Gunung Djati Conference Series, Volume 61 (2025)
International Conference of the 17th OISAA's International Symposium Türkiye
ISSN: 2774-6585
Website: https://conferences.uinsgd.ac.id/

The Strategic Role of The Indonesian Diaspora in Supporting a Just Energy Transition: Education, Technology, and Ethics within a Post-Normal Science Framework

Arzqilail Muhammad Nadzara
Al-Azhar University, Cairo
**Email:* arzqilail@gmail.com

Abstract

Environmental degradation from fossil fuels has triggered a global climate crisis, making a just energy transition imperative. Indonesia, with vast renewable energy potential, faces significant challenges in realizing this transition. This study examines the strategic role of the Indonesian diaspora in advancing a just energy transition through collaboration in education, renewable energy technology transfer, and environmental ethics. Using a qualitative–descriptive approach, the research integrates Post-Normal Science and Tactical Diaspora frameworks and analyzes secondary data from scientific journals, policy documents, international reports, and credible media. The findings show that diaspora communities act as knowledge mediators and ethical agents by facilitating curriculum reform in sustainability education, supporting renewable energy technology co-development and pilot projects, and promoting justice-oriented environmental norms. The study proposes diaspora-driven initiatives such as digital education platforms, community-based green pilot projects, and participatory climate financing to enhance inclusivity and justice in the transition process. These contributions underscore the diaspora's capacity to bridge global expertise with local needs, ensuring Indonesia's energy transformation proceeds equitably and inclusively while minimizing socio-economic disparities and advancing climate justice. This study contributes theoretically by linking Post-Normal Science and Tactical Diaspora frameworks.

Keywords: *climate crisis, diaspora, environmental ethics, just energy transition, post-normal science*

1. INTRODUCTION

The global climate crisis, driven primarily by fossil fuel combustion and land-use change, has intensified debates on the urgency of transforming energy systems. The concept of a just energy transition emphasizes that decarbonization must not only be technologically feasible and economically viable, but also socially fair and attentive to vulnerable communities. In many countries, including Indonesia, climate and energy policies are increasingly evaluated not only in terms of emissions reductions, but also their distributional impacts on workers, low-income households, and marginalized regions.

Indonesia occupies a paradoxical position. On the one hand, it possesses abundant renewable energy resources—solar, wind, geothermal, hydro, and biomass—alongside a young population and rapid digitalization that could support accelerated decarbonization.

ISSN: 2774-6585
Website: https://conferences.uinsgd.ac.id/

On the other hand, it remains heavily dependent on coal for power generation, faces financial and institutional constraints, and is navigating the complex implementation of the Just Energy Transition Partnership (JETP) and net-zero commitments. These tensions create a "post-normal" condition in which facts are uncertain, values are contested, stakes are high, and decisions are urgent.

Within this context, the Indonesian diaspora emerges as a potentially strategic yet underutilized actor. Indonesian professionals, researchers, students, and activists residing abroad are embedded in global knowledge networks, universities, international organizations, and clean-tech industries. Beyond remittances, they possess scientific, technological, and normative resources that can contribute to Indonesia's energy transition. However, much of the existing literature on just energy transitions and Indonesian energy policy tends to focus on domestic governance, financing, technology choices, or macroeconomic implications, with limited attention to transnational actors such as diaspora communities.

This study addresses that gap by analyzing the strategic role of the Indonesian diaspora in supporting a just energy transition through three interrelated domains: education, technology, and ethics. Conceptually, it brings together Post-Normal Science (PNS)—which highlights the importance of extended peer communities in situations of uncertainty—and Tactical Diaspora, which conceptualizes diaspora as strategic, networked actors that mobilize knowledge, resources, and influence across borders. By integrating these two frameworks, the article explores how diaspora can function as part of an extended peer community that co-produces knowledge and shapes policy and practice in Indonesia's energy transition.

