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Formulating policy in Indonesia: perceptions of key stakeholders on the conditions for the introduction of a carbon tax

by

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Table of Contents

List of Figures and Tables

List of Appendices

Abstract

A carbon tax is considered the most efficient climate mitigation policy for reducing GHG emissions. However, it is argued that this policy is not well suited for Indonesia, because it has a number of political, economic, and institutional barriers that prevent the consideration of introducing a carbon tax.

This thesis seeks to understand why Indonesia does not have a carbon tax and how such a tax could potentially be introduced given the aforementioned barriers. It also investigates the conditions for an effective climate policy process in Indonesia by identifying the diversity of stakeholder perspectives. In doing so, this thesis applies a grounded theory method, using in-depth elite interviews with 29 key Indonesian stakeholders undertaken between August and December 2016.

This thesis finds that there are three key reasons why Indonesia does not have a carbon tax or why a carbon tax is so difficult to introduce. First, there is a conflict between Indonesia's commitment to reducing its GHG emissions and the national policy goals which focus on economic development. Second, business stakeholders play an influential role in preventing the government from introducing a carbon tax. Third, corrupt activities have had a negative impact on the effectiveness of climate policies Indonesia. This thesis also finds that there are three key conditions required for the effective introduction of a carbon tax in Indonesia. First, the commitment of the government to put climate policies onto the national policy agenda. Second, the introduction of complementary policies to reduce opposition from business stakeholders. And third, improvements to accountability and transparency.

This thesis is an original empirical study which makes an important contribution to the ever-growing academic debate on the introduction of carbon prices to assist climate mitigation efforts. It also has important ramifications in terms of transparency, accountability and political pluralism in Indonesia.

Declaration of Originality

I, Rakhmindyarto, certify that this PhD thesis, entitled 'Formulating Policy in Indonesia: Perceptions of Key Stakeholders on the Conditions for the Introduction of a Carbon Tax', does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; and that to the best of my knowledge and belief, it does not contain any material previously published or written by another person, except where due reference is made in the text.

Signature: Date: November 2020

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List of abbreviation

ACC	American Coal Council
ACF	Advocacy Coalition Framework
AMAN	*Aliansi Masyarakat Adat Nusantara*
ARDL	Auto Regressive Distributed Lag
ASEAN	Association of South East Asia Nations
BIG	*Badan Informasi Geospasial*
BC	British of Columbia
BCA	Border Carbon Adjustments
CAIT	Climate Analysis Interactive Tool
CBDR	Common But Differentiated Responsibilities
CGE	Computable General Equilibrium
CO_2	Carbon Dioxide
COP	Conference of Parties
DG	Directorate General
DNPI	Dewan Nasional Perubahan Iklim
DPD	*Dewan Perwakilan Daerah*
DPR	*Dewan Perwakilan Rakyat*
EEI	Edison Electric Institute
EPA	Environmental Protection Agency

EPI	Environmental Performance Index
ETS	Emissions Trading Scheme
EU	European Union
FPA	Fiscal Policy Agency
FWI	Forest Watch Indonesia
GAPKI	*Gabungan Pengusaha Kelapa Sawit Indonesia*
GHG	Greenhouse Gas
GDP	Gross Domestic Product
GTAP	Global Trade Analysis Project
ICW	Indonesian Corruption Watch
IDR	Indonesian Rupiah
IEA	International Energy Agency
INDCs	Intended Nationally Determined Contributions
IPRA	Indigenous People's Rights Act
IPCC	Intergovernmental Panel on Climate Change
JATAM	*Jaringan Advokasi Tambang*
KPK	*Komisi Pemberantasan Korupsi*
LPG	Liquified Petroleum Gas
MEPS	Minimum Energy Performance Standards
MoEF	Ministry of Environment and Forestry

MoF   Ministry of Finance

MP   Member of Parliament

MP3EI   Masterplan *Percepatan dan Perluasan Pembangunan Ekonomi Indonesia*

MSF   Multiple Streams Framework

MTOE   Million Tonnes of Oil Equivalent

NCCC   National Council on Climate Change

NCEF   National Clean Energy Fund

NDCs   Nationally Determined Contributions

NDP   New Democratic Party

NEPA   National Environmental Policy Act

NGOs   Non-Government Organisations

NMA   National Mining Association

OECD   Organisation for Economic Co-operation and Development

PAT   Perform, Achieve, and Trade

QDA   Qualitative Data Analysis

RAN-GRK   *Rencana Aksi Nasional penurunan Gas Rumah Kaca*

RPJM   *Rencana Pembangunan Jangka Menengah*

RPJP   *Rencana Pembangunan Jangka Panjang*

REDD+   Reducing Emissions from Deforestation and forest Degradation plus

SBREC   Social and Behavioural Research Ethics Committee

SEPA   State Environmental Protection Administration

SME   Small and Medium Enterprises

UNEP   United Nations Environment Programme

UNFCCC   United Nations Framework Convention on Climate Change

USA   United States of America

VAT   Value Added Tax

WALHI   Wahana Lingkungan Hidup Indonesia

WB   the World Bank

WRI   World Research Institute

WTO   World Trade Organisation

WWF   World Wildlife Fund

CHAPTER I

INTRODUCTION TO THE THESIS

Introduction

Climate change has become a pressing issue which needs to be addressed adequately by the international community. The adverse impacts of climate change present a severe threat to society. Mitigating the trans-boundary impacts of climate change is a challenge faced by all countries, both developed and developing.

Indonesia is one of the top 10 largest greenhouse gas (GHG) emissions producers in the world. The data from the World Resource Institute Climate Analysis Interactive Tool (CAIT)[1] shows that Indonesia ranks 6th with 1.98 gigatons of GHG emissions in total (China is 1st and the US is 2nd) (WRI, 2015). This contributes 4.16% of total global GHG emissions. With an average emissions growth rate of 3.7% a year for the decade from 2001 to 2012 (WRI, 2015), and a population of close to 260 million, reducing GHG emissions in Indonesia will have a significant impact on slowing global emissions growth.

Indonesia is determined to reduce its GHG emissions through a significant reductions target. To achieve such a target, Indonesia needs to maintain economic growth for the prosperity of the population. Efforts to reduce nationwide GHG emissions requires significant funding (Republic of Indonesia, 2016, p. 5). Indonesia is the largest archipelagic country worldwide, with extensive tropical rainforests. It also has significant energy and mineral resources such as coal, oil, and gas. With major GHG emissions arising from forestry and energy sectors, climate mitigation policies

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[1] http://cait.wri.org

will be very costly because of the need to reduce activity in major economic sectors. Therefore, policymakers need to formulate an effective carbon mitigation policy at the lowest cost.

The development of climate mitigation policies to reduce GHG emissions in Indonesia needs to involve the stakeholders that contribute to emissions reduction planning programs. These stakeholders – the government as executive, members of parliament as lawmakers, businesses and industries as economic players, and non-government organisations as civil society groups – may have conflicting ideas and interests in raising problems and influencing government about how to address them.

Policy formulation in Indonesia is a complex multi-structured process entailing a wide range of political discussions and negotiations. The government, as a policymaker, needs to carry along other stakeholders in the process, especially its counterparts in parliament, to gain political support. As well, the role of business players and the community should not be underestimated, because they are the groups that are most affected by the government policies. Given this situation, it is important to explain the key features of the policymaking process in Indonesia.

The policy process in Indonesia involves multiple stakeholders and the government which are not necessarily steering in the same direction. A wide range of organisations engage in the policy process such as government agencies, business stakeholders, politicians, and non-government organisations (Datta, Hendytio, Perkasa, & Basuki, 2016, p. 1). All of the stakeholders play an important role in shaping the policy making process.

A carbon tax is probably the best climate policy alternative for reducing GHG emissions; however, such policies are argued to be not well suited for developing countries as they have a number of political, economic, and institutional constraints

that prevent the consideration of introducing a carbon tax. In this sense, Indonesia is no different. There are three key reasons why Indonesia's current political and economic context prevents the effective introduction of a carbon tax, with resource-fueled economic development, business interests, and endemic corruption being the main barriers to the introduction of such a policy. As a result, the introduction of a carbon tax in Indonesia will face significant opposition in the policymaking process.

Firstly, in relation to economic issues, the Indonesian economy is heavily dependent on the use of natural resources, including forestry and fossil fuels, to boost its economic growth. In particular, the forestry sector is the largest contributor to GHG emissions in Indonesia (NDCs submitted to UNFCCC, 2016, p.9), and would be subject to a carbon tax according to most iterations of such a tax. In the energy sector, it is a challenge for Indonesia to reduce GHG emissions from the energy sector because the main goal of the national energy policy concerns energy security (Presidential Regulation No. 5/2006). Therefore, the main energy policies in Indonesia are designed to secure domestic energy supplies to optimise energy production.

A number of studies have estimated economic losses in a range of countries after the introduction of a carbon tax, resulting in reduced national economic output (GDP), international trade, and social welfare. For example, such results have been found in Australia (Meng et al, 2013), Chile (Benavente, 2016), Canada (McKitrick, 1997), China (Lu et al., 2010; Zhang et al., 2016), Colombia (Calderon et al, 2016), and India (Fisher-Vanden et al., 1997). This points to potential adverse economic impacts on the overall economy if there was a carbon tax introduced to lower GHG emissions in Indonesia. Furthermore, Indonesia's national priorities are economic growth, the enhancement of infrastructure, and the alleviation of poverty, unemployment, and inequality. Therefore, this thesis seeks to understand how a carbon tax could be on Indonesia's national agenda. . The national budget shows that

the average allocation for economic functions between 2014 and 2019 totalled 25% of the entire budget, while the average allocation for environment-related programs in the same period amounted to only 1.1% (DG Budget Ministry of Finance, 2019). It is difficult to see a turnaround in budget priorities in the near, or even the mid-term, future.

Secondly, political considerations play a large part in how the Indonesian economy operates. As a result, introducing a carbon tax will face a number of political constraints. On the one hand, most members of parliament (MPs) either have strong links with, or are themselves, business players (Robison & Hadiz, 2017, p. 902; Aspinall, 2015, p. 24; Carney & Hamilton-Hart, 2015, p. 141), so they fear that the introduction of a carbon tax would adversely affect their business interests. On the other hand, members of parliament also represent their constituents. This means that if the public support a carbon tax, they would also support it. On the contrary, if the public are against a carbon tax, MPs would oppose it. Ultimately, this tension, and these conflicts of interest, between MPs serving their constituents and looking after their own business interests, creates a political conflict within the parliament towards the development of a carbon tax policy.

Finally, a number of authors have argued that a carbon tax would only be effective in countries with strong state capacity and low levels of corruption (Baranzini, Caliskan & Carattini, 2014; Rafaty, 2018; Hammar & Jagger, 2006). Indonesia does not match these criteria because of systemic corruption throughout most institutions in the country, especially in the forestry sector. High levels of 'soft' corruption across government agencies from the local to the national makes the enforcement of a carbon tax highly problematic. Such forms of corruption often involve unauthorised 'deals' or trade-offs between public servants and corporations. In such an environment of 'high-growth' economic priorities, a dependence on fossil fuels, conflicts of interest in the

political realm, and endemic corruption across national institutions, it is difficult to see how such a tax policy could be overseen, maintained, and indeed, enforced.

Overall, this study seeks to understand why Indonesia does not have a carbon tax, and how such a tax could potentially be introduced, given the aforementioned barriers. The study also investigates the necessary conditions for effective climate policy formulation in Indonesia and aims to set the stage for the carbon tax policymaking process. To achieve this, stakeholder perspectives on the introduction of a carbon tax in Indonesia will be gathered, analysed, and reported upon.

Even though there is some research on a carbon tax in Indonesia, most of these have investigated the distributional impacts of a carbon tax. There is, as yet, no research which has attempted to analyse the potential for the introduction of a carbon tax based on interviews with Indonesian key stakeholders. For the body of knowledge in this area, the major findings of the research will make a significant contribution to the ever-growing academic debate on the introduction of carbon prices to assist carbon mitigation efforts. The findings will also have important ramifications in terms of transparency, accountability, and political pluralism in Indonesia.

The organisation of the remainder of this chapter is as follows. The first section provides an overview of the current GHG emissions reduction policy in Indonesia as a background for the discussions to follow. The next section establishes case studies of climate policy options, after which the rationale and aims of the research will be discussed. Finally, the structure of the thesis will be presented.

Background to the research

This section provides background information for understanding the climate change context in Indonesia, and an overview of Indonesian climate change policy.

Overview of GHG emissions reduction policy in Indonesia

Indonesia is the largest archipelagic country in the world with 17,504 islands, of which only approximately 6,000 are inhabited (Saharjo & Velicia 2018, p. 25). The state lies between the Indian and the Pacific Oceans and connects two continents: Asia and Australia. Over the last four decades, Indonesia's population has continuously increased from 119.21 million in 1971 to 252.16 million in 2014 (Statistics Indonesia, 2015, p. 76). Over 50 per cent of the population lives in six main provinces on the island of Java, where the main natural resources are minerals, metals, and tropical forests. The country covers 200 million ha of land territory, with about 42 million ha comprised of lowland forest (22.58% of national land cover) (Geospatial Information Agency of Indonesia, BIG, 2014).

Indonesia has a low standing on international measures of general environmental performance. According to Yale University's Environmental Performance Index (EPI), Indonesia was ranked 133rd out of 180 countries in 2018 (Yale University, 2018). However, in the climate and energy category, Indonesia has a rank of 75th for climate change. To indicate its serious commitment to global climate change issues, Indonesia signed the United Nations Framework Convention on Climate Change (the UNFCCC) on 5 June 1992, then ratified the UNFCCC through the Act. No. 6 of 1994 regarding the Ratification of the United Nations Framework Convention on Climate Change. Following this ratification, Indonesia has been legally included in the Conference of Parties, which implies that Indonesia is bound to the rights and obligations stipulated by the Convention.

Despite not having an obligation to reduce its GHG emissions levels, Indonesia has supported the Kyoto Protocol since its inception through active involvement in the Conference of Parties and submitting national communications as a non-annex country every four years. Indonesia has also played a significant part in endeavours

to reduce global GHG emissions and reporting climate-related activities to the UNFCCC on a periodical basis. Furthermore, Indonesia has ratified the Kyoto Protocol through Act. No. 17 of 2004 concerning the Ratification of the Kyoto Protocol to the United Nations Framework Convention on Climate Change. The latest adoption is the ratification of the Paris Agreement through Act No. 16 of 2016 on the Ratification of the Paris Agreement to the UNFCCC. Indonesia submitted its Intended Nationally Determined Contributions (INDC) on 24 September 2015. The INDC was then refined into the First Nationally Determined Contributions (NDC) submitted to the UNFCCC on 2 October 2016.

The formal commitment of the Government of Indonesia to reduce its GHG emissions began in September 2009 during the G20 Leaders' Summit in Pittsburgh. At the summit, the President of the Republic of Indonesia announced the national voluntary commitment to reduce its GHG emissions by 26% from the 'business as usual' scenario by 2020; furthermore, with international support, it could reduce emissions by an additional 15% (41% in total reductions against the 'business as usual' scenario with international assistance). Following up this commitment, climate policy initiatives have been established by the government of Indonesia. The most important of these in the context of this study is Presidential Regulation No. 46/2008 on the establishment of the National Council on Climate Change (NCCC, also known as *Dewan Nasional Perubahan Iklim* or DNPI). The core tasks of the DNPI, both domestically and internationally, are very powerful and influential in the context of climate change policy. In the domestic context, the DNPI is responsible for climate mitigation and adaptation policies chaired by the President of Indonesia. Whilst internationally, the DNPI is the agency that represents Indonesian government in international climate change negotiations. The formulation of national climate change

strategies and approaches, including a cross-sectional coordination framework among the ministries, is the mandate of the DNPI.

Another crucial institutional arrangement from the government has been the establishment of the REDD+ Taskforce. Through Presidential Regulation no. 25/2011, the REDD+ Taskforce was established primarily to accommodate the letter of intent on "Cooperation on Reducing GHG Emissions from Deforestation and Forest Degradation" between the government of Indonesia and Norway, signed on May 2010. The taskforce was mandated to create an institutional and legal framework for REDD+ in Indonesia. The primary objectives of the REDD+ taskforce has been to create a legal and institutional framework for developing REDD+ in Indonesia, to formulate national strategies, and to prepare for the implementation of REDD+ mechanisms as per the agreement between the two countries.

Indonesia's commitment to reducing its GHG emissions was legally formalised through Presidential Regulation No. 61/2011 concerning the National Action Plan for Reducing GHG Emissions (RAN-GRK). The plan comprises five main target sectors, including forestry and peatland, waste, agriculture, industry, and energy and transportation. In total, the GHG emissions reduction targets are estimated to amount to 0.767 $gtCO_2$ to achieve a 26% reduction target and an additional 0.477 $gtCO_2$ to achieve a 41% reduction target.

In the emissions reduction policies for the forestry sector, the government of Indonesia issued the Presidential Regulation No. 10/2011 on the Forestry Moratorium that postponed the issuing of forestry permits for the utilisation of primary forest and peatland. This regulation was renewed by the new administration under President Joko Widodo in 2015. However, the effectiveness of the policy implementation has been heavily criticised (Sibarani, 2017, p. 3). According to Sibarani's (2017) study, the

moratorium regulation did not affect the issuing of new forest utilisation permits in the moratorium forest area. During the moratorium period, the forest permits were actually issued on a massive basis without a reduction in new forest permits. According to the study, the implementation of the moratorium policy was not supported by a proper evaluation and monitoring system (p. 7). The evaluation and monitoring were conducted sporadically by civil society organisations in local areas without coordinating the process with relevant stakeholders, while the results of the evaluation were not responded to by relevant government agencies (a more comprehensive discussion of this issue will ensue in the next chapter).

The energy sector is the second largest source of carbon emissions, contributing 35 per cent of total emissions in 2012 (Wijaya et al., 2017, p. 21). According to Wijaya et al. (2017), it is expected that emissions from energy production will continue to grow and are projected to make up more than 50 per cent of total emissions by 2030 (p. 21). This is because Indonesia has the fourth largest population in the world. With its growing economy, energy consumption could continue to increase over the next few decades. As previously mentioned, the main energy policy in Indonesia is designed to secure domestic energy supplies to optimise energy production. This is further complicated because the National Energy Policy Act also stipulates that national energy consumption will still rely primarily on fossil fuels by 2025 (20 per cent oil, 30 per cent gas, and 33 per cent coal). New and renewable energy consumption will only comprise 17 per cent of the energy mix by 2025.

It must be noted however, that the government of Indonesia has initiated a process to shift energy consumption towards lower carbon-intensive fossil fuels. Substitution from more carbon-intensive fossil fuels such as coal and gas to lower carbon-intensive fossil fuels will result in reductions in GHG emissions. The government initiated a switch from kerosene consumption to liquid petroleum gas

(LPG) in 2006 as a response to increased subsidies on kerosene. Due to significant potential economic savings, the government commenced the substitution in 2007 in Java, Bali, Sumatra, Kalimantan, and Sulawesi. It has been estimated by the Ministry of Finance of Indonesia that around IDR 45.3 trillion (US$ 3.24 billion) was saved between the time of the conversion in 2007 and April 2011 (Butar-Butar & Cocco, 2012, p. 37). However, the main goal of the substitution policy was to create economic savings; therefore, the potential of the policy to reduce GHG emissions, and how much GHG emissions reduction could be quantified, was ignored by policymakers.

Indonesia is one of the major emissions contributors in the world because of its large population and its recent economic growth. Having the third largest area of tropical forest in the world, Indonesia's economy is still dependent on the availability of natural resources such as forest products, minerals, and metals. However, while maintaining economic growth is a development priority, at the same time, the Indonesian government is fully aware of the adverse effects of climate change. This is because Indonesia is an archipelagic country with extensive low-lying coastal areas. The geographical characteristics of the country makes it vulnerable to the effects of climate change, particularly rising sea levels. Sea level rise has the potential to affect 42 million people living in the low-lying coastal zones. Indonesia has had considerable experience with the effects of climate change such as drought, flooding, extreme weather, increasingly heavy rainfall events, and saltwater inundation. Therefore, reducing GHG emissions to mitigate the effects of climate change has been a critical policy concern for Indonesia.

Global concerns about climate change have been addressed by Indonesia through active involvement in the international climate change agenda. As previously mentioned, Indonesia ratified the United Nations Framework Convention on Climate Change through Law No. 6/1994, and the Kyoto Protocol through Law No. 17/2004.

Furthermore, in 2007, Indonesia hosted the 13th UNFCCC Conference of Parties (COP 13) in Bali. COP 13 produced *the Bali Action Plan* which became a strong basis for future international long-term cooperation to tackle climate change problems. As well, in the G20 Summit meeting in Pittsburgh in 2009, President Yudhoyono declared to the world that Indonesia would reduce its GHG emissions by 26% unilaterally and by 41% with the support of global assistance by 2020 (from the *business as usual* baseline). This statement was reaffirmed by President Joko Widodo during the UN Climate Summit in New York in 2014. Beyond 2020, Indonesia envisions a decrease in its GHG emissions. According to Indonesia's *Nationally Determined Contribution* (NDC) document submitted to the UNFCCC COP 21 Paris 2015, Indonesia will reduce its GHG emissions by 29% by 2030 from the 2000 baseline year (NDC, 2016, p. 2).

The government of Indonesia constituted a number of climate change mitigation programmes as an integrated and cross-cutting priority of the National Medium-Term Development Planning priorities of 2010-2014 and of 2015-2019 (Bappenas, 2014a, pp. 173-175). This reflects a national commitment towards a climate change resilience development pathway. In 2011, the government of Indonesia launched the Presidential Regulation No. 61/2011 regarding the National Action Plan for GHG Emissions Reduction. The action plan identified 50 mitigation strategies within 5 priority sectors for the period 2011-2020. As requested by the Paris Agreement, Indonesia submitted its first Nationally Determined Contributions (NDCs) to the UNFCCC in 2016. The NDCs document shows the post-2020 climate actions of each country to reduce GHG emissions. According to the first NDCs, Indonesia's emissions reduction targets by 2030 are as follows:

Table 1: Indonesia's Emissions Reductions Target (2030)

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In Table 1 above, we can see that the major GHG emissions in Indonesia are from the forestry sector which accounts for 647 $mtCO_2$ or 48.5% of total GHG emissions. The energy sector accounts for 453.2 $mtCO_2$ or 33.97% of total emissions. Energy will play a crucial role in contributing to carbon emissions in Indonesia in the future. This is because of the large population and the increasing energy demand for economic development (Ministry of Energy and Mineral Resources, 2016a, p. 13). With an average population growth of 0.8% per year for the period 2015-2050, national energy demand will reach 238.8 MTOE in 2025 and 682.3 MTOE in 2050 (Indonesia Energy Council, 2017, p. 38). The projected demand in 2025 shows a 1.8 times increase compared to the energy demand in 2015 of 128.8 MTOE, while the demand in 2050 shows a 5.3 times increase compared to 2015 (Indonesia Energy Council, 2017, p. 38). The increase in energy demand in the future will make the energy sector become the major emissions producer in Indonesia, partly because Indonesia's energy policy mix still relies on oil, coal, and gas.

The main challenge for the government of Indonesia in achieving the emissions reduction target is not simple. While Indonesia needs to achieve the target, at the same time, the country also has to continue its economic development and create wellbeing for its growing population (Schwarz, 2010, p. 181). Consequently, policymakers need to design a carbon mitigation policy in line with Indonesia's development pillars of pro-growth, pro-poor, pro-job, and pro-environment (Salim,

2015, p. 5). According to Salim, these development pillars aim to increase the growth rate from 5% in 2004 to 7% in 2014; reduce unemployment from 9.9% in 2004 to 5% in 2014; reduce the population below poverty line from 16.7% in 2004 to 10% in 2014; and reduce greenhouse gas emissions by 26% from the 2000 baseline unilaterally and by 41% with international assistance by 2020. In this context, policymakers should have a clear interest in adopting effective climate policies that minimise the cost of achieving the emissions reduction target.

Case studies of climate policy options to respond to climate change issues

This section presents a review of a number of climate policy options relevant to this study, providing an overview of the policies and discussing the strengths and weaknesses of each option. There are three main climate policy measures, or hybrids of these, that have been used to reduce GHG emissions: (1) command-and-control regulation; (2) cap and trade programs; and (3) a carbon price. In the environmental literature, command-and-control regulation is a non-market-based policy, while the others are market-based instruments.

Command-and-control regulation

Command-and-control regulation, also known as direct environmental policy or traditional environmental regulation, is probably the most common and popular policy to cope with environmental problems, including climate change (Harrington & Morgenstern, 2004, p. 13). It is known as a direct environmental policy because under such regulations, government agencies directly mandate business enterprises to comply with a series of defined standards and rules (Stavropoulos, Wall, & Xu, 2018, p. 1380). In principle, command-and-control regulation is a government approach to 'command' emissions reduction actions (e.g., by setting emissions standards) and to 'control' how the reductions are achieved (e.g., through emissions-control technologies or sanctions for non-compliance) (D. H. Cole, 2017, p. 2; D. H. Cole &

Grossman, 2018, p. 115; Holley & Shearing, 2017, p. 5). In the context of environmental issues, command-and-control regulation is used to improve the quality of the environment; for example, to ensure that emissions reduction targets are met in the context of climate change mitigation programs.

Environmental standards can be divided into three categories: performance-based, technology-based, and management-based (Kostka, 2016, p. 60). Performance-based standards specify the level of pollution to be reached (e.g., the amount of emissions permits in a year); technology-based standards define the specific technology that companies can use to comply with particular rules; and management-based standards mandate businesses to comply with defined management practices or production processes.

Command-and-control regulation is considered to be a 'traditional' type of government intervention because it was the earliest policy regulation introduced to deal with environmental issues (Hsu, 2012, p. 17). It has been established as a regulatory instrument since the 1970s, and many countries in the world still rely on such measures to deal with complex environmental problems (Böcher, 2012, p. 14). For example, in the USA, the government established the National Environmental Policy Act (NEPA) on 1 January 1970 as an early attempt to achieve specific environmental objectives. The objective of the NEPA has been "to create and maintain conditions under which man and nature can exist in productive harmony, and fulfil the social, economic and other requirements of present and future generations of Americans" (Walker Wilson, 2005, p. 223).

An example of command-and-control regulation is that, in the USA, coal companies are required to install 'scrubbers' which filter emissions from the coal combustion process so that the gases released are 90% free from sulphur dioxide

emissions (Hsu, 2012, p. 18). Another example is the MEPS (Minimum Energy Performance Standards) in Australia, which specifies the minimum level of energy that products must comply with before being used for commercial purposes (Guglyuvatyy, 2011, p. 25). In fact, the US Environmental Protection Agency (EPA) – the oldest agency in the USA – still uses this traditional approach to deal with carbon emissions reductions under the Clean Air Act (Gunningham & Holley, 2016, p. 274).

An important characteristic of command-and-control regulation is the level of state-governed coercion which imposes sanctions or penalties on non-compliers and rewards compliers (Holley & Shearing, 2017, p. 5; White, 2012, p. 5; Xie, Yuan, & Huang, 2017, p. 106). For example, command-and-control regulation in China, established in the 1990s, resulted in the closure of 84,000 small energy-intensive companies between 1996 and 2000, with a further 33,000 closing between 2001 and 2005 (Chen, 2010, p. 22). This is because they exceeded the defined emissions standards set by the government.

In a discussion of optimal regulatory approaches used to constrain environmental externalities, Wiener (1998, p.705) argued that command-and-control has been the most widely adopted form of regulation, because it is an effective, direct, and simple approach which enables regulators to set specific standards (e.g., technologies and performance standards), and to use their power to impose sanctions on those who do not comply with the rules (Gunningham & Holley, 2016, p. 275; Stavropoulos et al., 2018, p. 1380).

However, the effectiveness of regulation depends on the strictness of the enforcement. It has been argued that due to differing stages of economic and technological growth, governments in developed countries enforce the regulations more strictly than those in developing countries (Copeland & Taylor 1994, cited in

Stavropoulos et al. 2018, p. 1380). As a result, the level of effectiveness of such measures in developing countries is less than those in developed countries.

The advantage of command-and-control regulation is that it is simple and direct and can be set on different bases. For example, the government can set the regulation standards based on the size of the company or the amount of emissions that a company produces per year. Moreover, government tends to apply uniform standards to all regulated parties to give the impression that regulation treats everyone fairly (De Burca, Keohane, & Sabel, 2012, p. 730; C. Field & Field, 1994, p. 215). However, in *the Final Report: Making sanctions effective*, Macrory criticised the simplicity of direct regulation by pointing out that command-and-control regulation has uniform sanctions which have unequal impacts on small businesses. Small enterprises are more vulnerable in terms of their financial capability to shoulder equal sanctions compared to large industries (Macrory, 2006, p. 58). As such, command-and-control regulation results in discriminatory sanctions on smaller business players. This concern is especially relevant to Indonesia because small and medium enterprises (SMEs) are one of Indonesia's economic pillars. More than 90 per cent of Indonesian businesses are SMEs and they are the main providers of employment in Indonesia (OECD, 2018, p. 17).

Despite successes in dealing with environmental challenges through the effectiveness of a direct government approach, command-and-control regulation has also been criticised. Chaffin and Gunderson have argued that command-and-control measures struggle to deal with complex contemporary environmental problems such as the challenge of global climate change (Chaffin & Gunderson, 2016, pp. 81-82).

The core criticism of command-and-control regulation focuses on the cost-effectiveness of the approach (see e.g. Bovenberg & Goulder, 2002; Daugbjerg &

Pedersen, 2004; Guglyuvatyy, 2011). In the context of environmental policy, a policy is considered cost-effective if the policy objectives are achieved at the lowest cost. Gunningham and Holley claimed that centralised and uniform command-and-control regulation is costly, inefficient, cumbersome, and insensitive to local contexts (Gunningham & Holley, 2016, p. 276). Holley and Shearing explained that command-and-control regulation is less effective in developing countries in which the human and financial resources needed to deal with environmental issues are scarce (Holley & Shearing, 2017, p. 6). Command-and-control regulations are not flexible, and do not recognise the fact that compliance costs are different among firms depending on their technologies and operating conditions (Schmalensee & Stavins, 2017, p. 573). As a result, total abatement costs under command-and-control regulations are likely to be greater than expected.

"Cap and trade" programs

The alternative to command-and-control regulations are 'carbon prices' which provide an "explicit price signal of GHG emissions to regulated firms and individuals" (Skovgaard et al., 2019, p. 2). Many economists believe that carbon pricing is the most effective climate policy to reduce GHG emissions at a reasonable cost, relatively lower than any other instrument (see e.g. Baranzini et al., 2017; Lawrence H Goulder & Schein, 2013; Greenwood, 2009; Mehling & Tvinnereim, 2018; Nordhaus, 2013; Stern, 2008; Sterner, 2007; Stiglitz et al., 2017; Zenghelis, 2006). Carbon pricing is defined as "initiatives that put an explicit price on greenhouse gas emissions, i.e., a price expressed as a value per ton of carbon dioxide equivalent (tCO_2e)" (World Bank, 2017, p. 20). In his recent article, Baranzini argued that "among all instruments, carbon pricing deserves the most serious attention from researchers, politicians, and citizens" (Baranzini et al., 2017, p. 13). Therefore, it is no surprise that carbon pricing dominates

political debate as the most significant climate policy to address climate change issues across the globe and also advocated by the UNFCCC.

In practice, there are two ways to put a price on CO_2 emissions. The first way is simply to impose a direct tax on CO_2 emissions which requires firms and individuals to pay a price in the form of a tax or levy on the emissions they produce. The second way is that government sets a limit (cap) on emissions for companies, or the whole economy, and then give them the right to emit CO_2, but the rights to emit can be sold and bought between companies ("cap and trade" system). In this section, we focus on discussions about a cap and trade mechanism as a climate policy option, while a carbon tax will be discussed in the following section.

On the first Earth Day in 1970, cap and trade approaches started in the United States, with the federal government intending to localise air pollution and transboundary acid rain (Schmalensee & Stavins, 2017, p. 573). Nowadays, cap and trade programs in the United States have shifted from national to sub-national policies, and with the increase in climate change threat awareness, such policy action has even spread overseas; for example, the European Union Emissions Trading System, and pilot cap and trade programs in seven provinces and cities in China: Tianjin, Chongqing, Shanghai, Beijing, Guangdong Province, Hubei Province, and Shenzhen (L. Liu, Chen, Zhao, & Zhao, 2015, p. 259; Rich, 2018, p. 1).

Cap and trade programs (also known as an emissions trading systems) are an economic mechanism used to reduce greenhouse gas emissions in a given market. They are classified as market-based instruments because they influence and allow the marketplace to determine an efficient economic solution to reduce GHG emissions (Brief, 2008, p. 5; Ramseur, 2016, p. 2). Under a cap and trade program, a country, state, province, or multiple companies decide to place a limit (cap) on their collective

emissions on a consensual basis to achieve emissions reduction targets. Subsequently, the government distributes permits or allowances for emissions to participating entities either through an auction or free allocation (each allowance is usually equal to one ton of CO_2).

Participating companies can buy and sell these emissions permits between one another aiming to obtain enough permits to cover their emissions (Bifera, 2013, p. 1; Ramseur, 2016, p. 2). As an example, there are two firms: Firm X and Firm Y. The government establishes a "cap" within a region. A cap is a limit on the total pollution that may be emitted across all firms. The government, or a central authority, then divides the level of pollution under the cap into permits or allowances (usually one permit is equal to one metric ton of carbon dioxide equivalent). Both Firm X and Firm Y are required to buy allowances to be able to emit CO_2 emissions. They are not allowed to emit CO_2 emissions above the cap without additional allowances that can be traded with other firms.

In their work, *The Theory of Environmental Policy*, Baumol et al., elaborated a property rights theory for pollution. They recommended that governments need to grant entities with property rights to pollute at a given level. The government would allocate as many rights to pollute as needed to cover an overall permissible level of emissions. Business entities that have their emissions below the specified emissions cap could then sell their rights to pollute to those who need to emit above the cap (W. Baumol, Oates, Bawa, & Bradford, 1988, pp. 180-190).

The trading mechanism under a cap and trade program creates a price in a market for emissions reductions through the dynamics of supply and demand. Within this mechanism, companies are given "property rights" by the government to produce CO_2 emissions until they reach a level set by the government (cap). If their emissions

are still below the emissions cap, they can sell their "property rights" to companies that their emissions have reached above the cap. With such a system, a cap and trade program is viewed as an environmentally effective and economically efficient policy response to coping with climate change (Kosnik, 2018, p. 605). Therefore, along with carbon taxes, cap and trade systems are preferred by many economists as a market-based climate policy option (see for example, Nordhaus 2007; Ellerman et al. 2003; Wiener 1999; Oates 2000; Ackerman & Stewart 1985).

Carbon Tax as a Climate Policy Option

This section discusses the debate over a carbon tax as a climate policy option. A general discussion on the basic concepts and the core principles of a carbon tax comes first, followed by a discussion on the advantages and disadvantages of a carbon tax. Next, the theory of the double dividend in relation to a carbon tax is examined, followed by a discussion of a carbon tax in the context of climate change. At the end of the section, the experience of carbon taxes around the world will be presented.

The basic theory

A carbon tax is defined as "a tax on fossil fuels in proportion to the amount of atmospheric carbon dioxide that is released when they are burned" (Poterba, 1991, p. 47). From Poterba's generic definition, we can say that a carbon tax is imposed based on carbon content emitted by firms when they burn fossil fuels (e.g., coal, oil, and gas) for energy usage. The difference between a carbon tax and other broad-based energy taxes is that energy taxes use the amount of energy consumption as the tax base rather than the carbon content. This definition only applies to emissions from the energy sector. If it included emissions from other sectors, for example the forestry sector, a more general definition is required. In a broader definition, Mehling and Tvinnereim (2018) have defined a carbon tax as "initiatives that put an explicit price

on greenhouse gas emissions, i.e., a price expressed as a value per ton of carbon dioxide equivalent (tCO$_2$e)" (Mehling & Tvinnereim, 2018, p. 50).

As an instrument to reduce GHG emissions, a carbon tax is not a new concept. The theoretical basis of a carbon tax is accredited to Pigou (1932), Baumol and Oates (1971), and Coase (1960) (Guglyuvatyy, 2011, p. 37). In the environmental policy arena, especially in climate change discussions, a carbon tax is recognised as the foremost policy alternative to address emissions problems.

A carbon tax is a type of environmental tax or "Pigouvian tax". A Pigouvian tax is named after Arthur Pigou – a British economist – who used taxation as a policy tool to reduce environmental damage. In 1920, Pigou in his book *The Economics of Welfare*, introduced the concept of externalities and the use of taxes to internalise these externalities. For example, when a company operates a factory in a residential area, it creates a negative externality in the form of air pollution which can cause the loss of fresh air, health, and amenities. Pigou's recommendation to tax a negative externality is one of the earliest modern concepts of environmental taxes. It is based on the idea that the costs of negative externalities can be internalised by imposing a tax to reduce these externalities (Baumol & Oates, 1971, p. 42).

From Pigou's perspective, the negative externalities are a social cost which should be incorporated by the company into its production costs. However, industries have common interests only in their products, trade, and net profits. They are not interested in social community. As a result, they do not want to bring social costs into their production costs. In this situation, government needs to take action by taxing the company to capture, or to internalise, the negative externalities and bring them to the market. This framework which addresses the externalities by using taxes is widely known as a "Pigouvian tax". In fact, James Buchanan and William Stubblebine were

the first people to use the term "Pigouvian tax" in 1962 in their article *Externality* (Milne & Andersen, 2012, p. 17).

Pope and Owen stated that Pigou's proposal in 1920 was to impose a tax on pollution aiming to internalise the externalities in ordinary market transactions which caused environmental damage (Pope & Owen, 2009, p. 4596). Similar acknowledgement comes from Herber and Raga who stated that a carbon tax is a type of Pigouvian tax designed to internalise the negative externalities into the price mechanism (Herber & Raga, 1995, p. 258).

The Pigou proposal then becomes the basic idea of the "polluter pays principle" (Pope & Owen, 2009, p. 4596). The polluter pays principle was introduced by the OECD into the environmental policy domain[2]. As a concise definition, the polluter pays principle is: "the principle according to which the polluter should bear the cost of measures to reduce pollution according to the extent of either the damage done to society or the exceeding of an acceptable level (standard) of pollution" (OECD Publishing, 2008, p. 410).

Within a Pigouvian tax arrangement, the government imposes a carbon tax on CO_2 emissions. Imposing a tax on emissions means putting a price label on carbon emitted by firms in the same way as the market puts a price on other inputs. Under the general conception of an environmental price, an environmental tax has an impact on polluters according to the amount of emissions they produce. Accordingly, the polluters will choose either to pay the damage by paying the emissions tax, or avoid paying the tax by reducing emissions (William J Baumol & Oates, 1971, pp. 42-43).

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[2] The polluter pays principle was introduced by OECD in 1972, then by the European Community in 1975, and then became the basic principle for developing environmental policy instruments around the world (Guglyuvatyy, 2011, p. 37).

The concept of imposing a Pigouvian tax on externalities seems to be the best solution for all pollution problems. However, supporters of the free market who dominate the economic playing field compete against government direct intervention policies (Mikael Skou Andersen, 1994, p. 32). In 1960, in his article, *The problem of social cost*, Coase harshly criticised the Pigouvian tax mechanism, claiming that where externalities exist, under certain conditions, the market mechanism will lead to optimal resource allocation on its own (William J. Baumol, 1972, p. 308).

Coase and his supporters highlighted the impacts of imposing an environmental tax to correct market failure. They argued that the administrative costs of introducing an environmental tax would be higher than the resources lost from market failure. This is counter-productive because the tax aims to correct market failure. Hence, Coase's followers claimed that an environmental tax on pollution might be worse than the damage it aims to address (William J. Baumol, 1972, pp. 308-310).

Despite this criticism, environmental taxes are recognised in general as practical policy instruments for reducing pollution or emissions in the context of climate change. However, current practices and policies related to environmental taxes may differ from a traditional Pigouvian tax. The following passages discuss various rationales for introducing a carbon tax.

Arguments for a carbon tax

A carbon tax is an important instrument for reducing GHG emissions in response to climate change. It is expected that this policy tool will decrease the human-induced climate change that has been threatening our planet. The industrialisation era since the beginning of the 20th century has resulted in an environmental crisis. In his study in 2009, Lohman claimed that the crisis of GHG pollution is a market failure which needs to be addressed by a price on emissions through government regulation

(Mete, Dick, & Moerman, 2010, p. 619). Market failure occurs when some aspects of the production process are not included in the transaction costs. The failure is indicated by the fact that the GHG pollution produced by companies is not included in the production costs nor is it part of the firm's responsibilities (Andrew, Kaidonis, & Andrew, 2010, p. 613). Therefore, the entire society shoulders the burden of the costs associated with pollution.

Putting a price on carbon emissions (through a carbon tax or a cap-and-trade programme) has been a popular climate mitigation policy. Pricing the harmful emissions is a primary option to encourage a transformation towards cleaner energy technologies (Cleetus, 2011, p. 19). Goulder and Schein claimed that emissions pricing policy is "a main theoretical attraction" to the extent that it has the potential to reduce emissions more economically than other policy instruments such as obligatory technologies or performance standards (Lawrence H Goulder & Schein, 2013, p. 2). Sterner and Wallart supported this argument, pointing out that emissions taxes are more efficient than most other policy instruments because such taxes can achieve their objectives at a lower social cost (Sverker C. Jagers & Hammar, 2009, p. 218). For example, a company which produces high-intensive emissions during the production process will change towards cleaner and low carbon technology to avoid paying more emissions tax. Additionally, the OECD has stated that a major consideration for introducing carbon taxes is their great prospects for reducing GHG emissions and to improve economic efficiency at the same time (Baranzini, Goldemberg, & Speck, 2000, p. 405). Furthermore, Hsu stated that a carbon tax is an important, effective, and flexible climate policy tool for reducing GHG emissions (Hsu, 2012, p. 7).

The introduction of a carbon tax could be seen as an effort to reduce environmental degradation through imposing a cost on consumers. It is expected that

such a policy would have a positive impact on emissions reduction targets. Introducing a carbon tax can also be viewed as a way to change people's behaviour towards a low carbon economy using the price mechanism. Pope and Owen provided an example of the changes that would result from a carbon tax policy (Pope & Owen, 2009, p. 4596). They showed that a carbon tax would create higher prices for electricity which would then influence people to reduce their energy consumption (demand effect), while at the same time, encouraging investment in low carbon technologies for power plants due to the higher cost of fossil fuels (supply effect).

Metcalf suggested three advantages of implementing a carbon tax to address GHG emissions: first, the tax would create a certain price on carbon emissions which would encourage carbon emitters to reduce their emissions through low carbon investment; second, if the government was determined to have a revenue-neutral carbon tax, it would be likely to be politically acceptable and avoid political resistance; third, a carbon tax could be implemented with low administrative costs (Metcalf, 2009, p. 75). In his study, Hourcade provided two additional benefits of a carbon tax: an environmental double dividend, and an economic double dividend. An environmental double dividend means that a carbon tax would reduce GHG emissions while, at the same time, it would decrease local pollution. A carbon tax would also have an economic double dividend because if the revenue was used in a recyclable way, it could have a positive impact on economic growth, employment, and technological innovation (Baranzini et al., 2000, p. 401).

The economic and environmental benefits of a carbon tax are also pointed out in several other studies (see, for example Christoph Böhringer & Rutherford, 1997; L. Goulder, 1995; Parry & Bento, 2002). Another benefit of a carbon tax has been proposed by Van Heerden et al. They demonstrated a triple dividend from a carbon tax in South Africa: 1. emissions reductions; 2. an increase in GDP; 3. and a reduction

in poverty when a food tax break is included (van Heerden et al., 2006, p. 135). In the case of South Africa, according to the study by Van Heerden et al, the carbon tax reduced CO_2 emissions by 1.115 Gg CO_2 per 1 million Rand (US$ 70,000) in tax revenues. If the revenues were recycled to include an indirect tax break, the CO_2 emissions would be reduced by 1.024 Gg CO_2 per 1 million Rand revenue recycled. Finally, a combination of a carbon tax and a food tax break increased real consumption of the poorest households by 12.4% per 1 billion Rand (US$ 70 million) tax revenue recycled.

A revenue-neutral carbon tax has become a popular climate policy option and championed by the UNFCCC because such a tax avoids tax distortions and harmful social effects on households. A carbon tax should be a revenue-neutral policy in order to gain support from the business community. In other words, revenues raised should be countered by tax cuts elsewhere, with the tax applying to both businesses and households (Murray & Rivers, 2015, p. 675). Accordingly, a revenue-neutral carbon tax means that the revenue from a carbon tax should not be used to fund the fiscal deficit; rather, it would be recycled to low-income households or to low-carbon technology industries.

Within the domestic policy domain, a carbon tax would help to decrease GHG emissions by putting a price on carbon emissions. Companies or business entities would be forced to pay an amount of money for the carbon emissions they produce. This means that when companies release their carbon emissions, they would be responsible for paying the carbon tax at a certain designated level. On the one hand, a carbon tax would be an incentive for companies to reduce their carbon emissions in order to pay less tax. On the other hand, such a tax would also be an incentive to use low carbon technologies as an alternative in order to cut GHG emissions.

There are many instruments available for reducing GHG emissions, and each option has associated costs; for instance, some instruments are cheaper than others. The challenge for policymakers is to find mechanisms that can achieve the emissions reduction target at the lowest cost, in both political and economic terms. In general, a market-based instrument would be the preferred option because policymakers would be able to take advantage of the market mechanism to achieve lowest cost emissions mitigation. This would also be easier to set up and administer compared to a command-and-control mechanism which would require inspection, compliance, and enforcement for each aspect of the policy (Helm, 2005, p. 208).

The idea here is that a value (in the form of a tax or levy) would be put on carbon emissions. The price would be paid by those companies/industries who produce or emit carbon. Once the government introduces a carbon tax and establishes a tax rate at a particular level, it would likely be the case that the price of carbon-intensive goods would increase, or that company profits would decrease (Baranzini et al., 2000, p. 396). The effect would be that the production price of goods would increase in association with the carbon emissions. The price effect would influence all goods and services within the economy. In this way, all prices would increase according to the amount of emissions in the production process, from the primary materials, through to final consumption.

The increased prices would lead to an adjustment in economic activity from high-emissions goods and services to lower-emissions goods and services. This is because goods and services with high emissions would be priced higher than goods and services with lower emissions. Therefore, carbon taxes are designed to shift the consumer away from intensive-emissions economic activity towards lower-emissions alternatives. Subsequently, the amount of emissions will be reduced in the most cost-effective way. Cost effectiveness means 'total cost of reducing emissions to achieve

a specific environmental objective is minimised' (Baranzini et al., 2000, p. 396). A carbon tax or emissions tax is a cost-effective tool to reduce GHG emissions in the sense that it has an equal tax rate for each polluter. As a result, companies with lower production costs will likely make greater abatement efforts. More precisely, a carbon tax provides two incentive effects (Baranzini et al., 2000, p. 397).

- A direct effect through price increases, which would stimulate conservation measures, energy-efficient investments, fuel and product switching, and changes in production and consumption structures.
- An indirect effect through the recycling of the revenue generated, thereby reinforcing previous effects.

Another advantage of a carbon tax over most 'direct action' policies (including the National Action Plan for Greenhouse Gas Emission Reduction in Indonesia) is that the burden of achieving emissions reductions can be moved from government to the private sector. In fact, rather than requiring the government to fund emissions reduction initiatives through the budget, carbon tax would raises additional government revenues that could be redistributed to low-income households, to fund the transition to a low carbon economy, reduce other distorting taxes, and/or fund other environmental initiatives (Elkins & Baker, 2001, p. 334). In this way, a carbon tax policy would potentially offer Indonesia a mechanism whereby it could achieve low cost emissions reductions, enhance economic growth, and reduce poverty, depending on how it is configured.

