The Dynamics of Carbon Trading Policy Implementation in Indonesia

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Abstract

Carbon trading acts as an effort to balance the environmental and global economic impacts. Implementation of carbon trading regulated through Presidential Regulation Number 98 of 2021 is crucial for Indonesia as it contributes to market-based mitigation of climate change at the global level towards sustainable economic recovery. Carbon exchange activity only showed its performance on the first day of launch and continued to show a declining activity afterward due to the unavailability of carbon units. Driven by a regulated market, carbon trading performance is determined by regulatory instruments, especially the implementation of the economic value of carbon at the Ministries/Institutions level as regulated in Indonesia's Nationally Determined Contribution (NDC). This research aims to analyze the dynamics of carbon trading policy implementation in Indonesia and what reinforcement can be done to encourage carbon trading performance. Through qualitative descriptive research methods and drifting goals system archetype techniques, the results show that the dynamics of carbon trading policy implementation are caused by resistance from business actors and conflicts of interest between Ministries/Institutions, resulting in declining national targets. To encourage the achievement of national targets, strengthening needs to be carried out as a corrective action through soft steering governance innovations and the role of legislative support.

Keywords: carbon trading, drifting goal system archetype, dynamics of policy implementation, economic value of carbon, greenhouse gas emissions.

Introduction

Climate change due to global warming has become a significant concern for all countries today, and concrete steps are required to protect and care for the earth. Many factors create a climate change crisis, including the impact of carbon footprints trapped in the atmosphere. Carbon emissions trigger an increase in global temperatures, melting ice, and extreme changes in weather patterns (IEC, 2023). Besides its profound impact on the environment and humans, climate change is one of the biggest threats to world economic stability. Heat waves make us less able to work and reduce productivity. Various natural disasters that may occur due to climate change, such as longer dry seasons and extreme floods, can destroy millions of people, eliminate their livelihoods, and lead to increased levels of poverty. This problem requires public-private collaboration to change the way we produce goods to other methods that guarantee and encourage the development of sustainable economic growth (Iberdrola, 2023).

As a commitment to control world climate change, Indonesia participated in adapting policy transfer by signing the Paris Agreement. It was ratified through Law Number 16 of 2016 concerning the Ratification of the Paris Agreement on the United Nations Framework Convention on Climate Change. Indonesia's Nationally Determined Contribution (NDC) 2030 has been prepared to translate the contents of the Paris Agreement to achieve the desired results. The NDC document contains a country's climate commitments and actions communicated to

the world through the United Nations Framework Convention on Climate Change (UNFCCC). The goal is a fair reduction in emissions and strengthening alignment between climate and the country's development goals. Indonesia's Enhanced NDC targets reducing GHG emissions by 31.89 percent with its efforts and 43.20 percent with international support by 2030. 5 (five) sectors in the NDC play a role in reducing GHG emissions, namely energy, waste, industrial processes, and production use (IPPU), agriculture and forestry (PPID KLHK, 2021).

To encourage the acceleration of mitigation actions to reduce GHG emissions and align objectives with the NDC document, Presidential Regulation Number 98 of 2021 was drafted concerning the Implementation of Carbon Economic Value (CEV) for Achieving Nationally Determined Contribution Targets and Controlling Greenhouse Gas Emissions in National Development. The CEV regulation is essential for Indonesia because it contributes to market-based climate change mitigation at the global level towards sustainable economic recovery (Presidential Decree No.98, 2021). CEV, or carbon pricing, is defined as providing a price (valuation) for GHG emissions. CEV is a policy intervention to overcome "market failure" by utilizing market forces. This is also a practice of the "polluters-pay-principle" for business actors in particular. In the long term, carbon pricing can be an alternative source of sustainable financing for the government (Wibowo, 2023).

The verified CEV will then be traded through the official carbon exchange. Carbon exchange is an economic instrument that functions as a policy tool to provide incentives for climate change mitigation activities (Presidential Decree No. 98, 2021). Launched on September 26, 2023, by the President of the Republic of Indonesia, the carbon exchange is listed through the Indonesian Stock Exchange. The energy sector was the first sector involved, represented by Pertamina Geothermal Energy Lahendong as the carbon unit seller. In one day, it sold out. Afterward, the carbon exchange slowed and transactions were declining due to a lack of carbon units available to be traded.

