

Typology of Governance: Case Study of the Evolution of National Climate Change Policy

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Abstract: *Indonesia is the second largest producer of greenhouse gases in the world and is a country vulnerable to the impacts of climate change. Serious efforts and policies have been undertaken to address climate change. Although there is much research about climate governance in Indonesia, there is limited understanding of how and why governance arrangements change over time, and there is still a lack of a clear conceptual framework for distinguishing governance models and studying the evolution of governance. This research aims to describe the typological framework of climate change governance policy evolution in the policy dimension. The research design uses a qualitative approach with content analysis techniques. The data sources in this research are only secondary data. This study uses the policy dimension governance framework to examine the typology of the evolution of Indonesia's national climate change policies since 1972. The findings show that Indonesia has implemented various national policy instruments since the 1990s to address climate change in different policy dimension governance typologies. The findings also show that the typology of climate change governance in Indonesia has shifted from voluntarism to coercion and targeting.*

Keywords: *Climate Change Governance; Policy Typology; Policy Evolution*

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Introduction

Governance is a term that has been widely used and applied to describe the system by which public policies are formulated, delivered, and ratified (Okereke et al., 2009; Ibarra et al., 2022). Policy formulation and implementation is a system that always operates through networks (Ahmad & Ahmed, 2009). These networks bring together various stakeholders in ways that provide new means of legitimation, generate new resources, and resolve conflicts in new ways (Erbaugh & Nurrochmat, 2019). In the context of climate change, research on governance as an important factor in the success of climate change adaptation and mitigation efforts has developed very significantly (Doukas & Nikas, 2020; Sun et al., 2023).

Some scholars argue that national politics and the social conditions of countries play an important role in influencing actors' choices regarding the type of governance and how certain issues should be handled (Klein et al., 2005; Andrews-Speed, 2016; Westman et al., 2019; Yule et al., 2023). Therefore, studies of governance and policy in Indonesia need to be placed in the context of Indonesia, which continues to develop, because this placement will help increase understanding of the evolution of the governance and policies studied, as well as the driving factors. With this approach, the climate change management terminology framework for each country is likely to be different. Previous research (B. Sun & Baker, 2021; Zhang & Mora, 2023; Osei et al., 2024; Lorenzini & von Jacobi, 2024) shows that institutional and political challenges are often found in multilevel climate change governance.

In the Indonesian context, the analytical framework designed in this

paper takes a comprehensive historical perspective and classifies all policy modes and styles that have emerged since 1972 into policy types. Official documents from all sectors are selectively reviewed. Indonesia is the second largest producer of greenhouse gases in the world and is a country vulnerable to the impacts of climate change. Indonesia is among the 10 largest greenhouse gas (GHG) emitters in the world throughout 2023 from the energy sector. According to a report by the Energy Institute think tank entitled *Statistical Review of World Energy 2024*, emissions from the energy sector in Indonesia in 2023 reached 701.4 million tons of carbon dioxide equivalent. The Indonesian government continues to strive to reduce greenhouse gas (GHG) emissions in accordance with the target. In addition to being the largest gas emitter, Indonesia is also a country that is very vulnerable to the impacts of climate change. With its geographical location and form as an archipelagic country and lack of coping and adaptation capacity, Indonesia is listed as the 36th country out of 172 countries with a very high risk of exposure and vulnerability to disasters. The *World Risk Report 2018*. This data is supported by data from BNPB in 2018, which stated that there had been 20,342 natural disasters during the period 2017 to October 2018, with 11,352 fatalities and 33.5 million people displaced.

The same source also stated that in the last decade the number of disasters that have occurred has increased by an average of 10 percent per year, with the areas most vulnerable to exposure and disaster risk being coastal areas. Indonesia is an archipelagic country with a coastline of 80,701 km, and 78 percent of Indonesia's territory is ocean. More than 60 percent of Indonesia's total population

lives in coastal areas. Under these conditions, a more assertive government policy in climate governance is needed to address greenhouse gases and vulnerability to climate change more assertively. with around 17 percent living in villages located along the coastline. Based on these conditions, a more assertive government policy in climate governance is needed to address greenhouse gases and vulnerability to climate change more assertively.

