

# Navigating energy and climate justice in Southeast Asia: perspectives and pathways

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*Abstract:* This research explores the multi-faceted challenges and opportunities of achieving climate and energy justice in Southeast Asia, particularly in ASEAN. By examining three distinct yet interrelated studies, it provides a comprehensive account of energy access development that intertwines regional electrification strategies, localised energy solutions in the Philippines, and an in-depth analysis of just transitions in Indonesia, Malaysia, the Philippines, and Vietnam. The research presented here delves into the complex dynamics of electrification efforts, showcasing the role of diverse stakeholders, the importance of contextually grounded business models, and the implications of socio-political factors on climate justice, energy justice, energy access and sustainability. Emphasis here is on the need for an integrative approach to energy policy that considers not only technological innovation but also the social, economic, and cultural dimensions of sustainable development. The findings presented herein offer significant insights into the pursuit of equitable and sustainable energy access in Southeast Asia, highlighting the region's unique challenges and opportunities in the global context of climate change and sustainable development.

*Keywords:* ASEAN, climate justice, energy justice, just transitions, energy access

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## **1. Introduction**

Global commitment to Net Zero and achieving the United Nations' Sustainable Development Goals (SDGs) has brought the role of energy in driving global development sharply into focus. This special issue zeroes in on Southeast Asia within the broader Asia-Pacific context, a region where the challenges of electrification are as diverse as its geography, comprising unconnected islands, sprawling archipelagos, and extensive rural landscapes. The escalating urgency of addressing climate change and advancing sustainability is underscored by recent global challenges, emphasising the critical role of electricity and internet access in remote areas for enhancing public health and fostering societal resilience. This necessity highlights the interconnectedness of environmental stewardship, technological access, and community well-being, particularly in the context of sustainable development.

The articles that follow collectively explore the complex interplay of energy access, justice, and climate imperatives in Southeast Asia, shedding light on the transformative potential of innovative electrification strategies and new policy solutions being employed in the region. These alternative approaches represent both hope and innovation in a region where traditional grid connections and physical and governance electricity infrastructure have faltered due to high costs, complex geography, and remote locations.

In this special issue, we bring together three papers that explore the multi-faceted challenges and opportunities of achieving climate and energy justice in Southeast Asia. Firstly, 'Rural electrification efforts from the perspective of ASEAN Energy Awards' by Monika Merdekawati, Beni Suryadi, Veronica Ayu Pangestika, and Zahrah Zafira from the ASEAN Centre for Energy, delves into the regional energy landscape, providing a macro-level view of ASEAN's journey towards sustainable electrification. This sets the stage for the second paper, 'Empowering rural electrification in the Philippines: a case study' by Isidro Antonio III Marfori, Alvin B. Culaba, and Aristotle T. Ubando, which offers a micro-level exploration, highlighting the nuances and impacts of rural electrification initiatives in the Philippines. The third paper, 'Research overview and outcomes: just transitions to decarbonisation in the Asia-Pacific' by Clare Richardson-Barlow and Nofri Dahlan, bridges these perspectives, presenting comprehensive research findings that underscore the complexity of just transitions in the region by highlighting four distinct country experiences in Indonesia, Malaysia, the Philippines, and Vietnam. Together, these papers present a narrative that underscores the critical need for inclusive, equitable, and sustainable approaches to energy access and climate action. They collectively emphasise the importance of local contexts, stakeholder engagement, and innovative business models in driving forward the region's energy transition, while

ensuring that this transition is aligned with the global objectives of climate change mitigation and sustainable development.

## **2. Contextualising the energy challenge in Southeast Asia**

Southeast Asia stands at a critical juncture, grappling with the dual challenge of expanding energy access while transitioning to cleaner energy sources. Investments in off-grid rural electrification, particularly through renewable microgrids, are key to achieving SDG 7 and SDG 13, combating climate change (UN 2023). The region's diverse cultural, economic, and political systems add layers of complexity to these efforts. This issue highlights how Distributed Energy Systems (DESs), especially in rural and off-grid settings, are not just about technological innovation but are deeply intertwined with social, economic, and governance dimensions.

