cities being perceived as the most polluted in the world, India is considered to be one of the five most polluted Asian countries (Dulal *et al.*, 2015:2). Various concerns are associated with this, including the growing impact of emissions on India's economy and the local population (Dulal *et al.*, 2015:2). Despite the environmental policies and legislation in India, the pollution impact persists (Harrison *et al.*, 2015:2). However, there is progress in India, as it has been at the forefront of implementing property tax assessment incentives for green buildings (Shazmin *et al.*, 2016:544; Shazmin *et al.*, 2017).

Moreover, considering that India is among the most polluted countries globally, it has been noted that transport significantly contributes to high levels of urban air pollution, along with adverse socio-economic, health, welfare impacts, and environmental health (Gupta, 2016:46, citing Badami, 2005). In response, the Indian government is working on introducing green taxation on vehicles (ICICI Lombard General Insurance, 2023, para.4). On the other hand, Singapore has also made progress by adjusting and modifying its transport policies over time (Diao, 2019:3). Additionally, since transport emissions are a major contributor to Australia's emissions growth, the country has introduced the National Electric Vehicle Strategy (National Electric Vehicle Strategy, 2023:1).

As seen in section 4.2.2, India is contemplating a green vehicle taxation on private vehicles older than 15 years and commercial vehicles older than eight years to encourage the removal of old cars from the road (ICICI Lombard General Insurance, 2023, para.4). It can be argued that South Africa could work toward imposing green taxation on vehicles when motorists renew their registration documents. When car owners are responsible for the green tax, they may consider buying environmentally friendly cars in the future.

Singapore has successfully implemented congestion pricing schemes to reduce traffic and, consequently, emissions (Diao, 2019:3). South Africa could potentially implement a similar scheme in the future once efficient public transport systems are developed and implemented.

South Africa, as seen in section 3.3.5, has introduced the motor vehicle carbon dioxide emissions tax in accordance with ³⁰ the National Environmental Management Act 107 of 1998, the National Environmental Management: Biodiversity Act 10 of 2004, and the National Environmental Management: Protected Areas Act 57 of 2003. This can be viewed as a progressive stance by South Africa, and it is arguable that India should impose a carbon dioxide emissions tax, similar to South Africa.

Another positive development in India is that ¹⁹ carbon tax revenue is being utilised to finance ¹³⁹ the research and development of low carbon-emitting technologies or green technologies. On the other hand, in Singapore, ⁷⁹ the carbon tax is part of a comprehensive set of measures aimed at mitigating carbon emissions and ⁶⁶ transitioning to a low-carbon economy (National Climate Change Secretariat, 2023, para.1). Australia ⁶⁶ introduced a carbon pricing scheme through the Clean Energy Act 131 of 2011; however, it was repealed (see section 4.4), resulting in Australia not levying an explicit carbon price. South Africa has also introduced the Carbon Tax Act 15 of 2019 (see section 3.3.1.1). Nevertheless, compared to Australia, Singapore, and India, it took South Africa longer to implement these measures (see section 5.3). Enforcing pricing or penalties for transport activities such as vehicle ownership duty, carbon tax, and congestion charges would help mitigate carbon emissions and raise awareness of environmentally friendly transport (OECD, 2022:1).

¹⁸ The use of plastic bags has been a global challenge, and in 2002, India responded by banning the production of single-use plastic bags (Kish, 2018:236). However, it is argued that there has been a lack of enforcement, negatively affecting the effectiveness of this ban and resulting in mixed responses (Kish, 2018:236). In Australia, the country introduced ⁴ the Plastic Shopping Bags Ban Act 2010 to reduce the use of plastic bags and their negative impact (see section 5.4.3). South Africa has also addressed this challenge since signing a

memorandum in 2002 (Dikgang *et al.*, 2012). While the three countries mentioned above have made progress, Singapore currently lacks legislation addressing the use of plastic bags (Teasdale-Hensby and Lye, 2015:132). Singapore is seen as a developed nation; however, its policies, such as introducing the plastic bag tax in 2023 (see section 5.4.2), may be considered a slow response to an urgent global challenge, while South Africa has been implementing and seeing progress for years.

Singapore requires applicants who want to benefit from green tax incentives to meet strict requirements and commit to economic contributions (PwC, 2023b, para.2). This is something South Africa can also implement to ensure that taxpayers claiming green tax incentives have initiatives that are truly sustainable and can make a difference to the environment and society. A recommendation is for South Africa to consider taxing even exported goods that may be harmful to the environment, even if they are used outside of South Africa, to show care for the greater world.

South Africa has made progress in developing its green taxation legislation through the introduction and implementation of various levies, such as the tyre levy, which has not been introduced in other countries to promote a cleaner and better world. South Africa should continue partnering with other countries to develop innovative and effective action plans, but it should also make an extra effort to create plans and commitments that will address specific South African problems.

6.3 Conclusions

As observed in the reviewed literature, global challenges that have been debated for many years include climate change and global warming (Brink, 2019, para.1). It has been noted that increases in atmospheric carbon dioxide have manifested as predicted as far back as 1982. Although global warming and climate change are sometimes perceived as abstract topics, their effects on local communities are increasingly being felt. Consequently, there have been developments and modifications in the taxation systems of different countries.

The first research sub-question aimed to elaborate on the definition of green taxation. It has been observed that many countries, including South Africa, use green taxes, also known as 'environmental taxes' or 'pollution taxes,' as one of their policy tools. South Africa's share of GDP has the 18th highest environmentally related tax revenue among 34 OECD countries and five partner economies.

The literature also revealed that environmental, social, and governance issues have gained more attention over time, with tax regulatory bodies working to ensure that the incentives put forth are effective in encouraging positive actions. In addition, penalties for noncompliance and discouraging any deviation from initiatives focused on making a positive difference may be beneficial (Kamil, 2015). One might argue that to work toward net-zero emissions goals and have a lasting impact on climate change, it is vital to monitor green taxes and incentives across countries. According to Freire-González (2018:2), environmental taxes are becoming increasingly recognized as a powerful economic tool for incentivizing consumers and producers to adopt more sustainable practices. The noticeable climatic changes, man-made greenhouse gas emissions - primarily from the burning of fossil fuels - as well as changes in land use are increasing discussions about the environment and its sustainability.

The second research sub-question was to establish how green taxation systems have been applied in South Africa, through the Income Tax Act 58 of 1962 and the Carbon Tax Act 15 of 2019. Legislation over the past years has made it possible for businesses and society to benefit greatly from green taxation and green taxation incentives, such as accelerated allowances and tax credits because of green investing (see sections 12B and 12C of the Income Tax Act 58 of 1962).

The report also sought to understand the specific taxation systems implemented in Australia, India, and Singapore. All these countries have made developments, and in some areas, they seem to have not made much progress. For example, in Australia, a carbon pricing scheme was introduced, but they do not levy an explicit carbon price because the Act was repealed in 2014. Australia is considered to be not environmentally friendly across various sectors, including road transport,

which was also analysed in section 4.4.1 of this report (Marriott and Mortimore, 2017:23).

The third sub-question of the report aimed to examine the green taxation policies that have been implemented in Australia, Singapore, and India. This sub-question was addressed in chapter four. The chapter discussed each country separately, and sub-headings included coal taxation, road and transport tax, carbon tax, the Singapore Green Plan 2030, road and transport taxes, carbon dioxide emissions, energy, the Carbon Pricing (Amendment) Act 27 of 2022, as well as minerals resource rent tax.