Several problems were found in the participation of carbon trading business actors by migrating into the domestic National Climate Change Control Registry System (NCCCRS). Per the directions in Presidential Decree 98 of 2021, business actors must participate in all mitigation and adaptation efforts to achieve the national targets for emission reductions and a sustainable economy. However, existing business actors who have actively carried out carbon trading have so far carried out their transactions in foreign carbon trading, even though this transaction is prohibited in Presidential Decree 98 of 2021. Carbon trading transactions carried out abroad automatically inapplicable any taxes or other forms of domestic income in Indonesia. This act weakens the legitimacy of the carbon trading system, which should become a sustainable economic driver for national development. It is recorded that at least a total of 55 million tons of CO2 per year of domestic carbon emissions are traded on foreign carbon exchanges such as the Verra Registry, Gold Standard, and Plan Vivo. Furthermore, at least 280 domestic carbon emission projects were recorded based on their scope, which was traded on the foreign carbon exchange. These transactions and mitigation projects have been running for decades in Indonesia (SBU Serco Sucofindo, 2023).

In contrast to the Kyoto Protocol, the Paris Agreement adaptation emphasizes regulated markets. Thus, carbon trading performance is also determined by the completeness of regulations implemented, especially at the Ministry/Agency level as the implementer. Only the Ministry of Environment and Forestry, the Ministry of Energy and Mineral Resources, and the

Financial Services Authority have regulations to implement the CEV. This condition requires a push factor from the regulator to complete and finalize the draft of CEV implementing regulations immediately.

Those factual problems that have been identified create the dynamics in implementing carbon trading policies. The interrelationships and complexities in the current implementation of carbon trading show stagnation in carbon exchange activities as a manifestation of slowing performance that requires corrective action to achieve its goals again.

Dynamics forms patterns of connection, interdependence, and causality, which in turn causes complexity (Anwar, 2016). Complexity can provide quite a significant obstacle in sustainable growth, regardless of the strategic process model used in its management, coupled with the organizational environment and business climate that continues to change, causing complexity to be in a dynamic condition, commonly known as dynamic complexity (Bianchi, 2016).

In practice, the carbon trading system is a form of adaptation to global climate policy transfer, and it is implemented in Indonesia with a top-down approach (D. P. Dolowitz & Marsh, 2000). The top-down policy model focuses on decision-maker's ability to produce clear policy objectives and control the stages of implementation (Pulzl & Treib, 2007). Because of its emphasis on central policymakers, the top-down approach has been described as an "elite government phenomenon" (deLeon, 2001). One of the theorists who contributed to the top-down policy model was Mazmanian and Sabatier (1983).

From the factual problems that existed, the researcher aims to explain 1) why the participation of business actors was meager in the domestic NCCCRS migration and 2) how the completion of carbon trading regulations between ministry/institution creates its dynamics in Indonesia. To analyze the dynamics of carbon trading policy implementation using the Mazmanian and Sabatier (1983) policy implementation model and equipped with archetype systems analysis techniques to understand the dynamic phenomenon. The analysis was carried out to dig deeper into the critical factors in policy implementation. By recognizing these key factors, it is hoped that strengthening the implementation of carbon trading policies can be developed through appropriate treatment. The need to explore these aspects is a form of research contribution to the analysis of carbon trading policies, of which literacy is currently limited, especially in Indonesia.

Theoretical Review

Policy cycle models fail to embrace the complexity of the policy process and the fact that policies rarely develop linearly. These stages are often skipped or condensed, and the presence of idiosyncrasies, interests, predetermined dispositions, policy paradigms, or mental maps of the actors involved often removes the impression that the process is running smoothly. There are many different processes at different scales and different speeds co-occurring (Kay, 2006). Furthermore, the implications of various derivatives of the implementation of laws and regulations indeed emphasize relationship patterns that form planned, directed, measurable, and sustainable linkages between institutional elements and resources, as it builds as a synergistic and complete unit as a scientific basis for formulating and determining policies for national development (Pantjadarma & Pawennei, 2021).

The challenges faced by public administration today with the complexity of the problems require the design and use of more ambitious and multifaceted systems that can trigger the learning and coordination of decision-makers, strengthen their ability to frame dynamic complexity, and support them in pursuing sustainable outcomes (Bianchi et al., 2017). To support this goal, the System Dynamics (SD) approach can provide the right lens for organizational actors to frame dynamic complexity (Bianchi, 2016). System dynamics and complexity are two interrelated things. System dynamics describes the dynamic interrelationships between systems and/or system variables, while complexity describes the non-staticity of a situation and is related to causality (Anwar, 2016). A system can be described as a whole or a connection of parts that interact to function as a whole (Maani & Cavana, 2000).