Arguments against a carbon tax

While some believe that a carbon tax is an efficient climate policy for reducing GHG emissions, many acknowledge instead that introducing a carbon tax would present a number of political-economic challenges. In this section, key challenges to

the introduction of a carbon tax are discussed. There are three categories of challenges which are most relevant to this study: economic, political, and institutional challenges.

A carbon tax poses economic challenges

Despite the advantages, which are widely acknowledged by global policymakers, a carbon tax would face numerous economic challenges which would make it politically "infeasible" (Hsu, 2012, p. 118). The 'losers' under such a tax would be readily identifiable and would often lobby against such policies. Furthermore, consumers might react negatively to price increases in high-emissions products and services such as electricity and transport fuels, even though the revenues from the carbon tax would be recycled through tax reductions or welfare measures.

The clearest winners from such a policy would tend to be emerging industries such as renewable energy providers, which often have limited political influence. These groups are natural supporters of carbon taxes, but they see other potential legislative benefits. In this context, they more realistically seek to obtain support through legislation. Government subsidies are the most favoured legislative benefits for renewable energy industries. Even though these policies are not sustainable, nor as effective as a long-term carbon tax, subsidies are politically easier to pass through the legislative process than are carbon taxes (Hsu, 2012, p. 119).

One of the main arguments challenging the introduction of a carbon tax is the impact on the economy. Many argue that introducing a carbon tax would weaken the economy. Questions emerge about what the impacts would be on the macroeconomy, and what the distributional consequences would be if a carbon tax was to be established by policymakers (Morris, 2016, p. 9).

The first question would be: would a carbon tax have regressive effects? One of the significant advantages of the introduction of a carbon tax is in relation to behavioural change. If a carbon tax was to be introduced, it would have an effect on the price of, for example, fossil fuels in proportion to their carbon content. This would further influence the relative price of goods and services. Economically, from the supply side of the equation, industry would reduce their energy consumption or would use energy more efficiently through using new technological innovations to gain a competitive advantage (Shakya, Kumar, & Shrestha, 2012, p. 93). On the other hand, from the demand side, consumers would face an increase in prices and would spend their money more wisely or would buy low-carbon goods that would be cheaper than high-carbon ones. An increase in the purchase and use of low-carbon goods would improve environmental quality, thereby providing benefits for wider society (Wang, Hubacek, Feng, Wei, & Liang, 2016, p. 1125).

However, an increase in the price of goods and services from a carbon tax would also have distributional impacts on both suppliers and consumers (Fischer & Newell, 2008, p. 143). On the one hand, higher prices would incentivise people to spend their money more efficiently. On the other hand, an increase in prices would reduce economic activity and harm people on low incomes. In this situation, a carbon tax would be regressive in that low-income households would shoulder a higher tax burden than high-income groups (Chiroleu-Assouline & Fodha, 2014, p. 127; Wang et al., 2016, p. 1126).

The regressive impacts of a carbon tax have become a major topic of research, finding that a carbon tax does indeed have regressive effects on low-income households (e.g. Pearson & Smith, 1991; Poterba, 1991). However, discussion of whether a carbon tax is regressive has focused on developed countries. Again, these studies on developed countries have found that carbon taxes are regressive; for

example, in Denmark (Wier, Birr-Pedersen, Jacobsen, & Klok, 2005), Sweden (Brännlund & Nordström, 2004), the USA (Mathur & Morris, 2014), the Netherlands (Kerkhof, Moll, Drissen, & Wilting, 2008), Ireland (Callan, Lyons, Scott, Tol, & Verde, 2009; Verde & Tol, 2009), France (Bureau, 2011), and the UK (Feng et al., 2010).

There are only limited studies on developing countries in relation to this issue. In contrast with studies on developed countries, studies focusing on developing countries do not reach a similar conclusion. A study of the distributional impacts of a carbon tax on ASEAN countries (Indonesia, Malaysia, Brunei Darussalam, Singapore, Myanmar, Vietnam, Laos, and Cambodia) concluded that a carbon tax would be progressive for ASEAN countries, except for Singapore (Nurdianto & Resosudarmo, 2016, p. 19). It is understood here that a carbon tax would have regressive impacts in Singapore because, compared to other ASEAN countries, Singapore can be considered a developed country. More specifically, a study on the distributional impacts of a carbon tax for Indonesia has also been conducted. Using the Indonesia CGE (Computable General Equilibrium) measure, the study found that the overall consequence of a carbon tax in Indonesia would be progressive (Yusuf & Resosudarmo, 2015, p. 149). Meanwhile, a study on the distributional impacts of a carbon tax on the macroeconomic aspects (consumption, employment, and real wages) of the South African economy concluded that the impacts would be only minimal (R. Hughes, 2017, p. 64). In Mexico, the effects of a carbon tax on consumption and welfare differed by geographical area. In the rural areas, there was no evidence found that a carbon tax would be regressive. However, in the urban areas, a carbon tax would be regressive because expenditure on products and services, as a proportion of overall household spending, was found to be higher as income decreased (Chapa & Ortega, 2017, p. 8).

The research on the distributional impacts of carbon taxes in developing countries demonstrates that the conclusions are not consistent with the results from developed countries. In developed countries, a carbon tax is regressive, while studies focusing on developing countries demonstrate that a carbon tax is not obviously regressive.

A second question that emerges when a carbon tax is introduced would be whether a carbon tax decreases competitiveness. Competitiveness effects have become one of the most significant issues when a unilateral carbon tax is introduced. These issues have been acknowledged by Baylis, Fullerton, and Karney, who stated that "a unilateral carbon policy will reduce competitiveness, increase imports, and lead to higher carbon emissions elsewhere" (Baylis, Fullerton, & Karney, 2013, p. 332). Concerns about competitiveness have made countries like Norway, Sweden, Finland, the UK, and Denmark exempt some industries from their carbon tax (Hsu, 2012, p. 63).

Individual (mostly developed) countries have initiated unilateral climate policy instruments, hoping that other countries will follow. In relation to global action, unilateral climate initiatives face challenges both domestically and internationally. In an open economy, emissions restrictions in one country cause not only structural changes to domestic production, but also a relocation of emissions to countries with no, or only limited, emissions constraints (Böhringer, Balistreri, & Rutherford, 2012, p. S97). This is known as "leakage" resulting from unilateral carbon pricing policies (Gray & Metcalf, 2017, p. 3).

A wide range of studies have addressed the competitiveness effects of a carbon tax (Dissou & Eyland, 2011; Fischer & Fox, 2012; Kee, Ma, & Mani, 2010; Rivers, 2010; Zhang & Baranzini, 2004). Among these studies, two general questions have

emerged: what type of effects would arise?: and, how would the undesirable effects be abated? (Liang, Wang, & Xue, 2015, p. 1569). Most of the studies have indicated that a carbon tax can lead to a loss in competitiveness in the domestic sector. This is the case because there has been no agreement to introduce a global carbon tax, so carbon taxes are unilateral policies by individual countries. Countries with unilateral carbon taxes lose their competitiveness in world markets when they face higher costs compared to international rivals with no emissions restrictions (C. Böhringer, Carbone, & Rutherford, 2012, p. S208).

Proposals to introduce complementary policy measures have been provided to reduce the potential negative impacts on competitiveness, such as carbon tax exemptions, revenue recycling, rebates, and border carbon adjustments (BCA). The literature shows that there is no consensus on which of these measures have been the best or the most successful (Liang et al., 2015, p. 569). The use of policy alternatives to complement a carbon tax depend on country-specific circumstances.

According to Fischer and Fox, border adjustments are usually the most effective policies to address competitiveness issues (Fischer & Fox, 2012, p. 164). Through border adjustments, imports from non-regulating countries are "taxed at the emissions price of the regulating region and emission payments for exports to non-regulating countries are rebated" (C. Böhringer et al., 2012, p. S208). However, in China, the best choice of a complementary policy to reduce competitiveness effects is in the form of domestic tax cuts, as they have a positive impact on domestic market share and exports (Liang et al., 2015, p. 1580).

A carbon tax poses political challenges

Governments around the world have supported carbon pricing policies because they are the most effective and efficient climate policies to reduce carbon emissions,

as recommended by economists and other experts (Mehling & Tvinnereim, 2018, p. 53; Stiglitz et al., 2017, p. 3). However, even though economically feasible, carbon pricing (both in the form of emissions trading and as a carbon tax) often fails in the political realm. In general, carbon pricing policies face political constraints and are not "politically feasible alternatives" (Andrew et al., 2010, p. 617; Jenkins & Karplus, 2017, p. 40). For example, carbon tax proposals have been rejected in the USA, France, Canada, and more recently in Australia where a carbon pricing policy was implemented but then cancelled two years later (Crowley, 2017, p. 4; Harrison, 2010, p. 522; Knox-Hayes, 2012, p. 550; Rozenberg, Hallegatte, Perrissin-Fabert, & Hourcade, 2012, p. 135).

Despite the efficacy, simplicity, and low administration costs which are the advantages of a carbon tax as discussed above, a carbon tax also poses a number of political constraints. In a discussion of carbon tax policy in France, Rozenberg et al (2012, p. 135) argued that a carbon tax was not a realistic option for the nation. She illustrated that it would be difficult to obtain political acceptance for a carbon tax, and subsequently, in 2010, the government failed to introduce a carbon tax policy because of such political barriers.

Furthermore, Rozenberg argued that there are two main disadvantages in introducing a carbon tax that need to be addressed. Firstly, a carbon tax has negative distributive impacts on both businesses and households. A carbon tax would increase the price of goods and services which would further affect low-income households. Secondly, another disadvantage relates to intergenerational impacts, which are more complicated. The expensive payment for today's climate policies for the sake of future benefits are uncertain and difficult to measure.

Perhaps the most visible evidence of political resistance to the imposition of a carbon tax is the reluctance of the USA and China, the two largest carbon emitters in the world, to adopt national carbon tax regulations. In some countries, carbon taxes also face electoral resistance or political opposition in the legislative process. For example, in Canada and New Zealand, carbon tax proposals were rejected after elections, while in South Korea and Taiwan, plans for a carbon tax were halted during the legislative process (Lo, 2013, p. 5). However, China now has significant commitments to implement a nationwide Chinese carbon pricing policy, scheduled to be operational by 2020 (Skovgaard, Ferrari, & Knaggard, 2019, p. 6).

Even though a carbon tax has been considered as a good climate policy option, convincing stakeholders is difficult (Dion, 2013, p. 181). This reality provides a conundrum for governments in both developed and developing countries in introducing a carbon tax. Many political campaigns which propose carbon taxes end up in defeat, despite being supported by many economists and environmentalists.

In the 2008 political campaign in Canada, the Liberal Party carried a carbon tax proposal onto the electoral stage. It proposed to set a price for carbon emissions in the form of a carbon tax and to use the revenues to cut personal and business income tax. The proposal also provided financial assistance for households. Starting the rate at CAD10/metric tonne CO_2 in 2009, and increasing by CAD10 over the following three years, the Liberal Party planned to create a green Canadian economy with the promise of revenue neutrality (Dion, 2013, p. 180; Harrison, 2010, p. 521).

The Liberal Party's proposal was attacked from both the right and the left by the Conservative Party and the New Democratic Party (NDP). The Liberal Party failed to maintain its standpoint regarding the carbon tax platform against the Conservatives and the NDP. The campaigns from the opposition parties were so effective, they

created an image of the Liberal's carbon tax proposal as taboo among Canadian federal political parties, except for the Green Party (Dion, 2013, p. 181). The opposition parties supported a cap and trade approach as an alternative carbon policy, arguing that this policy had real impacts on the country and did not create additional costs on the population (Harrison, 2010, p. 521). The rejection of the carbon tax proposals had a harmful effect on the Liberal Party. The Liberals were defeated in the election and their political leaders stepped down (Harrison, 2010, p. 522).

In fact, there is no jurisdiction in which a political party has won an election campaign on a platform of introducing a carbon tax. This argument is put forward by Jotzo who explored Australia's carbon pricing policy turmoil. Jotzo argued that, in Australia, carbon pricing policy has contributed to the demise of several political leaders since 2007 (Jotzo, 2012, p. 475). The political turbulence started when the minority Labor Party, supported by the Greens Party, endorsed the legislation, while the opposition parties pledged to revoke it (Jotzo 2012, p. 475).

It is intriguing that all the arguments in favour of a carbon tax are not enough to incentivise many countries in the world to introduce such a tax. Countries such as Finland, Denmark, Norway, and Sweden, in addition to the Canadian state of British Columbia, have introduced a carbon tax. However, many industries have been exempted for the sake of competitive advantage, especially those which face international competition. Meanwhile, British Columbia is only a province and Sweden is only a small country (British Columbia's population is under 5 million and Sweden's is under 10 million).

Here, two questions to be answered are, if a carbon tax is the most effective and efficient policy instrument to reduce GHG emissions, then why it is so difficult to pass through the legislative process? and Why are most politicians not supportive of a

carbon tax as a policy choice? The political economy of a carbon tax is very challenging. Large carbon-intensive industries such as the coal industry and electricity-generating firms that use coal as fuel, have the power to refuse a carbon tax because such a policy does not benefit them (Downie, 2018, p. 650). Supporters of carbon taxes come from the renewable energy industries who are not powerful enough to fight their carbon-intensive industry rivals. Realistically, they propose government subsidies for renewable energy technologies which appear to have a greater possibility of having the legislation passed (Hsu, 2012, p. 119).

Public acceptance for a carbon tax

As discussed in the previous section, economists generally accept that carbon pricing (in the form of a carbon tax or "cap and trade") is a favourable climate policy response to deliver broad, low-cost abatement in an economy. However, there is a large gap between economists' beliefs and the public perception regarding a carbon tax. While the whole of society benefits from achieving abatement at the lowest possible cost, this benefit is not easily understood by the general public. Market mechanism programs proposed by mainstream economists to address environmental problems such as climate change still face challenges from both politicians and the public. The lack of public acceptance could be a barrier to achieving the emissions reduction target through the introduction of a carbon tax.

In a discussion of energy-related taxes(Mankiw, 2009, pp. 14-15) argued that while economists are generally supportive of carbon taxes, the public are more doubtful. This is because, as Mankiw pointed out, most people are ill-informed about the value of such policy. They prefer to spend their time thinking about their families, sport, entertainment, and other relaxing activities. Finally, the critical process of designing a carbon tax policy offers numerous opportunities for lobbying and public

perceptions about the negative effects of a carbon tax, which can result in a less effective scheme and higher aggregate economic costs.

In general, public opinion tends to be supportive of environmental policy. For example, in the U.S.A., 65 per cent of the population agree that they should reduce greenhouse gas emissions in their country regardless what other countries do, and 69 per cent believe that they must take medium or large-scale collective action to address global warming (Kallbekken, Kroll, & Cherry, 2011, p. 53). However, polling results differ when the public is asked to support specific policies. The public supports policies for funding more research into renewable energy, and tax rebates for solar panels and efficient cars, but they oppose increasing taxes on fossil fuels (p. 54).

In a democratic country, public acceptance is defined as support from the public for new policy output (Dermont, Ingold, Kammermann, & Stadelmann-Steffen, 2017, p. 363). Public support for a policy is expressed through the people's attitudes and behaviours. For example, public support for an environmental policy might be represented by a willingness to pay higher environmental taxes (e.g., a carbon tax), endorsement of environmental regulations, or approval of environmental protection programs (Wan, Shen, & Choi, 2017, p. 70).

Lack of public support could be a major challenge for transforming a country into a low-carbon economy (Wiseman, Edwards, & Luckins, 2013; Wüstenhagen, Wolsink, & Bürer, 2007, p. 2683). This underlines the fact that the successful implementation of a major policy such as this has a social aspect (Batel, Devine-Wright, & Tangeland, 2013, p. 1). Lack of public support could further lead to policy failure (Wan et al., 2017, p. 70). For example, a French carbon tax in 2010, a tax on fossil fuels in Switzerland in 2000, a tax on energy in the USA in 1993, and road pricing in Ireland in 2005, all failed to be implemented because the government faced public opposition (Kallbekken

& Sælen, 2011, p. 2966). This is why it is important to understand public support for a carbon tax to anticipate public responses to government policies and to make climate policies more feasible, particularly in relation to those factors associated with the design of a carbon tax and how it is communicated to the public.

The redistribution of tax revenues has also been influential for the acceptability of tax systems (Schuitema & Steg, 2008, p. 230). The allocation of carbon tax revenues is crucial for gaining public support because it can influence the public perception of policy fairness, and because of public concern about the distributional impacts arising from the policy (Dresner, Dunne, Clinch, & Beuermann, 2006; Fehr & Schmidt, 1999). Carbon taxes are often regressive, and one way that the government can deal with this effect is through recycling tax revenues to low-income citizens.

The reason why the use of tax revenues is important for public acceptance is that people might not understand that a carbon tax will provide environmental advantages. People might not recognise the difference between a carbon tax, the objective of which is mainly to minimise activities that have negative externalities, and income taxes, the objective of which is to raise revenue. This premise is supported by Dresner et al (2006) who found that people view taxes only as "a means of raising revenues rather than in terms of their incentive effects".

Another reason why revenue redistribution is favourable is that people have no idea what the government spends tax revenues on, and they might perceive that tax revenues have been disbursed "wastefully or fraudulently" (Rivlin, 1989). In this situation, public trust becomes a key issue. Public trust, or political trust is acknowledged to be an important issue that influences public support for a government's environmental policies (Wan et al., 2017, p. 73). If the people believe in the government, they will support any policies undertaken by them and follow the

regulations or laws without needing any politically coercive actions. Conversely, if the people do not trust their government, they will reject, or not comply with, any policies the government initiates. In the environmental context, Kollman & Reichl stated that people's lack of support of government environmental policies is caused by a lack of public trust in governments and politicians (J. Kollman & A. Reichl, 2015, p. 55).

One way to gain better support from the public is through providing information about the impacts, benefits, and objectives of a policy that is being initiated. Giving adequate information to the public about a government policy will affect the level of public acceptance (Boomsma & Steg, 2014, p. 23; Gärling & Schuitema, 2007, p. 142; Kallbekken & Sælen, 2011, p. 2972; Mallett, 2007, p. 2797).

Carbon tax practices in developed and developing countries

Many countries around the world have implemented carbon taxes in their efforts to reduce their own GHG emissions or to achieve their emissions reductions target. Carbon taxes and carbon pricing programs around the world have included a national cap-and-trade system in Australia and New Zealand, carbon tax programs in European and Scandinavian countries, a carbon tax in British Columbia, Canada, an Emissions Trading Scheme (ETS) in the European Union, and a pilot cap-and-trade scheme in seven cities in China (Goulder & Schein 2013, p. 2).

A number of countries have introduced a carbon tax, as shown in Table 2 below.

Table 2: Countries with a carbon tax

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The general trend towards the use of carbon tax policies to achieve low cost emissions abatement is evident from an examination of specific international policies (Baranzini et al., 2017, p. 13). This international experience can also offer substantial lessons for Indonesia in the design of its own carbon tax policy, and for awareness of the complex political, technical, and policy issues that might arise. The section below describes the practices and experience of carbon taxes in selected countries/regions.

British Columbia

On 1 July 2008, the Canadian Province of British Columbia introduced a substantial carbon tax. It was set initially at C$10 per tonne of CO_2, increasing annually by C$5, and reaching the current level of C$30 (approximately US$22-23) per tonne by July 2012 (Milne & Andersen, 2012, p. 175). On April 1, 2019, the British Columbia's carbon tax rate increased from $35 to $40 per tonne CO_2e. The tax rate will increase each year $5 per tonne until it reaches $50 per tonne in 2021 (www2.gov.bc.ca). in The federal government of Canada introduced a carbon tax in 2018 starting at $10/tonne of CO_{2e} in 2018 and increase to $50 in 2022 (Wu & Thomassin, 2018, p. 2).

The tax rate is uniform for all fossil fuel-related CO_2 emissions from the residential, industrial, and transportation sectors, which represent 70-75% of provincial GHG emissions. At C$10, the tax increases the price of gasoline by 2.41 cents per litre, and at C$30 the price increases by 7.24 cents per litre (BC Ministry of Finance 2010). The tax is collected using the existing fuel taxation system, with retailers collecting from final consumers, wholesalers collecting from retailers, and the government collecting from wholesalers.

In the two fiscal years from mid-2008 to mid-2010, the carbon tax generated total revenues of C$848 million, while the tax credits and income tax cuts reduced projected government revenue by C$1,042 million (BC Ministry of Finance). According to a

research report by Sustainable Prosperity (2012), fuel consumption per person dropped substantially by 15.1% from 2008-2011. It declined 16.4% more than in the rest of Canada during the same period. In the same period, per capita GHG emissions declined by 9.9%, and BC's reduction was higher than the rest of Canada by 5.3%. In the first four years of the tax implementation, 19 per cent drop in BC's per capita fuel consumption and the tax has pushed drivers to use cars that more energy efficient (Lindsay, 2019, p. 3).

Finland

Finland was the first country to introduce a carbon tax in Europe in 1990. The tax was introduced on energy sectors except fuels for transportation. At this time, transport fuels were already subject to energy taxes in Finland (Speck & Jilkova, 2009, p. 32). According to Speck and Jilkova, the design of the carbon tax in Finland has changed since implementation:

a. From 1990 to 1994, the tax base was the carbon content of the energy product.

b. From 1994 to 1996, the CO_2 tax was based on the carbon content and the energy content of the energy product; at the beginning of this period, the proportion of the tax was 60 per cent based on the carbon content and 40 per cent based on the energy content. This ratio then altered to 75:25 in this time.

c. In 1997, the policy reformed again, and since then, the carbon tax in Finland has been a pure CO_2 tax.

In 1990, the rate was 1.2 EUR per tonne CO_2 and has regularly been increased; however, the tax rate has been more or less unchanged since 2007, with only a slight

increase (Lindhjem et al 2009, p. 12). In 2003, the rate was 18 EUR, rising to 20 EUR per tonne CO_2 in 2008. The current tax rate is EUR18.05 per tonne of CO_2.

Finland's carbon tax reduced carbon emissions by over 7 per cent (57 million tons) from 1990-1998 (Milne & Andersen, 2012, p. 431). By 2004, Finland's GHG emissions had fallen by 5.9%, the largest decline on record among the EU countries, providing evidence for the efficiency of an ETR (M. S. Andersen, 2010, p. 4). In terms of tax revenues, in 2008, the government generated carbon tax revenues of EUR 5 billion, contributing 6.2% to total tax revenues (Sairinen 2012).

Sweden

Sweden's carbon tax was launched in 1991. It was designed to discourage the use of oil as an energy source. The objective of the carbon tax was to reduce CO_2 emissions from fossil fuel combustion (Bohlin, 1998, p. 285). By implementing a carbon tax, the government expected to encourage innovative green and clean technologies to further reduce the use of fossil fuels. The general level of Sweden's carbon tax is approximately USD 150 per tonne of CO_2 (Johansson 2000).

Sweden's carbon tax was introduced as part of an energy taxes package reform. The tax system was based on a carbon tax and an energy tax on fuels. As the carbon tax was introduced, general energy taxes were reduced by 50% (Goteborg et al. 1995). At the operational level, the tax was not applied to fuels used for electricity production, and only 50% of the general level on fuels used in industry (Johansson 2000).

Sweden's carbon tax has had a positive effect on emissions reduction and on the use of renewable energy. By 2008, Sweden's emissions had decreased by more than 40% since the 1980s. The people were also encouraged by the carbon tax to use biofuels as an energy resource to replace coal. In the district heating sector, the use

of bioenergy has doubled, primarily as a substitute for coal (Bohlin 1998, p. 286). However, the use of oil and natural gas has not been affected, showing an increase in energy usage from these sources.

In terms of tax revenues, the government generated revenues from energy and environmental taxes of USD 6 billion or 3% of Gross National Product in 1995 (Bohlin, 1998, p. 289). The carbon tax played an important role in contributing to Swedish national energy and environmental tax revenues, accounting for USD 1.6 billion (Bohlin, 1998, p. 289). In Sweden, the carbon tax was not revenue-neutral, given the fact that the revenues were not recycled, meaning that the tax revenues went to the national general budget, but nevertheless, the impact on emissions has been significant.

Ireland

Ireland introduced a carbon tax in 2010. It was a policy instrument to cope with environmental damage, and also an innovative measure to create a new source of government revenue. After experiencing a substantial financial crisis in 2008, Ireland was bailed out by the European Commission, the European Central Bank, and the International Monetary Fund on the condition that the country would increase its tax revenue and reduce government expenditure (Convery, Dunne, & Joyce 2013).

The tax applied to CO_2 emissions mainly to carbon emissions from heating combustion in the housing area, fuels combustion from transport, and from commercial constructions (Convery, 2013). Emissions from agriculture, power, heavy industry, and waste were excluded. The rationale for excluding the tax from these sectors is that they were already covered by EU emissions trading scheme (Convery, 2012).

The tax level began in 2010 at EUR 15 per tonne of CO_2 and rose to EUR 20 per tonne of CO_2 in 2012. In 2013, peat and coal were added to the tax at EUR 10. The

tax revenues steadily increased from EUR 246 million in 2010 to around EUR 400 million in 2012 (Convery, 2012).

Between the period of 2007 and 2011, Ireland's carbon tax had a positive impact on CO_2 emissions reduction. The emissions from the residential sector decreased from 6.9 million tonnes to 6.59 million tonnes. Emissions from the transport sector decreased from 14.48 million tonnes to 11.23 million tonnes, and the emissions from industry and business fell from 6.69 million tonnes to 6.4 million tonnes. It is important to note that some of the decline can be attributed to a recession. However, changes in behaviour also played a major role (Rosenthal 2012). For example, when Irish people were faced with the carbon tax, they used more efficient cars with greener fuels.

Australia

Australia's carbon tax came into effect on 1 July 2012, but was repealed two years later on 17 July 2014, making Australia the first country to repeal a carbon tax. The Australian carbon pricing scheme was set at the rate of AUD 23 per tonne of CO_2 when it was introduced, raising 2.5% annually in line with global inflation, so in 2013, the tax rate was AUD 24.15, while in 2014, the rate was AUD 25.40.

Even though the carbon tax lasted only two years, Australia was the first country to explicitly design a national tax on carbon emissions, covering a broad range of 500 of the largest businesses and industry sectors across the country. In the early stages when the carbon tax was first introduced, the scheme set a fixed carbon emissions price according to a permit system, after which it moved towards a flexible emissions price scheme on July 2015 (Robson, 2014). The government expected to reduce its CO_2 emissions by 5% from the level in 2000 by 2020, and a reduction of 80%

compared to the 2000 level by 2050 (Department of Climate Change and Energy Efficiency, 2011).

After the introduction of the carbon tax, CO_2 emissions from the Australian energy sector fell by 5% (Schiermeier, 2014). Also, according to Schiermeier (2014), in the first year of introduction, the carbon tax raised about AUD 6.6 billion from high polluting companies which were obliged to pay AUD 24 for every tonne of CO_2 emissions they produced. These results showed that the effectiveness of the Australian carbon tax was quite significant in raising new revenues and reducing its carbon emissions.

However, Australia's carbon tax did not have a strong political history. The Prime Minister Julia Gillard introduced the tax within a weak coalition government. She agreed to introduce the carbon tax under pressure of forming a minority government with the Green Party (Baird, 2014). Furthermore, the government failed to publicly sell its carbon tax policy. Critics said that much of the media framed the carbon tax as a burden that would harm businesses and households, instead of one that would cut pollution and secure a better future for the next generation (Baird, 2014, p. A27).

India

In 2010, India introduced the Perform, Achieve, and Trade (PAT) scheme to pursue emissions reductions. However, the PAT scheme targets energy reductions rather than emissions reductions, and so will only achieve emissions reductions indirectly. The PAT scheme applies to nine energy-intensive industries with Designated Consumers (DC) with emissions that exceed specified thresholds. Each individual DC is given an energy reduction target which is baselined from the historical energy intensity of their output.

India also levies at Rs50 (US$1.07) tax per ton of coal, which affects Indonesia, the largest supplier of coal to India. This tax applies a virtual carbon tax on coal-based energy use in the Indian economy, both from domestic use and imported use. In 2010-2011, the revenues generated from India's carbon tax was around US$535 million which was used to finance the National Clean Energy Fund (NCEF).

South Africa

South Africa has a long-term commitment to supporting global climate change mitigation. The country is aware that there is broad agreement that low-income countries will be the first to be affected by the adverse impacts of climate change. This is one reason why South Africa has considered the introduction of a carbon tax. Another reason is that there is the possibility that over the next decade, carbon taxes could be implemented in a number of leading countries. Therefore, South Africa perceived that it needed to join this "coalition" to ensure that carbon taxes would be effective (Alton et al., 2014, p. 345).

The Government of South Africa proposed a carbon tax in 2013, which came into effect at the beginning of 2016. It was designed to reduce CO_2 emissions from fossil fuel combustion and gasification, and from non-energy industrial processes. The proposed carbon tax rate was Rand 120 ($8.36 at Rand 1=$0.07) per tonne of CO_2e emissions, which would increase annually. The agriculture, forestry, land-use, and waste sectors were not included in the tax after the initial five-year period. A carbon tax in South Africa will come into effect on July 1, 2019. Sectors that are closely related to fossil-fuel based energy will be negatively affected. They include transport, steel, iron, coal, and other fossil fuel-generated electricity. However, the carbon tax will create job opportunities and production in the agriculture and food sectors. This is mainly because of tax exemptions. It is expected that more jobs will be created

because the carbon tax can shift energy use from fossil fuels to renewable energy sources (Kalaba & Bohlmann, 2019, p. 3). According to Kalaba and Bohlmann, the most suitable energy sources for South Africa are wind and solar.

Lessons for Indonesia

The international experience to date of pursuing carbon taxes highlights both the advantages and challenges of a carbon tax approach. Furthermore, an examination of the design of specific carbon tax schemes highlights the potential lessons for Indonesia in considering such a tax in its own context. For example, the simplicity of BC's carbon tax, focusing only on fuel combustion and applying at the wholesale level, makes it quite easy to administer. The fact that the tax is revenue-neutral has reduced the economic and political costs of the policy. Furthermore, the exclusion of industrial process emissions has reduced the impact of the tax on industries such as aluminium smelting and cement. However, the use of exemptions could also reduce the policy's effectiveness.

In relation to India's coal tax, the lesson for Indonesia is that a virtual carbon price signal can be transmitted to energy users without detailed measurement, reporting, and verification of emissions, provided coal tonnages (or other fuel production/sales statistics) can be reliably measured. For simplicity, this could occur 'upstream', e.g., at the point of coal or gas production, with producers then increasing their sales prices to reflect the tax and transmitting an incentive to reduce fuel use in proportion to the expected emissions from combustion. Another lesson is from Australia. Even in a wealthy country such as Australia, cost of living considerations can create pressure for compensation to address the effects of a carbon tax on households. Furthermore, even where substantial assistance is provided, these concerns may not be fully addressed, and the political difficulties involved in implementing and maintaining a carbon tax remain significant. If the government does

not communicate properly to the public and stakeholders, the policy will be undermined by these concerns. Therefore, it is important for the government to frame a carbon tax as a champion to combat climate change and ensure future prosperity to the public and key stakeholders.

Research objectives

Reducing GHG emissions generally involves an economic cost, either because it requires reducing production and consumption of certain polluting goods (with an associated economic loss), or because it requires doing things in a cleaner way (which might involve more expensive technologies). In the Indonesian context, the national action plan for reducing GHG emissions requires significant funding to be raised (Ministry of Finance, 2012, p. 43). Therefore, identifying and implementing the lowest-cost abatement options will minimise this cost.

Economists generally accept that carbon pricing (in the form of a carbon tax or levy) is a core policy response to delivering broad, low-cost abatement in an economy (see e.g. Baranzini et al., 2017; Lawrence H Goulder & Schein, 2013; Greenwood, 2009; Mehling & Tvinnereim, 2018; Nordhaus, 2013; Stern, 2008; Sterner, 2007; Stiglitz et al., 2017; Zenghelis, 2006). However, there is a significant gap between the perceptions of economists and the public regarding a carbon tax in general. As previously mentioned, Mankiw argued that the general public is uncertain about carbon taxes (Mankiw, 2009, pp. 14-15). The research suggests that resistance to environmental policy is caused by a lack of knowledge about its functions and impacts (Baranzini et al., 2017, p. 2). Therefore, imperfect information is one of the major barriers to the introduction of carbon pricing policies.

Nevertheless, the critical process of developing the design of a carbon tax policy offers numerous opportunities for lobbying and public perceptions about the negative

effects of a carbon tax, which can result in a less effective scheme and higher aggregate economic costs. As a policy issue, a carbon tax involves different stakeholders, defined as "actors involved in, affected by, knowledgeable of, or having relevant expertise or experience on the issue" (A. D. Setiawan & Cuppen, 2013, p. 1188). In Indonesia, these stakeholders include at a minimum, the Ministry of Finance, the Ministry of the Environment, the Ministry of Forestry, the Ministry of Energy and Mineral Resources, the Ministry of Industry, and the Ministry of Planning. Other key stakeholders are members of parliament and economic players such as power generators, the cement industry, the forestry industry, Non-Government Organisations, and civil society groups.

This research seeks to understand why the government of Indonesia does not have a carbon tax. It investigates the necessary conditions for effective climate policy formulation in Indonesia and aims to understand the carbon tax policymaking process by identifying the diversity of stakeholder perspectives on a carbon tax in Indonesia. In so doing, the study focuses on, and attempts to answer, the following research questions:

1. How can a carbon tax be prioritised on the national policy agenda?

2. What are the challenges to the introduction of a carbon tax in Indonesia?

3. What are the conditions that would enable an effective introduction of a carbon tax in Indonesia?

Significance of the research

A number of studies have been carried out to analyse carbon emissions reduction potential in Indonesia. This section presents previous studies related to the introduction of a carbon tax in Indonesia and shows why this thesis is significant.

The Ministry of Finance of the Republic of Indonesia (2009) studied the potential of a carbon tax in Indonesia. Using the Indonesian E-3 CGE model, the results showed that a carbon tax of $10/tonne CO_2 would reduce GHG emissions from fossil fuel combustion in Indonesia by 10% in 2020. At a higher carbon price of $30/tonne CO_2, the modelling scenario showed that the emissions reduction would be estimated to be around 25%. The study also showed that a carbon tax would increase economic growth by 0.37% and reduce poverty by around 0.56%. The increase in GDP and reductions in poverty would occur if the revenues from the carbon tax were used to reduce the value added tax (VAT). If the revenues from the carbon tax were divided equally between targeted income transfers and a sales tax cut, the increase in GDP would be around 0.22%, while poverty would be reduced by around 1.85%.

Nurdianto and Resosudarmo analysed the economy-wide impacts of a carbon tax in the ASEAN region (Nurdianto & Resosudarmo, 2016). Using a multi-country CGE for ASEAN, the results showed that the implementation of a carbon tax would be an effective means of reducing GHGs in the region. For Indonesia, a carbon tax of $10/t$CO_2$ would increase real GDP by 0.25% and would reduce GHG emissions by 3.7% if the revenues were used to increase general government spending (which is not what economists recommend). If the revenues were divided 50% for government and 50% for low-income households in rural and urban areas, a carbon tax would increase real GDP by 0.27% and would reduce emissions by 3.4%. A carbon tax would also increase low-income household expenditure by 2.18% in rural areas and 0.12% in urban areas.

Yusuf and Resosudarmo investigated the distributional impacts of a carbon tax in Indonesia (Yusuf & Resosudarmo, 2015). The results showed that the implementation of a carbon tax would not necessarily be regressive. Instead, in

contrast to most studies from developed countries, a carbon tax on Indonesia's households would result in a progressive distributive effect.

However, these studies have not attempted to understand why Indonesia does not have a carbon tax and how a carbon tax could potentially be introduced given the barriers that the country faces. This research will fill this gap, considering the importance of stakeholders' perspectives for an effective climate policy making process. For the government of Indonesia, the research outcomes will be useful for establishing a solid basis to investigate the potential introduction of a carbon tax policy and the necessary conditions for effective climate policy formulation in Indonesia.

The major findings of this research will also make a significant contribution to academic knowledge on the policy process in Indonesia based on interviews with 29 Indonesian elite figures. The findings will provide an understanding of how Indonesian key stakeholders perceive climate policies as part of the national development agenda. The findings of the study will also help to develop an understanding of the political, economic, and institutional challenges to the introduction of a carbon tax in Indonesia, as well as an understanding of the conditions which will enable the effective introduction of a carbon tax in Indonesia.

This study may contribute to policy in the developing world by providing insights about the climate mitigation policy process from Indonesia's perspective. This is quite important because studies about climate mitigation policy making process in developing countries are still limited. For the global community, results of this thesis could serve as an example to understand the challenges to introducing a carbon tax in developing countries and understand how to introduce a carbon tax given these challenges.

Structure of the thesis

This thesis is presented in eight chapters. The current chapter serves as an introduction to the study. Chapter 2 follows with a review of the literature relating to theories of the policymaking process in general. It also discusses policy formulation specifically in the Indonesian context. Chapter 3 outlines the rationale behind the choice of research approach and methodology used. Chapters 4, 5, and 6 present the empirical findings in relation to the research questions and the analysis, while Chapter 7 provides a discussion of the findings of the thesis. Finally, Chapter 8 presents the conclusion of the thesis and answers to the research questions. It also covers the policy implications of the research, the limitations of the study, and suggestions for future research.

Conclusion

It is widely accepted that a carbon tax is a cost-effective climate mitigation policy. While potential climate policy alternatives are available, all alternative options are likely to be rather costly. Therefore, the use of a carbon tax as a climate policy instrument to reduce GHG emissions in Indonesia is essential.

However, Indonesia seems to avoid the introduction of a carbon tax. This thesis argues that there are several key potential challenges that prevent the effective introduction of a carbon tax with economic issues, political constraints, and endemic corruption being the main barriers to the introduction of such a policy. As a result, in the policy process, the introduction of a carbon tax in Indonesia faces significant opposition.

This study investigates the political, economic, and institutional factors that determine the conditions for the effective introduction of a carbon tax in Indonesia. It aims to understand the carbon tax policymaking process by identifying the diversity of

key stakeholders' perspectives on a carbon tax in Indonesia. The study makes a significant contribution to academic knowledge through an understanding of the perspectives of Indonesian elites on carbon tax policy development and identifies key constraints which challenge the introduction of a carbon tax in Indonesia.

This introductory chapter has outlined the background to this project, and from this, the research problem has been identified. The objectives, research questions, and significance of the study have been explained. Finally, the structure of the thesis has been presented. From this chapter, the thesis moves onto the second chapter in which the literature will be reviewed.

CHAPTER II

LITERATURE REVIEW

Introduction

The previous chapter introduced how this study builds an understanding of why Indonesia does not have a carbon tax. The research problem has been identified as understanding how a carbon tax could potentially be introduced given the barriers that Indonesia presents. A general question and three specific research questions have been identified to guide the study so that stakeholder perspectives can be gathered and analysed to answer these questions.

While it is the responsibility of government to make policy decisions to create effective laws, the policy development process involves multiple stakeholders with a wide range of interests and ideas. A range of stakeholders including interest groups, , business players, academics, the media, politicians , and civil society organisations, among others, compete with each other to shape and influence the government at every stage of the decision-making process. Conflict as part of the policy process is one of the most important features underlying research into politics and public policy. In any government, policy decision-making has the potential to involve conflicts of varied intensity. This review demonstrates how the policy process occurs according to three policy theories, and how stakeholders plays their roles in shaping the policy process. This review is therefore important for gaining an understanding of the research context and to answer the research questions.

This chapter analyses the current literature on the policymaking process. It critically reviews the theories of policymaking in general and further explains the policymaking process in the Indonesian context. The chapter is comprised of the following sections: the first section reviews the general theories that explain the policy

process, with a particular emphasis on theories that explain the interactions between stakeholders and government through conflicting and similar interests, goals, and behaviours. Three policy formulation theories are reviewed: the policy cycle approach, the multiple streams framework, and the advocacy coalition framework. The policy cycle approach is important to be understood, as it is the normative standard policy process within general policy theory. The multiple streams and the advocacy coalition framework both have similar characteristics in relation to demonstrating the dynamics of the policy decision-making process. In the next section, the policy formulation process in Indonesia is outlined.

This chapter demonstrates the theories of policy process in general to explain the policy process in various policy areas within different political systems. It also shows that stakeholder engagement in the policy process is important for understanding effective policy formulation. A specific gap in the literature is that most of the studies which use these theories focus more on developed countries, while research on the policy process in developing countries is still limited. In particular, studies regarding stakeholder engagement in the climate change policymaking process are less common in the developing world context. This thesis will fill this gap by analysing stakeholder perspectives on the introduction of a carbon tax to establish the necessary conditions for effective climate policy formulation in Indonesia.

Key theories of the policy-making process

The policy cycle

The policy cycle is a sequential model of the policymaking process, in which policy is developed through a series of logical steps (Howlett, McConnell, & Perl, 2017, p. 67). Howlett et al. (2017) explained that the policy cycle model is the earliest model used in public policy analysis. It has been argued by the authors that the policy cycle

model aims to simplify the complexity of the policymaking process by applying a cyclical framework.

The original policy cycle framework was established by Harold Lasswell in his earliest work in 1951. Althaus et al. (2018) explained that Lasswell identified policymaking as a pattern of intelligence, recommendation, prescription, invocation, application, appraisal, and termination (Althaus, Bridgman, & Davis, 2018, p. 32). Later studies of the policymaking process have been influenced by Lasswell's work, but have moved to a framework in which the process takes place through a number of different stages. For example, Buenanno and Nugent (2013) used a linear version of the policy cycle comprising of five stages to explain the policymaking process within the European Union (EU) (Buonanno & Nugent, 2013, p. 102; Heidbreder & Brandsma, 2018, p. 807). The policy cycle used by these studies is depicted as follows:

Figure 1: The policy cycle of the European Union

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Blomkamp et al (2017, p. 9) has suggested an Australian policy cycle comprised of eight stages, as follows:

1. *problem identification*: a problem is identified so as to reach the attention of the government and the larger community for government action.
2. *policy analysis:* an issue is raised and analysed to inform a policy decision.
3. *policy instrument development:* policy instruments are selected to achieve desired objectives.
4. *consultation:* discussions are held between a range of actors.

5. *coordination:* a policy is coordinated across government agencies to ensure funding and consistency with other policies.

6. *decision:* options are decided by the government.

7. *implementation:* policy is implemented by the public sector or other institutions.

8. *evaluation:* after implementation, an evaluation is carried out to assess the effectiveness of the policy and any follow-up actions. (Althaus, 2018, p. 49).

Figure 2: The Australian policy cycle

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Policy scientists have used a number of different models to explain the policy cycle, with some using stages, and others using more of a cyclical framework. Each model uses different names, interpretations, and stage/phase orders. However, in general, there are five main stages that have been identified by most analysts: agenda setting, policy formulation, decision-making, policy implementation, and policy evaluation (Buonanno & Nugent, 2013, p. 101; Howlett et al., 2017, p. 67; Weible & Sabatier, 2017, p. 8). The stages model of the policy cycle has generally been used to analyse policy outcomes by policymakers across all political systems. It has been used as a policy tool by scholars, professionals, and practitioners to describe the complex nature of the policy-making process.

Weible and Sabatier (2017) stated that despite being criticised by many for its overly simplistic and imprecise depiction of the policy process, the policy cycle model remains a useful heuristic framework. It has become one of the most common frameworks to characterise the policy process by describing the stages of decision-making through which policy formulation moves (Weible & Sabatier, 2017, p. 9).

Weible and Sabatier argued that the problems associated with the policy cycle are not because it is too simple to explain the complexity of the policy process, rather, the problem is the overuse of the policy cycle by many scholars who use this model too rigidly, forcing their theory into the model, and using the policy cycle as the sole lens through which to analyse policy. In addition, Howlett et al. (2017) stated that the policy cycle is the longest-standing conceptual framework used to analyse the policy process (Howlett et al., 2017, p. 65). They argued that the enduring use of the policy cycle to understand the policy process has been because many scholars prefer a normative logical approach to policymaking that supports a problem-solving perspective from problem definition through to policy evaluation. Buonanno and Nugent (2013) supported this argument by stating that the policy cycle is still of considerable use because it is able to break down the complex process, and to identify different policy activity (Buonanno & Nugent, 2013, p. 102). Althaus et al. (2018) also adopted the policy cycle approach to understand the Australian context. In their work, *The Australian Policy Handbook*, the authors explained why they applied the policy cycle to Australian public policy, stating that "a cycle conveys movement of ideas and resources, the iteration of policymaking, and a routine that does not finish with a decision, but carries through to implementation and evaluation" (Althaus et al., 2018, p. 44).

However, the stages model in the policy cycle framework has received criticism from a number of scholars. One major criticism is in relation to the assumption that decision-making is sequential and rational. In practice, policy development is complex and political. Jann and Wegrich (2007) stated that policy actors develop and make policy decisions that are more in response to political conflicts rather than being put forward as optimal solutions (Jann & Wegrich, 2007, p. 44). Interactions between different actors, forces, and institutions in the policy process contribute to the shaping

of policy outcomes. Jann and Wegrich (2007) argued that in real-life situations, it has rarely been found that the policy process has a clear-cut cycle from start to finish. They pointed out that policies have always been reviewed, modified, and adapted, and sometimes even terminated, but this process does not occur in sequential stages; instead the stages are constantly entangled in an ongoing process.

Howlett et al. (2017) also criticised the framework, arguing that the policy cycle assumes sequential stages which are integrated, and ignores the complicated political atmosphere of the policymaking process (Howlett et al., 2017, p. 66). They went on to argue that the stages model is simplistic and fails to capture the various factors that limit rational decision-making. In reality, the policy process is complicated, and rarely moves through sequential stages as the policy cycle model assumes. Considering one single cyclical stage to explain a policymaking process should not be the case. Moreover, policies are adopted in an existing policy environment, rather than in a vacuum. New policies often only modify or complement older policies or contradict and conflict with other policies. It frequently happens that earlier policies become barriers for the adoption of a new policy and, at the same time, new policies create outcomes that cause other problems for later policies (Cooper-Searle, Livesey, & Allwood, 2018, p. 53). As examples, infrastructure development leads to environmental damage, and subsidies for fuel prices lead to overconsumption.

Also, in practice, different stages in the policy cycle might overlap, be inseparable, and in some cases, could be entirely missing (Hallsworth, 2011, p. 11). Heidbreder and Brandsma (2018) illustrated the process of European Union policymaking, which involves varying actors from *supranational, national,* and *sub-national levels* (Heidbreder & Brandsma, 2018, p. 806). The authors found that through the process of multilevel governance, formal and informal meetings, and the circulation of many 'white' papers, the stages not only overlap and become entangled, but also

often merge into each other. For example, the European Commission and the member states with Permanent Representation are often involved at more than one policy stage; for example, in agenda setting, policy-shaping, and decision-making. Another reason for the non-linear process in the EU is that policymaking involves a consensual approach to achieve as much support as possible, resulting in the cycle being less sequential, and instead, moving backwards and forwards between the stages (Buonanno & Nugent, 2013, p. 102). This is relevant for Indonesia because the complexity of Indonesian policy process is quite similar to what happens in the EU.

Various alternative models or policy theories have emerged, seeking to better understand the complexity of the policymaking reality. There are some alternative theories that have been used to explain the policymaking process in response to the criticisms of the policy cycle. Two of the major alternative approaches that focus on the interactions between stakeholders in the policy process are the 'multiple streams' framework and the 'advocacy coalition framework'. These two theories will be reviewed and analysed below. Both are being reviewed and analysed because they provide key features for recognising the role of stakeholders in the policymaking process, which is highly relevant for this study.

