CONVERGENCE OR DIVERGENCE?

Comparing the Evolution of SDG Implementation in EU and ASEAN Member States

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Abstract

This study investigates the longitudinal trajectory of Sustainable Development Goals (SDGs) implementation within the European Union (EU) and the Association of Southeast Asian Nations (ASEAN), exploring the potential for policy convergence or divergence over time. Through a mixed-method approach that analyzes Voluntary National Reviews (VNRs) and includes interviews with key representatives, the research employs a multiple case study design to identify patterns in SDG implementation across five EU countries (Netherlands, Greece, Germany, Denmark, Latvia) and five ASEAN countries (Singapore, Indonesia, Thailand, Cambodia, Lao PDR). Through the study, first, it is found that the EU's implementation of SDGs is characterized by greater divergence, whereas ASEAN exhibits higher convergence. Second, ASEAN shows the strongest convergence in environmental SDGs, contrasting with the EU's divergence in this area. Although the European Green Deal has led to unified efforts in circular initiatives, environmental policies in the EU remain divergent in other respects. Third, both regions are experiencing a decline in funding for environmental SDGs. Fourth, the EU's lack of a unified regional SDG agenda contributes to national policy divergence, whereas ASEAN's regional SDG vision fosters policy convergence among its members. These findings underscore the necessity of having financing mechanisms explicitly directed towards achieving the SDGs. They also highlight the potential for mutual learning among regions, emphasizing that, despite the traditional donor-recipient dynamic between the Global North and South, peer learning should be enhanced globally, including between the EU and ASEAN regions. Additionally, emphasizing the importance of regional SDG Agendas, this research advocates for unified yet localized sustainable development pathways. Ultimately, the future of global goal-setting hinges on embracing and integrating localized goals into the broader framework.

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Michele Joie Prawiromaruto
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List of Abbreviations

ACC	ASEAN Coordinating Council
ADB	Asian Development Bank
AEC	ASEAN Economic Community
APSC	ASEAN Political-Security Community
ASCC	ASEAN Socio-Cultural Community
ASEAN	Association of Southeast Asian Nations
BRICS	Brazil, Russia, India, China, South Africa
CJEU	Court of Justice of the European Union
CSA	Case Study Analysis
ECOSOC	United Nations Economic and Social Council
EGD	European Green Deal
EP	European Parliament
EU	European Union
FP	Focused Programs
G20	Group of 20
GDP	Gross Domestic Product
GS	Governance Structure Policies
HLPF	High-Level Political Forum
IMF	International Monetary Fund
INIS	Institutional Isomorphism Theory
IP	Information Policies
LDC	Least Developed Country
MP	Monetary Policies
NGO	Non-governmental Organization
NP	National Policies
PD	Path Dependency Theory
PP	Physical Policies
PPP	Purchasing Power Parity
QIA	Qualitative Interpretive Analysis
SD	Sustainable Development
SDG	Sustainable Development Goal
UN	United Nations
UN ESCAP	United Nations Economic and Social Commission for Asia and the Pacific
VNR	Voluntary National Review

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1. Introduction

1.1. The Challenge of Global Governance

In the realm of global governance, navigating the fine line between universality and differentiation, compulsory and voluntary measures, as well as comprehensiveness and tailor-made policies, presents a complex challenge. The rapid evolution of a world with diverse countries and unique problems raises the question of whether a united vision and goal can effectively bring nations together. The creation of the Sustainable Development Goals (SDGs) was a significant step towards addressing this query, offering a framework that is both universal and adaptable for countries to pursue ambitious social, economic, and environmental objectives. However, since the inception of the SDGs, the progress of their implementation remains a critical and vast question. This study attempts to contribute a part to answering this very broad inquiry and will begin by providing the contextual background on the challenges faced in the space of global governance and the supposed role of the SDGs.

1.1.1. Global North-South Context

On the international stage, finding some form of consensus on how to tackle the challenge of climate change has been slow, if not lacking. One of the reasons for this has been centered on debate between the developed and developing countries, also more commonly known as the 'Global North-South divide' (Uddin, 2017). Although the exact definition has varied, the terminology of the Global North generally refers to the affluent nations of the United States, Canada and Western Europe, the developed part of Asia, Australia and New Zealand, while the Global South is made up of Africa, Latin America and developing Asia, including the Middle East (González, 2015). This division is often delineated by four broad indicators, namely politics, technology, wealth, and demography. The Global North is characterized by democratic governments, technological innovation, wealth and aging populations, which lead to slow or declining population growth, while the Global South exhibits the opposite traits (Todaro & Smith, 2009).

In addressing the pressing matter of climate change and the allocation of responsibilities among nations, the impasse in global cooperation has revolved around the starkly contrasting demands of the Global North and South. The Global North advocates for emissions reduction, deforestation mitigation, and other changes that initially propelled their economic development (Uddin, 2017). In contrast, the Global South prioritizes industrialization and poverty alleviation, insisting that the Global North bears responsibility for their historical emissions (González, 2015). This dynamic sets the stage for a dilemma where the historically dominant polluters, the Global North, urge emissions reductions from the Global South, potentially hindering their growth. Simultaneously, the Global South demands emission cuts from the Global North and financial support for their economic development and transition to environmentally-friendly

practices (Jager & O'Riordan, 2019). These two dichotomous blocs have thus historically clashed with each other in reaching international cooperation for sustainability, as showcased by the failure of the 1997 Kyoto Protocol (Helm, 2012; Rosen, 2015).

Recent scholarship critiques the relevance of using the Global North-South divide, similar to the outdated dichotomy between First and Third World countries, in the context of today's multipolar and complex world (Haug et al., 2021; Hurrell & Sengupta, 2012; Müller, 2018). Simon-Kumar et al. (2017) argue that the interconnectedness within the fields of environment and development reveals increasingly shared lived realities among both the North and the South. Hurrell and Sengupta (2012) further question the future utility of the term 'Global South,' given the fragmented and dynamic landscape of the developing world. These valid arguments collectively call into question the contemporary use of the Global North-South concept. The purpose of employing this terminology in the present study is not to defend its validity but to use it as a contextual tool to provide background and rationale for examining two disparate regional institutions. Later in this research, findings will also contribute to the academic discourse on whether this division remains pertinent. Therefore, without assigning any normative value to this division, the two dichotomous blocs will be used as a contextual tool in this research for now.

1.1.2. The Sustainable Development Goals

This deadlock reached a historic breakthrough in 2015 with the creation of the SDGs as an integral part of the 2030 Agenda for Sustainable Development (SD) and the ratification of the Paris Agreement later in that same year (Li, 2022; Obergassel et al., 2016). Both were characterized by their inclusive, adaptive and non-binding nature, with the former intending to integrate goal-setting as a cornerstone of global policy and governance and the latter a worldwide consensus of limiting global temperatures (Biermann et al., 2017; Paris Agreement, 2015).

The SDGs were created as a universal call to action to address a range of global challenges, consisting of 17 overarching goals and accompanied by 169 specific targets and 231 indicators (Bernstein, 2017; Biermann et al., 2022) (see Figure 1). Officially entering into force on January 1, 2016, the SDGs carry a relatively short time span with the ambitious objective of achieving the set goals and targets by 2030 (Chasek et al., 2016). Serving as a successor to the Millennium Development Goals (MDGs), the SDGs adopted a 'global target, national action' approach, relying on the voluntary commitment of each national government to work towards the goals (Forestier & Kim, 2020; Amos & Lydgate, 2019).

Figure 1: The 17 Sustainable Development Goals (Source: United Nations)

Previously, the MDGs were eight international development goals that were operational from 2001 to 2015, addressing a spectrum of issues, including poverty, hunger, maternal and child mortality, communicable diseases, education, gender inequality, environmental damage, and global partnership (Lomazzi et al., 2014). In the agreement, all 189 UN member states voluntarily committed to achieving these goals by 2015, with the promise that their attainment would significantly reduce world poverty, save millions of lives, and foster a more sustainable global environment (UNDP, 2013). The MDGs specifically targeted developing countries, with a particular focus on the least developed nations.

Studies have shown that the MDGs' impact reveals a mixed picture of successes and failures. According to Bourguignon (2008), the MDGs succeeded in focusing global attention on the needs of the poorest. Achievements included halving extreme poverty, meeting the goal of reducing hunger, increasing access to potable water, improving living conditions for millions in informal settlements, and making strides in combating diseases like malaria and tuberculosis (UNDP, 2013). However, these gains were highly unequal throughout the world, as seen by the slow or worsening poverty reduction in certain regions like that of Sub-Saharan Africa, persisting environmental sustainability challenges, and unfulfilled goals related to primary education and gender equality (Bourguignon, 2008; Lomazzi et al., 2014).

A novel aspect of the SDGs is their universality, signifying that all countries, starting from small island developing nations in the Pacific to major global players like the United States and Europe, are meant to implement the goals within their societies through global cooperation (Biermann et al., 2022). Unlike the MDGs, which primarily targeted underdeveloped nations,

the SDGs cover all dimensions of SD, including social, economic and environmental objectives, making them the most all-encompassing form of global goal-setting thus far (Bhattacharya et al., 2014). Besides this, the negotiation and creation of the SDGs marked a departure from the process that led to the MDGs. As previously mentioned, the origins of the MDGs were launched by the UN Secretary-General who then renegotiated the agreements with several international financial institutions (Hulme, 2009). For the SDGs, the negotiation process was more inclusive, allowing for interventions from civil society and non-governmental organizations. Additionally, input from over a million people was gathered through an online polling and commenting system, contributing to the relative openness and transparency of the SDGs negotiations—an aspect that could be argued to mark a new page in global diplomacy (Kamau et al., 2018).

While critics argue that these Goals are too expansive and universal with potential inconsistencies in its implementation (Easterly, 2015; Spaiser et al., 2016), proponents have lauded this as a milestone towards true international cooperation that could bridge the Global North-South divide (Desai et al., 2018). This is reflected in the 2030 Agenda that underscores the commitment that no one should be left behind in the implementation of the SDGs, emphasizing inclusivity and policy alignment (Sénit et al., 2022).

1.1.3. The High-Level Political Forum and the Voluntary National Reviews

To monitor the progress towards the goals, the United Nations (UN) set up the High-Level Political Forum (HLPF) as an annual forum for member states to "conduct regular and inclusive reviews of progress at the national and sub-national levels, which are country-led and country-driven" (United Nations, n.d.-b, paragraph 79). The HLPF convenes annually under the auspices of the Economic and Social Council (ECOSOC) and every four years under the auspices of the General Assembly (Beisheim et al., 2022). Its mandate is to provide leadership, guidance, and recommendations for SD (UNGA, 2013). While some studies propose that the HLPF could potentially function as an 'orchestrator' for the 2030 Agenda and the SDGs (Abbott & Bernstein, 2014), further research is still needed to determine its effectiveness in fulfilling this role.

In this forum, countries voluntarily submit their progress reports in the form of Voluntary National Reviews (VNRs), which provide insights into how nations are faring in their pursuit of the SDGs and facilitate sharing of best practices and lessons learned through peer learning, all with the ultimate aim of accelerating the implementation of the 2030 Agenda (United Nations, 2021). The UN provides general guiding principles of how to prepare said VNRs, some of which are to "be people-centered, gender-sensitive, respect human rights and have a particular focus on the poorest, most vulnerable and those furthest behind" and "be rigorous and based on evidence, informed by country-led evaluations and data which is high-quality, accessible, timely, reliable" (Secretary-General, 2021, p.2). Overall, VNRs are expected to include the following ten

key elements: (1) Opening statement; (2) Highlights; (3) Introduction; (4) Methodology and process for preparation of the review; (5) Policy and enabling environment; (6) Progress on Goals and targets and evaluation of policies and measures taken so far; (7) New and emerging challenges; (8) Means of implementation; (9) Conclusion and next steps; and (10) Annexes (Secretary-General, 2021). To further support the sharing of best practices, the UN has compiled a list of resources, including the "Repository of Good Practices in VNR Reporting," which identifies countries that align well with the guidelines provided by the Secretary-General (ECOSOC, n.d.). While national reporting through VNRs is voluntary in principle, 191 countries have participated, submitting a total of 382 VNRs to date (HLPF, n.d.).

Having said this, it remains unclear as to how the Global North-South regions are navigating this sustainability agenda. Given the historical baggage and power dynamics embedded within the relationship, it is difficult to ascertain whether the SDGs–designed with inclusivity and flexibility in mind–could have a unifying influence towards these two blocs, or rather maintain and aggravate the chasm between them. Against this backdrop, there is a growing need to empirically examine the evolving dynamics of global sustainability efforts, assessing the impact of the SDGs on representative countries from the Global North and South.

1.2. Problem Definition

The challenge for SD is universal, and in the rushed race towards the 2030 Agenda, it has become more urgent than ever. Niklasson (2019) underscores the need for an enhanced strategy in implementing the SDGs, particularly in developing countries, to prevent them from lagging significantly behind their developed counterparts. Forestier and Kim's (2020) findings reveal that nations with diverse income levels prioritize distinct SDGs, potentially impeding global progress on SD. Similarly, Desai et al. (2018) advocate for innovative governance arrangements to bridge gaps in SDG implementation and fulfill the overarching goal of 'leaving no one behind'. Despite these compelling appeals, there has yet to be much in-depth research scrutinizing regional SDG patterns within the Global North-South context and delving into the underlying reasons for these occurrences, indicating the need for a comprehensive exploration of regional SDG patterns within this very context.

Conducting empirical studies on the impact of the SDGs is crucial. If the Goals fail to influence political systems, corporations, civil society, and individual decisions, there is an opportunity to develop alternative tools and political interventions post-2030. Conversely, if the goals prove to be effective as a global steering mechanism, they can be further strengthened by identifying gaps in existing implementation and deliberating on how to improve them. This research is particularly pertinent given the complex challenges of international cooperation rooted in the Global North-South divide, and examining how solutions can be implemented more effectively

in the future, while realizing the principle of 'leaving no one behind,' is paramount in addressing the intricate dynamics of SD on a global scale.

1.3. Research Design

1.3.1. Research Objective

The overarching goal of this research is to comprehensively understand the directions and patterns within and across regions, specifically investigating the potential convergence or divergence of Global North-South nations in their pursuit of the SDGs. To do so, this study focuses on examining the longitudinal progress of representative countries from the European Union (EU) and the Association of Southeast Asian Nations (ASEAN). By scrutinizing the VNRs of five EU nations (Netherlands, Greece, Germany, Denmark, Latvia) and five ASEAN nations (Singapore, Indonesia, Thailand, Cambodia, Lao People's Democratic Republic (Lao PDR)), the research seeks to discern the trajectories and patterns of SDG policies within and across these regions. Through these findings, this study hopes to contribute to the ongoing dialogue on SD by providing nuanced insights into regional and global progress. Ultimately, it aims to illuminate the factors influencing their paths toward achieving the SDGs, offering valuable insights for policymakers, international organizations, and stakeholders committed to fostering a more sustainable and equitable future.

1.3.2. Research Questions

The main question (RQ) to be answered in this research is as follows:

> *To what extent and why do the Sustainable Development Goals policies converge or diverge in the European Union and the Association of Southeast Asian Nations member states, as evidenced by their Voluntary National Reviews?*

The main question will be enhanced and guided through the following sub-questions (SQs):

1. What policy types and groups do EU and ASEAN member states employ to implement SDGs, as outlined in their VNRs?
2. What are the commonalities and differences in the SDG policies within the EU and ASEAN member states, based on the VNRs?
3. In what ways do the SDG policies in the EU and ASEAN region exhibit similarities or differences when subjected to a comparative analysis of their VNRs?
4. How can variations in population size, economic and political contexts explain the observed patterns of policy convergence or divergence within and across the two regions?

1.3.3. Scientific Relevance and Knowledge Gap

This research holds scientific relevance and contributes to the existing body of knowledge in several ways. First, the period since the establishment of the SDGs in 2015 has witnessed a surge in research exploring their impact and implications, positioning this study within a vibrant and evolving research area. Notably, this thesis is affiliated with the Global Goals Project, a pioneering initiative led by Prof. Dr. Frank Biermann, serving as the principal investigator. This Project is dedicated to investigating the evolution, effectiveness, and future prospects of 'global governance through goals' as a pivotal steering mechanism in world politics (Global Goals, n.d.). Through participating in this international research endeavor, this study not only enhances the collective knowledge on SDGs, but also contributes to the broader discourse surrounding the evolution and effectiveness of global governance frameworks.

Second, previous studies have primarily focused on an in-depth examination of a single country or region or a comprehensive approach by analyzing overall global patterns of all SDGs. For instance, Elder and Newman (2023) delved into the SDG policies and budgeting of the Group of 20 (G20) countries, Elder and Ellis (2022) conducted an extensive study on how ASEAN countries implemented environmental policies for the SDGs, and Ali et al. (2018) examined SDG implementation of Brazil, Russia, India, China, and South Africa (BRICS) by looking at top multinational companies' vision and mission statements. Other scholars like Forestier and Kim (2020), Okitasari et al. (2019), and Sarwar and Nicolai (2018) have observed global patterns of SDG implementation and derived lessons from each of these observations. Thus, there remains a gap in the literature, as no comparative study has yet to explore the trajectory of SDG implementation in the Global North-South context. Furthermore, there are only a few longitudinal studies done in the field of SDGs. Longitudinal studies offer a unique advantage in understanding the evolving dynamics of SDG implementation. By tracking the progress and changes over time, this research approach provides valuable insights into the factors influencing the trajectories of sustainability efforts. These are two of the ways this thesis addresses the existing gap in the SDG literature.

Methodologically, the use of VNRs is quite a novel tool in research, given their inception simultaneously with the creation of the SDGs themselves. One of the advantages of using them is that they provide a standardized dataset, allowing for cross-country and cross-regional comparisons, thereby enhancing the rigor and reliability of the study. This research adopts a comparative regional analysis, specifically comparing the EU and ASEAN, to identify patterns, similarities, and differences in the evolution of SDG policies. Few studies have systematically undertaken such comparisons, especially utilizing VNRs as a primary data source, underscoring the novelty and scientific significance of this research in advancing the understanding of SDG implementation dynamics across different global regions.

1.3.4. Societal Relevance

In recent times, the global community has grappled with a myriad of pressing transboundary challenges, ranging from the COVID-19 pandemic to economic crises, interstate conflicts, influx of refugees and the ongoing battle against climate change impacts, just to name a few (United Nations, n.d.a). In the face of these complex issues, concerns of inclusion, fairness, and justice have gained prominence in political discussions, with SDGs touted as a potential solution to the increasingly unequal society aggravated by the recent problems (Biermann et al., 2022). The societal relevance of assessing the impact of SDGs is therefore paramount. Daily decisions made in politics, local administrations, global corporations, and civil society have tangible effects on communities and individuals, both directly and indirectly (Biermann et al., 2022). As aforementioned, if it becomes evident that these global goals lack efficacy, direction, or are largely disregarded by governments, corporations, civil society, and citizens, the exploration of alternatives must swiftly find a place on the global political agenda.

Moreover, this research holds societal relevance by directly addressing the Global North-South divide through an examination of the evolution of SDG implementation. The EU, representative of the Global North, and ASEAN, representing a mix of Global North and South characteristics, provide critical insights into the diverse approaches adopted by countries with varying socioeconomic contexts. By scrutinizing the unique circumstances of these regions, the research contributes to fostering global cooperation for SD. This can yield possible recommendations for policy transfer and South-South collaboration, offering valuable lessons on how nations from different parts of the world can learn from and collaborate with each other in the pursuit of common SDGs. Ultimately, understanding how distinct regions contribute to or mitigate global environmental and social risks becomes instrumental in informing policies aimed at bridging the Global North-South gap.

2. Theoretical Background

2.1. The European Union

Today, the EU comprises a complex system of institutions and bodies tasked with a wide range of functions. The principal institutions include the European Parliament (EP), the European Council, the Council of the European Union, the European Commission, the Court of Justice of the European Union (CJEU), the European Central Bank, and the European Court of Auditors (European Parliament, 2022). The specific role each institution plays in the EU's decision-making and governance processes is explained below and the relationships among these institutions have been summarized in Figure 2. This section will not provide a comprehensive exposition of all institutional roles and functions. Instead, it will focus on highlighting several key EU institutions that have played a role in sustainable governance and the SDGs, focusing in particular on the domains of policymaking, financial regulation, and judicial oversight.

The EU's policy making process is driven by three critical institutions: the European Council, the European Parliament, and the European Commission. The European Council, comprising the heads of state or government from EU member states, the President of the European Council, and the President of the European Commission, plays a crucial role in setting the overall direction and priorities for the EU (Pavy, 2023a). EP, the only directly elected EU institution, represents EU citizens with legislative, budgetary, and supervisory responsibilities. It exercises co-decision power with the Council on most legislative matters and holds the authority to approve the EU budget (McBride, 2022). With no more than 751 members, EP ensures degressive proportional representation, maintaining a minimum of six members per member state and a maximum of 96 seats per state (Pavy, 2023b). This structure could potentially afford larger member states greater political leverage in negotiations. For instance, during the adoption of the Renewable Energy Directive that aimed to increase the share of renewable energy in the EU's total energy consumption to 32% by 2030 (European Union, 2018), Germany and France lobbied for more flexibility in achieving the renewable energy targets, reflecting the varied interests and power dynamics within the EU, and later resulting in compromises that allowed more room for flexibility (Lafrance & Wehrmann, 2023).

Alongside them, the European Commission is a key institution in advancing the EU's regional sustainability agenda. It possesses a monopoly on legislative initiative and exercises significant executive powers in areas such as competition and external trade (Maciejewski, 2023). The Commission has spearheaded several critical initiatives, including the European Green Deal (EGD), which seeks to make Europe climate-neutral by 2050, the Circular Economy plan, and the Farm to Fork Strategy (European Commission, n.d.-d). It is also responsible for drafting and proposing key energy directives, such as the Renewable Energy Directive (EU) 2018/2001, the Energy Efficiency Directive (EU) 2018/2002, the Governance Regulation (EU) 2018/1999, and

the Energy Performance of Buildings Directive (European Union, 2009). Moreover, the Commission presents proposals for the Environmental Action Programme, which outlines the EU's long-term vision for sustainable living within planetary boundaries. The eighth rendition of this program, proposed in 2020 and implemented in 2022, aims to ensure that EU climate and environmental laws are effectively executed, thereby forming the EU's foundation for achieving the UN's 2030 Agenda and its SDGs (European Commission, n.d.-a). These initiatives exemplify how the EU, through the Commission, has crafted policies that not only indirectly support the SDGs but have increasingly made direct references to them.

In the realm of finances, the EU manages its budget primarily through the 2021–2027 Multiannual Financial Framework, which serves as the main budgetary instrument of the EU (Marx et al., 2021). This framework provides funding for various EU programs but does not have a specific allocation for the SDGs thus far. Notably, it elucidates that 50% of the total budget will support the modernization of the EU through initiatives in research and innovation, fair climate and digital transitions, and resilience efforts as well as dedicate 30% of the budget for combating climate change, biodiversity protection, and addressing gender-related issues (European Commission, n.d.-c). Although these priorities are inherently related to the SDGs, the framework does not explicitly reference them. Furthermore, the European Central Bank has been responsible for formulating monetary policy in the euro area since 1999, with its primary objective being the maintenance of price stability (Rakić & Sabol, 2023). Complementing this, the European Investment Bank acts as the EU's lending institution, providing financial support for projects that advance sustainable development within Europe and beyond. Its funding initiatives focus on renewable energy projects, sustainable infrastructure, and initiatives that enhance social cohesion, explicitly aiming to contribute to various SDGs (European Investment Bank, 2023).

To ensure judicial compliance, the EU relies on the CJEU, which oversees the interpretation and application of EU law and reviews the legality of acts by EU institutions (Bux & Maciejewski, 2023). The EU maintains its own distinct legal personality and legal order, separate from international law, with EU legislation directly or indirectly influencing the laws of its member states (European Parliament, 2024a). The CJEU has presided over cases involving environmental issues, such as legal actions against Italy for violations related to human health and environmental protection concerning waste management (European Commission, 2022), and against Greece for failing to implement an adequate hazardous waste policy (European Commission, 2022), among other cases. The effectiveness of these rulings, however, is often debated due to the slow judicial process and the political and economic challenges some member states face in achieving compliance (Hall, 2010). Nevertheless, the EU's judicial toolkit includes mechanisms for enforcing financial penalties in cases of non-compliance, thus possessing a system to deter future violations and hold member states accountable.
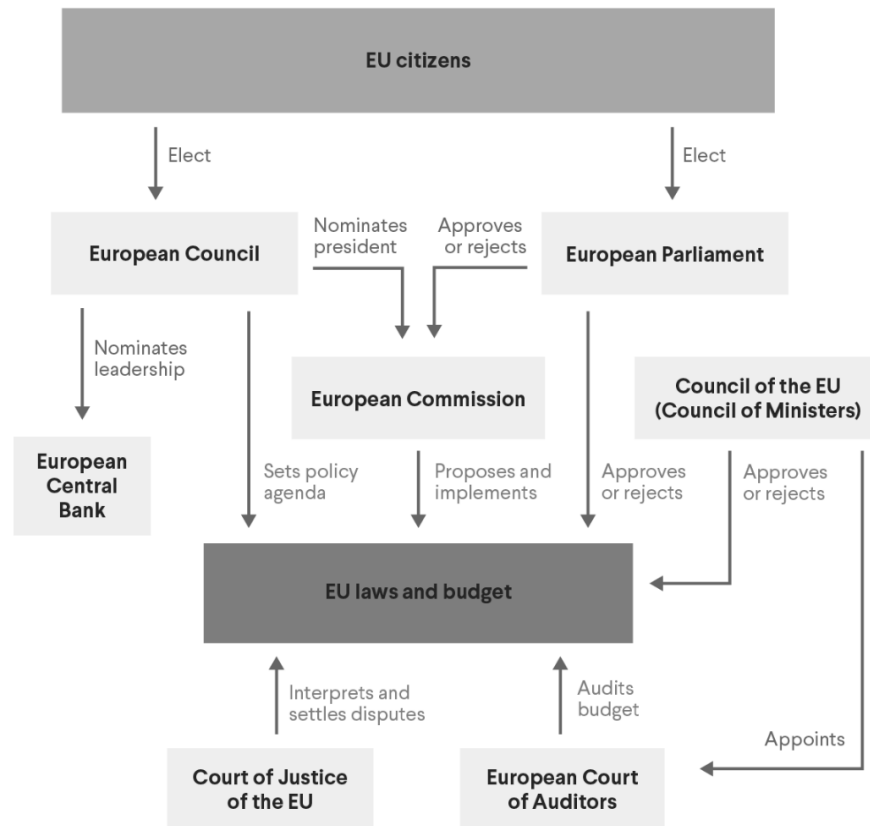
Figure 2: A summary of how the seven main EU institutions work together (Source: McBride, 2022)

2.2. Association of Southeast Asian Nations

In 1967, the Association of Southeast Asian Nations (ASEAN) was officially established through the signing of a document by Indonesia, Malaysia, the Philippines, Singapore, and Thailand (Narine, 2008). Operating on the principles of non-interference, consensus-building, and mutual respect for sovereignty, often referred to as the 'ASEAN Way,' the organization's goals encompass cooperation in economic, social, cultural, technical, and educational fields, as well as the promotion of regional peace and stability in adherence to the principles of the United Nations Charter (ASEAN, n.d.). With these objectives in mind, they led to the creation of The ASEAN Charter, which serves as a foundational document, provides legal status and an institutional framework for ASEAN, codifying norms, rules, and values while establishing non-binding targets, accountability, and compliance for ASEAN member states (ASEAN, n.d.). During the 1990s, ASEAN expanded to incorporate the rest of Southeast Asia, with Brunei Darussalam joining in 1984, followed by Vietnam in 1995, Lao PDR and Myanmar in 1997, and Cambodia in 1999 (Narine, 2008).

At the apex of the organizational hierarchy is the ASEAN Summit, the highest policy-making body composed of the Heads of State or Government of member states. This summit convenes

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biannually at a time determined by the Chairmanship of ASEAN, a position that rotates annually among member states and sets the agenda in consultation with other members (ASEAN, n.d.). For instance, Indonesia's leadership in the 2023 Summit centered around the theme 'Epicentrum for Growth,' while Lao PDR is set to lead the 2024 Summit with a focus on 'Enhancing Connectivity and Resilience' (ASEAN, n.d.). Although the ASEAN Summit has yet to explicitly focus on the SDGs, the growing partnership between ASEAN and the UN, highlighted by the concurrent ASEAN-UN Summit, is the case of an international forum where the SDGs have been placed on the agenda. Additionally, the ASEAN Secretariat plays a crucial role in facilitating regional integration efforts, with a core mandate to enhance efficiency in coordinating ASEAN organs and implementing various projects and activities (Olsen et al., 2015). Horizontal coordination of these integration efforts falls under the purview of the ASEAN Coordinating Council (ACC), which comprises ASEAN Foreign Ministers who meet at least twice a year to prepare for the ASEAN Summit, ensuring the implementation of leaders' mandates and overseeing cross-pillar initiatives (ASEAN, n.d.). The vision for a more integrated ASEAN is further supported by the ASEAN Community Councils, which are organized into three pillars: the ASEAN Economic Community (AEC), the ASEAN Political-Security Community (APSC), and the ASEAN Socio-Cultural Community (ASCC). These councils convene at least twice a year to review progress, coordinate cross-cutting issues, and submit recommendations to the ASEAN Summit (Olsen et al., 2015). This institutional structure is summarized comprehensively in Figure 3 below.

Within this institutional framework, ASEAN has collaborated with the United Nations Economic and Social Commission for Asia and the Pacific (UN ESCAP) on an initiative known as the 'Complementarity Initiative', which aims to map the complementarities between ASEAN Vision 2050 and the United Nations' Agenda 2030 (UN ESCAP, 2017). This initiative identifies cross-cutting priority areas shared by both documents, proposes measures to bolster existing efforts to achieve SDG targets within these areas like through the creation of the ASEAN Council for Sustainable Infrastructure, and emphasizes the localization of the Goals to meet the specific needs and contexts of the region (Marx et al., 2021). Thailand has also taken a leading role as the coordinator for Sustainable Development Cooperation (Holzhacker & Agussalim, 2019). These reflect some of ASEAN's ongoing efforts to integrate and advance the SDGs within its regional development agenda.

In terms of financing, the ASEAN Secretariat faces significant challenges due to the principle of equal contribution by all member states, which ensures that no single country's contribution exceeds what the least economically capable member can afford (ASEAN Secretariat, 2007). While this approach prevents the formation of internal financial hierarchies, it also results in the Secretariat being underfunded and understaffed (Engel & Mattheis, 2019). To address the limitations of its internal resources, ASEAN has accepted substantial financial and material

support from external donors, including the EU, Japan, Australia, New Zealand, Canada, Germany, and more recently, India (Engel & Mattheis, 2019). This external support is particularly crucial for environmental projects and initiatives related to the SDGs, which heavily depend on international cooperation. A notable example is the inter-regional collaboration between ASEAN and the EU, which includes the High-Level EU-ASEAN Dialogue on Sustainable Development and a comprehensive joint framework. The EU committed €170 million for the period from 2014-2020, and provided over €2 billion in bilateral funding to ASEAN member states during the same period (Holzhacker & Agussalim, 2019). Another significant initiative is the collaboration with the Asian Development Bank (ADB) to establish the ASEAN Infrastructure Fund, which finances various green infrastructure projects aligned with the SDGs (ADB, n.d.).