The fourth and final sub-question was the comparison of the implementation of South African green taxation with that of Australia, India, and Singapore. The comparisons were made in chapter five. It is noted that each country has made progress that is unique to them. However, even as that is the case, it does not necessarily mean that developed countries have better environmental policies, as seen with Singapore's introduction of the plastic bag tax almost 20 years after South Africa (a developing country) has been successfully implementing the levy. For example, in India, the production of plastic one-use bags was banned, but due to a lack of enforcement, there seems to be a lack of effectiveness. With that in mind, although South Africa needs to learn from other countries, for example, by learning from Australia to reduce the use of on-road activity by redirecting investment from on-road vehicles to shipping methods, especially by logistics companies (see section 4.4.1), they too can learn from South Africa's progress, for example, by implementing the tyre levy.

6.4 Limitations to be Addressed in Future Research

The author of the research report was unable to locate sufficient studies on the impact of green taxes on the compared countries. Most studies that were found focused more on carbon emissions than on other factors that negatively affect the environment. Therefore, further comparative studies need to be aware of such factors and examine them, as they have a significant impact on policy development and implementation (Raub *et al.*, 2022:314).

REFERENCES

- Ahmad, M. and Zhao, Z.Y. 2018. 'Empirics on linkages among industrialization, urbanization, energy consumption, CO2 emissions and economic growth: a heterogeneous panel study of China'. *Environmental Science and Pollution Research*, 25, pp.30617-30632.
- Ambareen, B. 2023. 'A critical analysis of environmental taxes in Mauritius; A comparative study with South Africa'. *Development Southern Africa*, pp.1-15.
- Anu Tax and Transfer Policy Institute. 2022. Australia's tax policy: How are passenger vehicles taxed? Tax Fact #25, Tax and Transfer Policy Institute, Canberra. Available from: https://www.austaxpolicy.com/wp-content/uploads/2022/05/tf25_upload.pdf. [26 June 2023].
- Arora, N.K. and Mishra, I. 2021. 'COP26: more challenges than achievements.' *Environmental Sustainability*, 4, pp.585-588.
- Australian Government. n.d. *Tax incentives for Australian shipping*. Available from: <https://www.infrastructure.gov.au/infrastructure-transport-vehicles/maritime/maritime-business/tax-incentives> [30 April 2023].
- Australian Taxation Office. 2016. *Minerals resource rent tax (MRRT)*. Available from: <https://www.ato.gov.au/business/minerals-resource-rent-tax/>. [26 June 2023].
- Averchenkova, A., Gannon, K.E. and Curran, P. 2019. 'Governance of climate change policy: A case study of South Africa'. *Grantham Research Institute on Climate Change and the Environment Policy Report*, pp.1-39.
- Avi-Yonah, R.S. and Uhlmann, D.M. 2009. 'Combating global climate change: Why a carbon tax is a better response to global warming than cap and trade'. *Stanford Environmental Law Journal*, 28, p.3.
- Aydin, M. and Bozatli, O. 2022. 'Do transport taxes reduce air pollution in the top 10 countries with the highest transport tax revenues? A country-specific panel

data analysis'. *Environmental Science and Pollution Research*, 29(36), pp.54181-54192.

Batchelder, L.L., Goldberg Jr, F.T. and Orszag, P.R. 2006. 'Efficiency and tax incentives: The case for refundable tax credits'. *Stanford Law Review*, pp.23-76.

Baur, M., Bruchez, P.A. and Nicol, S. 2021. *Climate Change and Long-term Fiscal Sustainability. Working Party of Senior Budget Officials*. Available from: <https://www.oecd.org/gov/budgeting/scoping-paper-on-fiscal-sustainability-and-climate-change.pdf>. [20 April 2023].

Biereenu-Nnabugwu, M. 2018. 'Thoughts and Perspectives on Research Designing in Political Inquiry'. *Socialscientia: Journal of Social Sciences and Humanities*, 3(2).

Bhati, A., Hansen, M. and Chan, C.M. 2017. 'Energy conservation through smart homes in a smart city: A lesson for Singapore households'. *Energy Policy*, 104, pp.230-239.

Bhat, A.A. and Mishra, P.P. 2020. 'Evaluating the performance of carbon tax on green technology: evidence from India'. *Environmental Science and Pollution Research*, 27, pp.2226-2237.

Boadway, R. and Keen, M. 2010. Theoretical perspectives on resource tax design. In *The taxation of petroleum and minerals*, pp. 29-90. Routledge.

Boglea, V.A., 2011. 'Green taxes-an instrument of the sustainable development in the European Union'. *Regional and Business Studies*, 3(1), pp.159-166.

Bradbury, D. and Dender, K. V. (n.d). *Environmentally related taxes: Taxes on energy use*. Available from: <https://www.oecd.org/tax/tax-policy/environmental-tax-profile-south-africa.pdf>. [15 March 2023].

Bridle, R., Muzondo, C., Schmidt, M., Laan, T., Viswamohanan, A. and Geddes, A. 2022, January. *South Africa's Energy Fiscal Policies: An inventory of subsidies, taxes, and policies impacting the energy transition*. Available from: <https://www.iisd.org/system/files/2022-01/south-africa-energy-subsidies.pdf>. [02 June 2023].

Brink, J. 2019. *Increasing focus on environmental taxes in South Africa*. Available from: <https://www.golegal.co.za/environmentally-related-taxes/>. [14 April 2023].

Calvo, N., Varela-Candamio, L. and Novo-Corti, I. 2014. 'A dynamic model for construction and demolition (C&D) waste management in Spain: Driving policies based on economic incentives and tax penalties'. *Sustainability*, 6(1), pp.416-435.

Carbon Pricing (Amendment) Act 27 of 2022. Available from: <https://sso.agc.gov.sg/Bills-Supp/27-2022/Published/20221003?DocDate=20221003> [14 June 2023].

Centre for Public Impact. 2017. *The Carbon Tax in Australia*. Available from: <https://www.centreforpublicimpact.org/case-study/carbon-tax-australia>. [29 April 2023].

Chelly, A., Nouria, I., Hadj-Alouane, A.B. and Frein, Y. 2022. 'A comparative study of progressive carbon taxation strategies: impact on firms' economic and environmental performances'. *International Journal of Production Research*, 60(11), pp.3476-3500.

Chersich, M.F. and Wright, C.Y. 2019. 'Climate change adaptation in South Africa: a case study on the role of the health sector'. *Globalization and health*, 15, pp.1-16.

Chng, K. and Ong, K.W. 2021. 'The Singapore Green Plan 2030: Analysing its implications on law and the legal industry in Singapore'. *Environmental Law Review*, 23(4), pp.336-343.

Chua, S.T. and Nakano, M. 2013. Design of a taxation system to promote electric vehicles in Singapore. In *Advances in Production Management Systems. Competitive Manufacturing for Innovative Products and Services: IFIP WG 5.7 International Conference, APMS 2012, Rhodes, Greece, September 24-26, 2012, Revised Selected Papers, Part I* (pp. 359-367). Springer Berlin Heidelberg.

Clean Energy Act 131 of 2011. Available from: <https://faolex.fao.org/docs/pdf/aus112299.pdf> [2 June 2023].

Clemens, B., 2006. 'Economic incentives and small firms: does it pay to be green?'. *Journal of business research*, 59(4), pp.492-500.

Deloitte. 2023. *Tax Insights: Proposed reforms to the Petroleum Resource Rent Tax*. Available from: <https://www2.deloitte.com/content/dam/Deloitte/au/Documents/tax/deloitte-au-tax-insights-08-changes-prrt-080523.pdf>. [28 June 2023].

Department of Climate Change, Energy, the Environment and Water. 2021, 10 October. *Adapting Australia's unique environment to climate change* Available from: <https://www.dcceew.gov.au/environment/epbc/publications/factsheet-epbc-act-frequently-asked-questions>. [30 May 2023].

Department of Climate Change, Energy, the Environment and Water. 2022, 11 November. *Adapting Australia's unique environment to climate change*. Available from: <https://www.dcceew.gov.au/climate-change/policy/environment>. [20 March 2023].

Derchi, G.B., Davila, A. and Oyon, D., 2023. 'Green incentives for environmental goals'. *Management Accounting Research*, 59, p.100830.