Multiple Streams Framework

The Multiple Streams Framework (MSF) was originally developed by James Kingdon in his seminal book *Agendas, Alternatives, and Public Policies* (1984, 2003, 2011). Kingdon explained and proposed an instrument to understand agenda setting within public policy, based on his examination of the policy process within the US political system. Kingdon proposed the MSF as a critique of the policy cycle approach which explained the policy process in a sequential order. Current problems, ranging from climate change and nuclear power to trade agreements and migration have become more contested, raising fundamental disagreement between experts and

61

policy actors (Herweg, Zahariadis, & Zohlnhöfer, 2018, p. 16). The same situation happens in the political realm, in particular, in the political system of Western Europe in which the political process has become less orderly with more fragmented party systems.

Even though Kingdon's framework used the fragmented US political case in the public health and transportation policy areas, the MSF has been universally used to explain the policy process across a range of policy areas. Since its first publication more than 30 years ago, Kingdon's MSF has been regarded as one of the most cited works in policy studies and has been applied broadly across a range of interdisciplinary studies (Cairney, 2018, p. 199). In his meta-review, Jones et al (2016) found 311 peer-reviewed journals that applied the MSF published between 2000 and 2013. They found that the MSF has been used to explain the policy process in 65 countries on 22 different policy areas across all levels of government (Jones et al., 2016, p. 30).

As is well known, Kingdon's MSF lies at the heart of three streams of the policymaking process: *problems, policies,* and *politics*. Each of these streams independently involves different stakeholders as we move from one stream to another (Kingdon, 2011, p. 201). This independence of the streams is the core assumption of Kingdon's approach. As Kingdon has pointed out, the three streams flow independently through the policy system. Problems and solutions take place in separate streams without connecting with each other. For example, problems occur regardless of political developments or policy solutions, especially in the case of unpredictable problems such as natural disasters or endemic diseases. The policy stream and the political stream also have their own independent set of dynamics (Kingdon, 2011, p. 201). Kingdon stated that within the political stream, policy actors

interact through lobbying and bargaining, while in the policy stream, they interact to achieve acceptance for a policy solution.

These problem, policy, and politics streams have the following characteristics:

The problem stream

The *problem stream* consists of perceptions that the public have recognised problems that the government is required to take collective action to address (Béland & Howlett, 2016, p. 222). Thus, problems are comprised of perceptions and interpretive elements, because people's ideals and the social reality vary significantly (Kingdon, 2011, p. 110). People might see a situation as acceptable, but as they learn that other countries are doing better on the issue, the 'acceptable situation' might then become a problem. Alternatively, people might view a situation through a different context which might change the situation into a problem. For example, fuel price subsidies for gasoline are the subject of constant debate. From a social policy perspective, such subsidies might be an acceptable situation because people can buy gasoline at a cheaper price. Conversely, from an economic perspective, fuel subsidies do not incentivise people to consume fuel more efficiently, and subsidies amount to a significant budgetary burden on government. From an environmental perspective, fossil fuel subsidies might become a problem because they discourage the development of policy initiatives towards renewable energy.

Nevertheless, not every citizen's perceptions or ideals can receive government attention. There are specific conditions that bring problems to government attention, including *problem indicators, focusing events,* and *feedback* (Herweg et al., 2018, p. 19). Herweg explained that various *indicators* are relevant for informing policymakers and citizens about specific situations, such as traffic accident statistics, unemployment rates, and budget balances. These indicators can become problems if stakeholders

turn them into problems. For example, if there is a significant increase in the traffic accident statistics in a particular year, people can see that the indicator has worsened and become increasingly concerned about this situation, so the stakeholders can easily frame this situation as a problem.

Problems can also reach the attention of policymakers regardless of people's perceptions, in particular, problems caused by particular events such as financial crises, natural disaster, an increase in medical costs, flooding, and forest fires. According to Kingdon's MSF, these particular events are called *focusing events.* Birkland (1997) defined a focusing event as:

> an event that is sudden, relatively rare, can be reasonably defined as harmful or revealing the possibility of potentially greater future harms, inflicts harms or suggests potential harms that are or could be concentrated on a definable geographical area or community of interest, and that is known to policy makers and the public virtually simultaneously (Birkland, 1997, p. 22).

Even though it is by no means certain whether events like an earthquake, an airplane crash, or a terrorist attack will lead to agenda change, they will at least increase the possibility of this happening (Birkland & Warnement, 2016, p. 93). Finally, *feedback* about existing programs may lead to attention on specific issues. If policymakers or the public know that a government program has not been achieving its objectives, or the program costs are very high, or adverse effects happen, these could be framed as problems (Herweg et al., 2018, p. 19).

In the MSF, it is important to understand that government cannot pay attention to all problems that arise, because government is only able to address a limited number of issues at any particular point in time (Herweg, Huß, & Zohlnhöfer, 2015, p. 437; Kingdon, 2011, p. 184). In such circumstances, framing an issue as a problem to

gain the attention of government is significant. This implies that the role of stakeholders in the problem stream is highly relevant because people have to frame a problem in a particular way to receive government attention.

The research suggests that different actors should be introduced into the policy stream in different ways. Knaggard (2015) used the term *problem broker* to explain those who frame and bring a problem to government attention. Knaggard argued that problem brokers are those who "frame conditions as public problems and work to make policymakers accept these frames" (Knaggård, 2015, p. 452). Thus, problem brokers define a situation as a problem. Problem brokers can also become policy entrepreneurs, but not always. Policy entrepreneurs are agents who have skills and knowledge to bring problems into a policy agenda and offer solutions (Kingdon, 2011, p. 164). Policy entrepreneurs play an important role in framing problems to gain attention, prepare solutions, and create opportunities to act (Cairney, 2018, p. 202). They develop policy alternatives and match them with defined problems (Knaggård, 2015, p. 451).

The difference between the two is that problem brokers frame a problem and argue that action must be taken to address the problem without offering policy solutions, while policy entrepreneurs suggest solutions to the problems. An example of problem brokers is the environmental activists who raised the issue of forest fires in Indonesia through the media as an extraordinary crime equal to corruption, banking crimes, human trafficking, and terrorism (Kompas, 18/9/2015).

The policy stream

After problems have been identified and the government has established an agenda, policy makers move forward to another stream to identify policy choices in *the policy stream*. In the policy stream, policy communities discuss and generate the

best policy alternatives. The policy community is represented by actors such as experts, analysts, bureaucrats, academics, and researchers who investigate problems and recommend solutions (Herweg, Zahariadis, & Zohlnhofer, 2017, pp. 19). In this stream, various options for policy action are identified, measured, and tapered down to a category of viable alternatives, which are formulated within the policy community. A policy community is defined as "mainly a loose connection of civil servants, interest groups, academics, researchers, and consultants, who engage in working out alternatives to the policy problems of a specific policy field" (Herweg, 2016, p. 132). The members of policy communities are the key stakeholders in this stream who play an important role in formulating policy after succeeding in bringing problems onto the policy agenda.

While priorities can rapidly change from one problem to another, developing feasible solutions can take time. Kingdon described the policy development process as a "policy primeval soup", emerging as they are proposed by one actor, and then modified and refined by others (Kingdon, 2011, p. 116). Policy development is also described as a process of "softening", as some problems take time to become recognised within the policy community (Cairney & Jones, 2016, p. 40). The members of a policy community will discuss policy ideas until a limited number of viable alternatives emerge. Kingdon (2011) discussed the "criteria for survival" for ideas to become policy alternatives: technical feasibility, value acceptability, public acceptance, and financial feasibility (Kingdon, 2011, pp. 131-139). According to Kingdon, if policy experts cast doubt on the idea that a particular solution can be implemented smoothly, if the solution contradicts the values of the members of the community, when the ideas are perceived to face resistance in the political stream, or when the costs are too high, the solutions will be unlikely to move through the softening process or, in other words, they will not survive to become policy alternatives.

However, policy choices are also often influenced by external factors outside policy communities. For example, according to Lovell (2016), the MSF must be complemented by theoretical perspectives of policy mobility because problems and issues move across international borders (Lovell, 2016, p. 755). This insight from Lovell refined the original concepts from Zahariadis (1995) who conceived the policy community as a national factor. Lovell has argued that policy communities need "legitimacy" through policy success in other countries.

The political stream

Finally, the *political stream* includes factors that influence political dynamics during the policy process, such as changing of executive and legislative members, advocacy campaigns of interest groups and political parties, and a change of government (Zahariadis, 2014, p. 34). While in the policy stream, argumentation is the dominant form of interaction, in the political stream lobbying and bargaining dominate the political system, as policy alternatives are assessed here. Kingdon identified three core elements in the political stream: the national mood, interest groups, and government (Herweg et al., 2018, p. 21).

According to Herweg et al. (2018), the national mood is "the notion that a fairly large number of individuals in a country tend to think along common lines and that the mood swings from time to time" (Herweg et al., 2018, p. 21). Government officials sense the changes in the mood and then move to adopt particular issues on the agenda according to the national mood. The national mood may substantially influence policy makers to increase or decrease their attention to particular problems. Public opinion surveys could influence the national mood by informing policy makers how the nation perceives a particular issue (Maseru, 2013, p. 216).

The second element of the political stream is *interest group campaigns.* Evidently, the more powerful these interest groups are, and the more they oppose a policy proposal, the less likely it is that the policy alternative will make it onto the agenda (Herweg et al., 2018, p. 22). Conversely, if the interest groups are not putting pressure on the policy proposals, policy choices will prevail on the agenda. An example of an interest group campaign is when a group of coal industries supported the government of Indonesia to build a 35,000MW power generation which mostly uses coal energy.

The third element of the political stream is changes in the composition of governments and legislatures. Turnover might bring forward different opinions for certain ideas or policy proposals. For example, some members of parliament or some ministries probably are more open-minded with regard to some policy proposals. Or, a policy proposal may be more suitable for a particular party's ideology, than for that of another one.

Three important elements other than the streams are *coupling, policy entrepreneurs,* and *policy windows.* Coupling is the process of linking two or three streams into a complete set. Through this process, a policy solution or policy problem is identified for the agenda. The policy stream is considered ready for coupling when at least one feasible policy alternative emerges. If there is no viable policy alternative available, the MSF suggests that coupling is unlikely the case. According to Kingdon (1984), the MSF explains the required conditions that allow policymakers to achieve policy change through the converging of the three streams of problems, solutions, and politics within the *policy window* of opportunity by *policy entrepreneurs* (Herweg et al., 2015, p. 435). Kingdon's hypothesis is that ideas, actors, institutions, social and economic conditions, and political interests are all interrelated in the policy formulation process (Smith, 2018, p. 9).

Kingdon's idea is to converge the three streams into one single potential solution. When the government sets a problem as a priority, it should go through the policy proposal process and receive political backing (p. 202). Partial coupling will not make the policy initiative become a policy choice. For example, government officials can pay attention to a policy proposal stemming from an important problem, but without political acceptance, it is less likely that the proposal will become a policy decision.

Kingdon's MSF has generally been used to explain the policy process in policy science and practice. For example, it was used to explain the policy process in US foreign policymaking in the 1990s (Wood & Peake, 1998); collaborative pollution control in the USA and Europe (Lober, 1997); privatisation policy in the UK, France, and Germany (Zahariadis & Allen 1995); Lyme disease management in Canada (Levesque, 2019); policy on CO2 emissions from cars in the UK (Cooper-Searle, 2018); and political party modernisation in Czech social democracy (Novotny, 2016). However, the application of the MSF in developing countries is still rare (Zohlnhöfer, Herweg, & Rüb, 2015, p. 414). According to Zohlnhofer et al. (2015), most of the research that has used the MSF has focused on developed countries. Herweg et al. (2018) argued that, in general, the MSF can be applied in all countries; nevertheless, it has rarely been applied in developing countries, especially in non-democratic countries, because in the absence of political freedom, the process in the three streams is likely to be different from the policy process in democratic countries (Herweg et al., 2018, p. 35).

Liu and Jayakar (2012) used the MSF to explain the policymaking process in the information and telecommunications industry in China and India. They found that in both countries, the government needed to pay more attention to public communication and awareness-building in preparation for major policy changes. Lack

of public communication in India led to confusion and contradictory reports in the media, while in China, the study found that telecommunications policy-making was still a top-down policy decision by government (C. Liu & Jayakar, 2012, p. 25). The study also found that in China, interest groups and public opinion play only a limited role in the policy process. There was no formal channel through which to transmit messages from major non-government stakeholders to the government. This was because policy decisions were made in the interests of the state rather than those of the public.

Young, Shepley, and Song (2010) applied the multiple streams framework (MSF) to understand the policy process of the K-12 reading reform in Michigan, California, and Texas. They used the components of the MSF in their study, including the role of key policy actors (state governors and elected officials), stakeholders' perceptions and their use of problem indicators, feedback from the business community, parents, and teachers, a national rise in education reform, and individuals' perspectives about reading problems in their states. The study found that the role of governors as decision-makers in the states was significant in getting reading reform onto the policy agenda. In this study, the MSF explained the policy process for the development of educational policymaking at the state level in relation to reading reform. This study helps us understand how government mobilises its power to use all the elements in the problem stream, including problem perceptions, problem indicators, and feedback, to bring problems onto the policy agenda.

Blankenau (2001) applied the MSF to national healthcare reform in Canada and the USA, seeking to understand why Canada adopted a national healthcare system in 1966, and why the USA did not do so in the early 1990s (Blankenau, 2001). The study focused on the MSF's elements of problem definition, focusing events, and feedback, and revealed that the lack of national healthcare in Canada was a clearly defined problem that was confirmed by the results of a prominent study. Meanwhile, in the

USA, even though the problem was clearly defined, there was no consensus among stakeholders about the most critical issues associated with the problem. This lead to variations in the definition of the problem.

Boscarino (2009) applied the MSF in her study about sustainable forestry advocacy policy in the USA from 1971 to 1994 (Boscarino, 2009). She focused on problem definition and agenda setting, as well as media attention. The study examined advocacy for sustainable forestry practices in two environmental organisations: The Wilderness Society and the Sierra Club from 1971 to 1994 through an analysis of articles in member magazines and interview data. The study used content analysis and interviews with Wilderness Society and Sierra Club staff members. The findings revealed that both organisations played an important role as policy entrepreneurs which brought issues about sustainable forestry advocacy onto the policy agenda through their articles in the media for over two decades. This study helps us understand the role of civil society groups and the media to frame specific issues to become problems in the problem stream within the MSF.

O'Sullivan and Lussier-Duynstee (2006) studied public health issues among homeless people in the USA (O'Sullivan & Lussier-Duynstee, 2006). They applied the multiple streams framework (MSF), focusing on problem definition, external events, and key stakeholders to call for action among nurses to become policy entrepreneurs to recommend policy reform. They argued that the level of homelessness among youth in the USA had reached an urgent level, and they proposed a redefinition of homelessness to bring the issue onto the policy agenda. To achieve this, they used a report by the National Alliance to End Homelessness as a focusing event that highlighted the issue. Their policy solution to improve public health policy was to redefine the problem.

These studies reveal that previous research on the MSF has been applied in many different areas, such as education, foreign affairs, healthcare, sustainable forestry, and on social issues (e.g., homelessness). These studies have focused on various MSF components such as problem definition, problem indicators, the national mood, focusing events, policy entrepreneurs, agenda setting, and coupling of streams. These studies help us understand the role of stakeholders in the policy process in each stream of the MSF.

While Kingdon's approach has been applied across a range of countries and policy areas, it does have its critics. Kingdon's framework relies exclusively on the examination of US cases, especially in the US political system. The problem is whether the MSF is applicable to the agenda setting in countries which have different political systems. This is because the existing literature does not include political institutions in the policy process (Béland & Howlett, 2016, p. 225).

To address this gap, Zohlnhofer, Herweg, and Hub (2015) introduced a comparative perspective into the MSF. They sought to pursue whether the framework was applicable in different political systems. They found that Kingdon's framework could indeed be applied to different political systems, but with some refinement. They suggested that political institutions must be integrated into the structure of the decision-making process by distinguishing two different coupling processes, one for agenda setting and the other for decision-making (Zohlnhöfer et al., 2015, p. 415). Herweg et al. (2015) explained that in some countries, the governing party usually controls the parliament and the administration, and it is rare that a policy will be adopted without the consent of the governing parties (Herweg et al., 2015, p. 439). Therefore, as Herweg et al. argued, the political institutions should be placed into the political stream as well as in the problem stream because, in some countries, political parties have a major impact on the agenda setting process.

Knaggard (2015) also pointed out another weakness of Kingdon's framework in relation to the lack of actors in the problem stream. She introduced the role of the *problem broker* into the MSF; a person involved in framing the conditions under which a public problem can reach the attention of policymakers (Knaggård, 2015, p. 452). Hence, the problem broker's job is to define these conditions/situations as problems. The objective of framing conditions as public problems is to make policymakers accept these conditions as a problem, and then to act to find solutions. However, the problem broker that Knaggard has suggested does not necessarily offer a solution to the problem; therefore, it is important to keep in mind the distinction between the role of the policy broker and that of the policy entrepreneur.

Overall, this section has provided us with an understanding of the role of stakeholders in each stream of the MSF. It has also revealed that the MSF has been applied to various policy areas. Even though Kingdon's theoretical framework is based on a case study of the US political system, other studies have found that the MSF can also be applied in countries which have different political systems, but with some refinement. This review opens up the opportunity to use the MSF to explain the role of key stakeholders in the introduction of a carbon tax in Indonesia. Following the review of the MSF, the Advocacy Coalition Framework (ACF) will be reviewed in the next section.

The Advocacy Coalition Framework

As an alternative to the stages approach to policy making, as seen in the multiple streams framework, the Advocacy Coalition Framework (ACF) is a theory of the policy process that moves beyond the stages approach toward an explanation of the policy process which focuses on the key policy actors who share core beliefs and values to influence policy by creating coalitions. Criticising the stages approach to policymaking, Sabatier argued that the stages approach does not explain what drives

policy through the various stages or what happens within each stage (Oakley, 2017, p. 27). Sabatier (2017) argued that policymaking occurs not in defined stages, but rather, is a process of interaction between policy actors from various levels of government and a range of institutions (Weible & Sabatier, 2017, p. 91).

The ACF is "a framework of the policy process developed by Sabatier and Jenkins-Smith to deal with wicked problems – those involving substantial goal conflicts, important technical disputes, and multiple actors from several levels of government" (Sabatier, 2009, p. 189). Paul Sabatier and Hank Jenkins-Smith introduced the ACF, highlighting the connections between government officials, members of interest groups, and the general public (Weible & Jenkins-Smith, 2016, p. 15).

An *advocacy coalition* is comprised of a constant political alliance among various actors in a policy network that includes a collaboration of interest group members and government officers (McFarland 1981, p. 53). The coalition is a group of policy actors that coordinate their activities to influence the policy process. The core principle of the ACF is that members of the coalition must cooperate and have shared beliefs.

The basic assumptions of the ACF as a framework are as follows (Jenkins-Smith et al., 2014, pp. 189-193):

1. *The primary unit of analysis to understand the policy process is called a policy subsystem.* A policy system is a group of people in government or a political system who have significant influence on government decision-making. They exist in both national and sub-national governments. However, where they are situated differs from one country to another. For example, a policy subsystem

may exist at the national level in one country, but might only exist at the local level in another.

2. *Policy stakeholders influence policy subsystems.* Policy subsystems emerge because they need to deal with particular issues. Policy actors are groups of people who influence the policy subsystem on a given issue. They are from government agencies, NGOs, and academia, and are comprised of researchers, journalists, and business players, as well as citizens without any affiliations.

3. *Individuals are bonded by a common belief system.* The ACF assumes that policy stakeholders are bounded by their belief system to the policy process. It has a three-tiered belief system. The first and most general is that of *deep core beliefs* which are normative values which are not policy specific; for example, religious beliefs. The second tier is *policy core beliefs* which are relevant to specific policy issues. The third tier, which is the most specific sets of beliefs, are *secondary beliefs*. While policy core beliefs aim to achieve policy goals, secondary beliefs find ways to achieve these policy goals.

4. *Subsystems are made up of one or more coalitions with many policy actors.* In a contested political situation, policy stakeholders argue about issues and debate how government should respond. In this context, the ACF simplifies the situation by viewing policy actors as members of coalitions based on the similarities of the policy core beliefs within coalitions. By the same token, policy stakeholders are members of coalitions based on differences between policy core beliefs across coalitions.

5. *Policies and programs reflect the beliefs of coalitions.* The policymaking process for public policies represents the beliefs of policy stakeholders. Public policies are more than just government actions in dealing with particular issues,

but are also a reflection of the belief systems of policy stakeholders. This is why political contests emerge during the policymaking process.

6. *Scientific and technical information is important for shaping belief systems.* The ACF emphasises the important role of scientific and technical information in influencing stakeholders' beliefs and political debates. While information is generally used for learning, in the ACF, information is mostly used by stakeholders mostly for influencing government decision-making.

7. *Researchers must take a long-term perspective.* Policy development is an ongoing process, and sometimes contestation between coalitions can last for years or even decades. Therefore, researchers studying the policy process need to take a long-term perspective with a duration of a decade or even more (Jenkins-Smith et al., 2014, pp. 189-193).

The ACF has several theoretical principles that explain how concepts in the framework interrelate. The theoretical principles that underlie the ACF include *advocacy coalitions, policy-oriented learning*, and *policy change* (Weible & Jenkins-Smith, 2016, p. 21).

Advocacy coalitions are groups of stakeholders who have similar policy core beliefs and express their behaviour in a coordinated way. An advocacy coalition is established when government officers from various levels of government, researchers, consultants, politicians, the media, business players, etc., engage in a significant degree of coordination to achieve common policy goals (Sabatier, 2009, p. 196). In order to achieve a successful policymaking process, policy participants need to seek alliances, share resources, and develop complementary strategies (Sabatier & Weible 2007, p. 196). According to the ACF, academics, consultants, policy analysts, and scientists (researchers) are among the central players in the policymaking process,

and the framework assumes that scientific information plays a critical role in influencing the beliefs of policy participants (Sabatier & Weible 2007, p. 192).

Policy-oriented learning is defined as "enduring alterations of thought or behavioural intentions that result from experience and which are concerned with the attainment or revision of the precepts of the belief system of individuals or collectives" (Sabatier & Jenkins-Smith, 1993, p. 42). In the theory of the policy process, the ACF explains what and why policy learning arises within, and between, coalitions. There are four major factors that affect the occurrence of policy learning: the openness of coalition members, the level of conflict across coalitions, the level of uncertainty about issues, and the attributes of the coalition members, including their belief systems, resources, and network contacts (Nohrstedt & Olofsson, 2016, p. 22).

The third theoretical area of the ACF is *policy change*. Policy change is the main issue that the ACF seeks to gain an understanding of the factors involved. A change in the core aspects of a policy which indicate a major change in a policy subsystem is defined as a major policy change; while a change in the secondary aspects that deal with only a part of a policy subsystem is defined as a minor change (Nohrstedt & Olofsson, 2016, p. 22).

The ACF specifies four pathways towards policy change (Weible & Jenkins-Smith, 2016, p. 24). Firstly, there are external events that occur from outside of the policy subsystem; for example, executive and legislative changes from elections, changes in public opinion, or a disaster. The second pathway is that involving internal events that occur in the policy subsystem, such as scandals and policy failures. The third pathway comes from policy learning. When policy stakeholders learn information over extended periods, they can change their beliefs about a particular issue. Finally, the fourth pathway towards policy change is based on negotiation and lobbying

between coalition members. This occurs when coalitions reach a consensus about an issue. Agreement across coalitions is usually reached when there is a "deadlock" and there is no other option to influence government, but the existing policy is not acceptable (Weible & Jenkins-Smith, 2016, p. 24).

The ACF assumes that policy change extends over long periods (a decade or more). It addresses the role of powerful stakeholders as policy participants and their connections to key government policymakers. Therefore, the members of a coalition are expected to be strong characters in the policy domain, to pursue their goals for certain policy changes, and to influence public policy in this domain over a long period (Sabatier & Weible 2007, p. 192).

The ACF is one of the major theoretical approaches for explaining the policy process that has endured for three decades. The framework has been broadly applied to study policy development across the globe. Nowadays, the ACF framework is used across policy areas such as environmental policy, energy, health, finance and economics, education, and disaster management (Weible, Sabatier, & McQueen, 2009, p. 125). Examples of research applying the ACF include Henry (2011), Olsson (2009), Albright (2011), Larsen et al. (2005), Ingold and Varone (2005), Pierce (2011), and Weible (2005).

Henry (2011) studied key policy stakeholders in the field of US transportation and land use planning to test the effects of shared beliefs systems on policymaking and promoting a policy agenda. Using a survey of 506 policy stakeholders across a number of policy communities, the study sought to understand what motivates these stakeholders to participate in these coalitions. The study found that shared beliefs have a significant impact on collaboration among policy stakeholders, which strengthens the policy community. The results of the study also showed that policy

stakeholders' shared belief system significantly affects how coalitions are established, and that these coalitions promote their policy goals.

Olsson (2009) applied the ACF to land reform in Sweden. The study found that three divided coalitions competed over whether public land should be commercially developed or become a nature conservation area, thus creating a third advocacy coalition. The third policy community became a network of stakeholders who shared values about the importance of preserving nature, but they were also members of the other two networks. This study also found that other than the coalition being held together by shared beliefs and values, other aspects such as resource dependency also hold coalitions together.

Albright (2011) applied the advocacy coalition framework in her study of Hungarian flood water management policy to analyse policy change. Her study focused on the ACF element of focusing events (flooding that occurred during 1998-2001 and a change in the government administration). The study explored whether this event affected key policy stakeholders' beliefs, and whether the policy stakeholders learned new information from this event to apply to policy change. The study found that, while the policy learning of key stakeholders only played a small role in policy change, the emergence of catastrophic flooding and changes in the political government structure together created opportunities for policy change.

Larsen et al. (2005) applied the ACF to pharmacy policy in Denmark. The study revealed two competing coalitions which consisted of policy stakeholders who supported the deregulation of state-controlled pharmaceuticals, and policy stakeholders who were against it. The study found a consensus for policy stakeholders' core beliefs, but as they learned new information, their beliefs changed which led to policy change.

Ingold and Varone (2012) used the ACF to examine the role of key policy stakeholders (policy brokers or policy entrepreneurs) in the policymaking process for climate policy change in Switzerland from 1990 to 2008. The study analysed whether policy stakeholders influenced the process of climate policy change. The study found that there were two competing coalitions: one that was a pro-economy coalition and the other a pro-environment coalition. Other external policy stakeholders mediated between the competing coalitions, seeking compromise between the coalitions and establishing their own policy preferences through using a powerful strategy.

These studies employing the ACF show that it has been applied across a broad range of policy subjects, which is important for understanding the role of key stakeholders in the policymaking process. These studies also demonstrate that the ACF has generally been successful in explaining the role of policy stakeholders or stakeholders in influencing the policymaking process within a political system. These studies have focused on various components of the ACF such as external events, key stakeholders' deep core beliefs and policy beliefs, competing coalitions, and the role of policy brokers or policy entrepreneurs in the policy change process. This is particularly useful to this research because the ACF helps us understand the behaviour of stakeholders who coordinate their actions in the policy process. These previous studies have shown that the ACF has been applied to a wide range of policy settings. However, most of the studies that have applied the ACF have focused on developed countries in North America and Western Europe, while studies that have used the ACF outside of these countries are very limited (Henry, Ingold, Nohrstedt, & Weible, 2014, p. 300). There are limited studies that have used the ACF to explain the policy process in some developing countries, which will be reviewed below, including China, the Philippines, India, and Kenya.

Han et al. (2014) analysed the factors that lead to the suspension of the large-scale hydropower project on the Nu River in China. The study reviewed the primary and the secondary literature, and conducted open-ended interviews to identify stakeholders' belief systems, coalitions, resources, and mobilisation strategies. The study concluded that there were several factors that contributed to the suspension of the project: conflicting interactions between two coalitions (the development coalition and the environmental coalition), policy interferences by the local government, and the intervention by the government's environment department.

Montefrio (2014) analysed the case of a regulation for indigenous people in the Philippines. The objective of the study was to explain the impacts of the policy and why the implementation of the policy is weak. The study identified the coordination of coalitions based on in-depth interviews, observation of participant, and a content analysis of documents. The study explained the interruptions in the formulation of the constitution, weak implementation, and the ecological, management, and environmental reserve policies that competed with the IPRA.

Kingiri (2014) analysed how policy brokers and advocacy coalitions influenced policy process. The study focused on the intermediation role in the policy process. Data were collected through in-depth interview with key stakeholders from both public and private organisations. This study supported the ACF assumptions that competing policy beliefs could create conflicts amongst coalitions. Kingiri concluded that coalitions and intermediation activities could be further explained by opportunities, motivations, and opportunities, among others.

Compared to other classical theories of policy analysis, the ACF integrates majority of the phases of the policy cycle (frames of the problem, policy design, and implementation of the policy) (O'Neill, 2015, p. 3). However, it has been suggested

that according to the ACF, stakeholders involved in the policy development based on their shared beliefs. This is the main criticism of the ACF which presumes that policy is a transformation of a "beliefs system" which has become predominant in a political subsystem. The ACF does not explain how policy stakeholders produce their beliefs as core values. Moreover, coalitions emerge because different stakeholders share the same beliefs. In this sense, the ACF needs an explanation of how different stakeholders come to share the same beliefs (O'Neill, 2015, p. 4).

The ACF also assumes that policy change needs stable and permanent coalitions over a long period of time. Rosser (2015) criticised this assumption with the idea that in policy development, the selected policies are shaped by various interests and stakeholders who have different capabilities in influencing policymakers (Rosser, 2015, p. 84). Different groups form coalitions to shape and influence policy, but these coalitions are not stable and permanent. In reality, policymaking is often non-linear, and coalitions change rapidly, limiting the relevance of the ACF model for the policymaking process. This is especially more relevant to the policy process in Indonesia where political dynamics exists, and political conditions change frequently. This make the ACF difficult to implement in Indonesia's policy process.

The role of stakeholders in the policymaking process

The importance of integrating multiple stakeholders with different perspectives and interests into the environmental policy-making process is increasingly recognised at all government levels (Koontz, 2005, p. 459; Mangun, Throgmorton, Carver, & Davenport, 2007, p. 157; Watson & Foster-Fishman, 2013, p. 151). The absence of collaboration between decision-makers and stakeholders is a key factor for policy failure. On the contrary, stakeholder collaboration facilitates the policymaking process and improves policy outcomes (Marsh & McConnell, 2010, p. 572). Therefore, understanding the role of stakeholders and engaging diversity of interests in the

policymaking process is crucial. In this section, the role of stakeholders in the policy-making process is discussed, focusing on the opportunities and challenges for involving stakeholders in environmental policy development.

Stakeholders: basic definitions

The literature on stakeholder involvement in decision-making in both the private and public sectors has been inspired by the seminal work by Freeman, *Strategic Management: A Stakeholder Approach*. While originally the concept of stakeholder theory was developed within the firm to argue that the firm has an ethical obligation to the groups affected by the firm's policies, stakeholder theory has been applied outside of the business firm across policy areas (Poudel, Nyaupane, & Budruk, 2016, p. 467; Reksten, 2018, p. 222). In the context of climate change policies, stakeholder theory has been applied to the policy-making process in the political system at the state level (Fiack & Kamieniecki, 2017, p. 128). According to Freeman (1984), a stakeholder is defined as "any group or individual who can affect or is affected by the achievement of an organisation's objectives" (Freeman, 1984, p. 46).

While much of the stakeholder literature analyses the role of stakeholders as individuals in the policy-making process, policy studies generally focus on stakeholders in the larger context, including both competing and coalition institutions, groups, government, and other policy stakeholders (Orr, 2013, p. 19; Weimer, 2011, p. 14). Research on the policy process has studied the complex relationships among stakeholders with diverse responsibilities, interests, ideas, beliefs, objectives, and expectations.

Stakeholder participation in the policy process is important because it increases the likelihood of successful policymaking, is based on partnership models rather than adversarial interactions, promotes higher levels of trust in decision-makers and in

policymaking, and ensures more efficient implementation of policies and programs (Orr, 2013, p. 2). The core principle of stakeholder theory in policymaking is that all voices should be accommodated while making a decision, regardless of the power or interests of the stakeholders (Poudel et al., 2016, p. 467).

Stakeholders and the policymaking process

The policymaking process involves government decisions to address problems and political mechanisms in the parliament to seek solutions. The start of the policy process is to recognise an issue, which means that there is a problem to be addressed (defining the problem), followed by the realisation that the government is determined to address the problem as part of the national agenda (agenda setting), consideration of solutions (formation), legitimation of decision-making, implementation of the policy, and finally an evaluation of the success or failure of the policy (evaluation) (Orr, 2013, p. 50).

Problem definition as the first stage of the policy process is a crucial part of policymaking because it sets the direction for all future policy decisions. Stakeholders may be actively involved in the early stages of the policy process to define problems which need to be addressed. They can express their voice through various means of communication, such as the media or in a public discussion forum, to make their views heard and to empower the government to bring the issues onto the agenda (Birkland, 1997; Anderson, 2006). One of the biggest challenges for decision-makers working with multiple stakeholders in the policy process is how to manage and integrate their competing interests and demands.

Successful policymaking in a process stage can lead to successful policy implementation. Marsh and McConnell (2010) mentioned that a policy is not only a success when it achieves the policy objectives, but also when it involves the policy

participants from the start of the policy formulation process (Marsh & McConnell, 2010, p. 571). This is because, as Marsh and McConnell have pointed out, a policy which is produced through accommodating, and reflecting upon, different stakeholders' interests will likely be more legitimate and effective (p. 572). This argument is supported by Anderson (1999) who stated that policy decisions that are made without adequate consideration of technical, professional, and scientific aspects, or that conflict with broader participants' interests, can turn into policy failures in terms of both the technical and the political process (Anderson, 2006, p. 222). Therefore, to produce a successful multi-stakeholder initiative, stakeholder dialogue is required (Bartley, 2007, p. 300; Mena & Palazzo, 2012, p. 536).

It has been argued that public support also plays a crucial role in the success of the policymaking process. Lack of public support can lead to failure in achieving policy objectives (Drews & Van Den Bergh, 2016, p. 856). However, public support is not sufficient if we want to develop successful and sustainable policies. Support from politicians is also critical. For example, despite having public support for some time, a carbon pricing policy in Australia has not progressed as there has been no support from the government and from the opposition parties for carbon pricing, which has resulted in policy uncertainty (Newman, 2015, p. 346). This example shows that public support may be a necessary condition for policy success, but it is not enough. As Kingdon (2011) explained, policy alternatives are developed through the imposition of selection criteria. Even if a policy proposal gains public support, but it costs more, or if it is refused by oppositions during the legislative process, it is less likely to survive (Kingdon, 2011, p. 201). Kingdon's selection criteria demonstrate that policy development requires a combination of factors, rather than relying on only a single factor.

In the policymaking process, there is a dynamic within the stakeholder dialogue, which means that the policy participants do not pursue their individual interests on their own. Instead, they pursue them through a mutually agreed sharing of interests and resources (Ferraro, 2018, p. 3). The policy development process should manage the complex nature of stakeholders' approvals to create an implementable policy (Howlett, 2012, pp. 545-546). Engaging policy participants with diverse interests and opinions is the key element to developing a legitimate sustainable initiative (Balzarova & Castka, 2012, p. 266), especially in relation to a complex issue such as climate change (Tompkins, Few, & Brown, 2008, p. 1583). Understanding stakeholder engagement is critical to understanding the ability of policymakers to implement strategies to reduce GHG emissions. Developing effective stakeholder dialogue can help us understand the stakeholder dynamics around climate change issues, and can make an important contribution to policymaking by helping decision-makers become aware of constraints and opportunities in addressing climate change issues. On the contrary, failure to involve stakeholders in an effective way can lead to failure to achieve the ultimate objectives of a policy (Hoque, Clarke, & Huang, 2016, p. 369).

Stakeholder collaboration and climate mitigation

In order to address the issue of climate change in an effective way, policymakers need to establish and implement strategic long-term plans to reduce GHG emissions. While climate change poses a complex range of challenges for stakeholder engagement, such engagement is crucial in order to bring together a diversity of important stakeholders to create better solutions to environmental issues. Understanding stakeholder engagement in the climate change policy process is crucial to building awareness about the ability of policymakers to address complex problems.

When confronting the challenges of addressing complex issues, such as climate change, government often responds by applying adaptive management or stakeholder participation (Reksten, 2018, p. 223). The sources and effects of GHG emissions in a country are spread across both the public and the private sector. Therefore, reducing GHG emissions will require the collaboration of a diverse range of stakeholders. Despite its potential challenges, stakeholder collaboration offers policymakers the opportunity to develop policy changes to reduce GHG emissions across a range of economic sectors and to facilitate cooperation through a collective decision-making process (Fiack & Kamieniecki, 2017, p. 128).

Policy decisions and policy implementation on complex issues are often politically controversial, and the legitimacy of policy outcomes are influenced by the affected stakeholders. Historically, environmental policy has been perceived by stakeholders as a zero-sum game, meaning that those who support environmental regulations argue that economic development occurs at the cost of reduced environmental quality (Fiack, 2017, p. 129). Unless divergent stakeholders can collaborate and establish supportive dialogue on these issues, meaningful discussion on the causes and effects of climate change will not take place, government policy will not be formulated, and additional harm to the environment will continue to occur. The success of policy outcomes is dependent on the ability of responsible stakeholders to effectively facilitate the policy process and the level of understanding among the general public in relation to the issue to be addressed (Cohen, Kamieniecki, & Cahn, 2005).

Overall, stakeholder participation must become a key component of the policy process. Stakeholder engagement increases the possibility of successful policymaking, establishes credibility, and promotes a higher level of trust in the

government as the decision-maker. The following section will discuss policy formulation in the Indonesian context.

Policy formulation in the Indonesian context

This section provides an understanding of the policymaking process in Indonesia, and to explore the relevance of the aforementioned policymaking theories within this context. The section describes the political institutions that form the policy process, including formulation, negotiation, review, and execution of laws, regulations, programs, and other government policies. A broad range of stakeholders are involved in the policymaking process in Indonesia, including government institutions, business players, politicians , non-government organisations, the media, and researchers and universities (Datta et al., 2016, p. 1).

There has been a growing body of literature on Indonesian policy and government. However, research on the actual policymaking process in Indonesia is still lacking (Blomkamp, Sholikin, Nursyamsi, Lewis, & Toumbourou, 2017, p. 7) Therefore, this review seeks to fill this gap by focusing on stakeholder relationships and the institutional arrangements which shape the policy development process. It is expected that the overall thesis will enrich the existing body of knowledge with an analysis of practice-oriented policymaking in Indonesia.

Policy players and political institutions

According to the 1945 Indonesian Constitution, the government is organised as a presidential system chaired by a president who serves as both head of state and head of government. Under this political system, Indonesia has three key divisions of government: the executive arm, the legislative arm, and the judiciary.

Based on the constitution, executive power is held by the president. The most significant body in the executive is the cabinet which consists of the president, the

vice-president, and the ministers selected by the president. The cabinet is assigned to formulate public policies for each ministry of government. The ministries serve as assistants to the president in accomplishing the president's pledges made during the election campaign (Pramusinto, 2016, p. 123).

Legislative power is held by the parliament which has two chambers: the House of Representatives *(Dewan Perwakilan Rakyat)* which has 560 members, and the Regional Representative Council *(Dewan Perwakilan Daerah)* which has 132 seats representing 33 provinces. The House of Representatives (DPR) is authorised to make law, but in practice, they have to work with the executive in a coordinated way because draft bills are made and proposed by the executive. They will not pass without majority supports from the DPR. Meanwhile, the Regional Representative Council (DPD) has no authority in the law-making process, instead serving as an advisory board to the parliament. However, the DPD can supervise the implementation of bills by the government and report to the DPR if there are frauds or misconducts.

The policymaking process in Indonesia involves multiple stakeholders which include public and private agencies, professional experts, business players, researchers, and civil society organisations (NGOs). Draft bills are made by the ministries (usually the ministries create a special taskforce to draft bills which include key decision-makers and various experts such as academics and technical advisors). It is formally required that each bill should be accompanied by an academic paper *(naskah akademik)* which contains the details of issues to be dealt with. However, the formal process of policy development in Indonesia is often neglected, and academic papers for the bills are often ignored (Datta et al., 2011, p. 13).

A draft bill proposed by the executive must be approved by the parliament in order to become law. The parliament has 11 sectoral commissions which are assigned

to assessing the bills introduced by the executive. These commissions are organised by the parliament at the beginning of the parliament membership period (every five year). Each political party appoints select members of parliament to be a commission member. Each member of parliament belongs to a commission which has frequent correspondence with the relevant ministries (Blöndal, Hawkesworth, & Choi, 2009, p. 31). Sectoral commissions have around 50 members which are elected according to the number of seats each party holds in the parliament. In practice, membership of these commissions is more important than party affiliation, because deliberation on the policies takes place within the commissions. For example, each party has its member in the environment commission. All the draft bills related to environmental policies by the government go to this commission and are then discussed in the commission before they are brought to the plenary assembly. Therefore, the most effective way to influence policy decision-making is by lobbying members of the relevant commissions, regardless of their party affiliations (Sherlock, 2012, p. 561).

Once the parliament approves a bill proposed by the executive, it is passed to become a law. The executive then formalises the law and formulates an implementing regulation. This regulation must consider current regulations, budget capacity, and human resources. Therefore, sometimes it takes years for a law to be implemented because government interests take precedence (Pramusinto, 2016, p. 131). In practice, the implementing regulation is not always in line with the law, and sometimes conflicts with the existing policies. This is partly because unlike the bills that need parliamentary approval, the government can formulate implementing regulations, government decrees, or presidential instructions without approval from the parliament.

The judiciary has a role in the policy process by reviewing and removing laws that are considered unconstitutional. The Constitutional Court *(Mahkamah Konstitusi)* is authorised to review and dismiss laws. This was an improvement implemented

under Indonesia's judicial reform process in 2003 when the Constitutional Court was established. The Constitutional Court is independent of the executive and the legislature. It creates a 'legal pathway for citizens and civil society organisations to challenge government policies which are believed to overstep human rights' (Rosser, 2015, p. 84). Civil society organisations play an important role in judicial reform, often with the support of international donors (Yon & Hearn, 2016, p. 18).

Local government

Since decentralisation was established in 1999, there are now more than 500 provincial, district, and municipal governments across Indonesia. These sub-national governments, like the national government, play a crucial role in the policymaking process in Indonesia. According to Law no. 22/1999 regarding local government, all government functions have been delegated to local government except for fiscal and monetary policy, security and defence, foreign affairs, religious affairs, and the justice system. With the further implementation of regulations passed in 2001, 2004, 2007, and 2014, local governments have been given broad responsibility and authority to administer their region. One of the current regime's priorities regarding local government is the transfer of funds to local government, including village funds (Law no. 6/2014) (Sato & Damayanti, 2015, p. 182).

Figure 3: Indonesia's Administrative Levels

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By law, district governments are the most powerful local governments. Each district government is chaired by an elected regent or mayor *(bupati or walikota).* Like national government, district governments have a local parliament and an executive which drafts local bills and sends them through the local parliament for approval. Each local government has a complex process of budgeting and planning each year which is generally not well coordinated at the sub-national level.

The poor capacity of local bureaucrats leads to an increase in corruption and lower quality public services (Ostwald, Tajima, & Samphantharak, 2016, p. 152). As Datta et al (2017) pointed out, "after more than 30 years of centralised rule, there was very little capacity among local governments" to administer large funds, identify priorities and challenges, and develop local strategic plans (Datta et al., 2018, p. 8). This situation at the local level has been somewhat mitigated by increases in financial capacity through the fiscal transfer mechanism of central government, especially since the implementation of Law no. 6/2014 on the new village funding programs (Datta et al., 2018, p. 35). In addition, Pramusinto (2016) asserted that "decentralisation is also hampered by the lack of trained officials at the provincial, district, or city government level" (Pramusinto, 2016, p. 159). In this context, some local powers have been resumed by the central government (recentralisation). For example, the government established the Law no. 23/2014 to regain the power to manage the forestry sector, including issuing permits and licences from the local government. This is partly a

reaction from the central government toward the abuse of power by local officials, for example by issuing illicit permits and licences.

There is a significant difference in the policymaking process between central and local government. In central government, policymaking involves stakeholders in the policy process, while this is not the case at the local level. As Sutmuller and Setiono (2011) have stated, it is not common for local government to involve stakeholders (academics, researchers, experts, the business community, and civil society organisations) in the policymaking process (Sutmuller & Setiono, 2011, p. 42). Most of the decisions are made by local elites who hold greater administrative authority and financial power (Ostwald et al., 2016, p. 148).

The role of civil society organisations

Domestic non-government organisations and international organisations play an important role in the policy process in some policy sectors. Through the formulation process of regulatory frameworks, laws, and other implementing regulations, donor agencies have had an influence on public policy development (Pramusinto, 2016, p. 125). For example, recent research by Datta et al (2018) showed the influence of the World Bank on higher education policy development (Datta et al., 2018, p. 11). According to this study, the World Bank has been the most dominant actor in shaping and involving higher education policy. For example, the World Bank has promoted the enhancement of higher education autonomy; promoted greater competition between higher education institutions; and promoted the improvement of accountability and transparency of higher education institutions in the use of public funding (p. 11). Rosser (2015) also pointed out that NGOs, parents, and teachers have been engaged in demonstration, lobbying, and strategic use of the court system to influence the education policymaking process (Rosser, 2015, p. 72).

Since the fall of Soeharto in 1998, a large number of civil society organisations, environmental advocates, female activists, and human rights activists, have also influenced the policy development process by entering politics (Mietzner, 2013, p. 29). For example, NGO leaders have official positions in political parties, journalists enter parliamentary commissions, and labour activists join the bureaucracy. This enables NGOs provide policy insights to control environmental policies.

NGOs play a significant role in addressing environmental issues. For example, World Wildlife Fund-Indonesia involved in establishing a transboundary agreement to promote sustainable forest management in Kalimantan Island among Indonesia, Malaysia and Brunei (Nugraha, 2016, p. 3). According to Nugraha, in 2007, WWF-Indonesia reached a large-scale conservation agreement with Malaysia and Brunei to protect forests of Borneo and put the whole of Borneo as an internationally significant conservation area. To follow up this commitment, in collaboration with international agencies such as UNESCO, UNICEF, and UNEP, WWF developed partnerships and coalitions with Indigenous People's Alliance (AMAN) to support its advocation efforts.

NGOs also play an important role in framing environmental problems. Framing process is an effort to convince various targets and general public to support a policy change (Benford & Snow, 2000, p. 615). For example, in 2009 Greenpeace succeeded to frame forest fires as a problem in Indonesia caused by large palm oil companies (Ardhian, Adiwibowo, & Wahyuni, 2016, p. 214). They used public campaigns to accuse the Sinar Mas group of burning forests to expand their palm oil plantations. Greenpeace prevailed to stop supply chains, where large companies such as Nestle and Unilever ceased purchase contracts of palm oil products with the Sinar Mas (Ardhian et al., 2016, p. 214; Greenpeace South East Asia, 2010, p. 10). In the case of forest fires in 2015/2016, issue framings were more broadened and various. While WALHI and WWF-Indonesia developed their framings that forest fires were corporate

crimes by palm oil industries, some Indonesian NGOs established an advocacy network *(ResponsiBank)* which framed that banks involved in Indonesia's forest fires by providing financial assistance to palm oil industries (Herlan, 2017, p. 125).