The objectives of this study are threefold: (1) to map and analyze the contributions of Indonesian diaspora in education, technology, and ethical discourse relevant to just energy transition; (2) to identify key barriers that limit diaspora engagement; and (3) to derive theoretical and practical implications for strengthening diaspora-based collaboration in Indonesia's energy and climate governance.

2. RESEARCH METHODS

This study employs a qualitative–descriptive research design to explore the strategic role of the Indonesian diaspora in supporting a just energy transition. A qualitative–descriptive approach is appropriate because the study seeks to generate nuanced, context-rich interpretations rather than test hypotheses or estimate causal effects. The research is based entirely on secondary data, which allows systematic re-interpretation of existing materials relevant to diaspora engagement, energy transition policy, and justice-oriented environmental governance.

2.1. Data Sources and Sampling

The primary data sources include policy documents, national and international reports, peer-reviewed journal articles, working papers, institutional briefs, and reputable news

media. These encompass international assessments on climate and energy, national plans and regulations, diaspora-related policy initiatives, and academic analyses of Post-Normal Science and diaspora politics. Documents were selected through purposive sampling, guided by three inclusion criteria: (1) substantive focus on Indonesia's energy transition and/or just transition; (2) explicit mention of diaspora, transnational knowledge, or external experts; and (3) relevance to at least one of the three analytical domains: education, technology, or ethics.

The temporal scope concentrates on the period 2018–2025, capturing recent developments such as Indonesia's net-zero and JETP commitments, reforms in the power sector, and intensified discourse on just transition. Classic foundational texts on Post-Normal Science and diaspora theory are also included regardless of year due to their enduring theoretical importance.

2.2. Analytical Framework and Procedure

The analysis is structured by integrating Post-Normal Science and Tactical Diaspora frameworks. Post-Normal Science emphasizes the need for extended peer communities in contexts where scientific uncertainty, value disputes, and high stakes co-exist. Tactical Diaspora frameworks conceptualize diasporas as dynamic, strategic actors who mobilize knowledge, networks, and resources in response to political opportunities and constraints. Together, these frameworks guide the identification of diaspora roles as knowledge mediators, boundary-spanners, ethical advocates, and policy brokers in Indonesia's just energy transition.

Data collection followed a systematic desk-research procedure. Bilingual search strings (English and Bahasa Indonesia) were used to identify relevant documents in academic databases, institutional websites, and policy repositories. Documents that met the inclusion criteria were organized into a reference library and coded according to source type, sectoral focus, and diaspora involvement. A data extraction matrix captured key information, including the nature of diaspora engagement, technological initiatives, educational interventions, ethical narratives, and references to justice or inclusion.

2.3. Data Analysis and Trustworthiness

Data were analyzed using thematic content analysis. An initial deductive coding frame was developed based on the theoretical constructs of PNS (uncertainty, extended peer community, value contestation, quality of knowledge) and Tactical Diaspora (strategic mobilization, transnational networks, digital coordination, and role differentiation). This frame was then complemented by inductive coding to capture emergent themes. Codes were grouped into higher-order categories such as "diaspora in education and capacity-building," "technology co-development and pilots," "ethical and justice-oriented advocacy," and "barriers to diaspora engagement."

To enhance trustworthiness, the study applied triangulation across multiple document types (academic, policy, and media) and sources (national and international). An audit trail was maintained, documenting search strategies, inclusion decisions, coding revisions, and analytic memos. A reflective note on the limitations of secondary data acknowledges potential biases arising from institutional perspectives, the under-representation of grassroots or peripheral diaspora voices, and restricted access to non-public documents. These limitations are partly mitigated by triangulation and by explicitly situating findings within the constraints of available evidence.

At the end of this methodological section, the overall logic of the study is summarized in an analytical framework that links diaspora roles in education, technology, and ethics with the broader objective of a just energy transition.

