



Reflexive Governance: ASEAN in Energy Transition

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Received : Sept 16, 2025

Revised : Sept 22, 2025

Accepted : Sept 30, 2025

Online : October 14, 2025

Abstract

To address climate change, multiple angles need to be tackled. One of the efforts is through energy transition, which involves moving towards the use of renewable energy. The Southeast Asia region, one of the vulnerable regions to climate change, needs to pay more attention to mitigating this uncertain condition. The responsibilities to do so are not just falling upon each government in the region, but also need to be considered by the leading intergovernmental organization, such as ASEAN. The issue of energy is not a current concern, as the energy ministers of ASEAN Member States have convened annually to discuss it since 1986. In relation to this, the purpose of this paper is to examine how ASEAN, as the leading institution in the region, has been governing to achieve a common goal in terms of renewable energy. The concept of reflexive governance is used to assess ASEAN's capacity through three lenses: institutional learning mechanisms, cross-sectoral participation, and cognitive and normative adaptability. Based on the findings, we concluded that ASEAN, as an institution, has a moderate capacity for governing energy transition. Despite the limitations of this paper, the use of this emerging concept of reflexive governance can serve as an alternative framework for understanding how renewable energy governance should be implemented.

Keywords: ASEAN, AMEM, reflexive governance, renewable energy, energy transition

INTRODUCTION

Climate change is among the global challenges that need attention from every sector. It is a global problem of unprecedented scale, not only geographically but also in terms of multiple sectors and actors involved. Based on the latest global public opinion survey on climate change, 87% of the world's population thinks about climate change regularly

(United Nations Development Programme, 2024). The study by Tskipurishvili (2022) also explained that each of the last four decades has been consistently warmer than any preceding decade since 1850. Such a massive undertaking requires a comprehensive global cooperation.

One of the significant efforts in climate change mitigation is the energy transition. According to Yang et al. (2024), this transition effort will help prevent the substantial negative impacts of projected climate change on the ecological environment. Moving towards renewable energy usage is a global effort since we are experiencing the same crisis in terms of climate change. Governments and international organizations, including intergovernmental organizations at the regional level, have been formulating strategies and initiatives in the context of the energy transition. ASEAN, for example, is among the leading actors in the Southeast Asian region in configuring energy transition strategies and initiatives. ASEAN, as a regional intergovernmental organization, matters for two reasons. First, more than half of ASEAN Member States (AMS) still heavily rely on fossil fuels to power their industries and drive economic growth (Sony et al. 2024). Second, the Southeast Asia region is categorized as a vulnerable region due to the impacts of climate change, which may imperil its economy and population (Zarim & Sastry, 2024).

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This intense circumstance raises a question about how ASEAN, as a regional intergovernmental organization, responds to it. Precisely, the question this paper tries to answer in terms of ASEAN's capacity is to what extent reflexive governance has been applied in the context of its role in governing the energy transition in ASEAN. Despite numerous studies on the energy transition in ASEAN, most attention has been focused on the capacity of member states or their energy transition dynamics ([Johnstone, 2022](#); [Zhang, 2023](#); [Mu'min et al., 2024](#)). This paper will be structured as follows: in the subsequent section, a more comprehensive background on ASEAN's energy transition will be outlined, along with the reflexive governance principle that will serve as the analytical framework for this study. Then, the research method and how data will be collected are explained in the methodology section. The study's results will be discussed in the findings and discussion section. Lastly, the conclusion section will attempt to summarize the entire discussion, providing additional recommendations for further study on the related topic.

LITERATURE REVIEW

ASEAN Energy Transition

Treating the energy sector as a priority area in ASEAN is not a recent development. It started around 45 years ago, when the very first annual meeting of ASEAN Economic Ministers on Energy Cooperation (AEMEC) was held in Bali, Indonesia. Six years later, in 1986, all ASEAN leaders agreed to sign the ASEAN Energy Cooperation Agreement ([Johnstone, 2022](#)), marking the establishment of energy cooperation. Since then, the annual meeting of ministers on energy, which was held a few years later and is now called AMEM (ASEAN Ministers on Energy Meeting), has set the bar as the highest body in ASEAN in terms of policy-making for energy cooperation in the region. This is crucial because future steps in the energy sector will depend profoundly on policies created by AMEM. As for implementation, the ASEAN Plan of Action for Energy Cooperation (APAEC) has served as the primary guidance since 1999. In total, ASEAN has formulated four APAEC documents, each with a five-year time frame. The latest APAEC was created in 2015 and was outlined into two phases: 2016-2020 (Phase I) and 2021-2025 (Phase II).