Judicially, ASEAN lacks a formal institution specifically responsible for enforcing compliance, as legal enforcement contradicts the principle of non-interference enshrined in the 'ASEAN way.' Instead, ASEAN relies on the ASEAN Charter, which outlines the general principles for member states, stipulating that when unresolved disputes or instances of non-compliance occur, "this dispute shall be referred to the ASEAN Summit, for its decision" (ASEAN Secretariat, 2007, p. 25). Resolution in this manner is based on consensus and involves peaceful dialogue, consultation, and negotiation. Notably, ASEAN has established the Intergovernmental Commission on Human Rights in 2009 and adopted the ASEAN Human Rights Declaration in 2012 to serve as a framework for regional cooperation on human rights promotion and protection (AICHR, n.d.). However, the implementation of these human rights initiatives also relies on consensus and voluntary cooperation among member states.

Figure 3: A summary of ASEAN's formal institutional structure (Source: Olsen et al., 2015)

To summarize, the institutional structures of the EU and ASEAN exhibit differences across executive, legislative, financial, and judicial domains (see Table 1). The EU's executive framework includes the European Council, which establishes the policy agenda, and the European Commission, which is responsible for proposing and implementing legislation. Conversely, the ASEAN Summit determines the organization's overall direction, policies, and priorities, while the ASEAN Secretariat and Coordinating Council focus on regional integration coordination. In the legislative domain, the EU features a directly elected European Parliament and the Council of the European Union, which is made up of national ministers. Here, both institutions must approve or reject legislation. In contrast, ASEAN's decision-making is consensus-based at the ASEAN Summit, with the ASEAN Community Councils managing cross-pillar initiatives and submitting recommendations. Financially, the EU operates under the Multiannual Financial Framework, supported by the European Central Bank and the European Investment Bank, which oversee monetary policies and investment provisions. In contrast, ASEAN's principle of equal financial contributions from member states constrains its internal funding capabilities, leading to a reliance on external donors and partners for financing projects. Judicially, the EU relies on the Court of Justice of the European Union to interpret EU law, resolve disputes, and enforce compliance through mechanisms like financial penalties. ASEAN, lacking a formal judicial body, depends on the principles set forth in the ASEAN Charter for dispute resolution, typically opting for diplomatic negotiations and informal methods rather than legal enforcement.

	EU	ASEAN
Executive	The European Council consisting of the EU's 27 national leaders and the European Commission, which is nominated by the European Council and approved by Parliament; the former sets policy agenda and the latter proposes and implements legislation	The ASEAN Summit comprises the heads of state of all member states to set overall direction, policies, and priorities for the organization, and the ASEAN Secretariat and Coordinating Council plays a coordinating role toward regional integration
Legislative	The European Parliament directly elected by EU citizens and the Council of the European Union that is composed of 27 national ministers that is grouped by policy area; both approves or rejects legislation	Decisions made through consensus at the ASEAN Summit and reported by the ASEAN Community Councils, which coordinate cross-pillar initiatives and submit recommendations to the ASEAN Summit
Financial	The Multiannual Financial Framework as primary internal budgetary instrument; the European Central Bank and Investment	Principle of equal contribution from member states leads to ASEAN relying on financial support from external donors

	Bank responsible for formulating monetary policy and providing investments for various projects internally and abroad	and partners for various projects and initiatives
Judicial	Court of Justice of the European Union that interprets EU law, settles disputes and enforces compliance through financial penalties	The ASEAN Charter establishes certain principles for dispute resolution among member states, often relying on diplomatic negotiations and informal mechanisms

Table 1: A summary comparing the EU and ASEAN's institutional structure

2.3. Institutional Isomorphism

2.3.1. Theory Description

With regards to the former, DiMaggio et al. (1983) was first to discuss institutional isomorphism (INIS) in the context of organizations, where they appear to become more similar over time due to external pressures and influences. They identify three primary mechanisms of isomorphism: mimetic, normative, and coercive. First, mimetic isomorphism involves organizations imitating the practices of others deemed successful or legitimate to reduce uncertainty and gain acceptance (DiMaggio et al., 1983). Organizational responses to external pressures through mimetic isomorphism are thus strategic, providing a pathway to navigate through uncertainty and ensure approval in the organizational field over time. Second, normative isomorphism sees organizations adopting similar structures and practices in alignment with perceived norms or professional standards to enhance legitimacy (DiMaggio et al., 1983). The conformity to normative standards allows organizations to signal their membership within their professional or industry context. Third, coercive isomorphism occurs when organizations alter structures and practices to comply with external regulations, laws, or expectations imposed by more powerful entities, such as governments or funding bodies (DiMaggio et al., 1983). It is important to note that the impact of coercive isomorphism may vary based on the specific context in which organizations operate. Overall, the interplay of these three mechanisms fosters convergence in the organizational field, facilitating the attainment of legitimacy through isomorphic behavior (Rong-bing et al., 2022; Todaro et al., 2020).

This theory has most often been applied in the context of various organizational practices, such as corporate social responsibility (Bihari & Shajahan, 2023), board gender diversity (Naveed et al., 2022), human resources management (Anlesinya et al., 2022), and many others. Another prominent field of research is within the realm of education (Cai, 2023; Cardoso et al., 2024; De Almeida Vilela et al., 2021; Mosbah et al., 2022) and the adoption of certain technologies (Khatua et al., 2023; Lai et al., 2006; Soares et al., 2020). Notably, there is a burgeoning but limited body of scholarship that applies this theory to national contexts or regional institutions, with a predominant focus on the EU region (Codagnone et al., 2015; Radaelli, 2000; Ştefănescu,

2021). Against this backdrop, this thesis uniquely contributes to this growing body of work by examining the application of isomorphism within the context of regional institutions, specifically shedding light on its impact on the EU and exploring its potential influence, if any, within ASEAN.

In the context of nations pursuing SDGs, this theory remains relevant as both the EU and ASEAN operate within global frameworks and are subject to international norms and expectations. While these regions are not individual organizations, the application of INIS proves valuable in analyzing the forces shaping the behavior of countries within the EU and ASEAN regions, particularly as they navigate common institutions, policies, and regulatory frameworks both on the regional and international scale. Furthermore, given the inherent institutional differences between the EU and ASEAN, it becomes intriguing to empirically test whether INIS applies to ASEAN member states in similar or different ways than what has thus been observed in the EU. Figure 4 shows how, in theory, the interplay of the three INIS mechanisms would foster convergence of countries' SDG implementation within the EU or ASEAN institutional structure.

On a more practical note, the duration of studies examining INIS varies, contingent on factors like study scope, context, and data accessibility. Nevertheless, it can generally be agreed upon that any claims made on convergence resulting from INIS are stronger when it is backed by many data points. In this research, however, due to the relatively short timeframe of the SDGs, each country has only a limited number of VNRs available for analysis, presenting challenges in asserting the existence of convergence. Given the incipient nature of this study, it openly acknowledges that it can only make preliminary claims on this matter–without diminishing the importance to begin researching this subject–but rather emphasizes the need for further research to conclusively contend for the empirical occurrence of convergence.
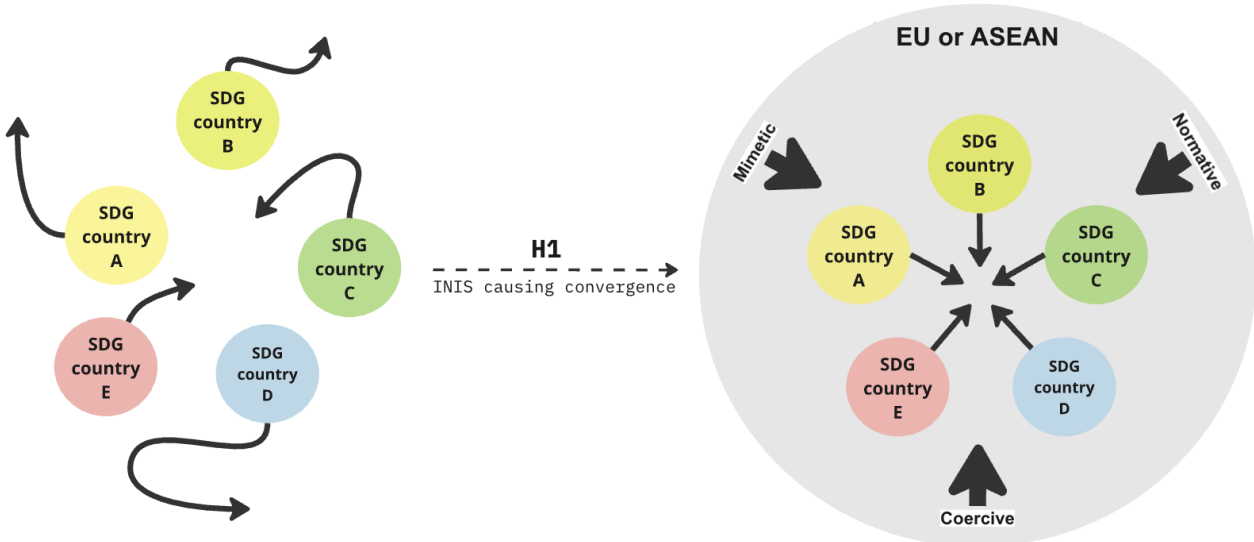

Figure 4: Theoretical framework of SDG policy convergence founded on the institutional isomorphism theory

2.3.2. Hypothesis One

Based on this first theory, the following hypothesis was generated:

Hypothesis 1 (H1) – *Countries' SDG implementations will exhibit convergence because the pressures of institutional isomorphism within the EU or ASEAN will drive them to adopt similar strategies and practices.*

2.4. Path Dependency

2.4.1. Theory Description

Path dependency (PD) theory, rooted in historical institutionalism, contends that the historical trajectory of development exerts a positive, reinforcing influence on successive political decision-making, resulting in institutions being tethered to legacies of the past (Kickert & van der Meer, 2011). Emerging in the 1960s as a critique of the dominant modernization paradigm in the analysis of national development and global inequalities, PD challenges the notion inherent in modernization theory that countries universally progress through similar stages of political and economic development, ultimately converging on high-mass-consumption prosperity (Arrighi, 2002; Rostow, 1960). Contrary to this belief, the global economies of the 1960s and 1970s demonstrated that, despite modernizing trends like industrialization, impoverished countries often remained economically disadvantaged while affluent ones grew even richer (Arrighi, 2002). Although numerous factors contribute to these macroeconomic trends, the difficulty in altering established systems and structures is apparent, as emphasized by the PD perspective. This perspective underscores that policies are not only difficult to change due to limited options, but also because altering the current path may entail considerable costs (Hall & Taylor, 1996; Nichols, 1998). The accumulated choices, investments, and developments create a momentum favoring the existing path, making it resistant to deviation or a switch to alternative trajectories (Liebowitz & Margolis, 1995). According to Kern (2011), radical change can occur only when a new discourse transforms existing interests and successfully challenges prevailing institutional commitments; otherwise, systems or processes tend to resist change and perpetuate their current state or trajectory.

It is without saying that PD has not been bereft of criticism, with some arguing that it operates under false assumptions of the unquestioned global dominance of the North Atlantic metropole and the implicit assumption that growth and development are inherent and expected conditions, among others (Rhyne, 1990). Despite these critiques, PD's ties with institutionalism and its analytical utility have led to its widespread application across diverse domains. Its adaptability is evident in its examination of the economic, cultural, technological, institutional, natural, and environmental arenas, generating a rich body of research. Moreover, the theory

has gained significant traction in recent years, particularly in the context of the SDGs (Hong, 2020; Meuleman, 2021; Mósesdóttir & Jónsson, 2023). This growing application underscores PD's academic and societal relevance, demonstrating its continued utility in addressing today's contemporary issues.

Hence, in spite of the absence of novelty, in the realm of SD, this theory is still highly relevant because it posits that factors of historical developments, economic structures, and political contexts may have set countries on specific paths that significantly shape their approach to the SDGs. Particularly within the context of the Global North-South divide, characterized by substantial variations in population size, income levels, and political systems, PD argues that inherent differences embedded in historical trajectories inevitably lead to the divergence of SDG implementation. This theoretical perspective sheds light on the persistent influence of past choices and emphasizes the challenge of deviating from established paths, contributing valuable insights into potential divergence dynamics in SDG implementation within the EU and ASEAN regions. These relationships are visualized in Figure 5 that shows how the ties to one or multiple PD factors could lead to the trajectory of SDG implementation being contingent on them.

Similar to INIS, to soundly claim the phenomenon of divergence due to PD, there must be a robust set of data points, which is not necessarily the case at the time of writing of this thesis. Therefore, acknowledging the preliminary nature of this study, it is recognized that only initial claims can be made on this matter. It further underscores the need for further investigation, just like the case of convergence with INIS, to definitively contend for the empirical occurrence of divergence and encourages continued exploration into the multifaceted dynamics potentially shaped by PD.
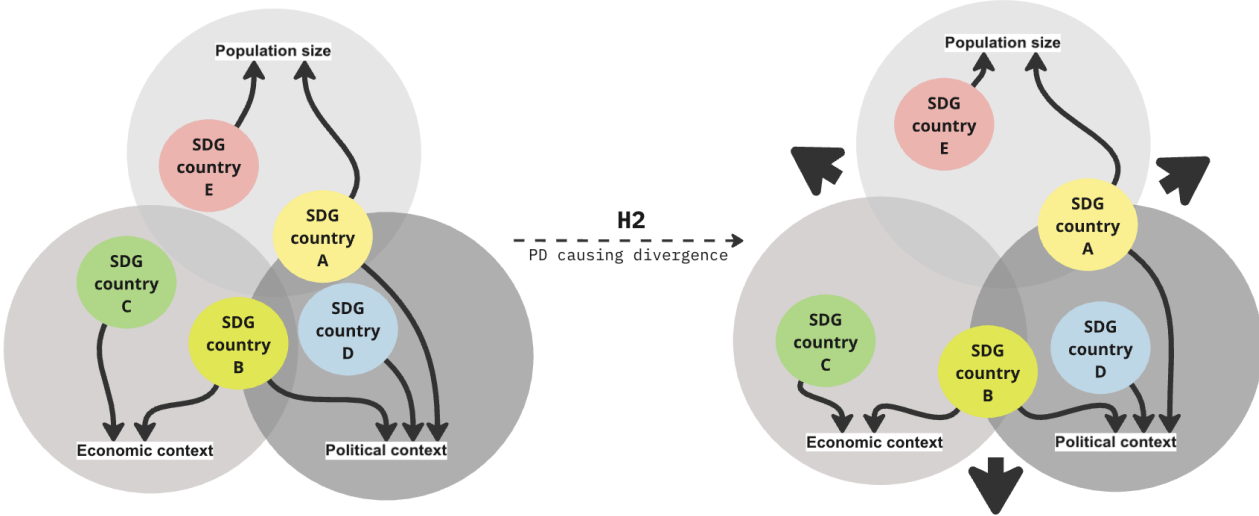

Figure 5: Theoretical framework of SDG policy divergence founded on the path dependency theory

2.4.2. Hypothesis Two

Based on this second theory, the following hypothesis was generated:

Hypothesis 2 (H2) – *Countries' SDG implementations will exhibit divergence because path dependency will shape the trajectories within the EU and ASEAN and make it challenging for countries to deviate significantly from their established paths.*

Utilizing both convergence and divergence to examine subject matter is an approach that has been employed in a variety of contexts, with some of the earliest studies exploring a wide range of topics, including health (O'Connell, 1981), psychology (Sypher & Sypher, 1984), societal development (Meyer et al., 1975), and the environment (Lichfield & Marinov, 1977). Recent research has addressed issues such as forest restoration practices (Romanelli et al., 2023) and– more related to this study–the circular economy gap in the EU (Lehmann et al., 2023), as well as voting behaviors in ASEAN countries (Chairil et al., 2023). It can be said that the convergence and divergence method of analysis is well-established and applicable across diverse contexts, which includes sustainability-related matters. In this setting, this study makes a unique academic contribution by (1) employing INIS and PD as the theoretical basis for convergence and divergence, which is rarely used, and (2) applying these concepts in the analysis of the SDGs, an approach that has not been previously undertaken. A Scopus search indicates that existing studies employing convergence and divergence theories have only tangentially related their findings to SDGs, such as linking life expectancy research to SDG 3 or ecotourism to SDG 15 (Aksan & Chakraborty, 2023; Samal & Dash, 2023). Thus, the research design presented here, which applies INIS-convergence and PD-divergence theories to SDG implementation, is both innovative and unprecedented.

In essence, the inception of the 2015 SDGs operated under the foundational premise that all nations would be treated as a uniform entity, setting the stage for the examination of two contrasting hypotheses. H1 anticipates a degree of convergence among these nations, suggesting shared trajectories in SDG implementation, while H2 posits the opposite, arguing for divergence among them. These opposing sets of hypotheses are applied on two distinct analytical levels: within the regional context of the EU and ASEAN blocs, and through cross-case analyses spanning both regions. The empirical findings of this study aim to rigorously test and determine the validity of these hypotheses. Moreover, leveraging the insights provided by INIS and PD theories, the research seeks to unravel the potential reasons for convergence or divergence in SDG implementation.

3. Research Framework

To answer the main RQ and SQs, this section will elaborate on the research framework used. There are four phases of the research framework (see Figure 6), which includes case study design, data collection, data analysis and output. While it is portrayed in a sequential manner, this entire process will be conducted iteratively, meaning that as the research progresses from one phase to another, certain parts that have been designed will be adapted as necessary (Verschuren & Doorewaard, 2010). This framework will thus be used as a rough guideline rather than a stringent course of action.

Overall, this research will use the deductive approach, where it begins with a general theory that generates a set of hypotheses, which are then empirically tested based on data (Locke, 2007; Nola & Sankey, 2007). Starting from the case study design, the selection of variables involves exploring the independent, dependent and intervening variables. The choice of dependent variable directly relates to the research question while the independent variables are the factors that could influence the outcome of the dependent variable (Burnham, 2008). Finally, the intervening variables are interlinked with the selection of cases where, due to cases being located in ten different countries, several intervening factors had to be accounted for. The relationships among these variables will be elaborated in the conceptual framework in the subsequent section.

The phases of data collection and data analysis will take up the largest portion of this research. These include conducting desk research from each of the countries' VNRs, analyzing all the data by identifying patterns and differences, conducting cross-case synthesis, testing hypotheses, building possible explanations for observed convergence and/or divergence, and carrying out data triangulation via cross-checking with secondary sources to ensure the validity of any causality claims. When possible, interviews with SDG stakeholders from each analyzed country will also be done to spot any biases and errors within the analysis.

The final phase is the output, where the main research question is answered and recommendations are given for policymakers, international organizations, and relevant stakeholders for future SDG implementation and planning. These will be elaborated in a final report along with a critical discussion of the limitations of the current design and implications for future research.
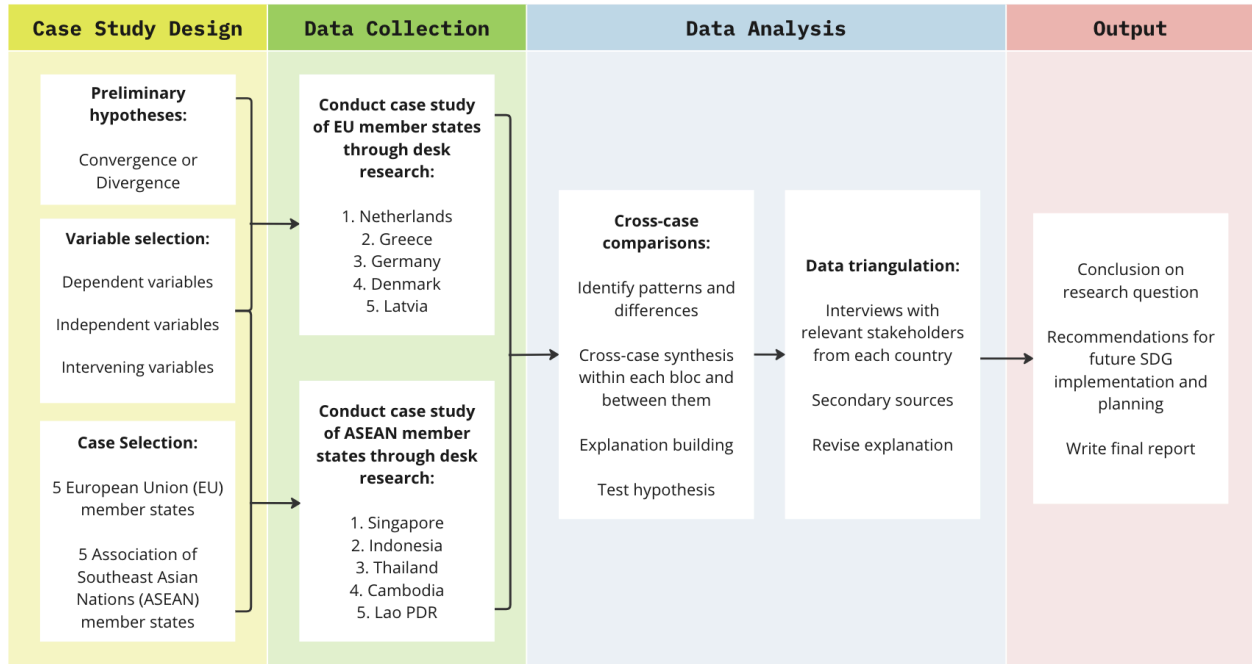
Figure 6: Research framework of this research paper

3.1. Conceptual Framework

Figure 7 shows a conceptual framework delineating the relationship between the independent variable to the dependent variable, and the intervening variables that might influence the results.
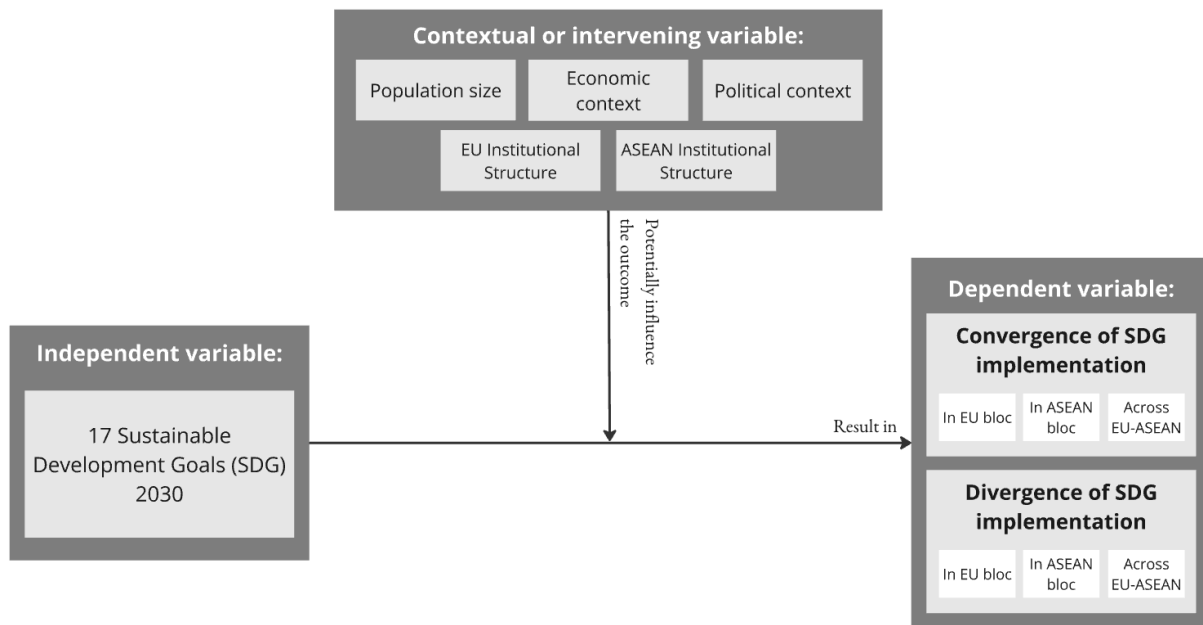

Figure 7: Conceptual framework of this research paper

The independent variables that remain constant throughout all the cases are the 17 SDGs, whereas the dependent variable, or the primary object of study, is the convergence or divergence of SDG implementation in the two distinct analytical levels: within the regional context of the EU and ASEAN blocs, and through cross-case analyses spanning both regions.

The contextual or intervening variables are factors that have been intentionally selected based on their potential to influence countries' behavior regarding SDG implementation:

1. **Population Size:** Larger countries may demonstrate a higher resistance to change due to their substantial voting power (e.g., Germany within the EU) or the size of a population can influence regional politics, as seen in cases where market size and economic power play critical roles (e.g., Indonesia in ASEAN) (Damro, 2012; Eberstadt, 2019; Hosli, 2010).
2. **Economic Context:** Countries with greater wealth often prioritize different issues, such as environmental sustainability and emissions reduction, in contrast to developing economies that may focus more on poverty alleviation and industrialization (González, 2015).
3. **Political Context:** The political landscape, closely intertwined with historical developments, shapes how different government structures act based on their unique incentives and priorities (Beeson, 2010; Olsen, 2017). For instance, a liberal democracy like Denmark, characterized by cycles of elected political coalitions, likely behaves differently from a one-party system such as that of Lao PDR.
4. **Regional Institutional Structure:** This pertains to the nature of regional agreements—whether binding or non-binding—and the financial mechanisms designed to support member states. It also includes the methods used to monitor and incentivize compliance among member states, exemplified by the contrasting executive, legislative, judicial, and financial systems of the EU and ASEAN (ASEAN, n.d.; European Parliament, 2022).

3.2. Analytical Framework

To operationalize the independent variables that will be analyzed longitudinally, the following analytical framework (see Table 2) demonstrates the set of indicators and the data sources.

Goals	Sustainable Development Pillar	Question	Indicator	Data Source
SDG 1: No Poverty	Social	Are countries implementing the same share and trajectory of National Policies	The standard deviation values for each country are evaluated using this	primary source (VNRs); secondary source
SDG 2: Zero Hunger	Social			
SDG 3: Good Health and	Social			

		(NP), Monetary Policies (MP), Focused Programs (FP), Information Policies (IP), Physical Policies (PP), and Governance Structure (GP) policies, or are there major changes in their policy groups for each sustainable development pillar and overall?	quartile division: **Q1:** strong convergence **Q2:** mild convergence **Q3:** mild divergence **Q4:** strong divergence	(scholarly articles); interviews
Well-Being				
SDG 4: Quality Education	Social			
SDG 5: Gender Equality	Social			
SDG 6: Clean Water and Sanitation	Primarily Environmental			
SDG 7: Affordable and Clean Energy	Primarily Environmental			
SDG 8: Decent Work and Economic Growth	Economic			
SDG 9: Industry, Innovation and Infrastructure	Economic			
SDG 10: Reduced Inequalities	Primarily Economic			
SDG 11: Sustainable Cities and Communities	Primarily Economic			
SDG 12: Responsible Consumption and Production	Primarily Economic			
SDG 13: Climate Action	Environmental			
SDG 14: Life Below Water	Environmental			
SDG 15: Life on Land	Environmental			
SDG 16: Peace, Justice, and Strong Institutions	Primarily Social			
SDG 17: Partnerships for the Goals	n/a			

Table 2: Analytical framework that operationalizes the independent variables

In this study, the independent variables are the 17 SDGs, categorized into three overarching pillars: environmental, social, and economic. With the exception of Goal 17, each SDG is assigned to one of these pillars to clarify the specific domain it targets, thus facilitating a comparative analysis of policies across different development areas. It is important to emphasize that there are no formal or precise classifications, given the interlinked nature of each Goal, such as SDG 11, which could fit into any of the three pillars, and SDG 12, which could

be classified as either economic or environmental. Nonetheless, this categorization had to be made for analytical purposes.

The analysis of SDG policies is done by operationalizing them into six distinct policy groups, which are thereafter examined in terms of policy share and trajectory. These policy groups are (1) National Policies, (2) Monetary Policies, (3) Focused Programs, (4) Information Policies, (5) Physical Policies, and (6) Governance Structure policies. Policy shares refer to the proportion of policies that fall within each group relative to the total number of policies analyzed. This metric provides insight into which areas are receiving more focus in the VNRs. Policy trajectory, on the other hand, captures the direction of these policy groups over time. This includes observing which policy groups are increasing or decreasing, and whether these patterns are similar or different within and across the two regions of the EU and ASEAN. Therefore, whenever this study refers to SDG implementation, it specifically refers to the examination of these six policy groups in terms of their policy share and trajectory.

To assess convergence or divergence among these policies, standard deviation and quartiles (Q1-Q4) are employed as statistical measures. These provide a systematized guideline to determine when the policy trajectories among EU and ASEAN member states are moving towards convergence (becoming more similar over time) or divergence (becoming more different over time).

Detailed explanations for each of these analytical steps are thoroughly elaborated upon in the upcoming Methodology chapter, such as the criteria used to classify the SDGs into the three pillars and the six policy groups, the statistical techniques employed to analyze policy share and trajectory, including the use of quartiles to assess convergence or divergence, and the rationale for choosing these specific analytical tools and how they contribute to the overall research objectives.

4. Methodology

4.1. Research Strategy

Gerring (2004) describes case study analysis (CSA) as an in-depth examination of multiple units to understand the broader characteristics of a category or phenomenon. Based on this, to answer the research question, CSA seems to be the most appropriate strategy because this is exploratory research that aims to identify the extent to which SDG implementation converges or diverges in two regions. First, CSA has an advantage for exploratory forms of research because it can be used to study a phenomenon that has not been previously examined in-depth (Flyvbjerg, 2006; Yin, 2009). Although there has been some research done on SDG implementations in certain countries or regions, there has yet to be a comparative study done on the Global North-South context. Second, CSA is best suited to answer questions related to the 'what', 'how' or 'why' of a phenomenon (Yin, 2009). This is directly aligned with the objective of this paper, which seeks to examine correlative relationships between the independent and dependent variables (Gerring, 2004) that could potentially provide valuable insights into the trajectory of SDG implementation globally and the possible reasons for why this is occurring. Third, CSA is also useful for research that focuses on exploring context-specific factors that could contribute to a phenomenon (Yin, 2009). This is because CSA allows for researchers to study a phenomenon within its real-life context (Yin, 2009), which means, in the case of this research, takes into consideration possible economic, political and historical factors that may have an impact on the convergence or divergence of certain SDGs. These are the rationales behind choosing CSA as a research strategy.

4.1.1. Comparative Case Study Design

As this research is one of the first ones to examine SDG implementation progress longitudinally in the Global North-South context, this phenomenon ought to be studied in a comparative manner in order to identify similarities and differences and causal mechanisms that led to the outcome (Burnham et al., 2008). The comparative method also helps to contextualize knowledge, improve classifications, and formulate and test hypotheses (Harrop & Hague, 2007), which are all pertinent to this research. As such, this section will briefly elaborate on the criteria of a comparative case study design and the selected variables relevant to the research question.

For a CSA to be comparative, Pickvance (2001) states that "data must be gathered from two or more cases" and "there must be an attempt to explain rather than only describe" (p. 11). When there are only two cases, researchers can only juxtapose but not conduct any comparative analysis (Pickvance, 2001). Besides fulfilling these two conditions, there are a number of variables that must be identified and categorized. These variables are dependent variables, independent variables, and spurious or intervening variables (Burnham et al., 2008). The

definition and selection of each variable for this research are presented in <u>Appendix 1</u>. For operationalization of the independent variables, see Table 2.