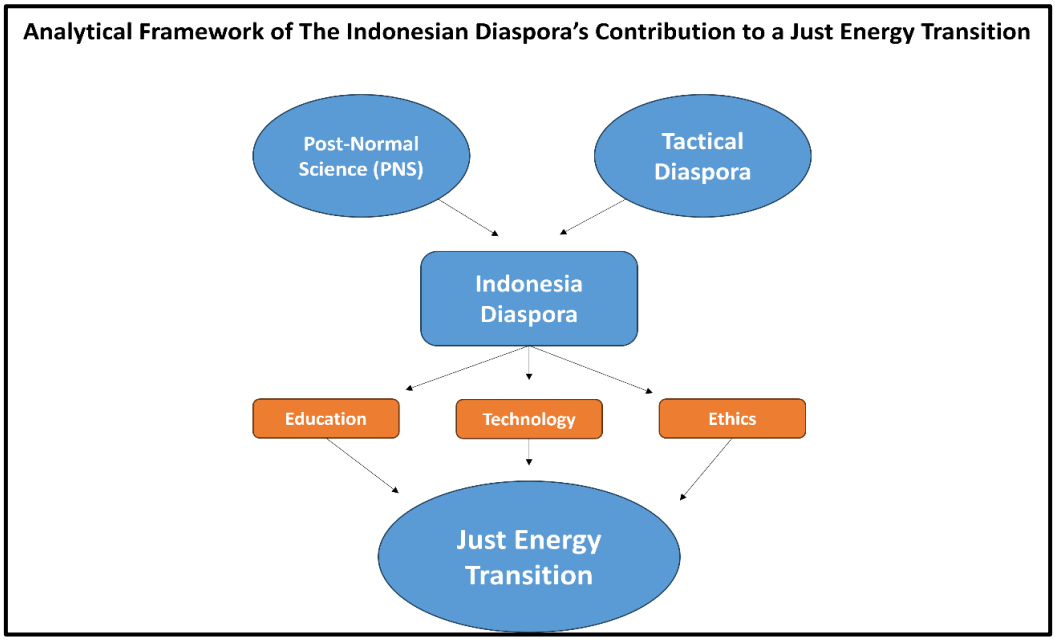

Figure 1. Analytical Framework of The Diaspora's Contribution to a Just Energy Transition

This empirical context underscores the relevance of Post-Normal Science: facts about future technology costs and climate impacts remain uncertain, values are contested between growth-oriented and ecological perspectives, stakes are high for communities and industries, and decisions are urgent given tightening global carbon budgets. It is within this turbulent setting that diaspora engagement must be understood.

3. RESULTS AND DISCUSSIONS

3.1. Current Conditions of Indonesia's Energy Transition

Indonesia's energy transition is shaped by a tension between ambitious climate commitments and enduring structural dependence on fossil fuels. Coal remains a dominant component of the national power mix, supported by long-term contracts,

sunk investments, and strong political–economic interests. At the same time, international and domestic pressure to align with the Paris Agreement has intensified, leading to commitments such as net-zero targets and participation in the JETP framework.

The energy transition landscape is complicated by regional inequalities, infrastructure gaps, and financing constraints. Renewable energy potential is unevenly distributed, with significant resources located in regions far from major load centers. Grid limitations, regulatory uncertainty, and insufficient investment environments have slowed the deployment of utility-scale renewables. Moreover, the social dimension of transition—including the fate of coal-dependent regions, access to clean energy for low-income households, and broader equity concerns—remains underdeveloped in policy deliberations.

No.	Indicator	Target Value	Period
1.	NDC Target	32% / 43% di 2030 (vs BAU, inkl. LULUCF)	2022–2030
2.	NZE commitment	2060	2022–2060
3.	Clean electricity production	75% from mix 2040	2022–2060
4.	Capacity increase EBT + storage	76% from Capacity increase	RUPTL horizon
5.	Rating CAT	"Critically Insufficient"	2023–2025

Tabel 1. Key Indicators and Policy Targets in Indonesia's Energy Transition

This empirical context underscores the relevance of Post-Normal Science: facts about future technology costs and climate impacts remain uncertain, values are contested between growth-oriented and ecological perspectives, stakes are high for communities and industries, and decisions are urgent given tightening global carbon budgets. It is within this turbulent setting that diaspora engagement must be understood.