The current study on the ASEAN energy transition pathway ([Safrina & Utama, 2023](#)) explains that the consequences of climate change for the region should serve as a reminder to strengthen the commitment to pursuing renewable sources for the regional energy supply. In terms of renewable energy, although the terminology "renewable energy" has emerged since the cooperation was established, it was not until 2015 that ASEAN set a specific target of 23% in the region's Total Primary Energy Supply (TPES) by 2025 ([ASEAN Centre for Energy, 2015b](#)). Several studies, such as those by [Fahim et al. \(2023\)](#) and [Pinjaman et al. \(2025\)](#), discussed a possible approach to reaching that specific target. Based on the analysis presented by [Overland et al. \(2021\)](#) in their article, the 23% target seemed reasonable, given that regional energy demand in renewable energy accounted for 15% in 2019. However, compared with other regions, ASEAN still falls behind.

Theoretical Framework: Reflexive Governance

The objective of this study is to assess how ASEAN, as a leading regional entity, has been governing the energy transition. The focus is not on each AMS capacity, as this area of study has been widely discussed, but it is on ASEAN as an institution. For this study, reflexive governance, as one of the emerging concepts in the context of sustainability studies, will be used. The definition of reflexive governance used in this paper is based on [Ferrari \(2020\)](#), which is defined as the ability to undergo complex processes of socio-technical change by developing innovative approaches from a participatory, probing, and collective learning perspective. Following this definition, to operationalize the concept, this paper summarizes previous studies on the implementation of

reflexive governance ([Feindt & Weiland, 2018](#); [Ferrari, 2020](#); [Radtke, 2025](#)), selecting certain suitable elements as indicators to analyze the ASEAN energy transition. Three indicators that will be used as analytical tools are institutional learning mechanisms, cross-sectoral participation, and cognitive and normative adaptability.

Two key factors make this concept particularly suitable for analyzing ASEAN as a regional organization within the context of the energy transition. First, considering the underlying issue in this paper is climate change, which has implications for constant changes, a more adaptive approach is necessary. As explained by [Bornemann et al. \(2025\)](#), reflexive governance involves shaping the epistemic foundations of governance and enabling reflexive approaches to uncertainty. The second reason is that reflexive governance emphasizes the continuity of learning and adaptation, as the energy transition is inherently dynamic and complex ([Radtke, 2025](#)). Relying on these key elements of reflexive governance, this paper will analyze how ASEAN has adapted to uncertainties within the transition process.

RESEARCH METHOD

This paper will employ a qualitative research method. The capacity of ASEAN will be analyzed using three indicators: institutional learning mechanisms, cross-sectoral participation, and cognitive and normative adaptability, under the concept of reflexive governance. Specifically, the chosen method is qualitative content analysis, allowing for in-depth observation. According to [Lyhne et al. \(2025\)](#), qualitative content analysis, which originated in the first half of the twentieth century, was primarily used to investigate the content of newspapers and draw out the dominant opinions in a society through mass media. To put it into context, it allows researcher to have a richer and more comprehensive interpretation of their data.

The data will be collected from primary sources, specifically the Joint Ministerial Statement (JMS), which serves as the official document from the annual convening of AMEM from 2015 to 2024. Another important official document that will be analyzed was APAEC 2016 – 2025, which was formulated to support the implementation of the 23% renewable energy target. The ASEAN Energy Outlook (4th–8th edition) will also be analyzed accordingly, as these documents are interrelated with AMEM. The time range considered for this paper is generally 2015 – 2025, as it encompasses the target escalation of RE in TPES, which was formulated in 2015. For the secondary data, we will obtain information from academic literature relevant to the context, as well as news from credible sources.

FINDINGS AND DISCUSSION

Institutional learning mechanism

In less than a month (from the time this paper was concluded), the 43rd ASEAN Ministers on Energy Meeting (AMEM) will be held in Kuala Lumpur. This meeting will be a crucial moment, as phase II of APAEC is also expected to conclude this year. In terms of how ASEAN, as an institution, governs the process, it can be assessed firstly through its institutional learning mechanism. Based on [Radtke \(2025\)](#), continuous learning for related actors and feedback loops are among the necessary elements that can be examined to facilitate reflexive governance. In the case of ASEAN, as it fulfills its target in RE, several mechanisms have been created to support the learning process for related actors. In 2016, the ASEAN Center for Energy (ACE) and Singapore's Nanyang Technological University collaborated on preliminary research and capacity-building activities related to ocean renewable energy development in the region through the Southeast Asian Collaboration for Ocean Renewable Energy (SEAcORE) program ([ASEAN, 2016](#)). Another collaboration related to the learning process in the context of renewable energy occurred in 2020 with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) through the ASEAN-

German Energy Programme (AGEP), which developed the FGD on the Nodal Network Framework of Research and Development on Renewable Energy in ASEAN.