By examining the evolution of climate governance in each phase, this article attempts to reveal the typology of climate governance that has been implemented in Indonesia. Although there is much research about climate governance in Indonesia, there is limited understanding of how and why governance arrangements (or policies) change over time, and there is still a lack of a clear conceptual framework for distinguishing governance models and studying the evolution of governance. Climate change governance studies in Indonesia are researched in various different focuses such as energy studies (ADB, 2020), land use (Di Gregorio et al., 2017; Jakob et al., 2020), and studies of policy and power networks (Gallemore et al., 2015; Santoso, 2015; Anderson et al., 2016; Fossati, 2016; Kaneko & Kawanishi, 2016; Di Gregorio et al., 2019; Moeliono et al., 2020; Mursyid et al., 2021). In particular, there is a limited understanding of how and why governance arrangements (or policies) change over time and a lack of clear conceptual frameworks for distinguishing governance models and for assessing the evolution of governance.

The research aims to describe the typological framework for the evolution of climate change policy governance in the policy dimension.

Method

The research design uses a qualitative approach with content analysis techniques. Content analysis is an analysis technique carried out to obtain an overview of why an event affects climate change governance at a certain phase. Synthesis is carried out manually by reading, understanding, and analyzing the intent conveyed in the news and then linking the theory of governance typology to the policy dimensions, refers to Treib et al.'s (2007) theory.

The research examines the typology of governance in the policy dimension in Indonesia using a case study of the evolution of national climate change policy since 1972. Climate change governance is a multi-level problem and can be studied at different levels, scales, and actors, but this case study only focuses on national policy. By using the governance typology framework developed by Treib et al. (2007). This case study examines the typology of each phase of national climate change policy evolution. Indonesia's climate change governance began to emerge in the 1990s, but some of the earliest environmental protection policies were developed in the 1970s. This case study divides the time scale into four chronological periods.

The data sources in this research are only secondary data, namely policy documents and other related literature such as laws, regulations, statutory plans, special plans, five-year plans, policy directions, press conferences, and others, which are downloaded from the website. Generalist content analysis of policy themes and characteristics is linked to a governance typology framework. The policy dimension governance typology framework refers to the theory of Treib et al. (2007), which proposes a three-dimensional approach to governance,

namely political, policy, and government dimensions. The political dimension focuses on actor constellations and power relations between political actors. The policy dimension primarily refers to the types of policies—in particular, how to achieve various means of political control. More explicitly, policy types can include hierarchical regulation, command and control, incentives and supply,

information, deliberation, and persuasion. The governance dimension highlights how systems and rules shape the actions of actors and the characteristics of policymaking. This dimension can also link governance research with formal institutions (Treib et al., 2007). This research conducts a governance study in the policy dimension with a framework as in Table 1.

Table 1. Typology in Four Modes of Policy Dimension Governance

Policy Type	Legally binding	Implementation Flexibility	Definition	Example
Coercion	Legally Binding	Rigid implementation	Generally, they are detailed and definite instructions and standards that must be followed by actors or policy makers in implementation	Environmental pollution control; carbon tariff policies, environmental services instruments etc
Regulatory Framework	Legally Binding	Medium Flexible	It is a somewhat regulated framework, but still provides moderate room for flexible implementation.	A detailed regulatory plan setting out climate change goals and actions
Targeting	Legally	Very flexible	It is a policy instrument that sets binding targets however Implementation for achieving it can be very flexible.	Policy targets (e.g. GHG reduction targets of the Indonesian Five Year Development Plan and Special Action Plans.
Voluntarism	Not Legally Binding	Rigid implementation	It's up to the actor to decide whether to take it or not technical regulations. If yes, they must strictly follow the procedures.	Giving or labeling such as Kalpataru and Roadmap (Roadmap)

Source: Developed from Treib et al., (2007)

Result and Discussion

To obtain an overview of evolution, climate governance has been divided into four phases since 1972. This exploration is

the conditions that influence the typology climate governance is implemented in each phase. The conditions described can be social, economic, or political conditions

that, at that phase, affect the typology of climate governance in Indonesia.