3.2. Strategic Contributions of the Indonesian Diaspora

Within this complex landscape, the Indonesian diaspora can play a strategic role in three interrelated domains: education, technology, and ethics. The following subsections synthesize key patterns emerging from the secondary data.

3.2.1. Diaspora in Education and Capacity-Building

Indonesian diaspora academics and professionals contribute to education and capacity-building through teaching, supervision, curriculum development, and training initiatives. Diaspora scholars in foreign universities participate in joint research projects, co-supervise students, deliver guest lectures, and collaborate with

ISSN: 2774-6585
Website: https://conferences.uinsgd.ac.id/

Indonesian institutions on topics related to renewable energy, climate policy, and sustainability. Diaspora networks also support scholarship schemes, mentorship programs, and short courses that raise energy and climate literacy among educators, policymakers, and civil society.

From a PNS perspective, these educational engagements help expand the extended peer community by incorporating diasporic perspectives into domestic knowledge production and policy dialogue. From a Tactical Diaspora perspective, they illustrate strategic mobilization via academic partnerships and transnational epistemic networks.

3.2.2. Diaspora in Technology Transfer and Innovation

The diaspora also plays a role in technological innovation and transfer. Indonesian engineers, scientists, and entrepreneurs working abroad are involved in research and development (R&D), demonstration projects, and commercialization of renewable energy technologies, including solar photovoltaics, energy storage, hydrogen, and smart grids. Through their positions in universities, research institutes, and companies, they can initiate joint projects with Indonesian partners, facilitate access to advanced laboratories, and introduce international standards and best practices.

These technology-focused engagements include feasibility studies, pilot installations, and collaborative R&D projects that adapt global technologies to Indonesia's climatic, regulatory, and socio-economic context. Diaspora technologists function as intermediaries who translate foreign innovations into locally appropriate solutions and help build domestic technical ecosystems. In PNS terms, they enrich the knowledge base and support more informed decision-making under uncertainty; in Tactical Diaspora terms, they exemplify targeted, strategic interventions that leverage positional advantages abroad.

3.2.3. Diaspora in Ethics, Justice, and Environmental Governance

Beyond education and technology, the diaspora also contributes to ethical and justice-oriented dimensions of energy transition. Diaspora activists, scholars, and professionals engage in public debates, produce policy briefs, and participate in transnational advocacy networks that promote climate justice, intergenerational equity, and community participation. They raise concerns about the social impacts of transition policies, highlight risks of reproducing inequality, and advocate for inclusive frameworks that protect workers, low-income households, and marginalized regions.

By articulating ethical critiques and proposing justice-oriented principles, diaspora actors function as ethical agents in the extended peer community. They bring comparative experience from countries where just transition debates are more advanced and connect those lessons to Indonesian realities. Their involvement aligns with the PNS emphasis on value contestation and deliberation, and with Tactical Diaspora insights on norm entrepreneurship and transnational advocacy.

No.	Domain	Types of Contributions	Illustration/Platform	Added Value for Transition
1.	education	Co-teaching, micro-credential, summer school, CPD teacher/lecture	Diaspora communities & universities; popular science programs	Accelerating energy literacy and human resource readiness (SDG 4, 7)
2.	technology	R&D consortium, lab standardization, renewable energy startup mentoring	ITB–NUS collaboration (perovskite); green research network	Knowledge transfer, proof-of-concept, TRL increase (SDG 9, 7)
3.	Ethics & Governance	Policy co-design, community participation, monitoring	NGO/think-tank (IESR) + diaspora network	Public legitimacy & "just transition" (SDG 13, 17)

Table 2. Examples of Indonesian Diaspora Contributions by Strategic Domain

3.3. Barriers to Diaspora Engagement

Despite these contributions, diaspora engagement faces significant barriers. First, diaspora communities are often fragmented along professional, ideological, and geographic lines. There is no single, unified platform to coordinate diaspora initiatives related to energy and climate, which can reduce visibility and dilute collective influence. Fragmentation also makes it more difficult for domestic institutions to identify and engage relevant diaspora experts.