The journey towards sustainable energy futures in Southeast Asia is not straightforward. It encompasses the development of viable business models that balance technical efficiency with social equity, the navigation of political and cultural landscapes, and the pursuit of environmental sustainability. This special issue serves as a guide, taking readers through a multi-disciplinary exploration of energy justice, governance, policy implications, and the practical realities of electrification in this diverse and dynamic subregion.

### **2.1 Bridging climate and energy justice with electrification in the Global South**

Climate and energy justice are critical frameworks for understanding the multi-faceted challenges of electrification in the Global South. These concepts go beyond mere access to energy; they delve into the equitable distribution of energy resources, the recognition of diverse needs and vulnerabilities, and the procedural fairness in energy decision-making processes (McCauley *et al.* 2013). As the world grapples with escalating climate change, these justice frameworks become instrumental in guiding ethical and equitable responses, especially in regions most acutely affected by climate impacts and energy poverty (Setyowati 2021).

In the Global South, the interplay of climate change and electrification presents a unique set of challenges. Climate change exacerbates existing vulnerabilities, particularly for communities already facing energy poverty. Frequent extreme weather events, such as droughts and floods, disrupt traditional livelihoods, making access to reliable energy sources not just a matter of convenience but of survival. In Southeast Asia these impacts are felt acutely across the subregion (ACE 2023). Electrification, therefore, is not only about lighting homes; it is about powering

sustainable development, enhancing resilience to climate impacts, and enabling communities to adapt to changing environmental conditions (Anantharajah & Setyowati 2022).

## **2.2 Justice, electrification efforts, and global responsibilities**

Energy justice in the Global South calls for a nuanced approach that considers the local socio-economic and cultural contexts. This means acknowledging that energy needs vary significantly across different communities. For example, electrification efforts must be sensitive to the local landscape, ensuring that renewable energy projects do not usurp land needed for agriculture or disrupt local ecosystems. The focus should be on empowering communities, offering them agency in shaping their energy futures.

Climate justice brings to the forefront the responsibilities of developed nations in supporting the Global South's transition to sustainable electrification. Given that developed countries have historically contributed the most to global greenhouse gas emissions, there is a moral imperative to aid less affluent nations in adopting green technologies. This support should not be seen as mere charity but as a crucial step in rectifying historical inequities and mitigating global climate change (Defermos 2023).

The pursuit of climate and energy justice in the context of electrification in the Global South calls for a collaborative approach, engaging local communities, governments, non-governmental organisations (NGOs), and international bodies. Policies and initiatives must be grounded in the principles of fairness, recognising the varying capabilities and needs of different regions. A just transition to a sustainable energy future necessitates not only technological advancements but also socio-economic transformations that uplift and empower the most vulnerable populations.

### **3. 'Expanding electricity access in ASEAN: an examination of the transition' by Monika Merdekawati, Beni Suryadi, Veronica Ayu Pangestika, and Zahrah Zafira**

The insightful piece from the Association of Southeast Asian Nations (ASEAN) Centre for Energy (ACE) provides a comprehensive overview of the electricity access landscape in the ASEAN region. Exploring the ongoing transitions, this article illuminates the endeavours of rural electrification within the context of the ASEAN Energy Awards. It explores the roles of stakeholders, measures the effects,

and facilitates mutual learning among member nations. By examining sixty-two project submissions and winners from 2010 to 2023, the research delves into three principal domains: 1) trend analysis and stakeholder mapping, 2) technologies, and 3) impacts of projects. The analysis is pivotal in understanding the region's progress against the backdrop of Sustainable Development Goals and climate commitments and highlights the role of the ASEAN in supporting this ongoing work.

### **3.1 Key findings**

The findings from this review highlight the shift from traditional government-led initiatives to more diverse actors, including universities, private enterprises, and community groups. The prevalent use of technologies like solar PV (photovoltaics) and micro-hydropower and their cost-effectiveness are noted. This article underscores a dynamic landscape of rural electrification with emerging opportunities for private sector involvement and community-driven solutions, aligning with sustainable development goals and climate commitments in the region.