An important tradition in Indonesia in the context of the policy process is "the practice of making decisions by deliberation to reach consensus rather than majority voting" (Sherlock, 2012, p. 561). For example, the policy process for the budget in the parliament produces the budget law by consensus in the budget commission, rather than through voting (Blöndal et al., 2009, p. 27). This does not mean that every member of the budget commission in the parliament agrees with every proposal. Instead, informal lobbies, negotiations, and discussions occur between political factions or party leaders. Consequently, in a practical sense, consensus is an agreement among party leaders. Under these circumstances, the leaders of the commissions and the party leaders are more powerful than the individual members of parliament. There is limited transparency in the decision-making process and less discussion or dialogue on policy issues than in the political systems of other countries (Sherlock, 2012, p. 562).

Conclusion

Political negotiation and discussions are an important part of the policy development process in Indonesia. It is clear that there is no common sequence of stages in the policy process across different policy areas and political branches. Civil society organisations and international donors also play an important role in the policy process, being involved in agenda setting and policy analysis and formulation discussions.

In relation to policy theory, contestation is ever present in policymaking, and the advocacy coalition framework is applicable to the Indonesian context. Policy

development involves competing stakeholders and interests which shape and influence policy decision-making through their different capabilities for power and influence. However, the advocacy coalition framework assumes stable parameters and a policy subsystem for policymaking. It also assumes that long-term perspectives are necessary for policy change. In reality, policymaking is often unstructured, with conditions changing frequently. Members of the executive and legislative arms of government change over time making coalitions also subject to change. These complex conditions potentially limit the relevance of the advocacy coalition model, as well as the policy cycle model, in understanding the policymaking process in Indonesia.

Kingdon's multiple streams framework is likely a more appropriate theoretical framwork for explaining the policy formulation process in Indonesia. It highlights the complex interactions between policy stakeholders in bringing an issue onto the agenda and increasing government attention to addressing the issue. Interactions between stakeholders continue in the policy process and political dynamisms occur in the political process. With this situation, 'policy windows' have the potential to open when the perceived problem, the policy solutions, and the political dimensions converge into opportunities for policy change.

CHAPTER III

METHODOLOGY

Introduction

This chapter outlines the methodological approach of the thesis for investigating the necessary conditions for effective climate policy formulation in Indonesia. The chapter is comprised of six sections. The first section briefly discusses a number of research paradigms, which is followed by a detailed overview of the research design and data collection methods to explain how the data have been collected. The next sections discuss the interview strategies and the data analysis procedures. Ethics considerations and a summary of the chapter appear in the final sections.

Grounded theory method

This study uses grounded theory as the research strategy to address the research questions. Grounded theory enables an in-depth analysis of a social phenomenon based on dialogue with the participants to obtain data from their experiences (Charmaz, 2014; Francis, Chapman & Whitehead, 2016). This approach has been used to analyse the data from 29 Indonesian key stakeholders from interviews conducted between August and November 2016, along with a number of relevant documents. Grounded theory was selected because it allows for the exploration of the perspectives of Indonesian key stakeholders regarding the opportunities and challenges to the introduction of a carbon tax in Indonesia. The complex political decision-making process of a carbon tax has been explored, allowing for an exploration of the political, economic, and institutional challenges that will need to be faced if the government of Indonesia introduces a carbon tax. Understanding these challenges gives rise to an exploration of the factors that determine the

successful introduction of a carbon tax, leading to the ultimate objective of the thesis; to establish the necessary conditions for effective climate policy formulation in Indonesia.

Grounded theory was developed in 1967 by Barney Glaser and Anselm Strauss from the University of California where they studied the issue of dying in a hospital setting (Glaser & Strauss, 1967, p. 272). The essence of grounded theory is to start the research process from the original data and then to produce a theory from the data analysis. The theory is grounded in the data and developed through the research process. Through engaging directly with the participants' views and following the principles of grounded theory, theories are developed that fit empirical phenomena (Glaser & Strauss, 1967, p. 10).

That said, this study uses a modified form of grounded theory known as constructivist grounded theory. Moving away from original grounded theory which is in the positivist paradigm, constructivist grounded theory is informed by an interpretivist paradigm (Charmaz, 2006). Constructivist grounded theory aims to understand how participants construct their ideas and interpretations from their experiences (Charmaz, 2006). It highlights the "construction" as being between both the perspectives and the experiences of the researcher and the participants (Charmaz, 2014). Unlike the original grounded theory, constructivist grounded theory acknowledges prior knowledge and embraces its benefits in the research process to produce results. Constructivist grounded theory has been chosen for this study to enable the researcher to generate a grounded theory of the conditions for effective climate policy formulation in Indonesia. Constructivist grounded theory is useful when there is much knowledge about a topic, but the knowledge lacks the depth needed to gain a complete understanding of the phenomena (Melnyk & Fineout-Overholt, 2011). As discussed in the literature review, there have been a large number of studies regarding public policy

in Indonesia, but the research analysing the actual policymaking process in Indonesia is very limited. Constructivist grounded theory will enable me to investigate the key stakeholders' perspectives in-depth, by using interviews to understand and explain the conditions for effective climate policy formulation in Indonesia.

A number of techniques and procedures are used within the grounded theory research process. The key terms here are "codes" and "coding". The process of coding breaks down the collected data into units. For example, interview transcripts are analysed for main themes and patterns, and codes are applied to sections of texts which relevant to the theme's development.

The next step is to analyse the codes. The codes that share a similar theme are then gathered in a group. Comparing and grouping the codes with each other generates more developed similarities. These similarities create a *concept*. Concepts are clustered and compared to each other to create higher similarities known as *categories*. Glaser and Strauss (1967) described this process of continuously comparing concepts with one another as the "constant comparative method" (Glaser & Strauss, 1967, pp. 105-115). The theory is generated by relating the categories to each other and analysing the relations between concepts (Allan, 2003, p. 6).

Through analysis of the data, categories that are related to the research objectives are identified. Then, the main categories are analysed, summarised, and examined to identify relationships with each other. Finally, the relationships and functions among the different categories are analysed, after which a conceptual framework related to the research objectives is built.

The next section discusses the process of collecting the data and how the data were then analysed.

Data collection and analysis

       After establishing the research framework and design, this section explains the specific methods used to collect the data necessary to answer the research questions.

Elite interviews

       This study uses interviews as part of an approach developed by Dexter (1970). Elite interviews have been chosen as the principal source of data to obtain stakeholders' perspectives. *Elites* are influential people who have the power to access lots of quality information which cannot be accessed by common officials, and their location is close to political power (Harvey, 2011, p. 433). Elite individuals provide information that is not available to ordinary people, and thus, provide an 'insider' view of politics.

       Interviews have been chosen as the data collection method in this research to achieve in-depth insights and responses about the development of a carbon tax policy in Indonesia. The reason why elite interviews have been chosen for this research is because the elites are principal leaders in politics and in the decision-making process including NGOs and business stakeholders are influential in policy communities. As Burnham suggested, elite interviews are the most effective way to gain information about the decision-making process (Burnham, Lutz, Grant, & Layton-Henry, 2008, p. 205). They offer information which is often little-known by the media and the public. In addition, the information they provide cannot be obtained through official documents or records of the government.

       Studies using elite interviews involving policymakers or bureaucrats, politicians, business players, and civil society groups, are challenging, because elites present considerable issues for the researcher, including gaining access, ethical dilemmas, and other practical issues (Darbi & Hall, 2014, p. 834; Mikecz, 2012, p. 483). For

example, elite officials usually guard themselves from outsiders by using their personal assistant to select the people who they would like to meet with. Another challenge for elite interviewing is that most elites move around the world and tracking them down is difficult, if not impossible.

In-depth interviews with elites are used to collect unique data and information for examining the complexity of the policymaking process (Dexter, 1970, cited in Beamer, 2002, p. 86). This will be a major advantage of the study because elite interviews are different from ordinary interviews. An in-depth interview method has been chosen rather than other kinds of interviews because in-depth interviews can make interviewees feel comfortable which can generate more insightful responses, especially when discussing sensitive topics. It also provides better opportunities for the interviewer to ask follow-up questions, obtain additional information, and move back to key questions later in the interview to achieve a better understanding of perceptions from stakeholders.

To encourage the interviewees to speak more freely and in-depth about the subject, this research has used semi-structured interviews. The semi-structured interview style has been chosen to allow the interviewees to express their ideas and opinions about the topic under investigation (Liu, 2018, p. 3). When arranging the interviews, information about the research topic and questions relevant to the research topic which are intended as a frame for the interview, are organised. These questions are then used as an interview guide.

Access to Interviewees

The first crucial step in recruiting the participants was gaining access. Gaining access to a group of elites is challenging and time-consuming. This is a difficult task as described by Desmond (Desmond, 2004, p. 265). The nature of elites is that they

usually live in exclusive places and remove themselves from ordinary people and from public exposure. They employ a range of resources to distance themselves from others and to protect their privacy. One of the most common forms of protection for elites is the use of private assistants or security officers as "gate keepers" (Mikecz, 2012, p. 483). Therefore, success in gaining access contributes significantly to the success of the research as a whole.

In order to have access to the targeted elites, both formal and informal communications were carried out in advance. Informal correspondence was made through email with some of the selected participants. The researcher obtained their email addresses from official, publicly accessible websites. Some of the participants were also contacted by phone to build an informal rapport.

Nevertheless, some of the participants were difficult to reach, so a snowball sampling method was also used. Following this technique, the researcher asked the initial respondents to recommend other relevant participants to be recruited using their professional networks. Given its nature, the snowball technique is also known as a respondent-driven technique (Etikan, Alkassim, & Abubakar, 2015, p. 2). It is also effective for 'hard to reach' population (Naderifar, Goli, & Ghaljaie, 2017, p. 3). The snowball technique is effective during the research process to obtain additional respondents. However, most of the interviewees were recruited directly by the researcher.

Participants for the interviews

In total, 29 participants were recruited and interviewed during the period August-November 2016. There is no established standard for how many participants need to be involved in qualitative research. However, Creswell stated that the sample size depends on the research design being used. For grounded theory research, the size

typically ranges from 20 to 30 (Creswell, 2014, p. 189). However, Cohen, Manion, and Morrison (2007) stated that the size is not the primary concern of purposive sampling; rather, the concern is to acquire information from those who have in-depth knowledge on particular issues, and also to achieve data saturation (Cohen, Manion, & Morrison, 2011, p. 156).

Purposeful sampling has been used to identify and select the participants, and to gain information-rich sources for an in-depth understanding of the research question (Patton, 2015, p. 264; Robert, 2011, p. 311). The participants are then selected based on their knowledge, expertise, and experience in their organisation (Van Manen, 2014, p. 353).The objective of participant selection is to ensure that all relevant stakeholders with divergent viewpoints are included. The participants are representatives from different organisational backgrounds relevant to the carbon tax policy process. For ethical reasons, their names and official positions are not mentioned here. Instead, specific codes were used for referring their names and institutions. The institutions and actors considered to be the key stakeholders in this study are as follows:

a. Ministry of Finance, Ministry of Environment and Forestry, Ministry of Industry, Ministry of Energy and Mineral Resources, and Ministry of National Planning (Participant code: Gov 1, Gov 2, Gov 3, Gov 4, Gov 5, Gov 6, Gov 7, Gov 8, Gov 9, Gov 10, Gov 11, Gov 12, Gov 13, Gov 14, Gov 15).

b. Political leaders/Members of parliament (Participant code: Pol 1, Pol 2, Pol 3, Pol 4, Pol 5).

c. Economic players (cement industry, transportation, power generators, steel industry, textiles industry, energy industry, and mining) (Participant code: Eco 1, Eco 2, Eco 3, Eco 4, Eco 5).

d. Civil society/non-government organisations (Participant code: NGO 1, NGO 2, NGO 3, NGO 4).

The officials in the Ministry of Finance were the main stakeholders interviewed, because this institution plays a major role in the fiscal policy domain. The Ministry of Finance is by law a government representative that creates and formulates fiscal policies which are, in general, comprised of government fiscal revenue (taxes), government spending, and government financing. The government finance authority hence lies within the Ministry of Finance. All fiscal policy formulation, including a carbon tax, would begin from the Ministry of Finance. The department under the Ministry of Finance responsible for making fiscal policies, including a carbon tax, would be the Fiscal Policy Agency (the FPA). Therefore, this agency has been the basis of the research fieldwork. However, elite interviews have also been conducted with relevant executive institutions such as the Ministry of Energy and Mineral Resources, the Ministry of Environment and Forestry, the Ministry of Industry, and the Ministry of National Planning. These government representatives are assumed to be key stakeholders in the context of climate policy in Indonesia.

The second set of stakeholders in the study were the members of parliament or political party leaders. In Indonesia, the House of Representatives *(Dewan Perwakilan Rakyat)* consists of 560 members from 10 political parties. The members of parliament represent their parties based on votes from the general election. Members of parliament are key stakeholders to be interviewed because their role in the policy and political process is paramount. All the regulations proposed by the Ministries need to be approved by the Parliament before coming into effect. This is the obvious rationale for conducting elite interviews with members of parliament. Their insights, judgements, and opinions will be influential in the consideration of the introduction of a carbon tax in the future. This research intended to interview elites from the top five major parties which represent 65% of the seats. People from five of the top seven political parties were interviewed.

The next set of key stakeholders were from industry. They are significant stakeholders because they are the economic players which will be directly affected by a carbon tax. Business influence has been one of the primary reasons why government policies across the globe have often faced political resistance. It is difficult for government to implement policies when there is strong resistance from business stakeholders (Downie 2017, p. 583). For example, in the context of energy policy, the stronger the resistance from energy-intensive industries, the less successful the policy implementation will be (Hughes & Urpelainen 2015, p. 55).

The study interviewed elites from the primary sector such as the cement industry, transportation, power generators, the steel industry, textiles, the energy industry, and mining corporations, which are the main emissions contributors to Indonesia's GHG emissions as part of the land-based sector. Representatives from the forestry sector were also interviewed because this sector makes the largest contribution to Indonesia's GHG emissions.

The study also interviewed representatives from civil society groups or Non-Government Organisations (NGOs). In the current Indonesian context, NGOs play a significant role in addressing political issues, including environmental issues. There are at least three influential civil society groups or NGOs related to climate change issues in Indonesia: Greenpeace, *Wahana Lingkungan Hidup Indonesia (WALHI)*, and World Wildlife Fund (WWF) Indonesia. These organisations are actively involved in determining Indonesian positions in both domestic and international climate change negotiations. For example, they were part of the Indonesian negotiation team at COP 24 in Katowice, Poland 2018. They were also actively involved in the creation of the First Nationally Determined Contributions (NDCs) document submitted to the UNFCCC in 2016. Therefore, they have an influential position in lobbying the government and the private sector in response to cross-cutting agendas. Their focus

is on efforts to shift government policy towards a low-carbon development path. Therefore, in this study, these NGOs are key stakeholders that have an important influence on government programs, systems, and policies. However, during the data collection process, the researcher could not contact the participant from World Wildlife Fund Indonesia. The reason for their refusal was that their schedule was very tight, so they did not have time to be interviewed. As a replacement, a participant from Friends of the Earth Indonesia was interviewed.

Strategy for the interviews

After obtaining informal approval from the participants, the author sent them a formal letter which included a request for an interview (see appendices). Along with the letter, an information sheet was also attached which explained the details of the research including a letter of consent. The project has been fully approved by the Social and Behavioural Research Ethics Committee (SBREC No. 7347) at Flinders University. The interviewees were informed that their participation was voluntary, and that they were free to refuse to answer questions and/or to withdraw from the study at any time. The anonymity of individuals and confidentiality of the participants' responses was also assured.

In-depth interviews with semi-structured questions were conducted to collect data from the participants. An interview guide was formulated prior to the interviews (Kallio, Pietilä, Johnson, & Kangasniemi, 2016, p. 2960). An interview guide is a list of questions and follow-up prompts that is used as a tool for gathering essential information during the interviews. To ensure the quality of the data from the interviewees, the following strategies were used: finding the most suitable location for the interview, use of the native language of the interviewees, and maintaining a positive rapport with the interviewees.

Most of the interviews were conducted in the participants' offices, while nine took place in a café. Having an interview in an office has a number of advantages because it is usually more comfortable and quieter. This allows the interviewer and the participants to have uninterrupted discussions. However, it is sometimes difficult to secure free time for an interview during working hours; therefore, some of the interviews were conducted in venues outside of the interviewees' offices.

To make the interviews flow more smoothly, they were conducted in the Indonesian language and often in the local dialect of the interviewees. This enabled the participants to feel more relaxed and to be able to fully articulate their points. This also allowed the participants to express their perspectives more easily than in English.

When each interview was concluded, the participants mentioned how much they appreciated their involvement in the research. They were also promised a copy of the research findings at the conclusion of the study. All the interviews were recorded, transcribed, and then translated into English by the author.

Archival Study

Archival study was undertaken to collect data to triangulate the information gathered through the interviews. These documents are comprised of government records, internal reports from a range of organisations, and documents from other stakeholders or articles related to the research subject and administrative policymaking. These data were collected from the institutions in which the interview participants worked.

Archival or document analysis has been used in this study in combination with the interviews as a means of triangulation. The aim is to examine the ideas and views of Indonesian key stakeholders gained from the interviews and to match or compare them with official government statements. It is expected that by drawing upon at least

two sources of evidence (the perceptions of the interviewees and the relevant documents), the impact of any potential biases that might exist in a single method would be reduced. This means that the results of the study will be more valid and credible.

The documents that are most relevant for the analysis are comprised of the long-term national development planning 2005-2025 document, the medium-term national development planning 2010-2014 and 2015-2019 documents, the yearly government work plan, and a breakdown of the national budget allocation. The national development plan documents are open public data which can be accessed through the Ministry of National Planning website, while the budget allocation breakdown is unpublished data. Other documents that are used for the analysis include academic papers prepared for the ratification of the Paris Agreement, Indonesia's position papers on climate change negotiations, Indonesia's First Nationally Determined Contributions and international organisations' reports (see the Appendix 1 for the list of documents).

The long-term development plan consists of the national vision and long-term direction of development for every twenty-year phase. This plan then is broken down into the medium-term development plan which consists of more detailed implementable programs for national development for every five years. Finally, based on the five-year development plan, the government and the parliament agree to enable a yearly government working plan which consists of the development programs that the government executes. Based on the yearly government plan, the Ministry of Finance then allocates the national budget to finance the government programs.

These documents are the main sources used in this study to triangulate the perceptions of stakeholders from the interviews. Using content analysis, the

documents have been scrutinised to explore how the government prioritises its national development agenda in the long-, medium-, and short-term. The results of this analysis were then combined and matched with the stakeholders' perceptions from the interviews.

Some facts and findings from the documents are quite intriguing. For example, in the long-term development plan, the government recognises that Indonesia is heavily dependent on its rich natural resources as the engine of economic growth. Furthermore, the government also acknowledges that using natural resources as the basis of economic development will reduce the quality and quantity of the environment in the long run. This is why it is important to use the natural resources responsibly and in a sustainable manner.

However, looking at the working plan and budget allocations from the last five years, there is no clear-cut environmental protection-related programs which demonstrate the responsibility of the government to achieve a sustainable environment. In particular, budget allocations from the last five years have predominantly been used for economic functions, while only 1.1% has been used for environment-related functions (Department of Budget, the Ministry of Finance, 2019).

Understanding how the government perceives environmental issues in its national agenda is quite problematic. Therefore, it appears that the results from the document analysis corroborated the perceptions of the stakeholders during the interviews that climate policies were not compatible with the national development priorities. The details of the discussions about the national priorities on climate change will be presented in the next chapter.

Data analysis

Having collected data from the interviews, the researcher transcribed the recordings of the interviews. After completing the transcription process, the transcripts were then returned to each of the participants to confirm that they expressed the participants' intended messages and to avoid any ambiguities or to clarify their ideas. The participants were also able to revise and alter the transcripts if they wished. After this, because the interviews were conducted in Indonesian, the researcher translated all the transcripts into English. To ensure the accuracy and suitability of the translations, they were checked and edited by an Indonesian doctoral student who is proficient in both Indonesian and English.

After finalising the transcription and translation, the next step was to take the raw data gathered from the interviews and start the coding process. Coding is basically an analytical strategy that takes place during and after data collection (Saldaña, 2015, p. 9). It also links the ideas from the data through the process of data segregation, grouping, regrouping, and relinking to consolidate meaning and explanation (Grbich, 2007, p. 21; Richards & Morse, 2007, p. 137). Through the coding process and analysis of the data, it was expected that, in the end, new theory, concepts, or knowledge would emerge.

To assist with the analysis of the data, a qualitative computer software program was used. NVIVO 12 pro version software was chosen for the coding process to support the data analysis. NVIVO (developed by QSR international) is a popular tool used to assist researchers when analysing data and to ensure rigour in the analysis process. This study has used NVIVO software because it is user-friendly and is able to make the analysis process more efficient and effective. The software also helped the researcher to manage the data by organising, tracking, and relating many of the data records during the analysis process.

The strategies developed by Strauss and Corbin (Strauss & Corbin, 1990) were adopted for the coding process. The coding process involved three stages: open coding, axial coding, and selective coding. Open coding aims to find conceptual categories in the data at the first stage of construction; axial coding is undertaken to find relationships between these categories; and selective coding is then undertaken in order to conceptualise these relationships at a higher level of abstraction (Punch, 2009, p. 183). All the data are then systematically gathered and analysed to generate and develop a theory, concept, or a certain kind of knowledge (Greckhamer & Koro-Ljungberg, 2005, p. 729).

Firstly, the open coding process was conducted by assigning initial codes in an attempt to capture important information from the interview transcripts. The process began by formatting the transcript documents to fit with the requirements of the software. After formatting, the documents were prepared for importing into a NVIVO project file, after which they were ready to go through the coding process. The texts within the transcripts were investigated, analysed, 'opened up' and 'broken' into codes, which are called *nodes* in the NVIVO software. In the coding process, the codes emerged after examining the transcripts at a word, line, and paragraph level. Therefore, the codes were comprised of words, sentences, and even paragraphs, depending on the importance and relevance of the data according to the best knowledge of the researcher. In this process, the aim was to build conceptual categories at the first stage of the analysis. During the first level of open coding, 720 codes emerged as initial categories. An example of the open coding process is shown in Table 3 below:

Table 3: Open coding example

Original transcript (Indonesian)	Translation (English)	Open Coding
(I-02) Di negara kita, program pengurangan emisi belum menjadi prioritas. Kita dapat melihat contoh sederhana dalam kasus kebakaran hutan. Pemerintah tidak mau mengakui bahwa ada peranan penting dari pemerintah dalam hal pemberian ijin untuk membakar hutan. Pemerintah selalu mengatakan mereka tidak bersalah. Ini bukti nyata bahwa pemerintah kurang menganggap penting masalah lingkungan dalam isu pembangunan. Kita masih berkutat dalam masalah kemiskinan, pengangguran, pertumbuhan ekonomi, dan isu-isu makroekonomi secara umum. Isu-isu seperti lingkungan dan kelompok minoritas belum benar-benar tersentuh.	(I-02) In our country, emission reduction has not yet been a priority. We can see an indication with a simple case, forest fire. The government does not want to admit that there is a significant role from the government about this by giving permissions to burn the forests. The government think they are not guilty. That is the empirical evidence that the government does not place environmental issues in their development agenda. We still play with poverty, unemployment, economic growth, and general macroeconomic stuff. Other issues are still not touched. For example, environment issues and minority groups.	• Emissions reduction is not priority • Forest burn permit • Poverty alleviation • Economic growth • Unemployment • Macroeconomic

As Table 3 above indicates, six open codes about the government's development priorities were identified as: emissions reduction is not priority, forest burn permit, poverty alleviation, economic growth, unemployment, and macroeconomic. The coding was a lengthy process which produced some redundant codes and some which were irrelevant conceptual ideas. At the early stage of the analysis, the codes are provisional. Therefore, the next step was to examine the codes with the data and then to reduce the irrelevant and repetitive codes. This was an iterative action and occurred continuously during the coding process. At the end of the open coding process, there were 408 remaining codes. After examining and removing the unused codes, a number of patterns and trends emerged among the codes which were important in establishing potential conceptual categories. The researcher then

scrutinised the patterns and integrated similar codes into smaller clusters of categories.

The second operational stage of the coding process is axial coding of the data. At this stage, the main categories that emerged from the open coding process were examined and related to one another. To do this, the researcher identified the relationships among the open codes. Then, the codes which showed interconnections and similarities were grouped within the same categories. Axial coding is probably the most important part of the coding process because it presents theoretical possibilities and categories. In fact, Glaser (1978) used the term 'theoretical coding' to describe this stage (Punch, 2009, p. 186). After interconnecting the codes in the categories, potential new concepts or theories emerged to address the research questions. An example of the axial coding is shown in Table 4 below:

Table 4: Axial coding example

Open Coding Data	Axial Coding			
	Environment Interest	Economic Interest	Economic Challenges	Transparency
• Infrastructure • Poverty alleviation • Economic growth • Unemployment		• Infrastructure • Poverty alleviation • Economic growth • Unemployment		
• Reduced oil reserves • Conservation • Environment exploitation • World's lung • Vulnerable	• Reduced oil reserves • Conservation • Environment exploitation • World's lung			
• Inflation • Competitive • Fossil fuel • Distributional effects • Regressiveness			Inflation Competitiveness Fossil fuel Distributional effects Regressiveness	
• Corruption • Collection issues • Tax base • Distribution issues				Corruption Collection issues Tax base Distribution issues

As presented in the above example, the open coding data were grouped into categories based on environmental interest, economic interest, economic challenges, and transparency.

The final coding stage was selective coding in which the researcher gathered all the data in the same category together, and then selected them according to their more specific classification within the category.

Triangulation

The concept of triangulation in research has been adopted in the social sciences to represent the use of more than one approach to check each against the other to improve credibility and validity of the results. A more complete results of a study will be achieved by the combination of two or more research approaches rather than using only one approach (Heale & Forbes, 2013, p. 98). The most common form of triangulation is when qualitative and quantitative methods are combined. However, in this thesis, two additional methods have been chosen to support the findings from the elite interviews. The purpose of this analysis was to see if the ideas and views of the participants matched with what is stated in the public arena. The other method chosen was cross-referencing, with two student volunteers with expertise in the study methodology conducting the coding process on two of the interview transcripts to ensure consistency and an 'outside' view of the data.

The first triangulation method used was to combine the statements resulting from the interviews with the relevant documents. This method was particularly important when the study sought an explanation of whether emissions reduction issues and an introduction of a carbon tax were compatible with the national development priorities.

The combining of the information from the interview transcript analysis and the document analysis made the study more rigorous and less prone to bias (Bowen, 2009, p. 28).

The interviews with the Indonesian elites showed that some of the participants believed that a climate policy to reduce GHG emissions is important due to the vulnerability of Indonesia's geographical situation. However, a majority of the interviewees perceived that focusing on economic development is the government priority at the current time. Therefore, based on the interviews, the study claims that a carbon tax as a climate policy option is not compatible with the national development agenda. To give a deeper insight into the results, two major documents were used to ascertain whether the respondents' views matched with the government statements to the public. These two documents were the medium-term national development planning 2010-2014 document, and the medium-term development planning 2015-2019 document. The triangulation matrix between the interview quotes and the development plans can be seen in Table 5 below:

Table 5: Data triangulation method 1

Would a carbon tax be compatible with national development priority agenda?		
Interview quotes	**Medium term development planning 2010-2014**	**Medium term development planning 2015-2019**
"Addressing emissions issues is not really in the interest of the government of Indonesia, especially if we are talking about our economic development. Well, emissions reduction is an important issue, but now that is not a top development agenda" (Participant I-11). *"For now, I think the introduction of GHG*	National development priorities 2010-2014: 1. Governance and bureaucratic reform 2. Education 3. Health 4. Poverty reduction 5. Food security 6. Infrastructure 7. Business climate 8. Energy	National development priorities 2015-2019: 1. National security 2. Good governance 3. Strengthening regional development 4. Bureaucratic reform 5. Improving quality of life 6. Improving productivity and competitiveness

| | 9. Environment and disaster management
 10. Underdeveloped regions
 11. Culture, creativity, and technology innovation | 7. Improving domestic strategic economy
 8. National mental revolution
 9. Strengthening diversity and social restoration |

emissions reduction policy is not in our interest. Our priority is still developing our economy and that is more important than climate change issues especially carbon emissions mitigation policies" (Participant I-03).

"At the moment, we still have more program priorities in our development planning. Reducing carbon emissions maybe after the fifth priority. Today we are concerned more about poverty reduction, unemployment, and energy security" (Participant I-11).

Source: Interviews, medium-term development plan 2010-2014, Book 1; medium-term development plan 2015-2019, Book 1.

The second method of triangulation used is known as investigator triangulation. As part of this process, two student volunteers with expertise in this methodological approach agreed to undertake the first stage of the coding analysis based on two examples from the interview transcripts. The triangulation matrix between the researcher and other investigators are provided in Table 6 below:

Table 6: Investigator triangulation

Interview transcripts	Researcher's codes	Other investigator's codes
Does a carbon tax an option to reduce GHG emissions? Why or why not? Yes, it is a good policy measure to reduce GHG emissions from carbon productions. In the future, a carbon tax is very good. It is a tool to mitigate climate change. But in the short run, we cannot develop a policy to reduce timber production. Therefore, we must select all the implications of CO2 production. The problem is when we rely on the revenue from natural resources, then we will	• Support for carbon tax • Rely on natural resource • Short run minded • Carbon tax opposition	• Support carbon tax in principle • Concern about opposition

have resistance from many groups.		
What are institutional issues that need to be addressed if we introduce a carbon tax? Some different mindsets become issues in our nation. The technical institution for example customs and taxation offices only think micro aspects. They think about how government can generate revenue from tax. If they give an incentive for a new industry for example, they will lose money. We should have more macroscopic mindset. For instance, if we give a tax incentive for a new industry, in the short term it might reduce the revenue, but think about the economic impact on growth, new jobs, new investments, and the impacts if they move into other country. In the long run, having a new industry is good for tax because they establish a new income source for the country.	• Customs and tax office concern revenue target • Tax incentive reduce revenue • Should be more macro aspects • Opportunity gained from long-term mindset • Good income tax source in the future	• Customs and tax focus on risks of incentivising an industry • Macroeconomic and long-term view sees a new industry as an opportunity
What are the roles of the ministry of finance to introduce a national carbon tax? Our role, to be honest, is minor. We are only a speaker of tax and customs offices. We cannot have a good policy formula because we are not able to do so. This is because we have a bad relation between structural and functional. All the policy we create are not based on academic analysis, rather the policies are formulated based on compromise, lobbying, and inter-organisation negotiation which end up with producing	• Ministry of Finance plays a minor role • No good policy formula • No research-based policy • Compromise • Lobbying	• Ministry of Finance is unable to provide good policy formula • Ministry of Finance policies are compromises and lobbying; not good for long-term

unsound policy instruments. The researchers are not utilised properly. They write for the sake of themselves, not for the sake of their organisation. This is embarrassing.	• Undermine research • Egocentric interest	
What are the key principles for the success of a carbon tax policy? The government must have a long-term mindset. If the government still thinks about short term, a carbon tax will not succeed. All developed countries in the world have long term mindset in their public policy making process.	• Long-term mindset	• Long-term mindset is essential for policy success

Investigator triangulation, as shown in Table 6 above, involves the participation of two other researchers to provide multiple observations. This type of triangulation adds breadth to the research process, increases validity, and reduces bias in the research (Cope, 2014, p. 545).

Conclusion

This chapter outlines the research methodology used in this study, the rationale for it and how the data were collected and analysed. The research used grounded theory as a strategy to answer the research questions. This project has been approved by the Social and Behavioural Research Ethics Committee (SBREC) of Flinders University. Data have been collected from interviews with 29 Indonesian elites during the period from August to November 2016 along with a number of relevant documents. The study analysed the data collected through the coding process which

consisted of three stages: open coding, axial coding, and selective coding. In support of research validity and credibility, data source triangulation and investigator triangulation were used. The next chapter presents the research findings and a discussion of the data analysis.

CHAPTER IV

CARBON TAX IN INDONESIA'S NATIONAL DEVELOPMENT AGENDA

Introduction

Despite climate change mitigation being the subject of considerable interest among Indonesian academics, policymakers, practitioners, and civil society, the government of Indonesia has marginalised climate policies and has placed them at the bottom of their national development priority agenda. A number of studies on the importance of introducing climate policies to reduce GHG emissions in Indonesia have been undertaken (see e.g. Marpaung & Shresta, 2017; Miyata, 2018; Nurdianto & Resosudarmo, 2016; A. D. Setiawan & Cuppen, 2013; Yusuf & Resosudarmo, 2015; Yuwono, Fujimori, & Masui, 2017). However, little empirical evidence exists on why the government of Indonesia considers climate policies to be such a low priority on the development agenda.

This chapter outlines and analyses the first set of key thematic findings from the in-depth interviews with Indonesian key stakeholders in the Indonesian climate change context, including government representatives, politicians, business stakeholders, and non-government organisations. Based on the interviews, five rationales are presented for why the government gives climate policy such a low priority in the national development agenda: the focus on growth, investment in infrastructure, poverty, unemployment, and inequality. Each of these issues poses specific challenges for the development of climate policies, especially a carbon tax, in Indonesia.

Interviews with the selected Indonesian elites show that they believe that a climate policy is important for reducing GHG emissions in Indonesia. However, a majority of the interviewees perceived that focusing on economic development was the development priority of the government at the current time. Therefore, climate policy becomes marginalised and has a low priority on the national development agenda.

The next section presents the perspectives of the Indonesian key stakeholders who were interviewed.

Acknowledgement of the adverse impacts of climate change

This section discusses the perceptions of the selected Indonesian elites on the impacts of climate change on economic development, and the importance of the government addressing these issues. Based on the interviews, the Indonesian elites acknowledge the adverse impacts of climate change on the social, economic, and environmental aspects of society. Most believed in the reality of climate change and explained that Indonesia is vulnerable to the threat of climate-related disasters due to the geographical nature of this archipelagic country. For the interviewees, the impacts of climate change were evident and would likely worsen because of economic activities.

> We have low-lying coastal areas which is very vulnerable. Today we are suffered from flood, and natural disasters. Forest fires are easily happening maybe because the weather is now getting hotter than before (Gov-13).

The Intergovernmental Panel on Climate Change (IPCC) outlines a wide range of adverse impacts of climate change, including a decrease in crop yields, melting snow and ice, rising sea levels, and climate-related extremes such as heat waves, drought, floods, cyclones, and wildfires (Field et al., 2014, p. 4). In the Indonesian context, it is necessary to underline that this country is an archipelagic area with low-

lying coastal areas. This geographical feature has made Indonesia more vulnerable to the effects of climate change than many other countries. One of these specific climate change effects is the rise in sea levels.

Research in several locations has shown that the sea level has increased by 8 millimetres per year, and estimates indicate that this will reach 6 centimetres by 2070 (Wuryandari, 2015, p. 284). As a result, since 2005, Indonesia has lost 24 small islands in total (p. 284). If climate change is not stopped, more small islands will be inundated or become uninhabitable. The effects of climate change also include extreme weather patterns. The extreme weather increases the intensity of rainfall which can potentially cause increased flooding and landslides.

In February 2007, a major flood occurred in Jakarta affecting 80 districts, damaging 70,000 houses, and displacing 420,000 people, with the water level ranging from 10cm to 5m (WWF 2007, p. 5). The Jakarta flood of 2007 killed 56 people and the government of Indonesia estimated the economic losses at US$565 million (IFRC, 2007, p. 1; Wijayanti, Zhu, Hellegers, Budiyono, & van Ierland, 2016, p. 1060). From 17 to 19 January 2013, a flood in Jakarta and the surrounding cities affected 124 districts, damaged 98,000 houses, and killed 20 people, with economic losses amounting to US$775 million (Wijayanti et al., 2016, p. 1060).

Some of the interviewees expressed the view that the decline of agricultural productivity is caused by extreme weather. They explained that Indonesian farming still depends on weather conditions and temperatures. Extreme weather and rising temperatures could potentially create prolonged droughts, landslides, and flooding. This could lead to land degradation, and a decrease in agricultural productivity.

> We are an agricultural country. The crops depend on the weather and temperature. If we look at our farming productivity, we are experiencing a

decline trend. It might be caused by climate change which increases the temperature (Gov-10).

The prevalence of climate-related disasters requires the government of Indonesia to mitigate the impacts of climate change. Some of the interviewees further argued that the government should initiate climate change mitigation actions as a result of the adverse impacts of climate change. The government of Indonesia recognises the fact that the impacts of climate change are undeniable. In his opening speech at the Diaspora Global Summit, Jakarta, 16 January 2018, Mr. Bambang Brodjonegoro, the Minister of National Planning said:

> "Indonesia is one of the many tropical countries that is vulnerable to the climate change impacts" (Florentin, 2018, p. 2).

Climate policy should be mainstreamed into the national policy agenda. This is because the effects of climate change are evidently threatening the existence of the land and the life of Indonesian people. Protecting and providing a clean environment is the responsibility of the government.

> Yes, reducing carbon emissions is in the interest of the government because the government is responsible to protect the environment and the life of the society. This is part of the government's responsibility to preserve the natural resources we have, and to use it for the sake of public goodness" (NGO-1).

In the next section, we will discuss how the Indonesian stakeholders perceive the government's efforts to mitigate the impacts of climate change.

Institutional arrangements: inter-organisational conflicts

The Indonesian stakeholders accept the impacts of climate change, and a range of institutions have been created to mitigate these impacts. However, there is an incompatibility that is unresolved between the national development agenda and

meaningful climate change mitigation policy. This is in large part due to the complexity of Indonesian governance.

Numerous climate-focused institutions have emerged to support the government of Indonesia to achieve its commitment to reducing GHG emissions by 26% by 2020. Presidential regulations have been issued as instrumental legal frameworks underpinning the establishment of climate-related institutions across a range of line ministries. However, in practice, the effectiveness of the agencies remains unclear. Coordination among government institutions, or between central and regional governments, remains an immense challenge for Indonesia (Angelsen, 2009, p. 32; Brown & Peskett, 2011, p. 8). In fact, the problem of deficient coordination has commonly occurred worldwide in the context of climate change (Yoseph-Paulus & Hindmarsh, 2018, p. 37). The role of local government in Indonesia's climate change policy is important because Indonesia is a big country with thousands of islands. Given this, the central government is not able to control the implementation of climate policies without collaborating with local governments. For example, to enforce climate policy in the forestry sector the national government must coordinate with local governments because it is local governments who designate a 'forest area' (Austin et al., 2014, p. 10). The designation of 'forest area' by local governments is critical because it shows where forest protection and reforestation can occur, a critical landuse change to ensure effective climate responses in Indonesia, given the contribution of deforestation to carbon emissions.

The complexities of coordination have been exacerbated by the decentralisation of government, in which regional government has been given greater power and autonomy in decision-making. Under Law 22/1999 and Law 25/1999, primary government functions have been transferred to local government at the district level, thus strengthening regional political elites. The decentralisation laws have given local

authorities the power to allocate their resources based on local preferences, while central government finances around 90% of local government expenditures (Shah & Qibthiyyah, 2012, p. 4). However, decentralisation has also affected the quality of governance provided by local government. Administrative overspending increases with lack of political transparency and accountability (Ostwald et al., 2016, p. 152). With local officials being more responsive to local governments, coordinated actions between local and central government are more difficult when there is a conflict with local interests. Similar scenarios also occur in China, where governance is fragmented between central and local governments. When they are in conflict with local interests, the policy goals of the central government can be compromised (Yu, 2016, p. S78).

The establishment of the DNPI (Indonesian National Climate Change Council) as the national focal point of the climate policy context remains untested and questionable. The mandate of the DNPI to create national climate strategies, policies, and programs overlaps with the Ministry of National Planning. It has an exclusive climate change authority under the central leadership of the President of Republic Indonesia. It was expected that with clear structure and a climate change mandate, the DNPI could perform effectively in mainstreaming climate change mitigation, especially in the forestry sector. However, this has been problematic because the DNPI did not have legitimacy from key departments such as the Ministry of Forestry, the Ministry of Environment and the Ministry of National Development Planning (Di Gregorio et al., 2017, p. 39).

As an independent agency chaired directly by the President, the operations of the DNPI have been funded through the Ministry of Environment. This funding mechanism created leadership issues because in terms of the budget, the DNPI was dependent on the Ministry of the Environment. The relationship and coordination mechanism between the DNPI and the Ministry of the Environment is unclear. This means that the

policy strategies formulated by the DNPI have not been effectively implemented. Line ministries including the Ministry of Forestry, the National Development Planning Agency (Bappenas), and the Ministry of Energy and Mineral Resources, have created their own climate policy strategies competing with DNPI. Therefore, rather than a coordinated, whole of government, national strategy, there are competing visions and strategies. Competing agencies often insisted to be the leading national institutions in the national climate change governance instead. Another institutional issue has been the establishment of the REDD+ Taskforce. To reduce its GHG emissions from deforestation and forest degradation, the government established the REDD+ Taskforce, which was designed as a response to the agreement between the governments of Indonesia and Norway to develop the REDD+ mechanism in Indonesia. The government of Norway committed to the provision of US$1 billion to develop REDD+ activities in Indonesia. This taskforce was also established under the President's chairmanship. However, the disbursement of the funds was far from clear. According to Indonesian Law no. 17/2009 on State Finances, all revenues and expenditures must be recorded on the State Revenues and Expenditures Budget (on-budget). In this case, the funds from Norway did not disburse through the on-budget mechanism. Instead, a dedicated agency was created to manage the fund. The government of Norway disbursed the funds through the UNDP without utilising the on-budget mechanism. This created an issue of transparency because the Ministry of Finance could not control and monitor the funding flows. This is actually common with donor assistance internationally, where donor countries tend to control the flow of funding to assure that their financial aid will be used effectively (Huang & Pascual, 2018, p. 27).

One interviewee explained that to accommodate climate finances from other countries, the Centre of Climate Finance Policy was established under the Ministry of

Finance. The initial objective of the Centre was to pool and channel climate finance from international donors to be used for climate-related programs. However, institutional restructuring has made the Centre of Climate Finance Policy less politically important. This is because in the new organisational structure, the centre has been a subordinated division under the Centre for Multilateral Policy. Therefore, the institution has been unable to meet its goals. It is still central to climate policy but it has been ineffective. The Centre of Climate Finance has become merely a research unit responsible for providing climate-related policies to the Ministry of Finance, and has only limited authority to intervene on climate actions in the budget (Halimanjaya & Maulidia, 2014, p. 20).

Inter-institutional problems also occur in the Environment and Forestry Ministry. The authority for climate policy in Indonesia is now in the hands of the Minister of the Environment and Forestry following the liquidation of the REDD+ Agency. Under the previous regime, climate policy was under the responsibility of the President, with the REDD+ agency and the DNPI acting as coordinating agencies. Now, the national climate institutions have been centralised in the Ministry of the Environment and Forestry. This has created a new problem because the Ministry of the Environment and Forestry has no power over other ministries and government agencies. It is not a powerful enough ministry to be the national focal point for climate change because the climate change department has been degraded into the directorate general of climate change under the centre leadership of the Ministry of Environment and Forestry. Furthermore, the liquidation of the REDD+ agency and the DNPI was a violation of the $1 billion REDD+ agreement between Norway and Indonesia. Part of the agreement was that the government of Indonesia was meant to establish a REDD+ agency under the Presidential Office and report the tasks directly to the President. As well, the government of Indonesia should report the termination of the REDD+ agency to

Norway, because it affects Indonesian credibility in meeting an international agreement.

> I do not understand why the government terminate both the REDD+ agency and DNPI and then merge them with the Ministry of Environment. This is clearly an infringement of $1 billion agreement between Norway and our country. There should be an official notice from our government to Norway. This is about respectability, credibility of an international agreement. How can people trust anymore? (Poernomo, ex DNPI chairman, interview with Jay Fajar, Mongabay, 29/1/2015).

These explanations reflect a number of common themes emerging from the development of climate policy in Indonesia. Problems of coordination across government agencies, and inter-institutional conflicts are the key challenges. The following section discusses the perspectives of stakeholders on a carbon tax policy in the international context.

A carbon tax can improve international reputation

From an international perspective, most of the interviewees explained that the introduction of a carbon tax as a climate policy option to reduce GHG emissions was positive for Indonesia's political reputation. They expressed that a carbon tax could be a potential climate policy option to reduce carbon emissions in Indonesia.

> This policy could be a bargaining position for Indonesia in the international negotiation and discussion about emissions reduction. But I think the government needs to consider any other options to reduce carbon emissions in Indonesia. For examples, through subsidies for renewable energy and reducing emissions from deforestation and forest degradation. So, we should reduce, but focus on other options, reduce corruption, and improve the law enforcement in the operational level (Pol-5).

Having a credible international reputation in the context of climate change is important to Indonesia. This is because Indonesia has an ambitious goal to reduce its GHG emissions. Also, it is important for Indonesia because as a developing country, Indonesia is committed to be a leader in combatting global climate change. Moreover, commitment to reduce global emissions will open up the flow of financial assistance and low-carbon technology transfer from developed countries to Indonesia. The Government of Indonesia has pledged to the international community to reduce its GHG emissions by 29/41% by 2030 and this has been reiterated in the Indonesia's First Nationally Determined Contributions commitment.

However, Indonesian political rhetoric at the international level has not been followed-up by concrete domestic policy action. Many of the policies that have been implemented, both at the local and national levels, conflict with the government's commitment to reducing emissions due to governance and institutional complexity. As a result, in the first decade of the 21st century, Indonesia has become one of the top 10 global carbon emitters. The emissions come primarily from the forestry sector. Deforestation for mining and palm oil expansion has caused massive forest and peat fires which contribute to the increase in CO_2 emissions.

The data from the Ministry of Forestry showed that the average deforestation rate each year from 2000-2012 was 1.125 million hectares (Ditjen Planologi Kemenhut, 2015). Deforestation rates which have reached 1 million hectares per year have placed Indonesia as having the highest deforestation rate in the world (Wuryandari, 2015, p. 283). Illegal logging has been the main driver of deforestation over the last decade (Indrarto, 2012, p. 6). This has occurred through logging without permits or through permit violations; for example, cutting down trees outside of concession areas and over the permitted targets, or outside of logging schedules.

Illegal logging is going on across much of Indonesia, including in Kalimantan, Sumatra, and Papua, either with or without permits (Indrarto, 2012, p. 7).

The introduction of a carbon tax as a climate policy to reduce GHG emissions could therefore be viewed as a clear policy for the government of Indonesia to address emissions issues. The introduction of a carbon tax would diminish governance and institutional complexity. It would also support the political commitment which has been pledged to the world that Indonesia is serious about mitigating climate change issues. However, as some of the participants explained, to be an effective policy, a carbon tax must be followed by complementary policies; for example, subsidies for new and renewable energy, and reducing subsidies for fossil fuel energy. This is because reducing GHG emissions while maintaining economic activity requires technological innovation (Twomey, 2012, p. 14). It has however been argued that a carbon tax would increase the cost of carbon-emitting activities and technologies by increasing prices. This *dynamic efficiency* would stimulate the adoption of low-carbon technologies and greater energy efficiency (Baranzini et al., 2017, p. 4).

The following section discusses the perspectives of Indonesian stakeholders on the national development focus.