Policy implementation is a complex process involving policy actors, a series of tasks and functions, authority, procedures, communication patterns, attitudes and culture, values and norms, financial and human resources, bureaucratic structures, and often inter-institutional linkages to achieve a policy target. Policy implementation needs to be interpreted as a systemic series that requires high-level policy capacity so that it can frame the complexity and dynamics of policy implementation (Nasiritousi & Grimm, 2022; Chen & Lin, 2021; Aihua et al., 2021; Haites, 2018; Åhman et al., 2016; Dupuis & Knoepfel, 2013). As stated and described by Mazmanian and Sabatier (p.39, 1989) in their suggestive model instead of their existing linear theory, policy implementation as a dynamic process involves many variables that interact with each other; each factor is related to each other so that when there is a change, it affects the entire system, and it is impossible to describe all actual interaction patterns and their respective feedback loops. Therefore, policy implementation must be seen as a system rather than a linear process.

Mazmanian and Sabatier's (1989) concept of the dynamic process of policy implementation is similar to the concept of systems thinking. Systems thinking is a "close loop" thinking. Closed-loop thinking understands that every decision affects the system and its context. Furthermore, these decisions will result in changes to the system and its context, impacting the system. In closed-loop thinking, every change changes everything. Systems thinking is based on how actions impact problems or changes impact decisions. The process is circular and in a closed loop (Messer, 2020).

SD modeling techniques in qualitative practice can be represented through archetype systems. Archetypes are diagnostic tools to provide insight into the underlying structure of emergent behavior over time and hidden events. It is also prospectively used for planning (Braun, 2022). System archetypes are template structures visualized through CLD (causal loop diagram) models and used to read problems quickly so that the model application is more suitable for facilitating shared vision and mental models (Atmoko, 2014). The model described in the archetype template is a structure-behavior pattern and is helpful for policymakers to read the problem phenomenon quickly.

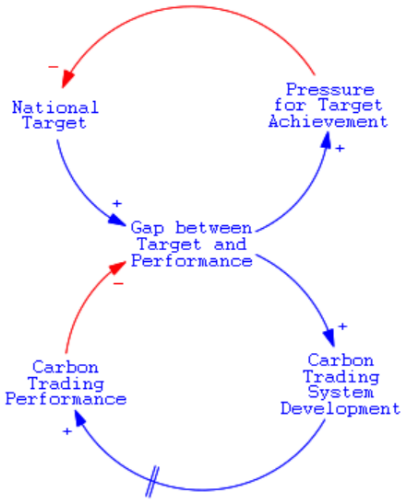
The drifting goals system archetype is used in this research to explain the phenomena that occur in implementing carbon trading policies. Drifting goals are linguistically defined as goals/targets that are eroded. This archetype model is a structure that leads to worsening conditions and decreased target expectations due to increasingly widening gaps. Gaps resulting in differences between targeted goals can be overcome by (1) lowering the target or (2) correcting actions to achieve the target (Kim, 2000).

The important difference is that lowering targets immediately closes the gap, whereas corrective actions usually require time, effort, and/or cost. Lowering targets to actual performance levels over a certain period will also decrease organizational performance gradually, where this performance often declines unconsciously. For these reasons, corrective actions must be taken to maintain long-term performance shifts (Kim & Anderson, 2011). The aim is to strengthen key factors to provide information or feedback as a corrective action (Usman, 1995).

To treat the problem respectively, prescriptive action for drifting goals has been determined in stages: 1) Anchor goals to an external frame of reference to keep them from sliding; 2) Determine whether the drift in performance is the result of conflicts between the stated goal and the implicit goals of the system (such as current performance measures); 3) Establish a clear transition plan from current reality to the goal, including a realistic time frame for achieving the goal. Furthermore, there are seven steps to actualize the prescriptive action: 1) Identify drifting performance measures; 2) Look for goals that conflict with the stated goal; 3) Identify standard procedures for closing the gap; 4) Examine the history of the goal. Has the goal itself been lowered over time; 5) Anchor the goal to an external reference; 6) Clarify a compelling vision that will involve everyone; 7) Create a clear transition plan (Braun, 2022).

The stagnation of carbon exchange activity indicates the declining performance of carbon trading policies and impacts national goals, specifically encouraging a sustainable economy for national development and a 2030 carbon net sink. The decline in national targets occurred due to changes in sectoral goals, which resulted in the resources needed to achieve the targets not being focused, and the impact of performance slowing down, which resulted in changes to national targets that are decreasing. The framework is then described in the drifting goals archetype as follows:

Figure 1. The framework of drifting goals archetypes in implementing carbon trading policy in Indonesia



Source: Data result analysis, 2023

Methods

This research is post-positivism research with a qualitative approach through case studies and the application of systems thinking. Data collection was carried out through in-depth

interviews and documentation studies, and content analysis techniques and drifting goals system archetypes were used to explain the phenomenon of implementing carbon trading policies. This research was conducted from July – December 2023. During the period, interviews were conducted in three ministries/institutions that legally command CEV implementing regulations: the Ministry of Environment and Forestry, the Ministry of Energy and Resources, and Financial Service Authorities. Besides, three supporting institutions, the Environmental Fund Management Agency, House of Representatives, and PT. Sucofindo Tbk. was also included in the interviews and data collection.

