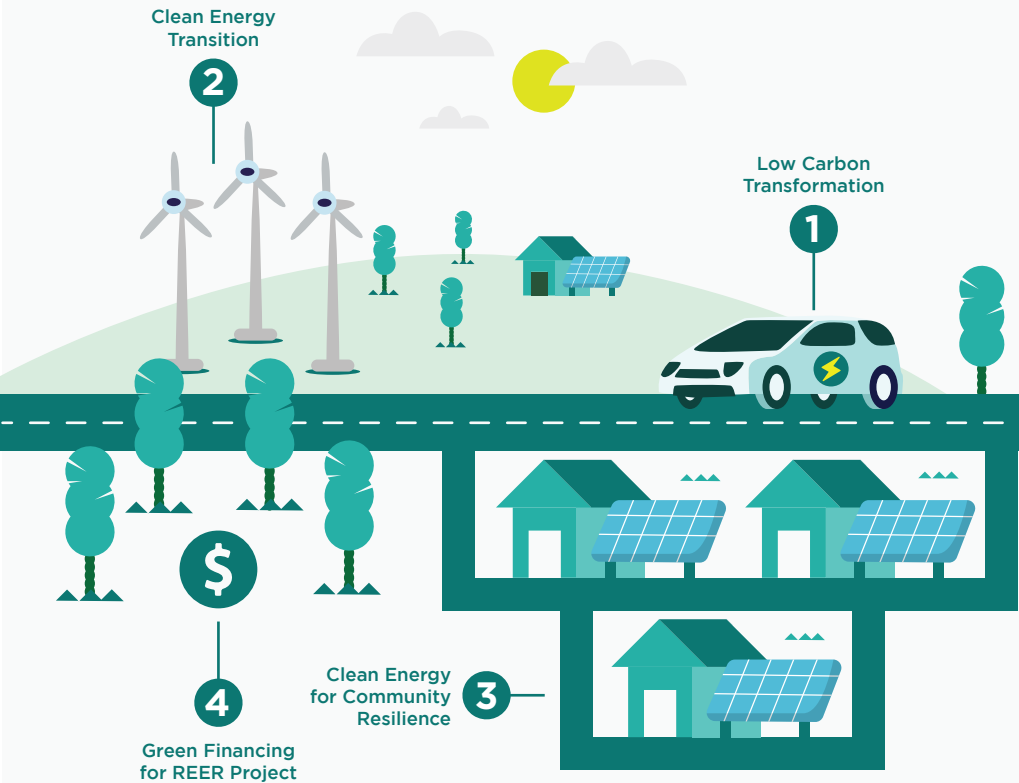


For year 2023 - 2025

REER PILLARS



RENEWABLE ENERGY AND EMISSION REDUCTION (REER)

Renewable Energy and Emission Reduction (REER) cluster works in topics such as alternative energy resources, renewable energy in remote area, urban renewable energy, and institutional capacity to strengthen sustainable policies. This cluster also concerns on the emission reduction process in Indonesia and its impact to global

SCAN HERE



RESEARCH STATIONS

REER Cluster has carried out a number of research projects continuously in several locations in Indonesia, among others:



CLIENTS



PARTNERS



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Current Publication

- Atmowidjojo, A., Pranindita, N., Gracia, E., Kusumayudha, H., Rymizar, M. S., Sagala, S., & Prilandita, N. (2023). Assessment of Policy Implementation for Palm Oil-Based Bioenergy Development in Indonesia. 198–212.
- Prilandita, N., Sagala, S., Azhari, D., & Habib, A. H. (2022). Rural renewable energy development: Lessons learned from community-based renewable energy business model in East Sumba, Indonesia. IOP Conference Series: Earth and Environmental Science, 1015(1), 012017.
- Pranindita, N., Sagala, S., Samosir, A., Anhorn, J., van Laere, A.-K., Zacepins, A., Sainz, A., Rutz, D., Rosslee, D., Kirchmeyr, F., Wlcek, B., Hilbert, J. A., Hoffman, F., Bogale, W., Salie, Y., & Mohammed, M. (2021). Biogas Market in Indonesia: The Roles of Carbon Trading. 2021 Third International Sustainability and Resilience Conference: Climate Change, 199–204.

ROAD MAP

The Renewable Energy and Emission Reduction (REER) cluster focuses on various topics related to sustainable energy, including alternative energy resources, renewable energy implementation in remote and urban areas, and building institutional capacity for sustainable policies. The cluster is also dedicated to reducing emissions in Indonesia and its impact on the global climate.