Indonesia focuses on economic growth

The current government regime (with Joko Widodo as President) was inaugurated on 20 October 2014. The new administration came into power with a development agenda known as "Nawa Cita" (nine dreams). The "Nawa Cita" was a priority development agenda for the next five years which was the vision outlined during the presidential campaign. It was then integrated into the National Medium-Term Development goals, consisting of nine development priorities, as follows: (1) Give protection and security to all Indonesian people; (2) Build clean, effective,

democratic, and trusted governance; (3) Strengthen local government within an integrated nation; (4) System reform and law enforcement; (5) Improve people's quality of life; (6) Increase productivity and international market competitiveness; (7) Empower the domestic strategic economic sector; (8) National character revolution; (9) Strengthen pluralism and social restoration (Bappenas, 2014b, pp. 2-4).

In the first cabinet meeting with all the ministers at the Presidential Palace on 3 January 2015, President Jokowi expected all his staff members to focus on economic growth and poverty reduction. He further stated that improving regulations and the business climate would increase international credibility for Indonesia. In line with this, the government would continuously seek to identify economic development resources to support better growth.

Similarly, one of the participants identified that the current government regime has been focusing on economic development, as shown in the following statement:

> When every time I am writing the speech for the Minister, the key messages are always growth, employment, and equality (Gov-5).

As identified by Walker (1989, p. 36), 'pressure for growth' in modern states is the main reason behind the perspectives of a majority of the interviewees. Most of the respondents explained that Indonesia has been focusing primarily on economic growth. In the Mandiri Investor Forum on 7 February 2018, Ms. Sri Mulyani Indrawati, the Minister of Finance, echoed that Indonesia would continue to maintain its growth momentum of 5.1% in 2017 and expect growth of 5.4% in 2018.

Most of the interviewees explained that a carbon tax as a climate policy was not regarded as a priority in the development agenda, or that it conflicted with the development agenda because Indonesia was in the development phase which required a focus on economic growth.

Addressing emissions issues is not really in the interest of the government of Indonesia, especially if we are talking about our economic development. Well, emissions reduction is an important issue, but now that is not a top development agenda (Gov -11).

Emissions reduction issues are not the interest of the government. The development focus now is building the infrastructure. All resources will be used to finance our infrastructure development. We do not exclude environmental aspects, but sometimes we need to sacrifice. We understand that the economic development often damages the environment (Gov-7).

The two quotes above show the stakeholders' perspectives that emissions reduction issues are not a government priority. This demonstrates the conflict between economic development and the environment. In fact, there is a trade-off between public concern about the environment and the economic situation. According to Mildenberger and Leiserowitz (2017), there is a universal belief among policy analysts and political elites that when a country is in the economic development stage, prioritisation of environmental policymaking declines as individuals prioritise short-term economic needs (Mildenberger & Leiserowitz, 2017, p. 7). In this context, the selected Indonesian stakeholders perceived that Indonesia is still a developing country; therefore, policymakers have prioritised economic development more than environmental concerns.

A carbon tax as a climate policy is not regarded as a priority in the development agenda due to its conflicting position with the national strategic plan which was established in the 2015-2019 medium-term development plan. Indonesia has an aspiration to be a global top 10 economy by 2030. To achieve this ambition, boosting investment is a top national priority. As one of the engines of growth, investment made up 36% of economic growth in 2016, and will continue to be the driver of growth until 2030 (Ministry of Industry 2018, Socialisation of Making Indonesia 4.0).

The fact that the government places climate change policies at the bottom of its development priorities has been confirmed by the following statement from one of the participants:

> For now, I think the introduction of GHG emissions reduction policy is not in our interest. Our priority is still developing our economy and that is more important than climate change issues, especially carbon emissions mitigation policies (Gov-3).

Another of the participants stated that a carbon tax as a climate policy is not in the interests of the government at the moment. Instead, the government is more concerned with other issues as demonstrated in the following excerpt:

> At the moment, we still have more program priorities in our development planning. Reducing carbon emissions maybe after the fifth priority. Today we are concerned more about poverty reduction, unemployment, and energy security (Gov-11).

The findings show that Indonesia remains focused on economic growth and that climate policies would compromise growth. Climate policies in Indonesia were considered to be a low priority by Indonesian stakeholders due to conflicts with the economic agenda. While climate policy was considered important for reducing GHG emissions, the selected Indonesian stakeholders perceived that it might not be introduced in the current period.

Even though a Ministry of Finance report and two other studies found that the economic impacts of a carbon tax would be positive, the government of Indonesia is still not interested in putting a carbon tax on the national policy agenda. When interviewees were prompted about these studies, they expressed that business stakeholders were likely to oppose such policies because they would increase their operational costs. Others commented that politically a carbon tax would be difficult to introduce because most of the politicians are business players with vested interests.

The participants identified that the current government's key priority is infrastructure development. The interview quotes show that the interests of the government have been to develop infrastructure of the nation:

> The current government, the Jokowi regime, is very aggressive in the development of infrastructure. This includes building bridges, roads, buildings, ports, and inter-regional connectivity (Gov -11).

Another participant also stated:

> According to the national planning, we are focusing on developing our infrastructure, poverty alleviation, and then reducing the development gaps between the Western and the Eastern part of the country (Gov-01).

In the cabinet meeting of 12 April 2015, President Jokowi said: "we cannot delay the priority of infrastructure development. If we delay or slow down, the infrastructure financing will be higher. This is to accelerate our economic development" (1 News TV, 12 April 2015). At the grand launch of the highway road in East Java, President Jokowi said that "accelerating the infrastructure development is required to improve the connectivity the western part and the eastern part of Indonesia. It also increases our competitiveness in the international market."

The government has accelerated infrastructure development across the Indonesian territories to boost economic growth and to reduce inter-regional development disparities. The development infrastructure has focused on 35 strategic development areas based on integrated infrastructure planning and programs (Minister of General Works on the National Seminar of Infrastructure Development UGM 17/7/2017).

However, it is important to note that Indonesia has had two quite different Presidents in the last 15 years that have had different focuses on economic development. On the one hand, President Yudhoyono (2005-2014), was keen on

international prestige and therefore very consciously used the environment as an issue that could help him enhance Indonesia on the global stage. For example, during the G20 summit in Pittsburgh in 2009, he promised to reduce Indonesia's GHG emissions by 26% against the business as usual scenario by 2020. On the other hand, Joko Widodo is much more focused on domestic issues. In contrast to Yudhoyono, Joko Widodo has made infrastructure development his main policy priority, which overshadows Yudhoyono's attempts to give the environment greater weight in government policy. The focus of infrastructure development under Joko Widodo administration was reflected in the budget revision in 2015. In 2015, Joko Widodo increased capital expenditure for infrastructure by two-fold compared to 2014 original budget proposed by President Yudhoyono (Negara, 2015, p. 3).

This contrasting focus between the two Presidents was explained by Korwa (2020), who provided an example of the REDD+ agency in Indonesia. According to Korwa, one of the key factors that undermine the implementation of the REDD+ programs as Indonesia's major climate mitigation efforts in the forestry sector is the limitation of the President's power in driving policies. Korwa explained that during Yudhoyono's administration, the REDD+ Task Force reported directly to the President and was given powerful authority by the President to run the national REDD+ programs (Korwa, 2020, p. 5). However, in 2015, President Joko Widodo transformed the REDD+ Task Force into a small REDD+ unit under the Ministry of Environment and Forestry. This agency was responsible to the Minister and was not able to play an effective role in the REDD+ implementation because its legitimacy was weakened and it failed to gained endorsements from key actors such as the parliament and the bureaucracy (Luttrell et al., 2014, p. 73).

Through Presidential Decree number 3/2016 regarding accelerating national strategic projects, 225 infrastructure projects and 1 electricity project have been

chosen as National Strategic Projects. In 2017, another aviation industrial project was added to the list. These will all be funded through the national budget, state-owned enterprises, and public-private partnerships.

The commitment to accelerate infrastructure development has been given the go-ahead by the government at any cost, as stated by the following participants:

> Building infrastructure is the development priority of the government, and the damage of environment is one of the development costs that we must pay (Gov-8).

> To be honest, we haven't yet put in the climate change issues in the development priority agenda. We are still busy with the infrastructure development. In the energy sector, look, we still mix our energy policy in the future and fossil fuel energy will still play a significant role. We cannot deny this because we have abundant source of coal, so using the coal energy is very cheap even though is dirty (Gov-15).

One of the national infrastructure development priorities was the development of a 35,000-megawatt electricity project. The government committed to providing 35,000 megawatts of electricity from 2014 to 2019. The data shows that the 35,000 MW electricity development program used a mix of energy resources. From the total energy resources, the project used 60% of its energy from coal, 35% from other primary sources of energy (gas, oil etc), and the rest from new and renewable energy (5%) (Directorate General of Electricity, 2017, p. 3).

The use of coal as a primary energy source for the national electricity project has been criticised by many. This is because it conflicts with the government's commitment to reducing its CO_2 emissions by 29% by 2030, as pledged to the UNFCCC. It has been estimated that the current fuel mix will increase CO_2 emissions from 211 million tonnes in 2016 to 395 million tonnes in 2025. Out of 395 million tonnes of such

emissions, 317 million (80%) comes from coal burning (Ministry of Energy and Mineral Resources, 2016b, p. 170).

The selected Indonesian stakeholders believed that, while climate policy is important for reducing GHG emissions, it could not be implemented at the current time (at the time of the interview). They also believed that economic development can cause negative environmental impacts. However, Indonesia is at a state of development in which the focus on development is beyond environmental concerns, and there is no consideration of skipping or leapfrogging this stage (Walker, 1989, p. 26). The key development policies should thus be focused on infrastructure investment, employment, and reducing poverty and inequality. With an abundance of natural resources, economic development has relied heavily on natural resource exploitation. Therefore, climate policy is considered by the Indonesian stakeholders to be incompatible with development and is placed at the bottom of the list of Indonesian development priorities.

Conclusion

This chapter establishes the perspectives of the selected Indonesian stakeholders in relation to the introduction of a carbon tax within the national development agenda. Indonesia has committed to addressing global climate change issues by reducing its GHG emissions through actively participating in international negotiations under the UNFCCC. In the domestic context, the commitment to reducing GHG emissions has been formalised in the National Action Plan to reduce GHG emissions, which comprises the national emissions reduction programs to achieve the emissions reduction target by 2020. The government of Indonesia has initiated emissions reduction policies across five main sectors (forestry, agriculture, waste, industry, and energy and transportation). Even though the effectiveness of the

implementation remains questionable, efforts by the government of Indonesia to reduce its GHG emissions unilaterally should be appreciated.

While the government of Indonesia acknowledges the importance of climate policies for reducing GHG emissions, the Indonesian stakeholders believe that the government has prioritised economic development on the national agenda. This has been underpinned by the fact that the development planning agenda of the government has been focusing on the acceleration of infrastructure development. However, the focus on economic development is not considered compatible with environmental and climate initiatives. The policymakers do not take environmental impacts from the development programs into account. As a result, climate policy initiatives have been given a lower priority in the development agenda. The selected Indonesian stakeholders accept the impacts of climate change and have created institutions to mitigate these impacts. However, there is an unresolved incompatibility between the national development agenda and meaningful climate change mitigation policy due to the complexity of Indonesian governance.

The next chapter presents the key challenges to the introduction of a carbon tax in Indonesia.

CHAPTER V

UNDERSTANDING THE CHALLENGES OF INTRODUCING A CARBON TAX IN INDONESIA

Introduction

While some believe that a carbon tax is an efficient climate policy to reduce GHG emissions in Indonesia, many acknowledge that introducing a carbon tax also presents significant challenges. This chapter analyses these two positions according to a number of interviews with key Indonesian stakeholders. Three key categories of challenges to the introduction of a carbon tax in Indonesia are identified and analysed. These three categories have been inductively identified through textual analysis of the interviews as institutional, political, and economic challenges.

A carbon tax presents institutional challenges because of the lack of bureaucratic integrity and accountability, coordination issues, and lack of political will from the Ministry of Finance as the main fiscal authority. From a political point of view, a carbon tax also poses challenges because of the strong influence of business stakeholders in the policymaking process, and because many politicians would oppose its introduction during the legislative process. Finally, in terms of economic challenges, a carbon tax is seen as having a regressive impact, leading to decreased competitiveness and inflation, which is significant because these economic challenges would compromise the national development agenda.

The chapter begins with a section which discusses the institutional challenges. It comprises corruption, coordination, and institutional conflicts across government agencies. The following section outlines the political challenges caused by business

interests, political resistance, and political scepticism. Economic challenges will be discussed in the final section which consist of the distributional impacts of a carbon tax, the impacts on competitiveness and inflation. This chapter contributes to answering the research question analysing the key challenges that must be overcome for the government to introduce a carbon tax in Indonesia.

Institutional Challenges

This section discusses the institutional challenges to the introduction of a carbon tax in Indonesia. Based on the interviews with key Indonesian stakeholders, the institutional challenges are key barriers to the introduction of a carbon tax in Indonesia. There are three significant aspects which will be the focus of the analysis: corruption issues, lack of coordination, and conflicts between government agencies.

Corruption

Corruption is one of the key challenges that emerged during the interviews with the key Indonesian stakeholders. The participants explained that people have been frustrated by the government because the perception is that it lacks integrity. Corruption occurs in most (if not all) government agencies across the country, both within the central and local governments. According to Indonesian Corruption Watch (ICW), the number of corruption activities over the last 30 years has not reduced, instead showing an increase in the number of cases (Indonesia Corruption Watch, 2011, p. 6).

> It is a shame to say that people do not trust the government. Their perceptions of our government are so bad. The government officials are corrupted, unprofessional, and lack of integrity. This happens in almost all government agencies (NGO-4).

The Vice-Chairperson of The Indonesian Corruption Eradication Commission described the acuteness of Indonesian corruption by saying that "in Indonesia, the

government is corrupted by the government", implying that corruption activities begin at the first stage of the national budget planning process (Tribunnews, 19/5/2018). Corruption problems have been exacerbated since the decentralisation of government due to a more diffused system of power and authority. Vested interests, competing political connections, low-paid government officials, and poor regulation are major factors which influence rampant corruption in Indonesia (Sriyana, Prabowo, & Syamsudin, 2017, p. 539).

The government of Indonesia has undertaken significant efforts to combat corruption. The establishment of the Corruption Eradication Commission *(Komisi Pemberantasan Korupsi/KPK)* marked the impetus for the government to demonstrate its seriousness in dealing with corruption activities. The government considered that the existing agencies responsible for dealing with corruption problems were ineffective.

The investigation of corruption was not satisfactory because of limited authority and lack of regulatory supports. Before the establishment of the KPK, the corruption investigators were government officials working under the ministries, which resulted in them not being independent and which made their investigations ineffective. This is because each government agency has an internal investigation department which functions to investigate occurrences of fraud in each agency. With such a structure, the investigation of corruption was not properly conducted because the investigators and the people being investigated were from the same agency. Conflicts of interest were likely unavoidable, and the results of investigations were often compromised. Therefore, on 27 December 2002, the government created Law number 30/2002 regarding the Corruption Eradication Commission. This agency is an independent agency which is comprised of independent investigators. The officials of the KPK are

recruited through an open process which involves public participation to check candidates' backgrounds to ensure that the candidates do not have a criminal record.

Law number 30/2002 is the legal basis of the Indonesian KPK. Based on the law, the KPK is an independent agency which has the authority to investigate and prosecute corruption-related crimes (Article 6-14). As an independent body, the law also allows the KPK to perform their mission without intervention from the government or any other institution. With independence and such powerful authority, people's expectations are high that the KPK will solve the acute corruption problems in Indonesia and lead to higher quality public authorities with more integrity.

However, the KPK has been heavily criticised because of its excessive authority to investigate corruption-related crimes. Former President Yudhoyono once warned that with an overly powerful authority and without having a supervisory board, actions by the KPK could be very dangerous (Kompas, 25/6/2009). Many are afraid that action taken by the KPK will be uncontrollable. He acknowledged that Indonesia must have a clean government and must combat corruption on a continual basis. However, those involved in the eradication of corruption eradication should also be transparent and act with integrity.

> Regarding KPK, I am warning that power must not go unchecked. KPK has been an extraordinary powerholder. You are responsible for what you are doing to God (President Yudhoyono, interview with Kompas, 24/6/2009).

Heavy criticism of the KPK has also come from the Vice-Chairperson of the House of Representatives, Fahri Hamzah. In an interview with Metrotv on 3 May 2017, he said that the KPK has now become an extra-judicial super-body and has excessively used its authority, but has also failed to significantly decrease corruption activities. He further said that to preserve future democracy in Indonesia, a comprehensive evaluation of the period since the establishment of the KPK must be

conducted. However, regardless of the criticisms of the KPK, this agency has played an important role in dealing with corruption issues in Indonesia. Many high-profile government officials, politicians, and business players have been sentenced to jail by the KPK, which was almost impossible prior to its establishment.

Corruption issues are relevant to discuss when we focus on climate change mitigation policy process in Indonesia. Corruption in the bureaucracy offers opportunities to avoid the implementation of such policies because they compromise other policy priorities. The participants explained that how good the system is, we cannot run that system if corruptions are occurred. Therefore, Buizer et al. (2014) stated that corruption is one of the major factors which reduces the effectiveness of climate policies in Indonesia. This is especially the case in the forestry sector. As a country with the third largest area of tropical forest in the world, climate change issues in Indonesia predominantly stem from the forestry sector. This is because more than two-thirds of Indonesia's carbon emissions come from deforestation and forest degradation. GHG emissions released into the atmosphere from deforestation and forest degradation account for as much as GHG emissions released from burning fossil fuels in developed countries. (Burgess, Hansen, Olken, Potapov, & Sieber, 2012, p. 1708).

> You know, even though you have the best system in the world, if you are corrupted and the law enforcement is weak, then you cannot run the system very well. The system will not prevail to achieve its objectives because the people who operate are not committed. So, the main issue that must be addressed is corruption. The second issue which is not less important is law enforcement. Without strong enforcement, all the policy options including a carbon tax will be meaningless.

The degradation of tropical forest has transboundary effects which go far beyond national borders. Therefore, climate policies in the forestry sector play a significant

role in achieving Indonesia's emissions reduction target. However, the forestry sector is regarded as an unlimited source of corruption in Indonesia. The Ministry of the Environment and Forestry (MoEF) is the agency responsible for, and in charge of, forestry policies. However, this agency has long been associated with corruption, lack of transparency, and disregard for crimes associated with the forests (Wibowo & Giessen, 2015, p. 132). Corruption weakens and reduces integrity in the forest management system, especially in relation to monitoring, which enables both individuals and companies to commit crimes. According to the data from KPK, the total value of corruption in the forestry sector from 2003-2015 amounted to Rp900 trillion (US$60 billion). This data is derived from the timber production report from the Ministry of Environment and Forestry (Vice Chairman of KPK press conference, 9/10/2015). According to an investigation by KPK, only 19-23% of the total timber production was reported to the government. Most of the production (77-81%) was not reported (illegal logging). Meanwhile, the total amount lost from corruption with regard to licence issuance and bribery during the same period was Rp2.2 trillion (US$146 million).

Corruption occurs at almost all levels of bureaucratic activity in the forestry sector, from allocation of forest concession permits, supervision of logging, transportation, the production process, inter-state trading, and timber and non-timber forest product exports. Problems with the forests have been blamed on the MoEF because its policies are often inaccurate, inconsistent, inadequate, and unfair (Wibowo & Giessen 2015, p. 134). These negative policy attributes have caused problems such as high rates of deforestation, illegal logging, forest and peatland fires, biodiversity loss, and land use change conflicts. These problems, combined with corruption, lack of data access and transparency, and discretion by local implementing officials, have reduced public trust in this government agency. Because of the compromised quality of the MoEF, Indonesia's emissions reduction programs for the forestry sector have

not been furnished with sufficient budget resources, staff, information, and policy direction. For example, the REDD+ (Reducing Emissions from Deforestation and Forest Degradation) policy, which is considered as the major climate policy in Indonesia, has ended up in bureaucratic conflict, risk of corruption, and a lack of coordination and information exchange (Moeliono, Gallemore, Santoso, Brockhaus, & Di Gregorio, 2014, p. 9).

The REDD+ is a climate mitigation initiative from Norway which was attracted by Indonesia's ambitious emissions reduction pledge in 2009. In May 2010, both countries signed an agreement enabling a US$1 billion grant from Norway in financial assistance for Indonesia to reduce emissions from the forestry sector. According to Wibowo and Giessen (2015), after the announcement of the agreement, environmental activists and researchers have become concerned with how Indonesia can achieve its emissions reduction target, given the complexity of forest governance at the national level and the large number of unresolved problems associated with the forestry sector across the country. The corruption cases in Indonesia, especially in the forestry sector have ended up mostly with light sentences. Even though the KPK have serious efforts to combat corruption activities in the forestry sectors, the results have not yet been satisfactory (Kompas Media, 7/9/2016). According to this media, this was contradictory with the president's statement a year before when he stated that all corruptors in illegal logging, illegal mining, and illegal fishing will receive severe punishment indiscriminately.

Scepticism has been raised about the policy process associated with the REDD+ program in Indonesia. The program has been carried out by the REDD+ Taskforce which then became the REDD+ Agency under the responsibility of the President's office. The REDD+ programs over the following years became part of the mainstream of Indonesian climate policy in the forestry sector, affecting state agencies and local

governments. The basic premise of the REDD+ program is simple: a rich country pays a country which has tropical forests to preserve them. However, in practice, REDD+ programs in Indonesia have not advanced significantly since their establishment. In the forestry sector, in an environment in which bribery is a common practice in all activities, the REDD+ programs have been very difficult to progress. The REDD+ programs have significant potential for corruption. According to Setiawan et al. (2017), the emergence of corruption activities in the REDD+ begins from the process of REDD+ land concessions, the manipulation of carbon values, and reducing local community access to the forest (E. N. Setiawan, Maryudi, & Lele, 2017, p. 152). They explained that corruption occurs through bribery activities by multinational companies along with local industries for local officials to include their forest areas into the REDD+ projects. They want to do that because by including their forest areas into the REDD+ projects they will receive the money from the project based on the areas they included.

Understanding political challenges: lack of political support

Economists and experts have recommended carbon pricing policies as the most effective and efficient carbon policies for reducing GHG emissions (Stiglitz et al 2017, p. 3; Mehling & Tvinnereim 2018, p. 53). This has lead governments around the world to unilaterally support carbon pricing policies to reduce carbon emissions in their countries. However, even though economically feasible, carbon pricing (both in the form of emissions trading and carbon tax) often presents failure in the political realm. In general, carbon pricing policies face political constraints and are not "politically feasible alternatives" (Jenkins & Karplus 2016, p. 40; Andrew, Kaidonis, & Andrew 2010, p. 617). For example, carbon tax proposals have been rejected in the US, France, and more recently, in Australia where a carbon pricing policy was implemented but then cancelled two years later (Knox-Hayes 2012, p. 550; Rozenberg 2013, p. 135; Crowley 2017, p. 4).

Interviews with Indonesian stakeholders showed significant political constraints which have challenged the consideration of the introduction of a carbon tax in Indonesia. These challenges have led to a lack of political support from politicians during the policy formulation process. There are three key aspects identified as political challenges from the interviews which will be analysed here: institutional resistance, business influence, and political conflicts of interest.

Institutional resistance

Numerous stakeholders are involved in the response to domestic climate change policy actions. Major government agencies have been mandated by the government to take the lead on national climate change abatement policies, including Bappenas, the Ministry of Finance, the REDD+ agency, and the DNPI. Each has a pivotal role in shaping both domestic and international climate policies. Bappenas takes the lead on national planning, the Ministry of Finance has authority on fiscal policies, and the DNPI has been mandated to formulate national strategies, programs, and activities on climate change (Halimanjaya & Maulidia, 2014, p. 14). Ideally, these leading government agencies should formulate climate policies and strategies in a coordinated way. However, as discussed above, in practice, policy coordination does not often take place, which leads to incompetent and unintegrated policies.

The participants also mentioned that the Minister of Finance does not have a strong commitment as to whether a carbon tax is a significant climate policy to reduce GHG emissions in Indonesia. Interviews with key Indonesian stakeholders revealed that the Minister was reluctant to discuss a carbon tax as a climate policy alternative. A carbon trading mechanism is preferable for the Minister to consider as a future climate mitigation policy in Indonesia. A carbon trading mechanism would allow public and private sectors to engage in the government emissions reduction programs.

Unlike a carbon tax, this policy will likely gain support from business stakeholders and politicians because it will not produce adverse impacts on their business. This is the reason why a carbon trading mechanism is preferable to a carbon tax. A carbon trading has an advantage over carbon tax because it also provides more certainty about the amount of carbon emissions for industries, while the prices of emissions are set by the market.

Evidently, the government prefers other instrument over a carbon tax because despite the advantages, a carbon tax faces numerous economic challenges which makes it not politically attractive (see e.g. Hsu, 2012, p. 118; Morris, 2016; Andrew et al., 2010; Jenkins & Karplus, 2017; Crowley, 2017; Harrison, 2010; Knox-Hayes, 2012; Rozenberg et al., 2012). For example, a carbon tax is difficult to obtain political acceptance for. In France in 2010 the government failed to introduce a carbon tax because of political barriers (Rozenberg et al., 2012, p. 135). More recently, a carbon tax was implemented in Australia but then repealed two years later due to political issues (Crowley, 2017, p. 4).

An example of a lack of political will is the creation, by the government and within the Ministry, of the Centre of Climate Finance and Multilateral Policy which was initially created as a national think tank to provide climate change-related policy recommendations to the Minister of Finance. It was also designed to promote cross-sectoral coordination with staff members coming from numerous government agencies. However, it is now comprised of staff from the Ministry of Finance and is only a small research unit. Overshadowed by the Multilateral Policy Division within the same department, the role of the Centre of Climate Finance is less clear and has only limited authority on national climate actions.

> The barriers come from ourselves. Internally, there is no consensus about
> the urgency to introduce a carbon tax. Our Minister herself thinks that it is not

a wise policy. If there is no political will from the leader, how can you promote the policy? It should come from the leader as the best example. There is no commitment among line ministries about how to address our climate change problems in a coordinated way. It is scattered in each ministry. Each has capacity and capability to create its own strategies (Gov-01).

Lack of political will from the top leader of the Ministry of Finance to bring climate policies to the top of the national agenda has decreased the role of the Ministry in shaping national climate change policies. Instead of being a leading agency, the Ministry of Finance only plays a marginal role in national climate actions. This has become one of the significant challenges faced by the government in considering the introduction of a carbon tax because the Ministry of Finance is a powerful institution.

The political will of the government to address an issue at the beginning of the policymaking process is crucial. This is the first level of the policy process which allows stakeholders to contribute to policy design. The greater the intention of the government to solve a problem, the more likely that the policy development process can produce effective policy (Bali, Capano, & Ramesh, 2019, p. 2). According to Kingdon (2011), the recognition of a problem by government is an important step in placing an issue onto the policy agenda (Kingdon, 2011, p. 114).

Kingdon says that in the policymaking process, the government is the most important policy actor for bringing a problem onto the policy agenda (Kingdon, 2011, p. 21). This is because government holds the formal decision-making authority. However, policy participants outside of government are also important, including interest groups, NGOs, researchers, academics, consultants, the media, and the mass public. They can lobby and influence both inside and outside of government, sometimes occupying government positions, and at other times, becoming consultants and lobbyists. These stakeholders play an important role in framing an issue into a problem that reaches government attention to bring the issue onto the policy agenda.

Business influence in the political process

Business influence has been one of the primary reasons why government policies across nations have often faced political resistance. It is difficult for government to implement policies when the resistance from business stakeholders is strong (Downie, 2017a, p. 583). For example, in the context of energy policies, the stronger the resistance from energy-intensive industries, the less successful policy implementation will be (Hughes & Urpelainen, 2015, p. 55). Political resistance from incumbent energy industries are the primary reason for the failure to introduce carbon pricing in North America and Europe.

Numerous studies have shown the influence of business players across the policy sector, including in environmental policies (see e.g., Downie 2017; Tienhaara et al 2012; Clapp & Meckling 2013; Tienhaara 2014). Heede (2014) analysed the historic fossil fuel and cement production records of 90 companies across the globe. He traced the source of industrial CO_2 and methane of the 90 largest companies which produce fossil fuels and cement from 1854 to 2010. The study aimed to understand the possible relevance to public policy and to lay the groundwork for the responsibility that should be incumbent on companies that produce GHG emissions. The evidence showed that only 90 companies have been responsible for two-thirds of all global GHG emissions, including Exxon Mobil, Chevron, BP, Shell, ConocoPhillips, and Peabody Energy (Heede, 2014, p. 234).

The political engagement of business players in Indonesia, as identified in the aforementioned literature, is the main reason that the introduction of a carbon tax has faced political resistance. The qualitative interviews also demonstrated similar issues. The participants expressed their concerns about the depth of the involvement of business players across the political arena. They explained that, currently, an

increasing number of businessmen have been positioning themselves as top leaders in political parties and government institutions.

With powerful positions within government institutions, business interests have become highly influential in the policymaking process. As noted by Dryzek, if government policies do not harm their economic interests, policy implementation will likely be successful. However, if the policies are costly to their business, industry will oppose the policy. "It is not a matter of conspiracy, it happens automatically" (Dryzek 1995, p. 15). Falkner (2008) also supported this statement that, in general, industries will support government policies, but only if they provide benefits for them. Even though the participants acknowledged that a carbon tax is the most efficient climate policy initiative to reduce GHG emissions in Indonesia, they also conceded that a carbon tax would face strong political resistance from incumbent fossil fuel industries, as identified by Downie (2017, p. 584).Fukuoka (2012) analysed Indonesia's political transformation after the fall of Soeharto. He stated that when Soeharto fell, many expected Indonesia to transform into a liberal market economy. However, the transition of Indonesia's political economy into a liberal market has been ambiguous and uncertain (Fukuoka, 2012, p. 84). The study claimed that the institutional reforms introduced in the post-Soeharto era have changed the relationship between the business elites and the bureaucratic elites. The influence of the executive in the newly empowered parliament has also become stronger. Since the fall of the Soeharto regime, Indonesia's business players have entered into the political arena. They have expanded their representation in political institutions, and now represent the largest bloc in the parliament. This means that business players now have significant direct influence on policymaking because initiatives from government must be approved by the parliament.

Robison and Hadiz's (2017) study on expectations that Indonesia would become an economic giant in Asia after the fall of Soeharto has been met with disappointment, and with similar findings to Fukuoka's research. According to Robison and Hadiz, political and economic resources are growing, but being focused on business conglomerates. As democracy replaces the authoritarian regime, business conglomerates have greater access to the political sphere and bureaucratic administration. This situation offers opportunities for business players to influence the policymaking process in government and in the legislative process (Robison & Hadiz, 2017, p. 901). In addition, Ford and Pepinsky (2014) explained that in Indonesia, wealth power has influenced the country's politics due to two major factors. First, the oligarchs of business players use their wealth to influence political decisions in favour of their interests; and second, countervailing power resources, especially from civil society, are very weak (Ford & Pepinsky, 2014, p. 12). This means that the oligarchy plays a dominant role in Indonesian politics. According to Ford and Pepinsky, the power of oligarchs in Indonesia is formidable and their political influence is deep and distorting, particularly after the fall of Soeharto era. This is an ironic situation because after the transition Indonesia became an open democratic country. However, the wealth power of oligarchs shapes and constrains Indonesia's democracy far more than democracy constrains the power of wealth (Ford & Pepinsky, 2014, p. 13).

> Many members of parliament are coming from business background. Therefore, business interests influence their perspectives because it relates with the business they have. I can say that the more businessmen to be members of parliament, the stronger they are. The business paradigm always perceives that the environment issues are the cost, not the benefit. So, the issue of a carbon tax is not a sexy issue for them. There is no benefit to talk about this issue (Pol-02).

Some interviewees mentioned that large companies have been the most significant challenges to the introduction of a carbon tax. They have powerful influence in the policy process in favour of their business interests. The government is not able to force them into compromise because they provide such an important role to the Indonesian economy.

> The biggest challenges will come from large companies. They are the biggest carbon producers but will not be keen on to pay a carbon tax. They do not want to bear any additional costs for the company. The large companies have influential engagement with the government because they are the main economic players. Companies like cement industries, mining, textiles, steel, energy sectors, and palm oil all of them are high carbon emitters. But the government cannot force them much because they have contributed most to the national economy (NGO-2).

The strong integration between business players and politicians from the Republican Party in the United States is a parallel example to the situation in Indonesia. In 2013, the White House proposed the Clean Power Plan to introduce standards for CO_2 emissions, aiming to reduce carbon emissions by 30 per cent by 2030 from 2005 level (Downie, 2017a, p. 587). Politicians from the Republican Party and Republican policymakers from state levels, joined by business stakeholders severely opposed the proposal both in the legislative process and in the court. Even though the proposal was accomplished in 2015, the US Supreme Court delayed it in 2016, ending the enactment of the proposal. Now it is not likely that the plan will be implemented under the current Trump Republican administration.

Even though the above literature discussed a carbon mitigation policy option in the USA, in the Indonesian context, a carbon tax also faces similar political economic constraints. This is because strong lobbying from fossil fuel stakeholders has become

one of the main factors which causes the failure of carbon tax implementation (Sterner & Kohlink, 2015, p. 255).

Politicians against a carbon tax

In the previous section, the influence of business stakeholders in shaping government policies was discussed. The participants identified that business stakeholders play an important role in persuading government not to introduce a carbon tax. They have strong lobbies and powerful influence because large industries which produce most of the carbon emissions are also the main national contributors to economic growth. In this section, we explore why the political leaders or members of parliament have avoided or refused to consider a carbon tax.

It is almost in undisputed agreement that a carbon tax is the most effective and efficient climate policy to curb carbon emissions. Most prominent economists who have been actively involved in climate change discussions have supported a carbon tax over other climate policy options. Numerous academics across a range of disciplines have been in favour of a carbon tax policy, including the UNFCCC. It is widely regarded that a carbon tax is superior to any other instrument, due to its simplicity and efficacy in design and implementation (see e.g., Stram 2014; Helm 2012; Nordhaus 2008; Shultz & Becker 2013; Baranzini et al 2017; Taylor 2015; Poterba 1991; Metcalf 2007).

The involvement of business stakeholders in the political arena has grown since the establishment of Soeharto's New Order regime. Under Soeharto, there were patronage relationships between large conglomerates and the Soeharto family. Business players were very close to the family, but they had no power in politics because the political power was in the hands of Soeharto and his very limited circle (Carney & Hamilton-Hart, 2015, p. 124). After the fall of Soeharto, political links

between business stakeholders and the governmenthave continued, but through more variable modes of engagement.

Large conglomerates now have greater opportunities to enter politics and to broaden their political role in both government and in the Parliament. For example, Aburizal Bakrie (the former Chairperson of the Golkar Party and the former Minister of People Welfare), Jusuf Kalla (current vice-president of Indonesia), Surya Paloh (the current Chairperson of the National Democrat Party), Chairul Tanjung (the former Coordinating Minister of Economics), Hary Tanoesoedibjo (the Chairperson of the Persatuan Indonesia Party), and Prabowo Subianto (the Chairperson of Partai Gerindra) (Aspinall 2015; Warburton 2014). With a political position in hand, these business players can directly oppose any policy process that does not benefit their business interests, including a carbon tax, in the legislative process.

The participants explained that it is unsurprising that the government would face political resistance when introducing a carbon tax because the majority of the members of parliament are now business players. With the help of democratic liberalisation in the name of the era of reformation, business elites have gained access to electoral politics and expanded their influence and interests in the political realm. Business stakeholders now have a greater political role as a result of increasing their involvement in the policymaking process (Fukuoka, 2012, p. 83).

> I believe most of the members of parliament will be against the introduction of a carbon tax. This is because they do not have any interests of this policy. Most of the MPs are businessmen, and their interests are not connected with tax. They want to reduce the tax, not pay more (Pol-01).

The total number of members of parliament in Indonesia in the 2014-2019 period was 560 members, with 52.3% or 293 members, being business elites (Indonesia Corruption Watch, 2015, p. 4). There are no barriers to businesspeople

becoming members of parliament. However, the business activities of a member of parliament often create a conflict of interest with their official duties. There is no consensual definition of conflicts of interest in Indonesia. The Guidebook of Conflicts of Interest, by the Corruption Eradication Commission (an Indonesian institute), defined a conflict of interest as a situation in which a public official has personal interests which affect the standard and quality of their performance (Komisi Pemberantasan Korupsi, 2009, p. 2).

Based on the guidebook's definition, the business activities of members of parliament produce conflicts of interest with their official responsibilities. These conflicts of interest can occur at least in three stages of the parliamentary process, budget planning, law-making, and monitoring. At each of these stages, a member of parliament's authority has the potential to be shifted in favour of personal interests. For example, during the process of budget planning, members of parliament could direct discussions to the benefit of their business; or in the process of policymaking, a member of parliament could immediately ratify a law which gives more benefits for their business interests rather than for the public interest.

As the interviewees explained, even though members of parliament are aware of the importance of addressing climate change issues, when they are confronted with a carbon tax proposal, they will likely block it. This is because a carbon tax would not benefit their business interests. Many members of parliament are carbon-intensive business players, ranging from coal, cement, oil, textiles, and steel. Introducing a carbon tax would place additional costs on their business processes, even though in the end, the costs could be passed onto the consumer. As echoed by Shu (2012, p. 119), even though a carbon tax is the most transparent climate policy, it also seems that such a tax is politically unfeasible.

First and foremost is a political barrier. The barriers could come from the politicians who will not support the introduction of a carbon tax. This is the case in the countries which have introduced a carbon tax. They prefer other options to address emissions reduction rather than a carbon tax, for example subsidy for renewable energy and clean technology (Pol-04).

Politicians are citizens' representatives

One of the key political challenges when government attempts to introduce a carbon tax is the sceptical behaviour of politicians. Some of the participants explained that they are representatives of their voters; therefore, they have to take sides in favour of the constituents. However, their responses depend on the public acceptance of the policy. If the public perceives that a carbon tax is an acceptable policy, then the politicians support the policy. Conversely, if the public believe that a carbon tax is not an appropriate policy, they will most likely side against the policy.

They will wait and see regarding a carbon tax. As politicians, they represent their voters, their society. So, it depends on the public. If the public accept the policy, then the members of parliament will also accept, because they don't want to be viewed as the bad guys (Pol-03).

While it is not commonly considered that Indonesian legislators represent their voters' interests, there are examples to demonstrate this. For example the house of representatives agreed to introduce the Law no. 24/2011 regarding the Indonesian National Health Insurance to provide healthcare for residents. Through this law, most of the hospital costs are covered by the government, while lower income households only pay minimum contributions. More than this, the legislators asked the government to pay full contributions for people who live under poverty line. Politicians are aware of political problems of the introduction a carbon tax. Therefore, they have to convince themselves that the public will not oppose this policy option. As one of the politicians stated during the interviews, they will probably support the introduction of a carbon tax if some of the tax revenues go to their constituents. This perspective is understandable

and commonly referred to as "revenue recycling", where revenues from a carbon tax return to tax payers (Beiser-McGrath & Bernauer, 2019, p. 5). The approach that the revenues generated from carbon taxes are used to benefit citizens has been regarded as the most feasible solution to achieve public support for introducing a carbon tax (see for example Carattini, Carvalho, & Fankhauser, 2018; Sverker C Jagers, Martinsson, & Matti, 2019; Klenert et al., 2018).

The qualitative interviews revealed that political acceptance of a carbon tax depends on public acceptance of the policy. To understand public perceptions of a carbon tax, drawing this into a broader issue of climate change is required. Understanding public perceptions about climate change issues is important to build and implement effective and acceptable policies to mitigate, and adapt to, climate change (Whitmarsh & Capstick, 2018, p. 13).

Public perceptions of climate change issues vary across nations. In general, there has been an increase in public knowledge and awareness about climate change over the last 30 years (Whitmarsh & Capstick 2017, p. 14). Globally, public perceptions can be divided into those from developed and those from developing countries. Most people in developed countries, including the United States, the United Kingdom, Europe, and Japan are aware of climate change issues. In contrast, the majority of people in developing countries in Africa, the Middle East, and Asia are not aware of climate change or if they have any awareness, the level is very small. However, vulnerable developing communities such as countries in Pacific Islands can be very aware of the adverse impacts of climate change (Wing, 2017, p. 3).

The variability in public perceptions about climate change around the world relates to socio-cultural and personal experiences, trust, and values (Hopkins, 2015, p. 975). For example, people perceive that climate change is a 'distance issue',

meaning that climate change only happens in remote areas, or will happen in the distant future, even in the next generation (Whitmarsh & Capstick 2017, p. 15). Therefore, people do not perceive that climate change threatens their own lives.

Improving public awareness of climate change is critical to increasing public support for climate policy action. The public needs to understand why climate change is a challenging issue and how they can engage with the issue in practice. Therefore, efforts to engage the public on the issue require better communication (M. Markowitz & Guckian, 2018, p. 36).

Indonesia has a commitment to reducing GHG emissions and to address climate change issues through mitigation and adaptation policies. However, public perceptions of climate change are marginal, and Indonesian elites believe that climate change is not a popular issue. For example, according to the CSIS Environment and Election survey results of April 2019, people perceived that environmental issues including climate change were not important (1.63% of total respondents). People regard the most important issues as basic food (23.6%), poverty (19.29%), employment (14.74%), and healthcare (10.26%). Therefore, climate policy is not the subject of political discussion among politicians. This extraordinary policy situation leads carbon tax policy facing political barriers during the policymaking process.

> The members of parliament will oppose the policy because the public will not be happy with paying a new tax. Again, I must say that people in the country have a short-minded paradigm. They do not think that in the future a carbon tax is a good policy to reduce our emissions and a powerful disincentive to motivate people to switch from intensive carbon energy to cleaner energy (Pol -5).

Understanding economic challenges: would a carbon tax weaken the economy?

There is a wide range of policy instruments for reducing GHG emissions, including mandatory programs, voluntary programs, command and control regulation, subsidies, and market-based policies (carbon tax and emissions trading schemes) (Fischer & Newell, 2008, p. 144; Lawrence H. Goulder & Parry, 2008, p. 152). It is widely regarded that market-based policies are the most efficient and cost-effective tools. International agencies, such as the Intergovernmental Panel on Climate Change (IPCC), the World Bank, the OECD, and the International Monetary Fund have recognised carbon pricing as a cost-effective policy for reducing carbon emissions (Barron, Fawcett, Hafstead, McFarland, & Morris, 2018, p. 2).

However, questions have emerged about policy design, the emissions reduction target, the macroeconomic impacts, the distributional consequences, and any complementary policies needed once a carbon tax has been established by policymakers (Morris 2016, p. 9). The qualitative interviews revealed that introducing a carbon tax in Indonesia – based on the perceptions of the interviewees – could potentially create economic burdens causing inflation, a decrease in international competitiveness, and regressive effects which would be more harmful for low-income households than for high-income groups.

Would a carbon tax have regressive effects?

Once a carbon tax is introduced, it has an impact on the price of fossil fuels in proportion to their carbon content. It further affects the relative price of goods and services. From the supply side, when companies roll the additional costs caused by the tax into their products, carbon-intensive goods and services become more expensive than low-emission ones. Industry is then expected to switch from carbon-intensive to low-carbon inputs in their production processes. As a result, industry will

reduce their energy consumption and be encouraged to create low-carbon technology innovation which may lead to better competitiveness (Kumar & Shresta 2012, p. 93). From the demand side, facing an increase in prices, consumers will spend their income more efficiently, or will buy low-carbon products which are cheaper than carbon-intensive ones. In the long run, efficient income spending and/or using low-carbon products will increase environmental quality, and therefore, will provide benefits to society as a whole. This behavioural change is one of the significant advantages of introducing a carbon tax.

However, a carbon tax also causes distributional effects for both suppliers and consumers because of price increases for goods and services (Fischer & Newell 2008, p. 143). A carbon tax is conventionally viewed as being regressive, meaning that low-income households shoulder a proportionally higher tax burden than high-income groups (Wang et.al 2016, p. 1126; Chiroleu-Assouline & Fodha 2014, p. 127). The qualitative interviews highlighted these distributional effects.

Most of the interviewees mentioned the regressive effects of a carbon tax. While they believed that the higher prices could incentivise people to spend their money more efficiently, they were apprehensive that the increase in prices would reduce economic activity and harm low-income families. The participants' concerns about the regressive effects of a carbon tax included both producers and consumers, as echoed by a number of authors (e.g. Grainger & Kolstad, 2010, p. 361; Hassett, Mathur, & Metcalf, 2007, p. 2; Wier et al., 2005, p. 240). The main reason for this concern was that the tax would increase the cost of production for companies which would then lead to higher prices for goods and services.

> The price will be likely higher because of additional costs from a carbon tax. Then, people will reduce their consumption of goods and services. This is good to some extent, because people will spend the money more efficiently,

but for the people with less money, this could be more harmful than the richer ones (Eco-02).

Studies focused on developed countries have found that carbon taxes are regressive. For example, Wier M et al (2005) examined distributional impacts of CO_2 taxes in Denmark on industries and households based on actual tax payments. Using a static input-output model, the study found that CO_2 taxes in Denmark were regressive for both direct and indirect CO_2 tax payments. The study also found that in urban area, low-income households were suffering from high tax payments mainly for food consumption and public transport, while in rural area they suffered from high tax payments because of high demand for heating, electricity, and transport (Wier et al., 2005, p. 249). In Sweden, Brannlund & Nordstrom (2004) found that the carbon tax would have regional distributional effects, in the sense that households living in less urbanised areas carried a larger share of the tax burden. Results of the study demonstrated that where tax revenue was not returned to the households, the carbon tax was regressive in that low-income households carried a higher tax burden. According to Brannlund & Nordstrom, the distributional effects of a carbon tax were more severe where tax revenue was returned to the households in the form of subsidies to public transport. The study showed that households in urban areas received a net subsidy, where households in rural areas would have to pay a net tax (Brännlund & Nordström, 2004, p. 230). Bureau (2011) examined the distributional effects of carbon taxes on car fuels in France using disaggregated French panel data from 2003 to 2006. He found that the carbon tax was regressive in proportion to income. According to Bureau's study, the poorest households lose 6.3% of their income, while the wealthiest households only lose 1.9% of their income (Bureau, 2011, p. 129).

However, the research on developing countries has revealed quite different results. Evidently, carbon taxes in developing countries do not appear to have a regressive impact (Brenner, Riddle, & Boyce, 2007, p. 1774). The main argument is in reference to the way that people in developing countries use energy differently from how people use energy in developed countries. For example, in developing countries, people use fewer vehicles than in industrialised countries, especially in low-income households. In developed countries, most people use and own a motor vehicle, while in developing countries, motor vehicles are owned primarily by high-income families (Wang et al 2016, p. 1127). Consumption patterns also differ between developed and developing countries. In developing countries, people use less fossil fuels because they prefer to use traditional biomass, wood, and crops as cooking fuels, especially in rural areas. Therefore, findings from studies on the distributional impact of carbon taxes in developing countries are not consistent with the results from developed countries.

Nurdianto and Resosudarmo (2016) also concluded that the distributional impacts of a carbon tax for ASEAN countries would be progressive, except for Singapore (p. 19). It is understood here that a carbon tax would have regressive impacts in Singapore because, compared to other ASEAN countries, Singapore can be considered a developed country. In South Africa, the distributional impacts of the imposition of a carbon tax on the macroeconomic aspects of the economy (such as consumption, employment, and real wages) were found to be only minimal (Hughes, 2017, p. 64). In Mexico, the carbon tax effects on consumption and welfare were different by area. In rural areas, there was no definitive evidence that the impact of a carbon tax was regressive. However, in urban areas, the carbon tax was regressive because expenditure on products and services was higher as people's income decreased (Chapa & Ortega, 2017, p. 8). Progressive effects of a carbon tax were

also found in a study from Mexico, which came about as a result of the direct transfer of the tax revenues to low-income households (Renner, 2018, p. 108), even though the effects were influenced by the design of the policy. Unlike the participants' points of view, the findings from these studies demonstrate that Indonesia does not need to be concerned that introducing a carbon tax will have regressive effects on low-income households. When the interviewees were asked about the literature on the progressive effects of a carbon tax, most of them revealed that they did not read or were not aware of these studies. However, they said that even though a carbon tax showed progressive effects, it did not necessarily mean that introducing a carbon tax would be easy. They expected many challenges, especially from politicians and business stakeholders.