In terms of feedback loops of policy implementation, collaborative programs with the International Energy Agency (IEA) have been reviewed annually in conjunction with AMEM. In 2019, for instance, they reviewed the extensive range of collaboration between them (ASEAN, 2019). Besides the IEA, ASEAN also strategically collaborates with the International Renewable Energy Agency (IRENA). Since 2017, their annual discussions have been held alongside AMEM, which extensively discusses global trends that might affect the implementation of ASEAN policies in renewable energy. In 2021, for instance, the discussion highlighted the perspective presented by IRENA's World Energy Transition Outlook, which emphasized the need to accelerate the global energy transition in order to align with the Paris Agreement's objective of limiting the global temperature rise to 1.5°C (ASEAN, 2021).

Cross-sectoral participation

Following the explanation of reflexive governance by Feindt and Weiland (2018), this type of governance can occur when institutional and procedural arrangements involve actors from various levels of governance and/or different epistemic backgrounds and practical contexts. In this context, ASEAN can be considered to have the capacity to do so. The next question that might arise is who the relevant actors were who have been involved in renewable energy efforts, and how ASEAN engaged them in the policymaking process and implementation. In the Joint Ministerial Statement of the 33rd–42nd AMEM, specifically in the context of renewable energy, approximately 16 different external actors are involved along the way. In 2022, the Joint Statement of the 40th AMEM acknowledged those international organizations and dialogue partners who have been helping in the context of renewable energy policy and capacity building such as GIZ, National Science and Technology Development Agency, (NSTDA) of Thailand, Ministry of Economy, Trade and Industry (METI) of Japan, China Renewable Energy Engineering Institute (CREEI), Energy Foundation China (EFC), the Energy and Resource and Institute of India (TERI) (ASEAN, 2022).

Moreover, in relation to how ASEAN invited multiple actors to participate actively, another example is when IRENA and IEA were invited to AMEM. Usually, the discussion between them took place during a separate meeting, which was still in conjunction with AMEM. However, during the 36th and 37th AMEM, both institutions invited full attendance during AMEM (ASEAN, 2018; ASEAN, 2019). Inserting a collaborative notion into this policymaking process, in line with what De Schutter and Lenoble (2010) stated, who explained that in reflexive governance settings, interactions are deliberately shaped to enable the development of knowledge, novel perspectives, and a shared understanding of the common interest that transcends contingent particular interests.

Cognitive and normative adaptability

As defined by Feindt and Weiland (2018), reflexive governance occurs in an effort to reflect on and possibly adapt their cognitive and normative beliefs. To put it into context, it is not just about adjusting policies, but also about the fundamental value of why specific actions should be taken. In 2015, the 33rd AMEM began by stating that energy sustainability is necessary due to rising energy demand against the backdrop of declining oil prices and amid a volatile geopolitical situation in the Middle East (ASEAN, 2015). There was no underlying reason in relation to the climate change crisis at that time. However, it has undergone gradual changes.

In 2016, the importance of the Paris Agreement was mentioned in explaining the urgency to run the new ASEAN Plan of Action on Energy Cooperation (APAEC) 2016-2025 Phase 1 (2016-2020) vigorously. Regarding the alteration of the underlying cause of renewable energy efforts, it was also stated that it initially focused on policies to reduce oil consumption, but later expanded to

include policies that mitigate the environmental impacts of fossil fuel use, including the potential effects of climate change (ASEAN Centre for Energy, 2015a). Based on the strategic framework, ASEAN adjusted the theme for APAEC II, emphasizing the importance of energy transition. The general theme for both phases was “Enhancing Energy Connectivity and Market Integration in ASEAN to Achieve Energy Security, Accessibility, Affordability and Sustainability for All”. However, for the second phase, a sub-theme was added: “Accelerating Energy Transition and Strengthening Energy Resilience through Greater Innovation and Cooperation” (ASEAN Centre for Energy, 2020).