- i. **Rural electrification policies:** This study identifies that rural electrification is supported by specific policy measures in eight ASEAN member states, with Thailand, the Philippines, and Vietnam achieving complete electrification by 2023.
- ii. **Role of government:** The authors underline that electrification initiatives, particularly in remote rural areas with considerable distance from urban centres or challenging geography, are typically expensive and labour intensive. As a result, these tasks are commonly assigned to state actors, such as government agencies or state-owned corporations.
- iii. **Emergence of non-state actors:** Analysing submissions to the ASEAN Energy Awards, the authors find that, while governments and organisations are active in rural electrification, more grassroots efforts from universities, businesses, non-profits, and communities are becoming important.
- iv. **Trends in technologies:** Analysis delves into the prevalence of technologies such as solar PV and micro-hydropower, uncovering patterns in installed capacity and cost-effectiveness, with most projects costing below US\$100,000.
- v. **Quality of electrification:** By employing the 'Tier 3' standard of 'Multi-Tier Framework for Measuring Household Electricity Access' to evaluate the projects, the authors discover that most projects have the capacity to provide electricity to fewer than one hundred households.

#### 4. 'Empowering rural electrification in the Philippines: a case study' by Isidro Antonio III Marfori, Alvin B. Culaba, and Aristotle T. Ubando

This paper explores the effectiveness of micro-hydropower (MHP) in rural Philippine communities. Marfori *et al.*'s research showcases two case studies, Parina and Timodos, demonstrating the positive impacts of MHP on health, education, income, and environmental conservation. This research highlights the significance of community involvement, the role of women, and the socio-economic benefits from MHP projects, noting the importance of community participation, capacity building, and appropriate technology for the success and sustainability of rural electrification projects.

##### 4.1 Key findings

Marfori *et al.*'s case studies on the Philippines highlight the nuances of rural electrification in the Southeast Asian context. Through an in-depth exploration of local initiatives and policies, this research sheds light on how rural communities are harnessing innovative strategies to overcome electrification challenges. These findings are a testament to the potential of localised solutions in addressing broader energy justice issues, supporting the findings of the subsequent article by Richardson-Barlow and Dahlan.

- i. **Community–NGO–state synergy:** The study highlights that the success of rural electrification through micro-hydropower depends not only on technical aspects but also on social, governmental, and community factors. This is evidenced by the case study of the Parina and Timodos MHP project.
- ii. **Community participation:** the authors emphasise the importance of community involvement to foster a sense of ownership over an MHP project. Residents participated in identification of the sources of micro-hydropower, identification of the riparian zones and critical areas in the watershed, conduct of site surveys, finalisation of designs, construction of hydropower, preparation and implementation of watershed protection, operation, and maintenance.
- iii. **Role of women:** The study identifies that more women are now participating in varying roles in an MHP project. This is demonstrated by the recognition and support of women in various roles, as the majority of members in the Operation and Maintenance Team are women.
- iv. **Community benefits:** The findings highlight the ways in which the community gained from the micro-hydropower project in terms of socioeconomics, health, education, and the environment.

## **5. ‘Research overview and outcomes: just transitions to decarbonisation in the Asia-Pacific’ by Clare Richardson-Barlow and Nofri Dahlan**

The article by Richardson-Barlow and Dahlan offers a comprehensive synthesis of research outcomes concerning just transitions in the Asia-Pacific subregion of Southeast Asia. Their collaborative work, funded by the British Academy, navigates the complex interplay between decarbonisation strategies and energy justice, underscoring the need for equitable approaches in the face of global climate targets. The research revolves around in-depth case studies from Indonesia, Malaysia, the Philippines, and Vietnam. These nations were selected for their shared characteristics, including ASEAN membership, similar energy goals, and unique geographical challenges due to remote and island communities. These case studies offer insights into the diverse cultural, economic, and political systems within the region, making them valuable for understanding broader patterns in Southeast Asia.