Phase 1: 1972-1990: Awareness of Environmental Protection Emerged

The first United Nations (UN) Conference on the Environment in Stockholm in June 1972 was the beginning of the emergence of environmental protection measures in various countries. In the 1970s, the dominant environmental protection measures used for environmental protection centered on pollution prevention and control (Kusakabe, 2013).

An important fact regarding the condition of economic development in Indonesia is the two oil booms that occurred in the 1970s. The first oil boom occurred in 1973/1974 when the Organization of Petroleum-Exporting Countries (OPEC), whose members included Indonesia, cut its exports drastically and caused a large increase in oil prices. The second oil boom occurred in 1978/1979 when the Iranian Revolution disrupted oil production and again saw large price increases. Because of these two oil booms, the new order's export revenues and government revenues increased sharply, but environmental discourse was not taken into consideration (Wie, 2015).

Since the Stockholm conference in 1972, Indonesian leaders realized that economic development could have a negative impact on the environment in the 1970s. Therefore, environmental strategies and programs began to be included in Chapter IV, Five-Year Development Plan II (Repelita II), and Chapter II, The Main Outlines of the Country's Policy (GBHN) 1973-1978. In response to the Stockholm conference, Indonesia also made institutional arrangements related to environmental

protection. Environmental management activities are carried out directly by the government based on Presidential Decree No. 60 of 1972 concerning the formation of a drafting committee and work plan for the government in the field of environmental development. The task of this interdepartmental committee is to compile, make an inventory, and plan activities for the government in the field of environmental development.

In Kabinet Pembangunan III, the first Minister of State for Population and Environmental Affairs was appointed in 1978. In 1982, Indonesia issued a very important law regarding environmental management, namely, Law Number 4 of 1982 concerning Basic Provisions for Environmental Management Life. The policy regarding environmental management with the promulgation of environmental law was also the Indonesian government's response to the results of the United Nations Conference on the Human Environment, which was held in Stockholm in 1972. The results of the Stockholm conference were followed up and required the countries participating in the conference to ratify them. Indonesia fulfilled this obligation by establishing Law No. 4 of 1982.

At a practical level, the government has been implementing awards for environmental heroes since President Soeharto's government in the 1980s. At that time, the government gave awards to eight organizations and community groups for their services in environmental conservation efforts called the "Kalpataru" awards. The Kalpataru Award is one of the pilot programs of the State Minister for Population and Environmental Affairs (Development Cabinet III 1978-1983).

Apart from the environmental protection policy activities mentioned above, development economics was the

dominant theme in Indonesia in the 1980s, with the addition of environmental protection governance arrangements and policies. Until 1982, rapid annual economic growth above a minimum of 5% was maintained. International development agents such as the World Bank and IMF are also very dominant in determining the development agenda in Indonesia with the various aid and debt they provide (Subkhan, 2014).

Phase 2. 1991–2000: Food Security, Sustainable Development Policies and Practices

The emergence of global concerns about poverty, food needs, and global environmental problems, as well as the awareness that the availability of natural resources to support economic development is very limited, has encouraged the birth of the concept of sustainable development. The concept of sustainable development was first introduced in 1982 in the Brundlant Report (Beg et al., 2002). In response to this concept, the 1990s saw an increase in sustainable urban development practices globally. In 1992, 'Agenda 21' emerged as a result of the 'Rio Earth Summit 1992' conference.