Altogether, this case study design will be a comparative or multiple-case study using the 'most different', embedded design (see Figure 8). The reasoning for choosing a comparative case study has been explained above. As for the 'most different' design, this research takes an exploratory stance, analyzing cases with varying contextual variables without presuming a common outcome, allowing for the discovery of diverse results. On the other hand, the 'most similar' design compares cases with homogenous contextual variables in order to minimize the effect these intervening variables might have on the examined phenomenon (Burnham et al., 2008). The primary reason for choosing the 'most different' design is to test which of the two hypotheses is the most accurate under highly heterogeneous circumstances. This is why five very different countries from both the EU and ASEAN region were chosen, the process of which will be further explained in the subsequent section. Also, the design is embedded because the VNRs are examined in-depth as a unit of analysis. Therefore, this 'most different' embedded design can be argued to be well-suited for the incipient and exploratory nature of this research topic and could yield valuable insight for future studies.
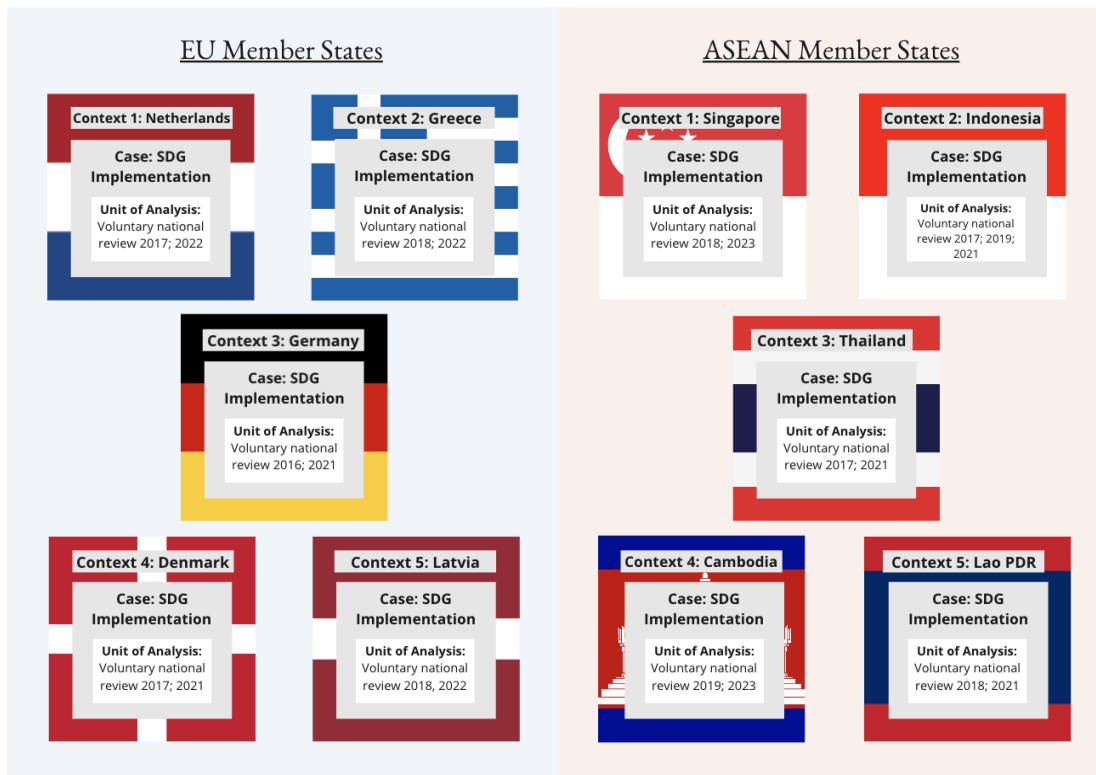

Figure 8: Multiple-case study, 'most different', embedded case study design

4.1.2. Case Selection

Given time constraints, the selection of countries for analysis within the EU and ASEAN was a necessary process, as it would be improbable to comprehensively analyze the SDG implementations of all 37 nations. Five countries from each region were chosen systematically, guided by specific criteria. First, countries with populations below 1 million (Cyprus, Luxembourg, Malta in the EU; Brunei in ASEAN) were excluded from the analysis. Second, five countries within each region were selected based on a deliberate maximization of differences in population size (from the newest available data), economic context (as indicated by GDP per capita), and political context (as indicated by political regime) to encompass the most diverse range of contextual variables. Here, population size data were sourced from Eurostat (2023) for the EU and the International Monetary Fund (IMF) (2023) for ASEAN; GDP (PPP) in US$ data from IMF (2023) for both regions; and political regime information from Our World in Data sourced by V-Dem (2022)[1]. Third, in the EU, additional consideration was given to represent each of the geographic groups. For ASEAN, this had minimal influence on the selection compared to the three aforementioned conditions. Finally, data limitations pertaining to VNRs led to the exclusion of Hungary and Myanmar from the case selection. A comprehensive summary of all this is presented in Table 3.

	Netherlands	Greece	Germany	Denmark	Latvia
EU	Western Europe Population size: High rung GDP per capita: High rung Political regime: Liberal democracy	Southern Europe Population size: Middle rung GDP per capita: Low rung Political regime: Electoral democracy	Central Europe Population size: Highest GDP per capita: Middle rung Political regime: Liberal democracy	Northern Europe Population size: Middle rung GDP per capita: High rung Political regime: Liberal democracy	Eastern Europe Population size: Lowest GDP per capita: Low rung Political regime: Liberal democracy
	Singapore	**Indonesia**	**Thailand**	**Cambodia**	**Lao PDR**
ASEAN	Population size: Lowest GDP per capita: Highest	Population size: Highest GDP per capita: Middle rung	Population size: Middle rung GDP per capita: Middle rung	Population size: Middle rung GDP per capita: Low rung	Population size: Low rung GDP per capita: Low rung

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[1] This source classifies countries into four categories: closed autocracies, electoral autocracies, electoral democracies, and liberal democracies. Aware that categorization of political regimes is quite a delicate topic and can be gone about in various ways, this study utilizes this system of classification for the purposes of consistency and simplicity from a well-renowned source, rather than going for complete accuracy. A detailed look at each classification and why certain countries are categorized in one over the other can be seen from the website (https://ourworldindata.org/grapher/political-regime).

	Political regime: Electoral autocracy	Political regime: Electoral democracy	Political regime: Closed autocracy	Political regime: Electoral autocracy	Political regime: Closed autocracy

Table 3: Summary of selection criteria for 5 EU countries and 5 ASEAN countries

4.2. Data collection

4.2.1. Primary Data Source

For data collection, the primary source is derived from the VNRs of each country that are publicly available on the UN's HLPF website (https://hlpf.un.org/countries) that spans the period from 2015–when the SDGs were created–to the present day. In this existing time frame, this study will examine all of the VNRs available from the ten chosen countries. Within the EU, a total of 10 VNRs are available, while ASEAN has 11 VNRs in total. As a whole, 21 VNRs will be analyzed, and this document has around 191 pages on average, providing extensive details on the number of SDG implementations each country is undertaking nationally and, at times, even abroad. These reports generally encompass the nation's progress toward the SDGs through its policy implementation, the challenges it encountered as well as future strategies. While the format and length differ from one year to another and across countries, they consistently present a variety of policies that have been carried out with the aim of achieving said Goals, thus rendering them valuable resources for analysis. For this research, this substantial dataset will undergo a mixed-methods approach to yield comprehensive insights, which is further explained in the following sections. All subsequent quantitative and qualitative analysis will use the following VNRs listed in Table 4 as the basis, and the complete list of references can be found in the References section under 'Primary Sources.'

Country	VNR Year	Author/Publisher
Netherlands (the European part[2])	2017	Ministry of Foreign Affairs of the Netherlands
	2022	
Greece	2018	General Secretariat of the Government
	2022	
Germany	2016	Federal Ministry for Economic Cooperation and Development
	2021	
Denmark	2017	Ministry of Finance

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[2] The VNRs published outline progress for the Kingdom of the Netherlands–meaning both the European part and the Caribbean Netherlands–but for the purposes of a comparative EU analysis, only the European part is examined.

	2021	
Latvia	2018	The Cross-Sectoral Coordination Centre
	2022	
Singapore	2018	Ministry of Foreign Affairs of Singapore
	2023	
Indonesia	2017	The Ministry of National Development Planning/ National Development Planning Agency
	2019	
	2021	
Thailand	2017	Ministry of Foreign Affairs of Thailand
	2021	
Cambodia	2019	Ministry of Planning
	2023	
Lao PDR	2018	Government of the Lao PDR
	2021	

Table 4: List of all Voluntary National Reviews utilized as primary source for this research paper

4.2.2. Interviews

To complement the desk research conducted on the VNRs, interviews were also undertaken to provide nuanced insights into each nation's SDG implementation and ensure data triangulation. At least one interview was conducted for each country with an individual knowledgeable about the respective nation's SDG efforts. This could be someone from the government, academia, the UN, or a non-governmental organization (NGO) actively engaged in SDG work.

These interviews followed a semi-structured format, where a guide was utilized. This structured part comes from general topics and questions that were prepared beforehand, while the non-structured part arises from a flexibility for the question order to change and new inquiries to emerge during the actual discussion. The interviews addressed four key areas: VNR preparation, SDG national interest versus regional interests, SDG implementation successes and challenges, and recommendations. For the specifics of the interview guide, please refer to Appendix 2. Prior to the interviews, each participant was asked to sign an informed consent form (see Appendix 3). This ensures the authorization from all participants with regards to the confidentiality, attribution, and data usage of the interviews. Whenever permitted, these

interviews were recorded, transcribed, and are available upon request. In the results and discussion chapters, whenever interview data is utilized, it is referenced using an in-text citation that includes the interview number. A comprehensive list of interviews along with their corresponding numbers is provided in Appendix 4.

4.3. Document Analysis Method

To analyze the VNRs, the mixed-method approach employed is as follows. Firstly, a qualitative interpretive analysis (QIA) is conducted to identify recurring themes, patterns, and variations in countries' articulation and approach to SDG efforts. This process follows a structured methodology starting from reading, open coding, axial coding, and finally selective coding (Strauss & Corbin, 1998), with an inductive approach applied to draw connections within individual case studies. The coding process is manual, with each country's policies consolidated in tabular form against the 17 Goals. A sample of this is provided in Appendix 5 and the complete version for each country is available upon request.

Once common patterns and approaches are identified, the policies are iteratively categorized into six main policy groups: National Policies (NP), Monetary Policies (MP), Focused Programs (FP), Information Policies (IP), Physical Policies (PP), and Governance Structure (GP) policies. Each policy group is further subdivided into various policy types, each defined and exemplified as shown in Table 5 below, to facilitate comprehensive categorization and ensure coverage of all policies listed in the VNRs. For analytical purposes, only the six overarching policy groups are utilized, representing a summation of the various policy types. The classification framework employed here draws inspiration from Elder and Newman's (2023) classification of VNR policies into twenty types across five categories. However, this study simplifies the framework to include fourteen policy types, revises their definitions to encompass all policies mentioned in the VNRs, and introduces a supplementary policy group called Governance Structure policies.

The first three policy groups closely align with their sources, whereas the latter three have been modified for this research. The first group, NP, encompasses both broad national action plans addressing various issues and SDGs, as well as binding laws and regulations. The second group, MP, pertains to financial measures such as government spending, taxes, loans, bonds, and investments; it also includes policies like pensions and insurance if they involve government financial contributions. The third group, FP, consists of initiatives and pilot programs that are not national in scope but target specific issues, often with government support, and can be led by diverse stakeholders including private organizations, NGOs, and youth groups. These programs are frequently featured as 'good practice' or successful 'case studies' in the VNRs. The fourth group, IP, has been streamlined into three policy types: capacity building (training, awareness-raising, educational programs, and curricula), research-related matters (studies and reports, new technology, and research centers), and database or certification policies

(information systems, indexes, labeling, awards, etc.). The fifth group, PP, addresses physical infrastructure through the construction of facilities, public transport, airports, railways, and includes the expanded definitions of land management and conservation, including zoning, land ownership transfers, as well as aquatic habitat and biodiversity protection. The sixth and final group, GS policies, is a supplementary group focused on the restructuring or creation of government agencies or task forces dedicated to specific SDGs, and fostering regional and international partnerships to achieve particular Goals. They appear most prominently in SDG 17 but can also be seen throughout the other Goals.

Outside of MP, the implementation of policies in other groups typically requires budgets, which is generally implied in the VNR. However, only policies with explicitly mentioned financial elements are classified under MP; otherwise, they are categorized based on the policy name and context provided in the VNR's main text.

Policy Group	Policy Type	Definition/Examples
National Policies (NP)	Action/Master Plan	Strategy, action plan, plan, master plan, scheme, framework, roadmap, mission, a program that is broad or acts as an action plan for the entire issue (e.g. a nationwide program)
	Law/Regulation	Law, order, legislation, act, decree, sub-decree, code, control program, regulation, binding agreement, reform, standards, guidelines
Monetary Policies (MP)	Social Welfare	Taxation, public expenditures, pensions, subsidies, insurance coverage (assumed government contributions), cash transfers, allowances, stipends, benefits, grants
	Financing	Fund, loan, scholarship, deposits, bonds, investments
Focused Programs (FP)	Project/Initiative	Project, initiative (grouped together as they both represent focused actions to address something)
	Pilot Program	Experimental smaller-type programs that are trialed in several regions, more focused, less broad—not national programs
Information Policies (IP)	Training/Education	Training, education, capacity building, public information, network, platform for idea exchanges, promoting public awareness
	Research	Research, research centers, studies and reports,

		development of new technology, surveys
	Database/Certification	Information systems, directory, data collection, database, index, catalog, certification, labeling, awards
Physical Policies (PP)	Land Management	Protection of certain physical areas and sites, transfer of land ownership, zoning; may be created through law, regulation, program, etc.
	Built Infrastructure	Physical infrastructure, equipment, buildings, roads, transportation infrastructure, digital infrastructure such as broadband networks, technological equipment
	Conservation	Conservation of forests/mangroves/aquatic habitats, replanting of trees, rewilding, biodiversity protection
Governance Structure (GS)	Agency/Taskforce	Establishment of an agency, committee, council, department, ministry, task force, working group
	Partnership/Collaboration	International partnerships, public-private partnerships, inter-agency, inter-department, or inter-ministerial partnerships, coordinating body

Table 5: Summary of 6 policy groups, their subcategories and respective definitions
(Source: adapted from Elder & Newman, 2023)

These six categories above form the quantitative aspect of the analysis, where qualitative coding is directly translated into the total count of policies across the six policy groups, all documented in Excel sheets. A sample of this compilation is presented in <u>Appendix 6</u> and can be further examined upon request.

These categories allow for a nuanced examination of policy implementation trajectories for each group. One benefit of this approach is that it offers multiple levels of granularity, enabling not only the longitudinal tracking of policy groups but, if needed, also the identification of specific policy type changes. Furthermore, the total number is then translated into policy shares that uses percentages (%) as a unit and expressed to the first decimal place for the purposes of clarity. This is because, for a fair comparison, all quantitative policy amounts have been converted into a share of policies out of a percentage of 100% for both national and regional analyses. This approach ensures that even if one country has 100 policies and another has only 10, their percentages are comparable, allowing for meaningful comparisons.

4.4. Data Processing and Visualization

After all the data had been collected, qualitatively coded, and categorized into six policy groups, the next step involved further organizing these SDGs into three overarching pillars: environmental, social, and economic. The alignment of each policy group was then evaluated against the SDGs assigned to each pillar. This approach facilitates a pragmatic comparison of member states and the evaluation of their trajectories, as presenting 17 Goals for ten countries with six different policy groups would be visually too convoluted and difficult to follow. Moreover, this method is conceptually robust, as discussions surrounding SD have traditionally used these three pillars. As examples, many countries' VNRs also explicitly mention their report submissions with the challenge of balancing these three pillars in line with their national interests.

Given the interlinked and multidisciplinary nature of the SDGs, there are multiple ways to categorize them, and no single method offers a definitive delineation. However, for the purposes of this study, the SDGs are categorized into three pillars as follows:

1. **Environmental Pillar:** SDGs 6 (Clean Water and Sanitation), 7 (Affordable and Clean Energy), 13 (Climate Action), 14 (Life Below Water), and 15 (Life on Land)

2. **Social Pillar:** SDGs 1 (No Poverty), 2 (Zero Hunger), 3 (Good Health and Well-Being), 4 (Quality Education), 5 (Gender Equality), and 16 (Peace, Justice, and Strong Institutions)

3. **Economic Pillar:** SDGs 8 (Decent Work and Economic Growth), 9 (Industry, Innovation, and Infrastructure), 10 (Reduced Inequalities), 11 (Sustainable Cities and Communities), and 12 (Responsible Consumption and Production)

The SDG categorization method for this study is based on several academic considerations and contextual factors. Notably, SDG 17 (Partnerships for the Goals) is excluded, as it is inherently cross-cutting and essential for achieving all other goals through global partnerships and cooperation. As such, it does not fit neatly into any single pillar, but supports all aspects of SD. The social pillar inherits Goals 1 through 5 from the MDGs (Elder & Olsen, 2019). SDG 16 is included here due to the political context being a crucial factor in country selection, thereby necessitating its inclusion under the social domain. Most typically, the environmental pillar comprises Goals 13, 14, and 15 (Elder & Olsen, 2019), but Goals 6 and 7 are also incorporated here due to their significant interlinkages: Goal 7 aligns with Goal 13 in the context of transitioning to clean energy, and Goal 6 is related to Goal 14 due to shared water-related concerns. Countries' VNRs often reflect this overlap, justifying the inclusion of Goals 6 and 7 in the environmental pillar for this research. The economic pillar primarily includes Goals 8 and 9, but could also encompass Goals 10, 11, and 12, as studies have demonstrated how inequality,

urban development, and sustainable production is highly interconnected with economic development (Aiyar & Ebeke, 2020; Bleischwitz, 2010; Glavič, 2021; Gründler & Scheuermeyer, 2015; Liu et al., 2014; Vaquero-García et al., 2016). This categorization is, therefore, not only the most fitting for this research but also grounded in a robust academic framework, and is needed to facilitate effective data visualization and presentation.

Taking these into account, the following details a sample of how the VNR data is processed:

National Policies (NP) share for the Environmental Pillar [Country A]
　　　Total NP for SDGs 6, 7, 13, 14, and 15 = X
　　　Total number of all policy groups 　　= T
　　　Policy Share (Y) 　　　　　　　　$= \frac{X}{T} * 100\%$

Example Calculation:
Assume Country A has 50 policies for the NP group in SDGs 6, 7, 13, 14, and 15, and a total of 200 policies in the same SDGs.

$$X \quad = 50$$
$$T \quad = 20$$
$$\text{Policy Share (Y)} \quad = \frac{50}{200} * 100\%$$
$$Y \quad = 25\%$$

Thus, the NP share for the environmental pillar in Country A is 25%

These calculations are conducted for all six policy groups across the environmental, social, and economic pillars, encompassing all selected cases within the EU and ASEAN for all available VNR years. Once the policy shares (Y) have been found, the following calculations are applied to find the longitudinal trajectory:

Example Calculation for Policy Group Trajectory [Country A]
　　　Longitudinal difference for two VNRs:
　　　$Y(VNR_2) - Y(VNR_1)$ 　　　　　　　　　　$= \Delta Y$
　　　Longitudinal difference for more than two VNRs:
　　　$[Y(VNR_3) - Y(VNR_2)] + [Y(VNR_2) - Y(VNR_1)] = \Delta Y$

Example Calculation:
Assume Country A has the following NP policy shares:

$$Y(VNR_1) = 45\%$$
$$Y(VNR_2) = 50\%$$
$$\Delta Y = 50\% - 45\%$$
$$\Delta Y = 5\%$$

The longitudinal difference between the two VNRs for Country A is +5%, indicating a 5% increase in the NP share.

The ΔY represents a numerical value that can be either positive or negative, with a positive value indicating an increase in the share of a specific policy group and a negative value indicating the opposite. These calculations are again applied across all selected cases within the EU and ASEAN regions to track the dynamics of policy groups, and the results are presented in a manner conducive to comparative analysis. For instance, Country A may exhibit a ΔY of -20.2% for NP and +15.7% for MP, suggesting a shift towards greater emphasis on financial policies for achieving certain SDGs in its latest VNR. This trajectory is then juxtaposed against that of Country B, allowing for assessments of similarities and differences in policy group trajectories between countries and, subsequently, across regions.

4.5. Testing Hypotheses

The final step involves testing the hypotheses regarding the presence of convergence or divergence. This is accomplished by calculating the standard deviation of the ΔY values. Standard deviation quantifies the dispersion of a set of numbers around their mean. A smaller standard deviation indicates that the values are closely clustered around the mean, whereas a larger standard deviation suggests greater variability or dispersion of the data (Livingston, 2004).

The standard deviation can be found using this following formula:

$$s = \sqrt{\frac{\sum(X - \bar{X})^2}{n-1}}$$

s = sample standard deviation
Σ = sum of
X = each value (ΔY)
$\bar{X}$ = sample mean
n = number of values in the sample

The sample standard deviation formula, rather than the population standard deviation formula, is employed in this study due to its focus on a subset of member states from the EU and ASEAN. This approach uses sample data to make inferences about the standard deviation of the region. Using [n − 1] in the formula for sample standard deviation is crucial because employing [n]

would result in a biased estimate that consistently underestimates variability (Livingston, 2004). Adjusting from [n] to [n − 1] deliberately inflates the standard deviation, yielding a conservative estimate of variability, and although this adjustment is not an unbiased estimate, it is a less biased one, as it is preferable to overestimate rather than underestimate variability in sample analyses (Livingston, 2004).

This measure is widely applied in finance and economics (e.g., assessing stock volatility), biostatistics and healthcare (e.g., evaluating clinical data reliability), and population demographics (e.g., analyzing survey data), among other fields. For this research, a lower standard deviation indicates convergence, signifying that the longitudinal differences among countries' ΔY values are similar to each other. Conversely, a higher standard deviation indicates divergence, suggesting that countries exhibit varying trends, with some experiencing substantial increases while others show contrasting patterns.

To establish a standardized rubric that distinguishes between convergence and divergence values, the study utilizes quartiles (Q1-Q4). Quartiles, defined in statistical terms, segment data into four intervals based on their values relative to the entire dataset (Altman & Bland, 1994). This division occurs by arranging data points in ascending order and dividing them into four equal sections, each representing 25% of the dataset (Altman & Bland, 1994). This process is implemented iteratively after calculating all standard deviation values of the dataset, which are subsequently categorized into the following quartiles to facilitate comparative analysis.

Q1	0 - 5.6	Strong convergence
Q2	5.7 - 11.2	Mild convergence
Q3	11.3 - 16.8	Mild divergence
Q4	16.9 - 22.4	Strong divergence

*Table 6: Quartile division for the standard deviation values and their corresponding
level of convergence or divergence*

This system categorizes Q1 as indicating strong convergence, Q2 as mild convergence, Q3 as mild divergence, and Q4 as strong divergence (see Table 6). This rubric is applied individually to each policy group and also as an average value across the environmental, social, and economic pillars to address hypotheses H1 and H2. Finally, this mixed-methods approach is further strengthened by triangulating data with secondary sources such as scholarly publications and online databases. Additionally, interviews with relevant stakeholders are sought from respective countries when feasible. This comprehensive approach not only enhances the reliability and validity of the findings, but also helps mitigate biases inherent in relying solely on self-reported data from national governments.

5. Results

This section is organized as follows: (1) An analysis of overall regional trajectories of the six policy groups, using an analytical framework that measures the standard deviation for each policy group and assigns these numerical values to qualitative degrees of convergence and divergence, thus revealing regional patterns; (2) A comparative examination of the regions from an intra-regional perspective, highlighting significant findings and potential reasons for occurrences categorized through the three pillars of the SDGs—environmental, social, and economic (for the detailed reasoning behind these choices, refer to the Methodology section 4.4.). These two sections are done first for the EU and then ASEAN; (3) These results are consolidated in a cross-regional analysis between the EU and ASEAN from an inter-regional perspective, synthesizing key similarities and differences; 4) Finally, all this culminates in the key findings that summarizes the main points.

5.1. The European Union

> *Intra-Regional Summary:* *Convergence for most groups in the social pillar, few policy groups converge due to a binding European policy in the environmental and economic pillar, but overall divergent strategies for pursuing SDGs amidst economic, geopolitical and institutional challenges*
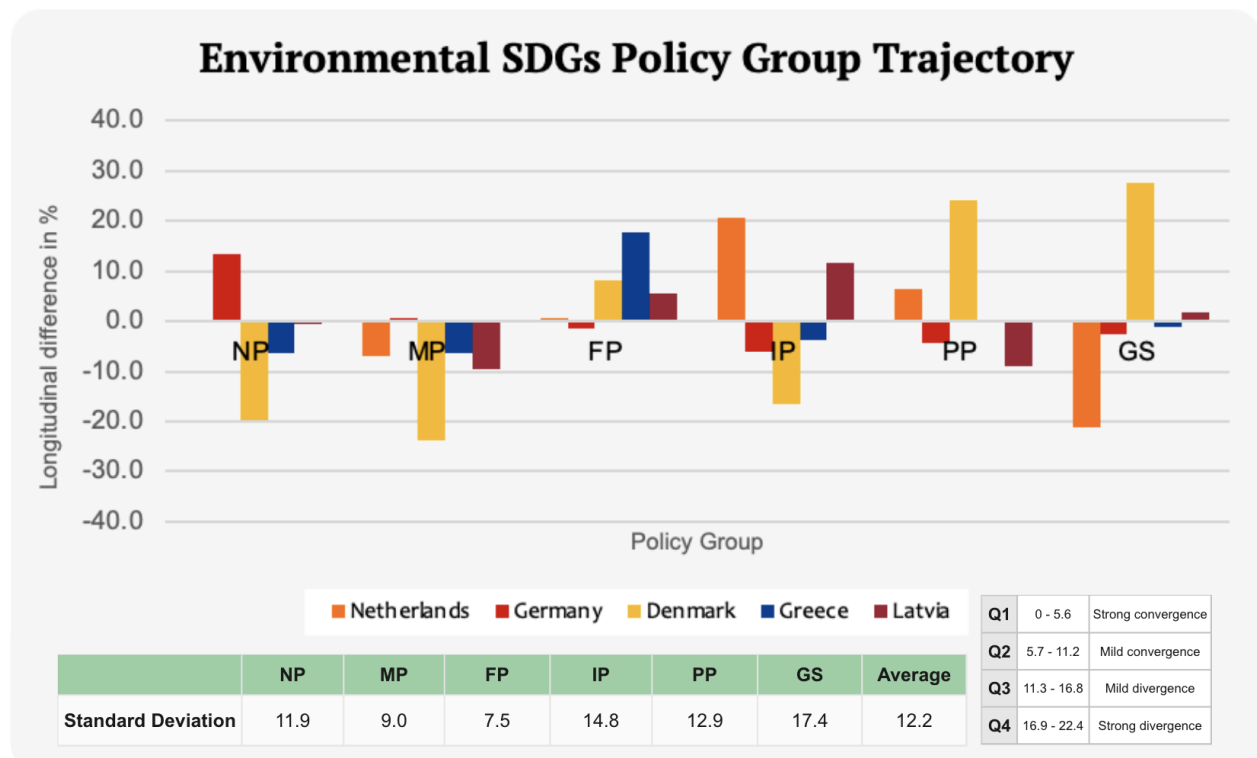
5.1.1. Environmental Pillar

	NP	MP	FP	IP	PP	GS	Average
Standard Deviation	11.9	9.0	7.5	14.8	12.9	17.4	12.2

Q1	0 - 5.6	Strong convergence
Q2	5.7 - 11.2	Mild convergence
Q3	11.3 - 16.8	Mild divergence
Q4	16.9 - 22.4	Strong divergence

The analysis of policy convergence among EU member states reveals varying trends across the six policy groups (see Figure 9). Within Monetary Policies (MP) and Focused Programs (FP), mild convergence can be observed. All member states, with the exception of Germany, exhibit a decrease in MP, with Denmark experiencing the most significant decline at -23.7% followed by Latvia at -9.5%, while Germany sees a modest increase of +0.7%. Conversely, in FP, all states, except Germany, witness an uptick, with Greece showing the highest increase at +17.6% and Germany recording a decrease of -1.4%.

Mild divergence characterizes the National Policies (NP), Physical Policies (PP), and Information Policies (IP). Denmark conspicuously decreases in NP by -20% but sees an increase of +24% in PP. The rest of the countries only show minor changes in both directions. Meanwhile, in the IP group, Germany, Denmark, and Greece's share declines by -6%, -16.5%, and -3.6% respectively, while the Netherlands and Latvia register increases of +20.6% and +11.7% respectively. Notably, strong divergence is evident in Governance Structure (GS) policies, highlighted by the Netherlands' decrease of -21% contrasting with Denmark's increase of +27.6%. Minimal changes are observed in Germany, Greece, and Latvia in this policy group.

Thus, the analysis of EU environmental SDGs demonstrates a mixed trajectory among member states but swaying more towards divergence, as indicated by an average standard deviation value of 12.2 which belongs to Q3.

Intra-Regional Highlights:[3]

1. To start, it is observed that the Netherlands, Greece, and Latvia consistently maintained a high share of NP policies, as these nations retained a consistent share of NP in their second VNRs. Contrastingly, Denmark exhibited a significant decline in the NP share, whereas Germany showed an increase (see Figure 10). It is noteworthy that Denmark's total number of NP policies did not necessarily diminish; instead, they were redistributed among other policy groups that showed substantial growth. Meanwhile, Germany's share of NP rose, driven primarily by the introduction of numerous new action plans and regulations in the second VNR. For instance, for SDG 13 (Climate Action), Germany detailed its legal framework for phasing out coal and regulating fuel emissions, aligning with the EGD (Interview 7). In addressing SDGs 14 (Life Below Water) and 15 (Life on Land), Germany

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[3] The information presented here and the subsequent summaries only underscore a few key statistics. For a comprehensive set of graphs for the five EU member states, please refer to Appendix 7

emphasized binding regulations for water issues and introduced new national forest and soil strategies.

2. Most countries demonstrate an increase in FP with Greece showing the largest increase. This can be attributed to the country's heightened focus on energy initiatives under SDGs 7 (Affordable and Clean Energy) and 13, as well as the implementation of forest pilot projects under SDG 15. The stability observed in other policy groups likely reflects Greece's alignment of its SDG policies with the EGD, which emphasizes energy and climate-related goals (Interview 5).

3. In the IP group, Figure 11 shows a marked divergence is noted between the Netherlands and Denmark. The Netherlands experienced a significant increase, which is largely attributable to the establishment of climate tables and platforms aimed at fostering discussions on SDGs 7 and 13. This indicates the nation's efforts to increase public awareness on its climate-related ambitions, which has been quite successful (Interview 1). Conversely, Denmark's IP policy count was halved, as the broad general policy applicable to all 17 Goals in the first VNR was replaced by more specific policies in the second VNR.
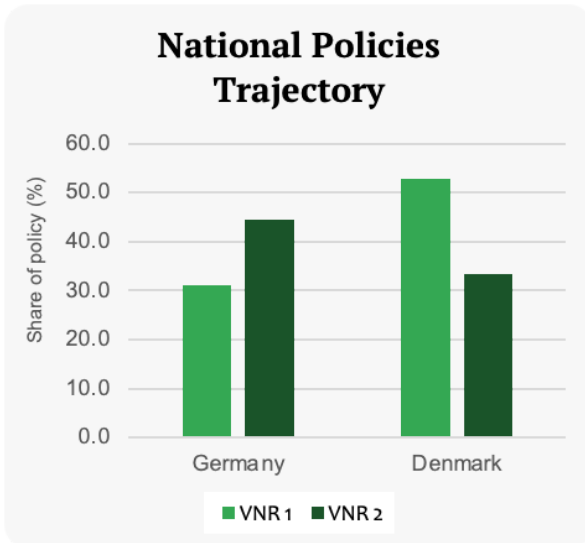

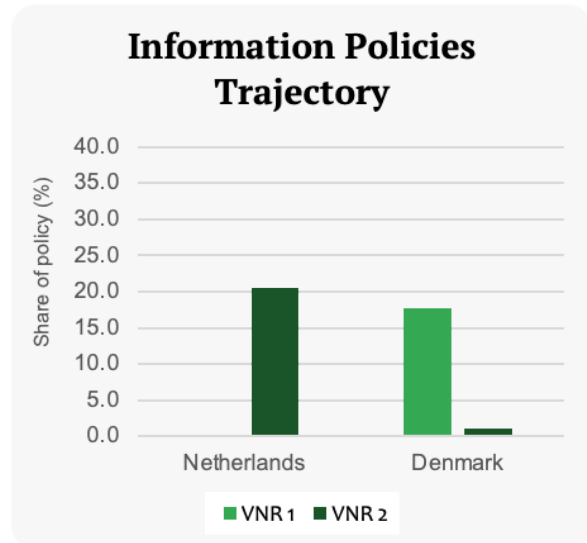Figure 10: Share of environmental national policies of Germany and Denmark

Figure 11: Share of environmental information policies of the Netherlands and Denmark

4. The share of PP policies remains relatively modest across all countries, with Denmark being an exception due to a significant rise in PP share. This growth is largely due to the expansion of marine protection areas under SDG 14. Interestingly, Denmark did not incorporate conservation measures for SDG 15 in either VNR. According to an interview, this omission would not be surprising, given Denmark's general resistance to more binding biodiversity regulations (Interview 4). In contrast, Latvia shows the largest decline due to

fewer policies throughout all environmental Goals, but interestingly is one of the only nations with infrastructure projects listed for SDGs 6 (Clean Water and Sanitation) and 7. Another striking occurrence is that the Netherlands only employs PP for the environmental pillar, despite representing a small overall share. These policies are predominantly associated with SDGs 14 and 15, specifically targeting sustainable soil management and nature conservation.