Diao, M., 2019. Towards sustainable urban transport in Singapore: Policy instruments and mobility trends. *Transport policy*, 81, pp.320-330.

Dippenaar, M., 2018. 'The role of tax incentives in encouraging energy efficiency in the largest listed South African businesses'. *South African Journal of Economic and Management Sciences*, 21(1), pp.1-12.

Dulal, H.B., Dulal, R. and Yadav, P.K., 2015. 'Delivering green economy in Asia: The role of fiscal instruments'. *Futures*, 73, pp.61-77.

Easson, A. and Zolt, E.M., 2002. *Tax incentives* (pp. 1-35). World Bank Institute.

Energy Conservation Act. 2012. The Statutes of the Republic of Singapore Available from: <https://sso.agc.gov.sg/Act/ECA2012> [09 June 2023].

Environment Protection and Biodiversity Conservation Act 1999. Available from: <https://www.legislation.gov.au/Details/C2022C00214> [30 May 2023].

Environment (Protection) Act of 1986. Available from: https://www.indiacode.nic.in/bitstream/123456789/4316/1/ep_act_1986.pdf [4 June 2023].

Esser, F. and Vliegenthart, R., 2017. 'Comparative research methods'. *The international encyclopedia of communication research methods*, pp.1-22.

European Commission. n.d. Green Taxation – in support of a more sustainable future. Available from: https://taxation-customs.ec.europa.eu/green-taxation-0_en. [14 June 2023].

Eyraud, L., Clements, B. and Wane, A., 2013. 'Green investment: Trends and determinants'. *Energy Policy*, 60, pp.852-865.

fDi Intelligence, 2023. *A global guide to green taxes*. Available from: <https://www.fdiintelligence.com/content/news/a-global-guide-to-green-taxes-21174>. [25 May 2023].

Fekete, H., Kuramochi, T., Roelfsema, M., den Elzen, M., Forsell, N., Höhne, N., Luna, L., Hans, F., Sterl, S., Olivier, J. and van Soest, H., 2021. 'A review of successful climate change mitigation policies in major emitting economies and the potential of global replication'. *Renewable and Sustainable Energy Reviews*, 137, p.110602.

Freire-González, J., 2018. 'Environmental taxation and the double dividend hypothesis in CGE modelling literature: A critical review'. *Journal of Policy Modeling*, 40(1), pp.194-223.

Gago, A., Labandeira, X. and López-Otero, X., 2014. 'A panorama on energy taxes and green tax reforms'. *Hacienda Pública Española*, 208(1), pp.145-190.

Ganda, F., Ngwakwe, C.C. and Ambe, C., 2015. 'Investigating whether environmental legislation promotes green investment practices in Johannesburg Stock Exchange (JSE) listed companies'. *Environmental economics*, 6(1), pp.45-54.

Gaspar, V., Mauro, P., Parry, I. and Pattillo, C. 2019, October 8. *Fiscal Policies to Curb Climate Change*. Available from: <https://www.imf.org/en/Blogs/Articles/2019/10/10/fiscal-policies-to-curb-climate-change> [14 April 2023].

Government of Singapore. 2023. *Land and Transport Authority: Electric Vehicles*. Available from: https://www.lta.gov.sg/content/ltagov/en/industry_innovations/technologies/electric_vehicles.html. [26 June 2023].

Gray, N., McDonagh, S., O'Shea, R., Smyth, B. and Murphy, J.D., 2021. Decarbonising ships, planes and trucks: An analysis of suitable low-carbon fuels for the maritime, aviation and haulage sectors. *Advances in Applied Energy*, 1, p.100008.

Green Energy Solutions. 2016. Updated SARS Tax Incentive for Solar Power! Available from: <https://greenenergysolutions.co.za/updated-sars-tax-incentive-for-solar-power/>. [26 April 2023].

Greenblatt, J.B. and Saxena, S., 2015. Autonomous taxis could greatly reduce greenhouse-gas emissions of US light-duty vehicles. *Nature Climate Change*, 5(9), pp.860-863.

Greene, D.L., Patterson, P.D., Singh, M. and Li, J., 2005. Feebates, rebates and gas-guzzler taxes: a study of incentives for increased fuel economy. *Energy policy*, 33(6), pp.757-775.

Greenstone, M. and Hanna, R., 2014. 'Environmental regulations, air and water pollution, and infant mortality in India'. *American Economic Review*, 104(10), pp.3038-3072.

Gupta, M., 2016. 'Willingness to pay for carbon tax: A study of Indian road passenger transport'. *Transport Policy*, 45, pp.46-54.

Harrison, A., Hyman, B., Martin, L. and Nataraj, S., 2015. 'When do firms go green? Comparing command and control regulations with price incentives in India'. *National Bureau of Economic Research*, w21763.

He, P., Zhang, W., Xu, X. and Bian, Y., 2015. 'Production lot-sizing and carbon emissions under cap-and-trade and carbon tax regulations'. *Journal of Cleaner Production*, 103, pp.241-248.

Hoeller, P. and Wallin, M., 1991. Energy prices, taxes and carbon dioxide emissions.

Huang, D.Z., 2021. 'Environmental, social and governance (ESG) activity and firm performance: A review and consolidation'. *Accounting & finance*, 61(1), pp.335-360.

Hui, H.Q., 2018, 10 May. Minimizing Plastic wastage. Available from: <http://www.reprolabnus.com/news/minimizing-wastage>. [June 2023].

Iberdrola. 2023. Environmental Taxes: Environmental taxes make way to protect the environment. Available from: <https://www.iberdrola.com/sustainability/green-and-environmental-taxes>. [25 June 2023].

ICICI Lombard General Insurance. 2023, April 21. *What is Green Tax for Car and Bikes in India*. Available from: <https://www.icicilombard.com/blogs/car-insurance/car/what-is-green-tax-for-car-and-bikes-in-india>. [09 June 2023].

Insights on India., 2021. *Green Tax*. Available from: <https://www.insightsonindia.com/2021/01/27/green-tax/>. [09 June 2023].

Kamil, N.I., 2015. 'The Effect of Taxpayer Awareness, Knowledge, Tax Penalties and Tax Authorities Services on the Tax Compliance:(Survey on the Individual Taxpayer at Jabodetabek & Bandung)'. *Research Journal of Finance and Accounting*, 6(2), pp.104-111.

Khan, M.R., 2015. Polluter-pays-principle: The cardinal instrument for addressing climate change. *Laws*, 4(3), pp.638-653.

Kish, R.J., 2018. 'Using legislation to reduce one-time plastic bag usage'. *Economic Affairs*, 38(2), pp.224-239.

Klopper, D. and Wessels, J.A., 2017. 'Investigation of Western Australia's rehabilitation fund as a fiscal policy solution for South African abandoned

mines'. *Journal of the Southern African Institute of Mining and Metallurgy*, 117(11), pp.1081-1087.

Kong, D., Xiong, M. and Qin, N., 2022. 'Tax incentives and firm pollution'. *International Tax and Public Finance*, pp.1-30.

Kraal, D., 2019. 'Petroleum industry tax incentives and energy policy implications: A comparison between Australia, Malaysia, Indonesia and Papua New Guinea'. *Energy policy*, 126, pp.212-222.

Krass, D., Nedorezov, T. and Ovchinnikov, A., 2013. 'Environmental taxes and the choice of green technology'. *Production and operations management*, 22(5), pp.1035-1055.

Kuo, T.C., Hong, I.H. and Lin, S.C., 2016. 'Do carbon taxes work? Analysis of government policies and enterprise strategies in equilibrium'. *Journal of Cleaner Production*, 139, pp.337-346.

László, C., 2021. 'The green tax revolution'. *Intereconomics*, 56(5), pp.284-287.