Indonesia participated in the 'Rio Earth Summit' in 1992. As a country that also agreed to Agenda 21' in Rio, Indonesia issued 'Indonesia's Agenda 21'. The growth of development in Indonesia, based on the principles of the Rio Jenario Summit, in the 1993-1998 GBHN, places emphasis not only on economic benefits, employment, and foreign exchange earnings but places more emphasis on two very basic aspects, namely: 1). Increasing the preservation of natural resources and the environment through physical conservation, groundwater management, and biota (flora and fauna); and 2).

Increasing the role of the community and local government in formulating development implementation policies. It seeks to incorporate sustainable development into development policy, as sustainable development is seen as pro-growth, and also tries to frame that the goals of economic growth, environmental protection, and social justice can coexist in a positive relationship.

The issue of climate change has also been recognized as one of the critical challenges that has been prioritized in national development in Indonesia since the 1990s. The Indonesian government ratified the United Nations Framework Convention on Climate Change (UNFCCC) in August 1994 through Law No. 6/1996. As a party to the convention, Indonesia is required to prepare its first national communications document within 3 years after the date of ratification. As a developing country, initial national communications preparations depend on funds available from international funds. In July 1998, Indonesia began preparing its first communication document with financial support from the Global Environment Facilities (GEF). The Indonesian government officially sent the Initial National Communication (INC) in 1999 by the Ministry of the Environment. This is the first document regarding Indonesia's commitment to climate change at the global level. INC is updated annually.

In domestic institutions, the Designated National Authority (DNA), namely the National Commission for Clean Development Mechanisms (KNMPB), was formed through Minister of Environment Decree No. 206 of 2005. Law No. 4 of 1982 on the Basic Provisions for Environmental Management of 1982 was amended to stipulate Law No. 23 of 1997 on Environmental Management (its philosophy relies on "management").

The Indonesian government has ratified the Climate Change Convention through Law Number 6 of 1994 concerning Ratification of the United Nations Framework Convention on Climate Change and is included in a Non-Annex I country. Thus, Indonesia is officially bound by obligations and has the right to take advantage of the various support opportunities offered by the UNFCCC or the UN Framework in an effort to achieve the objectives of the convention. Various policies were established to legitimize Indonesia's participation in supporting the sustainable development agenda, such as Law No. 23 of 1997 concerning Environmental Management, Government Regulation (PP) No. 20 of 1990 concerning Water Pollution Control, PP No. 82 of 2001, PP No. 18 of 1999 concerning B3 Waste Management, PP No. 27 of 1999 concerning AMDAL, PP No. 41 of 1999 concerning Air Pollution Control, PP No. 19 of 1999 concerning Control of Marine Pollution and/or Destruction, and PP No. 6 of 1999 concerning Forest Cultivation and Collection of Production Forest Products and PP No. 27 of 1999 concerning Environmental Impact Analysis.

At the end of this period, Indonesia experienced an important event, namely a political and economic crisis. In 1998, the economic crisis was exacerbated by extraordinary political panic when the Suharto regime was forced to step down. This condition affects the implementation of Indonesia's commitment to climate change action.

Phase 3. 2001–2010: The Emergence of Environmental Economic Instruments and the Beginning of Climate Change Policy

Rapid economic growth in the 2000s relied heavily on resource

consumption and environmental pollution. In the late 2000s, massive development created great pressure and challenges to bear on Indonesia's domestic resource capabilities and environmental quality (Bappenas, 2010). The emergence of trade-off issues between economic development, environmental protection, and social equality has led to the emergence of concepts such as 'Green Development', 'Sustainable Development', and 'Spatial Planning and Control'. Specifically on climate change governance, many documents such as laws, policies, strategies, plans, targets, pilots, standards, and guidelines have been produced in this decade.