The participants argued that the government should increase people's purchasing capacity because of the higher price of goods and services. They mentioned that to anticipate the regressive impacts of a carbon tax, the government should recycle the revenues to the affected households. This has been explored by Renner (2018, p. 99), who described how carbon tax policies can potentially transform regressive effects into progressive ones by redistributing tax revenues, even though it might reduce the efficiency of the policy (Rausch, Metcalf, & Reilly, 2011, p. S20). According to Rausch et al., to reduce the regressive effects, the government could assist low-income households by providing financial assistance, such as cash transfers, to increase their purchasing capacity (Rausch et al., 2011, p. S20). However, this tends to reduce the efficiency of carbon tax policy because the government then spends its tax revenues on the public rather than using them for environment-related programs.

> The government should anticipate the impacts of introducing a carbon tax.
> While it can generate more revenues for the government, a carbon tax will

be an additional cost to the economy. It will increase the prices and affect the public purchase power. In this situation, the government should give an incentive for the households to maintain their consumption capability. It can be, for example cash transfer or voucher for buying food (Pol-18).

It is important to note that despite their concerns about the regressive impact of a carbon tax policy, the selected Indonesian elites believe that a carbon tax is a potential cost-effective climate instrument to reduce GHG emissions and to generate more tax revenues. Anticipation by the government to alleviate the regressive impacts, or even to transform them into progressive impacts, will reduce public resistance and increase political appeal.

Would a carbon tax decrease competitiveness?

Another adverse impact of a carbon tax which could potentially weaken the economy is in relation to competitiveness. Concerns about remaining competitive have made countries such as Norway, Sweden, Finland, the UK, and Denmark exempt some industries from their carbon tax (Hsu 2012, p. 63). Some of the participants expressed their fears that a carbon tax would decrease competitiveness because of increases in the price of production outputs. Competitiveness effects have become one of the most significant issues for the introduction of a unilateral carbon tax. These issues have been acknowledged by Baylis, Fullerton, and Karney (2012, p. 332) who stated that "a unilateral carbon policy will reduce competitiveness, increase imports, and lead to higher carbon emissions elsewhere".

> If we want to introduce a carbon tax for companies, please don't make any harmful effects to [the] economic growth. A carbon tax could decrease competitiveness because the output prices are higher, consumptions decline[d], never sacrifice our economy because we still need to achieve our growth (Eco-03).

Once a unilateral carbon tax is introduced, there will be additional costs to the production process within the country. This will cause an increase in the price of domestic products. If the same products are produced in other countries that do not have a carbon tax, *ceteris paribus,* then domestic producers will experience a competitive disadvantage (Liang, Wang, & Xue 2016, p. 1568). Issues of competitiveness have attracted attention in the context of Indonesia's climate policy. Despite having no obligations, as one of the top 10 largest CO_2 emitters in the world, Indonesia has been actively involved in addressing climate change issues and has voluntarily announced that they will reduce GHG emissions by 29%/41% by 2030 against the 'business as usual' scenario. Therefore, it is reasonable for the interviewees to express concern about competitiveness.

Individual (mostly developed) countries have initiated unilateral climate policy instruments, hoping that other countries would follow. Globally, unilateral climate initiatives face challenges both domestically and internationally. In an open economy, emissions restrictions in one country cause not only structural changes to domestic production, but also the relocation of emissions to countries with no, or limited, emissions constraints (Bohringer, Balisteri, & Rutherford 2012, p. S97). This is known as "leakage" resulting from unilateral carbon pricing policies (Gray & Metcalf 2017, p. 3).

A few of the participants mentioned that to address competitiveness issues resulting from a carbon tax, the government should consider policies that would complement a carbon tax. These could include, for example, reducing tax rates, providing tax exemptions, revenue recycling, border tax adjustment, and/or subsidies for clean technologies.

> The government can give a tax cut for households who are affected by the carbon tax. This is could be an important policy to complement the introduction of a carbon tax in Indonesia (Gov-11).

> I think the government should give an incentive to make people use low carbon technology. The incentive can encourage people to switch the use of energy from fossil fuels to more environmentally friendly fuels, for example geothermal, solar energy, wind, or waste to energy. The incentive also can be given to the companies which use minimum emissions. This will encourage people to use alternative low carbon energy (Eco-2).

Revenue recycling uses revenues from carbon taxes to reduce environment-related taxes or subsidies (OECD, 2001, p. 36). Revenue recycling can also finance low-carbon programs and tax incentives for energy efficiency and renewable energy (Y. Liu & Lu, 2015, p. 103). Border tax adjustment is the imposition of domestic tax on imported goods, or the exclusion of domestic tax on exported goods, to support international competitiveness (Ismer & Neuhoff, 2007, p. 150). Tax harmonisation is the coordination of an environmental tax to standardise a tax rate across a country or region (OECD 2001, p. 117).

There are a wide-range of studies which address the competitiveness effects of a carbon tax (e.g., Zhang & Baranzini 2004; Fischer & Fox 2012; Rivers 2010; Dissou & Eyland 2011; Kee et al 2010). Among these studies, two general questions have emerged: What type of effects would arise? and How would the undesirable effects be abated? (Liang, Wang, & Xue 2016, p. 1569). Most of these studies have indicated that a carbon tax can lead to loss of competitiveness in the domestic sector. This is because there has been no agreement to introduce a global carbon tax, so a carbon tax is a unilateral policy by individual countries. However, with the UNFCCC

commitments there is mutual action in the international community to reduce global emissions.

Countries with unilateral carbon taxes lose their competitiveness in the world market when they encounter higher cost compared to international competitors with no emissions restrictions (Bohringer, Carbone, & Rutherford 2012, p. S208). In particular, a carbon tax would affect key domestic industries in Indonesia such as the cement industry, textiles, steel, mining, power plants, and palm oil companies.

> It is easy for me to deal with a carbon tax if the government insists to introduce it. I will move the tax to the customers by including such tax to the final prices. It will make prices go up though (Eco-4).

Numerous complementary policy measures have been proposed to reduce potential negative impacts, such as carbon tax exemptions, revenue recycling, rebates, and border carbon adjustments (BCA). The literature shows that there is no consensus on what measures have been the best or the most successful (Liang, Wang, & Xue 2016, p. 569). The choice of alternative policies to complement a carbon tax depends on country-specific circumstances. In a case study of the USA, Canada, and Europe, Fischer and Fox (2012, p. 164) concluded that a combination of four policies could be implemented to counter competitiveness effects: full border adjustment, a border charge on imports, a discount for exports, and a domestic output-based rebate.

According to Fischer and Fox (2012, p. 164), border regulations are generally effective policies to address competitiveness issues. Through border adjustments, imports from no-carbon tax countries are "taxed at the emissions price of the regulating countries and outgoing costs to non-restriction countries are reimbursed" (Bohringer, Carbone, & Rutherford 2012, p. S208). However, in China, the best choice of complementary policy has been to reduce the negative effects on competitiveness

through domestic tax cuts, as this approach tends to have positive effects on domestic market share and exports (Liang, Wang, & Xue 2016, p. 1580). However, to apply a border tax adjustment, either an import or an export tax adjustment, the government must consider whether such a policy would be consistent with World Trade Organisation (WTO) regulations. Government needs to be careful in this regard to avoid violating WTO rules[3].

Would a carbon tax cause inflation?

Another key challenge mentioned by the participants during the interviews was that carbon taxes cause inflation. From their perspective, a carbon tax would result in additional costs that would have to be paid by those industries which produce carbon emissions during their industrial processes. These costs would lead to the increased cost of their outputs. An increase in any inputs in the production process will affect the price of the end product. The concern of the participants was whether the introduction of a carbon tax would increase the average price of intermediate goods which would trigger inflation. However, if industry took action to offset inflation, such as accelerating the production process or reducing profit margins, the undesirable effects of inflation would be avoided. Under the circumstances, the government should very carefully consider the effects of the introduction of a carbon tax on the increase in the prices of intermediate products, especially important goods such as cement products, steel, and energy use such as coal, because an increase in semi-finished goods often leads to an increase in the cost of the final product (Stager, 2013, p. 90).

Inflation is one of the major indicators of macroeconomic stability. Inflation is defined as a steady increase in the general price of goods and services in an economy

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[3] For a discussion of WTO and border tax adjustments and similar policies see Trachtman, 2016, *WTO law constraints on border tax adjustment and tax credit mechanisms to reduce the competitive effects of carbon taxes*, Discussion Paper RFF DP 16-03, Resources for the future.

(Atmanand, 2009, p. 673; Baiden, 2012, p. 11; Dejene Mamo, 2016, p. 4; Free, 2010, p. 304; Lipsey & Harbury, 1992, p. 430; Mukherjee, 2002, p. 738; Seidman, 2004, p. 93). Two major categories of inflation are categorised: demand-pull inflation and cost-push inflation. Demand-pull inflation arises because of uncontrolled aggregate demand from private and government spending, when production capacity cannot cope with the increase in demand (Baiden, 2012, p. 14; Dwivedi, 2005, p. 414; Stager, 2013, p. 91). Cost-push inflation occurs because there is an increase in the production costs of outputs (Stager 2013, p. 117). For example, when the government introduces a carbon tax, it leads to an increase of energy prices which then an increase of the cost of production. When energy costs increase, there will be adjustments in both inputs and outputs. The price of the product eventually will increase unless there are production adjustments. This is called *cost-push inflation* in which an increase in production costs leads to an increase in product prices (Thomas & Carson, 2015, p. 357), even though there is no excess demand for goods and services or demand is stable. However, this does not necessarily mean that an increase in production costs alone cause inflation. Instead, without an increase in demand and purchasing capability, higher production costs can cause unemployment and depression rather than inflation (Dwivedi 2005, pp. 424-425).

When the government introduced a carbon tax in a country, there will be a winner and a loser. For government, a carbon tax provides more tax revenues for the fiscal budget or to be recycled into climate change-related programs. For industry, there are two possible responses to an increase in the costs due to an emissions tax burden. Firstly, they can absorb the tax cost which might decrease sales and lead to profit losses. This would be the case for industries which produce products with higher price elasticity (Wang et. al. 2016, p. 1124). Secondly, if the products are price inelastic, they can easily pass the tax burden onto the consumer by increasing prices. In such

a scenario, consumers will shoulder the tax burden due to increases in energy prices and of other goods and services where demand is inelastic.

As echoed by Thomas and Carson (2015, p. 356), reduced purchasing power due to the adverse effects of inflation is the main concern of the selected participants. The participants emphasised the effects of inflation on low-income citizens, explaining that low-income people are a vulnerable group who are very easily affected by economic issues.

> One thing that we must adhere is the impacts when we introduce it. The prices will likely increase because of additional costs from the carbon tax. Then, people will reduce their capability to buy and consume. This is good to some extent, where people can spend their money more efficiently, but for people with less money, this could be harmful (Eco-05).

Some of the participants suggested that to anticipate the adverse impacts of inflation when introducing a carbon tax, the government should provide subsidies to low-income households, as the most affected group of people. They mentioned that subsidies increase the purchasing power of low-income people, resulting in a fairer implementation of a carbon tax.

> Basically, every new tax will have impacts on the inflation. This is because a new tax will make the prices higher, therefore, it will give a multiplier effect. The government must anticipate this effect by giving subsidies to the affected households, so the implementation of a carbon tax will be fair (Gov-02).

Providing subsidies to the poor is often considered as the best complementary policy option with a carbon tax, even though it decreases the effectiveness of the policy. This is because when a carbon tax is implemented, the biggest carbon emitters or polluters are not negatively affected because they are easily able to pass on the additional costs to the consumer (Ramiah et al., 2017, p. 936). Therefore, consumers suffer most from the production cost transfer.

However, providing subsidies presents the government with both a policy and a political dilemma, especially in relation to fossil fuel subsidies. Each year, the government sets up an energy subsidy cap which is determined by the global crude oil price assumption. In 2019, energy subsidies have been capped at Rp157.7 trillion (US$10.87 billion), on the assumption that the global oil price will be US$70 per barrels for the whole of 2019 (Ministry of Finance, 2018). This is something of a dilemma given the fact that Indonesia is a net oil importer and the global oil price is highly volatile. On the one hand, the government needs to provide subsidies to low-income households to reduce the economic effects of a carbon tax. On the other hand, providing fossil fuel subsidies will increase budget deficits and prevent economic adjustment towards low-carbon economy.

Conclusion

Introducing a carbon tax in Indonesia presents challenges which need to be addressed by the government. In order to understand these challenges, in-depth interviews with key Indonesian stakeholders were carried out and analysed. This approach has enabled a distinction between three key challenges: institutional, political, and economic challenges.

The selected Indonesian stakeholders believe that institutional challenges exist because of corruption problems, lack of coordination, and organisational conflict across government agencies. Corruption issues occur across agencies both in the central and regional governments which influence business and political interests and public acceptability and produce governance challenges. The government of Indonesia has made serious efforts to address these issues. However, integrity and accountability within the Indonesian bureaucracy remains a major challenge, especially when the government wishes to introduce a new policy.

From the political perspective, Indonesian stakeholders believe that a carbon tax will face political challenges because of the political involvement of business stakeholders. Given the fact that many members of parliament are business stakeholders, introducing a carbon tax will also face political opposition from members of parliament, especially those who have a business background. Political scepticism is another political challenge because politicians tend to 'wait and see', depending on the perceptions of the public in relation to a carbon tax. However, there is an opportunity for political support if the government can earmark tax revenues for their constituents.

In terms of economic challenges, key Indonesian stakeholders perceive that a carbon tax would have a regressive impact on low-income households. People with lower incomes would be affected by a carbon tax to a larger extent than those on higher incomes. To address this issue, redistributing revenues from a carbon tax to low-income households could be an alternative complementary policy, even though it would reduce the effectiveness of the policy. However, while a carbon tax has regressive effects in developed countries, the research shows that this is not the case in developing countries. A carbon tax is also perceived to decrease competitiveness and cause inflation.

These three key challenges are not mutually exclusive and are important for the government of Indonesia to recognise. Corruption remains a major challenge to the introduction of any policy in Indonesia. Its prevalence across government agencies reduces public trust and the effectiveness of policy implementation and increases political scepticism.

Understanding the challenges will open a pathway for seeing how the introduction of a carbon tax could be successful during the policymaking process. This will be discussed in greater detail in the next chapter.

CHAPTER VI

CONDITIONS REQUIRED FOR THE EFFECTIVE INTRODUCTION OF

A CARBON TAX

Introduction

As a climate policy alternative, introducing a carbon tax involves a range of stakeholders who contribute to emissions reduction actions. These stakeholders – the government as the executive, members of parliament or politicians as lawmakers, and civil society or the constituents in a broader context – may have divergent points of view about the conditions under which a carbon tax policy should be implemented, or whether it should be implemented at all. Strategies for the implementation of new policies encompass many stakeholders with different views, interests, and values (Setiawan & Cuppen 2013, p. 1189). Addressing multiple stakeholder perspectives is important to provide a better understanding about the policy approaches to be taken to ensure the successful implementation of a carbon tax in Indonesia. Interaction between stakeholders with different perspectives is important for achieving a better understanding of an issue (Cuppen, 2012, p. 24).

This chapter explores the perspectives of key stakeholders relevant to the introduction of a carbon tax in Indonesia. It identifies the diversity of stakeholders' perspectives by using in-depth interviews with selected Indonesian stakeholders. This approach informs the main research question of this study: What are the key factors which determine the success of the introduction of a carbon tax in Indonesia? The study has found that there are four key factors involved: (1) public support; (2)

accountability and transparency; (3) the commitment of the government; and (4) stakeholder engagement.

Public support

As identified by Drews and Van den Bergh, the interviewees explained that public support is one of the key factors for the successful implementation of a climate policy (Drews & Van Den Bergh, 2016, p. 856). Support from the public plays an instrumental role in achieving policy objectives. In the public policymaking process, government needs support from the citizens and do not want public resistance. Therefore, public support is an essential determinant in making an environmental policy feasible (de Groot & Schuitema, 2012, p. 100).

Lack of public support would be a major challenge in transforming any democratic country into a low-carbon economy (Wiseman, Edwards, & Luckins 2013; Geels 2013). In a more general context, Wustenhagen et al. (2007, p. 2683) stated that a lack of social acceptance is a major potential barrier to the achievement of policy objectives. In other words, a lack of public support can lead to policy failure (Wan, Shen & Choi 2017, p. 70), as was the case for the French carbon tax in 2010, a tax on fossil fuels in Switzerland in 2000, an energy tax in the USA in 1993, and for road pricing in Ireland in 2005, which all failed to be implemented because the government faced public opposition (Kallbekken & Saelen 2011, p. 2966). This is why it is important to understand public support for a carbon tax to anticipate responses to government policies and to make climate policies more feasible.

However, Australia's carbon pricing policy provides a somewhat different example. Despite enjoying widespread public support for some time, climate policy in general has not progressed. There is no bipartisan support from the leading parties and the opposition parties for carbon pricing, which has resulted in policy uncertainty

(Jotzo, 2012, p. 476). This counterexample shows that public support may be a necessary condition for policy success, but it is not sufficient. As Kingdon (2011) explained, policy alternatives are developed through the imposition of selection criteria. Even though a policy proposal gains public support, if it costs more, is against the values of community members, or if it is refused by elected politicians during the legislative process, it is less likely to survive (Kingdon, 2011, p. 201). Kingdon's selection criteria demonstrates that successful policy development requires a combination of factors, rather than relying on only a single factor.

During the interviews, the participants mentioned that public acceptance[4] should be taken into consideration in the first phase of the policy formulation process. They perceived that support from the public would lead to political support from other stakeholders, as illustrated in the following quotes:

> First, in every policy formulation process, the indicator is the public acceptance. If the public support the policy, then other stakeholders will support then. So, what the government should do is that, make any efforts to communicate well to the public so they understand the benefit and significance of the carbon tax. We must make the rationales that the carbon tax will not harm the poor, that the carbon tax will provide benefits for them. So, the key thing is the public acceptance (Pol-04).

The research on the public acceptance of public policies (including environmental policies), demonstrates a lack of clarity in defining the term 'acceptability' (Dreyer & Walker, 2013, p. 345; Ricci, Bellaby, & Flynn, 2008, p. 5875). Therefore, it is important to clarify the concept of public acceptance, especially in the context of Indonesian climate change policy. There are two approaches to public acceptance, as distinguished by Dermont (2017, p. 359). Firstly, a general perspective which does not specify the stakeholders involved, and secondly, a more specific

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[4] In this article, public support and public acceptance will be used interchangeably

perspective which is also known as the "actor-centred approach", which focuses on the public as citizens.

Wustenhagen et al. (2007, p. 2684) mentioned three dimensions of social acceptance. Firstly, from the most general perspective, socio-political acceptance refers to responses from political stakeholders and citizens in general on government policies and technological innovation. Secondly, community acceptance refers to support from the local community for certain government projects. For example, when the government wishes to build a nuclear powerplant in a community, local stakeholders and residents are asked whether they support the initiative or not. Thirdly, market acceptance is when market players introduce new technologies on the supply side, business stakeholders must be assured that the new technologies will benefit their profitability and enhance efficiency.

In a more specific context, in a democratic country, public acceptance is defined as support by the public for a new policy output (Dermont 2017, p. 363). Public support for a policy is expressed through the attitudes and behaviours of individuals. For example, public support for an environmental policy can be demonstrated by a willingness to pay higher environmental taxes (e.g., a carbon tax), endorsement of environmental regulations, or approval of environmental protection programs (Wan, Shen & Choi 2017, p. 70).

In direct democracy, the public can vote for or against the introduction of new government policies to express their acceptability or responses to a government proposal. However, within indirect democracy, or representative democracy, citizens cannot express their endorsement, nor can they oppose government policies in the form of votes. This is because they have chosen their representatives through the

election process. Therefore, their votes have been represented by electoral votes for or against government policies (Pleger, Lutz, & Sager, 2018, p. 226).

The participants mentioned that there is a close relationship between public support and political trust. If government is able to gain public support for its policy (a carbon tax), most likely, other stakeholders will also support the policy, including political stakeholders. Therefore, government needs to ensure that people are well-informed about a carbon tax, convince the citizens where the tax revenues that are generated will go or how they will be spent, and build public trust that a carbon tax will be created to enhance people's prosperity.

Harring and Jagers (2013) and Kollmann and Reichl (2015) conducted research on public support for government environmental policies. The studies found that public trust is the key factor in determining public attitudes to support environmental taxes. According to these studies, there are two reasons why people might support environmental taxes. Firstly, people believe that government will spend the revenues in a proper and effective way and will not use the revenues for programs that are not relevant to environmental protection (Harring & Jagers, 2013, p. 214; A. Kollman & J. Reichl, 2015, p. 55). Secondly, people are confident that government is capable of dealing with environmental issues (Harring & Jagers 2013, p. 214).

> The government must gain the trust from the public, so the public will accept whatever programs the government offers (Pol-05).

One way to gain better support from the public is through providing information on the impacts, benefits, and objectives of a policy that is being undertaken. Giving adequate information to the public on a government policy will have a positive effect on the level of public acceptance (Garling & Schuitema 2007, p. 142; Kallbekken & Saelen 2011, p. 2972; Mallett 2007, p. 2797; Boomsma & Steg 2014, p. 23). However,

179

in the realm of climate change policymaking, there is an ongoing dispute between scholars about whether more, and better, information has an impact (A. G. Patt & Weber, 2014, p. 220).

Kahan and Carpenter (2017) explained why scientists fail to translate the results of their research to the public. Researchers have strived to bring their research to the world, but people are still confused about climate change. They fail to translate their studies into the real world, because most of them are laboratory studies rather than field studies, and the researchers are not good communicators (p. 310). One suggested strategy is that the researchers need to collaborate with local communicators; for example, government officials who are familiar with the knowledge within their communities. Such collaborative partnerships are important for understanding local values and are best situated to translate research findings into local conditions (p. 311). Another strategy to break through the communications barrier is in relation to how the issue is framed. Frames are communication storylines about what and why a problem becomes an issue, who might be responsible for it, and what should be done to solve the problem (Price, Nir, & Cappella, 2005, p. 181). Frames are unavoidable for successful communication, simplifying technical details, and making them easy to understand and more persuasive (Nisbet 2009, p. 16).

A majority of the interviewees mentioned that building good communication between all stakeholders will be one of the key factors which determines the successful introduction of a carbon tax in Indonesia. The government must engage all stakeholders from the beginning of the policymaking process and convince them that a carbon tax is an important policy for reducing GHG emissions and to curb climate change effects in Indonesia. Good communication about the importance of the policy will influence private sector actors to comply with a carbon tax and bring them into the tax mechanism.

In the previous chapter, the economic and political constraints that have been perceived as the major challenges to policy implementation of a carbon tax in Indonesia has been discussed. Conflict between the intended objectives of climate policies and those who focus on economic development (growth), to some extent lead to the failure of the policy implementation process. Therefore, adequate communication with key stakeholders is required to achieve successful policy development and implementation. The participants believed that the government should build good communication with relevant stakeholders from across government agencies, politics, and civil society to achieve effective policy outcomes.

Inadequate communication with key stakeholders, exacerbated by the political and economic barriers, are the key factors in policy failure (Howes et al., 2017, p. 2). In their study, Howes et al. reviewed 47 case studies in both developed and developing countries to identify the various causes of policy failure. The findings revealed that 55% of all policy failure in developing countries, and 65% in developed countries, were influenced by failures in communication (Howes et al 2017, p. 10). According to Howes et al. (2017), communication failure means that policymakers fail to communicate the policy objectives to key stakeholders, or that there is a lack of, or an inadequate, consultation process with the affected community.

> The government should communicate well to the public to make them understand the benefits and significance of a carbon tax. We must make the rationales that the carbon tax is important and is not harmful for the poor, and that the carbon tax is an effective climate policy to reduce GHG emissions (Gov-12).

> We cannot push the private sectors to involve in the carbon tax. The government must convince them that a carbon tax will not affect their business. Instead, by paying the carbon tax, it is the contribution they give to the country (Pol-03).

The participants mentioned that building good communication means that the government should communicate the policy objectives to the key stakeholders. This is an important step to undertake, given the fact that conflict between stakeholders occurs because they are not involved from the beginning. Bromley also supported the idea that bringing citizens into the process of environmental policymaking will enhance policy success (Bromley, 2007, p. 682). As echoed by Hysing, the inclusion of citizens, experts, environmental organisations, and public policy-related agencies will increase the effectiveness and legitimacy of environmental policy and the ability to cope with environmental issues (Hysing, 2013, pp. 969-970).

The importance of building communication with all stakeholders regarding climate actions/policies lies in the complexity of the issue of climate change itself. In fact, there is a growing gap between climate change science and general perceptions of climate change (A. G. Patt & Weber, 2014, p. 219). Since global climate change issues first emerged, the differences between perceptions also started. Most recently, in the United States, it has been found that liberal Democrats ranked climate change the sixth most important issue in the US out of 23 problems, while moderate and liberal Republicans ranked climate change at 21st, while conservative Republicans ranked climate change at the bottom of the list (Bolsen & Shapiro, 2018, p. 154).

Business stakeholders also opposed climate policies from the beginning of climate change reports by international organisations. For example, in 1989, when the Intergovernmental Panel on Climate Change (IPCC) prepared its first assessment report, and national delegations were negotiating under the United Nations Framework Convention on Climate Change (UNFCCC), Exxon Mobil – the largest oil company in the world – along with its oil alliances, established the Global Climate Coalition aiming to oppose policies which reduced or limited carbon emissions from the burning of fossil fuels (Shulman, 2007, p. 9). Their strategy has been to 'manufacture uncertainty'

through national media as a communications campaign to develop and inform the public about uncertainties in climate change science (Shulman 2007, p. 10).

Over the last few years, people's belief in climate change has declined while at the same time, the climate sciences have demonstrated that the impacts of climate change have been increasing (Weber & Stern, 2011, p. 315). Howes stated that the results of polling have revealed that, in general, the global public perception about the existence of climate change has decreased (Howes, 2017, p. 220). In the United States, people's beliefs about the occurrence of climate change declined between 2007 and 2012 from 84% to 60%; in Germany, people's perceptions about whether climate change is a serious problem fell from 63% to 44% between 2008 and 2011; in the United Kingdom, the number of people who believed that climate change was a reality decreased from 83% to 75% in the period between November 2009 and February 2010; and finally, in New Zealand (with a similar trend also found in Australia), the number of people who believed that climate change was not a problem increased from 8% in 2007 to 17% in 2010 (Howes 2017, p. 220).

This polling data demonstrates that people's beliefs about the existence of climate change have decreased over recent years. In contrast with public perceptions, the climate sciences have shown that human-induced climate change is real and its impact on human life indeed exist. For example, from the IPCC's first assessment report in 1990 to the fifth assessment report in 2014, certainty about the impacts of climate change have changed from 'likely' to 'very high confidence' (IPCC 2014, p. 6).

Uncertainty is an important aspect of climate policy debates that needs to be addressed and communicated in the best possible way (A. Patt & Dessai, 2005, p. 438; Risbey, 2007, p. 11). Effective policymaking does not have to deny uncertainty in addressing climate change; instead, it needs to be properly and accurately

communicated to the public. As echoed by Nisbet (2009, p. 14), the participants also explained that the failure to communicate resulted in a lack of public awareness about climate change issues. This lack of awareness exists not only with government officials, but also with the public in general.

> The government must involve all relevant stakeholders in the policymaking process from the beginning of the process. They should build a good communication with the executives, legislatives, and civil society to introduce a carbon tax. If the consensus among stakeholders is achieved, the policymaking process will flow smoothly (Pol-02).

> We have a lack awareness of environmental problems. This is not only the case in the government officials, but also in the public in general (NGO-03).

Building good communication with the stakeholders is one of the key factors in achieving the effectiveness of a climate policy. Convincing business players and elected politicians about the significance of a carbon tax and increasing public awareness of climate change issues are required to accomplish the successful policy development of a carbon tax in Indonesia.

Accountability and transparency

Accountability and transparency are two of the key factors mentioned by the participants for achieving successful policy implementation. They perceived that lack of transparency is an issue in Indonesia that erodes public trust in the government. Building confidence and public trust, especially with stakeholders, would therefore be a crucial step to be undertaken if the government proceeds with introducing a carbon tax.

Public trust in general has been defined as people's belief or confidence in the government to produce policies which meet their expectations (Kollman & Reichl 2015, p. 54). Public trust, or political trust, is acknowledged to be an important aspect that

influences public support for a government's environmental policies (Wan, Shen & Choi 2017, p. 73). If the people believe in, and are confident about, the government, most likely they will support any policies undertaken by the government and follow the regulations or laws. Conversely, if the people do not trust their government, they will reject, or not comply with, any policies the government initiates. In the environmental context, Kollman & Reichl (2015, p. 55) stated that people's refusal to support environmental policies is caused by a lack of public trust in government and politicians.

A survey conducted by Indonesia Corruption Watch (ICW) and Polling Centre during April and May 2017 revealed that public trust in the government, the private sector, and political parties remains low. According to the survey, the level of public trust in government ministries sits at 62%, politicians at 35%, and the private sector at 49% (ICW and Polling Centre, 2017). Based on the Gallup World Poll 2015, the perception of corruption in Indonesia (at more than 80%) is higher than in most ASEAN and OECD countries (Organisation For Economic & Development, 2016, p. 53). This result shows that more than 80% of Indonesian people perceive that the government is corrupt. In other words, only less than 20% of Indonesians believe that corruption is not widespread throughout the government in Indonesia. *Lembaga Survey Indonesia* (LSI) conducted a survey in November 2019. It revealed that public trust in government institutions decreased primarily because of an increase in corruption cases across the country (LSI press conference, accessed from www.cnnindonesia.com, 13/11/2019). For example, during 2014-2019, 60 local government leaders were arrested because of corruption activities. Saiful Mujani Research Consulting (SMRC) also conducted a survey of public trust in 2017. It highlighted different results between public trust in the government agencies and political parties. While public trust in government agencies is relatively high (80%), the survey showed that public trust to political parties is low (56%) (https://www.cnnindonesia.com, accessed 13/11/2019).

The low level of public trust is in line with the level of effectiveness of government policies. The World Bank government effectiveness indicator 2014 revealed that among ASEAN countries, Indonesia is in the bottom half in terms of government effectiveness, and the lowest of all OECD countries (OECD 2016, pp. 52-53). This means that government policies do not achieve their policy objectives at an optimal level. As indicated by Wan et al (2017, p. 53), the low level of public trust in government can discourage people from willingly complying with government policies. For example, from 124 million Indonesians in the productive age group (15-65 years old), only 10 million people are registered as taxpayers and actually comply with their tax obligations (Emmiryzan Wasrinil, 2017, p. 1). In a discussion with academia and business players in 21/10/2016, the Ministry of Finance admitted that the level of tax compliance in Indonesia is still low which is the cause of the low tax ratio in Indonesia (www.kemenkeu.go.id/publikasi, accessed 17/9/2018).

> The key principles for the success of a carbon tax are public acceptance and public trust. This is an important issue and will play a significant role in the long run. People should understand the benefit of a carbon tax. It is the responsibility of the government to make people aware of this. The second is transparency. The government must assure that the tax collection will be conducted in a transparent way, and the revenue generated from the carbon tax will return to the taxpayers (NGO-01).

It is expected that the low level of tax compliance in general will affect the effectiveness of a carbon tax should it is introduced. Addressing tax compliance is important because if the tax compliance rate is low, it will create tax avoidance and tax evasion, which will lead to decreased of tax revenues (Soraya & Suhendar, 2015, p. 41). In the context of a carbon tax, it is an indirect tax imposed to carbon emitters that easily passed on to the consumers. It means, the more people buy goods, the

more they pay carbon taxes. Generally, most people do not like new taxes that will increase their total tax burden (Beiser-McGrath & Bernauer, 2019, p. 1). Examples that demonstrate this are mass protests in France against fuel prices increases, the failure of carbon tax legislation in the US, and the absence of carbon tax initiatives in most countries except Finland, Sweden, Switzerland, Norway, Alberta, and British Columbia (Canada), California (United States), and recently Canada (Carattini et al., 2018, p. 2). To overcome carbon tax opposition, the common prescription is "revenue recycling'. The government must convince the public how it uses the revenue generated from carbon taxes for the benefit of citizens. This approach is believed to be the most feasible solution to achieve public support for carbon taxes (Carattini et al., 2018, p. 6). However, as one interviewee revealed, it is difficult for the government of Indonesia to convince the public because people are concerned about the government's transparency and accountability. This lack of trust in government impacts the ability to argue that they would make good use of carbon tax revenue.

Public trust is one of the key issues which influences public support for government policy. Given the low level of public trust in Indonesia, introducing a carbon tax will face a major challenge in terms of public support. Therefore, building public trust and confidence is the key step that should be undertaken by the government to gain public support.

As was discussed in the previous chapter, the prevalence of corrupt practices by government agencies across the country is one of the key challenges that the government will face if it introduces a carbon tax in Indonesia. Most of the stakeholder participants (government officials, politicians, the business sector, and civil society) believed that addressing the problem of corruption is a critical step in building public trust. Therefore, transparency, accountability, fairness, and government integrity are

the key factors for achieving the successful implementation of a carbon tax in Indonesia.

> The key principles for the success of a carbon tax is law enforcement. If the implementation in the field is accompanied by a strong law enforcement, it will not be corrupted then a carbon tax will be effective. Conversely, a weak enforcement will give rooms for rent seekers to manipulate the loopholes (NGO-02).

Accountability and transparency are important aspects of climate policies because of the complexity and uncertainty that surrounds climate change issues. In addition, climate change abatement actions which require enormous amounts of money flow from developed to developing countries through new financial mechanisms (some have estimated that US$700 billion would be required by 2020 for mitigation action programs alone) present high risks of corruption (Transparency International, 2011, p. xxvi). For example, many have questioned the REDD+ program in Indonesia which is funded by Norway to the tune of US$1 billion as earlier discussed.

Addressing corruption to improve transparency and accountability is important in the context of the climate policymaking process. This is because both theory and empirical evidence have shown that corruption has an adverse impact on the strictness of environmental and energy policies, increases air pollution and deforestation, reduces access to public goods, decreases natural capital resources, and affects the ratification of international climate agreements (Fredriksson & Neumayer, 2014, p. 453). This means that lack of transparency and accountability loosens policy enforcement and reduces policy effectiveness. Therefore, in the climate policy context, the government needs to convince the public that the government is serious about addressing corruption problems and building public confidence in the government.

> The key principle for the success of a carbon tax is the government integrity. Today the public do not trust the government. There are so many cases that show that the officials are corrupted, and the law enforcement is weak. If the government cannot convince the public trust, it is difficult to have a successful carbon tax policy (Eco-04).

Government commitment

The participants explained that government commitment to strong law enforcement is the key factor for a carbon tax to be successfully implemented. There is a close relationship between the political commitment to introducing a carbon tax and the commitment to enforce it. If policy implementation is accompanied by a strong commitment to law enforcement, openness, and maintaining government integrity, the public will support the policy and the policy will be effective. On the contrary, weak law enforcement will give space for rent seekers to exploit and manipulate loopholes in the policy regulations.

> A carbon tax will be an effective policy to reduce carbon emissions in Indonesia if the government has a strong commitment to implement it. It means that the policy is well implemented and people who do not comply with the rule will be penalised (Eco-03).

The commitment to enforcing a climate policy such as a carbon tax depends on the government's commitment to addressing climate change issues as a whole both globally and domestically. A good starting point would be the commitment of the Indonesian government to follow-up their pledge to reduce its GHG emissions by 26%/41% by 2020 against the 'business as usual' scenario. This pledge was made by President Yudhoyono at the G20 summit meeting in Pittsburgh in 2009. While the pledge was considered to be a non-binding voluntary target, it has been a test of the government's credibility to play a greater role in global climate change mitigation actions, given the fact that Indonesia is one of the world's top ten emissions producers.

The voluntary target to reduce GHG emissions was nationally implemented through the National Action Plan to reduce greenhouse gas emissions (*Rencana Aksi Nasional Penurunan Gas Rumah Kaca*) under the Presidential Regulation no. 61/2011. The plan was comprised of cross-sectoral programs which served as a set of guidelines for government agencies, ministries, regional governments, the private sector, and civil society to set up programs and activities to reduce GHG emissions. It also mandated local government at the provincial level to establish their own commitments to reducing GHG emissions at the local level and to report their progress periodically to the central government. The development of local action plans is crucial to achieving the national emissions reduction target and establishing a basis for more ambitious climate mitigation actions after 2020 (Ge, Chrysolite, Utami, Wijaya, & Friedrich, 2016, p. 1).

The President's commitment to the world to deal with global climate change problems by reducing GHG emissions by 26%/41% by 2020 marked the start of Indonesia's more significant role in international climate change involvement. The international community applauded the Indonesian President as a visionary leader. It also shifted the climate talks from emissions reductions for developed countries only to the cutting of emissions for both developed and developing countries (Anderson, Firdaus, & Mahaningtyas, 2015, p. 263). Indonesia has received great appreciation and praise in every set of international climate negotiations. Indonesia even further exceeded the existing pledge by setting a unilateral reduction target of 29%, and a conditional emissions reduction target of up to 41% by 2030, depending on the level of international assistance (First NDC 2016, p. 2).

However, the government's commitments at the international level are not in line with its domestic climate change programs. Stakeholders at both the local and national levels are not well-informed about the government's pledges. How the government

reached and decided upon the emissions reductions target of 26%/41%, and what methods were used to come up with the target have never been explained. There was only a small amount of clarity around Japan pledging at the same time to reduce its emissions by 25% and Indonesia challenging the G20 countries by going 1% above Japan's pledge[5].

In the interviews, very few participants from government mentioned that the government had failed to undertake coordinated actions to follow-up its international pledge to reduce GHG emissions. They further explained that climate change issues had not been integrated into the national development agenda. Therefore, as discussed in the previous chapter, climate change issues may contradict Indonesia's development priorities.

The government's commitment to reducing its GHG emissions through comprehensive and coherent policy development, as stated in its first Nationally Determined Contributions, is not really the case at the operational level. Government policies sometimes conflict with one another, and often laws and regulations are not fully implemented (Tacconi, 2016, p. 642). In the energy sector for example, the government's mixed energy use policies have been introduced through Presidential Regulation No. 5/2006 and revised by Government Regulation No. 79/2014 regarding National Energy Policy. According to these regulations, oil energy use will decrease from 52% in 2006 to 25% in 2025. On the contrary, coal use will increase from 15% in 2006 to 33% in 2025. Even though the use of oil is expected to decrease in 2050 to 20% and coal to decrease to 25% in the same year, the mixed energy policies exemplify the conflict inherent within the transition to a low-carbon economy.

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[5] Author's personal discussion with the Indonesian National Climate Change Council officials in 2013

Another case point is in the forestry sector. Indonesia is well-known for the size of its tropical forests. Indonesia's forests which consist of trees and peatland have attracted global attention because they store global emissions, and are one of the most densely stored carbon emissions areas of the world, which account for, along with Brazil, 35% of total carbon stored globally (Baccini et al., 2012, p. 183). Therefore, deforestation has a significant impact on the emissions released into the atmosphere, causing global climate change. Forest exploitation through logging and land conversion to plantations (for palm oil and pulp and paper production) is considered the main driver of deforestation in Indonesia (Alisjahbana & Busch 2017, p. 122).

In 2015, forest and peatland fires occurred in Sumatra, spreading a toxic haze over most Southeast Asian countries. During this period, the level of carbon emissions released into the atmosphere surpassed those of China and the United States over a two month period (Bloomberg, 25 October 2015). In terms of carbon emissions, it was the second worst in the past two decades, after the 1997-1998 forest fires (Global fire emissions database, accessed 17/9/2018). Emissions were approximately 43% greater than annual emissions from forestry, and just 13% less than the country's total annual emissions (CAIT data explorer World Resource Institute, accessed 17/9/2018).

It was reported that the Indonesian police investigated more than 80 individuals and 40 companies for forest fire-related crimes (The Jakarta Post 13/10/2015). However, the process of the investigation remains unclear and the public trust of the police and the courts has already waned due to considerable corruption. Scepticism has been raised about whether the investigation will succeed in the end. Therefore, these institutions need to be more transparent in their processes, and information about the ongoing process should be made publicly available.

> The common problem in Indonesia is that the government has a good regulation, but it does not implement properly, sanctions are not imposed, and the officials are not committed to keep their integrity. This has reduced the public trust and eroded the effectiveness of a policy (NGO-02).

Stakeholder engagement

The interviews with the key Indonesian stakeholders revealed that one of the most influential factors in achieving an effective policymaking process for introducing a carbon tax is for the government to engage with all stakeholders in the policymaking process. The literature shows that the importance of integrating multiple stakeholders with different perspectives and interests into the environmental policymaking process is increasingly being recognised at all levels of government (se e.g. Koontz, 2005, p. 459; Mangun et al., 2007, p. 157; Watson & Foster-Fishman, 2013, p. 151). The absence of engagement between policymakers and stakeholders is a key factor in policy failure. Conversely, stakeholder collaboration mechanisms could facilitate the policy process and improve policy outcomes (Marsh & McConnell, 2010, p. 572).

> All relevant stakeholders should be involved by the government since the beginning of the policymaking process. A good communication must be established among the executives, legislatives, and civil society to introduce a carbon tax (NGO-02).

The participants mentioned that it is important to engage all stakeholders from the beginning of the policymaking process. As stated by Marsh and McConnell (2010, p. 572), bringing together all the stakeholders with their different interests in the policy process can lead to an understanding being reached, and ultimately, to a successful policy process. A successful policymaking process can lead to successful policy implementation. Therefore, to produce a successful multi-stakeholder initiative,

dialogue between stakeholders is required (Bartley 2007, p. 300; Mena & Palazzo 2012, p. 536).

> The regulation is comprised of rewards and punishment which will be effective if all the stakeholders have a shared commitment to the goals. Therefore, a common perspective among all the stakeholders will play a crucial role in the effectiveness of the introduction of a carbon tax. The goal is to achieve carbon emissions reduction target with this policy (NGO-04).

A policy succeeds when it can manage a complex and multi-stakeholder approval process to create an implementable policy (Howlett 2012, pp. 545-546). Engaging policy participants with diverse interests and opinions is the key element in developing a legitimate sustainable initiative (Balzarova & Castka 2012, p. 266), especially in relation to a complex issue such as climate change (Tompkins, Few, & Brown 2008, p. 1583). On the contrary, failure to involve stakeholders in an effective way can lead to failure to achieve the ultimate objectives of a policy (Hoque, Clarke, & Huang 2016, p. 369).

Close collaboration between government and stakeholders from the beginning of the policymaking process is important. This is because in order to start the policy process, the policy participants inside and outside of government need a *problem* to become a policy issue in order for it to be addressed. According to Kingdon's theory of the policymaking process, whether a problem is recognised by the government as an important issue to be addressed also depends on the stakeholders outside of government that make the government pay attention to a problem and bring it onto the policy agenda (Herweg et al., 2018, p. 19). Therefore, framing an issue as a problem that reaches the attention of government is important. This implies that the role of the stakeholders in framing a problem in a particular way to gain the attention of the government is significant. As part of Kingdon's multiple streams approach, in the *problem stream*, policy participants inside of government and stakeholders outside of

government are almost equally important in bringing a problem onto the policy agenda (Kingdon, 2011, p. 21).

An example of the important role of stakeholders in framing an issue to become a problem which reaches the attention of government is the policy process of the ratification of the Paris Agreement. Stakeholders from Non-Government Organisations explained that NGOs played a crucial role in the process of ratifying the Paris Climate Agreement. Collective action by NGOs and other environmental activists in Indonesia, such as Greenpeace and Friends of the Earth became a major consideration for Indonesian policymakers in the ratification of the Paris Climate Agreement. Pressure applied to government by NGOs and the Indigenous communities reflected their awareness of environmental sustainability.

The NGOs and environmental activists started to frame the issue of Indonesian tropical forests and the role of the Indigenous communities to protect the forests to mitigate climate change. As many as 32 environmental and civil society organisations gathered before the signing of the Paris Agreement on 22 April 2016 in New York. They formed the *Climate Justice Now!* network and intensified their actions to urge the government to ratify the Paris Agreement. Meetings and negotiations between the network and the government occurred to discuss the importance of the ratification of the Paris Agreement for Indonesia as a commitment to protect Indonesian people from the adverse impacts of climate change.

NGOs play an important role in advocating environmental issues in Indonesia. For example, in 2007 World Wildlife Fund (WWF) initiated the establishment of declaration of the Heart of Borneo (HoB), a forest conservation and sustainable development program in Indonesia-Malaysia-Brunei Darussalam border (Nugraha, 2016). The objective of the HoB is to manage primary forests and cross- border area,

manage sustainable natural resources, develop eco-tourism, and increase human resource capacity under sustainable development (Nugraha, 2016, p. 5). The HoB is a commitment by three countries (Indonesia, Malaysia, and Brunei Darussalam) to protect Kalimantan forests for the benefit of next generations based on the mutual respect of each country.

NGOs also play an important role in the development process of Indonesia's timber legality verification system. This is a government-rule standard to address illegal loggings as the most significant problems in the forestry sector in Indonesia. The policy process of timber legality verification has heavily involved environmental non-government organisations (NGOs) led by the Nature Conservancy (Maryudi, 2016, p. 103). In the earlier process, NGOs worked with government agencies to create and develop legality rules. The process took places between 2006 and 2008 involving broader stakeholders such as the government agencies, timber industries, universities, and research organisations (Maryudi, 2016, p. 103).

WALHI is a leading NGO in Indonesia that promotes environmental protection activities. While they urge the government to mainstream climate change in the national development plan, in the field they create a system of forest management system together with indigenous people. This concept is a counter activity for extractive industries which create deforestation and forest degradation through land use change activities. Together with indigenous people, WALHI has created a coalition which protect primary forest are from converting to oil palm plantations (www.walhi.co.id, accessed 2 April 2020).

The actions of the NGOs and civil society organisations in framing the issue succeeded in reaching the attention of the government in their considerations of the ratification of the Paris Agreement. They used citizen's *perceptions* to frame the issue

as a problem to be brought to the attention of the government (Kingdon, 2011, p. 110). Their perceptions were that the Paris Agreement was important for demonstrating the government's commitment to protecting Indonesian people from the impacts of climate change.

The role of NGOs and environmental activists is not only to frame and bring a problem to government attention *(problem broker)*. They move further beyond the problem stream and find solutions in the *policy stream*. In the multiple streams approach, NGOs and other activists are known as *policy entrepreneurs*. The difference between the two is that problem brokers only frame a problem and argue that action must be taken to address the problem without offering policy solutions, while policy entrepreneurs suggest solutions to problems.

The NGOs also played an important role as *policy entrepreneurs* because they facilitated the government process by drafting an academic paper and the Law. The academic paper, which is a prerequisite of the policy process, was prepared by the government and brought to the parliament with a draft of the bill. In *the policy stream*, the government and the NGOs worked together to prepare the academic paper. Focus group discussions and a consultative process with the policy community consisting of experts, analysts, bureaucrats, and academics, were then undertaken. In the *political stream*, the stakeholders influenced the political dynamics of the political process through advocacy campaigns. In this process, the problem, policy, and political streams were coupled, and thus converged to open the policy window of opportunity for policy change (Kingdon, 2011, p. 202). This coupling resulted in the Law of the Ratification of the Paris Agreement.