5. Finally, a consistent trend of decline in the MP group is observed across most countries, with the exception of Germany, which shows a slight increase (see Figure 12). Germany's marginal growth in MP policies is primarily related to the enhanced funding mechanisms for SDGs 7 and 13, both at the national and international levels.
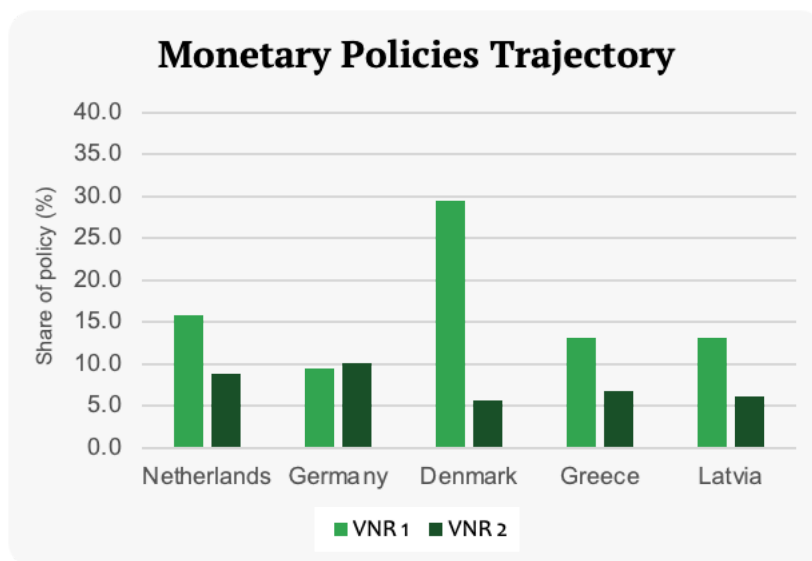

Figure 12: Share of environmental monetary policies among five EU member states

An important contextual backdrop here is the EGD that was introduced in 2019, which represents a pivotal framework aiming to transform the EU into a climate-neutral economy by 2050 (European Commission, n.d.). This initiative, given its timing of inception, seems to have influenced member states' policy frameworks, as evidenced by its ubiquitousness in all of the second VNRs and various interviews (Interview 1; Interview 5; Interview 7; Interview 10). The EGD's objectives encompass not only achieving climate neutrality but also mobilizing industry for a clean and circular economy, and reducing environmental impact across key sectors like energy, transport, agriculture, and biodiversity (European Commission, n.d.; Szpilko & Ejdys, 2022). It establishes binding targets, including a 55% reduction in greenhouse gas emissions by 2030, and imposes legal obligations on member states to align their national policies with EU directives (European Commission, n.d.-d; Wolf et al., 2021). As such, the EGD naturally aligns with several SDGs, particularly those related to affordable and clean energy, climate action and

life on land (SDG 7, 13, 15), resulting in these Goals in particular being prioritized in the subsequent VNRs.

However, the past two decades have seen increasing divergence and polarization within the EU and the eurozone (Algan et al., 2018; Gräbner et al., 2020). The onset of the COVID-19 pandemic further complicated the EGD's agenda, temporarily shifting policy focus towards addressing the unprecedented health emergency and its dire economic fallout (Burns et al., 2019; Siddi, 2020). Although the EGD claims to facilitate a just transition and mitigate these said economic strains, the combination of a multitude of factors, such as geopolitical tensions, uneven economic losses and recovery, and limited financial prospects for the EGD that require €260 billion in additional annual investment (Siddi, 2020; Wolf et al., 2021), could explain the convergence of MP reduction towards the environmental SDGs. Additionally, the EU's institutional and budgetary structure that does not have any funds directly allocated for the SDGs, as well as the reluctance of member states to relinquish additional sovereignty on decisions that affect their national interest have historically contributed to divergent policy outcomes, with some nations pursuing more aggressive environmental targets than those stipulated by the EU, while others adopting a more conservative approach (Siddi, 2020). This divergence is evident in the contrasting policy directions in policy groups like NP, IP, PP, and GS.

5.1.2. Social Pillar

	NP	MP	FP	IP	PP	GS	Average
Standard Deviation	12.4	12.3	6.6	4.4	1.7	5.9	7.2

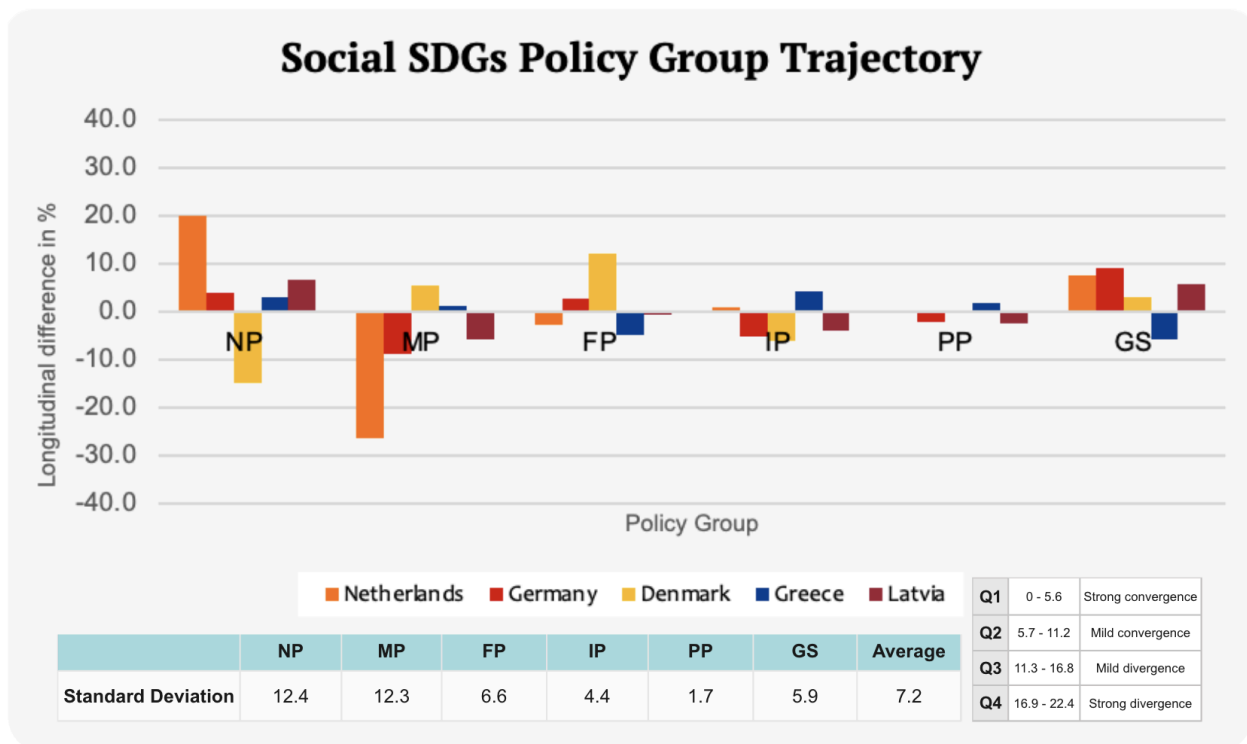|		
Q1	0 - 5.6	Strong convergence
Q2	5.7 - 11.2	Mild convergence
Q3	11.3 - 16.8	Mild divergence
Q4	16.9 - 22.4	Strong divergence

Figure 13: Overall trajectory of the policy groups for the social SDGs among five EU member states and their corresponding level of convergence or divergence (Source: Own data)

In examining the social SDGs among EU member states, a trend toward convergence emerges in a majority of the policy groups, albeit with mild divergence occurring in National Policies (NP) and Monetary Policies (MP) (see Figure 13). In NP, Denmark stands as the sole country experiencing a decrease of -14.6%, differing from increases observed in the other four countries, particularly the Netherlands with a notable increase of +20.2%. Conversely, MP reveals other dynamics, with the Netherlands experiencing the most significant decrease at -26.3%, while Germany and Latvia show minor decreases of -8.6% and -5.6% respectively. Denmark and Greece present slight increases of +5.5% and +1.4% respectively in this domain.

Aside from NP and MP, other policy groups exhibit similar trajectories. To begin, Physical Policies (PP) exhibit the strongest convergence in this SDG pillar and overall, with a standard deviation of 1.7 (Q1). However, there are minimal to almost no policies implemented across the countries to begin with in PP. As such, despite the strong convergence, it can be argued that the lack of actual policies makes PP not as meaningful to analyze as the rest of the policy groups. Following this, Information Policies (IP) exhibit the second strongest convergence, with minor increases observed in Germany, Denmark, and Latvia, and minor decreases in the Netherlands and Greece. Unlike PP, the convergent trend in IP shows a generally stable share of policy across the member states from one VNR year to the other. Finally, Focused Programs (FP) and Governance Structure (GS) policies demonstrate mild convergence. In FP, Denmark shows the most significant increase at +12.1%, with the remaining member states showing only slight changes. Meanwhile, Greece exhibits a small decrease in GS at -5.8%, contrasting with increases seen in the other four countries.

Overall, the social snapshot suggests minimal difference in policy trajectories across member states, indicative of one of the strongest levels of convergence with an average standard deviation value of 7.2 (Q2).

Intra-Regional Highlights:

1. Latvia and Greece have allotted the largest raw number of policies in the social pillar, while maintaining stable shares across the policy groups with no significant changes, having a substantial number of policies nonetheless (see Figures 14 and 15). In Latvia, the shares are distributed widely among policy groups. The first VNR places significant emphasis on NP, MP and IP, and by the second VNR, the share of NP rose sharply. For Greece, the distribution of policy shares remained relatively stable between the first and second VNRs. Initially, NP and FP dominated in shares, and in the subsequent report, NP share also substantially increased. This growth is linked to significant legislative changes under SDGs 4 (Quality Education), 5 (Gender Equality), and 16 (Peace, Justice, and Strong Institutions),

including new education laws, family law reforms, and revised criminal codes. Despite claims of stagnation in these social areas due to poor management of human resources (Interview 5), the VNR suggests that there is a concerted effort to focus on social change on a national scale, perhaps at varying levels of success in implementation.
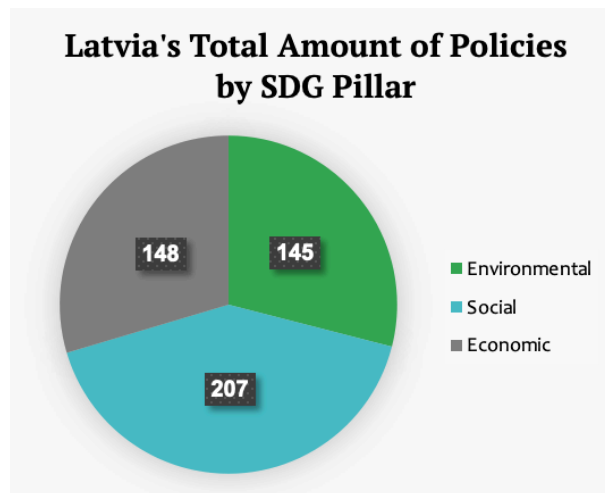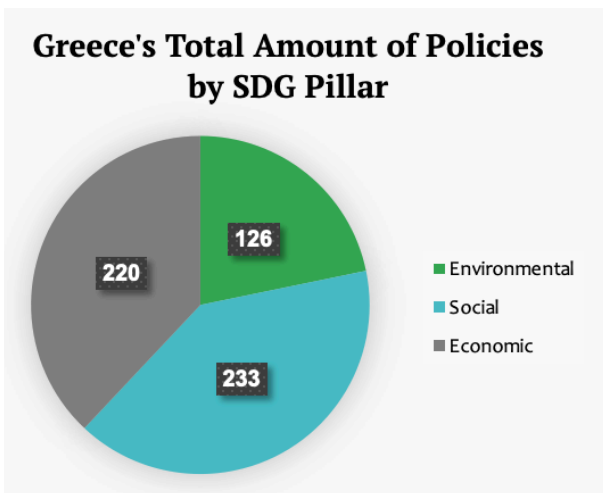

Figure 14: Total number of policies by SDG pillar in Greece

Figure 15: Total number of policies by SDG pillar in Latvia

2. With regards to NP and MP, the Netherlands and Denmark once again exhibit contrasting trends (see Figures 16 and 17). The Netherlands experienced an increase in NP due to the introduction of new national nutrition and protein plans under SDG 2 (No Hunger) and health strategies for SDG 3 (Good Health and Well-Being). Conversely, Denmark saw a reduction, largely because of fewer national plans and regulations for social SDGs, with the most significant decreases observed in SDGs 3 and 4. Regarding monetary policies, the Netherlands saw the largest decline, as previously prominent social welfare programs under SDGs 1 (No Poverty), 2 and 3 became less central. This reduction is likely not due to the absence of these programs, but rather due to the evolving nature of social SDGs–such as poverty–which are increasingly viewed as multidimensional and thus also integrated into other Goals (Interview 1). Denmark, on the other hand, recorded a slight increase in MP, with the second VNR highlighting financial policies supporting SDGs 1 and 4. These policies include social welfare mechanisms, research funding for women, and enhanced financial support for educational institutions aligned with SDG curricula.

3. FP exhibited overall stability across all countries, with Denmark showing the most significant increase, driven by numerous safety and security initiatives under SDG 16. Meanwhile, IP remained stable and PP was almost non-existent across all countries, likely due to the nature of this pillar that focuses on human development rather than conservation or construction efforts.

4. GS policies saw a general increase across all nations. To spotlight several examples, in Latvia, the rise in GS policies was primarily due to an expanded focus on SDG 16, which now encompasses more partnerships and state agencies addressing economic, anti-corruption, and security matters. In the Netherlands, the increase in GS policies was driven by the establishment of a new Ministry of Poverty (SDG 1) and the formation of the multi-stakeholder Equal Opportunity Alliance (SDGs 4 and 5). Germany also saw a rise here, driven by efforts under SDGs 1, 2, and 16, including new multi-stakeholder partnerships and national councils focused on civil procedure, money laundering, and violence. This heightened focus on SDG 16 is interesting, given the perspective on Germany's recent stagnation in the Corruption Perception Index (Interview 7; Transparency International, 2023).
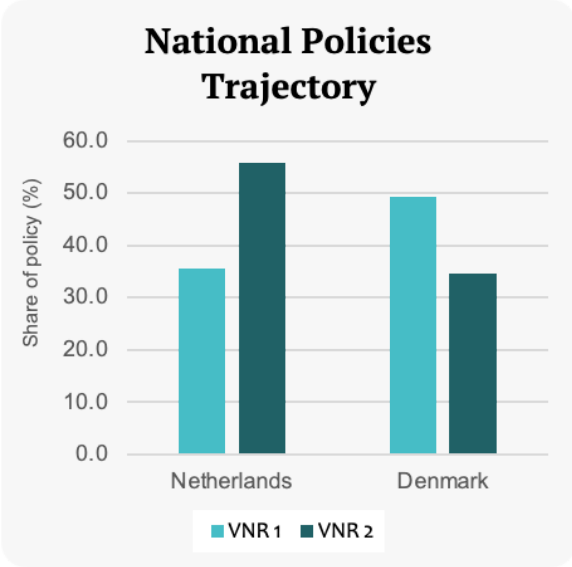

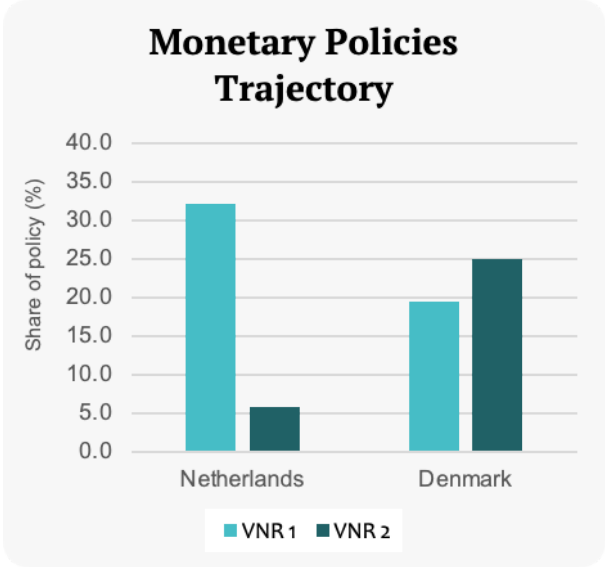*Figure 16: Share of social national policies of the Netherlands and Denmark*

Figure 17: Share of social monetary policies of the Netherlands and Denmark

In the EU, a possible explanation for the stability of the policy groups within the social SDGs is due to the alignment of the so-called EU core values across member states over time. According to the Treaty on the EU (European Union, 2012), these values encompass respect for dignity, freedom, democracy, equality, the rule of law, human rights, and gender equality. Despite the historical and cultural distinctions between Northern and Southern, as well as Eastern and Western Europe, EU nations exhibit a closer alignment in democratic (Oshri et al., 2015) and emancipative values (Akaliyski, 2018) compared to non-EU countries. This alignment is facilitated by the EU's promotion of the 'single market', namely the free movement of people, goods, capital, and services, which fosters closer exchanges between member states (European Council, n.d.). Consequently, such interactions have led to increased uniformity in societal structures, standards of living, and existential stability among EU nations, which are key

indicators of cultural values (Inglehart & Baker, 2000). Additionally, the EU's structural and investment funds play a pivotal role in channeling resources to less prosperous regions, thereby mitigating economic disparities between affluent and less affluent countries (Akaliyski et al., 2021). Despite remaining geographic differences, they have considerably lessened since the end of the Cold War, facilitating the merging of values throughout the EU (Akaliyski et al., 2021). This line of reasoning could explain the convergence in the FP and GS groups, particularly with regards to peace, justice, and strong institutions (SDG 16).

Another explanation is that, in the EU's pursuit of the SDGs, the social pillar tends to be less emphasized. Some studies have found that several human well-being indicators, such as access to sufficient food and water, education, and healthy living, have already been achieved in high scores all across Europe (Bălăcescu et al., 2022; Grossi et al., 2024). If this is the case, certain EU member states, especially those with high GDP per capita, may not see an immediate need to allocate more policies towards these social Goals, as evidenced by Denmark's reduction in NP and the Netherlands' decrease in MP. However, other research has indicated that no EU country is currently on track to meet the well-being targets set by these SDGs, suggesting that these areas should actually be given greater emphasis (Ionescu et al., 2020). In response, the EGD is seen as a potential accelerator to address this issue, yet social issues have been found to be significantly underrepresented, including that of poverty, hunger, health, education, gender equality, decent work, and peace (Koundouri et al., 2024). Presently, the European Pillar of Social Rights and the European Social Fund exist in the EU to promote social inclusion and well-being within the labor market (European Commission, n.d.-b). However, some of the biggest challenges still present have to do with the translation of these principles into concrete policies being largely left to individual member states and business lobbies having often resisted social policies that could affect their own economic interests (Grossi et al., 2024). As such, while Latvia and Greece have maintained stable and consistent social policies, there has been divergence in the NP and MP areas, with member states following their own policy trajectories.
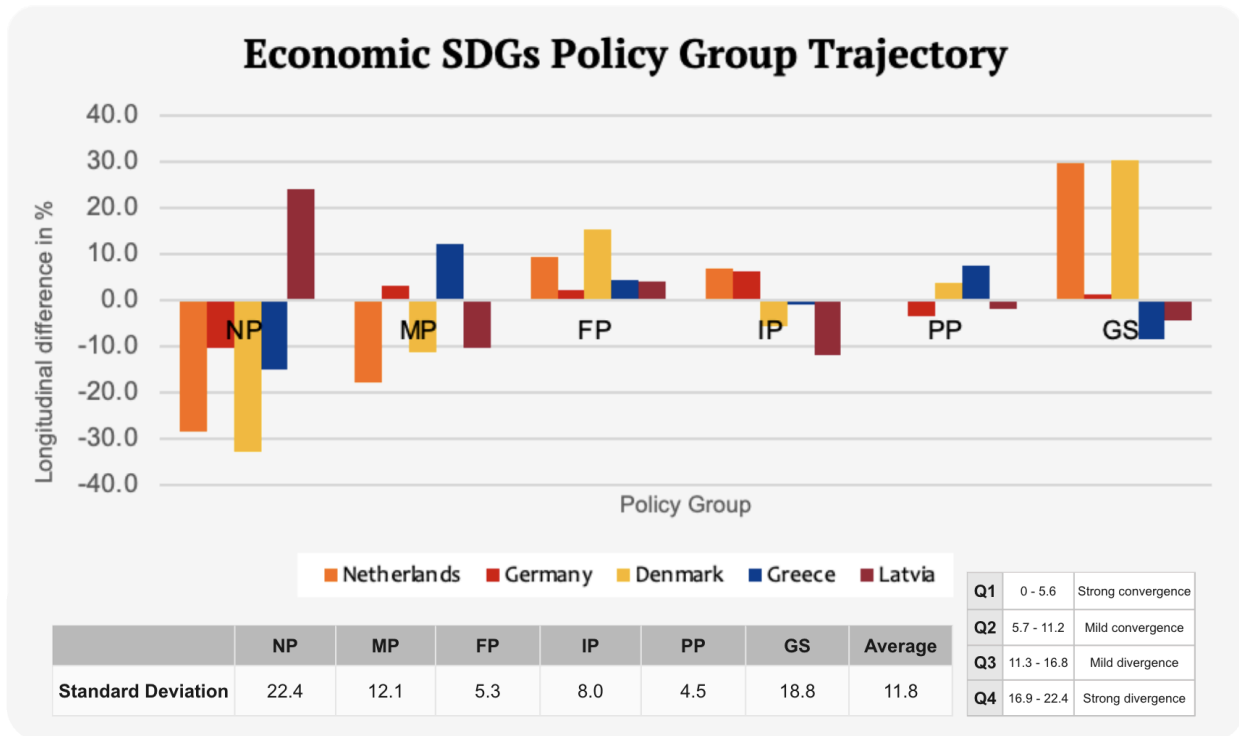
5.1.3. Economic Pillar

Figure 18: Overall trajectory of the policy groups for the economic SDGs among five EU member states and their corresponding level of convergence or divergence (Source: Own data)

Among the three SDG pillars, the economic one displays the greatest degree of variation, featuring a split of three groups with divergent policy directions and three with convergent trajectories (see Figure 18). The National Policies (NP), Monetary Policies (MP), and Governance Structure (GS) policies exhibit divergent trends. NP shows the strongest divergence in this SDG pillar and overall, with the standard deviation of 22.4 (Q4). Here, all member states show significant decreases except for Latvia, which increases by +24%. The most notable decrease occurs in Denmark at -32.8%, followed by the Netherlands at -28.4%, and then Greece at -15%. Following right behind is GS, which also demonstrates strong divergence, with the Netherlands and Denmark experiencing significant increases of +29.7% and +30.4% respectively, while Germany shows a slight increase and Greece and Latvia indicate slight decreases. MP shows mild divergence, with the Netherlands, Denmark, and Latvia decreasing by -17.7%, -11.2%, and -10.3% respectively, while Germany and Greece exhibit increases, with Greece leading at +12.2%.

Conversely, convergence is observed in Focused Programs (FP), Information Policies (IP), and Physical Policies (PP). FP demonstrates strong convergence, with all member states unanimously exhibiting positive trends for the first time. Denmark shows the largest increase at +15.3%, followed by the Netherlands at +9.4%. PP also shows strong convergence, with Denmark and

Greece showing minor increases, and Germany and Latvia showing slight decreases. In IP, Denmark, Greece, and Latvia exhibit decreasing trends, with Latvia having the largest decrease at -11.8%, while the Netherlands and Germany show slight increases at +6.9% and +6.3% respectively, resulting in mild convergence.

Similar to the environmental SDGs, the economic pillar displays a mixed picture; however, a clearer distinction emerges among the most similar and most divergent policy groups, leading to an overall mild divergence with an average standard deviation value of 11.8 (Q3).

Intra-Regional Highlights:

1. Starting from NP, where Latvia shows a significant increase, while all other countries show a decrease. Latvia's substantial rise in NP policies comes from its proactive approach towards national action plans, particularly in SDG 11 (Sustainable Cities and Communities) and SDG 12 (Responsible Consumption and Production). These plans cover a range of issues such as air pollution, transport development, waste management, and road safety, along with explicit mentions of the EGD. Thus, despite a lack of direct economic incentives (Interview 10), EU-level efforts like the EGD seems to have catalyzed climate and energy-related initiatives to a certain degree. In stark contrast to Latvia's increase, Denmark exhibited the largest decrease, followed closely by the Netherlands (see Figure 19). Denmark's plummeting share comes from it transitioning from a broad array of national economic targets to more comprehensive action plans in the second VNR. Similarly, the Netherlands saw a reduction in its NP share. Despite a near doubling of NP policies related to SDGs 11 and 12 in its second VNR, the major growth of other policy areas caused it to decline.
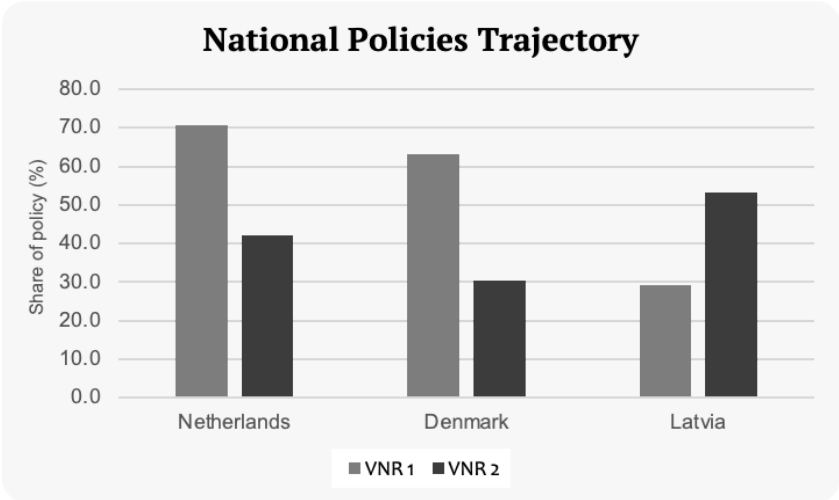

Figure 19: Share of economic national policies of the Netherlands, Denmark and Latvia

2. In the second most divergent group, GS policies, the Netherlands and Denmark show stark increases while the other countries remain stable, with Greece showing the lowest decrease (see Figure 20). The Netherlands' GS policies surged, driven by a rise of multi-stakeholder partnerships in SDG 11 and SDG 12. This surge can be attributed to a methodological shift in VNR reporting, moving from outlining each of the 17 SDGs to employing a more integrated approach by utilizing the six entry points, which was inspired by the UN's 2019 Global Sustainable Development Report (Independent Group of Scientists, 2019). During this change, there was an increased focus on circularity for these very SDGs (Interview 1). Denmark's GS share also rose, attributed to climate-related partnerships incorporated into SDGs 9 (Industry, Innovation and Infrastructure) and collaborations for SDGs 11 and 12. Conversely, Greece's GS share dropped, reflecting the exclusion of previously established working groups for the circular economy, a recycling agency, and a committee on green public procurement for SDG 12 in the second VNR.

3. In the MP group, Greece exhibits a notable increase, contrasting with the Netherlands' decrease. Greece's MP share doubled, driven by state subsidies and fiscal packages under SDG 8 (Decent Work and Economic Growth) and SDG 10 (Reduced Inequalities). These financial mechanisms support businesses and lower-income groups. On the other hand, the Netherlands' MP share fell, a surprising outcome given its focus on the circular economy in the second VNR but lacking any explicit mentions of financial mechanisms to achieve them.

4. PP policies are almost non-existent across all countries, with only Denmark and Greece showing slight increases. Greece's PP increase is driven by ongoing broadband development under SDG 9 and a number of metro line projects under SDG 11. This aligns with Greece's national priorities, which has thus far focused on digital transformation and infrastructure investment (Interview 5). Meanwhile, Denmark's marginal rise is attributed to sustainable infrastructure projects under SDG 9, such as climate-friendly asphalt, recycled materials in construction, and upgraded cycling infrastructure.

5. FP is the only policy group where all countries unanimously show an increase. Denmark leads with the highest increase, which is due to SDGs 10 and predominantly 12, with fifteen circular economy initiatives listed. Following suit is the Netherlands' increase, attributed to circular economy initiatives like plastic bottle deposits under SDGs 11 and 12. Meanwhile, Germany, Greece, and Latvia exhibit minor increases connected to various Goals, including SDGs 8, 10, 11, and 12. Germany's initiatives are concentrated under SDG 9, whereas Greece and Latvia prioritize SDG 8 and have fewer initiatives under SDG 12. This indicates that although different countries prioritize different economic SDGs, all demonstrate the existence of SDG 12 projects and initiatives.

6. For IP policies, both Germany and the Netherlands have almost identical rates of increases (see Figure 21). These increases are driven by initiatives in SDGs 11 and 12, including the implementation of information systems and the establishment of training centers and research networks to promote the circular economy.