Lau, H.C., Ramakrishna, S., Zhang, K. and Hameed, M.Z.S., 2021. 'A decarbonization roadmap for Singapore and its energy policy implications'. *Energies*, 14(20), p.6455.

Leck, A., Lim, R.J. Chia, K. and Toh, A., 2023. *Singapore: Carbon Pricing (Amendment) Act 2022 comes into force on 7 March 2023*. Available from: https://www.globalcompliancenews.com/2023/03/28/https-insightplus-bakermckenzie-com-bm-energy-mining-infrastructure-1-singapore-carbon-pricing-amendment-act-2022-comes-into-force-on-7-march-2023_03242023/. [28 March 2023]

Leontyeva, Y.V. and Mayburov, I.A., 2016. 'Theoretical framework for building optimal transport taxation system'. *Journal of Tax Reform*, 2(3), pp.193-207.

Li, Y. and Su, B., 2017. 'The impacts of carbon pricing on coastal megacities: A CGE analysis of Singapore'. *Journal of Cleaner Production*, 165, pp.1239-1248.

- Lignier, P., 2011. 'The role of taxation in addressing the externalities of road transport: A critical analysis of Australian tax policy'. *Australian Tax Forum*, 26, 137.
- Liu, Y. and Mao, J., 2019. 'How do tax incentives affect investment and productivity? Firm-level evidence from China'. *American Economic Journal: Economic Policy*, 11(3), pp.261-91.
- Ma, Z., Zhao, J. and Ni, J., 2018. 'Green Tax Legislation for sustainable development in China'. *The Singapore Economic Review*, 63(04), pp.1059-1083.
- Macintosh, A., Simpson, A., Neeman, T. and Dickson, K., 2020. 'Plastic bag bans: Lessons from the Australian capital territory'. *Resources, Conservation and Recycling*, 154, p.104638.
- Maphosa, J.M., 2014. *A comparative study of effectiveness of green taxes in South Africa and developed countries* (Doctoral dissertation, University of Pretoria).
- Marriott, L. and Mortimore, A., 2017. 'Emissions, road transport, regulation and tax incentives in Australia and New Zealand'. *Journal of the Australasian Tax Teachers Association*, 12(1), pp.23-52.
- Matheson, T., 2021. *Taxing Energy: Urban-Brookings Tax Policy Center*. Available from: <https://documents1.worldbank.org/curated/en/771031636143780546/pdf/Taxing-Energy.pdf>. [28 April 2023].
- McSweeney, R., 2018. *Carbon Brief Clear on Climate: The Carbon Brief South Africa*. Available from: <https://www.carbonbrief.org/the-carbon-brief-profile-south-africa/>. [28 April 2023].
- Milne, J. E. 2007. 'Green Taxes and Climate Change: Theory and Reality'. *Ifo DICE Report*, 5(04), pp. 8-12.

Ministry of Sustainability and the Environment. 2023, June 5. *Carbon Pricing Act*. Available from: <https://www.mse.gov.sg/policies/climate-change/cpa>. [09 June 2023].

Ministry of Transport. 2023. *Electric Vehicles*. Available from: <https://www.mot.gov.sg/what-we-do/green-transport/electric-vehicles>. [26 June 2023].

Mohammad, W.M.W. and Wasiuzzaman, S., 2021. 'Environmental, Social and Governance (ESG) disclosure, competitive advantage and performance of firms in Malaysia'. *Cleaner Environmental Systems*, 2, p.100015.

Moosavian, S.F., Zahedi, R. and Hajinezhad, A., 2022. 'Economic, environmental, and social impact of carbon tax for Iran: A computable general equilibrium analysis'. *Energy Science & Engineering*, 10(1), pp.13-29.

Mpofu, F.Y., 2022. 'Green Taxes in Africa: Opportunities and Challenges for Environmental Protection, Sustainability, and the Attainment of Sustainable Development Goals'. *Sustainability*, 14(16), p.10239.

Munongo, S., Akanbi, O.A. and Robinson, Z., 2017. 'Do tax incentives matter for investment? A literature review'. *Business & Economic Horizons*, 13(2).

Muposhi, A., Mpinganjira, M. and Wait, M., 2021. 'Efficacy of plastic shopping bag tax as a governance tool: Lessons for South Africa from Irish and Danish success stories'. *Acta Commercii-Independent Research Journal in the Management Sciences*, 21(1), p.891.

National Climate Change Secretariat, 2023. *Carbon Tax*. Available from: <https://www.nccs.gov.sg/singapores-climate-action/mitigation-efforts/carbontax/>. [07 June 2023].

National Electric Vehicle Strategy. 2023. *National Vehicle Electric Strategy: Increasing the uptake of EVs to reduce our emissions and improve the wellbeing of Australians*. Available from: <https://www.dccew.gov.au/sites/default/files/documents/national-electric-vehicle-strategy.pdf>. [09 June 2023].

National Environment Agency, 2023. *Carbon Tax*. Available from: <https://www.nea.gov.sg/our-services/climate-change-energy-efficiency/climate-change/carbon-tax>. [09 June 2023].

National Treasury. 2022. *Budget 2022: Speech*. Available from: <https://www.treasury.gov.za/documents/national%20budget/2022/speech/speech.pdf>. [25 June 2023].

National Retail Association. 2021. Bag Bans Across Australia. Available from: <https://bagban.com.au/#nsw>. [26 June 2023].

Nel, R., 2010. *Proposed vehicle green taxes in South Africa: what are the prospects of it achieving its purpose?* (Doctoral dissertation, University of Pretoria).

Nel, R. and Du Plooy, J., 2013. 'The role of tax incentives in reducing CO2 emissions: evidence from vehicle manufacturers'. *The international business & economics research journal*, 12 (5), p.551

Nian, V., Hari, M.P. and Yuan, J., 2019. 'A new business model for encouraging the adoption of electric vehicles in the absence of policy support'. *Applied energy*, 235, pp.1106-1117.

Nienaber, G. and Barnard, B., 2018. 'The effect of passenger vehicle CO2 emissions tax on consumer behaviour relating to new car purchase decisions'. *South African Journal of Accounting Research*, 32(2-3), pp.132-153.

Norouzi, N., Fani, M. and Talebi, S., 2022. 'Green tax as a path to greener economy: A game theory approach on energy and final goods in Iran'. *Renewable and Sustainable Energy Reviews*, 156, p.111968.

Nyathi, B. and Togo, C.A., 2020. 'Overview of legal and policy framework approaches for plastic bag waste management in African countries'. *Journal of environmental and public health*, 2020, pp.1-8.

O'Brien, J. and Thondhlana, G., 2019. 'Plastic bag use in South Africa: Perceptions, practices and potential intervention strategies'. *Waste Management*, 84, pp.320-328.

OECD, 2011. *Taxation, Innovation and the Environment: A Policy Brief*. Available from: <https://www.oecd.org/environment/tools-evaluation/48178034.pdf>. [26 April 2023].

OECD. 2021. *Effective Carbon Rates 2021*. Available from: <https://www.oecd.org/tax/tax-policy/effective-carbon-rates-2021-brochure.pdf>. [26 June 2023].

OECD. 2022a. *Pricing Greenhouse Gas Emissions: Key findings for carbon pricing in India*. Available from: <https://www.oecd.org/tax/tax-policy/carbon-pricing-india.pdf>. [2 March 2023].

OECD, 2022b. *Environmental Taxation: A Guide for Policy Makers*. Available from: <https://www.oecd.org/env/tools-evaluation/48164926.pdf>. [2 April 2023].

OECD, 2022c. *Pricing Greenhouse Gas Emissions: Key Findings For Australia*. Available from: <https://www.oecd.org/tax/tax-policy/carbon-pricing-australia.pdf>. [2 April 2023].

OECD. n.d. *Environmentally related taxes: Taxes on energy use* Available from: <https://www.oecd.org/tax/tax-policy/environmental-tax-profile-south-africa.pdf>.