Second, policy and institutional barriers limit formal participation. Citizenship regulations, bureaucratic procedures, and the absence of institutionalized diaspora engagement mechanisms constrain opportunities for diaspora to contribute systematically to policy design and implementation. Diaspora advisors may be consulted on an ad hoc basis, but their recommendations are not always integrated into official processes.

Third, institutional gatekeeping and trust deficits complicate collaboration. Domestic institutions may be ambivalent about external critique or hesitant to recognize diaspora expertise, while diaspora actors may perceive domestic governance as resistant to reform. These mutual perceptions can undermine the trust required for effective extended peer communities. Additionally, brain drain dynamics—where highly trained individuals remain abroad due to better opportunities—can weaken local capacities and create ambivalent attitudes toward diaspora involvement.

These barriers indicate that diaspora's potential as an extended peer community and as tactical actors is not automatically realized; it requires deliberate institutional design, policy reforms, and trust-building mechanisms.

3.4. Post-Normal Science and Tactical Diaspora: A Theoretical Lens

ISSN: 2774-6585
Website: https://conferences.uinsgd.ac.id/

The empirical patterns described above can be interpreted through the combined lens of Post-Normal Science and Tactical Diaspora. Post-Normal Science suggests that in situations like Indonesia's energy transition, the quality of decisions depends on the diversity and inclusivity of the peer community involved in assessing evidence and values. The Indonesian diaspora, by virtue of its transnational experiences and expertise, can contribute to this extended peer community, bringing comparative insights, technical knowledge, and ethical perspectives that are not readily available domestically.

Tactical Diaspora frameworks emphasize that diaspora actors mobilize strategically, leveraging digital infrastructures, professional networks, and institutional positions in response to political opportunities and constraints. The cases of educational partnerships, technology pilots, and justice-oriented advocacy illustrate how Indonesian diaspora selectively engage in spaces where they can exert influence and add value. They act as boundary-spanners connecting domestic institutions, international organizations, and foreign universities, thereby co-producing knowledge and shaping discourses around just transition.