During this period, both the global context related to the climate change governance agenda and the domestic context related to energy scarcity and environmental degradation played an important role. Implementation of Strategic Environmental Studies (KLHS) as a mandate of Law No. 32 of 2009 concerning Environmental Protection and Management to ensure the integration of sustainable development in spatial planning, national development planning (RPJMN), and determination of forest areas, including policies, plans, and other main programs that have the potential to have an impact on the environment, social, and economic.

In Presidential Regulation (Perpres) no. 7 of 2005, especially chapter 32 concerning Improvement of Natural Resource Management and Preservation of Environmental Functions, the main problems in environmental management of the Ministry of National Development Planning/Bappenas are presented, which have been published in a short book entitled Green Economy: Synthesis and Getting Started (2012).

Strategic Environment Assessment (KLHS) is needed as an instrument/tool in the context of self-assessment to see to what extent the policies, plans, and/or programs (KRP) proposed by the government and/or regional governments have taken into account the principles of sustainable development, and it is hoped that the KRP produced and determined by the government and the government the area is getting better. In the context of mainstreaming sustainable development as mandated in Law No. 25 of 2004 concerning the National Development Planning System (UU SPPN), KLHS is an integrative framework for increasing development benefits and ensuring the sustainability of development plans and implementation. Other environmental instruments in this phase are environmental tax and environmental performance bond. Incentives/disincentives (Rosdiana et al., 2015)

In a global commitment, as a follow-up to the Kyoto Protocol agreement, Indonesia ratified it by enacting Law No. 17 of 2004 concerning Ratification of the Kyoto Protocol to the United Nations Framework Convention on Climate Change. By ratifying the Kyoto Protocol, Indonesia can participate through one of the Kyoto Protocol mechanisms, namely the Clean Development Mechanism (CDM). The Clean Development Mechanism (CDM) is a mechanism for reducing GHG emissions within the framework of cooperation between industrial countries and developing countries. This mechanism aims to enable Annex I countries to achieve emission reduction targets through GHG emission reduction programs in developing countries.

The holding of COP13 in Bali in 2007 was a catalyst for climate change policy action in Indonesia. After COP 13 in

Bali, Indonesia prepared a National Climate Change Action Plan (RAN-PI) released in 2007 and coordinated by the Ministry of the Environment. One of the important developments after Bali was the creation of a multisectoral council, namely the National Council for Climate Change (DNPI), to contribute to one of the main objectives of the National Action Plan, namely the integration of mitigation and adaptation targets into sectoral and national development policies. The President of Indonesia formed the DNPI Council in 2008 (Presidential Decree 46/2008), which consists of 16 ministries plus the Head of the Republic of Indonesia Agency for Meteorology, Climatology, and Geophysics and 7 working groups. This council has an international role in interacting with global climate change institutions, a domestic advisory role to the President, and a coordinating role across sectoral ministries. Specifically, the Council's aim is to improve the integration of climate change mitigation and adaptation in the main strategic sectors of energy and land use in the fields of agriculture, forestry, public works, land, and spatial planning (Purnomo et al. 2013). The working group coordinates the formulation of national climate change policy through research, integration of science into development policy, resource mobilization, and exchange of policy information (Purnomo et al. 2013). In 2009, the President of Indonesia announced that Indonesia promised to reduce emissions by 26% from the business-as-usual baseline by 2020 and even higher by 41% with international support through the NDC document. Action on climate change will be increasingly strengthened, especially in the Ministry of National Planning at the end of this decade. The Indonesia Climate Change Sectoral Roadmap (ICCSR)

document was prepared at the end of 2010, which indicated plans for mainstreaming climate change in development planning.