OECD, n.d. *Green growth and taxation*. Available from: <https://www.oecd.org/greengrowth/greengrowthandtaxation.htm>. [25 May 2023].

Ojha, V.P., Pohit, S. and Ghosh, J., 2020. 'Recycling carbon tax for inclusive green growth: A CGE analysis of India'. *Energy Policy*, 144, p.111708.

OneMotoring. 2023. *Road Tax*. Available from: <https://onemotoring.lta.gov.sg/content/onemotoring/home/owning/ongoing-car-costs/road-tax.html>. [25 June 2023].

Padayachee, R. and Pillay, V. 2021. *COP26: South Africa, 2021*. Available from: <https://www.pwc.co.za/en/press-room/cop26-south-africa-2021.html>. [30 April 2023].

Pathak, P. and Srivastava, R.R., 2017. 'Assessment of legislation and practices for the sustainable management of waste electrical and electronic equipment in India'. *Renewable and Sustainable Energy Reviews*, 78, pp.220-232.

Pearce, P., 2017. Taxes to influence energy use in road transportation in Australia. *Renewable Energy and Environmental Sustainability*, 2017(Sustain. 2).

Perti, A. Clean energy cess-tax on coal. Available from: <https://www.timesnownews.com/business-economy/industry/article/clean-energy-cess-tax-on-coal/683809>. [25 June 2023].

Pham, H., Nguyen, V., Ramiah, V., Mudalige, P. and Moosa, I., 2019. 'The effects of environmental regulation on the Singapore stock market'. *Journal of Risk and Financial Management*, 12(4), p.175.

Plastic Shopping Bags Ban Act, 2010. *Australian Capital Territory*. Available from: <https://www.legislation.act.gov.au/a/2010-49>. [09 June 2023].

Poterba, J., 1991. Tax policy to combat global warming: on designing a carbon tax.

Press Information Bureau Government of India Ministry of Finance, 2015. *From Carbon Subsidy to Carbon Tax: India's Green Actions*. Available from: <https://pib.gov.in/newsite/PrintRelease.aspx?relid=116058>. [28 March 2023].

PwC. 2023a. *Budget 2023 and green incentives*. Available from: <https://www.pwc.co.za/en/press-room/budget-2023-and-green-incentives.html> [06 June 2023].

PwC. 2023b. *Singapore: Corporate - Tax credits and incentives*. Available from: <https://taxsummaries.pwc.com/singapore/corporate/tax-credits-and-incentives>. [08 June 2023].

Raub, A., Sprague, A., Waisath, W., Nandi, A., Atabay, E., Vincent, I., Moreno, G., Earle, A., Perry, N. and Heymann, J., 2022. Utilizing a Comparative Policy Resource from the WORLD Policy Analysis Center Covering Constitutional Rights, Laws, and Policies across 193 Countries for Outcome Analysis, Monitoring, and Accountability. *Journal of Comparative Policy Analysis: Research and Practice*, 24(4), pp.313-328.

Republic of South Africa, 2021. *Climate Change Bill*. Available from: https://www.gov.za/sites/default/files/gcis_document/202203/b9-2022.pdf. [31 May 2023].

Republic of South Africa. 2023. *Draft Explanatory Memorandum on the Draft Taxation Laws Amendment Bill*. Available from: <https://www.sars.gov.za/wp-content/uploads/Legal/Drafts/Legal-LPrep-Draft-2023-20-Draft-Explanatory-Memorandum-on-the-initial-Batch-of-2023-Draft-TLAB-21-April-2023.pdf>. [25 June 2023].

Roberts, G. and Wooster, M.J., 2021. 'Global impact of landscape fire emissions on surface level PM_{2.5} concentrations, air quality exposure and population mortality'. *Atmospheric Environment*, 252, p.118210.

Sanderson, A., Mukarati, J., Jeke, L. and Le Roux, P., 2023. 'Carbon Tax and Environmental Quality in South Africa'. *International Journal of Energy Economics and Policy*, 13(2), p.484.

Schlegelmilch, K. and Joas, A., 2015. *Fiscal considerations in the design of green tax reforms*. Venice: Green Growth Knowledge Platform (GGKP).

Schmidheiny, S., 1992. *Changing course: A global business perspective on development and the environment* (Vol. 1). MIT press.

Seymore, R., Adams, P.D., Chitiga-Mabugu, M., Van Heerden, J.H. and Blignaut, J.N., 2010. 'The impact of an electricity generation tax on the South African economy'. *Journal for Studies in Economics and Econometrics*, 2010, 34(2).

Shafi, M., Ramos-Meza, C.S., Jain, V., Salman, A., Kamal, M., Shabbir, M.S. and Rehman, M.U., 2023. 'The dynamic relationship between green tax incentives

and environmental protection'. *Environmental Science and Pollution Research*, pp.1-9.

Shazmin, S.A.A., Sipan, I. and Sapri, M., 2016. 'Property tax assessment incentives for green building: A review'. *Renewable and Sustainable Energy Reviews*, 60, pp.536-548.

Shazmin, S.A.A., Sipan, I., Sapri, M., Ali, H.M. and Raji, F., 2017. Property tax assessment incentive for green building: Energy saving based-model. *Energy*, 122, pp.329-339.

Sheu, J.B. and Chen, Y.J., 2012. 'Impact of government financial intervention on competition among green supply chains'. *International Journal of Production Economics*, 138(1), pp.201-213.

Singh, S. and Deswal, M., 2012. *Green tax and its effectuation in India*. Social science research network.

Slattery, C. and Zidar, O., 2020. 'Evaluating state and local business incentives'. *Journal of Economic Perspectives*, 34(2), pp.90-118.

Smith, P., Beaumont, L., Bernacchi, C.J., Byrne, M., Cheung, W., Conant, R.T., Cotrufo, F., Feng, X., Janssens, I., Jones, H. and Kirschbaum, M.U., 2022. 'Essential outcomes for COP26'. *Global change biology*, 28(1), pp.1-3.

Sohail, M.T., Ullah, S. and Majeed, M.T., 2023. 'Transportation taxes and CO2 emissions nexus in BCIST economies: Implication for environmental sustainability'. *Energy & Environment*, p.0958305X231159445.

South African Government. 2019, 31 May. *Treasury on Carbon Tax on Fuel*. Available from: <https://www.gov.za/speeches/treasury-carbon-tax-fuel-31-may-2019-0000>. [14 June 2023].

South African Revenue Service (SARS). 2020, November 16. Excise External Policy Carbon Tax. Available from: <https://www.sars.gov.za/wp-content/uploads/Ops/Policies/SE-CBT-02-Carbon-Tax-External-Policy.pdf>. [28 May 2023].

South African Revenue Service (SARS). 2021a, July 20. *Carbon Tax*. Available from: <https://www.sars.gov.za/customs-and-excise/excise/environmental-levy-products/carbon-tax/>. [27 March 2023].

South African Revenue Service (SARS). 2021b, July 20. *Electric Filament lamps*. Available from: <https://www.sars.gov.za/customs-and-excise/excise/environmental-levy-products/electric-filament-lamps/>. [02 June 2023].

South African Revenue Service (SARS). 2021c, July 20. *Plastic Bags*. Available from: <https://www.sars.gov.za/customs-and-excise/excise/environmental-levy-products/plastic-bags/>. [02 June 2023].

South African Revenue Service (SARS). 2021d, July 20. *Electricity Generation*. Available from: <https://www.sars.gov.za/customs-and-excise/excise/environmental-levy-products/electricity-generation/>. [02 June 2023].

South African Revenue Service (SARS). 2021e, July 20. *Motor vehicle CO₂ emission*. Available from: <https://www.sars.gov.za/customs-and-excise/excise/environmental-levy-products/motor-vehicle-co2-emission/>. [02 June 2023].