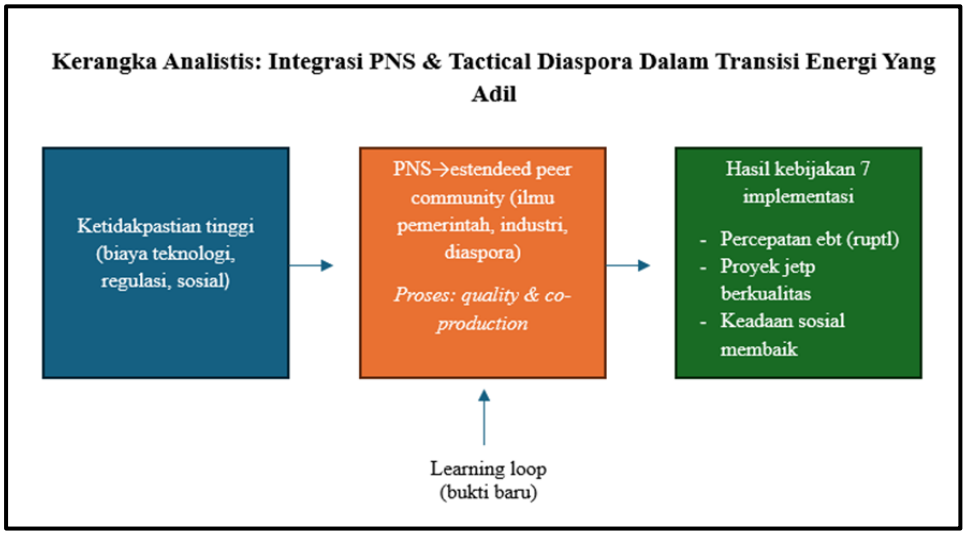

Figure 2. Integrated Framework: Post-Normal Science And Tactical Diaspora

By integrating these frameworks, the study shows that the diaspora is not only a support resource but also a co-constitutive part of the governance landscape. This theoretical synthesis expands both PNS and diaspora studies by illustrating how extended peer communities can be transnational and how tactical diaspora strategies operate within complex sociotechnical transitions.

3.5. Social and Economic Justice in the Energy Transition

Just energy transition debates revolve around questions of who bears the costs and who reaps the benefits of decarbonization. In Indonesia, concerns include the future of

coal-dependent regions, electricity affordability for low-income households, and the risk that transition policies primarily benefit urban elites or foreign investors. Indonesian diaspora actors contribute to these debates by bringing global justice frameworks, comparative experiences, and critical perspectives into domestic discussions.

The study finds that diaspora can help articulate justice claims, promote participatory approaches, and highlight the importance of social safeguards in energy policies. They can introduce concepts such as energy poverty, procedural justice, and recognition into domestic policy arenas, aligning Indonesia's transition with international norms while grounding them in local realities. At the same time, diaspora engagement can risk reproducing technocratic or elitist perspectives if not connected to grassroots communities and domestic civil society, underscoring the need to anchor transnational insights in local participation.

3.6. Practical and Academic Implications

The findings of this study have both practical and academic implications. Practically, they suggest that Indonesian ministries, agencies, and academic institutions should design more structured platforms for diaspora engagement, such as formal advisory councils, joint research consortia, and co-created capacity-building programs in energy and climate fields. Policies that recognize and reduce barriers to diaspora participation—administrative, legal, and institutional—could unlock additional expertise and resources for just energy transition initiatives.

Academically, the study contributes to emerging debates on just energy transitions by foregrounding transnational actors and diasporic networks as integral components of transition governance. It also underscores the value of combining PNS and diaspora theories to analyze sociotechnical change in contexts characterized by uncertainty, contested values, and significant power asymmetries.

3.7. Theoretical and Practical Contribution

Theoretically, this study contributes by synthesizing Post-Normal Science and Tactical Diaspora frameworks in the analysis of just energy transitions. It demonstrates how diaspora communities can be conceptualized as an extended peer community that enhances knowledge quality under conditions of uncertainty and contestation, while simultaneously operating as tactical actors that mobilize transnational networks, resources, and legitimacy. This integration provides a novel lens for understanding how complex energy transitions are co-produced through interactions between domestic and transnational actors.

Practically, the study identifies concrete pathways through which Indonesian diaspora can support a just energy transition. In education, diaspora can co-develop sustainability curricula, mentor students and policymakers, and strengthen domestic research ecosystems. In technology, they can catalyze innovation and adaptation of clean energy solutions through joint R&D and pilot projects. In ethics and governance, diaspora can enrich public discourse, advocate for justice-oriented policies, and

facilitate dialogue between domestic stakeholders and international partners. These contributions suggest that diaspora engagement should be recognized as a strategic element in Indonesia's energy and climate policy architecture.

4. CONCLUSION

This study has examined the strategic role of the Indonesian diaspora in supporting a just energy transition through education, technology, and ethics, using an integrated framework of Post-Normal Science and Tactical Diaspora. The analysis shows that diaspora communities function as knowledge mediators, boundary-spanners, and ethical agents who help connect global expertise with local needs and promote justice-oriented approaches to energy policy.