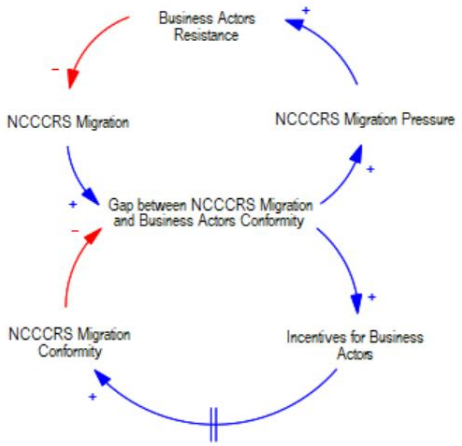
As a high-level policy, the interviews must be conducted with ministry/institution staff at least echelon 3 level or above, with nine interviewees in charge within specific assignments on carbon policy implementation. After all the interview results and data collection, the information was divided into categories and variables representing each research question. The statements generated from the interviews were then extracted again through keywords that showed behavioral patterns of the drifting goals archetype. To avoid bias, then data triangulation is conducted by cross-checking each findings. Finally, the interpretation was performed by the researcher to define the problem phenomenon and explain the findings.

Results and Discussion

After carrying out an in-depth identification of the facts of the problems in the field and a theoretical review as a basis for this research, it is known that the dynamics in the implementation of carbon trading policies are caused by resistance from business actors and conflicts between Ministries/Agencies. Then, to explain the dynamics in implementing carbon trading policies, the CLD modeling technique, which refers to the SD method, uses the drifting goals archetype system. Meanwhile, the conception contained in CLD refers to indicators within the Mazmanian and Sabatier (1983) model of statutory and non-statutory variables. The steps taken in analyzing field findings and the drifting goals archetype system are compiling the experience (storyline), identifying key factors in the field findings, and structuring the CLD.

1) Resistance of business actors to domestic carbon trading migration

Figure 2. Causal Loop Diagram Drifting Goals
Sub-system of Business Actor Participation in Carbon Trading



Source: Primary data, 2023

In Figure 2, key factors are identified, namely (1) NCCCRS migration pressure, (2) Business Actor Resistance, (3) NCCCRS Migration, (4) Incentives for Business Actors, and (5) NCCCRS migration conformity. Rationalization of these key factors causes (1) NCCCRS migration pressure, which increases the resistance of existing business actors, which then leads to declining achievement of NCCCRS migration targets, thereby increasing the gap between NCCCRS migration targets and business actors' conformity to migrate to NCCCRS, (2) It is necessary to intervene to encourage the conformity of existing business actors to migrate to NCCCRS through corrective action in the form of incentives for business actors, to reduce the gap between the NCCCRS migration target and the conformity of business actors to migrate to NCCCRS. The gap is the difference between the targeted goals and the actual condition.

Data on the size of Indonesian carbon trading transactions on foreign carbon markets by existing business actors directly illustrates the size of business-as-usual economic activity that has occurred so far. So, intervention in the already running system can provide feedback in the form of resistance from business actors to migrate to NCCCRS. Resistance is a systemic response to implemented policies. The response that needs to be recognized is resistance/resistance to change. This resistance is a system principle that the system will respond to/resist any changes (Sterman, 2000). Policy resistance occurs due to undesirable side effects of well-intentioned policies, failure to recognize feedback causality, and the separation in time and space between cause and effect (Maani & Cavana, 2000). The harder the push against the system, the more complex the system resists (Senge, 1990).

In the foreign carbon trading business that Indonesian business actors have developed, they have carried out several audits and calculated the Internal Rate of Return (IRR) and Net Present Value (NPV), so significant costs have been incurred as business investments. The Financial Services Authority fears that the disruption of business-as-usual activities of business actors due to NCCCRS migration could impact economic stability. For developing countries like Indonesia, the economy is the main priority. This act gives the sense that the government is afraid of business actors. In the end, the government lowered the NCCCRS migration achievement target, which should instead be encouraged to increase the supply of carbon units on carbon exchange listings so that carbon trading can run stably. This condition increases the gap between the NCCCRS migration target and business actors' conformity for migration to NCCCRS.

Currently, the government's efforts to close this gap are by lowering the target of shifting migration focus to existing business actors with state-owned enterprises instead of private-owned enterprises. However, the percentage of state-owned enterprises is much less than that of private-owned enterprises. This effort is inadequate to boost the performance of the carbon exchange. Thus, to increase the conformity of existing business actors, corrective actions are also needed to reduce the gap between the NCCCRS migration target and the conformity of business actors migrating into NCCCRS. The government also tries to take a voluntary migration-based approach to business actors. The mandate in Presidential Decree No. 98 of 2021 has regulated that business actors who carried out carbon trading before this Presidential Decree must register and report it through NCCCRS no later than one year after the Presidential Decree was promulgated.