South African Revenue Service (SARS). 2023. *Mineral and Petroleum Resource Royalty*. Available from: <https://www.sars.gov.za/types-of-tax/mineral-and-petroleum-resource-royalty/>. [28 June 2023].

Spratt, S., 2012, June 1. Environmental Taxation & Development: A Scoping Study. Available from: https://opendocs.ids.ac.uk/opendocs/bitstream/handle/20.500.12413/2313/ICTD%20Working%20Paper2_Spratt,%20June2012.pdf. [26 May 2023].

Subban, Y. V., Da Silva, D. and Royuela, A. 2022, September 16. *South Africa: Carbon tax – Impact on carbon-intensive businesses and the way forward*. Available from: <https://www.globalcompliance-news.com/2022/09/16/south->

[africa-carbon-tax-impact-on-carbon-intensive-businesses-and-the-way-forward/](#).
[26 March 2023].

Sumarno, T.B. and Laan, T. 2021. *Taxing Coal to Hit the Goals: A simple way for Indonesia to reduce carbon emissions*, GSI ISSUES BRIEF.

Sun, X., Ren, J. and Wang, Y., 2022. 'The impact of resource taxation on resource curse: Evidence from Chinese resource tax policy'. *Resources Policy*, 78, p.102883.

Teasdale-Hensby, M.L. and Lye, L.H., 2015. Plastic Bags in Singapore: A Critical Examination of Issues in Sustainability. In *Sustainability Matters: Environmental and Climate Changes in the Asia-Pacific* (pp. 131-162).

The Schroders Sustainable Investment team, 2022. *What is ESG and why does it matter?* Available from:
https://prod.schroders.com/en/sysglobalassets/digital/insights/2022/november/em-lens/schroders_what-is-esg-and-why-does-it-matter_final.pdf. [25 April 2023].

Tonkin, C. 2020, February 3. *Tax Incentives and Renewable Energy*. Available from: <https://fincor.co.za/tax-incentives-and-renewable-energy/>. [23 April 2023].

Tamplin, T. 2023, *Green Tax*. Available from:
<https://www.financestrategists.com/tax/green-tax/>. [31 May 2023].

Teasdale-Hensby, M.L. and Lye, L.H., 2015. Plastic Bags in Singapore: A Critical Examination of Issues in Sustainability. In *Sustainability Matters: Environmental and Climate Changes in the Asia-Pacific* (pp. 131-162).

UN Climate Change Conference UK. 2021, July. *COP26 Explained*. Available from:
<https://webarchive.nationalarchives.gov.uk/ukgwa/20230401054904/https://ukcop26.org/wp-content/uploads/2021/07/COP26-Explained.pdf>. [29 March 2023].

Vollebergh, H., 2013. *Environmental taxes and green growth: Exploring Possibilities Within Energy and Climate Policy*. Available from:

https://www.pbl.nl/sites/default/files/downloads/PBL_2013-Environmental-taxes-and-Green-Growth_1009.pdf. [31 May 2023].

Vuzane, R., 2020. 'An analysis of carbon tax and other environmental levies: a South African and international perspective'. (Master's Dissertation, Rhodes University).

Wang, C., Chen, P., Hao, Y. and Dagestani, A.A., 2022. 'Tax incentives and green innovation-The mediating role of financing constraints and the moderating role of subsidies'. *Frontiers in Environmental Science*, 10, p.1067534.

Wei, C., Ai, K.M. and Tan, R. 2022, April 29. *What Singapore's revised carbon tax means for companies' carbon strategies*. Available from: <https://www.southpole.com/blog/what-singapores-revised-carbon-tax-means-for-companies-carbon-strategies>. [14 April 2023].

Wentworth, L., 2014. *Creating Incentives for green economic growth: green energy in South Africa*. South African Institute of International Affairs: Occasional Paper 193.

World Bank. 2023. *Global Tax Program: Environmental Tax*. Available from: <https://www.worldbank.org/en/programs/the-global-tax-program/environmental-taxes#1>. [3 March 2023].

World Health Organisation (WHO). 2023. *Air Pollution*. Available from: <https://www.who.int/india/health-topics/air-pollution>. [3 March 2023].

Wu, B., Huang, W. and Liu, P., 2017. 'Carbon reduction strategies based on an NW small-world network with a progressive carbon tax'. *Sustainability*, 9(10), p.1747.

Xu, Y., 2012. Environmental taxation in China: the greening of an emerging economy. In *Handbook of research on environmental taxation* (pp. 303-320). Edward Elgar Publishing.

Yang, C., McCollum, D., McCarthy, R. and Leighty, W., 2009. Meeting an 80% reduction in greenhouse gas emissions from transportation by 2050: A case study

in California. *Transportation Research Part D: Transport and Environment*, 14(3), pp.147-156.

Yousefpour, R., Prinz, A. and Ng, C. 2020. 'Public perceptions of climate change adaptation in Singapore dealing with forecasted sea level rise'. *Human and Ecological Risk Assessment: An International Journal*, 26(6), pp.1449-1475.

Mcom tax research report (D Mokwena) final version - final edited version.docx

ORIGINALITY REPORT

23%

SIMILARITY INDEX

18%

INTERNET SOURCES

13%

PUBLICATIONS

%

STUDENT PAPERS

PRIMARY SOURCES

1

repository.up.ac.za

Internet Source

1%

2

vital.seals.ac.za:8080

Internet Source

1%

3

Kenny Chng, Ken Wei Ong. "The Singapore Green Plan 2030: Analysing its implications on law and the legal industry in Singapore", Environmental Law Review, 2021

Publication

1%

4

Andrew Macintosh, Amelia Simpson, Teresa Neeman, Kirilly Dickson. "Plastic bag bans: Lessons from the Australian Capital Territory", Resources, Conservation and Recycling, 2020

Publication

<1%

5

www.infrastructure.gov.au

Internet Source

<1%

6

Diane Kraal. "Petroleum industry tax incentives and energy policy implications: A comparison between Australia, Malaysia,

<1%

Indonesia and Papua New Guinea", Energy Policy, 2019

Publication

7	Yingzhu Li, Bin Su. "The impacts of carbon pricing on coastal megacities: A CGE analysis of Singapore", Journal of Cleaner Production, 2017 Publication	<1 %
8	www.icicilombard.com Internet Source	<1 %
9	hdl.handle.net Internet Source	<1 %
10	www.centreforpublicimpact.org Internet Source	<1 %
11	www.mdpi.com Internet Source	<1 %
12	docs.nopsema.gov.au Internet Source	<1 %
13	docplayer.net Internet Source	<1 %
14	pantheon.ufrj.br Internet Source	<1 %
15	www.tandfonline.com Internet Source	<1 %

16	Hari Bansha Dulal, Rajendra Dulal, Pramod Kumar Yadav. "Delivering green economy in Asia: The role of fiscal instruments", Futures, 2015 Publication	<1 %
17	upetd.up.ac.za Internet Source	<1 %
18	www.researchgate.net Internet Source	<1 %
19	Aaqib Ahmad Bhat, Prajna Paramita Mishra. "Evaluating the performance of carbon tax on green technology: evidence from India", Environmental Science and Pollution Research, 2019 Publication	<1 %
20	Mi Diao. "Towards sustainable urban transport in Singapore: Policy instruments and mobility trends", Transport Policy, 2018 Publication	<1 %
21	researchonline.jcu.edu.au Internet Source	<1 %
22	www.southpole.com Internet Source	<1 %
23	www.globalcompliancenesews.com Internet Source	<1 %