7. The German trajectories in both the environmental and economic pillar align with its broader national SDG priorities, rooted in the six areas of transformation outlined in the German Sustainable Development Strategy (Interviews 6 and 7). These six areas include human well-being and skills, social justice, energy revolution and climate protection, the circular economy, sustainable construction, and the transport revolution, and sustainable agriculture and food systems (*German Sustainable Development Strategy*, 2022). Based on this data set, only human well-being (SDG 3) and transport revolution (PP) are still underrepresented.
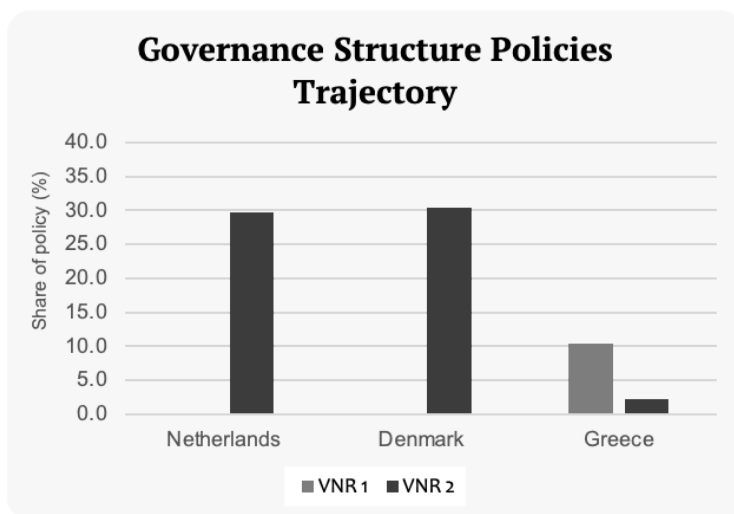

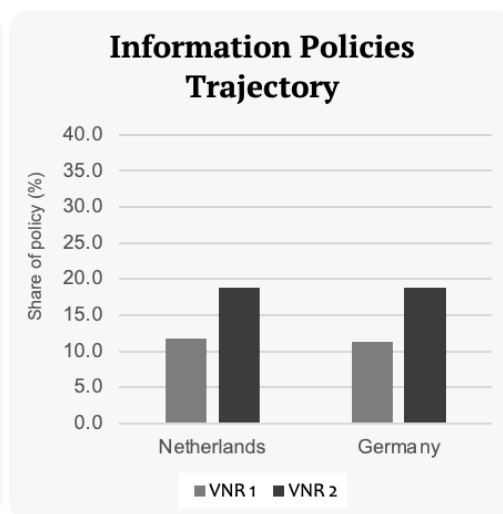*Figure 20: Share of economic governance structure policies of the Netherlands, Denmark and Greece*

Figure 21: Share of economic information policies of the Netherlands and Germany

Similar to the environmental pillar, the EGD's introduction also influences this economic pillar, with some of the primary objectives being renovation of buildings to be energy efficient, mobilizing industry for a circular economy, and transitioning into smart mobility and transport (Szpilko & Ejdys, 2022). This is complemented by the EU's efforts to enhance its sustainability by accelerating the transition from a linear to a circular economy through various policies that are not yet binding targets nor require mandatory reporting (Farmer, 2019; Rodriguez-Anton et al., 2019). This transition is reflected in numerous communications like the first circular economy action plan (European Commission, 2015), strategy for plastics (European Commission, 2018), and the latest circular economy plan (European Commission, 2020a), among others. While the shift towards circularity is said to also benefit the social and environmental pillars, it is primarily economic in its aim, which is to "modernize Europe's economy, making it more future-proof,

green, and competitive" (European Commission, 2016, p.8). This focus is further underscored by insights from the Netherlands' SDG Coordinator (Interview 1), a Professor at the University of Copenhagen, Denmark (Interview 4), and the President of the Heinrich Böll Foundation, Germany (Interview 7), all of whom emphasize their respective national SDG priorities shifting towards circularity and preventing spillovers. This trajectory is evident in FP, which shows a unified positive trend with increased programs and initiatives that are overwhelmingly related to responsible consumption and production (SDG 12).

Nonetheless, the emphasis on circularity does not necessarily produce homogenous outcomes across the EU; instead, it results in mixed and fragmented approaches (Domenech & Bahn-Walkowiak, 2019; Rodríguez-Antón et al., 2021). A study identified three distinct clusters in terms of circular economy behaviors: the first cluster consists of the wealthiest EU countries, characterized by high economic and social development, a strong industrial focus, and advanced technological capabilities (Netherlands, Germany, and Denmark); the second cluster includes Eastern European countries with historical ties to the Soviet Union that have undertaken significant economic modernization efforts (Latvia); and the third cluster comprises certain Mediterranean countries that are primarily oriented towards service-based economies, particularly tourism (Greece) (Rodríguez-Antón et al., 2021). These clusters exhibit different orientations towards the circular economy, potentially explaining Latvia's unique focus on decent work in its FP and its exclusive increase in NP, and the consistent trajectories observed in NP and GS for the Netherlands, Germany, and Denmark. Interestingly though, when Greece showed an increasing trend in MP and PP due to projects supporting its service economy, countries like Germany and Denmark from the first cluster also followed suit, albeit with a lower share. This variation could be attributed to additional factors, such as Germany's changing political coalition, which at that moment was inclined to boost public spending (Interview 7), or Denmark's pursuit of integrating new technologies to enhance public infrastructure efficiency and sustainability (Interview 4). These dynamics suggest that while there are observable patterns, further examination is required to fully identify the underlying causes.

5.2. Association of Southeast Asian Nations

Intra-Regional Summary: Strongest convergence in environmental and economic physical policies, overall alignment of national policies, non-GDP related cluster behavior in several policy groups, and some divergence in approaches to gender, democratic institutions and the circular economy
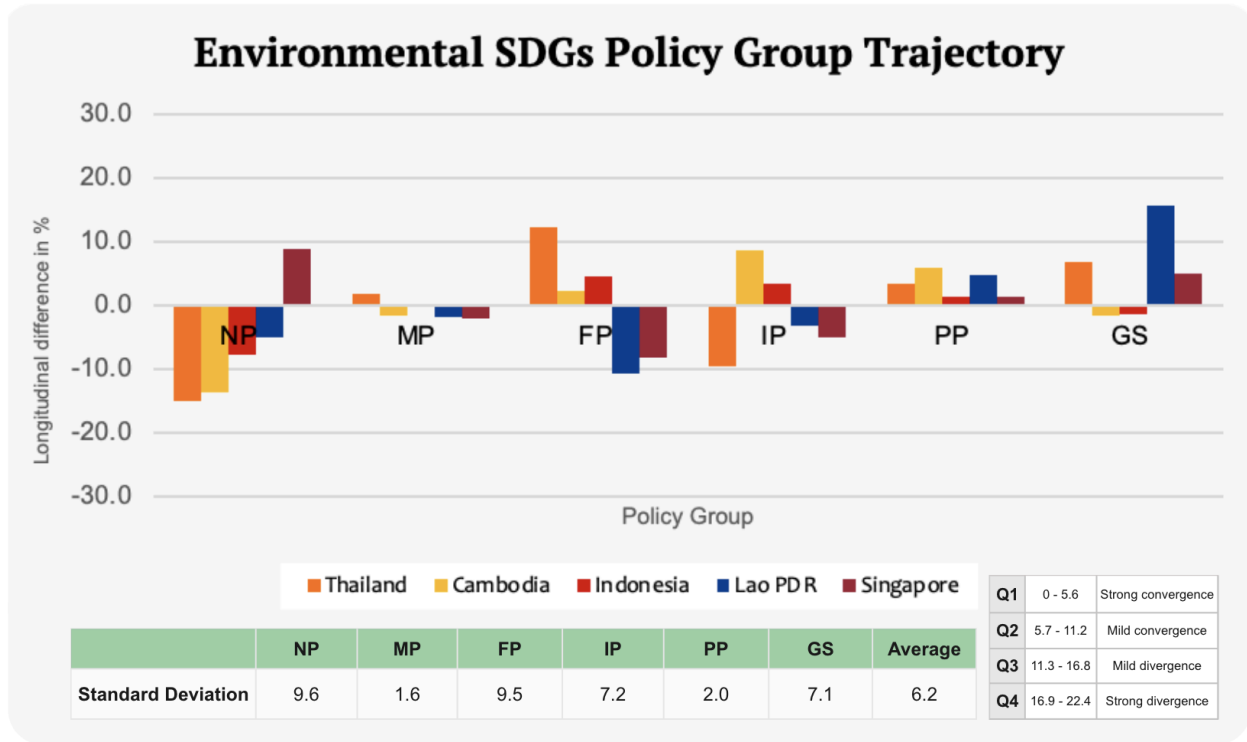
5.2.1. Environmental Pillar

Figure 22: Overall trajectory of the policy groups for the environmental SDGs among five ASEAN member states and their corresponding level of convergence or divergence (Source: Own data)

As a whole, the comparative analysis of the five ASEAN countries reveals that their environmental policy trajectories are predominantly oriented towards convergence (see Figure 22). Notably, two cases exhibit strong convergence. First, in Monetary Policies (MP), all countries except for Thailand, which shows a slight increase of +1.9%, exhibit slight decreases. Second, the Physical Policies (PP) stand out, being the only policy group across all three pillars where every nation unanimously exhibits an increasing trend. Cambodia leads with an increase of +6%, followed by Lao PDR with +4.7%, and the remaining three with minor increases.

The other four policy groups demonstrate mild convergence. In National Policies (NP), all countries exhibit decreases, except for Singapore, which shows an increase of +8.9%. The most notable decreases are in Thailand with -15% and Cambodia with -13.7%. For Focused Programs (FP), Thailand, Cambodia, and Indonesia indicate increases, with Thailand leading at +12.4%, while Lao PDR and Singapore show decreases, with Lao PDR topping at -10.6%. Furthermore, Information Policies (IP) and Governance Structure (GS) policies reveal a mixed pattern where Thailand, Lao PDR, and Singapore align in one direction, while Indonesia and Cambodia align in the opposite direction. In IP, Thailand shows the most significant decrease at -9.6%, followed by Singapore and Lao PDR, whereas Cambodia shows an increase of +8.7%, followed by Indonesia.

Conversely, in GS, Lao PDR, Thailand, and Singapore exhibit increases of +15.7%, +6.8%, and +5.1% respectively, while Cambodia and Indonesia show slight decreases.

Overall, the environmental pillar suggests minimal differences in policy trajectories across member states, and with an average standard deviation of 6.2 (Q2), it further illustrates one of the strongest degrees of convergence among the three pillars.

Intra-Regional Highlights:[4]

1. PP represents the only policy group where all nations exhibit an increasing trend, highlighting strong convergence across the board. For instance, Thailand and Indonesia already allocated a significant share to PP from the outset (see Figure 23). Thailand's PP rose in its most recent VNR, driven by efforts in water facility construction for SDG 6 (Clean Water and Sanitation), the expansion of marine protected areas for SDG 14 (Life Below Water), and wetland conservation under SDG 15 (Life on Land). Indonesia, meanwhile, saw its PP peak in the second VNR before slightly declining in the third, which remains a substantial share overall. This fluctuation was attributed to forest restoration projects under SDGs 13 (Climate Action) and 15 in the second VNR, with subsequent investments focusing on water treatment plants and energy infrastructure for SDGs 6 and 7 (Affordable and Clean Energy). Cambodia and Lao PDR demonstrated the largest increases in PP, mainly through initiatives like land zoning for forest protection and restoration under SDG 15. Singapore, however, showed only a slight increase due to water-related construction for SDG 6 and habitat restoration for SDG 14, which are critical for its national survival due to the country's inherent water security challenges (Interview 9; Luan, 2010; Ng, 2018).

2. The MP group also displays a notable trend of convergence, with most countries showing a decreasing trend except for Thailand, which saw a minor increase. This increase was primarily due to financial subsidies aimed at reducing energy costs under SDG 7 and increased funding for biodiversity under SDG 15. Cambodia exhibited the highest share among the nations, peaking in the first VNR and only slightly decreasing afterward. These funds were mainly allocated to water subsidies for SDG 6 and forest protection financing for SDGs 13 and 15. In contrast, Lao PDR had the smallest share in MP, which also decreased to 0% in the second VNR. This discrepancy between Cambodia and Lao PDR is particularly interesting given their classification as Least Developed Countries (LDCs) and their similar economic contexts, which necessitate significant international support to enhance access to financing (Interviews 8 and 11).

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[4] The information presented here and the subsequent summaries only underscore a few key statistics. For a comprehensive set of graphs for the five ASEAN member states, please refer to Appendix 8.
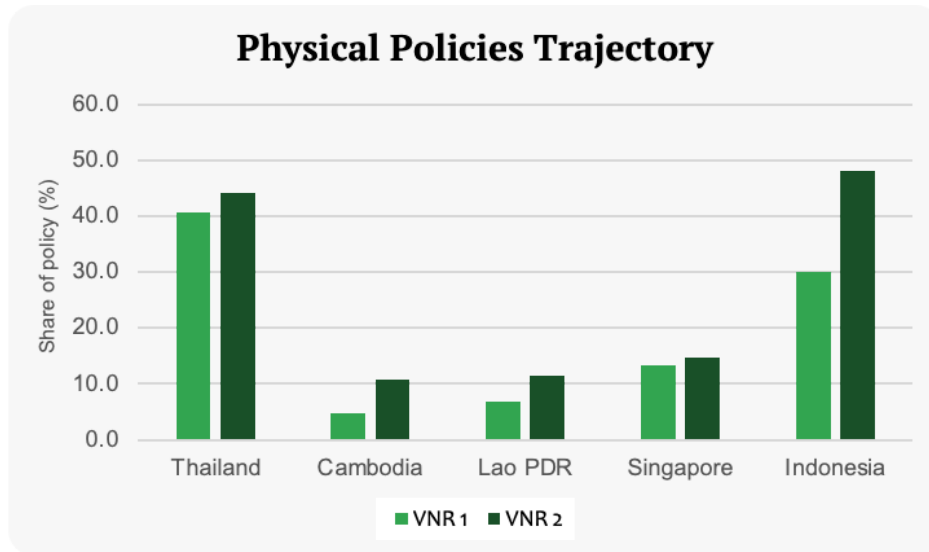
Figure 23: Share of environmental physical policies among five ASEAN member states

3. In terms of NP, Cambodia and Lao PDR dominate with shares hovering above 50%. Despite experiencing decreases in their second VNRs, they continue to maintain substantial national plans and regulations, particularly concerning SDGs 7 and 13. Singapore, on the other hand, was the only country to increase its NP share, though it still remains smaller compared to others. This increase in Singapore's NP was largely driven by a renewed focus on carbon taxes to meet SDGs 7 and 13 (Interview 9).

4. IP and GS policies here display distinct clustering behaviors: Cambodia aligns with Indonesia, while Thailand, Lao PDR, and Singapore form another cluster. For IP, Cambodia and Indonesia saw increases due to heightened awareness campaigns and the development of information systems for SDGs 13 and 14. Conversely, Thailand, Lao PDR, and Singapore exhibited a decreasing trend, with Thailand experiencing the most significant drop. This decline reflects reduced research, training, and monitoring efforts for SDGs 13 and 14, possibly correlating with Thailand's supposed regression in climate action and marine pollution mitigation (Interview 3). In GS, Lao PDR showed the largest increase, while Singapore followed suit in the second VNR, both reflecting a rise in environmental SDG efforts, new specialized state agencies, and expanded regional and international partnerships. On the other hand, Cambodia and Indonesia maintained minimal shares in GS and are on a declining trajectory, with Indonesia reaching a low point of 4.7% by the third VNR, highlighting a reduction in earlier climate working groups and international partnerships. This contrasting trajectory in GS has been illustrated in Figures 24 and 25.
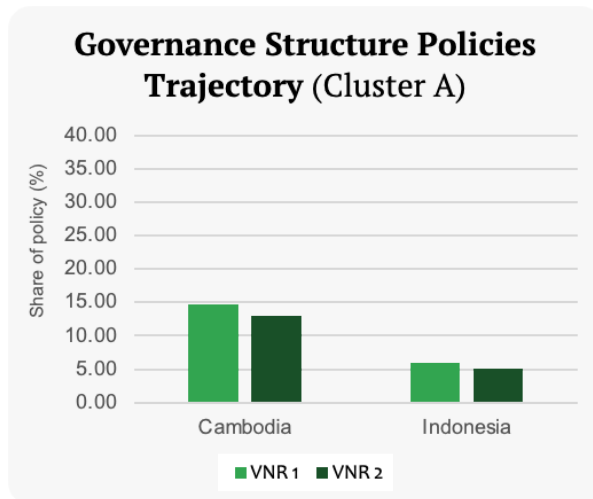
Figure 24: Share of environmental governance structure policies of Cambodia and Indonesia
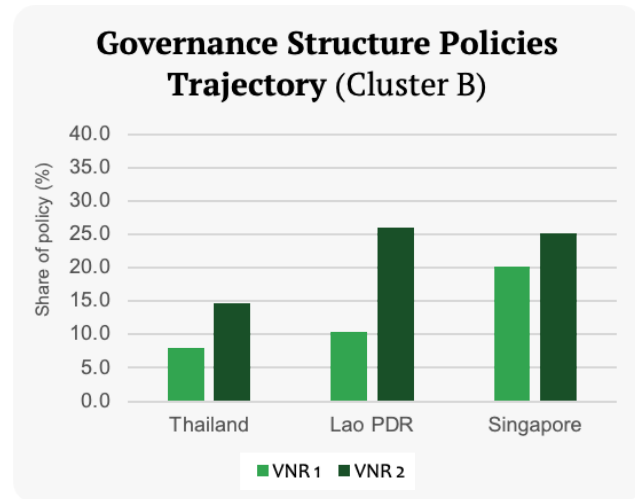
Figure 25: Share of environmental governance structure policies of Thailand, Lao PDR and Singapore

Around the same time as the inception of the SDGs, ASEAN unveiled "ASEAN 2025: Forging Ahead Together," a strategic document endorsed by the Leaders at their 27th Summit. This document serves as a forward-looking roadmap for ASEAN's community building over the next decade, outlining the organization's goals and aspirations to achieve further consolidation, integration, and stronger cohesiveness as a community (The ASEAN Secretariat, 2015). To integrate the 2030 Agenda within this regional vision, ASEAN introduced the Complementarity Initiative, led by Thailand in collaboration with the UN ESCAP (Interview 3; Marx et al., 2021). The Complementarity Initiative functions as a regional guideline for SDG implementation and facilitates concrete actions to localize the global vision within the regional context (Marx et al., 2021). The ASEAN SDG complementarities roadmap identified five priority areas: poverty eradication, infrastructure and connectivity, sustainable management of natural resources, sustainable production and consumption, and resilience (UN ESCAP, 2017). While the first area aligns with the social pillar and the second with the economic pillar, there are significant interconnections, such as improved water and sanitation indicators, which are categorized under infrastructure in the roadmap but align with the environmental pillar in this research. The area most closely tied to the environmental pillar in this research is the sustainable management of natural resources, along with several indicators related to resilience capacity. This linkage could elucidate the focus in NP on clean energy and GHG emissions (SDGs 7 and 13), as well as the emphasis on disaster risk management (SDG 13) to build resilience. Furthermore, for the PP group, the priority areas correspond to forest and protected areas (SDGs 14 and 15) and a focus on infrastructure development related to water sources (SDG 6).

However, ASEAN's role in the implementation of the SDGs is primarily centered around norm-setting rather than financial support (Marx et al., 2021). Consequently, the responsibility

for financing the SDGs in Southeast Asia falls on individual member states, and this ambition is sometimes misaligned with the financial capacities of some countries, particularly Cambodia, Lao PDR, and Myanmar, resulting in a significant annual financing gap (United Nations, 2018; UNDP, 2019). This disparity is evident in the environmental pillar's MP, which demonstrates a decreasing trend and relatively low overall shares. On a more fundamental level, ASEAN operates on the principle of 'The ASEAN Way,' which emphasizes non-interference and decision-making through consultation and consensus to preserve the national autonomy of individual member states (Interview 9; ASEAN, n.d.; Nguitragool & Rüland, 2015). This approach leads to limited internal supervision within the region, with a preference for voluntarily reporting individual progress on global platforms like the HLPF.

Interestingly, a study has shown that there is no correlation between GDP per capita and the number or share of environmental policies among ASEAN member states (Elder & Ellis, 2022), indicating that other factors may be influencing these trends. This is also observed in the clustering with IP and GS, which are not closely related to GDP. For example, both Lao PDR and Singapore, despite their vastly different levels of economic development, exhibit an increase in GS. These two nations have a small population size within the region, making them more integrated and dependent on regional cooperation (Interviews 9 and 11). For instance, in Singapore, it explicitly mentions ASEAN collaborative projects for SDGs 7 and 14. In Lao PDR, it explains the importance of integrating with the international community and adhering to its standards, such as in climate and biodiversity. It therefore becomes logical that both countries would place significant emphasis on regional collaboration. Meanwhile, the rise in IP for Cambodia and Indonesia may be attributed to similar levels of public awareness and civic engagement, areas that both countries are keen to improve upon (Leiserowitz et al., 2023; Loury et al., 2021). Other potential factors influencing these trends could include the distinction between resource-dependent and more diversified economies, as well as the types of environmental challenges faced, though further research is required to identify and validate these underlying reasons.

5.2.2. Social Pillar
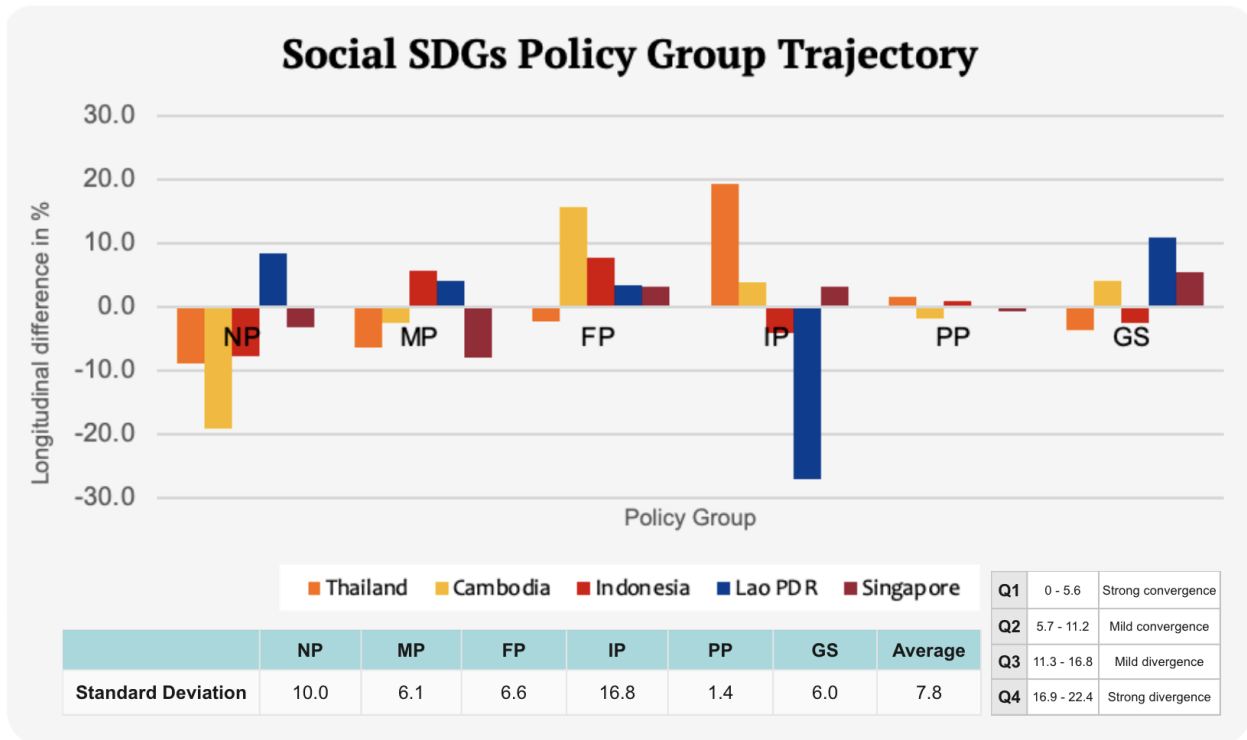
Figure 26: Overall trajectory of the policy groups for the social SDGs among five ASEAN member states and their corresponding level of convergence or divergence (Source: Own data)

Within the social pillar, there is also a general trend towards convergence among ASEAN countries, with the notable exception of Information Policies (IP) (see Figure 26). This is the sole policy group that exhibits divergence, not only within the social domain, but also across all three pillars. This mild divergence is driven by Thailand's substantial increase of +19.2% in IP, alongside minor increases in Cambodia and Singapore. This trend starkly contrasts with Lao PDR's significant decrease of -26.9% and Indonesia's minor decrease. The data indicates how IP is the sole outlier in an otherwise predominantly convergent landscape.

Aside from this, there are four instances of mild convergence. In National Policies (NP), Cambodia shows a significant decrease of -19.2%, followed by decreases in Thailand (-8.8%), Indonesia (-7.8%), and Singapore (-3.3%), with Lao PDR as the only country exhibiting an increase at +8.4%. In Monetary Policies (MP), both Indonesia and Lao PDR show slight increases, while Thailand, Cambodia, and Singapore demonstrate decreases, with Singapore having the largest decrease at -7.9%. In Focused Programs (FP), all countries except Thailand, which shows a minor decrease, indicate an increasing trend, with Cambodia leading at +15.6%. In Governance Structure (GS) policies, Thailand and Indonesia show minor increases, while Cambodia, Lao PDR, and Singapore display some increases, with Lao PDR showing the most substantial change at +10.9%. The only instance of strong convergence occurs in physical

policies (PP), where Thailand, Indonesia, and Lao PDR show very slight increases, while Cambodia and Singapore show slight decreases.

Altogether, despite the higher degree of divergence, there is still a trend towards convergence within the social pillar, following the average standard deviation value of 7.8 (Q2).

Intra-Regional Highlights:

1. For this pillar, it should be noted that Cambodia and Lao PDR both have an additional goal, namely SDG 18, which focuses on cleaning up mines and assisting survivors. They have been incorporated in this analysis, as they have been included in all their VNRs and are essential to both countries. Cambodia and Lao PDR name their Goal differently, but they are essentially the same: to clear out all mines and assist the victims. This addition reflects the significant challenges and historical legacies these countries face regarding explosive remnants of war or unexploded ordnance (ERW/UXO) and highlights their commitment to addressing these critical issues in their development agendas.

2. For IP, Thailand has shown the most significant increase together with Cambodia, which is in direct contrast to Indonesia and Lao PDR, which saw a substantial decrease (see Figure 28). In Thailand's second VNR, there was a notable increase in awareness campaigns, research, and databases specifically targeting SDGs 2 (No Hunger) and 4 (Quality Education). Cambodia experienced a similar trend, with a minor increase attributed to initiatives focusing on nutrition and food systems in SDG 2. On the other hand, Indonesia's IP share showed a slight decrease in the latest VNR, despite an actual increase in the number of IP policies, especially due to high-yield livestock research under SDG 2. The drastic reduction in Lao PDR's IP share, initially substantial due to national surveys and information systems for SDGs 2, 3 (Good Health and Well-Being), and 18, suggests a possible shift of focus to other policy groups like NP or GS, given how important these issues are for the nation and the successful incremental progress it has made especially in SDG 18 with physical clearing (Interview 11).

3. In NP, Cambodia and Lao PDR lead with shares exceeding 40%, followed by Indonesia and Thailand, with Singapore having the lowest share around 20% (see Figure 27). However, Cambodia's NP share saw a notable decrease, primarily due to a reduction in national action plans for SDGs 1 (No Poverty) and 5 (Gender Equality). Conversely, Lao PDR exhibited the most significant increase, driven by substantial policy initiatives across various SDGs, particularly SDGs 4 (Quality Education), 5 (Gender Equality), 16 (Peace, Justice and Strong Institutions), and 18. This increase is evidenced by significant efforts such as revisions in the education law, multiple national action plans for women, and new legal reforms, along with

decrees and guidelines for mine clearance, again highlighting the nation's priority on SDG 18 (Interview 11). In contrast, Singapore had a minimal NP share for the social pillar, with only slight regulatory mentions in SDGs 5 and 16.
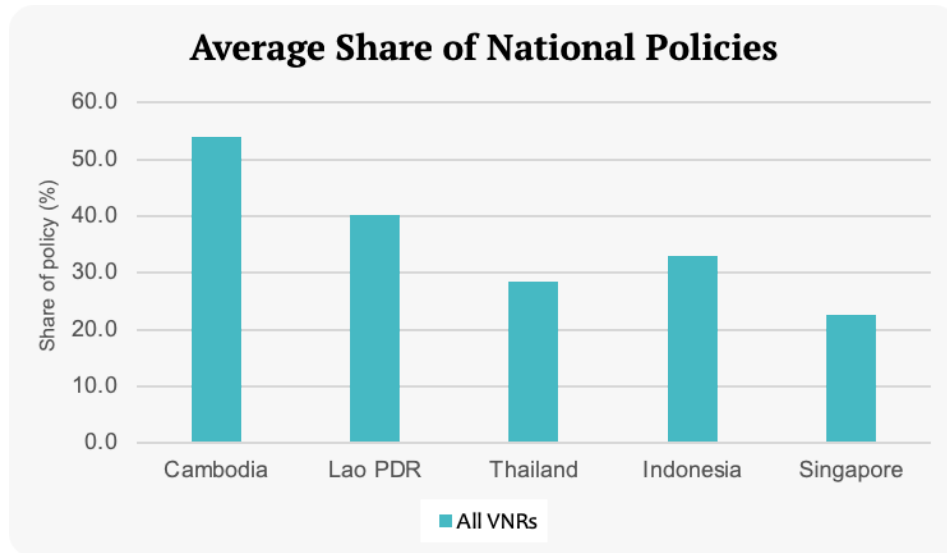
Figure 27: Average share of social national policies among five ASEAN member states

4. FP displayed a general increase across all countries, except for Thailand, which showed a slight decrease. Cambodia led this increase, driven by initiatives like meal programs under SDG 2, community programs for SDG 4, and mine-free village programs under SDG 18 (Ending Impact of Mine/ERW). These areas are critical for Cambodia, which faces challenges in reducing stunting and child wasting, increasing high school completion rates, and clearing out all existing mines (Interview 8). Similarly, Indonesia's FP increase was driven by a significant rise in nutrition and health initiatives under SDGs 2 and 3, largely in response to the COVID-19 pandemic, making the government prioritize the health sector support and community food programs (Interview 2). Thailand and Lao PDR experienced similar trends, while Singapore was the sole nation to have initiatives, such as egg freezing, under SDG 5.

5. MP exhibited varying trends among the nations, with Indonesia and Lao PDR showing increases, while other member states, notably Singapore, displayed a decline (see Figure 29). Indonesia's MP share grew due to expanded social assistance programs aimed at combating poverty and hunger under SDGs 1 and 2. The country's fiscal policies during COVID-19 were particularly geared towards economic stimulation and support for lower-income populations to prevent setbacks in these Goals (Interview 2). Lao PDR, although having a lower overall MP share, showed an increase due to poverty eradication funds under SDG 1 and health subsidies under SDG 3, which are critical given the nation's vulnerability to external shocks and a shrinking fiscal space (Interview 11). In contrast,

Singapore's MP share decreased, reflecting a reduction in subsidies and financial mechanisms for social SDGs, though it still maintained a higher share than Indonesia and Lao PDR.

6. In the GS policies group, Lao PDR and Singapore shared similar increasing trends. The rise in Lao PDR can be attributed to the establishment of specialized state agencies covering all social SDGs. In Singapore, the GS increase was primarily due to efforts under SDG 16 through international partnerships and independent agencies. In this sense, Indonesia follows a comparable pattern, allocating GS resources mainly to SDG 16, evidenced by various national commissions and an anti-trafficking task force, among other initiatives. Finally, PP remains minimal across all the nations, a trend consistent with the focus on human development rather than infrastructure or conservation. This pattern mirrors the EU, where PP is also less prevalent in similar contexts.
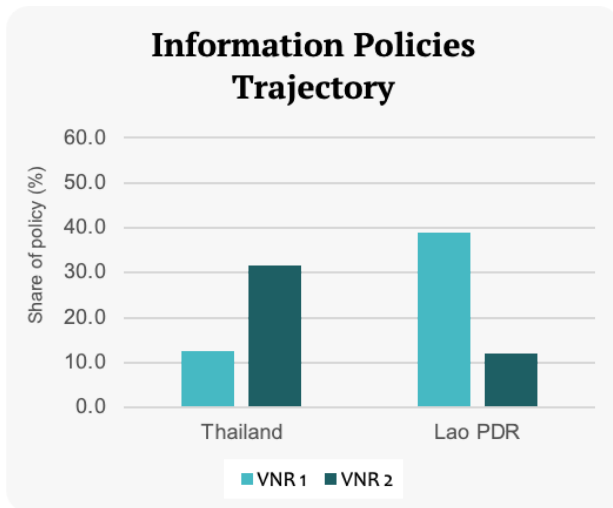
Figure 28: Share of social information policies of Thailand and Lao PDR
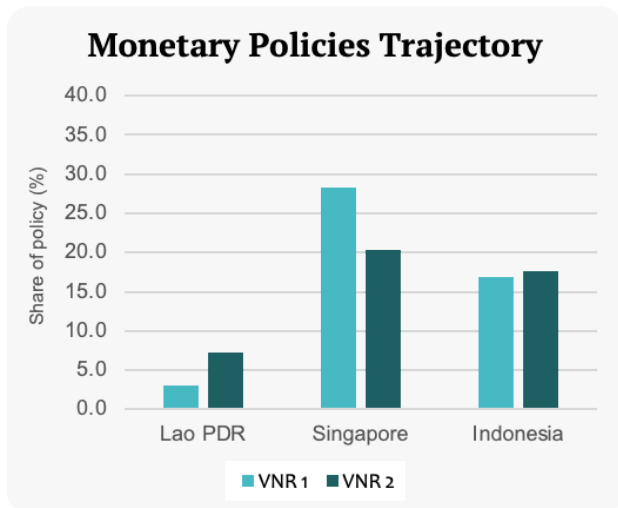
Figure 29: Share of social monetary policies of Lao PDR, Singapore and Indonesia

The social pillar aligns with national priorities focused on building human capacity and does not show substantial variation, as the majority of these priorities continue to aim at eliminating poverty and hunger, and making health and education more accessible (SDGs 1-4). Although there is an overall convergence, this pillar shows the lowest degree of convergence out of the three, and a closer examination of two specific Goals reveals a more complex picture.

