

Abstract**[Project Information]**

Project Title: Research on Developing a Roadmap and Supporting Implementation of Transition Strategies for Mitigation and Adaptation towards Realizing Climate-neutral and Resilient Societies in Developing Countries and Sub-regions in Asia

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Principal Investigator: Arino Yosuke

(PI ORCID) : ORCID 0000-0001-5654-0557

Principal Institution: The Institute for Global Environmental Strategies (IGES)
Address: 2108-11, Kamiyamaguchi, Hayama, Kanagawa, 240-0115, Japan
Tel: +81-50-5475-6173
E-mail: arino@iges.or.jp,

Cooperated by: MUFG Bank

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[Abstract]

This research developed a macro-framework for a synergised mitigation-adaptation transition strategy in ASEAN countries. Through various publications and stakeholder collaborations, the study formulated a guidance document currently under review by the ASEAN Working Group on Climate Change for integration into national and regional climate policies. Seven principles—including mainstreaming climate change into development, inclusivity, and adaptability—anchor the framework, alongside seven action areas, including science-based long-term planning, integrated policy design, and mobilisation of resources. The studies analysed stakeholder perspectives, conducted surveys across ASEAN nations, and explored specific mitigation-adaptation synergies, such as agrivoltaics in the Philippines and sustainable coffee farming in Vietnam. Additionally, the research highlighted conditions necessary for achieving net-zero, including policy integration and just transition financing. Findings indicate the importance of aligning mitigation-adaptation strategies with national development visions while minimizing trade-offs.

[References]

- Liu, X.B. (2023): Renewables development for energy transition in ASEAN: Status quo, gaps and the prospect. IGES Working Paper.
- Murun, T., Umemiya, C., Morimoto, T., and Hattori, T. (2023). Practical Solutions for Addressing Challenges in National Reporting for the Enhanced Transparency Framework: Cases from Developing Countries in the Asia-Pacific Region. *Sustainability*, 15(20), 14771.
- Johnson, B. A., Arino, Y., Magcale-Macandog, D. B., Liu, X., & Yamanoshita, M. (2024). Potential of agrivoltaics in ASEAN considering a scenario where agroforestry expansion is also pursued. *Resources, Conservation and Recycling*, 209, 107808.
- Mizuno, O., & Okano, N. (2024). Reconsidering National Adaptation Plans (NAPs) as a Policy Framework under the UNFCCC. *Climate Policy*, 24(9), 1309-1321. <https://doi.org/10.1080/14693062.2024.2378194>
- Johnson, B. A., & Arino, Y. Climate-related hazards as a factor affecting the siting of solar power plants: A case study of flooding in ASEAN. (In press). *Environment and Sustainable Development: Proceedings of the 2024 9th Asia Conference on Environment and Sustainable Development*. Eds: Keiji Ujikawa, Mikio Ishiwatari, Eric van Hullebusch. ISBN: 978-981-96-6657-7. Springer Singapore.
- Arino, Y., Magcale-Macandog, D., Johnson, B. A., Murun, T., Laruya, J., (2025) Solar Photovoltaic (PV) Diffusion and Synergies with Resilience, Adaptation, and Sustainable Development: A Case Study in Laguna Lake Watershed, Philippines. *Energy for Sustainable Development*, 88, 101812.
- Arino, Y. et al. (2023). Toward Developing the Guidance on National Long-term Roadmap to Synergise Mitigation and Adaptation in ASEAN Countries: Workshop Proceedings. August 2023, Available at: <https://www.iges.or.jp/en/pub/toward-developing-guidance-national-long-term-roadmap-synergise-mitigation-and-adaptation-asean>
- Magcale-Macandog, D., Laruya, J., Johnson, B., Okano, N., & Arino, Y. (2024). Solar Photovoltaic (PV) Diffusion and Synergies with Resilience and Adaptation: Workshop Proceedings. Workshop on Solar Photovoltaic (PV) Diffusion and Synergies with Resilience and Adaptation, 27-28 February 2024, 72 pages. Workshop on Solar Photovoltaic (PV) Diffusion and Synergies with Resilience and Adaptation. <https://doi.org/10.57405/iges-13755>
- Prabhakar, S.V.R.K. (2025). Agricultural land use and its climate change vulnerability in Asia: Moving from vulnerability to resilience. In J. Banski, *Agricultural Land Use: Structural Transformations, Environment Challenges, Planning and Policy*. Routledge, London, UK

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