- | | | |
|----|---|------|
| 24 | Vijay P. Ojha, Sanjib Pohit, Joydeep Ghosh. "Recycling carbon tax for inclusive green growth: A CGE analysis of India", Energy Policy, 2020
Publication | <1 % |
| 25 | uir.unisa.ac.za
Internet Source | <1 % |
| 26 | www.pwc.com
Internet Source | <1 % |
| 27 | fdocuments.in
Internet Source | <1 % |
| 28 | www.ilo.int
Internet Source | <1 % |
| 29 | Pankaj Pathak, Rajiv Ranjan Srivastava, Ojasvi. "Assessment of legislation and practices for the sustainable management of waste electrical and electronic equipment in India", Renewable and Sustainable Energy Reviews, 2017
Publication | <1 % |
| 30 | www.mmask.co.za
Internet Source | <1 % |
| 31 | Amina Chelly, Imen Nourira, Atidel B. Hadj-Alouane, Yannick Frein. "A comparative study of progressive carbon taxation strategies: impact on firms' economic and environmental | <1 % |

performances", International Journal of Production Research, 2021

Publication

32

eprints.utar.edu.my

Internet Source

<1 %

33

"Ocean Law and Policy", Brill, 2017

Publication

<1 %

34

Xiaohua Sun, Junlin Ren, Yun Wang. "The impact of resource taxation on resource curse: Evidence from Chinese resource tax policy", Resources Policy, 2022

Publication

<1 %

35

www.vinsonias.com

Internet Source

<1 %

36

parlinfo.aph.gov.au

Internet Source

<1 %

37

www.austaxpolicy.com

Internet Source

<1 %

38

www.sars.gov.za

Internet Source

<1 %

39

core.ac.uk

Internet Source

<1 %

40

www.business.unsw.edu.au

Internet Source

<1 %

41

lup.lub.lu.se

Internet Source

<1 %

42

www.un.org

Internet Source

<1 %

43

www.iisd.org

Internet Source

<1 %

44

www.mse.gov.sg

Internet Source

<1 %

45

Kuo, Tsai Chi, I-Hsuan Hong, and Sheng Chun Lin. "Do carbon taxes work? Analysis of government policies and enterprise strategies in equilibrium", Journal of Cleaner Production, 2016.

Publication

<1 %

46

S.A.A. Shazmin, I. Sipan, M. Sapri. "Property tax assessment incentives for green building: A review", Renewable and Sustainable Energy Reviews, 2016

Publication

<1 %

47

www.adb.org

Internet Source

<1 %

48

csep.org

Internet Source

<1 %

49

mafiadoc.com

Internet Source

<1 %

50

www.idea.int

Internet Source

<1 %

51

www.nomos-elibrary.de

Internet Source

<1 %

52

Danny Z. X. Huang. "Environmental, social and governance (ESG) activity and firm performance: a review and consolidation", *Accounting & Finance*, 2019

Publication

<1 %

53

Michael Greenstone, Rema Hanna. "Environmental Regulations, Air and Water Pollution, and Infant Mortality in India", *American Economic Review*, 2014

Publication

<1 %

54

Muposhi, Asphat. "Factors Influencing Pro-Environmental Behaviour: A Focus on the Use of Non-Plastic Reusable Shopping Bags.", *University of Johannesburg (South Africa)*, 2021

Publication

<1 %

55

commons.mandela.ac.za

Internet Source

<1 %

56

www.actu.org.au

Internet Source

<1 %

57

www.lse.ac.uk

Internet Source

<1 %

58

www.hawkesbury.nsw.gov.au

Internet Source

<1 %

59

onlinelibrary.wiley.com

Internet Source

<1 %

60

ulspace.ul.ac.za

Internet Source

<1 %

61

www.polity.org.za

Internet Source

<1 %

62

scholar.sun.ac.za

Internet Source

<1 %

63

"Affordable and Clean Energy", Springer
Science and Business Media LLC, 2021

Publication

<1 %

64

Favourate Y. Mpofu. "Green Taxes in Africa:
Opportunities and Challenges for
Environmental Protection, Sustainability, and
the Attainment of Sustainable Development
Goals", Sustainability, 2022

Publication

<1 %

65

pure.iiasa.ac.at

Internet Source

<1 %

66

task39.sites.olt.ubc.ca

Internet Source

<1 %

67

content.edgar-online.com

Internet Source

<1 %

68	financedocbox.com Internet Source	<1 %
69	lutpub.lut.fi Internet Source	<1 %
70	"Climate Change Litigation: Global Perspectives", Brill, 2021 Publication	<1 %
71	Jun Liu, Chris Chao Su. "Comparative communication studies within and beyond Great China", International Communication Gazette, 2021 Publication	<1 %
72	digitalcommons.calpoly.edu Internet Source	<1 %
73	www.golegal.co.za Internet Source	<1 %
74	www.unsw.edu.au Internet Source	<1 %
75	repository.nwu.ac.za Internet Source	<1 %
76	sekarl.euba.sk Internet Source	<1 %
77	www.gcis.gov.za Internet Source	<1 %

78 Ρεμπούτσικα, Παρασκευή | Paraskevi, Rempoutsika. "Environmental Taxation - An Empirical Investigation of the Relation of CO2 Emissions and Environmental Tax Revenues in Selected EU Countries", University of Piraeus (Greece), 2022
Publication

79 aperc.ieej.or.jp
Internet Source

80 ideas.repec.org
Internet Source

81 link.springer.com
Internet Source

82 open.library.ubc.ca
Internet Source

83 russellmatheson.com
Internet Source

84 www.oecd-ilibrary.org
Internet Source

85 Hanna Fekete, Takeshi Kuramochi, Mark Roelfsema, Michel den Elzen et al. "A review of successful climate change mitigation policies in major emitting economies and the potential of global replication", Renewable and Sustainable Energy Reviews, 2021
Publication

86	www.comcec.org Internet Source	<1 %
87	"Sustainable Waste Management: Policies and Case Studies", Springer Science and Business Media LLC, 2020 Publication	<1 %
88	taxedu.campaign.europa.eu Internet Source	<1 %
89	worldwidescience.org Internet Source	<1 %
90	Jeanes, Michael Keith. "Tax incentives for the production and use of sustainable energy - a comparison between South Africa and Brazil.", Proquest, 2015. Publication	<1 %
91	smadhukiran9.blogspot.com Internet Source	<1 %
92	www.claybrick.org.za Internet Source	<1 %
93	www.wilderness.org.au Internet Source	<1 %
94	Gupta, Monika. "Willingness to pay for carbon tax: A study of Indian road passenger transport", Transport Policy, 2016. Publication	<1 %

95	asianews.network Internet Source	<1 %
96	i9live.com Internet Source	<1 %
97	scholar.mzumbe.ac.tz Internet Source	<1 %
98	senspdf.jse.co.za Internet Source	<1 %
99	www.businesstimes.com.sg Internet Source	<1 %
100	www.elaw.org Internet Source	<1 %
101	www.tweed.nsw.gov.au Internet Source	<1 %
102	Elvira Nica. "chapter 17 Green Economy and Sustainable Development", IGI Global, 2017 Publication	<1 %
103	Kelvin Say, Zsuzsanna Csereklyei, Felix Gabriel Brown, Changlong Wang. "The economics of public transport electrification: A case study from Victoria, Australia", Energy Economics, 2023 Publication	<1 %
104	sh.diva-portal.org Internet Source	<1 %

105	www.asx.com.au Internet Source	<1 %
106	www.legislation.gov.au Internet Source	<1 %
107	www.onemotoring.com.sg Internet Source	<1 %
108	www.uts.edu.au Internet Source	<1 %
109	Muhammad Tayyab Sohail, Sana Ullah, Muhammad Tariq Majeed. "Transportation taxes and CO2 emissions nexus in BCIST economies: Implication for environmental sustainability", Energy & Environment, 2023 Publication	<1 %
110	Rudie Nel, Gerhard Nienaber. " Tax design to reduce passenger vehicle CO emissions ", Meditari Accountancy Research, 2012 Publication	<1 %
111	cris.maastrichtuniversity.nl Internet Source	<1 %
112	resource-allocation.biomedcentral.com Internet Source	<1 %
113	www.businessperspectives.org Internet Source	<1 %
114	www.cogitatiopress.com Internet Source	<1 %