Firstly, for gender equality (SDG 5), most countries have policies solely concentrated in NP, with the notable exceptions of Singapore, which has a more balanced policy approach, and Lao PDR, which has a significant number of IP. The challenges and barriers for achieving gender equality in Southeast Asia are numerous and persistent. Culturally, there is a prevailing expectation for women to prioritize family well-being, which limits their participation in the formal labor force

due to domestic responsibilities and workplace gender barriers (Sciortino, 2020). Additionally, access to sexual and reproductive health services remains limited, often hindered by cultural taboos or, in cases such as Indonesia, by the requirement of a husband's approval for contraception (Sciortino, 2010; Tanyag, 2018). Political and governance factors also play a significant role. The expression of political views by women is restricted, especially in countries like Lao PDR and Cambodia, where women's ability to openly discuss political issues is curtailed by broader restrictions on civil liberties and freedom of expression, making it more of a democracy and human rights issue rather than solely a gender issue (Ingram, 2020; Freedom House, 2024). Consequently, women remain underrepresented in government bodies, particularly at lower administrative levels (Sciortino, 2020). In response, efforts have been made at the regional level to address these issues through initiatives like the ASEAN Socio-Cultural Community Blueprint 2025, the ASEAN Community Vision 2025, and the ASEAN Declaration on Gender-Responsive Implementation, which calls for integrating gender into sustainable development (Han et al., 2022), but their impacts are yet to be seen.

Secondly, regarding democratic and just institutions (SDG 16), only Singapore and Indonesia exhibit a higher share of policies in areas like NP, MP, IP, and GS, whereas Thailand, Cambodia, and Lao PDR show much lower shares, concentrated in NP, if at all. This does not necessarily indicate that the former nations are the most democratic, but rather that there is a stronger divergence in their policy frameworks. As a whole, the objective of promoting democracy, human rights, and free speech is not part of the ASEAN Complementarity Initiative (Interview 3; UN ESCAP, 2017), nor is it integrated into national SDG frameworks like Cambodia's (Interview 8). On a national level, in Singapore, the armed forces became mostly dominated by hegemonic parties, while in Thailand, it is still characterized by military dominance (Chambers, 2024). Meanwhile, Lao PDR's focus on political stability and economic growth is evident in its recent National Socio-Economic Development Plans, and to maintain it the state has firmly suppressed all public expressions of dissent (Sims, 2024). In Indonesia, the enduring mainstream belief in anti-communism since 1965 has led to the denouncement of left-wing politics, stifling the political landscape from expressing any progressive ideas (Estrelita, 2024). On a more positive note, a study suggests that SDG 16 is complementary to ASEAN's existing programs and institutional structure, meaning that there is potential for improvement in these indicators and alignment with international standards (Ramcharan, 2021). However, achieving this will largely depend on political will and fundamental changes that cannot be imposed due to the principle of non-interference, making it quite unlikely. Furthermore, persistent data gaps in these Goals pose challenges (UN ESCAP, 2024), making it difficult to draw definite conclusions about the actual progress being made, a situation that future VNRs may hopefully address.

5.2.3. Economic Pillar

Economic SDGs Policy Group Trajectory

	NP	MP	FP	IP	PP	GS	Average
Standard Deviation	9.7	7.8	5.9	3.9	10.1	5.5	7.1

Q1	0 - 5.6	Strong convergence
Q2	5.7 - 11.2	Mild convergence
Q3	11.3 - 16.8	Mild divergence
Q4	16.9 - 22.4	Strong divergence
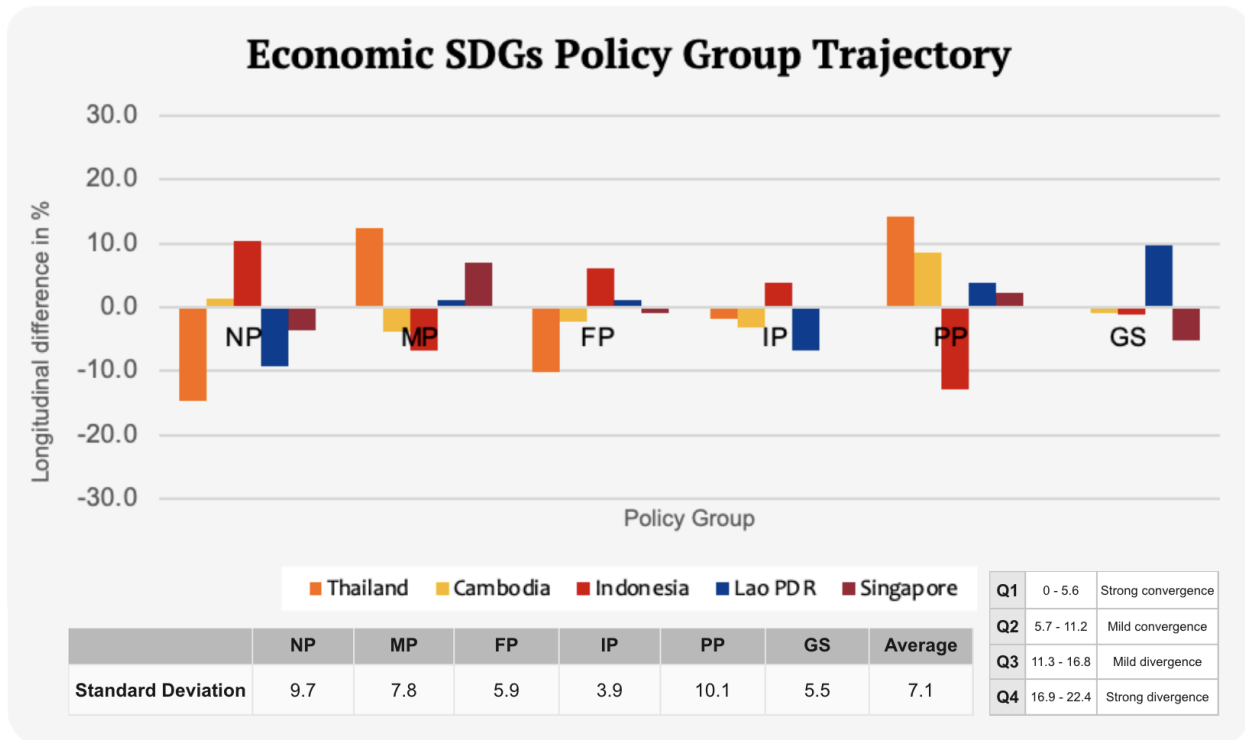
Figure 30: Overall trajectory of the policy groups for the economic SDGs among five ASEAN member states and their corresponding level of convergence or divergence (Source: Own data)

Similar to the environmental SDGs, the economic pillar in ASEAN countries predominantly trends towards convergence (see Figure 30). Notably, there are two instances of strong convergence, with information policies (IP) exhibiting the highest degree of alignment, followed by Governance Structure (GS) policies. In the IP group, Thailand, Cambodia, and Lao PDR all show minor decreases, with Lao PDR experiencing the most significant reduction at -6.7%. Conversely, Indonesia and Singapore demonstrate minor increases, with Singapore's change being almost negligible at +0.1%. Regarding GS policies, all member states exhibit minor decreases except for Lao PDR, which shows a notable increase of +9.7%.

Meanwhile, cases of mild convergence are observed in all the other policy groups. In the Focused Programs (FP), Thailand, Cambodia, and Singapore all show decreases, with Thailand having the most significant reduction at -10.1%. Meanwhile, Indonesia and Lao PDR exhibit increases, with Indonesia leading at +6.1%. In the Physical Policies (PP) category, all countries, except for Indonesia, which shows a decrease of -12.8%, demonstrate an increasing trend, with Thailand exhibiting the largest increase at +14.2%, followed by Cambodia at +8.6%, and the remaining countries showing slight increases. In National Policies (NP) and Monetary Policies (MP), once again, Thailand, Lao PDR and Singapore behave in a similar manner while Cambodia and Indonesia exhibit the opposite. In NP, Thailand's largest decrease is by -14.7%, followed by

Lao PDR at -9.2% and Singapore at -3.5%, whereas Indonesia shows a significant increase of +10.5%, along with a slight increase in Cambodia. For MP, Thailand leads with the highest increase at +12.4%, followed by Singapore at +7.1%, and Lao PDR with a smaller increase, while Indonesia and Cambodia show decreases of -6.5% and -3.8%, respectively.

Overall, the economic and environmental pillars of ASEAN countries reflect a comparable level of convergence and the behavioral patterns of specific member states, although the specific policy groups exhibit some differences.

Intra-Regional Highlights:

1. The PP group exhibits an almost unanimous increase among the five member states, except for Indonesia, which shows a consistent decline over time. Thailand, on the other hand, demonstrates a significant rise, driven primarily by advancements in SDG 9 (Industry, Innovation and Infrastructure) through numerous infrastructure projects such as rail systems, maritime transport, airports, and ASEAN road networks, and via public transportation and urban green space development under SDG 11 (Sustainable Cities and Communities). A closer examination of Indonesia's third VNR reveals an increase in built infrastructure for SDG 8 (Decent Work and Economic Growth) and SDG 11, paralleling Thailand's efforts. However, Indonesia experienced a decline in SDG 9 after its peak in the second VNR, despite notable developments in new airports, seaports, railways, and fiber optic networks. Comparably, Cambodia, Lao PDR, and Singapore have reported various construction and expansion initiatives in airports, seaports, and railways aimed at bolstering SDGs 9 and 11.

2. The NP and MP groups again exhibit the same clustering pattern: Cambodia and Indonesia in one group, and Thailand, Lao PDR, and Singapore in another (see Figure 31). Cambodia's NP shows a minor increase, mainly due to regulatory relaxation under SDG 9 to ease borrowing, particularly post-COVID-19 to stimulate economic growth. Indonesia's NP increase is largely driven by strategies targeting SDG 10 (Reduced Inequalities) and new environmental laws under SDG 12 (Sustainable Consumption and Production), areas in which the country is actively seeking innovative solutions, especially given its archipelagic nature (Interview 2). In contrast, Thailand, Lao PDR, and Singapore show significant growth in MP rather than NP (see Figure 32). Thailand's MP rose notably, largely due to substantial investments and state subsidies focused on SDGs 8 and 9. Despite initiatives related to green certifications or labels, Thailand did not categorize them under SDG 12. Singapore also shows an increase in MP, having the highest share in the region, with consistent social assistance schemes for SDG 10, employment assistant schemes for SDG 8, and maritime and aviation subsidies in SDG 9. Lao PDR, while having one of the lowest MP shares, shows

a slight increase attributed to a dedicated fund for poverty eradication under SDG 10, reflecting the nation's core priorities (Interview 11).

3. In IP, Indonesia is the only member state with a noticeable increase, particularly in SDG 12. This reflects Indonesia's alignment with the ASEAN Sustainable Taxonomy, highlighting its commitment to transforming the financial sector towards sustainability and circularity, as seen in the publication of a localized taxonomy with direct reference to the SDGs (Interview 2; OJK, 2024).

4. Lastly, FP reveals that Thailand experiences a significant decrease, primarily due to a reduction in initiatives for SDGs 9 and 12. Conversely, Indonesia sees an increase in FP, attributed to efforts in tourism recovery under SDG 8 and initiatives targeting plastic waste reduction under SDG 12.
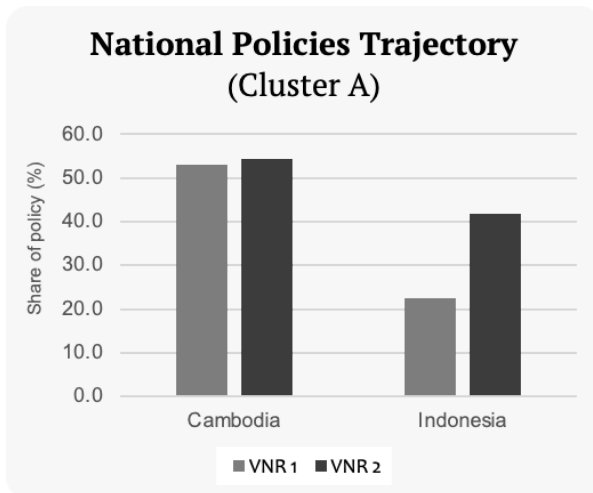
*Figure 31: Share of social national policies
of Cambodia and Indonesia*
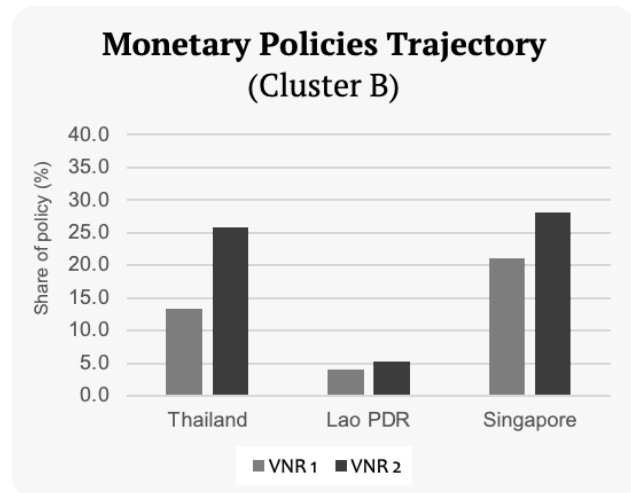
*Figure 32: Share of social monetary policies
of Thailand, Lao PDR and Singapore*

For historical context, the member states of ASEAN were significantly impacted by the Asian financial crisis of 1997-98, necessitating a period of recovery and rebuilding (Noble & Ravenhill, 2000). Moreover, the repercussions of past civil wars and conflicts, like those experienced in Cambodia, have made economic stability and human development essential priorities for future growth in the region (Interview 8; Hill & Menon, 2014). As a result, economic development has consistently remained at the forefront of policy agendas across these countries. This focus was initially implemented through independent national policies, which later shifted towards efforts for stronger regional economic integration, exemplified by the ASEAN Economic Community (AEC), which promotes the free movement of goods, services, and labor (Daquila, 2005; Narine, 2008). One of the AEC's significant achievements has been the creation of a free trade area through tariff elimination, leading to a high degree of trade liberalization (Ishikawa, 2021).

Despite these efforts, the dataset reveals that no single country has prioritized the economic pillar above others; instead, there has been a bigger focus on the environmental and social pillars, as shown in Figure 33. This trend is likely due to the fact that the latest VNRs were published right after the COVID-19 pandemic, which led governments to prioritize economic stimulation through subsidies, support for low-income populations, and the enhancement of healthcare initiatives (Chatterjee, 2024), all of which align with social SDGs.

In terms of convergence, under the ASEAN Complementarity Initiative, the priority areas of infrastructure and connectivity, sustainable consumption and production, and resilience capacity are emphasized (UN ESCAP, 2017). With regards to the former, the focus is evident in the homogenous policy implementation of PP, where all member states prioritize enhancing both national and regional connectivity. Regarding resilience, several countries have taken measures to address inequalities (SDG 10), yet sustainable consumption and production are notably lacking, with Indonesia's IP, NP, and FP being exceptions as highlighted in recent VNRs. A recent study actually found that in advancing the circular economy, Singapore ranks highest, Indonesia, Thailand, and Cambodia are categorized as medium, and Lao PDR as low (Herrador & Van, 2024). However, this ranking can benefit from a more nuanced perspective, as Singapore, being a small country, is significantly influenced by the market size of larger member states; for instance, if sustainable packaging regulations (SDG 12) in Indonesia are lax, businesses in Singapore may not alter their production practices (Interview 9). Due to this complexity, it is more difficult to evaluate ASEAN member states' progress in the circular economy, but it certainly does not appear to be one of the region's main priorities at the moment.
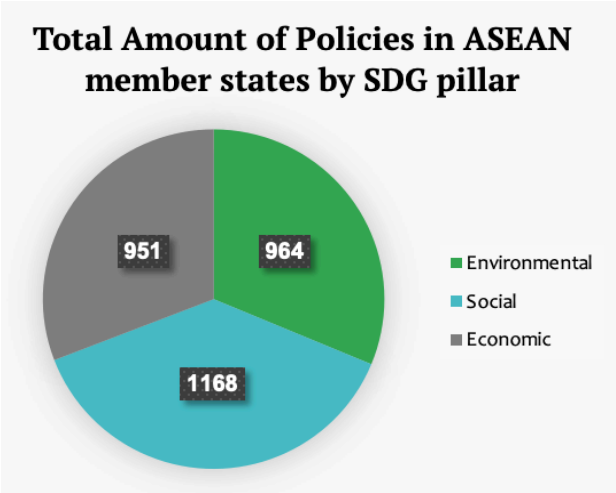

Figure 33: Total number of policies by SDG pillar in five ASEAN member states

When observing the trends with policy shares, countries align along GDP per capita lines: Thailand with Indonesia, Cambodia with Lao PDR, while Singapore stands alone, and this remains consistent across all three pillars, with a few exceptions like Lao PDR's economic GS

share. Having said that, this alignment does not extend to policy trajectories, with Thailand and Indonesia, and Lao PDR and Cambodia, moving in opposite directions within the policy groups of this pillar. Therefore, GDP per capita in ASEAN appears to be a predictor of policy distribution but not necessarily of development trends over time. For example, Thailand is transitioning towards MP, while Indonesia is moving towards NP to support the shift towards green industry and financing, both directions still technically consistent with the priority areas within the ASEAN framework.

5.3. Cross-regional Comparisons

The following Table 7 summarizes all of the points made above with regards to convergence and divergence among EU and ASEAN member states. These cross-regional comparisons draw from the extensive results found in the three pillars, which are now consolidated to assess similarities and differences across regions.

European Union

	Environmental						Social						Economic					
	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS
Strong convergence	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS
Mild convergence	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS
Mild divergence	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS
Strong divergence	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS

Association of Southeast Asian Nations

	Environmental						Social						Economic					
	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS
Strong convergence	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS
Mild convergence	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS
Mild divergence	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS
Strong divergence	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS	NP	MP	FP	IP	PP	GS

Table 7: Summary of convergence and divergence for the six policy groups by SDG pillar in the EU and ASEAN. The dotted lines represent the separation between convergence and divergence (Source: Own data)

Overall, ASEAN demonstrates a higher degree of convergence across all SDG pillars compared to the EU, which exhibits more divergence. ASEAN's strongest convergence is observed in the environmental pillar, while the EU achieves its highest convergence in the social pillar. While

ASEAN shows minimal divergence, with no instances of strong divergence across its pillars, the EU's strongest overall divergence is evident in the environmental pillar.

5.3.1. Similarities

1. **Convergence in Focused Programs (FP) and Physical Policies (PP) Across All Pillars**
   Sporadic EU conservation efforts: The sole exception to this blanket convergence is in the EU's environmental PP that shows mild divergence. Denmark focuses heavily on SDG 14, prioritizing marine resource protection, while the Netherlands and Germany extend their efforts to include both SDG 14 and SDG 15, addressing both marine and terrestrial conservation with comprehensive biodiversity and habitat restoration initiatives. In contrast, Latvia and Greece exhibit limited engagement in these areas, with minimal policy emphasis on marine and terrestrial ecosystem preservation. This inconsistency reflects differing national priorities and levels of commitment to conservation endeavors.

   Infrastructure development in ASEAN and some EU member states: In the economic pillar, all ASEAN member states uniformly prioritize building infrastructure to enhance regional connectivity, as demonstrated by their extensive plans to construct and expand airports, seaports, and railways to support SDGs 9 and 11. This focus on regional connectivity contrasts with the European Union, where infrastructure development varies significantly by GDP. Wealthier EU countries like the Netherlands, Germany, and Denmark, driven by concerns over emissions and sustainability, limit their infrastructure projects to public transport and environmentally-friendly construction. Only Latvia mentions airport renovation, while Greece is focused on broadband development and building renovations. In the environmental pillar, ASEAN countries again show a uniform focus on building infrastructure that meets national needs, with a growing emphasis on land and water conservation due to their resource dependency. Greece and Latvia align with this approach, being the only EU nations actively involved in infrastructure projects for SDGs 6 and 7, such as water sewage construction and island interconnection projects.

   Policy implementation and practicality: The convergence in FP and PP indicates a shared emphasis on pragmatic and targeted interventions to achieve the SDGs. Both regions prioritize specific programs and physical infrastructure investments, suggesting that practical, on-the-ground implementations are seen as crucial for progress in areas like environmental conservation, social development, and economic growth.

2. **Strong Convergence in Social Pillar, Especially with Governance Structure (GS) Policies**
   Governance for social equity: The alignment in GS policies in the EU reflects a shared focus on creating governance structures that facilitate fair and inclusive social policies. This may

involve establishing regulatory frameworks that promote social justice, transparency, and accountability, ensuring that social benefits are distributed equitably among populations.

The delicate nature of SDG 16: However, within ASEAN, SDG 16 faces challenges due to the complex political landscapes and the rising trend of authoritarianism across the region (Chambers, 2024). This goal is often underemphasized or nearly absent in national policies, reflecting a broader reluctance to prioritize democratic reforms and governance improvements. None of the five ASEAN member states are classified as liberal democracies (V-Dem, 2022), a status that underscores their varied approaches to political freedoms and institutional integrity. The region's political climate tends to favor stability and control over the development of democratic institutions and civic participation, leading to a collective alignment that often sidelines SDG 16. This shared political disposition suggests a regional consensus on maintaining a status quo that, regardless of not fully embracing the liberal democratic principles typically associated with SDG 16, results in a convergence nevertheless.

3. **Convergence in Environmental Monetary Policies (MP) Being on a Decreasing Trend**
   EU's strategic shift: The convergence in environmental monetary policies and the decreasing financial commitment in the EU can be attributed to the need to balance immediate economic pressures with long-term sustainability goals. With financial resources stretched thin due to geopolitical instability and economic challenges, the EU may increasingly look to integrate environmental considerations into broader economic policies rather than funding dedicated environmental programs.

   ASEAN's fragmented support: ASEAN's convergence in environmental MP reflects the region's struggle with consistent financial backing for environmental policies. The lack of a cohesive financial support mechanism and adherence to non-interference means that ASEAN countries are more likely to adopt decentralized, market-driven approaches.

5.3.2. Differences

1. **EU's Divergence in National Policies (NP) vs. ASEAN's Mild Convergence Across All Pillars**
   EU's fragmented SDG vision: The EU's binding policies, such as the EGD, do not seem to significantly impact NP convergence among member states. Furthermore, the EU lacks a comprehensive and integrated strategy for SDGs implementation (Marx et al., 2021). Consequently, there is no clear uniting pathway, leading each member state to prioritize its policies based on domestic needs and political agendas. This results in inconsistencies and fragmented approaches towards achieving the SDGs.

ASEAN's united regional 2030 vision: ASEAN has developed a regional SDG Agenda, localized these goals, and created a cohesive vision through initiatives like the Community Vision 2025 and the Complementarity Initiative (The ASEAN Secretariat, 2015; UN ESCAP, 2017). This unified approach has led to greater convergence in NP, fostering alignment and cooperation among member states.

ASEAN's flexibility and adaptation: The mild convergence also underscores a flexible policy-making framework, allowing countries to adapt regional standards to fit their national contexts. This balance between regional goals and national needs promotes a more cohesive and integrated approach to policy development and implementation.

2. **EU's Strong Divergence in Environmental and Economic Governance Structure (GS) Policies vs. ASEAN's Convergence Across All Pillars**
   EU's dependence on the dominant political coalition: In the EU, the balance between environmental and economic goals is heavily influenced by the dominant political coalition, which can shift between left-wing and right-wing parties over short periods. For instance, Denmark's 2019 elections saw a significant leftward shift with the Social Democrats gaining power and building a coalition with other left-leaning parties, thereby also increasing left coalition seats in the EU Parliament (European Parliament, 2024b). This led to increased emphasis on environmentally-friendly policies, as evidenced by its 2021 VNR. Such shifts are common across Western and Northern European countries, where left-leaning governments would prioritize the environment more while right-leaning governments typically prioritize the economy more (Interviews 6 and 7; McCright et al., 2015).

   ASEAN's preference for regional stability: ASEAN's convergence could be attributed to its overarching preference for regional stability. The increasing trend towards authoritarianism within ASEAN member states has led to a governance landscape where SDGs are pursued in a manner that prioritizes political continuity and stability (Sims, 2024). This trend is compounded by a deeply ingrained anti-left sentiment in several countries, such as Indonesia and Singapore, where leftist ideologies are perceived as threats to national security and public order (Estrelita, 2024; Wade, 2007). In Cambodia, the traumatic legacy of the Khmer Rouge has created a political environment that favors stability over radical change (Roberts, 2003), while Thailand's historical struggles with communist insurgencies during the Cold War have similarly fostered a political climate resistant to left-wing influences (Casella, 1970).

3. **Slightly Stronger Convergence in EU's Social Pillar vs. ASEAN's Social Pillar**
   EU's focus on social integration: The average standard deviation value for the social pillar within the EU is 7.2 while for ASEAN it is 7.8, indicating a minor but interesting variation

nonetheless. This slight difference highlights the EU's focus on social integration and cohesion among member states, despite the occasional divergent paths observed in countries such as the Netherlands and Denmark. The relatively stronger convergence in the EU's social pillar reflects a commitment to shared values and objectives related to social welfare, human rights, and equality, which are foundational elements of the EU's social policy framework (Oshri et al., 2015). The region's facilitation of the free movement of people, goods, capital, and services has fostered closer exchanges between member states, contributing to increased uniformity in societal structures, standards of living, and overall stability across the region (Akaliyski et al., 2021), and this seems to have had an effect here.

ASEAN's highly diverse economies: This diversity is exemplified by the disparity between high-income economies such as Singapore and LDCs like Lao PDR and Cambodia (UN ESCAP, n.d.; World Bank, 2023). Such economic heterogeneity means that when external shocks, such as the COVID-19 pandemic, occur, the impact is uneven, with LDCs being particularly vulnerable (Strange, 2012). This is evident in the social MP trajectory, where Singapore's share has decreased while that of Lao PDR has increased.

ASEAN's complicated relationship with SDGs 5 and 16: These two Goals are closely intertwined, meaning issues in one often precipitate challenges in the other. The policies of these Goals were divided across political lines, but by Western liberal democracy standards, it is unclear whether Singapore, Indonesia and Cambodia can be considered a truly liberal democracy, but the applicability of these benchmarks could also be debated. Overall, some ASEAN countries have made notable progress, others remain stagnant, and persistent data limitations complicate accurate assessments of their progress (UN ESCAP, 2024).

4. **Information policies (IP): EU's Environmental Mild Divergence but Social Strong Convergence vs. ASEAN's Social Mild Divergence but Economic Strong Convergence**
EU's sector-specific approaches: The EU's mild divergence in environmental IP and strong convergence in social IP reflects a sector-specific approach to SDG implementation. In environmental matters, varying national priorities and levels of technological advancement leads to divergent information policies, while in the social sector, there is a stronger alignment on issues like digital inclusion, education, and public health. This alignment is evidenced by the stability and balance of the IP group within the social pillar across all social SDGs.

ASEAN's economic emphasis: ASEAN exhibits strong convergence in economic IP, reflecting a regional focus on economic integration and digital transformation. This convergence aligns with ASEAN's strategic objectives to promote innovation, trade, and economic growth (Interview 2; Narine, 2008). In contrast, the approach to social information policies varies

significantly among member states. While some countries emphasize IP through awareness campaigns and research to improve nutrition, others prioritize different policy groups. For instance, Lao PDR focuses on GS, and Cambodia emphasizes FP, highlighting the region's different policy group preferences and distinct social priorities.

5. **EU's Mild Divergence in Economic and Social Monetary Policies (MP) vs. ASEAN's Mild Convergence**

EU's budgetary structure: Under the Multiannual Financial Framework, the EU allocates funds to support various initiatives, such as the Agricultural Fund for Rural Development, which indirectly supports SDG 2 by aiding farmers, and the Just Transition Fund, designed to mitigate the social and economic impacts of the transition to a climate-neutral economy, thus indirectly supporting SDGs 8 and 10 (Marx et al., 2021). However, it is notable that there is no dedicated financial instrument exclusively aimed at achieving the SDGs within the EU's budgetary framework (Marx et al., 2021). Furthermore, the importance of national autonomy in monetary policy decisions is emphasized, allowing member states to tailor their economic and social policies to meet domestic needs effectively. This emphasis on national sovereignty is reinforced by the reluctance of member states to cede financial control to the EU, particularly when the EU's policies do not fully align with their national interests (Grossi et al., 2024).

ASEAN's need of international funding: To start, countries like Cambodia and Lao PDR heavily depend on official development assistance, which will later on be affected upon their graduation from LDC status. Singapore, due to its small population size and unique socioeconomic context, relies extensively on the global market for economic sustenance (Liu & Zhong, 2023). Indonesia and Thailand also benefit from various forms of international cooperation. For instance, Indonesia has secured substantial loans from the World Bank for infrastructure projects, such as roads, ports, and public transport systems (Dasgupta et al., 2004), has received funding from Norway, which pledged up to $1 billion to support forest conservation efforts (Taylor, 2022), and received aid from Japan, which financed the Jakarta Mass Rapid Transit system (Ministry of Foreign Affairs of Japan, 2019). Similarly, Thailand has benefited from the ADB's funding for major infrastructure projects, including the Bangkok mass transit system expansion (ADB, 2024), a $24 million project to enhance rural community resilience to climate change in the Chao Phraya River Basin (UNDP, 2021), and grants from international NGOs like the Global Fund, which supports the fight against AIDS, tuberculosis, and malaria (The Global Fund, n.d.). Altogether, ASEAN member states show a unified approach in leveraging international financial support to advance their social and economic development goals.

6. **Unified Trajectories: EU's Economic Focused Programs (FP) vs. ASEAN's Environmental Physical Policies (PP)**

EU's circular economy effect: The EGD has had its most pronounced impact in advancing initiatives and pilot programs related to SDG 12, focusing on responsible consumption and production. This trend is evident across all EU member states in the most recent VNRs, which shows that they have significantly increased their efforts in areas such as waste management (including food waste, plastic, and packaging waste) and green procurement practices. These initiatives reflect a collective movement towards a circular economy, which transcends differences in GDP per capita, population size, and political landscapes within the EU.

ASEAN's common national priorities: Despite variations in GDP per capita, population size, and political contexts, ASEAN countries exhibit common priorities in environmental PP. A major shared focus is the improvement of water and sanitation accessibility (SDG 6), resulting in widespread implementation of water infrastructure projects. Additionally, for many ASEAN countries, the protection of natural resources is crucial, leading to increased conservation efforts aligned with SDGs 14 and 15. However, climate-related SDGs, specifically SDGs 7 and 13, receive less emphasis across the region.

5.3.3. Key Findings

1. The **EU's implementation of SDGs is characterized by greater divergence**, whereas **ASEAN exhibits higher convergence**.