REER ACTIVITIES

The REER cluster has secured research funding from various international sources, including the UK-based GCRF, Europe-based EU Horizon 2020 and IFS, ASEAN-based COST and SEARCA, and Japan-based JASTIP and Asahi grants. At present, our flagship project, RDI, focuses on optimizing Refuse-derived Fuels to decrease carbon emissions in the energy sector and achieve the NDC (Nationally Determined Contributions)

PROJECTS

RDI has collaborated with various institutions for either projects or events. Some of the key collaboration include:

1. RDI: Optimization of Refuse-derived Fuels to Decarbonize the Energy Sector and Fulfill NDC Targets in Indonesia (Funded by the Department of Climate Change, Energy, the Environment, and Water, Government of Australia) | 2022-2026
2. Upgrading from Bio-oil to Sustainable Jet Fuel Range and Its Implementation Study in ASEAN Region (Collaborative Research Project under the Japan-ASEAN Science, Technology and Innovation Platform (JASTIP)) | 2021
3. Institutional Cooking Practice in Cambodia and Indonesia (Under the Modern Energy Cooking Services (MECS) Programme by Loughborough University funded by UK Aid) | 2021
4. Cooking Practices in Displacement Settings in Malaysia & Indonesia (Under the Modern Energy Cooking Services (MECS) Programme by Loughborough University funded by UK Aid) | 2021
5. DiBiCoo: Digital Global Biogas Cooperation (Funded by European Union's Horizon 2020 Research & Innovation Programme) | 2019-2022
6. CRESUM-HYRES: Creating resilient sustainable micro-grids through hybrid renewable energy systems (Consortium led by the University of Leeds, funded by the EPSRC Global Challenges Research Fund) | 2018-2021

2021

Low Carbon Transformation

1. Fossil fuel subsidies reform as enabling condition for low-carbon transformation
2. Increasing compliance of industry and energy sector in inventorying and reporting GHG emission

Clean Energy Transition

1. Policy gap analysis of clean energy sources utilization
2. Market penetration of clean energy resource-use and efficiency
3. Covid-19 pandemic and energy transition: Covid impact and switching effect

Clean Energy for Community Resilience

1. Community acceptance and participation towards Renewable Energy implementation

Green Financing for REER Project

1. Unlocking green finance potential & policy barriers
2. Financial viability of renewable energy and emission reduction projects
3. Bankability of renewable energy and emission reduction projects

2022

Low Carbon Transformation

1. Developing carbon market mechanism
2. Social issues and approach of increasing general public awareness on low carbon technology towards sustainable consumption

Clean Energy Transition

1. Implementation gap analysis of clean energy technologies
2. Integrating techno-economic, socio-technical and political perspectives on national energy transitions

Clean Energy for Community Resilience

1. Women gender participation in renewable energy sector development
2. Assessing energy community resilience through energy trilemma approach

Green Financing for REER Project

1. Settling up sustainable business model for renewable energy and emission reduction projects

2023

Low Carbon Transformation

1. Advancing sub-national energy policy and planning including carbon market practice
2. Mainstreaming low-carbon technology to general public
3. Energy efficiency and conservation efforts in transport and urban sectors (low-carbon urban design, EV, etc)
4. Identification of decarbonization effort in industrial and energy sector (ex: CCUS, RDF, WtE etc)

Clean Energy Transition

1. Addressing future prospect and challenges of renewable energy application in the context of increasing economic growth (ex: Hydrogen, smart grid, off-grid, etc)
2. Renewable energy pathway development
3. Sustainability assessment of alternative clean energy resources and technologies

Clean Energy for Community Resilience

1. Mapping local (both urban, rural, and island context) renewable energy sources
2. Grassroots innovation for sustainable energy
3. Applying energy justice into clean energy transition

Green Financing for REER Project

1. Promoting incentives of green investment and fossil fuel divestment
2. Derisking green project to increase bankability
3. Financing policy development for green investment

2024

Low Carbon Transformation

1. Low carbon technology implementation assessment
2. Clean coal technology implementation and impact assessment

Clean Energy Transition

1. Practical implementation of renewables (Ex: technology procurement, pricing, etc)
2. Derisking technological and financial aspects of clean energy transition implementation
3. Enhancing renewable energy diplomacy towards global energy security

Clean Energy for Community Resilience

1. Development of local renewable energy strategies for local economy improvement
2. Community-led initiative to accelerate renewable energy action
3. Enhancing social capital to achieve independent and resilient energy practices

Green Financing for REER Project

1. Financial structure and mechanism optimization of renewable energy and emission reduction projects
2. Blended finance to improve renewable energy and emission reduction projects efficiency
3. Utilization of carbon revenue bond to fund green projects
4. Prospect of innovative green finance tools