There are no regulations governing migration mechanisms yet for business actors; indeed, more concrete and achievable governance is needed for the government and business actors. The governance and regulation of the 21st century is characterized by complexity. To some extent, traditional governance models such as "command and control" have been replaced by softer governance (Abbott et al., 2015; Bres et al., 2019). Currently, problem-solving for various public problems increasingly involves a range of non-state actors (stakeholders), so it tends to require more innovative methods to facilitate policy implementation (Ansell & Gash, 2007; Chan et al., 2019). These methods are options for the government to organize its governance with stakeholders so that they can build the same understanding and recognition in implementing carbon trading policies. The government must have the capacity and capability to carry out orchestration in balancing the different demands of various stakeholders and their respective groups (Nasiritousi and Grimm, 2022). Good management in the carbon trading system can ultimately provide the right incentives for achieving emissions reduction goals (Henriquez, 2021).

Table 1. Strengthening the sub-system of business actor participation towards carbon trading

Loop	Control	Indicator	Intervention	Reference
NCCCRS Migration	Resistance of business actors	Legitimacy of carbon trading policies	*Soft steering,* governance innovation Redesigning of carbon trading policies	Nasiritousi dan Grim (2022); Henriquez (2022); Shao et al. (2023; Gossling et al. (2009); Kuhn (2018); Wittwer (2017); Adams et al. (2021); Nisifouru et al. (2022)
NCCCRS Conformity Migration	Incentive toward business actors	Business actors' support		

Source: Data result analysis, 2023

The resistance of business actors is a product of conflict as a response to the opposite effects of carbon trading policies, which causes carbon trading policies to fail to achieve the desired results. This act is the tendency for interventions to be delayed, weakened, or defeated by the system's response to the intervention (Meadows, 1982 in Sterman, 1994). Resistance to policies occurs when policy actions trigger feedback from the environment that weakens the policy and sometimes even exacerbates the initial problem (Ghaffarzadegan et al., 2011). If the government intervenes in the system with solid policies that move the state of the system towards its goals, this will open up a larger gap for other actors with different goals, which will cause the government to redouble its efforts (Meadows, 1982).

The challenges faced by the business world today are increasingly complex and developing beyond human expectations, so a fundamental transformation needs to be encountered. For example, the issue of climate change has recently become an inseparable part of business plans and processes in the business world. Business actors are part of the backbone of the economy, and for the characteristics of developing countries like

Indonesia, their existence and stability are essential. Policy interventions carried out by the government to achieve national targets on the issue of climate change, in such a way, need to be ensured that they do not impact business as usual to maintain economic stability as a top priority. At the same time, business activities of business actors also need to be encouraged to accelerate the achievement of the 2060 carbon-neutral national target.

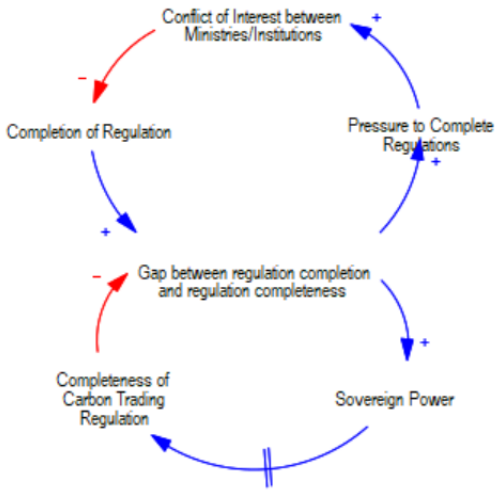
To create good governance within the political, economic, and administrative authority; there needs to be a balance of roles between government and non-government actors in managing social problems. This balance implies the need for innovative governance between government and business actors. Innovative governance aims to generate new ideas and support to facilitate policy implementation (Ansell & Gash, 2007; Chan et al., 2019). In various policy literature, innovation in governance is carried out through co-creation, collaborative governance, participatory management, interactive policy-making, hybrid governance, and national orchestration (Ansell & Gash, 2007; Nasiritousi & Grimm, 2022; Torfing et al., 2019). These governance innovations are a form of government presence that significantly encourages the initiative of existing private business actors to migrate to NCCCRS.

Moreover, private-sector target groups can easily change compliance behavior through productive motivation rather than coercive mechanisms (Wittwer et al., 2017). This implies that the soft-steering concept can minimize resistance and encourage the legitimacy of business actors towards carbon trading. With legitimacy, it can encourage conformity in the NCCCRS migration of business actors. Soft-steering governance innovation is hoped to produce incentives encouraging business actors to migrate to NCCCRS.