2. **ASEAN** demonstrates the strongest overall **convergence in the environmental pillar**, contrasting with the **EU's divergence in the same area**.

3. **The European Green Deal** has led to a **unified increase in circular initiatives and programs**, but environmental policy remains divergent in all other aspects.

4. **ASEAN's convergence in environmental and economic policies** may not be sustainable for other global actors, given its infrastructure developments that **contribute to increased carbon emissions**.

5. Both regions are experiencing a **decline in funding for environmental SDGs**.

6. The **EU exhibits monetary fragmentation**, whereas **ASEAN** countries share **similarities in their reliance on international aid and cooperation**.

7. The **EU's lack of a unified regional SDG agenda** contributes to its national policy divergence, whereas **ASEAN's regional SDG vision fosters national policy convergence**.

8. The **EU's single market** has facilitated **stronger convergence in social SDGs**.

9. **ASEAN's political context** influences its approach to **SDG 5 and SDG 16**, affecting the social pillar.

6. Discussion of Results

Going back to answer the two hypotheses, the results show that the first hypothesis (H1) is confirmed for ASEAN, as the region demonstrates convergence across all pillars. This outcome is particularly surprising, given the region's diverse array of countries with varying levels of development and the absence of a formalized judicial system to enforce compliance (Holzhacker & Agussalim, 2019). Such convergence aligns more predictably with the EU, which is generally perceived as a leader in global environmental governance, possessing binding mechanisms and deeper economic and political integration to bolster its capability to achieve regional sustainability goals (Li, 2024). At first glance, these results challenge stereotypes typically associated with the Global North and South, illustrating that ASEAN too can demonstrate convergence in SDG implementation.

However, the underlying reasons for this convergence are more complex and nuanced than just attributing them to INIS. Firstly, in ASEAN, there is virtually no instance of coercive isomorphism, as the principle of non-interference is a core tenet of the institution. This principle ensures that no external laws or regulations are imposed on member states, thereby ruling out coercive pressures as a factor. This leaves mimetic and normative isomorphism as potential drivers, which seem present where ASEAN's national policies appear increasingly aligned, most likely due to the influence of the regional SDG Agenda and the governments' collective desire to reduce uncertainty and enhance legitimacy. Another example of this occurring is with monetary policies, where countries that require international assistance are more inclined to conform to global standards, leading to policy convergence. The implications of such dynamics become particularly intriguing when considered in the context of the HLPF or other regional platforms for peer learning. In settings where coercive mechanisms are neither present nor feasible (i.e., countries cannot be forced to emit less), the potential impact of enhancing mimetic and normative pressures on policy convergence and SDG monitoring merits further exploration. This topic presents a valuable area of study, particularly in terms of enhancing the effectiveness of the HLPF (Baumann & Haug, 2024).

In the case of a strong convergence in the economic and environmental physical policies, this seems more closely related to the PD theory. According to this theory, countries' behaviors are shaped by their historical, economic, and political contexts (Kickert & van der Meer, 2011). Despite these diverse contexts, here alignment occurs nonetheless. For instance, Thailand's need for improved water infrastructure coincides with Singapore's pursuit of national water security. Thus, even in the absence of institutional isomorphism, these shared needs drive convergence. This alignment of national interests occurs globally without the need of external pressures, as evidenced in the study of BRICS and Russia (Brosig, 2021; Obydenkova, 2024).

For the EU, H1 appears to be confirmed primarily within the social pillar, largely through the mechanisms of its single market. The single market exemplifies a combination of mimetic, normative, and coercive isomorphism. This is because the single market, firstly, makes member states emulate each other's best practices to manage economic uncertainties and enhance their competitiveness, leading others to adopt similar approaches, resulting in a mimetic process of policy convergence. Secondly, it fosters a shared set of norms and values among EU member states, encouraging alignment through common standards and gaining legitimacy as a result. This is evidenced by the united pursuit towards SDG 16 in the social governance structure policies. Thirdly, it imposes binding regulations that require member states to comply with specific policies in order to do business and exchanges. This perspective is supported by Akaliyski (2018) and Oshri et al. (2015), but contrasts with Bauer et al. (2024), who argue that national political and protectionist tendencies often prioritize individual state interests over collective European goals and advocates for a reinvention of the single market policy.

Despite the presumed impact of coercive isomorphism through policy initiatives like the EGD, which theoretically should drive convergence in the environmental and economic pillars, this has not been the case overall. In the economic pillar, convergence has only been observed in focused programs and information policies. However, in national policies involving action plans and legislation, the expected convergence is not as pronounced. For example, while some member states have prioritized the circular economy and implemented comprehensive national strategies, others have not, leading to divergence. This finding is consistent with Lehmann et al. (2023), who found significant disparities among EU countries regarding their progress in the circular economy, particularly in terms of sustainability. Circular economy policies should therefore be more targeted and adapted to the specific contexts and needs of the member states. The new Europe Sustainable Development Report (Lafortune et al., 2024) also underscores that 'major challenges' remain for all five EU member states in achieving SDG 12, backing this further.

The second hypothesis (H2) is validated in the environmental and economic pillars of the EU, where divergence is primarily driven by differing income levels (GDP per capita) among member states. For instance, countries such as Greece and Latvia exhibit behaviors similar to ASEAN countries, focusing on infrastructure projects like Latvia's airport renovation and Greece's broadband network expansion. In contrast, wealthier countries like the Netherlands, Germany, and Denmark prioritize conservation efforts or improvements in public transport infrastructure, reflecting their higher economic capacities and established environmental priorities. Another example of divergence in the EU is found in the economic governance structure policies. The Netherlands and Denmark have shown substantial increases in climate-friendly partnerships, likely influenced by shifting political coalitions and evolving national priorities, underscoring how these two factors shape the pathways of SDG implementation. In the context of the recent

pandemic, war, energy crisis, and geopolitical tensions, this trend aligns with findings that environmental policy in the EU tends to diminish in importance during crises, as other national priorities take precedence (Burns et al., 2019).

Within ASEAN, H2 is also corroborated, albeit in a slightly different manner. The divergence here primarily affects the policy shares rather than the trajectories of member states. Economic disparities are significant drivers of this divergence. For example, Thailand and Indonesia, which have similar GDP per capita levels, exhibit similar policy shares, while Cambodia aligns more closely with Lao PDR, and Singapore stands out with distinct policy shares. This pattern is evident across all pillars and most policy groups, especially in the average share of economic monetary policies, where Singapore leads, followed by Thailand and Indonesia, with Cambodia and Lao PDR trailing behind. Notably, in terms of environmental policies, GDP was found to not be correlated with policy share (Elder & Ellis, 2022), but there is limited literature regarding its relationship with social and economic SDG policies. PD also explains the dynamics within ASEAN's governance structure policies. Although there is no explicit policy divergence, changing the regional situations related to SDG 5 and SDG 16 is challenging due to limited options and significant costs associated with changing established paths (Hall & Taylor, 1996; Nichols, 1998). The potential costs of political instability and uncertainties are substantial, making it difficult for ASEAN to deviate from its current path. Therefore, ASEAN's SDG implementation in these very Goals is likely to diverge from those of the EU and Western liberal democracies. These are well-supported by existing literature (Li, 2024; Sims, 2024).

These observations suggest that within the context of PD, income levels and political systems are the most influential factors in shaping SDG implementation, while population size has not emerged as a significant direct factor thus far. It is possible that countries with smaller populations may already converge towards the policies of their larger counterparts, but this relationship remains unclear and warrants further research.

6.1. Implications for the EU

The EU has demonstrated notable successes in SDG implementation, particularly within the social pillar. One of its key achievements lies in leveraging the single market to foster social cohesion and address inequalities among member states. By revising policies with direct reference to the SDGs, the EU can further support marginalized groups and enhance social inclusion across its member nations. This approach not only strengthens social bonds but also ensures that all citizens benefit equally from EU policies.

For the EU, one area with substantial room for improvement is greater monetary integration and coordination, which could enhance financial stability and facilitate more effective SDG financing. Establishing a regional financial mechanism dedicated to supporting environmental

SDGs would be crucial in achieving these goals. This could be achieved by revisiting calls to align the Multiannual Financial Framework with the ambitions, objectives, and targets of the 2030 Agenda (Rijnhout & Zondervan, 2018).

The EU can also learn valuable lessons from ASEAN to refine its own strategies. Although literature often advocates for one-way peer learning from the EU to ASEAN, it is important to recognize that integration does not follow a singular, preeminent path (Murray, 2010). Reciprocal learning can enrich both regions' approaches to integration and SDG implementation. To address policy divergence and ensure cohesive SDG implementation, the EU needs to develop more integrated policies and frameworks. Creating a unified regional SDG agenda, akin to ASEAN's approach, could be an effective strategy (Marx et al., 2021). Such an agenda would foster a more convergent national policy pathway across all SDG pillars, aligning national action plans and legislation with regional goals. This alignment would enhance overall coherence in SDG efforts and ensure that all member states are progressing towards shared objectives.

In the environmental domain, however, there is evidence of declining ambition over the period under analysis. Interviews suggest that this reduction in policy ambition is driven by a complex mix of factors (Burns et al., 2019). To counteract this trend, it is recommended to renew the mandate of the Multi-Stakeholder Platform on the SDGs, which aims to support and advise the Commission and all stakeholders involved in SDG implementation (European Commission, 2020b). Combined with a revision of the MFF, this renewal would allow for the exchange of best practices and experiences among member states, prioritize SDG policies regardless of economic and political conditions, and lead to stronger convergence across all pillars. Inequalities in SDG implementation within the EU are vast (Lafortune et al., 2024), and by taking these steps, the EU can better ensure that no member state is left behind in the process of achieving SD.

6.2. Implications for ASEAN

With regard to its successes, ASEAN should persist in enhancing and fortifying its regional SDG vision to ensure it remains responsive to emerging challenges and opportunities. A steadfast commitment to a unified agenda is crucial for fostering sustained convergence and facilitating progress toward achieving the SDGs. One notable initiative in this context is the Complementary Initiative, which represents a significant step towards localizing the SDGs within the ASEAN framework (UN ESCAP, 2017). This initiative should be further developed to better address regional developments and align with evolving needs.

To reduce its dependence on international aid and diversify its funding sources, ASEAN must focus on bolstering economic integration and enhancing domestic resource mobilization. As

member states ramp up infrastructure projects and digital innovation, ASEAN can experiment with blended finance, utilizing a mix of public and private funding to support development projects, or adopting green bonds and sustainability bonds that can also help raise funds for projects with environmental benefits (Khokhar et al., 2024; Upadhyay & Tirumala, 2024). Additionally, mainstreaming the SDG agenda into public finances and scaling up financing for the SDGs through sustainability practices in financial decision-making are essential (Volz, 2022). This approach will contribute to greater financial independence and stability, ensuring that progress towards the SDGs is less vulnerable to external shocks and can better withstand future uncertainties.

To create a more cohesive approach to social SDGs, particularly in reducing regional inequalities, ASEAN can draw inspiration from the EU's single market, which facilitates the free movement of people, goods, capital, and services. While ASEAN has made significant strides through initiatives such as the AEC and the ASCC, further efforts are needed to enhance these integrations to fully realize their potential. To accelerate intra-regional financial integration, it is necessary not only to strengthen each country's financial markets, but also to implement measures that facilitate integration. These measures include the development of cross-border investment products, the modification and harmonization of regulations and systems, and the liberalization of capital transactions (Park, 2024; Shimizu, 2014).

For SDG 16, the reliance on primary data derived from VNRs produced by governments presents a risk that policy trajectories may not fully reflect the diverse political contexts unless a country explicitly chooses to disengage from this goal, leading to a lower policy share. Therefore, improving data collection and reporting, particularly for SDG 5 and SDG 16, is crucial to ensure accurate representation and effective policy formulation. In this regard, assistance from the EU or other forms of international collaboration would be beneficial. This would help ensure that the diverse political contexts of ASEAN countries are adequately reflected and addressed in policy initiatives.

6.3. Limitations

Several potential limitations within this research merit acknowledgment. To begin, there are inherent limitations in the chosen methodology. The study operates under the assumption that countries are actively adopting policies to implement the SDGs based on their VNRs. However, the actual implementation may vary, and the reliance on self-reported data introduces a degree of subjectivity. The self-reporting nature of VNRs implies potential biases, as countries might present an overly positive image of their efforts. This issue might be partially mitigated through conducting interviews with relevant SDG stakeholders from the respective countries.

Another methodological assumption is that an increasing number of policies and, thus, a larger share of policy groups equates to a country placing more emphasis on those areas. However, in some cases, a decreasing number of policies might indicate consolidation into a single, more comprehensive policy. In addition, the categorization of SDGs into the three pillars—social, economic, and environmental—also has implications for the study's outcomes. For example, placing SDG 6 and SDG 7 under the environmental pillar, while categorizing SDG 12 under the economic pillar, can be contentious, and alternative classifications might yield different results. Lastly on the methodological side, the use of percentages rather than absolute numbers when analyzing policy shares could be misleading, particularly when the total number of policies is low, as is the case with the Netherlands. This approach may exaggerate the significance of minor variations in small datasets.

Additionally, due to the time and funding constraints of this master's research, there was no detailed on-the-ground analysis conducted for each country. This limitation may affect the depth of understanding and the ability to uncover nuances in the implementation of SDGs. Consequently, the reasoning provided for the data results is not definitive; it offers speculative and possible explanations for why member states in the EU and ASEAN behave in certain ways, based on secondary sources and interviews. Achieving a stronger level of causality would require in-depth fieldwork at the national level and a significantly longer timeframe of study.

The longitudinal design of the study, which covers data from 2015 to 2023, may also be considered premature. Most countries, with the exception of Indonesia, which had three data sources, provided only two data points or two different VNR years. An interview with Lao PDR revealed that it was preparing to publish its third VNR for 2024 (Interview 11), highlighting the rapidly changing nature of data sources. This timeframe might not capture long-term trends, and caution should be exercised when interpreting findings within the context of this relatively short observation period.

Furthermore, this study examines only five countries in the EU and five countries in ASEAN. For more generalized conclusions, the research would benefit from analyzing all member states of the EU and ASEAN, as well as comparative analyses with other regions, such as BRICS and the African Union. With more data points, the study might reveal different trends, especially in the EU, which is currently experiencing a right-leaning political shift. This could influence the behavior of countries regarding environmental and economic policies. In ASEAN, additional data points might show a more balanced policy share across countries as they develop economically. If all EU member states were included, it would be interesting to observe the behavior of countries like Türkiye, more right-wing countries like Bulgaria, and smaller nations like North Macedonia. This could potentially result in greater divergence across all pillars. In contrast,

including all ASEAN member states might not significantly change the results, as the current group already represents a broad spectrum of political systems and economic levels.

6.4. Policy Recommendations

It is important to recognize that no inherent normative value is assigned to convergence or divergence: strong convergence does not necessarily equate to 'good,' nor does strong divergence equate to 'bad.' The nuanced findings of this research indicate that even instances of convergence do not automatically signify that a region is progressing effectively towards the SDGs, and vice versa. Convergence merely suggests that countries are exhibiting similar behaviors, while divergence indicates the opposite. Nevertheless, in the pursuit of the 2030 Agenda on a global scale, a united vision is crucial to prevent fragmentation. Particularly in regions with stark inequalities, fostering some degree of convergence is beneficial to achieving the SDGs and ensuring that no one is left behind. With this in mind, the following are some potential recommendations on how to achieve this goal:

1. **For National Governments: Enhance Cross-Sectoral Coordination**
   One of the common messages collectively echoed from the interviews is how imperative it is to enhance cross-sectoral and inter-ministerial coordination, as the SDGs are deeply interconnected and cannot be addressed in isolation. Countries should consider adopting integrated models, such as Germany's approach with thematic priority teams or the Netherlands' VNR method, which employs six key transitions. These frameworks ensure a holistic approach to addressing various topics and actively involve diverse key stakeholders.

2. **For Regional Institutions: Align Regional Budgets and Explore Financing Methods**
   All stakeholders interviewed also concur that one of the primary obstacles to SDG implementation is the need to improve financing mechanisms. The observed decline in monetary policies across different regions underscores the necessity for enhanced financial strategies. It is thus essential to align regional budgets with the UN SDGs by 2030 and to investigate alternative financing mechanisms beyond the current predominant systems.

3. **For The Global Community: Facilitate Cross-Regional Peer Learning**
   Leveraging cross-regional platforms for peer learning is crucial. The study demonstrates that both Global North and South countries, despite common perceptions of one bloc being more advanced than the other, possess valuable lessons and successes to share. For instance, the EU-ASEAN bilateral cooperation can be optimized as a venue for exchanging best practices and successes, collaborating on initiatives, and formulating strategies to collect data and achieve the SDGs. Similarly, countries facing comparable developmental challenges can learn from each other's experiences to implement the SDGs effectively

within their unique contexts. This model of cross-regional peer learning ought to be replicated globally.

4. **For the Future of Global Goal-Setting: Localize and Adapt Global Goals**

    Despite the universal nature of the SDGs, this study highlights the necessity of localizing these Goals to a certain extent. For instance, incorporating nation-specific goals, following the steps of Cambodia and Lao PDR's Goal 18 on ERW/UXO, may be beneficial. Another possibility is utilizing citizen assemblies and participatory budgeting, which involves the public more directly in SDG-related decisions and ensures that the Goals reflect the specific needs of each nation. Regardless, a standardized 'one-size-fits-all' approach without any forms of localization does not seem to be optimal going forward. A balance between unity and adaptability is thus crucial for post-2030 SDG frameworks.

7. Conclusion

This study set out to discern the patterns and trajectories of SDG implementation within and across regions, specifically exploring whether Global North-South nations are converging or diverging in their pursuit of the SDGs by examining five representative member states from the EU and ASEAN. It tested two hypotheses: one suggesting convergence due to institutional pressures from regional bodies, and the other predicting divergence influenced by population size, economic, and political factors. The findings indicate that the first hypothesis is more applicable to ASEAN, while the second is primarily supported in the EU. However, the reasons for these patterns are complex and cannot be attributed to a single factor. For instance, in ASEAN, environmental policies converged largely due to the alignment of diverse national agendas rather than a collective emphasis on emissions reduction and environmental protection. In the EU, certain policy areas, such as circular economy initiatives influenced by the European Green Deal, show some convergence, and the overall divergence presents a more intricate picture upon closer examination. On a theoretical level, INIS seems to have its most substantial impact when all three forms of isomorphism are in play, whereas economic and political contexts in PD exert the most significant influence on SDG implementation. Thus, this research contributes to the academic literature by highlighting the multifaceted forces shaping policy convergence and divergence across different regions.

On a more practical note, the study identified a decline in funding for environmental SDGs in both the EU and ASEAN, highlighting the need to strengthen financial mechanisms to support these goals. In the EU, there is a notable fragmentation in monetary resources, while ASEAN countries exhibit a shared reliance on international aid and cooperation. Despite these challenges, there are valuable lessons each region can learn from the other. The EU's lack of a unified regional SDG agenda has led to divergence in national policies, whereas ASEAN's regional SDG vision has promoted convergence among its member states. Additionally, the EU's single market has fostered stronger convergence in social SDGs, presenting a potential model for ASEAN to emulate. This mutual exchange of strategies and improvements is essential for both regions to advance their SDG implementation effectively.

This research, despite its limitations as previously discussed, offers a significant foundation for further research in several key areas. First, it forms the basis for future longitudinal studies encompassing all member states of the EU and ASEAN, or extending to other regions, to provide a comprehensive assessment of SDG implementation over time. Such studies are crucial for understanding the long-term trends of various regional SDG policies and initiatives. Second, there is an opportunity for in-depth research on specific SDG pillars, which would allow for a deeper exploration of how individual Goals are being pursued and achieved within different national and regional contexts. Third, future research could benefit from isolating and analyzing

the impact of distinct factors such as politics, economic conditions, population dynamics, or others, on SDG policy divergence. This approach would clarify the specific contributions of these variables to the broader trends observed in SDG implementation. Finally, there is potential to examine how to optimize mimetic and normative isomorphism in scenarios where coercive isomorphism is absent, which would provide valuable insights for global governance. This could help develop more effective strategies for fostering alignment and cooperation across diverse political and economic landscapes in terms of SDG implementation.

Finally, several broad policy recommendations can be drawn from this study. On a national level, effective cross-sectoral and inter-ministerial coordination is paramount for the successful implementation of SDGs. On a regional level, the consolidation of financial resources for SDGs is essential to overcome fragmentation and enhance the efficacy of funding mechanisms. At a global level, there is immense potential for regions to engage in peer learning and exchange best practices, and thus, it is crucial to enhance platforms that facilitate such interactions at every level. Finally, to address the fundamental challenge mentioned in the very beginning of balancing universality with differentiation, future efforts towards achieving the SDGs–especially post-2030–must incorporate localized approaches that reflect regional and national contexts. The future of effective global goal-setting starts with embracing localized goals.

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Appendices

Appendix 1: Definition and selection of comparative case study variables

Comparative Case Study Variables	Definition	Selection
Unit of analysis	The major entity that is being analyzed in the study (Yin, 2009)	VNRs of 5 EU member states: 1. Netherlands 2. Greece 3. Germany 4. Denmark 5. Latvia VNRs of 5 ASEAN member states: 1. Singapore 2. Indonesia 3. Thailand 4. Cambodia 5. Lao PDR
Independent variables	Factors that are suspected to influence the dependent variable (Burnham et al., 2008)	The 17 Sustainable Development Goals 2030
Dependent variables	The phenomenon we are aiming to explain in the research (Burnham et al., 2008)	Convergence or divergence of SDG implementation in the following levels: 1. Within selected EU member states 2. Within selected ASEAN member states 3. Between EU-ASEAN region
Spurious or intervening variables	Everything that makes up the social, economic and political context and backdrop of the dependent and independent variables (Burnham et al., 2008)	Factors in case selection: 1. Population size 2. Economic context 3. Political context 4. EU institutional structure 5. ASEAN institutional structure

Appendix 2: Interview Guide

INTERVIEW GUIDE

INTRODUCTION

Thank you very much for your time and willingness to participate. This research project studies the SDG implementation of 5 nations in the EU and 5 nations in ASEAN. It is part of Michele Joie Prawiromaruto's master thesis, carried out at Utrecht University, Netherlands, as part of the Global Goals Project (https://globalgoalsproject.eu/). Because interviews are being carried out with SDG actors from 10 different countries, we will follow an interview guide to make sure we cover all the questions. Before starting, we would like to confirm whether we have your permission to record this interview. The details of how the recording will be used can be found in the document *[informed consent]* that you have read and signed beforehand. Should you not wish to be recorded, please let us know now and we shall carry on using notes.

1. **RESPONDENT**
    1.1. What is your full name?
    1.2. What is your role or position in the organization?
    1.3. What are your key responsibilities?

2. **VOLUNTARY NATIONAL REVIEWS: PREPARATION**
    2.1. Can you elaborate on the process involved in preparing the VNR for [country] throughout the years?
    2.2. Who were the key stakeholders or entities involved in the development of the VNR, both within the government and external partners?
    2.3. How long did it take to prepare the VNR, from the initial planning stages to its completion and submission?
    2.4. Were there any specific challenges or successes experienced during the preparation period?

3. **SDG NATIONAL INTEREST VS. REGIONAL INTEREST**
    3.1. In your opinion, why are the Sustainable Development Goals (SDGs) important for [country]?
    3.2. How does the national perspective on the SDGs align/not with broader regional or global sustainability objectives?
    3.3. Are there specific SDGs that are particularly emphasized due to their relevance to regional cooperation?

3.4. Considering [country]'s participation in [EU/ASEAN], how do you navigate the challenges of aligning national goals with regional requirements, laws, and interests?

3.5. Are there specific strategies or mechanisms in place to harmonize [country]'s SDG implementation with broader regional objectives?

3.6. Are there instances where national goals may differ from regional expectations, and how are these discrepancies addressed?

4.   SDG IMPLEMENTATION

4.1. Can you highlight some notable successes or achievements in the implementation of SDGs within [country]? What strategies or approaches were employed to achieve success in these particular SDGs?

4.2. What challenges or difficulties has [country] encountered in the process of implementing SDGs? How has [country] addressed or mitigated these challenges, and what lessons have been learned?

4.3. Are there SDGs that have proven particularly challenging to implement, and if so, what are the reasons behind these challenges?

4.4. Which specific SDGs has [country] actively prioritized and implemented?

4.5. How does the national government and other key stakeholders actively contribute to the implementation of SDGs in [country]?

5.   RECOMMENDATIONS

5.1. Are there specific areas of the VNR process that could be improved for better reporting and evaluation?

5.2. Based on your experience, what recommendations would you provide for enhancing the implementation of SDGs in [country]?

5.3. From your perspective, how can global governance mechanisms better facilitate coordination and collaboration among countries in achieving the SDGs?

CLOSING

Is there anything else you would like to share? Do you know of anyone working as an SDG coordinator or a similar position in any of the 10 researched countries (Netherlands, Greece, Germany, Denmark, Latvia, Singapore, Indonesia, Thailand, Cambodia, Lao PDR)? We thank you very much for your contribution.

Appendix 3: Informed Consent Form

Date: _____, Place: _____

THE RESEARCH PROJECT

Title: Convergence or Divergence? Comparing the Evolution of SDG Implementation in
                          EU and ASEAN Member States
Host institution: Faculty of Geosciences, Sustainable Development, Utrecht University
Researcher: Michele Joie Prawiromaruto (m.michelejoieprawiromaruto@students.uu.nl)
Supervisor: Prof. dr. Frank Biermann (f.biermann@uu.nl)

Short description:
The overarching goal of this research is to comprehensively understand the directions and patterns within and across regions, specifically investigating the potential convergence or divergence of Global North-South nations in their pursuit of the SDGs. To do so, this study focuses on examining the longitudinal progress of representative countries from the European Union (EU) and the Association of Southeast Asian Nations (ASEAN). By scrutinizing the VNRs of five EU nations (Netherlands, Greece, Germany, Denmark, Latvia) and five ASEAN nations (Singapore, Indonesia, Thailand, Cambodia, Lao PDR), the research seeks to discern the trajectories and patterns within and across these regions. Through these findings, this study hopes to contribute to the ongoing dialogue on SD by providing nuanced insights into regional and global progress.

PARTICIPATION IN THE PROJECT INCLUDES
An interview of 30-45 minutes in English

VOLUNTARY PARTICIPATION
Participation is voluntary, and you may withdraw from the project at any time, without having to give any reason.

CONFIDENTIALITY AND ATTRIBUTION
Your confidentiality is ensured with all data collected within this research project. No personal information will be disclosed to individuals outside of the project's research team. Your interview answers will be attributed in the research by referring to your professional job title.

FURTHER USE OF THE DATA
Your data will be used exclusively by researchers and for scientific purposes. Should the participant allow for the interview to be recorded, it will be transcribed and available upon request. The recording will then be deleted permanently.

CONSENT
I hereby confirm with my signature that my questions have been satisfactorily answered, that I have read, understood, and agree to the terms of this consent, and participate voluntarily in this project.

_____   _____
Participant name   Interviewer name

_____   _____
Signature   Signature

Appendix 4: List of Interviews

The following interviews have been listed in chronological order. All interviewees have signed the aforementioned informed consent form and have voluntarily allowed their interview data to be used for this research.

Citation	Country	Date	Interviewee
Interview 1	Netherlands	12 February 2024	Netherlands' SDG Coordinator
Interview 2	Indonesia	1 March 2024	Head of the economic development pillar in the SDGs' national secretariat of Ministry of National Development Planning of the Republic of Indonesia
Interview 3	Thailand	5 April 2024	Director of SDG Move (center for SDG research and support)
Interview 4	Denmark	11 April 2024	Professor at University of Copenhagen and leader of the Sustainability Science Center
Interview 5	Greece	23 April 2024	Professor at Athens University of Economics and Business; professor at the Technical University of Denmark; director of Sustainable Development Unit at Athens Technology Center; leader of the SDSN Global Climate Hub and European Network
Interview 6	Germany	29 April 2024	Senior political researcher and German Institute of Development and Sustainability (IDOS) researcher
Interview 7	Germany	3 May 2024	One of the two Presidents of Heinrich Böll Foundation
Interview 8	Cambodia	6 May 2024	United Nations Resident Coordinator in Cambodia
Interview 9	Singapore	27 May 2024	Research Fellow at National University of Singapore (NUS) Center for Nature-based Climate Solutions
Interview 10	Latvia	28 May 2024	Professor and rector at Riga Technical University (RTU)
Interview 11	Lao PDR	11 June 2024	United Nations Resident Coordinator in Lao PDR

Appendix 5: VNR Qualitative Coding Samples

The following is the qualitative coding for the Netherlands.

Goals	VNR #1 [2016]	VNR #2 [2021]
SDG 1: No Poverty	1 social security system 1 national investment to prevent poverty and debt 1 national investment expansion 1 European Fund for elderly	1 Equal Opportunity Alliance 1 Minister for Poverty 2 Jobs Act for disabled 1 Balanced Labor Market Act
SDG 2: Zero Hunger	1 healthy weight program 1 agreement for salt, sugar, fat in food products 2 food awareness campaign 1 partnership with food industry 1 healthy school lunch program 1 livestock reduction policy 1 Phosphate Reduction Scheme 1 financial incentive for organic farming 1 R&D funding for agriculture	1 National Prevention program 2 food awareness campaign 1 national protein strategy 1 European Green Deal 1 Farm to Fork strategy 1 Biodiversity strategy 1 action plan on policy coherence
SDG 3: Good Health and Well-Being	1 mandatory health insurance 1 national vaccination program 2 social support programs 1 fight against antimicrobial resistance initiative 1 National Prevention Program	1 National Prevention program 2 food awareness campaign 1 national protein strategy 1 mandatory health insurance 1 Environment and Planning Act 1 National Environmental program 1 Foundation for the vulnerable 1 Global Health strategy
SDG 4: Quality Education	1 national education policy 1 national education curriculum	1 literacy program 1 Equal Opportunity Alliance
SDG 5: Gender Equality	1 female leadership quota 1 women to the top program 1 financial support to end gender violence	1 Equal Opportunity Alliance 2 bills for discrimination and sexual offenses 1 female leadership quota
SDG 6: Clean Water and Sanitation	1 EU Water Directive 1 partnership for water quality	1 protection from harmful substances 1 EU Water Directive 1 Circular Economy 2050 1 circular economy implementation program
SDG 7: Affordable and Clean Energy	1 Energy Agreement 1 Energy Agenda 2050 1 subsidies for industry to reduce energy consumption 1 Electric Transport Green Deal 1 national investment for EVs	1 compensation for low-income households 1 Sustainable Finance Platform 1 climate table 1 Climate Act 2050 1 knowledge and innovation agenda 1 Climate Fund

SDG 8: Decent Work and Economic Growth	1 minimum wage and salary 1 work legal framework 1 youth unemployment agenda	1 knowledge and innovation agenda 1 Equal Opportunity Alliance 2 Jobs Act for disabled 1 Balanced Labor Market Act
SDG 9: Industry, Innovation and Infrastructure	1 Europe 2020 strategy 1 funding for R&D	1 knowledge and innovation agenda 1 Equal Opportunity Alliance 1 legal obligation for builders 4 voluntary agreements with stakeholders
SDG 10: Reduced Inequalities	1 social security system 1 progressive tax mechanism 3 policies for disadvantaged groups	1 Foundation for the vulnerable 1 Equal Opportunity Alliance 1 National Coordinator against discrimination and racism 1 Minister for Poverty 2 bills for discrimination and sexual offenses 2 Jobs Act for disabled 1 Balanced Labor Market Act 1 action plan on policy coherence
SDG 11: Sustainable Cities and Communities	1 City Deals as knowledge-sharing platform 1 City Agenda	1 Environment and Planning Act 1 National Environmental program 1 raw materials footprint 1 recycling monitor 1 Circular Economy 2050 1 circular economy implementation program 1 Raw Materials Agreement 1 legal obligation for builders 1 plastic bottle deposit 4 voluntary agreements with stakeholders 1 PBL circular economy report 1 international cooperation 1 Room for the River program
SDG 12: Responsible Consumption and Production	1 Fertilizer Act 1 Nitrogen Control program 1 Circular Economy program 1 mandatory sustainability reporting 1 prize incentive for reporting	1 raw materials footprint 1 recycling monitor 1 Circular Economy 2050 1 circular economy implementation program 1 Raw Materials Agreement 1 legal obligation for builders 1 plastic bottle deposit 4 voluntary agreements with stakeholders 1 circular finance roadmap 1 PBL circular economy report 1 international cooperation 1 action plan on policy coherence 4 legislation for responsible business conduct (RBC) 1 SDG indicators development of direct foreign investment 1 SDG assessment for new policy 1 Transparency Benchmark 3 corporate benchmarks 1 EU Corporate Sustainability Due Diligence

		Directive
SDG 13: Climate Action	1 Climate Agenda 1 revised National Adaptation Strategy 1 European Emissions Trading (ETS) system 1 Delta program	1 generational impact assessment 1 Sustainable Finance Platform 1 climate table 1 Climate Act 2050 1 knowledge and innovation agenda 1 Climate Fund 1 Global Center on Adaptation 1 Transparency Benchmark 1 Delta Plan on Spatial Adaptation
SDG 14: Life Below Water	1 national marine strategy 1 EU Marine Directive 3 international partnerships 1 conservation scheme	1 protection from harmful substances 1 North Sea Agreement 1 sustainable seafood policy 1 EU Water Directive 1 Room for the River program 1 Delta Plan on Spatial Adaptation 1 Rich North Sea program
SDG 15: Life on Land	1 expanded policy for birds 1 expanded policy for agriculture	1 sustainable soil management 1 sustainable crop protection 1 protection from harmful substances 1 new forestry strategy 1 nature conservation expansion 1 European Green Deal 1 Farm to Fork strategy 1 Biodiversity strategy
SDG 16: Peace, Justice, and Strong Institutions	1 capacity building for law enforcement 1 multilateral Convention on Mutual Assistance in Criminal Matters 1 extradition policy	1 National Coordinator against discrimination and racism 2 bills for discrimination and sexual offenses 1 Open Government Act 2 tax avoidance incentives
SDG 17: Partnerships for the Goals[5]	1 SDG partnership research	1 climate table 1 Global Center on Adaptation 4 voluntary agreements with stakeholders 1 action plan on policy coherence 1 SDG indicators development of direct foreign investment 1 Netherlands-Germany partnership 1 World Benchmarking Alliance

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[5] Due to the nature of the Goal being all-encompassing, it has not been included in the analysis, as it could not be categorized into one of the three pillars.

