OACPS R&I | OACPS RESEARCH AND INNOVATION PROGRAMME

INNOVATION FUND

Pacific Adoption of Waste-to-Energy Solutions (PAWES)

PROJECT CONSORTIUM

PROJECT COORDINATOR

The Pacific Community (SPC), New Caledonia

PARTNERS

Secretariat of the Pacific Regional Environment Programme (SPREP), Samoa

LOCATION

Pacific region

PERIOD

December 2021 – December 2024

TOTAL BUDGET

EUR 2,871,342

EU FUNDING

EUR 2,400,000

PROJECT CONTACT

Mr Akuila Tawake

The Pacific Community (SPC)

akuilat@spc.int

CHALLENGE

The environmental, health and social impacts associated with substandard solid waste management and energy poverty are critical and urgent issues that are hindering socio-economic development in the Pacific.

FOCUS

The separate themes of renewable energy technologies and waste management will be linked to facilitate the adoption of waste-to-energy (WtE) solutions. For this, it will be necessary to strengthen various strands of the Pacific region's nascent research and innovation (R&I) ecosystem.

RATIONALE

Two challenges that all Pacific nations share are solid waste management and energy security. In many countries, rapid development and population growth have outpaced the countries' capacity to deal with the waste produced. Inadequate management of waste and poor control over polluting activities are affecting the health of Pacific communities and degrading natural ecosystems, many of which are already fragile due to their physiographic nature, further reducing their resilience to climate change impacts.

Moreover, poor waste and pollution management are negatively impacting many important sectors of the Pacific economy, such as tourism, fisheries and agriculture, which are heavily reliant on an environment that is relatively free of waste and pollution. In parallel, large sections of communities lack access to clean and affordable energy sources. Addressing the lack of energy with an abundance of waste is a truly innovative way to make much needed progress towards the regional priorities of dealing with the impacts of climate change and creating national socio-economic development frameworks.

The integration of renewable energy technologies and solid waste management in a WtE sector is promising, but requires coordinated efforts at regional level. WtE initiatives seek to provide simultaneous solutions to reduce sustainably the volume of waste within landfill systems while providing new renewable energy sources. The successful creation, transfer and application of new knowledge and/or technologies requires education and skills development to provide human capacity, investment opportunities to inject finance, and policy settings to enable the operability of emerging businesses.

The capacities of stakeholders who play critical roles in a well-functioning R&I ecosystem need to be built. Strengthening the role of and coordination within and between government entities and tertiary education providers will enhance the quality of R&I policies and systems. This will provide a more conducive environment for piloting, scaling and the eventual adoption of WtE innovations as part of the solution to the region's solid waste management and energy poverty.

The OACPS R&I Programme is an initiative implemented by the Secretariat of the Organisation of African, Caribean and Pacific States (OACPS) and funded by the European Union (EU)

Pacific Adoption of Waste-to-Energy Solutions (PAWES)

Waste materials used to generate energy, Ranadi Landfill, Honiara City, Solomon Islands (SPC 2022)

METHOD

PAWES is increasing awareness of the suitability and sustainability of existing and emerging turnkey WtE technologies. With a focus on knowledge and technology transfer, south-south cooperation and sharing lessons learned, practical approaches and good practices, policies and standards will be shared and communicated, and indigenous knowledge can be integrated into formal knowledge systems and practices.

National and local governments responsible for solid waste management, renewable energy and R&I, central and local government planners, regional and national universities and vocational education providers and their students will all be involved in PAWES.

To facilitate the development of a WtE ecosystem within the Pacific, PAWES is developing, scaling-up and expanding approaches to accelerate the impact of such initiatives, in partnership with various local and regional organisations that will:

- Assess existing skills shortages in the solid waste management and renewable energy technology sector, map existing national and regional education and training programmes, forecast needs for solid waste management, renewable energy and WtE sectors, and provide recommendations for skilling the future workforce.
- Update existing solid waste management and renewable energy technology databases, and integrate data in specific databases for use in decision-making processes on WtE.
- Build relationships between government, tertiary education providers and the private sector to facilitate the future development of the WtE sector.
- Build the capacity of national and local government entities to make informed decisions on developing a sustainable WtE sector.
- Develop the capacity of tertiary education institutions to provide training on WtE and undertake WtE research as part of their solid waste management and renewable energy technology offerings.

EXPECTED RESULTS

Impacts

Enhanced solid waste management and energy security in the Pacific region.

Outcomes

- National and local government entities able to make informed decisions on developing a sustainable WtE sector.
- Tertiary education providers providing updated training and performing state-of-the-art research on solid waste management, renewable energy technologies and WtE.

Outputs

- Enhanced capacity of government entities in the application of support tools for evidence-based decision-making in WtE.
- Increased access to data on solid waste management and renewable energy technology.
- Enhanced cross-sectoral collaboration among government entities and the educational, research and private sector on WtE.
- Tertiary education providers adapting and developing WtE training courses on preparing students for jobs matching existing and future market demands.
- Tertiary education providers adapting and developing innovative WtE solutions.

PROGRAMME PRIORITIES

Access to digital literacy, knowledge and use of emerging technologies.

Links between R&I skills development and labour market.

Synergies in the R&I ecosystem (private sector, technology transfer, R&I uptake).

Local and indigenous knowledge.

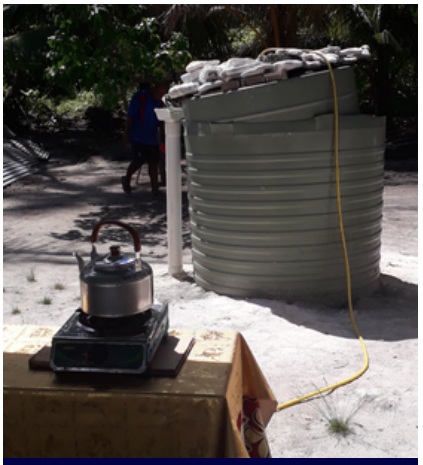
SECTOR

Waste, energy

KEY WORDS

multi-stakeholder collaboration, waste-to-energy, renewable energy technologies, education

if@oacps-ri.eu
www.oacps-ri.eu



A bio-digester produces methane from piggery waste in Funafuti, Tuvalu (SPC, 2022)

Pacific Community
Communauté du Pacifique

SPREP
Secretariat of the Pacific Regional Environment Programme