This research and its findings are particularly pertinent to the Global South, where the impact of climate change and the necessity for sustainable energy solutions are most pressing. The resulting article makes a compelling case for the need to address electrification and climate change challenges in Southeast Asia through a lens of justice and equity. It argues that understanding and integrating local needs, cultural contexts, and sustainable business models are crucial for a just transition in the region. The insights from this research are critical for policymakers and stakeholders in designing and implementing energy policies that are not only environmentally sustainable but also socially equitable and beneficial for local communities in the Global South.

### **5.1 Key findings**

- i. **Energy access and diversified systems:** This research identifies the critical role of diversified energy systems in achieving energy access goals. It notes the potential for renewable energy utilisation in these countries, despite geographical challenges.
- ii. **Influence of local and cultural contexts:** The research emphasises how local contexts influence energy justice. The case studies in Indonesia, Malaysia, the Philippines, and Vietnam demonstrate that local community engagement and understanding cultural nuances are vital for the success of DES energy projects.



- iii. **Variability in energy justice perception:** The key findings highlight how perceptions of energy justice vary across the region, often differing from Western academic notions. This points to the need for an energy justice framework that is adaptable to local and cultural contexts in Southeast Asia.
- iv. **Role of distributed energy systems (DEs):** This research also underlines the importance of DEs in rural electrification, particularly in off-grid areas. These systems are presented as a key solution for enhancing energy access in remote areas of the Global South.
- v. **Public–NGO–state synergy:** A significant outcome is the identification of successful partnerships between publicly funded NGOs, state bodies, and civil society. These collaborations are essential for the sustainability and local economic impact of energy projects.
- vi. **Just transition framework:** The research integrates a just transition framework, advocating for equitable and inclusive approaches in moving towards renewable energy. This includes consideration of local workforces, community benefits, and cultural sensitivities.

The research of Richardson-Barlow, Dahlan, and their co-investigators Dr Donal Brown and Dr James Van Alstine, contributes significantly to the discourse on sustainable and just energy transitions in Southeast Asia. It provides a nuanced understanding of the complexities involved in rural electrification, energy justice, and the broader implications for climate change mitigation in the region. The findings and recommendations of this study are instrumental in guiding future efforts towards equitable and sustainable energy access in the Global South.

## **6. Integrating social sciences and humanities perspectives in just transitions**

The articles in this special issue not only provide empirical findings and policy analyses but also offer rich insights from the social sciences and humanities, crucial for understanding just transitions in the Asia-Pacific region. These perspectives help us grasp the nuanced human and societal impacts of energy and climate policies, going beyond mere technical and economic considerations.

- i. **Understanding local contexts and stakeholder dynamics:** The paper by Merdekawati *et al.* from the ASEAN Centre for Energy delves into the intricate dynamics of stakeholder engagement in rural electrification. This research underscores the importance of understanding local socio-political contexts and the role of various actors—from governments to grassroots communities—in



shaping energy access. It reflects on how energy justice is not just a concept of equitable resource distribution, but also involves recognising and respecting the diverse needs and voices of different communities.

- ii. **Community engagement and empowerment:** Marfori *et al.*'s work on micro-hydropower in the Philippines exemplifies the critical role of community engagement and empowerment in rural electrification. It highlights the social dimensions of energy projects, such as the participation and agency of local communities, and especially the evolving role of women. This paper illustrates how energy projects can be more than infrastructure developments; they can be catalysts for social change, community building, and gender equality.
- iii. **Navigating the complexities of just transitions:** The paper by Richardson-Barlow and Dahlan bridges these perspectives, offering a comprehensive view of just transitions in Southeast Asia. By examining case studies from four different countries, this research brings to light the complexities of aligning energy access with climate and sustainability goals in diverse political and cultural settings. It shows that just transitions are not merely about technological shifts but involve deep-seated changes in societal structures, economic systems, and cultural norms.