<1 %

115 www.euki.de
Internet Source

<1 %

116 www.frontiersin.org
Internet Source

<1 %

117 www.ft.lk
Internet Source

<1 %

118 www.repository.up.ac.za
Internet Source

<1 %

119 www.wa.gov.au
Internet Source

<1 %

120 "Eurasian Economic Perspectives", Springer
Science and Business Media LLC, 2021
Publication

<1 %

121 "Pathways to a Sustainable Economy",
Springer Science and Business Media LLC,
2018
Publication

<1 %

122 "The Automobile Revolution", Springer
Science and Business Media LLC, 2017
Publication

<1 %

123 J Arendse, K Stark, C Renaud. "The Cohen and
Kuttel stories: Is the place where I hang my
hat still relevant to determine my residence

<1 %

-
- 124 Muhammad Farhan Bashir, Benjiang MA, Bilal, Bushra Komal, Muhammad Adnan Bashir. "Analysis of environmental taxes publications: a bibliometric and systematic literature review", Environmental Science and Pollution Research, 2021
Publication <1 %
-
- 125 Patel, Huzeifa. "The Effects of Robotic Process Automation in the Workplace on Income Tax Collections", University of Johannesburg (South Africa), 2023
Publication <1 %
-
- 126 Seyed reza seyyedi, Elaheh Kowsari, Seeram Ramakrishna, Mohammad Gheibi, Amutha Chinnappan. "Marine plastics, circular economy, and artificial intelligence: A comprehensive review of challenges, solutions, and policies", Journal of Environmental Management, 2023
Publication <1 %
-
- 127 Tijani, Adekilekun Mubarak. "Legal and Regulatory Framework for Public-Private Partnerships in Infrastructure Development: A Case Study of Three African Models and Core <1 %

International Frameworks", University of Malaya (Malaysia), 2023

Publication

128	Y Leontyeva, I Mayburov. "Environmental effects of fixed and variable transport-related charges in Russia", IOP Conference Series: Earth and Environmental Science, 2019 Publication	<1 %
129	ageconsearch.umn.edu Internet Source	<1 %
130	aperc.or.jp Internet Source	<1 %
131	coek.info Internet Source	<1 %
132	core-cms.prod.aop.cambridge.org Internet Source	<1 %
133	doaj.org Internet Source	<1 %
134	ebin.pub Internet Source	<1 %
135	etd.uwc.ac.za Internet Source	<1 %
136	lib.euser.org Internet Source	<1 %
137	libweb.kpfu.ru Internet Source	

<1 %

138

lpr.adb.org

Internet Source

<1 %

139

opendocs.ids.ac.uk

Internet Source

<1 %

140

repository.out.ac.tz

Internet Source

<1 %

141

taxworkinggroup.govt.nz

Internet Source

<1 %

142

www.carecprogram.org

Internet Source

<1 %

143

www.cbsnews.com

Internet Source

<1 %

144

www.ceccarbusinessreview.ro

Internet Source

<1 %

145

www.eria.org

Internet Source

<1 %

146

www.inclusivesociety.org.za

Internet Source

<1 %

147

www.mcours.net

Internet Source

<1 %

148

www.nea.gov.sg

Internet Source

<1 %

149	www.oecd.org Internet Source	<1 %
150	www.sustainable-carbon.org Internet Source	<1 %
151	www.taxheaven.gr Internet Source	<1 %
152	www.veritas.edu.ng Internet Source	<1 %
153	www1.saflii.org Internet Source	<1 %
154	Beebeejaun Ambareen. "A critical analysis of environmental taxes in Mauritius; A comparative study with South Africa", Development Southern Africa, 2023 Publication	<1 %
155	Gisela Pinto Oliveira, Cecília M. R. Carmo, Sérgio Ravara Cruz. "chapter 13 The Portuguese Environmental Tax Burden", IGI Global, 2023 Publication	<1 %
156	Rajat Verma. "Fiscal Control of Pollution", Springer Science and Business Media LLC, 2021 Publication	<1 %
157	XiaoHu Wang, Cheol Liu, Christopher V. Hawkins. "Local Government Strategies for	<1 %

Financing Energy Efficiency Initiatives", The American Review of Public Administration, 2015

Publication

158	documents1.worldbank.org Internet Source	<1 %
159	dro.deakin.edu.au Internet Source	<1 %
160	elq.typepad.com Internet Source	<1 %
161	en.cciced.net Internet Source	<1 %
162	erepository.uonbi.ac.ke Internet Source	<1 %
163	greenfiscalspolicy.org Internet Source	<1 %
164	iesr.or.id Internet Source	<1 %
165	kipdf.com Internet Source	<1 %
166	meridianeconomics.co.za Internet Source	<1 %
167	openresearch-repository.anu.edu.au Internet Source	<1 %

168	repository.unescap.org Internet Source	<1 %
169	taxsummaries.pwc.com Internet Source	<1 %
170	theses.lib.polyu.edu.hk Internet Source	<1 %
171	ujcontent.uj.ac.za Internet Source	<1 %
172	ukzn-dspace.ukzn.ac.za Internet Source	<1 %
173	wiredspace.wits.ac.za Internet Source	<1 %
174	www.analysisgroup.com Internet Source	<1 %
175	www.davidpublisher.com Internet Source	<1 %
176	www.emerald.com Internet Source	<1 %
177	www.fhbc.co.za Internet Source	<1 %
178	www.ipcc.ch Internet Source	<1 %
179	www.kznwildlife.com Internet Source	<1 %

180

www.naadsn.ca

Internet Source

<1 %

181

"GMOs", Springer Science and Business Media LLC, 2020

Publication

<1 %

182

"Taxation, International Cooperation and the 2030 Sustainable Development Agenda", Springer Science and Business Media LLC, 2021

Publication

<1 %

183

Chung-Sum Lam, Soundaram Ramanathan, Maddison Carbery, Kelsey Gray et al. "A Comprehensive Analysis of Plastics and Microplastic Legislation Worldwide", Water, Air, & Soil Pollution, 2018

Publication

<1 %

184

Eftekhar, Mohammad. "Towards Energy Transition of Netherlands in the Context of the Overall European Union Energy Security", Webster University, 2023

Publication

<1 %

185

Hassan Taghipour, Asghar Mohammadpoorasl, Mahdihe Tarfiei, Nasrin Jafari. "Single-use plastic bags: challenges, consumer's behavior, and potential intervention policies", Journal of Material Cycles and Waste Management, 2023

Publication

<1 %

186	Kazi Mohammed Kamal Uddin, Md. Mominur Rahman, Shuvabrata Saha. "The impact of green tax and energy efficiency on sustainability: Evidence from Bangladesh", Energy Reports, 2023 Publication	<1 %
187	Loonat, Fahmeeda. "Tax Treatment of Cryptocurrency: an International Comparison", University of Johannesburg (South Africa), 2023 Publication	<1 %
188	Sabtain Fida, Sadia Saeed. "Modelling emission consequences of sectoral value-added: Exploring mediation of financial development and moderation of environmental regulations in European Union", Journal of Cleaner Production, 2023 Publication	<1 %
189	open.uct.ac.za Internet Source	<1 %
190	www.parlementairemonitor.nl Internet Source	<1 %
191	Mohamed A. S. Akreim, Ozge Suzer. "Motivators for Green Buildings: A Review", Environmental Management and Sustainable Development, 2018 Publication	<1 %

192

commons.und.edu

Internet Source

<1 %

193

publications.aston.ac.uk

Internet Source

<1 %

194

www.ajol.info

Internet Source

<1 %

Exclude quotes On

Exclude matches Off

Exclude bibliography On