Innovations in governance must be formulated by considering adaptation to the theoretical and practical experience of countries that have successfully implemented carbon trading systems (Henríquez, 2022; Nasiritousi & Grimm, 2022). The extent to which adaptation can be carried out depends on the adaptive capacity of the government (Dupuis & Knoepfel, 2013b). In turn, it is hoped that the adaptation can improve the design of carbon trading policies.

2) Conflict of interest between Ministries/Institutions in finalizing regulations implementing carbon trading

Figure 3. Causal Loop Diagram Drifting Goals Sub-system of Completion of Carbon Trading Implementing Regulations in Ministries/Institutions



Source: Primary data, 2023

In Figure 3, key factors are identified: (1) Pressure to complete regulations, (2) Conflict of interest between Ministries/Institutions, (3) Completion of regulations, (4) Support from sovereign, (5) Completeness of carbon trading regulation. Rationalizing these key factors causes (1) pressure to complete carbon trading regulations, increasing conflicts of interest between Ministries/Institutions. This condition then causes a slowdown in the achievement of regulatory completion, thereby increasing the gap between the preparation of regulations and the completion of regulations, (2) the need for intervention to encourage the acceleration of completion of regulations through corrective action through the support of the authorities, i.e., the role of the legislature, to reduce the gap between the preparation of regulations and regulatory completion.

The pressure to finalize regulations aims to encourage the CEV at the Ministry/Agency level for related sectors and sub-sectors in the NDC. With the completeness of these regulations, it is hoped that sectors and sub-sectors in the NDC can immediately join in carbon trading to significantly boost the performance of the carbon exchange and achieve market-based emission reduction goals. The pressure on the need to complete regulations has given rise to increasingly intense conflicts between ministries/institutions. Both conflicts over stakeholder interests need to be accommodated strategically as conflicts over political interests in the 2024 general election agenda.

The UNFCCC, as one of the guidelines adopted in the framework of carbon trading policies implementation in Indonesia, has the main principle, namely Common but Differentiated Responsibility (CBDR). This principle has implications for achieving carbon neutrality, which varies between countries in terms of time and speed and depends on the capabilities of each country. With this concept, previous research by Åhman et al. (2017) identified a potential conflict in policy between efficiency from an economic perspective and other concepts such as equality and justice. The central premise is that to achieve success, carbon policy must balance economic efficiency and other equality concepts (Åhman et al., 2017). The balance is the basis for understanding that conflict occurs when interests in policy-making do not adhere to the necessary balance of various perspectives.

The most significant conflict comes from an economic perspective, where Indonesia's condition as a developing country indeed focuses on economic stability. Entrepreneurs as stakeholders are the backbone of the economy, so they need to be accommodated strategically so as not to impact business-as-usual economic activities. Meanwhile, from an environmental perspective, the issue of climate change and environmental protection is the main focus. When these conflicts of interest involve issues of great importance to the national economy and regional and local interests, they are highly politicized along several dimensions, such as protection versus use, local versus national, and so on (Olsen et al., 2016).

The political nature of Indonesia also influences regulatory and policy products. Research by Maltzman and Shipan (2012) shows that the primary goal of winning legislators is to lock in policy achievements and guarantee that programs will automatically be revised according to their preferences (Maltzman & Shipan, 2012). This goal is also similar to the characteristic of government in Indonesia, which is "change leaders change policies." Therefore, as the general election year approaches, many regulatory and policy products are put on hold first. The dynamics of drafting these regulations ultimately influence the implementation of carbon trading policies. In policy formation, public policy must be analyzed as a political result and as a force that influences political actors, regulates political understanding, and structures political relationships (Moynihan & Soss, 2014).

The conflicts dealt with by Ministries/Institutions, in fact, cause delays in completing the regulations needed to support carbon trading performance. The slowing down in regulatory completion causes an increasingly large gap between regulatory completion and completeness. The bigger the gap, the more it will affect decreasing carbon trading performance. In the early stages of slowing performance, we have seen a stagnation of activity in the carbon exchange.

The quick fix currently being implemented is to lower the target through a shift in sectoral perception of policy, that (a) the aim of achieving the main national target is not in 2030 according to the NDC, but rather refers to the 2060 carbon neutral target; (b) The Paris Agreement and NDC are considered as living documents, which could be subject to further changes so that it is felt that there are still other priority achievements that are more urgent for the government; (c) the issue of maintaining economic stability is more important than prioritizing the issue of climate change. Intervening in business as usual can impact economic stability; (d) current political conditions are the main agenda because the change in leadership resulting from the election is generally considered a new policy direction. This quick fix widens the gap between the completion of regulations and the completeness of the required regulations.