The academic contribution of this article lies in its integration of Post-Normal Science, with its emphasis on extended peer communities under conditions of uncertainty, and Tactical Diaspora, which focuses on strategic transnational mobilization. By bringing these frameworks together, the study offers a new way of conceptualizing diaspora as a transnational extended peer community embedded in complex socio-technical transitions.

In terms of policy implications, the findings underscore the need for more structured, inclusive, and formal mechanisms of diaspora engagement in Indonesia's energy and climate governance. Recognizing diaspora as a strategic resource suggests that ministries, agencies, and academic institutions should design platforms and programs that facilitate co-design of policies, co-production of knowledge, and collaborative implementation of transition initiatives.

Finally, the study points to several directions for future research. Empirical, participatory studies involving specific diaspora communities and domestic stakeholders could deepen understanding of micro-level dynamics, power relations, and co-creation processes. Comparative research examining diaspora roles in other countries' just energy transitions would also help generalize and refine the theoretical insights presented here.

REFERENCES

Adamson, F. B. (2016). The growing importance of diaspora politics. Current History, 115(784), 291–297.

Alinejad, D. (2018). Diaspora and mapping methodologies: Tracing transnational digital connections with digital methods. Global Networks, 18(1), 111–127. https://doi.org/10.1111/glob.12197

Badan Pusat Statistik. (2024). Keadaan pekerja di Indonesia Februari 2025. BPS. https://www.bps.go.id

Badan Pusat Statistik. (2024). Persentase tenaga kerja formal menurut provinsi, 2024 [Dataset]. BPS.

Bauwens, T., & Devine-Wright, P. (2022). Energy communities and social justice in the German energy transition. Energy Research & Social Science, 89, 102563. https://doi.org/10.1016/j.erss.2022.102563

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77–101.

Brinkerhoff, J. M. (2016). Institutional reform and diaspora entrepreneurs: The in-between advantage. Oxford University Press.

Chernobrov, D. (2022). Diasporas as cyberwarriors: Infopolitics, participatory warfare and the 2020 Karabakh war. International Affairs, 98(2), 567–588. https://doi.org/10.1093/ia/iiac023

Diminescu, D. (2012). Digital methods for the exploration, analysis and mapping of e-diasporas. Social Science Information, 51(4), 451–462. https://doi.org/10.1177/0539018412456918

Diminescu, D. (2012). Introduction: Digital methods for the exploration, analysis and mapping of e-diasporas. Social Science Information, 51(4), 451–458. https://doi.org/10.1177/0539018412456912

ESDM. (2023). Rencana Usaha Penyediaan Tenaga Listrik (RUPTL) 2021–2030. Kementerian Energi dan Sumber Daya Mineral Republik Indonesia. https://www.esdm.go.id

ESDM. (2024). Pemerintah kejar target tingkatkan bauran energi baru terbarukan. Kementerian Energi dan Sumber Daya Mineral Republik Indonesia. https://www.esdm.go.id

European Commission. (2021). Energy transition policy framework for sustainable development. Brussels: Directorate-General for Energy.

Funtowicz, S., & Ravetz, J. (1993). Science for the post-normal age. Futures, 25(7), 739–755. https://doi.org/10.1016/0016-3287(93)90022-L

Georgiou, M. (2013). Diaspora in the digital era: Minorities and media representation. Global Networks, 13(4), 447–463. https://doi.org/10.1111/glob.12027

Healy, N., & Barry, J. (2017). Politicizing energy justice and energy system transitions: Fossil fuel divestment and a 'just transition'. Energy Policy, 108, 451–459. https://doi.org/10.1016/j.enpol.2017.06.014

IESR. (2023). Indonesia energy transition outlook 2025. Institute for Essential Services Reform. https://iesr.or.id

IESR. (2024). Monitoring Indonesia's second NDC: A closer look at Indonesia's climate ambitions and performance in 2024. Institute for Essential Services Reform. https://iesr.or.id

IESR. (2025). Transisi energi perlu berlangsung secara adil dan terarah. Institute for Essential Services Reform. https://iesr.or.id

International Energy Agency. (2023). An energy sector roadmap to net zero emissions in Indonesia. IEA. https://www.iea.org/reports/an-energy-sector-roadmap-to-net-zero-emissions-in-indonesia

International Energy Agency. (2023). Southeast Asia energy outlook 2023. Paris: IEA.