In synthesising these insights, this special issue contributes significantly to the discourse on just transitions, particularly in the context of Southeast Asia. It highlights that achieving sustainable and equitable energy access in the face of climate change is not only a technical challenge but also a deeply social and human endeavour. The papers collectively emphasise the need for policies and interventions that are sensitive to local contexts, inclusive of diverse stakeholders, and aligned with broader societal goals.

By integrating these social science and humanities perspectives, this special issue not only enriches our understanding of just transitions in the Asia-Pacific but also underscores the need for a holistic approach that considers the human dimensions of energy and climate justice. It serves as a vital resource for policymakers, practitioners, and researchers, offering pathways to navigate the complex interplay of technology, society, and environment in the pursuit of a sustainable and just energy future.

## 7. Conclusion: charting a path forward in climate and energy justice

This special issue, ‘Navigating energy and climate justice in Southeast Asia: perspectives and pathways’, underscores the urgent need to address climate and energy justice in a region poised at the frontline of climate change. Southeast Asia’s unique blend of rapid economic growth, cultural diversity, and environmental vulnerabilities places it at a crucial intersection in the global quest for sustainable energy transitions.

The articles presented herein transcend traditional academic discourse, offering invaluable insights for policymakers, practitioners, and stakeholders. By weaving together empirical research with social sciences and humanities perspectives, this issue illuminates the human and societal dimensions of energy and climate policies. It underscores the necessity of inclusive and just energy strategies that are attuned not only to technological and economic imperatives but also to the social, cultural, and ethical facets of sustainable development.

Key takeaways from this collection include the importance of understanding local contexts and stakeholder dynamics, the empowerment of communities through engagement in energy projects, and the complexity of navigating just transitions in diverse political and cultural landscapes. These insights highlight the imperative of policies and interventions that are sensitive to local nuances, inclusive of diverse voices, and aligned with broader societal goals.

This special issue thus represents a call to action for concerted efforts towards sustainable and just energy futures in Southeast Asia. It invites a critical, collaborative, and forward-looking dialogue on climate and energy justice, urging a holistic approach that integrates technological innovation with social equity and environmental stewardship. As we confront the challenges of climate change and strive to meet global commitments such as the Paris Agreement, the insights from this collection serve as a guiding light, charting a path forward in the pursuit of a sustainable and just energy future for Southeast Asia and beyond.

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## References

- ACE (ASEAN Centre for Energy) (2023), 'Outlook on ASEAN Energy 2023'. <https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&cad=rja&uact=8&ved=2ahUKEwi-pNeynum-DAXWQEEAHdKvBbUQFnoECBsQAQ&url=https%3A%2F%2Faseanenergy.org%2Foutlook-on-asean-energy-2023%2F&usg=AOvVaw13E3hGO7I5EOZbGRLYyZ-kU&opi=89978449>
- Anantharajah, K. & Setyowati, A.B. (2022), 'Beyond Promises: Realities of Climate Finance Justice and Energy Transitions in Asia and the Pacific', *Energy Research & Social Science*, 89: 102550. <https://doi.org/10.1016/j.erss.2022.102550>
- Defermos, Y. (2023), 'Towards a Climate Just Financial System', Working Paper, SOAS Department of Economics, <https://www.soas.ac.uk/sites/default/files/2023-06/economics-wp259.pdf>
- McCaughey, D., Heffron, R., Stephan, H. & Jenkins, K.E.H (2013), 'Advancing Energy Justice: The Triumvirate of Tenets and Systems Thinking', *International Energy Law Review*, 32(3): 107–16.
- Setyowati, A.B. (2021), 'Mitigating Inequality with Emissions? Exploring Energy Justice and Financing Transitions to Low Carbon Energy in Indonesia', *Energy Research & Social Science*, 71: 101817. <https://doi.org/10.1016/j.erss.2020.101817>.
- UN (United Nations) (2023), 'The Sustainable Development Goals Report 2023: Special Edition'. <https://unstats.un.org/sdgs/report/2023/>

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