CONCLUSIONS

This paper presents an assessment of ASEAN capacity in the context of renewable energy policies through the lens of reflexive governance. In answering the question of the extent to which ASEAN has played its role, it can be concluded that ASEAN does have the capacity to implement the reflexive governance moderately. Each indicator in the previous section aligns with ASEAN practices, and it can be argued that its continuity would be valuable for ASEAN in addressing climate change issues, which are characterized by constant changes. However, in answering whether this practice is the most pivotal element in achieving 23% target of renewable energy by this year, will still be debatable because in 2022, the share of renewable energy (RE) in the TPES comprised only 15.6% of the total supply in 2022, a modest rise from 15.4% in the previous year (ASEAN Centre for Energy, 2024). For continuous learning, as suggested by the reflexive governance concept, a comparative study with other intergovernmental organizations would be beneficial for assessing the contributing factors in attaining renewable energy goals in the context of climate change.

LIMITATIONS & FURTHER RESEARCH

This study has a few limitations, particularly in terms of how ASEAN’s practices influence the process of achieving renewable energy targets in the region. First, in terms of methodology, this study focuses solely on a specific time range, which may not provide a solid basis for concluding the effectiveness of ASEAN in governing renewable energy efforts as a whole. Second, in terms of data collection, this study specifically focuses on the targeted official documents of ASEAN, such as the JMS, APAEC, and ASEAN Energy Outlook, which may not fully capture the complexity behind their processes, making them potentially fruitful for further in-depth analysis. Considering these limitations, for learning continuity, as suggested by the reflexive governance concept, a wider or different scope of data collection and a more extended time range might provide stronger evidence on how reflexive governance plays its role in ASEAN’s renewable energy context. Furthermore, a comparative study with other intergovernmental organizations, using the same analytical framework, would also be beneficial for assessing the contributing factors in achieving renewable energy goals in the context of climate change.

REFERENCES

- ASEAN Centre for Energy. (2015a, December 23). *(2016-2025) ASEAN Plan of Action for Energy Cooperation (APAEC) Phase I* [Publication]. <https://aseanenergy.org/publications/2016-2025-asean-plan-of-action-for-energy-cooperation-apaec/>
- ASEAN Centre for Energy. (2015b, December 31). *The 4th ASEAN Energy Outlook 2013-2035* [Report]. <https://aseanenergy.org/publications/the-4th-asean-energy-outlook/>
- ASEAN Centre for Energy. (2020, November 23). *(2016-2025) ASEAN Plan of Action for Energy Cooperation (APAEC) Phase II* [Publication]. <https://aseanenergy.org/publications/asean-plan-of-action-for-energy-cooperation-apaec-phase-ii-2021-2025/>
- ASEAN Centre for Energy. (2024, September 26). *8th ASEAN Energy Outlook*.