JETP Indonesia. (2023). Just Energy Transition Partnership (JETP) Comprehensive Investment and Policy Plan (CIPP). https://jetp-id.org

Kementerian Koordinator Bidang Perekonomian Republik Indonesia. (2023). Perkuat komitmen percepatan implementasi JETP, pemerintah bentuk Satgas Transisi Energi dan Ekonomi Hijau. https://ekon.go.id

Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi. (2022). Kebijakan penguatan kolaborasi riset dengan diaspora Indonesia. Jakarta: Kemendikbudristek.

Koinova, M., & Tsourapas, G. (2021). Diasporas and sending states in world politics. International Political Science Review, 42(3), 307–320. https://doi.org/10.1177/0192512120947863

Koinova, M., Brand, C. M., & Dajkovic, A. (2023). Mixed methods in an evolving research program on diaspora entrepreneurs and their mobilizations. Global Networks, 23(2), 324–343. https://doi.org/10.1111/glob.12405

Kompas. (2023). Indonesia rentan perubahan iklim, diminta lebih ambisius turunkan emisi. Kompas.id. https://www.kompas.id

Kompas. (2025). Jalan lamban transisi energi RI, antara ambisi dan realisasi. Kompas.id. https://www.kompas.id

Lincoln, Y. S., & Guba, E. G. (1985). Naturalistic inquiry. Sage.

Naamy, N. (2019). Metodologi Penelitian Kualitatif: Dasar-dasar &Aplikasinya. LP2M UIN Mataram & Sanabil Publishing.

Nazava. (2023). Peran Nazava dalam mendukung SDG 13: Membuka wawasan dari sesi talkshow AIESEC in UNPAD. Nazava. https://www.nazava.com

Newell, P., & Mulvaney, D. (2013). The political economy of the 'just transition'. The Geographical Journal, 179(2), 132–140. https://doi.org/10.1111/geoj.12008

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. International Journal of Qualitative Methods, 16, 1–13. https://doi.org/10.1177/1609406917733847

Pecic, Z. (2013). Queer tactical diaspora. In K. Nash & V. Yuval-Davis (Eds.), The political economy of belonging (pp. 169–188). Palgrave Macmillan. https://doi.org/10.1057/9781137379030_10

Pratama, R. (2021). Technology transfer initiatives of Indonesian diaspora researchers. Journal of Southeast Asian Innovation Studies, 5(2), 110–118.

Ravetz, J. R. (2006). Post-normal science and the complexity of transitions towards sustainability. Ecological Complexity, 3(4), 275–284. https://doi.org/10.1016/j.ecocom.2007.02.001

Tyler, E., & Hochstetler, K. (2023). South Africa's Just Energy Transition Partnership: Politics, justice, and implementation challenges. Climate Policy, 23(6), 745–760. https://doi.org/10.1080/14693062.2023.2203987

UNDP. (2022). Goal 13: Climate action. United Nations Development Programme. https://www.undp.org/sustainable-development-goals/climate-action

UNDP. (2022). Goal 17: Partnerships for the goals. United Nations Development Programme. https://www.undp.org/sustainable-development-goals/partnerships-for-the-goals

UNDP. (2022). Goal 7: Affordable and clean energy. United Nations Development Programme. https://www.undp.org/sustainable-development-goals/affordable-and-clean-energy

UNFCCC. (2022). Enhanced NDC Indonesia 2022. United Nations Framework Convention on Climate Change. https://unfccc.int

United Nations Development Programme. (2022). Human development and climate resilience report 2022. New York, NY: UNDP.