Phase 4. 2011-2023: Comprehensive Application of various Modes of Climate Change Governance and Pilot Projects

Several factors driving climate change policy in the 2010s were air pollution problems (Sanderson & Sardar MN Islam, 2007); community demands for improving environmental quality (Tang et al., 2023); and a political regime that considers the political consequences of public dissatisfaction with pollution levels (Burke et al., 2018). However, the main driving factor in the Indonesian context is the global commitment that the government has agreed to. For example, Presidential Regulation No. 61 of 2011 concerning (RAN-GRK) and Presidential Regulation No. 71 of 2011 concerning the Implementation of Greenhouse Gas (GHG) Inventories as a form of commitment to global agreements. At the end of 2014, Indonesia's new president, Joko Widodo, brought major changes to Indonesia's climate change policy architecture. To make it more effective and reduce overlapping government institutions, the President merged the two main ministries of environment and forestry. Minister of State for the Environment. Changing to become Minister of Environment and Forestry is Indonesia's commitment to efforts to control global climate change.

Indonesia's participation in the Paris Agreement, which was later ratified into Law Number 16 of 2016. Parties that have ratified the Paris Agreement are required to submit Nationally Determined Contributions (NDC) containing targets for reducing greenhouse gas (GHG) emissions until 2030. Indonesia is increasing its NDC commitment to reduce greenhouse gas

(GHG) emissions targets in 2020, from 23% to 29% in 2030. (Republic of Indonesia, 2016). The global commitment is strengthened by the establishment of various climate change policy documents that are more binding in achieving GHG reduction targets. These documents include the 2019 National Adaptation Plan (NAP Executive Summary), the 2019 Nationally Determined Contribution (NDC) Roadmap for Climate Change Adaptation, 2020 Nationally Determined Contribution (NDC) Roadmap for Climate Change Adaptation, 2020 Climate Resilient Development Policy 2021, Indonesia Long-Term Strategy for Low Carbon and Climate Resilience 2050 (LTS-LCCR) in 2021.

In this period, environmental discourse and climate change became two interrelated issues. In 2017, President Joko Widodo signed Government Regulation (PP) no. 46/2017 concerning Environmental Economic Instruments. PP No. 46/2017 is a new important milestone in mainstreaming Environmental Services Fees (IJL).

To ensure the sustainability of integrated climate change management programs and actions, climate change adaptation and mitigation issues have been mainstreamed into the Medium and Long Term Development Plan (RPJMP) documents, both nationally and regionally since 2017. In October 2017, the Indonesian government set a target to integrate climate action into the national development agenda. The Low Carbon Development Initiative (PRK) was launched at the Indonesian Ministry of National Development Planning (BAPPENAS). This initiative aims to explicitly incorporate Green House Gas (GHG) emission reduction targets into policy planning, accompanied by various interventions to conserve and restore

natural resources. CRP is a process for identifying development policies that maintain economic growth, reduce poverty, and help achieve development targets in various sectors, while at the same time helping Indonesia achieve its goals of handling climate change and preserving and increasing natural resources. This initiative is coordinated by BAPPENAS and involves ministries, institutions, and development partners. The Low Carbon Development Policy has been integrated into the 2020–2024 Medium Term Development Plan (RPJMN). Indonesia's climate commitment is also reflected at the project level, such as in the Climate Village program agenda. The implementation of Proklim refers to the Minister of Environment and Forestry Regulation Number 84 of 2016 concerning the Climate Village Program. Another project that is involved in reducing Indonesia's GHGs, which has been quite successful, is the REDD project from the forestry sector and fossil fuel policy.

The findings from the review of climate change policies in each phase as explained above reveal that there have been manifestations of various climate policies across time spans. In the evolution of climate change policy from 1972-2021.

Phase 1: 1972-1990: Awareness of Environmental Protection Emerged

In this period, although environmental discourse has begun to be formulated in the environment ministry's strategy, the climate change governance agenda has not yet appeared in Indonesian policies. Contextual factors, especially the great desire to build an economy against poverty, became the main factor determining the policy agenda in the 1980s. Policies for climate change management in this period are not legally binding or rigidly instructive, thus leaving

considerable space for actors to determine and determine their own programs.

