

# Green Future: Solar and Hydrogen Energy for Rarotonga, Cook Islands

## Background & Objectives

As climate change intensifies, the Cook Islands, particularly Rarotonga, are proactively working to confront this global challenge by reducing their dependency on fossil fuels and addressing rising energy costs. Through the Environmental Export Initiative of the Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV), this project leverages innovative solar energy and green hydrogen technologies. This initiative aims to **significantly reduce CO<sub>2</sub> emissions** and **enhance the adoption of renewable energy**, positioning the Cook Islands as leaders in sustainable energy practices and reinforcing their commitment to environmental stewardship.

## Significance of the Project

The project aims to make a significant contribution to climate protection, strengthen energy security, and reduce energy costs. Knowledge transfer shall remain a central focus, particularly through the active involvement of local communities, students, and young people. This engagement aims to empower the community to understand, apply, and further develop the technologies. By combining education and technological innovation, the project shall lay a sustainable foundation for future initiatives.

## Expected Outcomes

The expected outcomes include a detailed feasibility study, the development of a model project plan, and the establishment of a long-term, sustainable stakeholder network. Additionally, targeted training and capacity-building measures shall empower the local community, providing a solid basis for future sustainable energy projects.

## Project Components

The project shall engage a diverse range of stakeholders to create an inclusive and sustainable energy system. Collaboration includes the energy provider Te Aponga Uira, the Ministry of Education, the Ministry of Tourism, the Ministry of Environment, the Ministry of

Infrastructure, and local government. All participants shall play a central role in shaping and implementing the project, ensuring that technological, economic, and social aspects are equally addressed. Key locations such as the Motu Beachfront Villas Resort, Kent Community Hall, and Titikaveka School shall serve as demonstration platforms, providing opportunities for training, informational events, and active knowledge transfer within the community.

A key element of the project is the installation of smart meters at these critical locations. These meters aim to deliver detailed energy data, which shall serve as the basis for developing the model project plan and conducting the feasibility study. This data will support the analysis of technical and economic conditions, forming a solid foundation for successful project implementation.

Workshops shall form an essential component of the project to promote knowledge transfer. They are designed to engage students, young people, and the broader community, fostering a deeper understanding of renewable energy and its critical role in addressing climate change. These activities aim to actively involve the community, thereby enhancing both acceptance and long-term sustainability.

The project is scheduled to run from **March 1, 2025, to March 31, 2026**, ensuring continuous collaboration with all relevant partners throughout its duration.

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