In the case of the carbon tax, the government's response to the recommendation from the Ministry of Finance Green Paper showed the importance of the issue for

government in bringing it onto the policy agenda. The Ministry of Finance Green Paper was a research project conducted in collaboration with the government of Indonesia and the Australia-Indonesia Partnership (Ministry of Finance, 2009). It identified fiscal and economic policy strategies for climate change mitigation in the most cost-effective ways.

One of the strategies in brief was the efforts to the introduction of a carbon tax on the energy sector, in particular, on fossil fuel combustion (Ministry of Finance, 2009, p. 2). The study recommended that introducing a carbon tax would be required to achieve a national GHG emissions reduction target both in the short and long-term at least costs. A suitable strategy would be to introduce a carbon tax with the low rate at the beginning of the phase. The economic modelling from the study found that a carbon tax would result in both a reduction of the poverty rate, and a slight increase in GDP. The study also recommended that a carbon tax would build Indonesia to build a more credibility at international climate negotiations. Indonesia could propose such a tax as part of its unconditional 26% emissions reduction.

The Ministry of Finance Green Paper has been a major project which is the product of a significant collaboration among prominent researchers, analysts, and experts from both Indonesia and Australia. It has been designed to set out the principles for climate policy through implementable strategies, and as a step toward an efficient long-run carbon mitigation policy strategy. However, since the establishment of the study, the government has not followed-up any of the recommendations. Absence of policy communication among stakeholders regarding the important findings of the paper have created a lack of awareness about the paper. Furthermore, the government has not engaged the stakeholders in discussing the policy recommendations for a carbon tax. As a result, a carbon tax which has been

recommended as a climate mitigation policy option for Indonesia has still not been placed onto the policy agenda.

In this case, the role of government in bringing a problem onto the policy agenda is crucial. As Kingdon said, in the problem stream, when a problem is not perceived by the policymaker as an issue that requires attention, it will not go onto the policy agenda. In such a situation, stakeholders need to frame the issue as one that requires government attention. For example, researchers and/or academics could create focus group discussions with government agencies throughout Indonesia to discuss the research findings and the potential for bringing it onto the government agenda, while NGOs could frame the importance of introducing a carbon tax in Indonesia through mass media campaigns. For example, WALHI-Friends of the earth Indonesia engaged in the global March for Climate, urging global leaders to rise an awareness of addressing climate change impacts. WALHI also established the School of Ecology in Malang, East Java as one of their initiatives to raise people awareness of climate change and environment. Consultative meetings with affected stakeholders, such as business players, are also necessary to communicate the idea that the carbon tax rate would initially be modest, and that there would potentially be subsidies for using low-carbon technologies for business stakeholders.

Conclusion

Introducing a carbon tax involves multiple stakeholders from across agencies – government, politicians, business players, and civil society – in the policymaking process. Different views, interests, and perspectives from various stakeholders need to be gathered and extracted to formulate a solid and legitimate climate policy. Therefore, understanding the diversity of stakeholders' perspectives is a vital approach in achieving a successful carbon tax policy.

Building good communication with the stakeholders is another of the key factors to achieving the effectiveness of a climate policy. Convincing business players and elected politicians about the significance of a carbon tax and increasing public awareness of climate change issues are required to create an effective policymaking process for a carbon tax in Indonesia. More than communication, building a common goal or consensus among stakeholders is crucial for achieving an effective policymaking process.

Addressing corruption to improve transparency and accountability is also important. Lack of transparency and accountability weakens policy enforcement and reduces policy effectiveness. Therefore, in the climate policy context, the government must convince the public that the government is serious about addressing corruption and building public confidence in the government.

The interviews with the selected key Indonesian stakeholders showed that one of the key factors in achieving an effective policymaking process to introduce a carbon tax is that the government needs to engage with all stakeholders in the process. All the stakeholders must be engaged from the outset of the policy process to reach an understanding and lead to a successful policy process.

The government needs to work with the stakeholders from the beginning of the policymaking process. This is because the policy participants both inside and outside of government first need to turn a *problem* into a policy issue. According to Kingdon's theory, the stakeholders outside of government make the government pay attention to a problem and bring it onto the policy agenda. Therefore, framing an issue and turning it into a problem that reaches the attention of government is important. This implies that the role of the stakeholders in framing a problem in a particular way to reach government attention is significant. The policy participants inside of government and

the stakeholders outside of government are important in bringing a problem onto the

policy agenda.

CHAPTER VII

ANALYSIS

Introduction

This chapter presents an analysis of the key findings from the three empirical findings chapters related to the questions guiding the thesis. The analysis will focus on three key themes that have been identified which establish the basis for the conclusions. Each theme will be critically discussed in relation to the research questions and relevant academic debates. The first theme is the conflict between the lofty ambitions of the Indonesian government to reduce GHG emissions and the current national development plan and policy priorities. The second theme is the influence of business stakeholders on the climate policy-making process in Indonesia, as business stakeholders play an important role in shaping climate policies. Finally, the third theme is the impact of corruption on the climate policy-making process in Indonesia which influences the effectiveness of climate mitigation efforts. Below, I begin by discussing the first theme of the analysis.

Conflicts between Indonesia's lofty ambitions to reduce its GHG emissions and development priorities

The first key finding of the thesis is the perceptions of Indonesian stakeholders about a carbon tax and its place within Indonesia's national policy agenda. The results of this thesis have revealed that Indonesian stakeholders recognise the adverse impacts of climate change on domestic social, economic, and environmental quality. They also believe that having a carbon tax would increase Indonesia's credibility in the international community to show that they have a clear climate mitigation policy. This is important because in global climate change negotiations, Indonesia needs to

demonstrate policy coherence and policy certainty to achieve its ambitious emissions reduction target.

The findings suggest that there are two drivers of Indonesia's climate policies which can be clustered into external and internal drivers. Firstly, Indonesia has stated an external commitment which is a highly ambitious target for reducing GHG emissions, and which is connected to global norms and foreign policy goals. However internally, there is a serious ongoing conflict between the stated ambition and the current development plans and policy goals. This conflict exists because the government of Indonesia needs to formulate climate mitigation efforts to fulfil its international commitment to reducing GHG emissions, but in practice the government emphasises continued economic growth on a carbon-intensive development pathway.

It needs to be considered that a carbon tax, or climate policies in the broader sense, is not the current focus of the domestic Indonesian policy agenda. The government of Indonesia has focused its development agenda on maintaining economic growth and reducing poverty, unemployment, and inequality. Key Indonesian stakeholders perceive that a carbon tax as a climate policy option would conflict with the Indonesian national development agenda and international imperatives. It is perceived that climate mitigation efforts to reduce GHG emissions as an international commitment will disturb domestic policy goals that focus on economic growth. As a result, in Indonesia, a carbon tax is not a priority on the national agenda. In the wider sense, this is the central issue in climate change debates between developed and developing countries.

As Elliot (2004) and Post et al (2019) explained, there are two prominent issues in international climate change debates between developed and developing countries. The first issue is about how to formulate climate mitigation policies in each country to

address climate change problems. According to Elliot, this is important beyond technical and methodological issues, because climate policies have direct impacts on the economy in developing and developed countries. Therefore, they harm the development prospects of these countries (especially developing countries), even though they have contributed comparatively little to the problem.

The second issue is related to the responsibility of each country to reduce GHG emissions. Developed countries, in particular the United States, argue that because climate change is a global problem, any mitigation efforts from developed countries are not meaningful if developing countries do not have the same commitment to do so. On the contrary, developing countries argue that developed countries enforce 'environment colonialism' because they avoid their responsibility to reduce the GHG emissions they produced during their industrialisation process, which have led to climate change (Elliot, 2004, p. 83). In addition, Post et al. (2019) argued that 'responsibility' is the central debate in global climate change issues. According to Post et al., developing countries argue that historical emissions should be proportionally acknowledged to global climate efforts since the pre-industrial era when GHG emissions were considered a main cause of the global climate change problem. Conversely, developed countries contend that it is difficult to quantify equitable historical emissions to climate change efforts, therefore developed nations have a concern to mitigate climate change, but not proportional with their historical emissions contribution (Post, Kleinen-von Königslöw, & Schäfer, 2019, p. 725).

As a developing country and a member of the global community, climate policies in Indonesia are shaped by global norms, international agreements, and international organisations. The literature shows that international organisations, and the global norms and principles, treaties, and policy norms they promote, influence domestic

national climate policies (Hironaka, 2014, p. 16; Kukkonen et al., 2018, p. 54; Schofer & Hironaka, 2005, p. 25).

Relevant players involved in this issue include international organisations such as the Intergovernmental Panel on Climate Change, and Greenpeace; international treaties and agreements such as the United Nations Framework Convention on Climate Change, the Kyoto Protocol, and the Paris Agreement; international norms such as the principle of Common but Differentiated Responsibilities, and the obligation to submit the Nationally Determined Contributions (NDCs) to the UNFCCC following ratification of the Paris Agreement (Kukkonen et al., 2018, p. 54). In general, key Indonesian stakeholders support the global norms promoted by such international organisations in relation to global climate change problems and the importance of mitigating the adverse impacts of climate change by reducing GHG emissions.

International organisations influence domestic policymaking through engagement in climate policy debates in different countries. For example, the UNFCCC organises the UN Conference of Parties (COP) negotiations and produces policy recommendations for international governments. The IPCC provides science, advice, and technical support, and publishes reports of coordinated research which show that climate change occurs as a result of human activities. These international reports, principles, and recommendations endorsed by international organisations enter the domestic policy arena, leading to climate policy debates (Alasuutari, 2015, p. 21). Stakeholders in both developed and developing countries refer to these global norms in their process of developing climate mitigation policies. This was also the case in Indonesia in the ratification of the Paris Agreement. The Paris Agreement requires each party to prepare and submit successive NDCs every five years to the secretariat of the UNFCCC as part of their contribution to reducing global emissions (Article 4,

paragraph 2). The NDCs document is an integral part of the ratification of the Paris Agreement.

The ratification of the Paris Agreement has become a watershed for the government of Indonesia in shaping its climate change policies. This is because the ratification of the Agreement creates direct consequences for Indonesia. Even though there will not be any penalties if the reduction targets are not achieved, the Paris Agreement has positive impacts in terms of the nation's international reputation. This is important to Indonesia to show the international community that Indonesia is determined to combat global climate change. Having a positive international reputation will also create opportunities for Indonesia to receive international assistance for climate mitigation programs in the form of funding and low-carbon technologies. By ratifying the Paris Agreement, Indonesia needs to demonstrate its climate mitigation efforts to reduce greenhouse gas emissions which have been pledged in the *Nationally Determined Contributions*.

After the ratification of the Paris Agreement, the government of Indonesia submitted the Nationally Determined Contributions (NDCs) as an integral part of the Paris Agreement. The NDCs outline the climate policy actions and the necessary enabling conditions during the period 2015-2019 to prevent an increase of 2°C in the average global temperature and to limit the temperature increase to 1.5°C above pre-industrial levels (Republic of Indonesia, 2016, p. 2). The policy strategies in the NDCs lay the groundwork for more ambitious goals beyond 2020 which forces domestic policy change in line with international norms. If they do not do so, there will be no international sanctions for Indonesia; however, Indonesia's reputation on climate change efforts will be negatively affected which will lead to a decrease in international assistance for climate change mitigation programs.

Non-government and civil society organisations played a critical role in the policy process regarding the ratification of the Paris Agreement in Indonesia. They framed the importance of Indonesia's tropical forests for capturing carbon emissions, and the role of Indigenous communities to protect the environment in dealing with climate change. These organisations succeeded in gaining the attention of government and bringing the problem onto the national agenda (Knaggard, 2015, p. 452). For example, actions by NGOs and CSOs have been one of the major factors that have influenced the government of Indonesia to ratify the Paris Agreement. At the international level, these organisations worked closely with negotiators and governments by providing policy solutions and expert advice. They also engaged in the production of research-based reports and papers on particular topics. An internal document obtained from one of the NGO stakeholders showed that before the signing of the Paris Agreement in New York on 22 April 2016, around 30 NGOs, both international and domestic, had a meeting discussing the importance of Indonesia's tropical forests to capture carbon emissions, and the role of Indigenous communities to protect the environment in dealing with climate change (Windyswara, 2018, p. 27). This meeting showed that this transnational network helped domestic NGOs bring pressure on the Indonesia government to create policy change. These NGOs, among others, included: Greenpeace South East Asia, *Jaringan Advocacy Tambang (JATAM)*, the World Wildlife Fund (WWF), *Wahana Lingkungan Hidup (WALHI)*, *Sawitwatch, Aliansi Masyarakat Adat Nusantara (AMAN)*, the Raca Institute, and Forest Watch Indonesia (FWI). The result of this meeting was the establishment of a new international network known as *Climate Justice Now!* In this network, activist groups across Indonesia agreed to share their expertise and resources, and to collaborate with each other to intensify their efforts to mitigate climate change, and to pressure the government of

Indonesia to ratify the Paris Agreement immediately as a commitment to protect their people from the impacts of climate change.

Interviewees from the leading NGOs stated that those most affected by climate change are Indigenous people. Therefore, Indigenous organisations also supported international and domestic pressure in recommending that the government ratify the Paris Agreement. The Indigenous people who are grouped in *Aliansi Masyarakat Adat Nusantara (the Alliance of Indonesian Indigenous Society)* have said that Indonesia's Indigenous land accounts for around 20% of the world's tropical forests. This shows that Indigenous groups play an important role in preserving forests and have the potential to deal with climate change problems. They prevent deforestation and forest degradation from illegal logging by large companies. For Indigenous communities, the forest is not only their home, but also their source of income and their identity. Therefore, Indigenous Indonesian alliances recommend the government of Indonesia to include the rights of Indigenous people in the implementation of the Paris Agreement.

The role of NGOs (both domestic and international) is important in the formulation of climate mitigation policy in Indonesia. In Kingdon's multiple streams framework (in the *problem stream)*, these stakeholders have framed the issues as a problem which then enabled them to bring the problem onto the government agenda. They framed the importance of the forestry sector in Indonesia as the major source of emissions. To do so, they leveraged international organisations, international NGO networks, transnational alliances, and Indonesia's foreign policy goals. Framing a particular situation and bringing it to the government's attention is important because the government only has limited time to pay attention to all the problems they have to deal with (Herweg et al., 2015, p. 437; Kingdon, 2011, p. 184). In the aforementioned example, the NGOs and CSOs in the policy process of the ratification of the Paris

Agreement in Indonesia became *policy entrepreneurs*. Policy entrepreneurs play an important role in framing problems to generate attention, prepare solutions, and create opportunities to act (Cairney, 2018, p. 202). According to Kingdon (1984), they are stakeholders of policy change who have the skills and knowledge to be able to exploit opportunities (Kingdon, 1984, pp. 165-166).

The Indonesian policy to ratify the Paris Agreement is a continuation of the Indonesian commitment to international laws and treaties to address global climate change issues. As the stakeholders explained in the interviews, *image building* for Indonesia is important in the global political arena. Having a good international reputation will help Indonesia gain international assistance for achieving its emissions reduction target (Wuryandari, 2015, p. 125). Beyond this, Indonesia will lead developing countries in combatting global climate change problems. The ratification of the Paris Agreement also showed that Indonesia complies with international principles and responsibilities as part of the global community to preserve the quality of life (Windyswara, 2018, p. 1433). Through the ratification of the Paris Agreement, Indonesia has gained a number of advantages such as access to international funding, human resource development, environmental protection technology, and the necessary cooperation and coordination to assist with the implementation of the Paris Agreement. Nevertheless, the most important objective of the ratification of the Paris Agreement is for the international community to have a positive impression about the awareness of the Indonesian government towards environmental protection at both the national and global levels.

Purdon (2015) argued that national stakeholders' responses to climate policy norms promoted by international organisations differ between countries (Purdon, 2015, p. 5). Kukkonen et al. (2018) explained that the influence of international organisations in shaping domestic climate policymaking can be differentiated between

developed and developing countries. They analysed the role of international organisations in the national climate policy process and the coalitions that support or oppose them in four countries: Canada, the United States, Brazil, and India. Using the advocacy coalition framework (the ACF), their study found that in high-income countries (the United States and Canada), international organisations are less influential and there are strong competing coalitions against the norms promoted by the international organisations. According to their study, there are three conflicting coalitions in the USA and five in Canada.

In Canada, the coalitions are: 1) the economic coalition which perceives that climate mitigation policy has negative economic impacts; 2) the environmental coalition which believes that climate efforts will not create economic impacts; 3) the sceptical coalition which challenge the validity of the claims of anthropogenic climate change; 4) the science coalition which believes the validity of climate change by scientific research; and 5) the Common but Differentiated Responsibilities (CBDR) coalition which advocates for the CBDR (Kukkonen et al., 2018, p. 58). In the USA, the coalitions are: the economic and sceptical coalitions which believe that environmental protection is less important than economic growth, they challenge climate science, and oppose the regulation of business; 2) the environmental coalition which perceives that business should be regulated and protecting environment is more important than growth; and 3) the science coalition which believes that the scientific claim is valid (Kukkonen, 2018, p. 58).

In the USA, politicians and business stakeholders are central actors in the domestic policy debate and in opposition to international organisations, while in the Canadian case, universities and national NGOs are more central (Kukkonen et al., 2018, p. 57). This is relevant to Indonesia's situation because in Indonesia, there are also competing coalitions in the domestic climate policy process, which contradicts the

article. Firstly, transnational NGOs along with the domestic NGO coalition motivate the government of Indonesia to make efforts towards creating climate policies. Secondly, the business stakeholder's coalition which opposes government efforts to consider a carbon tax as a climate policy option. Conversely, in low-income countries (Brazil and India), the influence of international organisations are more central and there is less opposition to the global norms on climate change that they promote (Kukkonen et al., 2018, p. 58). There is no clear competing coalition and the debate is less polarised than in Canada and the USA.

Overall, those studies above demonstrate that domestic climate policies are shaped by international drivers and the outcomes of policy processes also vary between developed and developing countries. In developed countries, the roles of international organisations in the policymaking process are less influential. Conversely, in developing countries, international organisations play a more influential role in shaping domestic climate policies during policymaking development. Regarding international norms, there is strong opposition from stakeholders in developed countries to the global norms promoted by international organisations. While in developing countries, there is less opposition from stakeholders to the global norms.

In the policymaking process, the policy cycle model has been widely used across developed and developing countries to analyse policy outcomes. According to Weible and Sabatier (2017, p. 9), this model has become one of the most common frameworks to describe the stages of decision making despite criticisms for its over-simplification of the policy process. The common use of the policy cycle model to understand the policy process is because policy makers prefer a normative logical approach from problem definition to policy evaluation (Howlett et al., 2017, p. 65). However, in reality, policy makers often develop policy decisions to respond political conflicts rather than sequential stages from start to finish.

The Multiple Streams Framework (MSF) emerges as an alternative to the policy cycle model. Unlike the policy cycle model that ignores the complexity of the political atmosphere, the MSF acknowledges that a policymaking is a complicated process. The MSF lies at the three independent streams of the policy process: problem stream, policy stream, and political stream (Kingdon, 2011, p. 201). Stakeholders are involved in each stream and move from one to another stream. Policy decisions are made when the government is able to integrate all three streams in the policymaking process. However, while the MSF has mostly been applied in developed countries across policy sectors, the application of the MSF in developing countries is still rare (Zohlnhofer, Herweg, & Rub, 2015, p. 414). Findings of this thesis show that in Indonesia, policy making is a complicated process, involving multiple stakeholders with different interests. The stakeholders play an important role in the policy development from problem definition to decision making. For example, the role of NGOs in the process of ratifying the Paris Agreement. Therefore, this thesis contributes to the literature about the application of the MSF in the policy process in developing countries, especially in Indonesia.

Another alternative to the policy cycle model is the Advocacy Coalition Framework (the ACF). The ACF focuses on the key policy actors who share common beliefs and values to influence policies by creating coalitions. The ACF is especially useful to understand the policy process which deals with complex issues and involves multiple actors from various levels of government (Sabatier, 2009, p. 189). However, the ACF assumes that policy changes need stable and permanent coalitions over a long period. While the ACF is applicable in both developed and developing countries, in reality policymaking is a dynamic process and coalitions change rapidly. This makes the ACF difficult to understand the policy process in many countries, including Indonesia. This thesis provides new knowledge and original contribution to the

literature that NGOs, both domestic and international, play significant role in developing climate change policies in Indonesia. They bring climate change issues on the national agenda and influence the government to create climate change interventions. This thesis makes a novel contribution to knowledge about the policy process and the applicability of the MSF in Indonesia, demonstrating the complexities of policy making involving political and business stakeholders. This is an important contribution to the academic literature since studies of the application of the MSF in developing countries are still limited.

The findings from the above study fit the results of this thesis which show that most Indonesian stakeholders agree with government efforts to reduce GHG emissions according to global norms and international organisations. However, there is also a growing influence of the business stakeholder coalition in the parliament. The ACF is a useful framework to explain this. Jenkins-Smith et al. (2014) has argued that according to the ACF, organisations which aim to influence the policy-making process form competing advocacy coalitions based on shared core beliefs, including value priorities, elemental causes, and preferred solutions (Jenkins-Smith et al., 2014, p. 189).

This is useful to mention here because there is a strong coalition that connects climate goals to foreign policy goals, but there is also a growing domestic coalition of business stakeholders and corrupt officials. Transnational NGOs have formed a strong coalition with domestic NGOs. They believe that it is important for the Indonesian government to produce climate policies to reduce GHG emissions that are connected to global norms and international organisations. However, the economic coalition represented by business stakeholders believes that climate policies could harm the economy. They propagate the idea to the government that a carbon tax will create additional costs which will harm their business activities.

The findings of this thesis show that there is no clear indication of opposition in these coalitions to global norms and international organisations. All the stakeholders (except for the business stakeholders) are in agreement about the global norms on anthropogenic climate change and about the adverse impacts of global climate change and agree that there is a need for collective action to address global climate change problems. There is also a much less polarised debate between stakeholders regarding the global norms and the influence of international organisations in Indonesia's climate change policy-making process. This is important because less opposition motivates the government to create domestic policy change.

The lower level of opposition from Indonesian stakeholders to global climate change norms and international organisations can probably be understood through two factors. First, international organisations have provided financial assistance for the government of Indonesia in relation to climate change mitigation programs. According to data from the Ministry of Finance, in 2011, 22 international donors contributed an estimated US$3.851 billion to public finance flows in Indonesia in the form of climate change program loans and grants (Ministry of Finance, 2012). Most climate change program loans flow to state-owned enterprises as a form of low-cost project debt. Grants flow to private consultancies, NGOs, and other organisations involved in capacity building. Even though the funding disbursements are significantly lower than the commitments, international financial assistance helps the government of Indonesia achieve its ambitious emissions reduction goals. Second, it seems that global norms are less demanding for lower-income countries (non-annex 1) in terms of emissions reduction targets. According to the Paris Agreement, even though each country needs to submit their Nationally Determined Contributions (NDCs) to the UNFCCC after ratifying the Paris Agreement, there is still less opposition from lower-income countries, including Indonesia, because the emissions reduction targets are voluntary

and there are no penalties if Indonesia does not achieve its emissions reduction target. Nevertheless, Indonesian stakeholders perceive that aligning with global climate change norms and international organisations provides strategic political advantages and aligns with the government's foreign policy goals (based on the interviews for this project).

However, Indonesia's external ambitions, which are connected to global norms and international organisations, strongly conflict with the domestic national development agenda and policy goals. Policy commitments to mitigate the impacts of climate change promised to the international community have not been followed up with concrete domestic climate policies. Many of the policies that have been implemented are not consistent with these substantial commitments to protect the environment or to mitigate the impacts of climate change.

The interviews with key Indonesian stakeholders showed that their perceptions were in contrast to the government's statement in Indonesia's first NDC document:

> Indonesia is committed to transition its current development pathway towards low carbon and climate resilience in a phased approach. The pathway towards decarbonization of the economy will be fully integrated into Indonesia's National Medium-Term Development Plan for the period 2020-2024 (Republic of Indonesia, 2016, p. 8).

The stakeholders argued that boosting economic growth is the focus of Indonesia's current development policy. This will be achieved through prioritising infrastructure development, easing the business climate, and broadening tax incentives (Minister of Coordinating Economy, 25 April 2018). There are also concerns from Indonesian stakeholders that climate policies will reduce economic activity which will negatively affect economic growth. For example, the current Indonesian phase of development requires high levels of energy consumption. Therefore, reducing energy

consumption might hinder economic growth because Indonesia's high energy demand comes from three major fossil fuel sources: coal, oil, and gas (Jafari, Othman, & Nor, 2012, p. 880). Even though the focus of Indonesia's mitigation efforts is on the forestry sector, it is expected that the use of energy will significantly increase in the future. National energy demand will continue to increase until 2050 in line with economic and population growth. With an average GDP growth rate of 6.04% per year and population growth of 0.71% per year during 2016-2050, the average growth in energy demand is projected to be 5.3% per year (Indonesia Energy Outlook, 2018, p. 10). During 2016-2050, fossil fuels are projected to continue to be the major source of energy because current Indonesian energy generation technology is still based on fossil fuels.

The conflict between international ambitions and current development policy goals are reflected in the national development plans. Three major documents were analysed to triangulate the data collected from the interviews. Firstly, in the long-term national development plan (RPJP) 2005-2025, the term "climate change" is only mentioned twice, first on page 15, and next on page 34. Both instances refer to the impacts of climate change. On page 15, the document mentions that climate change causes both global and regional events that lead to drought and floods which result in a decrease in food and agricultural production. Meanwhile, on page 34, the document briefly states that climate change and global warming pose challenges to development in the long-term which affect human life and activities. Statements regarding climate change in the RPJP document are very brief without any explanation of how the government will address climate change problems and the policy strategies that will mitigate the adverse impacts of climate change. There is also no statement about carbon emissions in the document nor are there policy strategies to mitigate them.

The forestry and energy sectors are assumed to be the primary basis of Indonesia's continued economic development. Indonesia's long-term policy strategies

utilise rich natural resources including forestry, mineral resources, oil, coal, and gas to accelerate economic growth (p. 42). However, the government is also concerned about energy availability in the future. Therefore, innovative technologies and increasing human resources are also part of the strategy to use energy more efficiently and to find energy alternatives. However, the objective of using renewable energy such as geothermal, wind, solar, and biomass, is not to reduce GHG emissions, but rather, it is framed as being related to energy security to assure energy supplies in the future for further growth (p. 43).

The second national development document to be analysed is the medium-term national development plan 2010-2014 (called RPJMN 2010-2014). RPJMN 2010-2014 is a national development plan which was established for the period 2010 to 2014 based on Presidential Regulation no. 5/2010. It is the breakdown of the long-term development planning which is comprised of national development strategies, general policies, cross-ministerial programmes, cross-sectoral programmes, and a macroeconomic framework that includes fiscal policies in a work plan along with indicative funding (Bappenas, 2010, pp. I-1).

In the medium-term development plan 2010-2014, climate change issues were recognised within the national development plan. According to the RPJMN 2010-2014 Book 1, the government acknowledged the challenges associated with climate change and the impacts on the life of Indonesian people. Therefore, it was thought that economic development in Indonesia had to mainstream environmental issues as part of its development strategies through climate mitigation and adaptation (Bappenas, 2010, pp. I-33). The document also stated that existing environmental damage must be addressed through government policies such as land and forest rehabilitation, improvements to river basin management, developing eco-friendly energy and transportation, *reducing GHG emissions*, and controlling environment-related

pollution. The RPJMN 2010-2014 also integrated the government's emissions reduction target which was declared during the G20 Summit meeting in Pittsburgh, with Indonesia pledging to reduce its GHG emissions by 26% unconditionally and by 41% with international funding by 2020. Overall, in the RPJMN 2010-2014, the government placed climate change issues as one of the national development priorities under priority no. 9: environment and disaster management.

However, the Indonesian government also introduced the Masterplan on the acceleration and expansion of Indonesian economic development 2011-2025 (MP3EI), which was an integral part of the medium-term national development plan 2010-2015. The MP3EI highlighted economic growth targets, such as the development of coal-based power plants, the expansion of palm oil and forest plantations, and mining in Kalimantan. The general objective of the MP3EI has been to ensure that Indonesia's economic development will reach not only all the regions, but also all the Indonesian people in these regions. Therefore, from the perspective of the MP3EI, the government wants to establish greater national connectivity within the six economic corridors of Sumatra, Java, Kalimantan, Sulawesi, Bali and the NTT, and Papua. These corridors are economic centres which will be developed equally based on their economic potential. However, there have been many criticisms of the MP3EI program. Mulyana (2015) argued that the MP3EI program is similar to the Soeharto approach during his authoritarian regime. According to the author, the massive infrastructure development put forward in the MP3EI program uses a top-down approach which does not recognise public participation and has no environmental assessment process. Consequently, at the operational level, the MP3EI often excludes local people and creates significant environmental damage (Asep Mulyana, 2015, p. 5). Therefore, government policies to accelerate economic development actually contradict the commitment of the government of Indonesia to reduce GHG emissions, which has

been announced to the international community. Again, this is an example of a conflict between external and internal policy ambitions.

The only reference to the climate change effects is in relation to the production of rice, but there is no discussion of any mitigation or adaptation policy measure. As a result, even though there is an effort for mainstreaming climate change into national development plan, in practice, the objectives lack of details in any of the major document. This is a common issue globally. De Roeck et al. (2018) argued that despite the increasing concern about climate change in developing countries, often this commitment to address climate change does not adequately continue in policy practices. The mainstreaming commitment thus fails to realise in implementable policies (De Roeck, Orbie, & Delputte, 2018, p. 37). According to De Roeck et al., the main barriers for mainstreaming climate change policy into policy changes are the lack of human resource capacity and a lack of political will from key stakeholders. Therefore, articulating political will and resource reallocation are major factors in shifting normative commitments into practice.

The third national development document to be analysed is the medium-term national development plan 2015-2019 (called RPJMN 2015-2019). RPJMN 2015-2019 is the national development plan document which was established for the period of 2015 to 2019 based on Presidential Regulation no. 2/2015. It is the third stage of the long-term national development plan 2005-2025. In this third development plan, the government has focused on the achievement of economic competitiveness based on natural resource advantages, enhanced knowledge and technology, and the expansion of qualified human resources. Climate mitigation and adaptation planning on cross-sectoral programmes has been included to achieve an emissions reduction target of 26% by 2019. Most of the climate change programmes in the development planning 2015-2019 document are related to addressing the impacts of climate

change. These programs include, for example, mitigating disaster and climate change through enhancing environmental quality control, controlling pollution and environmental degradation, environment law enforcement, disaster risk management, and strengthening the capacity of mitigation and adaptation programmes. Low-carbon development and adaptation to climate change is included in the development plan as a policy strategy to reduce GHG emissions. In the global context, the policy strategy of the government in relation to climate change in the RPJMN 2015-2019 is via more involvement in international climate change negotiations and diplomacy.

However, in practice, climate mitigation and adaptation policies in the development plan conflict with economic development strategies which do not support the climate change policy programmes. Conflict between the stated ambitious external commitments and the internal policy goals are also reflected in competing internal policy agendas. For example, in the forestry sector, Indonesia has expansionist policies for the palm oil industry focusing on market creation and production goals. This situation is particularly concerning given the fact that most of the land use change for oil palm plantations in Indonesia has been in natural primary forest and peatlands (Wicke, Sikkema, Dornburg, & Faaij, 2011, p. 194).

The pattern of palm oil expansion also raises concerns about biodiversity loss and deforestation which have contributed significantly to a sharp increase in annual GHG emissions in Indonesia (Varkkey, Tyson, & Choiruzzad, 2018, p. 150). The policy of increasing productivity serves as an incentive to expand the area of palm oil operations in Indonesia. With a land area six times larger under cultivation than Malaysia, the expansionist policy of palm oil in Indonesia has enabled the industry to grow rapidly. Moreover, unlike Malaysia, Indonesia has never made defined forest cover pledges to the international community. Thus, there is no incentive for the

government to limit its expansionist policy, despite forests being the biggest contributor to GHG emissions (Varkkey et al., 2018, p. 152).

In the energy sector, despite the considerable potential of renewable energy, most primary energy consumption is supplied by fossil fuels (Hasan, Muzammil, Mahlia, Jannifar, & Hasanuddin, 2012, p. 3210). Fossil fuels still play a dominant role in Indonesia's energy sector. This is because Indonesia has abundant reserves of oil, gas, and coal. Nevertheless, since 2009, Indonesia has been a net oil importer, but still a net exporter of natural gas and coal. Therefore, national energy supply is still mainly based on fossil fuel energy, with only a small proportion being based on renewable energy.

Indonesia's energy policy shows that the use of energy is still mainly based on fossil fuel-generated energy. The use of coal as a primary energy source for the national electricity project opposes the climate policy strategies stated in the development plan. This is because it conflicts with the government's commitment to reducing its CO_2 emissions by 29% by 2030, which has been pledged to the UNFCCC. In addition, because coal has lower thermal efficiency, more coal is required to generate the same amount of heat compared to other fossil fuels such as oil and gas (Kurniawan & Managi, 2018, p. 577).

It is estimated that the use of this fuel mix will increase CO_2 emissions from 211 million tonnes in 2016 to 395 million tonnes in 2025. Out of 395 million tonnes of such emissions, 317 million tonnes (80%) comes from coal burning (Ministry of Energy and Mineral Resources, 2016b, p. 170). So, current plans and priorities are inconsistent with Indonesia's stated emissions reduction target which will increase emissions by 187% between 2016 and 2025.

An existing body of literature shows that in the case of climate policies, domestic policy preferences are shaped by conflicts between pro- and anti-climate policy

interests. The policy process involves multiple stakeholders with different ideologies among politicians, economic players, voters, and interest groups which create distributive conflicts in the policymaking process (Alkin & Mildenberger, 2018, p. 3). According to Alkin and Mildenberger (2018), in the climate policymaking process, reciprocity is a fundamental principle. Political actors are willing to implement policy changes only if other countries do so. If not, political actors will avoid, or be reluctant, to preserve their climate policy commitments. Akin and Mildenberger (2018) further explain that this is especially the case when defection is performed by a larger country. For example, the withdrawal of the US (as the biggest carbon emitter in the world) from the Paris Agreement has been one of the major factors in discouraging climate policy initiatives in other countries. The logical argument is that when climate change is a global problem, it is impossible to solve the problem without pivotal players' participation.

Interviews with Indonesian key stakeholders revealed that Indonesian stakeholders perceive that a carbon tax as a climate policy option would conflict with the Indonesian national development agenda. They believed that Indonesia is a developing country and at this stage, the government needs to focus on how to increase its economic growth. A carbon tax or climate policies could disturb or damage this trajectory. Therefore, in many sectors, there are government policies with economic objectives but undermine the government ambition to reduce its GHG emissions. For example, palm oil expansion policies in the forestry sector, or the use of coal fires in the development of power plant infrastructures, are detrimental to GHG emissions reduction.

Maintaining economic development while at the same time mitigating climate change issues is challenging. The academic literature has long discussed the trade-

off between economic conditions and concern about environment (Mildenberger & Leiserowitz, 2017, p. 801). Scholars have argued that in developing economies, people prioritise their short-term economic needs rather than long-term environmental concerns (Ayers & Dodman, 2010; Elliott, Seldon, & Regens, 1997; Guber, 2003; Gupta, 2009; Inglehart, 1997; Kahn & Kotchen, 2011; Ma & Jiang, 2019; Reddy & Assenza, 2009; Scruggs & Benegal, 2012; Shum, 2012; Walker, 1989). However, most of those studies discuss the prioritisation of economic goals over environmental concerns based on public opinion. Findings of this thesis contribute to the literature by supporting this argument based on elite perspectives from Indonesian key stakeholders. This thesis brings new knowledge to the literature, presenting evidence that even though Indonesia focuses on its economic development, the government remains committed to the emissions reduction target, despite the inevitable tension this reveals. This commitment continues even with the withdrawal of the US from the Paris Agreement, despite the challenging dynamics of domestic climate change governance.

The government of Indonesia recognises that climate mitigation policies are important. In addition, there is less opposition from Indonesian key stakeholders to international norms promoted by international organisations. However, in practice, the implemented policies are often inconsistent with the stated commitment to achieve the emissions reduction target. From this analysis, it has been speculated that business stakeholders play an influential role in the inconsistent nature of climate policy. The role of business stakeholders to influence the climate policy-making process will be analysed in the following section.

The influence of business stakeholders in the climate policy-making process in Indonesia

In the previous section, we discussed why the stakeholders perceive that a carbon tax is not compatible with the national development agenda. In this section, the role of business actors in shaping climate policies in Indonesia will be analysed. This thesis has produced the key finding that the introduction of a carbon tax presents political challenges because of the influence of business players in the policy-making process, and opposition from politicians during the legislative process. The interviews with key Indonesian stakeholders showed significant political opposition which challenges the introduction of a carbon tax in Indonesia. These challenges lead to a lack of political support from politicians during the policy-making process. This section will focus on the analysis of business stakeholders' behaviour in response to climate policymaking by government, and how the government deals with opposition from the business stakeholders.

During the interviews, the business stakeholders and politicians recognised that the influence of business players in the post-Soeharto era has deepened. This is because more business actors have entered the political arena by becoming members of parliament or political leaders. Business actors are also now active in the government bureaucracy, holding important positions across government institutions. These strategic positions give them strong bargaining power in favour of their business interests. The trend of business players becoming politicians and government officials is different from the pattern during the Soeharto era (*New Order* era).

Carney and Hamilton-Hart (2015) described the different role of business actors in the Soeharto era compared to the reformation (post-Soeharto) era. The authors explained that during the Soeharto era, large business conglomerates had strong patronage relationships with the Soeharto family. Basically, large business owners

were close to the family; however, they did not have political power nor did they have the authority to influence political decisions. This is because at that time, political power and decision-making were in the hands of Soeharto himself and his very limited circle.

In the post-Soeharto era, large conglomerates have had the opportunity to enter politics and broaden their political roles in the government and the parliament. Many business players have now become members of parliament, political party leaders, or even high-ranking government officials.

Since the reformation era, political and business relationships still remain as they did in the New Order era. In other words, the tradition of business patronage in the political process from the New Order remains. These relationships are apparent through the efforts of business actors to protect their business interests through lobbying and negotiation with political actors or government officials. These relationships show transactional patterns to seek rent from government. Business actors influence the policy-making process to protect their business interests, seek business concessions, and obtain government projects and funding. These players seek opportunities to receive government resources, protection, and authority for certain activities (Fukuoka, 2012, p. 84).

In practice, rent-seeking behaviours in the reformation era have increased because there is now a collaboration between rent-seekers (business) in the economic sector and decision-makers (government and politicians). This occurs not only at the central government level, but also at the decentralised level (in local government). Even though the post-Soeharto era is now more open and democratic for the public to participate in the public sector, the influence of business players in political decisions are evident. More openness has also provided more space for the influence of

business stakeholders who have the resources to devote to it. Fukuoka (2012) argued that business influence has deepened in the post-Soeharto era because the newly-structured parliament has been empowered to utilise the executive. This means that the parliament is more powerful because policy proposals from the government must be approved by the parliament to become law. Previously, in the New Order era, the parliament only had a symbolic function to formalise all government policy proposals. There were no checks and balances between members of parliament and the government as the executive, because most members of parliament were government associates.

The parliament now enables business actors to have greater access to state patronage through legislative or cabinet positions (Fukuoka, 2012, p. 85). This argument is supported by Kuncoro (2006) who studied business behaviours in Indonesia. Kuncoro explained that rent-seeking behaviours focus on bribery for government products such as business licences, fire safety inspections, environmental standards regulations, logging permit issuances, and environmental contract inspections (Kuncoro, 2006, p. 11).

The literature demonstrates the influence of business stakeholders on the issue of climate change. For example, Heede (2014) estimated that two-thirds of global GHG emissions are the result of less than only one hundred companies, most of them operating in the energy sector; in particular, the oil, gas, and coal industries (Heede, 2014, p. 234). With the growing demand for energy consumption, it is estimated that eighty per cent of energy demand is supplied by fossil fuel energy (IEA, 2015, p. 57). As a consequence, even with full implementation of the Paris Agreement, it is estimated that the world will remain on track to increase global average temperatures by 3.5° Celsius by 2100 (UNEP, 2015, p. 4). Therefore, there is urgency to limit the growth of GHG emissions to avoid the devastation of a far warmer world. Governments

must intervene to create climate mitigation policies in order to reduce GHG emissions. However, often the most effective and efficient policy instruments endorsed by policy-makers have failed to be operationalised because of political resistance from business stakeholders, especially the fossil fuel industries (Downie, 2017a, p. 584). For example, in the USA, the 'supermajor' companies of oil, gas, and coal producers were the principal business stakeholders in establishing a coalition to contest climate and energy policy between 2012 and 2017 (Downie, 2018, p. 644). Aklin and Urpelainen (2013) also argued that clean energy policies for power production are unlikely to happen when fossil fuel industries dominate the electricity market because these industries oppose such policies. This demonstrates the challenge of policies that disadvantage entrenched industries and business interests.

Business stakeholders have played an important role in shaping government policies around the world. A number of studies have shown the influence of business stakeholders across multiple policy areas, including climate policies (e.g. Clapp & Meckling, 2013; Tienhaara, Orsini, & Falkner, 2012; K. Tienhaara, 2014). Tienhaara, Orsini and Falkner (2014) studied the involvement of global corporations in the development of global environmental governance. They found that in past decades, most global companies have not changed their behaviour in responding to environmental policies. Their responses are typically either sceptical or dismissive, with their competing message that environmental measures are against economic benefit (Tienhaara et al., 2012, p. 46). However, according to Tienharaa et al., today most global corporations are likely to agree that policies to address global environmental issues are important. This behaviour change has occurred in part because of the growing role of NGOs in mobilising the public on environmental issues which, as a result, can damage brand identity. The role of NGOs in shifting the position

of business stakeholders from hostility to being environmentally-friendly over recent decades cannot be underestimated, at least in relation to branding and image.

The role of business stakeholders in shaping global governance and the climate policy-making process has also been observed by Clapp and Meckling (2013), who studied how business stakeholders influence policy outcomes through numerous channels in the global environment and the climate policy-making process. The study found that the key activities of business stakeholders involve lobbying, market influence, and issue-framing. The study concluded that the involvement of business stakeholders in policy-making aims to make environmental policies more compatible with their business interests (Clapp & Meckling, 2013, p. 294).

Downie (2017) analysed the role of business stakeholders in shaping climate policy-making in the United States. His case study focused on the coal and utility industries. He chose these industries as case studies because in the USA, they are the largest sources of global GHG emissions. Furthermore, resistance from these industries can delay or disrupt government efforts to address climate change issues. Ten coal producers representing 76 per cent of total US production, and fifteen electricity companies representing 71 per cent of total market shares were identified in the study (Downie, 2017b, p. 24). Two key climate mitigation policies were analysed to investigate the role of business in shaping climate policies: the *Waxman-Markey Bill* (the American Clean Energy and Security Act), and the Clean Power Plan during the Obama period of 2009-2013.

The Waxman-Markey Bill aimed to introduce a nationwide emissions trading scheme. It comprised policies such as energy efficiency and renewable energy standard to decrease GHG emissions by 17 per cent by 2020 below 2005 levels (Downie, 2017b, p. 27). The bill set up a cap on GHG emissions from determined

sectors and provided the companies to trade their emissions certificates. However, the legislation has never been passed by the Senate, and 12 months later, the cap and trade measures were halted.

Business stakeholders from coal companies and utility industries played a significant role in supporting or opposing the bill. The study shows that the majority of the coal industry opposed the bill, because the firms perceived that the bill would be very costly to their business. However, the utility industries' position on the bill varied depending on the sources of energy they used. The utility industries which used less than one-third coal and used more renewable energy, did not oppose because they saw potential benefits they would make from the bill. This is because low-carbon technologies would receive financial subsidies from the government (CCES, 2010, p. 2). This finding supported the results of a recent study on the utility industries and the Waxman-Markley bill by Kim et al. (2016), which showed that utility industries with high renewable energy generation supported the bill because of expected potential gains (Kim, Urpelainen, & Yang, 2015, p. 252).

The second case of the behaviour of business stakeholders toward climate-related policy in the USA is that of the Clean Power Plan. The Clean Power Plan was introduced in June 2013 by the EPA (Environment Protection Agency). It aimed to reduce GHG emissions from power plants by 30 per cent from 2005 levels by 2030. Under the act, the EPA established federal standards for new and existing power plants to use clean coal technology in their power generation. Like the Waxman-Markey Bill, the coal companies almost unanimously opposed the bill as they believed that the Clean Power Plan would make the coal industry even less competitive than the Waxman-Markey Bill would have. The utility industries also varied in their responses based on the amount of coal they used in their power generation (Downie, 2017b, p. 32). Additionally, major industry associations, such as the ACC (the

American Coal Council), the NMA (the National Mining Association), and the EEI (the Edison Electric Institute) also opposed the Clean Power Plan (Downie, 2018, p. 660).

Business stakeholders went on to form a coalition to oppose the bill in January 2014, when the Chamber of Commerce and the National Association of Manufacturers established the Partnership for a Better Energy Future. It aimed to lead business and the industrial community, in response to the government's GHG regulation agenda, by bringing together more than 200 coalitions, including associations from the mining, manufacturing, transport, farming, the oil and gas sector, and other state chambers of commerce (Downie, 2018, p. 660). In response to the opposition from business stakeholders, the Obama administration delayed the implementation of the regulation, and in 2016, the Supreme Court stopped the implementation of the Clean Power Plan. It seems that the Clean Power Plan will never become a regulation after the election of Donald Trump as the President of the United States of America.

To oppose the government regulation, business stakeholders created a coalition to share their common policy beliefs that the Clean Power Plan would increase their production costs which would lead to diminishing market competitiveness. In theory, sharing common policy beliefs in a policy sub-system is the basic assumption of the Advocacy Coalition Framework (ACF) in the theory of the policy process developed by Jenkins-Smith and Sabatier (Jenkins-Smith et al., 2014, p. 189). However, the coalition established by business stakeholders in this case worked differently from the theorisation of coalitions according to the ACF. In the ACF, it is assumed that coalitions are permanent and stable for policy change over a long period (Weible & Sabatier, 2017, p. 192). In contrast, in the case of the formation of the Partnership for a Better Energy Future, business stakeholders built an informal coalition known as an "ad hoc coalition" (Downie, 2018, p. 648). An ad hoc coalition has an informal structure and is only built for a single policy issue over a short period of time. In addition, in an ad hoc

coalition, members do not carry specific obligations, such as having to pursue a particular strategy.

The influence of business stakeholders in shaping climate policy-making in Indonesia mirrors the case of business influence in the USA. In September 2018, the Indonesian government announced a moratorium on new permits for palm oil expansion through Presidential Instruction No. 8/2018. The oil palm moratorium was part of the government's commitment to reducing GHG emissions from deforestation and forest degradation (REDD+) based on cooperation between the governments of Indonesia and Norway. During the policy process prior to the enactment of the regulation, there was heavy opposition from palm oil corporations working under the Indonesian Palm Oil Producers Association (GAPKI). They stated that the expansion of the palm oil industry could not be stopped if Indonesia wished to realise its ambition to be the largest palm oil exporter in the world, with products from both upstream and downstream industries (Raffiudin, 2017, p. 214). The palm oil industry is still one of the largest economic contributors in Indonesia. In 2017, the palm oil industry contributed around US$23 billion, and had 8.2 million employees (KONTAN, 2018). In response to the opposition, the regulation only delayed the issuing of new permits for palm oil expansion for three years, and there was no sanction for breaches of the regulation. In addition, the regulation did not prevent new concession allocations in the forest areas controlled by local governments.