The typology found is still voluntarism. This is because in this phase the discourse on climate change has not appeared much on the international agenda. This regime has scheduled environmental activities in national documents, but implementation has not been binding across governments at various levels.

Phase 2. 1991–2000: Food Security, Sustainable Development Policies and Practices

Policies in this period are not too different from previous periods where instruments for climate change governance were still not legally binding or rigidly instructive, thus leaving considerable space for actors to set their own agendas and programs. Voluntarism is still widely found in this phase, but the emergence of framework regulation indicates the emergence of a binding legal instrument. The INC document issued by the government, which is an international commitment to climate change, has begun to bind the direction of Indonesia's domestic policy. However, unlike coercion, this regulation offers member countries more flexibility in implementing climate change governance. Voluntarism in climate change governance at this phase is also driven by the government's priority to prioritize food security over climate change action.

Phase 3. 2001–2010: The Emergence of Environmental Economic Instruments and the Beginning of Climate Change Policy

Policies in this period have begun to emerge in a framework that is more binding than the previous period, where the instruments for climate change

governance are still more rigidly instructive. Actors have been directed to refer to the climate change policy framework in setting agendas and programs in their respective sectors.

In this phase, although the voluntarism governance mode is no longer found, the coercion mode has not yet emerged. Documents produced by the government in development have always been linked to environmental issues and climate change in this phase. Cross-sector ministries and local governments are already bound to follow the national agenda in climate change action. In addition to the legally binding framework regulation mode, the targeting mode has also been found in this phase. The submission of Indonesia's NDC, which sets a target of reducing GHG emissions by 23% to 29% in 2030, is a major momentum in the targeting mode in this phase.

Phase 4. 2011-2023: Comprehensive Application of various Modes of Climate Change Governance and Pilot Projects

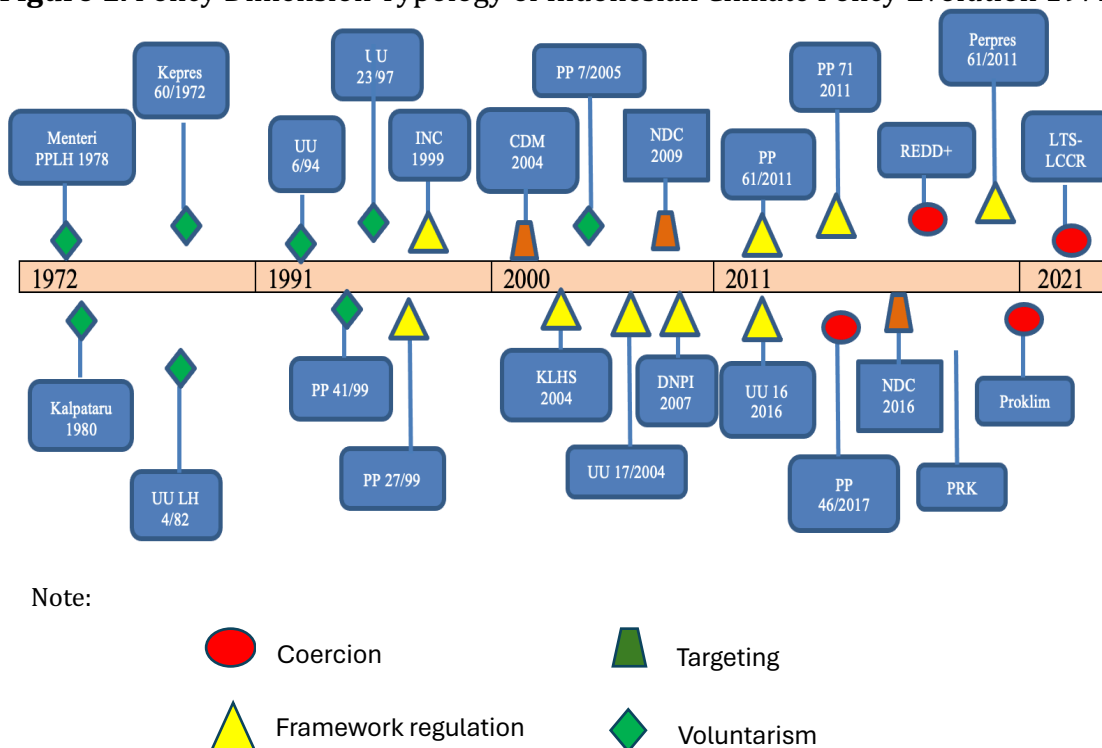
As the main driving force in this period, more and more political and economic actors are realizing that low-carbon development and implementing a circular or environmentally friendly economy will be beneficial for economic growth and job creation. In addition, more and more binding typologies are being established. This phase is the latest evolution of Indonesia's climate change governance that has described three applicable governance modes, namely coercion, regular framework, and targeting. The REDD+ program is a coercion activity that forces all levels of government to the regions. The 2016 NDC, which was updated from the 2009 NDC, sets a higher GHG reduction target than before.