The following is the qualitative coding for Cambodia.

Goals	VNR #1 [2019]	VNR #2 [2023]
SDG 1: No Poverty	6 social welfare program 4 state funds 1 rectangular strategy IV 1 national development plan 1 national social protection policy 1 national population policy	3 social welfare program 1 national social protection policy 1 general secretariat 1 restructured loans policy 1 expanded social protection 1 expanded agricultural production
SDG 2: Zero Hunger	1 national nutrition roadmap 1 national strategy for nutrition 1 national action plan for hunger 1 agriculture development plan	5 national strategy for nutrition 1 national target for growth 1 provincial working group 1 expanded social protection 1 expanded agricultural production 1 increased health expenditure 1 food systems dialogue 1 food safety law 1 revised nutrition indicator 1 school meal program 1 ban on unhealthy food and beverage in schools 1 SUN Business Network 1 national committee for growth
SDG 3: Good Health and Well-Being	1 health center expansion 1 health strategic plan 1 national plan for HIV/AIDS 1 sustainability roadmap 1 circular policy	1 national plan for HIV/AIDS 1 health equity fund 1 national social security fund for health care 1 increased health expenditure
SDG 4: Quality Education	1 education strategic plan 1 national education roadmap 1 rectangular strategy IV 1 strategy for education statistics	1 education strategic plan 1 education reform strategy 1 my community program 2 vocational training policy 4 skills training program
SDG 5: Gender Equality	1 national program for public administration 1 gender mainstreaming plan 1 gender-responsive budgeting 1 minimum standard for women 2 national action plan for violence 1 international partnership 1 plan for gender equality 1 national gender policy 1 plan for women in management 1 climate change strategy plan	1 gender budget 2 national action plan for violence 1 climate change strategy plan 1 gender mainstreaming plan
SDG 6: Clean Water and Sanitation	2 water subsidies 1 water supply privatization 3 national plan on water 1 rural development plan	1 water subsidy policy 1 common principle of water purification 1 subsidy guideline 1 water management policy

	4 international partnership	1 transboundary cooperation 1 rural water supply action plan 1 CNMC strategic plan
SDG 7: Affordable and Clean Energy	1 power network development 1 rural electrification fund 1 solar farm investment 1 power development master plan 1 renewable energy policy	1 power network development 1 power master plan 1 energy efficiency policy 1 principles for solar rooftop power 1 sub-decree on energy efficiency 4 national energy plan
SDG 8: Decent Work and Economic Growth	1 industrial development policy 1 company registration 1 one village one product initiative 1 national employment policy 1 china ready tourism policy 2 skills development fund 1 tax break for SME 1 entrepreneurship center 1 digital economy framework working group	1 company registration 1 new investment law 1 reduced barriers to entry 1 Chamber of Commerce network
SDG 9: Industry, Innovation and Infrastructure	1 industrial development policy 1 fiber optic cable connectivity 2 reduced costs 3 law improvements 2 SME development plan 2 skills development fund 1 tax break for SME 1 entrepreneurship center 1 PPP Unit 4 international partnership 1 law on universal service	1 new investment law 2 digital economy policy 1 sub-decree on construction 6 relaxed regulations for borrowers 1 restructured loans policy 4 new airport construction
SDG 10: Reduced Inequalities	1 social land concession program 1 indigenous land registration 1 national policy on housing 1 growing trade agreement 1 Health Equity Fund 1 IDPoor membership card 1 national aging policy 1 national social protection policy	1 IDPoor membership card 1 health equity fund 1 national social security fund for health care 1 school meal program 1 education strategic plan 1 education reform strategy 1 power network development
SDG 11: Sustainable Cities and Communities	4 monitor of pollution sources 1 plastic bag charge 1 master plan for waste water and sewage 5 sub-decree on waste treatment 6 national spatial planning 1 law on land management	3 public awareness campaign 1 land title registration 1 national policy on housing 1 affordable housing program 1 ban on old used vehicles 1 incentive for electric vehicles 1 policy for waste management 1 water treatment and sanitation infrastructure investment 1 national land policy 1 construction law

		1 national circular economy plan
SDG 12: Responsible Consumption and Production	4 national action plan 1 inter-ministerial working group 1 pilot project reporting system 1 air quality monitor 5 sub-decree on waste treatment 1 environment and resources code	1 law on hazardous waste 4 collaboration on waste 1 environmental management plan 1 environmental impact assessment
SDG 13: Climate Action	1 climate change working group 1 rectangular strategy IV 1 national development plan 1 increased fund for climate 1 national council for SD 2 climate change strategic plan 1 environment and resources code	3 climate change strategic plan 1 climate change alliance 1 green climate fund 1 climate-resilience rice program 1 national development plan 1 national council for SD 1 strategy for carbon neutrality 1 sub-decree on emissions 1 disaster risk reduction plan
SDG 14: Life Below Water	1 rectangular strategy IV 1 national plan on green growth 2 climate change strategic plan 1 national REDD+ strategy 1 sub-decree on water pollution 1 national adaptation plan 1 strategic plan for fisheries	1 new MPA 1 community-based approach 1 ban on single-use plastic 1 awareness campaign 2 international partnership
SDG 15: Life on Land	6 regulation for ecosystem service 1 increased protected area 1 national protected area plan 1 national REDD+ strategy	1 national council for SD 1 increased protected area 1 national REDD+ strategy 2 state land registration zone 1 research on payment for ecosystem services (PES) 1 roadmap for PES pilot project 1 technical working group 1 PES policy implementation 2 national biodiversity strategy 2 financing mechanism
SDG 16: Peace, Justice, and Strong Institutions	4 major laws for human rights 1 rotation of judges system 1 UN Peacekeeping contribution 1 law on information access 1 joint technical working group 3 anti-corruption awareness 1 one-window service initiative	1 community peacebuilding project 2 judicial system reform 1 legal aid program for the poor 1 anti-corruption law 1 anti-corruption agency 2 anti-corruption awareness 1 drug control strategy 1 national authority for drugs 1 rectangular strategy IV 1 national development plan 1 gender mainstreaming plan
SDG 17: Partnerships for the Goals	1 development cooperation and partnership strategy 1 rectangular strategy IV	1 development cooperation and partnership strategy 1 rectangular strategy IV

	1 revised working group guideline 1 revised monitoring indicators 1 increased budget for survey 1 general population census 1 law on NGOs	1 global partnership framework 1 industrial development policy 1 ICT infrastructure development 1 law on NGOs 2 national database 7 partnership mechanism
SDG 18: End negative impact of Mine/ERW and promote victim assistance[6]	1 risk education message 1 national disability strategy plan 1 national strategic development plan 1 national mine action strategy 1 Mine-Free Cambodia 2025	1 risk education message 1 study on SD outcome of mine action 1 Mine-Free Cambodia 2025 1 mine action and victim assistance authority 1 guideline on implementation 1 sub-decree on foundation for Mine-Free Cambodia 2025 1 Mine-Free Village program

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[6] Both Cambodia and Lao PDR have created an additional Goal (SDG 18) which aims to clear out all mines and assist the victims. This additional Goal reflects the significant challenges and historical legacies these countries face regarding unexploded ordnance (ERW/UXO) and have been included as part of the social pillar.

Appendix 6: VNR Quantitative Categorization Sample

Utilizing the qualitative coding as a basis, the following is the raw quantitative dataset for the Netherlands.

			SDG 1: Poverty		SDG 2: Hunger		SDG 3: Health & Well-Being		SDG 4: Education		SDG 5: Gender		SDG 6: Water & Sanitation		SDG 7: Energy	
			VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2
National Policies (NP)	Action/Master Plan	New				1		2							1	
		Revised														
		Pre-established			3	3	2	1	2				1	1	2	2
		Pre-established	0	0	0	4	2	3	2	0	0	0	0	1	3	2
	Law/Regulation	New			2											
		Revised														
		Pre-established	3	3	1	1	1	2		1	3	1	2	0	0
		Pre-established	3	3	3	1	1	2		1	3	1	2	0	0
		NP Total	0	0	3	5	3	5	2	0	1	1	3	3	3	2
Monetary Policies (MP)	Social Welfare	New	1		1											
		Revised														
		Pre-established	2				2								1	1
		Pre-established	3	0	1	0	2	0	0	0	0	0	0	0	1	1
	Financing	New														
		Revised			1						1				1	1
		Pre-established	1	0	1	0	0	0	0	0	1	1	0	0	1	1
		MP Total	4	0	2	0	2	0	0	0	1	1	0	0	2	2
Focused Programs (FP)	Project/Initiative	New														
		Revised														
		Pre-established	0		2	2	1	2		1	1	1		1		
		Pre-established	0		2	2	1	2	0	1	1	1	0	1	0	0
	Pilot Program	New														
		Revised														
		Pre-established	0													
		FP Total	0	0	2	2	0	0	0	0	0	1	0	1	0	0
		FP Total	0	0	2	1	1	2	0	1	1	1	0	1	0	0
Information Policies (IP)	Training/Education	New														
		Revised												1	1
		Pre-established	0		2	2	2	2	0				0	0	1	1
		Pre-established	0		2	2	0	2	0	0	0	0	0	0	1	1
	Research	New														
		Revised													1	1
		Pre-established	0		0	0	0	0	0	0	0	0	0	0	0	1
	Database/Certification	New														
		Revised														
		Pre-established	0		0	0	0	0	0	0	0	0	0	0	0	0
		IP Total	0	0	2	2	0	2	0	0	0	1	0	1	0	2
Physical Policies (PP)	Land Management	New														
		Revised														
		Pre-established	0		0	0	0	0	0	0	0	0	0	0	0	0
	Built Infrastructure	New														
		Revised														
		Pre-established	0		0	0	0	0	0	0	0	0	0	0	0	0
	Forest/Water Conservation	New														
		Revised														
		Pre-established	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		PP Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Governance Structure (GS)	Agency/Taskforce	New		1												
		Revised														
		Pre-established	0	1	0		0	0	0	0	0	0	0	0	0	0
	Partnership/Coordination	New														
		Revised		1	1		1		1	1	1	1	1	0	0
		Pre-established	0	1	1		0		1	0	1	1	1	0	0
		GS Total	0	2	1		0	0	0	2	3	4	2	2	0	0
		SDG Total	4	5	10	8	6	9	2	2	3	4	2	4	5	6

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SDG 8: Work & Economy		SDG 9: Industry & Innov		SDG 10: Inequality		SDG 11: City & Community		SDG 12: Consumption		SDG 13: Climate		SDG 14: Water Life		SDG 15: Land Life		SDG 16: Peace & Justice		SDG 17: Partnerships	
VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2	VNR #1	VNR #2
							1		3		1				1				1
										1									
1	1	1	1		1	1	3	3	2	1	2	1	1		2				
1	1	1	1	0	1	1	4	3	5	2	3	1	1	0	3	0	0	0	1
									4				1						
														2					
2	3		1	3	5		1	1	1			1	3		2	1	3		
2	3	0	1	3	5	0	1	1	5	0	0	1	4	2	2	1	3	0	0
3	4	1	2	3	6	1	5	4	10	2	3	2	5	2	5	1	3	0	1
				2													2		
0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0
		1								1	1								
0	0	1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0
0	0	1	0	2	0	0	0	0	0	1	1	0	0	0	0	0	2	0	0
					1		3		2	1			1						
0	0	0	0	0	1	0	3	0	2	1	0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	1	0	3	0	2	1	0	0	1	0	0	0	0	0	0
						1					2					1		1	1
0	0	0	0	0	0	1	0	0	0	0	2	0	0	0	0	1	0	1	1
									1										
							1		2		2								2
0	0	0	0	0	0	0	1	0	3	0	2	0	0	0	0	0	0	0	2
							2	1	6		1								
0	0	0	0	0	0	0	2	1	6	0	1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	1	3	1	9	0	5	0	0	0	0	1	0	1	3
													1		2				
0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	2	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
															1				
												1							
0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	3	0	0	0	0
					2												1		
0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	1	0	0
	1		5		1		5		5			3				1			6
0	1	0	5	0	1	0	5	0	5	0	0	3	0	0	0	1	0	0	6
0	1	0	5	0	3	0	5	0	5	0	0	3	0	0	0	1	1	0	6
3	5	2	7	5	10	2	16	5	26	4	9	6	7	2	8	3	6	1	10

Appendix 7: EU Member States' Policy Trajectory by SDG Pillar

The following graphs show the changes in the share of policy groups with regards to the three SDG pillars. They follow the national policies (NP), monetary policies (MP), focused programs (FP), information policies (IP), physical policies (PP) and governance structure (GS) policies of each EU member state from all the presently available voluntary national reports (VNRs) at the time of writing.
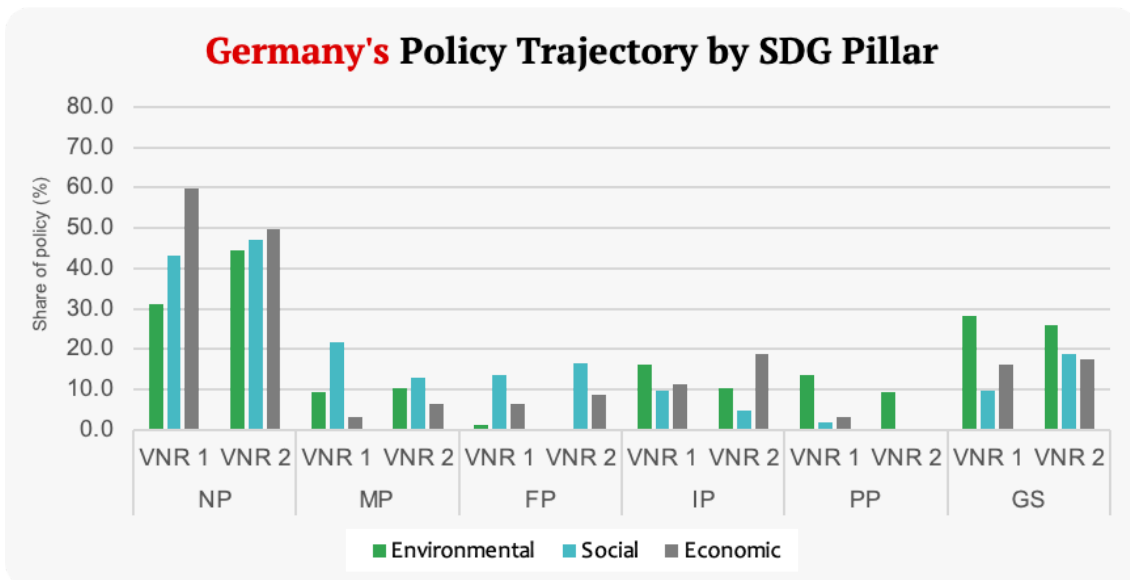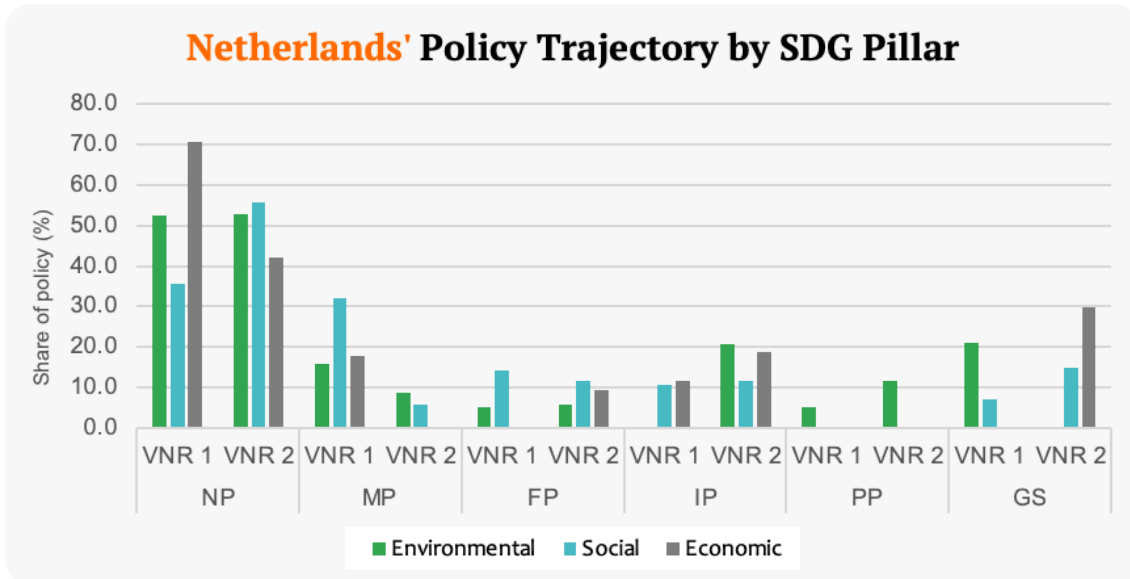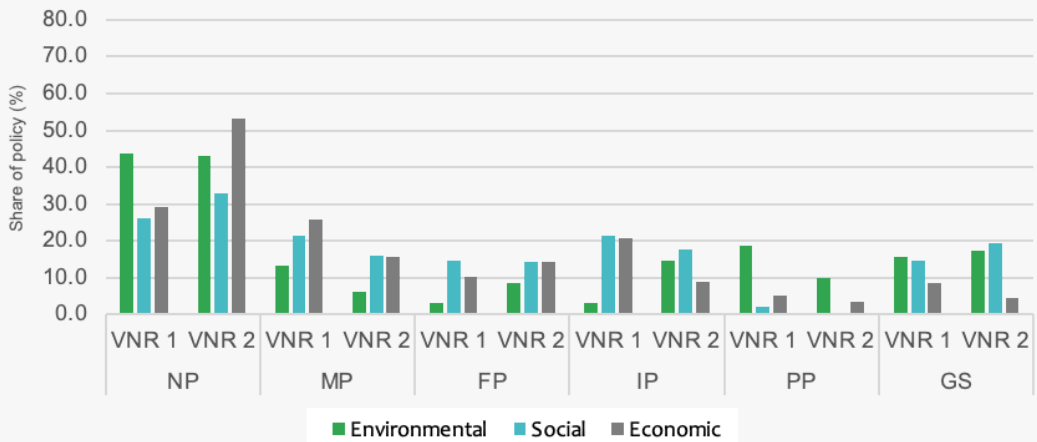
Denmark's Policy Trajectory by SDG Pillar
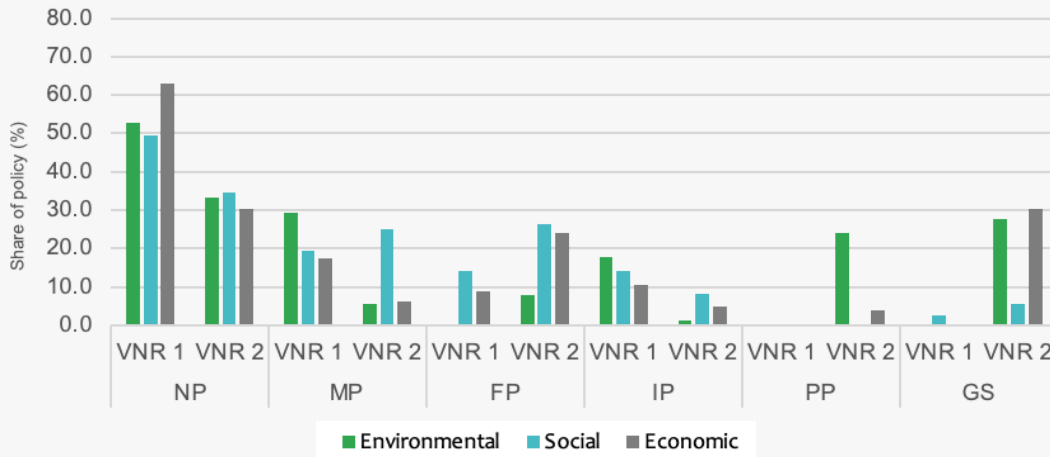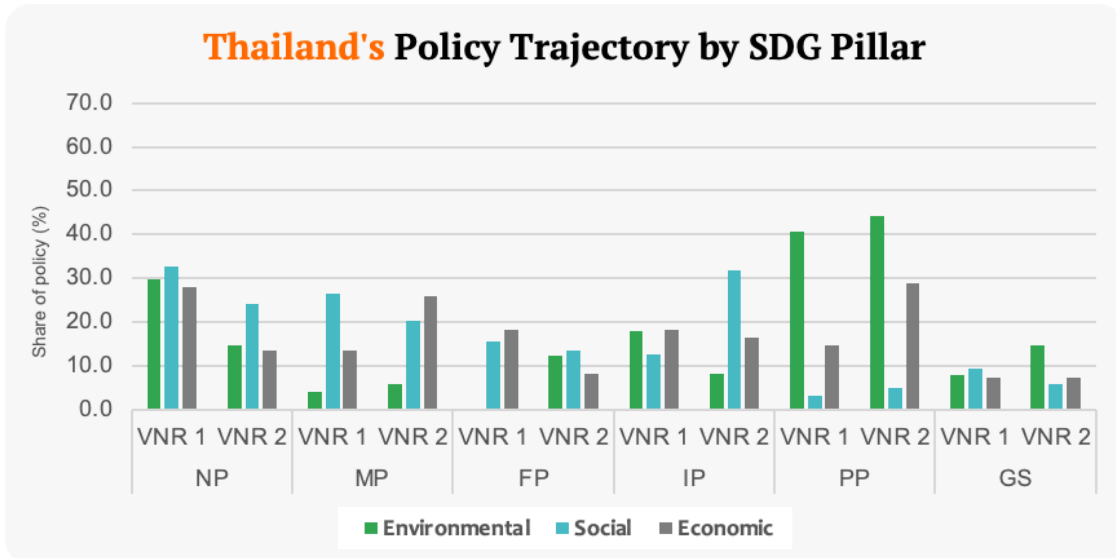

Greece's Policy Trajectory by SDG Pillar
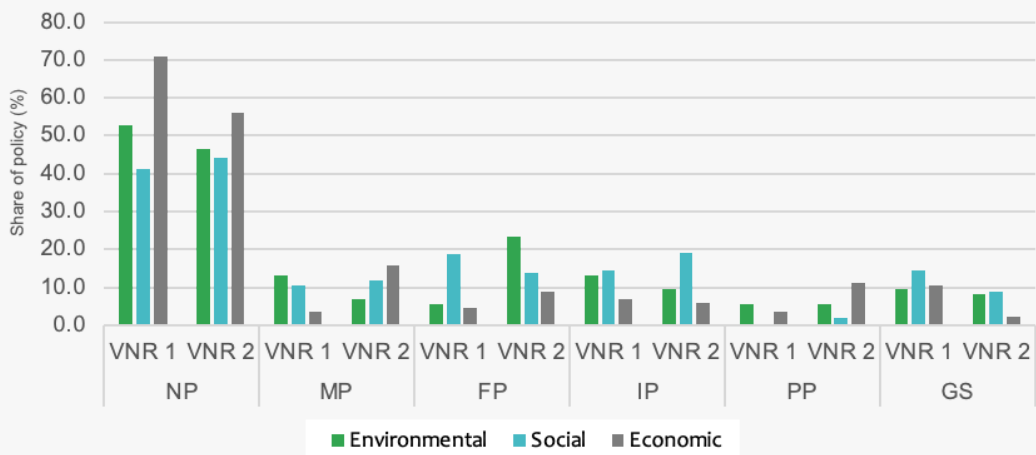
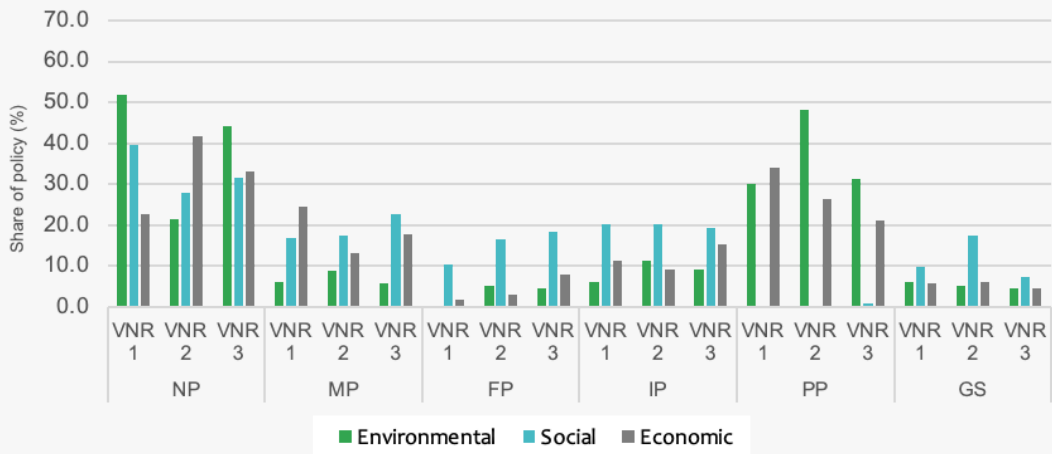Latvia's Policy Trajectory by SDG Pillar

Appendix 8: ASEAN Member States' Policy Trajectory by SDG Pillar

The following graphs show the changes in the share of policy groups with regards to the three SDG pillars. They follow the national policies (NP), monetary policies (MP), focused programs (FP), information policies (IP), physical policies (PP) and governance structure (GS) policies of each ASEAN member state from all the presently available voluntary national reports (VNRs) at the time of writing.

Thailand's Policy Trajectory by SDG Pillar

Cambodia's Policy Trajectory by SDG Pillar
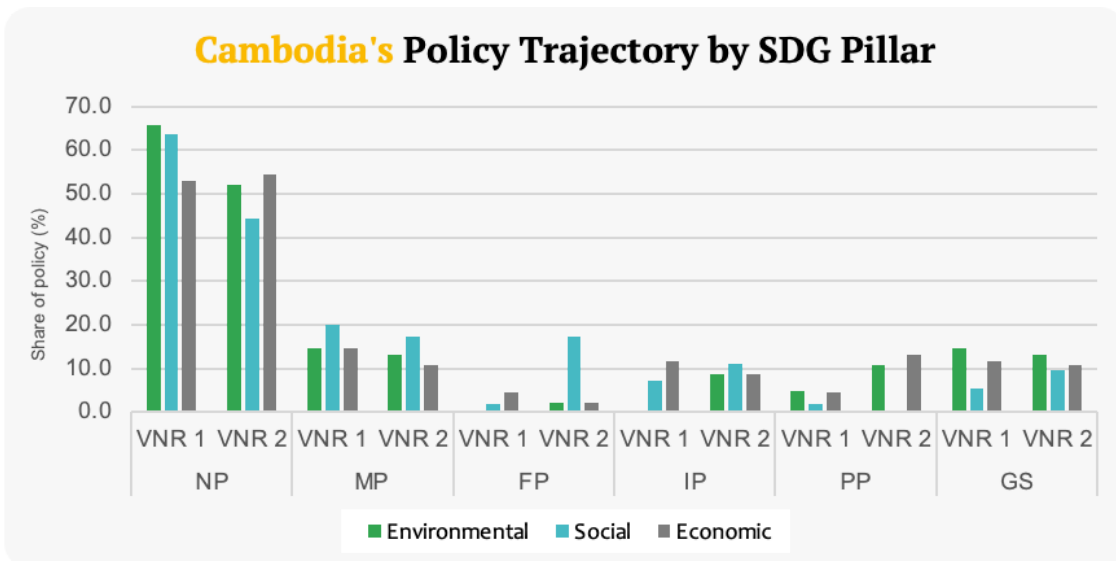
Indonesia's Policy Trajectory by SDG Pillar

Lao PDR's Policy Trajectory by SDG Pillar
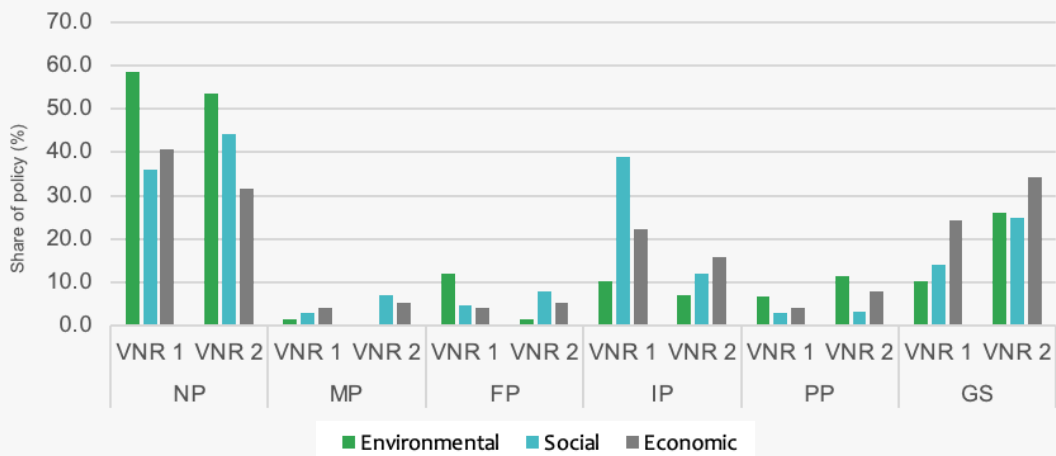
Singapore's Policy Trajectory by SDG Pillar