Another example of Indonesian business stakeholders' influence is the establishment of 35,000 Megawatts power plant generation. An interview with an official from the Ministry of Energy and Mineral Resources revealed that he has designed the energy roadmap for this project to use more renewable energy to the project. However, he received heavy pressures from coal industries to use more proportions for coal. In the end, the use of coal as primary energy sources has

occupied 60% of the project, while the project only uses 5% of renewable energy as its energy sources.

The case of the Clean Power Act in the USA, and the similar case of the oil palm expansion moratorium regulation in Indonesia, demonstrates the level of business influence in the climate policy-making process. It demonstrates that where measures to combat climate change impose economic costs, these are likely to be opposed by those who are affected by the policy, such as the fossil fuel industry and industrial energy users. If governments need to obtain political support from other stakeholders, they are likely to amend their preferred climate policies to avoid strong opposition from business stakeholders.

In Indonesia, the business stakeholders in the New Order still exist after the financial crisis of 1998, but they have transformed themselves to adapt to the new political dynamics to retain their economic resources. Their economic power during the Soeharto era still survives into the post-Soeharto era. In fact, they have become the major economic powers in the reformation era. They have greater influence in the policy-making process because of their political access and powerful lobbying. When political resistance from major economic players is strong, policy-makers are less successful at implementing their preferred policy instruments (Hughes & Urpelainen, 2015, p. 55). However, business actors must adapt their relationships, which forces them to join the political system, which is different from the New Order situation. The post-Soeharto era has given rise to a more open and democratic political system. Business stakeholders have used this as an advantage to play a deeper role in the political arena. Political actors and government officials are the predominant actors in these business-political relationships. The interviews for the study showed that most politicians in Indonesia are also business players. This gives them power and authority in the policy-making process which favours their business interests. Any policies which

increase their business and economic costs will simply be rejected. In the context of climate change, it is suggested that climate mitigation policies will not be announced where these would significantly provide adverse impacts on economic growth, business confidence, energy security, or political support (Compston, 2009, p. 141).

The principal reason for the opposition of business stakeholders to climate policy is that it creates additional production costs which leads to business becoming less competitive (Downie, 2017b, p. 31). To address competitiveness issues, policy-makers require to find strategies to reduce opposition from business stakeholders. As the case of the Clean Power Act shows, major energy industries will oppose government policies which threaten their business existence and profitability (Hess, 2014, p. 279). The stakeholders' perceptions during the interviews show that in order to address negative consequences from a carbon tax, the government should consider introducing complementary policies alongside a carbon tax. This is not an uncommon prescription. Some of these common complementary policies include tax rate reductions, tax exemptions, revenue recycling, border tax adjustments, and tax harmonisation.

The literature shows that there is no agreement on which measures have been the best or the most successful. The choice of alternative policies to operate with a carbon tax depends on country-specific circumstances. For example, in the USA, Canada, and Europe, a combination of four policies can be implemented to counter international competitiveness effects: a carbon charge adjustment on importing activities, a border refund for exporting goods and services, domestic output-based rebate, and full-border adjustments. . However, in China, domestic tax cuts are considered the best choice of complementary policy, as it has a positive impact on the domestic market and on exports (Liang et al., 2015, p. 1580).

Overall, the interviews with the key Indonesian stakeholders resulted in the perception of the stakeholders that a carbon tax could reduce their business competitiveness. Their concerns about a decrease in business competitiveness emerged because the introduction of a carbon tax would increase the costs of production which would lead to an increase in the price of the end product. To address these competitiveness issues, the government should accompany a carbon tax with complementary policies such as tax rate reduction programs, tax exemptions, revenue recycling, border tax adjustments, and tax harmonisation. These complementary policies would avoid strong opposition from business stakeholders.

The impacts of corruption on climate policy-making in Indonesia

The findings of the thesis have revealed that one of the key challenges to introducing a carbon tax in Indonesia is corruption, which leads to decreased public trust in the government. The interviews with key Indonesian stakeholders demonstrated that improving transparency and accountability by reducing corruption is one of the key factors that would enable an effective policy-making process to introduce a carbon tax in Indonesia. Lack of transparency and accountability has eroded public trust in the government. Therefore, building public trust through the improvement of transparency and accountability is an important stage in introducing a carbon tax in Indonesia.

Business stakeholders often influence the policy-making process through corruption which limits the effectiveness of government policies. Empirical research has shown that corruption might reduce the effectiveness of climate policy through lessening the stringency of environmental regulations (see e.g.Arminen & Menegaki, 2019; M. A. Cole, 2007; Fredriksson & Neumayer, 2014; Fredriksson, H. R. Vollebergh, & E. Dijkgraaf, 2004; Welsch, 2004; Wilson & Damania, 2005). The findings of these studies demonstrate that corruption impairs the effectiveness of

environmental regulation, not only in the policy-making process, but also at the implementation level.

For example, Welsch (2004) investigated the impacts of corruption on the policy-making process of environmental regulation and on national income levels. Importantly, the study found that in low-income countries, the effects of corrupt activities on environmental regulation is strong (Welsch, 2004, p. 685). In policy formulation, corruption affects the stringency of environmental policies. This means that corruption reduces the effectiveness of regulations and the strict implementation of the regulations. Therefore, the study suggested that reducing corruption is crucial in low-income countries. According to this study, by addressing corrupt activities, these countries can significantly improve their environment and economic conditions.

Using Welsch's theory, Sekrafi and Sghaier (2018) analysed the relationship between corruption and environmental policy in Tunisia. The study aimed to analyse the impacts of corrupt activities on the quality of environment policy in Tunisia. Using the autoregressive distributed lag (ARDL) cointegration framework, the study found that in Tunisia, the empirical results were identical with those from Welsch's (2004) study, finding that in Tunisia, corruption has direct impacts on the policy for reducing GHG emissions and energy consumption. The study also found that the degradation of environmental policy encourages business players to increase their polluting activities and to extract more natural resources (Sekrafi & Sghaier, 2018, p. 92).

Wilson and Damania (2005) examined the relationship between corruption, political competition, and environmental policies. They used a model in which business stakeholders seek to evade policies by bribing either policy-makers during the policy-making process or government officials who administer the policies. The study found that political competition can lead to the formulation of more stringent environmental

policy and higher penalties for evasion of the policies. More importantly, stringent policy always reduces GHG emissions levels. However, according to Wilson and Damania, high-level bribery *(grand corruption)* involving significant amounts of money can eliminate rivalry between political parties which can then lead to policy convergence during the political process. This works, for example, through political parties receiving significant amounts of money from business stakeholders and then reducing the strictness of the policies. Competing political parties can even remove policy issues from the electoral agenda in favour of business interests if they receive adequate amounts of money to account for the political costs (Wilson & Damania, 2005, p. 528).

Fredriksson et al. (2004) investigated the effects of corruption and business lobby groups on energy policy outcomes. They used a panel dataset on the energy intensity of 11 sectors in 12 OECD countries for the period 1982-1996. The study found that the corruptibility of policy-makers and lobbying by business stakeholders affects the stringency of energy policy. The greater the degree of corruption of policy-makers and the greater lobby group coordination, the more reduced the stringency of the energy policy. They have suggested that in order to comply with global commitments, such as the Kyoto Protocol to reduce GHG emissions levels, structural reforms are required to reduce corruption in OECD countries (Fredriksson et al., 2004, p. 228).

Biswas et al. (2012) analysed the relationship between corruption levels and the shadow economy which leads to environmental damage. The study used panel data from the period 1999 to 2005 from more than 100 countries. The findings revealed that shadow economy activities create environmental damage because they are not regulated by environmental policies, and their activities are particularly destructive to the environment. The study also found that corruption reinforced the environmental damage created by the shadow economy because corrupt policy-makers encourage

business to migrate towards the informal sector to maximise their profits (Biswas, Farzanegan, & Thum, 2012, p. 82).

The studies above highlight the impact of corruption on the effectiveness of the policy-making process, in particular in the policy formation of environmental regulations including climate mitigation policies. These studies have concluded that, in general, corruption reduces the strictness of environmental policies, or even the removal of environmental policies from the policy agenda, in favour of the interests of business stakeholders. Corruption through lobbying and bribery have prevented government from creating strict environmental regulations. More importantly, corruption prevents officials from enforcing government policies appropriately, which reduces their effectiveness. As a result, policies to achieve emissions reduction targets often fail.

The interviews with key Indonesian stakeholders also demonstrated that public trust in the government has been eroded because of corruption. In this situation, building public trust and confidence is required before the government can introduce a carbon tax. Therefore, reducing corruption is one of the key factors that would enable an effective policy-making process to introduce a carbon tax in Indonesia.

Governments and related institutions need the trust of the public for their policies and programs to succeed. Public trust promotes legitimacy of government institutions and policies. People who believe that the government is trustworthy are more likely to support government policies, and this support is critical for major policy change (Nunkoo, 2015, p. 624; Nunkoo, Ramkissoon, & Gursoy, 2012, p. 1540; Rudolph, 2017, p. 199).

Wan et al. (2017) argued that public trust influences public support for environmental policies (Wan et al., 2017, p. 73). If people trust the government and

are confident about the performance of government, they will support most of their policies and follow the regulations. On the contrary, the public will reject or not comply with policies the government has initiated if they do not trust them. In the environmental context, Kollman and Reichl (2015) supported this argument by asserting that a lack of public trust in government and politicians causes public opposition to environmental policies (J. Kollman & A. Reichl, 2015, p. 55).

In the Indonesian context, according to the World Bank government effectiveness indicators 2014, Indonesia is in the bottom half in terms of government effectiveness among ASEAN countries, and is the lowest of the OECD countries (OECD 2016, pp. 52-53). This means that the policy objectives of the government are often not achieved. This is in large part because of corruption reducing public trust in the government.

This is crucial because mitigating the impacts of climate change requires significant funding. According to Indonesia's First Nationally Determined Contributions, Indonesia requires around US$55.01 billion for the period 2015-2019 to be allocated for climate change mitigation and adaptation programs. According to the Transparency International Report 2011, around US$700 billion flowed from developed to developing countries through new financial mechanisms for climate mitigation programs which presents a high risk of corruption. Lack of transparency and accountability will weaken law enforcement, which will affect policy effectiveness. Therefore, it is important for the government to convince the public that they are serious about addressing corruption and improving the level of public trust.

When the government has gained public trust, the public are more likely to support their policies. Public support is significant because in the policy-making process, the government needs support from stakeholders and does not expect public opposition. This is because support from the public will lead to political support from

other stakeholders. Both sources of support are very important because without political support, the government cannot develop any policies during the legislative process.

Understanding public support for climate policy-making is important. The government can anticipate the public response to the policy process if they understand public opinion about a particular issue (Drews & Van Den Bergh, 2016, p. 856). In general, in democratic countries, public opinion is a key factor supporting successful policy change (Burstein, 2003). It has been identified that a lack of public support is a major obstacle to the transformation towards a low-carbon economy (Geels, 2013; Wiseman et al., 2013).

The public are expected to accept government policies and to comply with the regulations. Therefore, public support is an essential determinant in making climate policies feasible (de Groot & Schuitema, 2012, p. 100). Without public support, government policies will be ineffective, which will lead to difficulties in enforcement and might possibly lead to policy failure (Wan et al., 2017, p. 70).

Indonesia is a democratic country in which the electoral mechanism represents public votes. In this political system, it is important to ensure that government policies, for example a carbon tax, has sufficient public support because public support is represented by the members of parliament. Therefore, because the members of parliament are the citizens' representatives, they will see whether a policy or any policies are supported by the public as their constituents. If the public support a government policy, it is most likely that the members of parliament will also support the policy. On the contrary, if a government policy is not supported by the public, then the members of parliament will reject the policy. However, Indonesia's parliament is heavily influenced by business interests. This is because the majority of the members of parliament are business stakeholders. Analysis of their previous decisions show

that they will place business interests before the public interest (Pramusinto, 2016, 131). Therefore, it is likely the case that members of parliament will reject government policies which affect their business negatively, even if the public supports such policies.

The existing academic literature shows that corruption activities have direct impacts on the effectiveness of government policies including climate policies (See e.g. Arminen & Menegaki, 2019; Biswas et al., 2012; M. A. Cole, 2007; Damania, Fredriksson, & List, 2003; Fredriksson & Neumayer, 2014; P. G. Fredriksson, H. R. Vollebergh, & E. Dijkgraaf, 2004; Sekrafi & Sghaier, 2018; Welsch, 2004; Wilson & Damania, 2005). Corrupt officials tend to reduce the enforcement of regulations or policies in favour of business interests. As a result, government policies are not effectively implemented. However, the literature does not address the indirect impacts of corruption. The findings of this thesis provide an important contribution to the literature by higlighting that corruption activities have another indirect impact, by weakening the public's trust, which in turn weakens public acceptance of government policy proposals and interventions. This is also important, especially in the Indonesian case, because corruption is a national concern and the government still struggles to effectively address this problem. Findings of the thesis demonstrate that understanding the corruption challenge and its impacts is important for policy makers in finding a way to achieve public support for policy proposals, but also when choosing which policy tools to adopt, including in the case of a carbon tax.

Conclusion

This analysis demonstrates that there is a conflict between the lofty ambitions of reducing GHG emissions stated to the international community and domestic policy priorities. Externally, Indonesia has an ambitious target to reduce its GHG emissions by 26/41 per cent against the business as usual scenario by 2030. However internally,

there are competing policy agendas and goals which prevent Indonesia from effectively achieving its emissions reduction target. Conflict with economic objectives is a major reason why governments favour economic development over environmental policies. This also happens in other developing and developed countries.

International organisations and NGOs play a significant role in shaping domestic climate policy-making in Indonesia. However, business stakeholders are likely to oppose government policies if their businesses are adversely affected. Business stakeholders become involved in the policy-making process to create environmental policies that are more compatible with their business interests. Business stakeholders perceive that a carbon tax will reduce their business competitiveness. Their concerns about a decrease in competitiveness emerge because the introduction of a carbon tax could increase the costs of production which would lead to an increase in the price of the end product, leading consumers to use less or to turn elsewhere. To address the competitiveness issues, the government should accompany a carbon tax with complementary policies such as tax rate reduction programs, tax exemptions, revenue recycling, border tax adjustments, and tax harmonisation. These policies have been shown to improve competitiveness in other countries. Therefore, these complementary policies will avoid strong opposition from business stakeholders.

To ensure public support for government policies, corruption needs to be addressed. Corruption has been shown to decrease public trust in government which leads to an absence of public support for government policies. Corruption reduces the stringency of environmental policies, or even the removal of environmental policies from the policy agenda in favour of business stakeholders' interests. Therefore, in order to gain public support, the government needs to improve public trust in government by reducing corruption by government officials.

Overall, the analysis has revealed that there are three key reasons why Indonesia does not have a carbon tax or why it is difficult to consider introducing it. These key factors are conflicts with domestic policy goals, the influence of business stakeholders, and corruption. The analysis of these three key themes will serve as the foundation of the conclusion to the thesis.

CHAPTER VIII

CONCLUSION

This study has investigated the potential for effective climate policy formulation in Indonesia, focusing on a carbon tax policy as a case study. It has sought to understand why Indonesia does not have a carbon tax policy, and how such a tax could potentially be introduced given the challenges that Indonesia faces. To achieve this objective, the study has analysed the perceptions of key Indonesian stakeholders through in-depth interviews and has triangulated this qualitative data with an analysis of selected documents.

In chapters four, five, and six, the perceptions of the key Indonesian stakeholders were examined. Chapter seven provided an analysis which brought together the results of the three findings chapters. The analysis chapter served as the basis for the conclusion and answered the research questions presented in this chapter.

This last chapter of the thesis is divided into four sections: the first section provides an overview of the research outcomes, which conclude the key major findings. Policy recommendations are presented in the second section. The third section presents the limitations of the research and future research needs. Following this, the final section discusses the implications of the thesis findings for Indonesian policy-making.

Research outcomes

This section presents the key conclusions of this thesis in answering the question of why Indonesia does not have a carbon tax or why a carbon tax is so difficult to introduce. There are three major highlights that can be extracted from the analysis

chapter that encapsulate the research outcomes. First, there is a conflict between Indonesia's ambitious GHG emissions reduction target and the current national policy priorities. Indonesia's international commitment to reduce its GHG emissions conflicts with the national policy goals which focus on economic development. Second, business stakeholders play an influential role in shaping climate policies which results in preventing the government of Indonesia from introducing a carbon tax as a climate mitigation option. This happens because the increased integration of business interests into formal politics in the post-Soeharto era has created political resistance to the introduction of a carbon tax. Third, corruption by government officials has had a negative impact on the effectiveness of climate policies in Indonesia. These corrupt activities have reduced public trust in the government which has led to a lowering of public support for government policies, including a carbon tax.

A carbon tax in Indonesia's national policy agenda

Despite a carbon tax being considered to be the most effective and efficient climate policy option to reduce GHG emissions, introducing a carbon tax in Indonesia appears unlikely. One of the major factors which has prevented the Indonesian government from introducing a carbon tax to mitigate climate change is the conflict between externally ambitious goals to reduce its GHG emissions and domestically focused economic development.

The lofty international ambitions to reduce GHG emissions have motivated the government to produce domestic climate mitigation efforts that are linked to global norms. For example, a transnational advocacy coalition represented by international NGOs has created a transboundary climate network with domestic NGOs, which has motivated the Indonesian government to make an international commitment, and this has created pressure for domestic policy change. The ratification of the Paris

Agreement followed by the submission of Indonesia's First Nationally Determined Contributions exemplifies this, showing that Indonesia has committed to serious efforts to combat global climate change under international principles and norms. However, this has also created internal and external pressure to align with domestic policy commitments. As one of the biggest GHG emitters in the world, Indonesia has a commitment to reduce its GHG emissions while at the same time, as a developing country, Indonesia has to maintain its economic growth.

Indonesia's domestic climate policies, which align with global principles and international organisations, will create a positive international reputation for Indonesia. The Indonesian government has gained positive international praise for addressing global climate issues which has opened up the flow of international donor funding for climate change mitigation programs. Having a good international reputation is also important because this will maintain international relation with the global community which will be an advantage for international diplomacy. Indonesia's key stakeholders also tend to have less opposition to climate policies that are linked to global norms promoted by international organisations because, under these arrangements, Indonesia's emissions reduction target is voluntary and non-binding.

However, aligning climate policies with global norms currently conflicts with domestically focused understandings of economic development. In practice, the commitments to reduce GHG emissions to the international community are in conflict with current domestic policy goals. Current economic development policy goals are focused on sectors and activities that are contrary to reduction of GHGs. Instead of transforming carbon-intensive development towards a low-carbon trajectory, the Indonesian government has promoted sectoral policies which will produce more

emissions. Domestic commitment to these policies has been significantly influenced by business stakeholders working in favour of their own interests.

An influential business stakeholders' role

Introducing a carbon tax in Indonesia faces major political constraints because Indonesia's business stakeholders play a crucial role in preventing the government from considering the introduction of a carbon tax and any climate mitigation policies which will harm their business activities. They show significant opposition to policy development which leads to a lack of political support from politicians during the legislative process.

The political influence of business stakeholders has deepened in Indonesia in the post-Soeharto era because they have gained opportunities to enter the parliament as business-politicians, and they also hold powerful positions in government departments. The major findings of this thesis show that Indonesia's business stakeholders would likely respond against a carbon tax because such policies would impose economic costs that would adversely affect their business interests. With most members of parliament being business players, political actors and government officials have quite strong business-political relationships. This provides greater authority for business stakeholders to oppose any policies that might undermine their business. The business sector has established a coalition that works to refuse government policies which affect their interests. By using their greater access to the political process, business stakeholders are able to influence politicians to respond in favour of their business interests.

In response to a carbon tax, they would oppose such a policy for the principal reason that a carbon tax would add additional costs to production which would reduce their competitiveness. To address this issue, the government should consider having

complementary policies alongside a carbon tax. For example, in order to increase international competitiveness, the government could implement carbon adjustments at the border. The government can apply carbon charges for imported goods and carbon rebates for export goods. These types of complementary policies are generally the most effective for addressing issues of competitiveness, having been successfully implemented in Europe, the USA, and Canada.

However, more than being simply a business coalition, greater access to the policy process has created patron-client relationships between business stakeholders and government officials, leading to corruption, which has reduced the effectiveness of government policies, as explained below.

Corrupt activities undermine the ability to implement carbon policies

The introduction of a carbon tax in Indonesia would be problematic because corruption would reduce the effectiveness of such a policy. In general, corruption prevents the government from enforcing policies appropriately. These activities also reduce the effectiveness of the policies. As a result, this would make it difficult to successfully achieve emissions reduction targets.

Rampant corruption across government agencies, both at the central and regional levels, leads to a decrease in public trust of the government. Consequently, the public will not support government policies because they do not trust the government. In response, improving the integrity of government officials is one of the key factors in increasing public trust. This would enable greater effectiveness in the policy-making process to introduce a carbon tax in Indonesia.

How to effectively introduce a carbon tax?

After understanding the key challenges in introducing a carbon tax in Indonesia, this thesis then proceeded to analyse what the government should do to address these

challenges to create an effective policy process. Based on the analysis from the previous chapter, four key conditions associated with the effective introduction of a carbon tax in Indonesia have been extracted. These conditions are in turn: 1) the commitment of the government to put climate policies onto the national policy agenda; 2) the introduction of complementary policies to reduce opposition from business stakeholders; 3) improvements to accountability and transparency; and 4) public support.

To effectively introduce a carbon tax, it is important for the government to have a commitment to reducing its GHG emissions and to integrate this commitment into the national policy agenda. It is not sufficient to pledge to the international community that Indonesia is committed to combatting global climate change. Instead, Indonesia has to demonstrate this in a concrete way by putting climate mitigation policies into the national development plan to ensure that climate policies will be on the development priority agenda. Without doing this, the integration of sectoral policies into practice will be difficult, and the current conflicting policies in the major sectors with emissions reduction targets will remain. However, it is also important for the government to consider the best climate policy design that will not undermine economic activity. This issue is critical, but beyond the scope of this thesis.

It is also important for the government to avoid opposition from business stakeholders in order to introduce a carbon tax in an effective way. This is because business opposition will lead to political resistance, as the current parliament comprises mostly business players. To avoid strong opposition from business stakeholders, the government needs to consider complementing carbon policies with other policies to minimise the harmful effects on business interests. What the best policies are to complement a carbon tax are also beyond the scope of this thesis.

Public support is one of the key factors for the effective introduction of a carbon reduction policy. The government should take into consideration public acceptance in the first phase of policy development. Lack of public support could lead to failure in achieving policy objectives. It is important to understand public concerns and how to address them, thereby maximising public support. However, public acceptance is not sufficient to support a carbon tax. Instead, it is important to combine public support and political support to bring about the successful introduction of a carbon tax in Indonesia.

Improving accountability and transparency is another key factor in achieving the introduction of an effective carbon tax. Lack of transparency and accountability erodes public trust in the government. Therefore, the government must build public trust by improving accountability and transparency, especially given the fact that complexity and uncertainty surround climate change, primarily because of corruption and business opposition.

Overall, this study has found that the government emphasises continued economic growth on a carbon-intensive trajectory, and therefore, stakeholders perceive that climate policies conflict with Indonesia's development policy goals which make a carbon tax a lower priority on the national policy agenda. The study has also found that introducing a carbon tax in Indonesia presents several challenges that need to be addressed by the government. Finally, the study has revealed that there are several factors associated with the effective policy development of a carbon tax in Indonesia.

These three major findings of this thesis assist in answering the main research question: what are the necessary conditions to introduce a carbon tax in Indonesia? First, Indonesia should put climate mitigation programs into its development planning

priorities, thus making a carbon tax compatible with Indonesia's national policy agenda. Second, the government of Indonesia must improve its transparency and accountability to increase public trust. It is hoped that the findings of the thesis will inform policy-makers about how to introduce a carbon tax policy proposal which could be a coherent and appropriate climate mitigation policy for the reduction of GHG emissions in Indonesia. In the next section, a number of policy recommendations are provided for the Indonesian government.

Policy recommendations

Indonesia has responded to global climate change concerns by pledging a commitment to significantly reduce its GHG emissions over the next decade. Achieving this commitment and putting it into operation will face significant obstacles. The challenges for the government of Indonesia are not simple: on the one hand, the government has to achieve its commitment to reducing GHG emissions, and on the other hand, it needs to continue to develop economic growth and improve life for its growing population. It is not expected that Indonesia will sacrifice economic growth in order to reduce carbon emissions.

Given its tropical forests and high carbon stocks, Indonesia is expected to play a major role in combatting global climate change. Indonesia is also vulnerable to the effects of climate change, especially rising sea levels, because much of the country is made up of low-lying coastal areas. It is critically important for Indonesia to address climate change by having effective and efficient climate policies. However, addressing climate change issues in Indonesia entails significant costs. Therefore, it is important for the government to consider cost-effective climate policies.

The study has found that introducing a carbon tax in Indonesia presents significant challenges. However, it has also been found that there are options available

for Indonesia to introduce a carbon tax despite the aforementioned barriers. Therefore, the study puts forward the following policy recommendations for the Indonesian government:

1. While the introduction of a carbon tax might not be possible in the short-term, the government should inform the stakeholders across agencies about the importance of having a clear and efficient policy to address climate change. The government must have a commitment to pay attention and prioritise climate change issues in the national policy agenda and implement these within domestic policy, plans, and institutions. Climate policies should be mainstreamed in the national development plans.

2. It is recommended that the government considers introducing complementary policies along with the introduction of a carbon tax. This is important for reducing the negative impacts of a carbon tax on business activities which will lead to reducing the opposition of business stakeholders.

3. The government must improve its accountability and transparency. The lack of transparency and accountability will erode policy enforcement and reduce public trust in the government. The government must convince the public that they are serious about addressing corruption and building public confidence. Building public trust and confidence is a crucial step that should be undertaken before the government introduces a carbon tax. A lack of public trust will lead to reduced policy effectiveness and compliance.

4. The government must have a strong commitment to enforcing climate policies to reduce GHG emissions, such as a carbon tax. To ensure this, the government must have a commitment to addressing climate change issues both globally and domestically. While national climate policies align with global norms and principles, in practice, the government should align sectoral

policies with the national commitment to reduce GHG emissions, especially in the forestry and energy sectors, the two major carbon-intensive sectors.

Limitations of the study

The research undertaken in this study is important and the findings from the thesis have significant value for policy-makers. However, there are a number of limitations associated with this study. The study analyses the policy-making process of the introduction of a carbon tax in Indonesia. It is beyond the scope of the study to develop a detailed and new GHG reduction policy design. It is clear that to be ready for implementation, a climate change policy design requires detailed analysis.

This study investigates the challenges and opportunities in introducing a carbon tax in Indonesia. A carbon tax is not an existing national climate policy for reducing GHG emissions in Indonesia. There are other climate policy alternatives for reducing GHG emissions such as command and control regulations, cap and trade programs, and government subsidies. However, the study focuses only on exploring a carbon tax as a climate policy for introduction in Indonesia. Focusing on a carbon tax as a policy option to reduce GHG emissions in Indonesia does not necessarily mean that a carbon tax is better than other climate policy alternatives. However, the detailed analysis of other climate policy alternatives is not within the scope of this study.

Another issue is that the interview participants are key Indonesian stakeholders from government agencies, political leaders/members of parliament, business players, and non-government organisation representatives. The semi-structured interviews have been conducted and guided questions have been provided. However, the interviews with the elites are different from ordinary interviews. They are powerful and have unique information, but some of the interviewees are not experts in the subject at hand.

Finally, it is acknowledged that this research has time, financial, and administrative constraints. It is also acknowledged that over time, environmental and economic conditions change, as do people's perceptions. However, despite these constraints, the significance of this research remains solid. The limitations mentioned here provide space for further research.

Future research and a way forward

This study has made an important contribution to understanding the challenges and opportunities for introducing a carbon tax in Indonesia. It has also contributed to understanding which factors are associated with an effective policy-making process to develop a carbon tax in Indonesia. However, there is a need for further study beyond the scope and aims of this research. Further research is necessary to modify or extend the findings of the study.

First, this study uses in-depth interviews with key Indonesian stakeholders who are members of the elites. This approach has contributed substantially to the simplicity of the method for analysing such broad subject matter. Further research needs to be undertaken to analyse the public acceptability of a proposed carbon tax in Indonesia, by conducting wide-ranging surveys or focus group discussions on issues not covered by this research.

Second, an important issue for further research relates to the design of policy alternatives. This study has analysed the challenges involved in the introduction of a carbon tax in Indonesia. One of the key challenges is that a carbon tax presents distributional impacts for business stakeholders and households. To address the potential negative impacts on households and businesses, further research needs to be undertaken to investigate the best policy designs and mechanisms to address these negative effects. There are other aspects that also need further study such as

the interactions between a carbon tax and other climate policies. Further investigation is also needed to analyse the uncertainty involved in a carbon tax. The answers to these questions require more research than have been presented within the scope of this thesis.

Researching the challenges involved in the introduction of a carbon tax as a climate mitigation policy for Indonesia has been the main objective of this study. The research, having been completed at this stage, opens up opportunities for future study in many other areas. The findings of this research can be further extended to accomplish the ultimate goal of mitigating global climate change issues. Future research that explores the same topic are expected to add to the robustness of the findings and conclusions drawn in this thesis.

Overall, this thesis aims to understand why Indonesia does not have a carbon tax and how Indonesia could potentially introduce it given the barriers that the country faces. The findings of the thesis show that there are three key factors that provide answers about why Indonesia has found it difficult to consider introducing a carbon tax. First, introducing a carbon tax conflicts with national policy goals which focus on economic development. Second, the influence of business stakeholders leads to political resistance to the introduction of a carbon tax. Third, corruption remains a major barrier to the introduction of such a tax.

The findings of the thesis have several implications for Indonesian policy-making. First, it is imperative for the Indonesian government to mainstream climate mitigation policies into the national policy agenda. This will be a solid basis for the government to develop climate mitigation policies, including a carbon tax, to achieve its emissions reduction targets. Second, a carbon tax will probably increase fossil fuel-based energy prices. This will incentivise individuals and business players to reduce their carbon-

intensive activities. However, the government needs to complement a carbon tax with subsidies for low-income households, or subsidies to encourage low-carbon technology investment. Third, the government should keep the carbon tax as a revenue neutral policy, meaning that the carbon tax should not be intended to be a new tax. Instead, it is a shift tax, which means that introducing a carbon tax could be combined with reductions in other tax rates. The revenue generated from a carbon tax should not be used to cover a fiscal deficit, rather it should be disbursed to environmental protection-related programs.

This thesis is an original empirical research which makes an important contribution to the ever-growing academic debate on the introduction of carbon prices to assist climate mitigation efforts. It has important ramifications which inform policymakers to understand why Indonesia is difficult to consider introducing a carbon tax, and also the conditions to introduce a carbon tax in Indonesia.

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Appendices

Appendix 1: List of Selected Documents Used in This Thesis

List of selected documents used in this thesis:

From the Ministry of Finance:

- The landscape of public finance in Indonesia (internal report)

- Mitigation fiscal framework (internal report)

- 2015 G20 Climate finance study group annual report

- 2011 rapid assessment on the readiness of environmental fiscal reform

- The environmental sustainability of growth (internal report)

- Budget allocation for environment related programs 2010-2016

From the Ministry of National Development Planning

- Long-term development plan 2005-2025

- Medium term development plan 2010-2014

- Medium term development plan 2015-2019

- Development matrices 2015

- Ministries and institutional matrices 2015

- Environmental affairs dialogue series 2015

- National planning of adaptation and mitigation report

- National policy of climate change

- Guidelines of national action plan to reduce GHG emissions

From the Ministry of Energy and Mineral Resources

- Transportation GHG emissions (research report 2016)

- Energy mix policy 2025

- Bio diesel production (presentation slides)

From the Ministry of Environment and Forestry

- First nationally determined contribution

- Academic paper of Paris agreement ratification 2016

- Outlook 2015-environment final

- Developing Indonesia climate mitigation policy (presentation in COP 21)

- Minutes of meeting between the Minister of Environment and Forestry and the Members of Parliament 13 January 2016

Open access data

- Trends in global CO_2 emissions 2016 report

- Global emissions from World Research Institute

- Global emissions data from the World Bank

These documents were selected as secondary data to support data collected from the interviews with Indonesian key stakeholders.

Appendix 2: Final Ethics Approval Notice

Dear Rakhmindyarto,

The Chair of the Social and Behavioural Research Ethics Committee (SBREC) at Flinders University considered your response to conditional approval out of session and your project has now been granted final ethics approval. This means that you now have approval to commence your research. Your ethics final approval notice can be found below.

FINAL APPROVAL NOTICE

Project No.:   **7347**

Project Title: Bridging the gap: Indonesia constituents, law makers and executives on carbon tax

Principal Researcher: Mr Rakhmindyarto Rakhmindyarto

Email: rakh0003@flinders.edu.au

Approval Date: 29 July 2016   Ethics Approval Expiry Date: **31 July 2020**

The above proposed project has been **approved** on the basis of the information contained in the application, its attachments and the information subsequently provided.

RESPONSIBILITIES OF RESEARCHERS AND SUPERVISORS

1.   Participant Documentation
Please note that it is the responsibility of researchers and supervisors, in the case of student projects, to ensure that:

·   all participant documents are checked for spelling, grammatical, numbering and formatting errors. The Committee does not accept any responsibility for the above mentioned errors.

· the Flinders University logo is included on all participant documentation (e.g., letters of Introduction, information Sheets, consent forms, debriefing information and questionnaires – with the exception of purchased research tools) and the current Flinders University letterhead is included in the header of all letters of introduction. The Flinders University international logo/letterhead should be used and documentation should contain international dialling codes for all telephone and fax numbers listed for all research to be conducted overseas.

· the SBREC contact details, listed below, are included in the footer of all letters of introduction and information sheets.

This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project Number 'INSERT PROJECT No. here following approval'). For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone on 8201 3116, by fax on 8201 2035 or by email human.researchethics@flinders.edu.au.

2.   Annual Progress / Final Reports

In order to comply with the monitoring requirements of the National Statement on Ethical Conduct in Human Research (March 2007) an annual progress report must be submitted each year on the **29 July** (approval anniversary date) for the duration of the ethics approval using the report template available from the Managing Your Ethics Approval SBREC web page. *Please retain this notice for reference when completing annual progress or final reports.*

If the project is completed *before* ethics approval has expired please ensure a final report is submitted immediately. If ethics approval for your project expires please submit either (1) a final report; or (2) an extension of time request <u>and</u> an annual report.

Student Projects

The SBREC recommends that current ethics approval is maintained until a student's thesis has been submitted, reviewed and approved. This is to protect the student in the event that reviewers recommend some changes that may include the collection of additional participant data.

Your first report is due on **29 July 2017** or on completion of the project, whichever is the earliest.

3.   Modifications to Project

Modifications to the project must not proceed until approval has been obtained from the Ethics Committee. Such proposed changes / modifications include:

· change of project title;

· change to research team (e.g., additions, removals, principal researcher or supervisor change);

· changes to research objectives;

- changes to research protocol;

- changes to participant recruitment methods;

- changes / additions to source(s) of participants;

- changes of procedures used to seek informed consent;

- changes to reimbursements provided to participants;

- changes / additions to information and/or documentation to be provided to potential participants;

- changes to research tools (e.g., questionnaire, interview questions, focus group questions);

- extensions of time.

To notify the Committee of any proposed modifications to the project please complete and submit the *Modification Request Form* which is available from the Managing Your Ethics Approval SBREC web page. Download the form from the website every time a new modification request is submitted to ensure that the most recent form is used. Please note that extension of time requests should be submitted <u>prior</u> to the Ethics Approval Expiry Date listed on this notice.

<u>Change of Contact Details</u>

Please ensure that you notify the Committee if either your mailing or email address changes to ensure that correspondence relating to this project can be sent to you. A modification request is not required to change your contact details.

4. **Adverse Events and/or Complaints**

Researchers should advise the Executive Officer of the Ethics Committee on 08 8201-3116 or human.researchethics@flinders.edu.au immediately if:

- any complaints regarding the research are received;

- a serious or unexpected adverse event occurs that effects participants;

- an unforeseen event occurs that may affect the ethical acceptability of the project.

Kind regards

Andrea

Mrs Andrea Fiegert and Ms Rae Tyler
Ethics Officers and Executive Officer, Social and Behavioural Research Ethics Committee
Andrea - Telephone: +61 8 8201-3116 | Monday, Tuesday and Wednesday
Rae – Telephone: +61 8 8201-7938 | ½ day Wednesday, Thursday and Friday

Email: human.researchethics@flinders.edu.au
Web: Social and Behavioural Research Ethics Committee (SBREC)

Manager, Research Ethics and Integrity – Dr Peter Wigley
Telephone: +61 8 8201-5466 | email: peter.wigley@flinders.edu.au
Research Services Office |Union Building Basement
Flinders University
Sturt Road, Bedford Park | South Australia | 5042
GPO Box 2100 | Adelaide SA 5001

Appendix 3: Letter of Introduction (English)

School of Social and Policy Studies
Faculty of Social and Behavioral Science
Bedford Park Campus
GPO Box 2100
Adelaide, South Australia 5001
CRICOS Provider No. 00114A

LETTER OF INTRODUCTION

Dear Sir/Madam……………………………………,

This letter is to introduce **Rakhmindyarto** who is a **PhD student** in the **School of Social and Policy Studies at Flinders University, Australia**. He will produce his student card, which carries a photograph, as proof of identity.

He is undertaking research leading to the production of a thesis or other publications on the subject of **Bridging the gap: Indonesia constituents, law makers, and executives on carbon tax**.

He would like to invite you to assist with this project by agreeing to be involved in an interview which covers certain aspects of this topic. No more than 90 minutes on one occasion would be required.

Be assured that any information provided will be treated in the strictest confidence and none of the participants will be individually identifiable in the resulting thesis, report or other publications. You are, of course, entirely free to discontinue your participation at any time or to decline to answer particular questions.

Any enquiries you may have concerning this project should be directed to me at the address given above or by telephone on +61882012074(Assoc. Prof. Cassandra Star) and +61882015453 (Dr. Rodrigo Praino) or e-mail Cassandra.star@flinders.edu.au and Rodrigo.praino@flinders.edu.au
Thank you for your attention and assistance.

Yours sincerely,

Associate Professor   Dr. Rodrigo Praino
Cassandra Star
PhD Research Supervisors in the School of Social and Policy Studies

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This research project has been approved by the Flinders University Social and Behavioural Research Ethics Committee (Project number………………………).
For more information regarding ethical approval of the project the Executive Officer of the Committee can be contacted by telephone
on 8201 5962, by fax on 8201 2035 or by email human.researchethics@flinders.edu.au

Appendix 4: Letter of Introduction (Indonesian)

SURAT PENGANTAR

Yth. Bapak/Ibu……………………………………

Surat ini sebagai pengantar untuk mahasiswa kami Rakhmindyarto yang sedang melakukan riset untuk studi S3 (PhD) di **School of Social and Policy Studies, Flinders University, Australia.** Yang bersangkutan akan melampirkan foto copy kartu mahasiswa sebagai identitas diri.

Yang bersangkutan sedang melakukan penelitian dalam rangka penyusunan tesis yang berjudul: **Bridging the gap: Indonesia constituents, law makers, and executives on carbon tax**. Dengan surat pengantar ini Bapak/Ibu dimohon kesediaannya untuk dilakukan wawancara sesuai dengan topik penelitian yang sedang dilakukan.

Seluruh informasi yang disampaikan terkait riset ini akan dijaga kerahasiaannya dan para partisipan tidak akan dapat diidentifikasikan secara individual dalam disertasi, laporan maupun publikasi lainnya. Bapak/Ibu dapat membatalkan atau tidak menjawab pertanyaan tertentu dalam wawancara tersebut.

Pertanyaan lebih lanjut mengenai riset ini dapat Bapak/Ibu sampaikan kepada kami selaku supervisor riset dengan ditujukan ke alamat tersebut di kepala surat atau melalui telepon nomor +61882012074(Assoc. Prof. Cassandra Star) and +61882015453 (Dr. Rodrigo Praino) or e-mail Cassandra.star@flinders.edu.au and Rodrigo.praino@flinders.edu.au

Terima kasih atas perhatian dan bantuannya.

Hormat kami,

Associate Professor   Dr. Rodrigo Praino
Cassandra Star
PhD Research Supervisors in the School of Social and Policy Studies

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Appendix 5: Information Sheet

Rakhmindyarto
School of Social and Policy Studies
Faculty of Social and Behavioural Science
Bedford Park Campus
GPO Box 2100
Adelaide SA 5001
rakh0003@flinders.edu.au
CRICOS Provider No. 00114A

INFORMATION SHEET
(Interview)

Title: Bridging the gap: Indonesia constituents, law makers, and executives on carbon tax

Investigator:
Rakhmindyarto
School of Social and Policy Studies
Faculty of Social and Behavioural Science
Flinders University
Bedford Park Campus
GPO Box 2100
Adelaide SA 5001
rakh0003@flinders.edu.au

Description of the study:

This study is part of the project entitled 'Bridging the gap: Indonesia constituents, law makers, and executives on carbon tax'. This project will explore opportunities and challenges of the introduction of a carbon tax in Indonesia. This project is supported by Flinders University, School of Social and Policy Studies.

Purpose of the study:

This project aims to investigate the factors that determine the readiness level of political and economic institutions in Indonesia regarding the introduction of a carbon tax. To achieve this, this project focuses on and attempts to answer the following research questions:

- What are the institutional gaps and opportunities that contribute to the policy environment?
- What are the enabling environment and barriers to facilitate the introduction of a carbon tax?
- What are the perspectives of the actors when they are confronted by carbon tax issues?

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285

What will I be asked to do?
You are invited to attend a one-on-one interview with researcher who will ask you a few questions about your perspectives of the introduction of a carbon tax in Indonesia. The interview will take about 90 minutes. The interview will be recorded using a digital voice recorder to help looking at the results. Once recorded, the interview will be transcribed (typed-up) and stored as a computer file and then destroyed once the results have been finalized. This is voluntary.

What benefit will I gain from being involved in this study?
This research will contribute to knowledge about Indonesia's readiness to introduce a carbon tax. It explores the diversity of stakeholder's perspectives for successful implementation of any new policies. Your participation will be a significant part of a discussion that produces useful research outcomes for the government of Indonesia to consider a carbon tax in the future.

Will I be identifiable by being involved in this study?
We do not need your name and you will be anonymous. Your identity will be saved in coding and we will keep it confidential. Your answer cannot be traced directly to your identity.

Are there any risks or discomforts if I am involved?
Other group members may be able to identify your contributions even though they will not be directly attributed to you. The investigator anticipates few risks from your involvement in this study. However, possible risks exist for participants in relation to responding to questions about their employers. If you have any concerns regarding anticipated or actual risks or discomforts, please raise them with the investigator.

How do I agree to participate?
Participation is voluntary. You may answer 'no comment' or refuse to answer any questions and you are free to withdraw from the interview at any time without effect or consequences. A consent form accompanies this information sheet. If you agree to participate please read and sign the form and give it back to me.

How will I receive feedback?
Outcomes/transcript from the project will be summarized and given to you by the investigator if you would like to see them.

Thank you for taking the time to read this information sheet and we hope that you will accept our invitation to be involved.

Appendix 6: Consent Form

CONSENT FORM FOR PARTICIPATION IN RESEARCH

(by interview)

Bridging the gap: Indonesia constituents, law makers, and executives
on carbon tax

I   …..

being over the age of 18 years hereby consent to participate as requested in the
……………………………….. for the research project on ………………………

1. I have read the information provided.

2. Details of procedures and any risks have been explained to my satisfaction.

3. I agree to audio recording of my information and participation.

4. I am aware that I should retain a copy of the Information Sheet and Consent Form for future reference.

5. I understand that:

    • I may not directly benefit from taking part in this research.

    • I am free to withdraw from the project at any time and am free to decline to answer particular questions.

    • While the information gained in this study will be published as explained, I will not be identified, and individual information will remain confidential.

    • Whether I participate or not, or withdraw after participating, will have no effect on my job and career.

    • I may ask that the recording be stopped at any time, and that I may withdraw at any time from the session or the research without disadvantage.

6. I agree/do not agree* to the tape/transcript* being made available to other researchers who are not members of this research team, but who are judged by the research team to be doing related research, on condition that my identity is not revealed.   *delete as appropriate*

Participant's   signature…………………………………Date…………………...

I certify that I have explained the study to the volunteer and consider that she/he understands what is involved and freely consents to participation.

Researcher's name………………………………………………..................

Researcher's signature…………………………………..**Date**……………………

NB: Two signed copies should be obtained. The copy retained by the researcher may then be used for authorisation of Items 8 and 9, as appropriate.

7.   I, the participant whose signature appears below, have read a transcript of my participation and agree to its use by the researcher as explained.

Participant's signature…………………………………….**Date**…………………....

Appendix 7: Consent Form (Indonesian)

LEMBAR PERSETUJUAN BERPARTISIPASI DALAM RISET
(INTERVIEW)

> Bridging the gap: Indonesia constituents, law makers, and executives on carbon tax

Saya …..

Telah berusia di atas 18 tahun dengan ini setuju untuk berpartisipasi sebagaimana diminta dalam …………………………….... untuk proyek riset di ……………………….

1. Saya telah membaca informasi yang disampaikan.

2. Prosedur terinci dan risiko yang ada telah dijelaskan secara memadai.

3. Saya setuju informasi yang saya sampaikan dan keikutsertaan saya diremak secara audio/video.

4. Saya mengerti bahwa saya seharusnya menyimpan satu salinan lembar informasi dan lembar persetujuan untuk referensi di masa mendatang.

5. Saya mengerti bahwa:
   - Saya tidak mendapatkan manfaat langsung dari riset ini.
   - Saya bebas untuk menarik diri dari partisipasi saya ini kapanpun dan bebas untuk tidak menjawab pertanyaan tertentu.
   - Apabila informasi yang diperoleh dalam studi ini akan dipublikasikan sebagaimana dijelaskan, saya tidak akan teridentifikasi dan informasi individual tetap dijaga kerahasiaannya.
   - Apakah saya berpartisipasi atau tidak, atau menarik diri dari keikutsertaan tersebut, hal ini tidak akan mempunyai pengaruh atas pekerjaan dan karir saya.
   - Saya mengerti bahwa proses perekaman dapat dihentikan setiap waktu dan saya dapat menarik diri kapanpun dari riset ini, tanpa memberikan dampak yang merugikan bagi saya.

6. Saya setuju/tidak setuju* bahwa rekaman/transkripnya tersedia bagi periset lain selain anggota tim riset ini, yang menurut pertimbangan tim riset terkait dengan riset ini dengan syarat identitas saya tidak diungkapkan.
   coret yang tidak perlu

7. Saya diberi kesempatan untuk mendiskusikan keikutsertaan saya dalam riset ini dengan keluarga atau teman.

Tanda tangan partisipan ……………………………….Tanggal…………………..

Saya menyatakan bahwa saya telah menjelaskan studi ini kepada partisipan dan menurut saya yang bersangkutan memahami apa yang diikuti dan bebas dalam memberikan persetujuan untuk berpartisipasi.

Nama periset…………………………….…………………..................

Tanda tangan periset…………………………………..tanggal…………………

8.   Saya, partisipan yang bertanda tanga di bawah ini telah membaca transkrip dari keikutsertaan saya dan menyetujui periset untuk menggunakannya sebagaimana yang telah dijelaskan.

Tanda tangan partisipan ……………………………………Tanggal……………….....

9.   Saya, partisipan yang bertanda tangan di bawah ini telah membaca laporan periset dan menyetujui untuk mempublikasikan informasi sebagaimana yang dilaporkan.

Tanda tangan partisipan ……………………………………Tanggal……………….....