Figure 1 shows that there is a special focus at certain stages, which is found to differ according to Indonesian political conditions and events. A summary of the typology of governance modes in each phase can be seen in Table 2.

Table 2: National Climate Change Governance Typology Mode

Phase	Governance			
	Coercion	Regulatory Framework	Targeting	Voluntarism
1972-1990: Awareness of environmental protection emerged	X	X	X	V
1991-2000: Sustainable development policies and practices	X	V	X	V
2001-2010: Improvement of climate change governance practices	X	V	V	V
2011-2021: Comprehensive application of various climate change governance modes and pilot projects	V	V	V	X

Figure 1. Policy Dimension Typology of Indonesian Climate Policy Evolution 1972-2021



The findings show that the typology of climate change governance in Indonesia has shifted from voluntarism to coercion and targeting. The typology of voluntarism based on non-binding instruments and only defining general objectives that are not legally mandatory is often found in the early phase of Indonesia's involvement in climate change. The typology of coercion and

targeting found in the final phase shows legal instruments that are already binding and have set detailed standards where the actors involved have been directed to achieve the set targets. This finding also strengthens the proposition that the social and political conditions of a country influence the governance mode that is implemented. Indonesia, with the pressure of economic development, the

impact of climate change, and international agreements, encourages the involvement of actors and cross-sector policies in climate change governance. Practically, the implications of this finding can be a reference for directing the mode of climate change governance typology that is appropriate to be implemented in the following phase by considering the social, economic, and political conditions that will occur in Indonesia. Theoretically, this finding has implications for the contribution of knowledge related to the conceptual framework for governance of climate change policy evolution, especially in Indonesia.

Conclusion

The aim of this paper is to describe a typological framework for climate change policy governance in Indonesia from 1972–2021 based on policy dimensions. With a policy dimension approach that proposes four typological modes of governance, all typological modes were found in the four phases of Indonesia's climate change governance. This study found that the typological framework in the evolution of climate change policy that began with the emergence of environmental law was influenced by the environmental movement and climate discourse at the global level, a degraded domestic environment, energy shortages, energy security, traditions, and state politics. The coercion and targeting climate change policy typology mode increasingly dominates in the final phase, showing that Indonesia's commitment to being involved in climate change action is getting stronger.

Theoretically, this research offers a strong analytical governance framework to study Indonesia's climate change

governance and policies more critically. Practically, this research provides new insights and strong evidence to increase the understanding of relevant actors regarding national climate change governance in Indonesia. Recommendations for further research could be carried out in a multilevel policy approach at each level of government. Multi-levels in climate change governance could include more studies at the local government level (e.g., specific provinces and/or regions), as well as more in-depth locality-based empirical research on governance. A typology of governance in other dimensions (namely politics and government) is also needed in the future.

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