The implementation of carbon trading is under the supervision of Commission IV and Commission XI of the Indonesian House of Representatives. Commission IV has a scope of duties in agriculture, environment and forestry, and maritime affairs. Meanwhile, Commission XI has a scope of duties in finance, national development planning, and banking. The legislative role becomes a balancing act, as policymakers must grapple with the conflicting tensions between economically beneficial policies and their environmental impact (Kalaf-Hughes & Kear, 2018). Greater legislative authority and power are also indicated by the frequency of ministerial summons becoming more frequent and through

the formation of a special committee to investigate alleged irregularities committed by the executive. In formal legal understanding, it is assumed that if the authority and power of representative institutions are greater, their ability to carry out supervision will automatically be greater (Humiati, 2022).

Table 2. Archetype-based solution:
Strengthening the sub-system of completion of carbon trading implementing regulations in Ministries/Institutions

Loop	Control	Indicator	Intervention	Reference
Regulation completion	Conflict of interest among Ministries/ Institutions	Integration and harmonization among Ministries/ Institutions	*Integrated Management Plans, Ecosystem-based management*	Olsen et al. (2016); Cormier et al. (2017)
Regulation completeness	Sovereign power	Legislative roles	*Public-Private Partnerships, Governance by Networks*	Casady et al. (2020); Larsson (2013)

Source: Researcher's data processing, 2023

Policy implementation can reorganize power relations in society, redefine the terms of political conflict, mobilize or dampen constituencies, and convey signals about group viability. Administrative categories can separate one social group from another and frame perceptions of societal problems. When implemented, policies can generate new social identities and political interests or form new configurations of rights and obligations (Moynihan & Soss, 2014). These concepts imply that policy implementation can function as information that provides feedback to the system where a policy is implemented. Policy feedback can potentially transform politics and influence future policy development. In Pierson's (1993) view, the impact of today's policies is the cause of new problems in the future.

This understanding becomes fundamental for bureaucrats when policy issues are politicized with interests that cause conflict, such as economic interests versus environmental interests, national interests versus sectoral interests, protection interests versus utilization interests, and so on (Nordbeck & Steurer, 2016; Olsen et al., 2016).

Adaptation to the global issue of climate change and mitigation efforts to reduce carbon emissions force countries to face challenges, especially conflicts between ministries and institutions, in policy integration (Wong & van der Heijden, 2019). Policy integration maximizes synergies and minimizes trade-offs (Griggs et al., 2014). This concept encourages two types of strategies that can be adopted by bureaucrats in integration between Ministries/Agencies, namely (1) identifying and consolidating the impacts that may arise from clear synergies or (2) negotiating policy conflicts to minimize trade-offs by producing new synergy framework (Nordbeck & Steurer, 2016). Meanwhile, the

institutional framework provides a basis for encouraging coherence in policy action (OECD, 2016).

The most significant interests between Ministries/Agencies include the interest in protecting multi-stakeholders. With its executive authority, the Ministry has released a Ministerial Regulation, which can be used as guidance by its stakeholders by adopting the Indonesian NDC 2030 and LTS-LCCR 2050 (Long Term Strategy for Low Carbon and Climate Resilience) guidelines. The NDC and LTS LCCR only contain guidelines agreed upon in the global climate change agreement, which are translated by each Ministry and then implemented through Ministerial Regulations. Even though the Structure and Work Procedures of the Steering Committee for the Implementation of CEV for Achieving NDC and Controlling GHG Emissions in National Development have been prepared in the Coordinating Minister for Maritime and Investment Regulation Number 5 of 2022. No integrated planning mechanism has yet been identified between ministries/agencies.

Integrated planning enables Ministries/Institutions working through subordinate institutions to collaborate during development and implementation. Integration of interests and concerns across sectors and between levels of government is essential. Having different goals and interests allows conflict to occur. The existence of integrated planning can map conflicts from the Ministry/Agency level to the regional/industry/sector level. Integration also provides an arena for building personal and institutional relationships that increase trust between sectors. Moreover, integration encourages discussions that compare sectors, impacts, and management, identifying deficiencies, inconsistencies, and potential improvements (Olsen et al., 2016).

By delegating the authority to formulate the implementing regulations to the Ministry as the executive, there will be several potentials for deviating, expanding, or narrowing the material of the law based on strategic interests that need to be accommodated. Therefore, supervision is needed over the use of authority to make regulations and implement the law (Sucipto, 2015). The Indonesian House of Representatives, as the holder of legislative, budgetary, and supervisory powers, is considered powerful enough to intervene in government policies whose performance needs to be encouraged. However, several studies show that the supervisory performance of the Indonesian House of Representatives is less than satisfactory (Sunardi, 2018; IPC, 2022; Alizar et al., 2023). The Indonesian House of Representatives's performance is still far from capturing the complexity of policy problems in Indonesia, especially policies related to climate change and carbon issues.