- <https://aseanenergy.org/publications/the-8th-asean-energy-outlook/>
- ASEAN. (2015, October 8). *Joint Ministerial Statement: The Thirty-Third ASEAN Ministers on Energy Meeting* (33rd AMEM). <https://asean.org/joint-ministerial-statement-the-thirty-third-asean-ministers-on-energy-meeting/>
- ASEAN. (2016, September 23). *Joint Ministerial Statement: The Thirty-Fourth ASEAN Ministers on Energy Meeting* (34th AMEM). <https://asean.org/joint-ministerial-statement-of-the-34th-asean-ministers-on-energy-meeting-amem/>
- ASEAN. (2018, October 2). *Joint Ministerial Statement: The Thirty-Sixth ASEAN Ministers on Energy Meeting* (36th AMEM). <https://asean.org/speechandstatement/joint-ministerial-statement-of-the-36th-asean-ministers-on-energy-meeting/>
- ASEAN. (2019, September 5). *Joint Ministerial Statement: The Thirty-Seventh ASEAN Ministers on Energy Meeting* (37th AMEM). <https://asean.org/joint-ministerial-statement-of-the-37th-asean-ministers-on-energy-meeting/>
- ASEAN. (2021, September 16). *Joint Ministerial Statement: The Thirty-Ninth ASEAN Ministers on Energy Meeting* (39th AMEM). <https://asean.org/joint-ministerial-statement-of-the-39th-asean-ministers-on-energy-meeting/>
- ASEAN. (2022, September 16). *Joint Ministerial Statement: The Fortynth ASEAN Ministers on Energy Meeting* (40th AMEM). <https://asean.org/joint-ministerial-statement-of-the-40th-asean-ministers-on-energy-meeting/>
- Bornemann, B., Christen, M., & Burger, P. (2025). The Sustainable State: A Meta-Governance Framework. *Environmental Politics* 34(2), 344–366. <https://doi.org/10.1080/09644016.2024.2369015>
- Fahim, K. E., De Silva, L. C., Hussain, F., Shezan, S. A., & Yassin, H. (2023). An Evaluation of ASEAN Renewable Energy Path to Carbon Neutrality. *Sustainability (Switzerland)*, 15(8). <https://doi.org/10.3390/su15086961>
- Feindt, P. H. & Weiland, S. (2018). Reflexive Governance: Exploring the Concept and Assessing Its Critical Potential for Sustainable Development. Introduction to the Special Issue. *Journal of Environmental Policy and Planning*, 20(6), 661–674. <https://doi.org/10.1080/1523908X.2018.1532562>
- Ferrari, M. (2020). Reflexive Governance for Infrastructure Resilience and Sustainability. *Sustainability (Switzerland)*, 12(23), 1–8. <https://doi.org/10.3390/su122310224>
- Johnstone, I. (2022). Governance of the Energy Transition in the ASEAN: Current Status and Future Potential. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.4291916>
- Lyhne, C. N., Thisted, J., & Bjerrum, M. (2025). Qualitative Content Analysis–Framing the Analytical Process of Inductive Content Analysis to Develop a Sound Study Design. *Quality and Quantity*. <https://doi.org/10.1007/s11135-025-02220-9>
- Mu'min, M. S., Yaqin, M., & Anam, M. S. (2024). Does Energy Transition Matter to Sustainable Development in ASEAN? *International Journal of Renewable Energy Development*, 13(2), 191–205. <https://doi.org/10.61435/ijred.2024.59544>
- Overland, I., Sagbakken, H. F., Chan, H. Y., Merdekawati, M., Suryadi, B., Utama, N. A., & Vakulchuk, R. (2021). The ASEAN Climate and Energy Paradox. *Energy and Climate Change*, 2, 100019. <https://doi.org/10.1016/j.egycc.2020.100019>
- Pinjaman, S., Tee, M., Yun, W. S., Surianshah, S., Kuncoro, H., Lu, L., & Ling, Z. (2025). The Impact of Governance, Innovation, and Macroeconomic Factors on Renewable Energy Generation in ASEAN: A Bayesian Approach. *Cogent Economics and Finance*, 13(1). <https://doi.org/10.1080/23322039.2025.2535489>
- Radtke, J. (2025). Understanding the Complexity of Governing Energy Transitions: Introducing an Integrated Approach of Policy and Transition Perspectives. *Environmental Policy and*

- Governance*, 35(4), 595–614. <https://doi.org/10.1002/eet.2158>
- Safrina, R. & Utama, N. A. (2023). ASEAN Energy Transition Pathway Toward the 2030 Agenda. *Environmental Progress and Sustainable Energy*, 42(4). <https://doi.org/10.1002/ep.14101>
- De Schutter, O., & Lenoble, J. (Eds.). (2010). *Reflexive Governance: Redefining the Public Interest in a Pluralistic World*. Bloomsbury Publishing.
- Sony, A., Nachrowi, N. D., & Hartono, D. (2024). Does Energy Transition Lead to an Enhancement in Energy Security? The case of Six ASEAN Countries. *International Energy Journal*, 24(1).
- Tskipurishvili, A. (2022, February 10). *New Climate Diplomacy under the Paris Climate Agreement* (GGPB No. 1/2022). Geneva Global Policy Briefs. <https://www.meig.ch/ggpb-n1-2022-new-climate-diplomacy-under-the-paris-climate-agreement/>
- United Nations Development Programme. (2024, June 27). *The World's Largest Survey on Climate Change is Out – Here's What the Results Show*. Retrieved on August 14, 2025 from <https://climatepromise.undp.org/news-and-stories/worlds-largest-survey-climate-change-out-heres-what-results-show>
- Yang, Y., Xia, S., Huang, P., & Qian, J. (2024). Energy Transition: Connotations, Mechanisms and Effects. *Energy Strategy Reviews*, 52, 101320. <https://doi.org/10.1016/j.esr.2024.101320>
- Zarim, A. and Sastry, A. (2024). *How to Achieve a Just and Responsible Energy Transition in ASEAN*. World Economic Forum. <https://www.weforum.org/stories/2024/01/how-to-achieve-a-just-responsible-energy-transition-asean/>
- Zhang, Y. (2023). RETRACTED ARTICLE: Energy Transition in Southeast Asian Countries: Is There a Role for Governance at Country Level? *Environmental Science and Pollution Research*, 30(16), 48460–48470. <https://doi.org/10.1007/s11356-023-25290-4>