With so much political power but still showing unsatisfactory performance, this gap needs to be filled with development and strengthening in the New Public Governance (NPG) paradigm. Governance by networks (Larsson, 2013) and the concept of Public-Private Partnerships (PPPs) (Casady et al., 2020) may be a strengthening perspective that can be referred to by legislative bodies in their legislative functions.

In its development, governance has passed through three eras, namely, Public Administration Management (PAM), New Public Management (NPM), and New Public Governance (NPG). NPG is a theory that captures reality and complexity (Osborne, 2010). NPG is happening because government problems are becoming more complex, and society is becoming increasingly aware of its needs, placing more and more varied demands on the government. The same explanation was given by Osborne (2010) that theoretically, NPG

is rooted in "institutional theory and network theory," where institutional theory explains how institutional environmental pressures in forming organizations in social life manifest environmental needs.

Networks may make it possible to reach public problems and improve the quality of public services through collaboration between governance actors. This collaboration forms good relationships between actors so that the network approach leads to an analysis of the relationships between these actors in implementing government policies (Aisah, 2015). A similar thing was conveyed by Goldsmith and Eggers (2004), who stated that the complexity of problems in society is increasing and can no longer be resolved through hierarchical bureaucracy. Thus, there is a need for inter-organizational relationships that can primarily be initiated by the government as a generator of public value, which then underlies the emergence of the concept of governing by network or governance networks.

Networks are sometimes described as non-political and framed as consensus-oriented problem-solving structures involving state and non-state actors dealing with 'wicked' problems and are thus seen as complementary to political (coercive) directives made by governments (Rhodes, 1997; Kooiman, 2000; Ansell and Gash, 2008; Kooiman and Jentoft, 2009; Héritier and Lehmkuhl, 2010). In another understanding, networks are collaborations between private and public agents involved in politics over the politics of cooperation within the boundaries of politically constructed private and public spaces (Larsson, 2013).

Soft steering governance through networks aims to generate new ideas, support, and/or incentives that can facilitate policy implementation. Incentives are a form of support for government policy and can be realized through soft steering negotiations. Soft steering does not mean that the government uses softer methods so that Ministries/Agencies have freedom; in fact, soft steering is a form of government presence dominantly as a regulator function to provide stakeholder arrangements.

Summary

The drifting goals system archetype used in this research describes the dynamics of carbon trading policy implementation in Indonesia, which results in slow performance and lower national targets. In developing countries like Indonesia, the policies that are formed tend to focus their policy direction on economic benefits. This condition makes it challenging to align carbon trading policy objectives with other policy objectives such as forest protection, energy transition, et cetera. When the policy has enormous economic value for the country from such a specific influential target group, this value becomes an issue that triggers conflict and resistance. Therefore, soft steering governance is needed to manage this conflict and resistance. Governance issues are an inseparable part of the implementation of public policy. The drifting goals system archetype can explain the strengthening that can be done to encourage carbon policy performance and increase national targets.

Recommendations

1) In practice, policy actors need to understand the complexity and interrelationships in policy implementation so that systems thinking can be used as a more optimal method for capturing and understanding policy phenomena. Understanding the relationship between structure and

behavior (the underlying cause) in recognizing a phenomenon helps to simplify complexity and provide long-term prescriptions for policy implementation problems.

2) The NPG (New Public Governance) paradigm in administrative science provides spaces for innovation in governance, which can solve policy implementation problems. The government must adapt to governance innovations, especially in complex policies.
3) The implementation of carbon trading policies needs to be accommodated through strategic and integrated governance, especially at the central level, i.e., Ministries/Institutions as implementers. Carbon trading policies require good implementation design and embrace the novelty of concepts in climate change governance and carbon trading. This policy can be studied through theoretical and practical experience from countries that have successfully implemented carbon trading, such as European Union countries. However, the government also needs to learn from countries that have failed to implement carbon trading, such as Vietnam and Australia, as an evaluation.
4) Commission IV and XI at the Indonesian House of Representatives need to encourage their partners to immediately complete the regulations needed to guide the implementation of carbon trading policies so that the performance of the carbon exchange can improve so that the national goal of encouraging a sustainable economy for national development and a carbon net sink by 2030 can be achieved.
5) This research provides much space that can be filled and developed by further research, especially in the NPG paradigm through concepts such as Integrated Management Plans, Ecosystem-based Management, Governance by Networks, and other governance concepts related to climate change and carbon trading.

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