

Recycling Innovation Challenge: Recycling at an Island Level

The Government of St Vincent and the Grenadines is calling on academia, private sector, and entrepreneurs to explore the potential of using plastics and volcanic ash to make useful products.

Funding Source

The Project, Building Resilience in the Eastern Caribbean through Reduction of Marine Litter and Pollution Project (ReMLit) seeks to contribute to building resilience in marine ecosystems through a reduction in marine litter in the Eastern Caribbean. The ReMLit is funded by the Government of Norway, through its Ministry of Foreign Affairs. The Project is a three-year initiative which is set to conclude on December 31, 2022.

Under the ReMLit Project, a proposal will receive support in the amount of **USD20,000** to fund the winning proposal and demonstrate possible creative use(s), novel ideas and solutions for plastics to reduce environmental and social impacts of these materials, and create useful products that can contribute to economic growth create livelihoods, and involve communities. Proposal may also build on existing relevant research to bridge any knowledge gaps and provide workable solutions.

Timeframe

It is expected that demonstration/implementation of the selected proposal will be undertaken during September 30, 2021 to January 31, 2022

Background

Solid waste pollution reaching coastal areas through indiscriminate disposal not only affects the aesthetics of the country's beaches, but also poses a threat to marine fauna which are trapped in the debris or choke on it due to ingestion. The breakdown of microplastics also releases chemicals which can bioaccumulate and be transmitted through fishery resources to humans. The waste collections service throughout the state is considered to be excellent with nearly 100% of householders having access to at least a once per week waste collection. However, the main method of solid waste disposal is by landfilling which poses a threat to sustainability as land space is limited to continue the activity in perpetuity. There are also concerns related to climate change as landfills are renowned to be major contributors to the emission of greenhouse gases. There is therefore the need to continue to pursue and strengthen efforts to promote waste diversion, recycling and a more sustainable method of waste disposal. However, given the small nature of countries within the OECS, economies of scale and financial feasibility are often big factors that constrain actions at the national level as it relates to recycling of materials.

The Government of SVG has sought to contribute to the address of waste issues through the implementation of a ban on certain plastics and Styrofoam food containers. Additionally, an existing private public partnership between All Islands

Recycling Inc (AIR Inc.) and the Solid Waste Management Unit since 2013, has resulted in some 38 million containers (plastic bottles and aluminum tins) being removed from environment and exported. This programme is sustained by the Environmental Levy Act of 1991. The deposit-refund mechanism employed provides financial incentive to plastic bottle collectors, primarily individuals of the lower income strata who are removing the empty containers littering their communities. The programme has also helped to alleviate poverty among women. Of the approximately 300 harvesters who sell containers to AIR Inc., 60% are women.

It is adjudged that the current programme captures a very small percentage of recyclables and there is potential for significant expansion in terms of quantity and type of items that can be collected and processed. Moreover, changes in the international market for plastics, is making exportation more difficult and less profitable. It is therefore necessary to find ways to scale up this programme to capture more recyclables (through perhaps amendments to the legislation, improved collections and importation of recyclables from other islands) and explore possible avenues to enabling recycling at the local level.

Of particular note is that in April 2021, the country was impacted by volcanic eruption which has led to a significant amount of ash fall. St Vincent and the Grenadines, notes the success of plastic reuse with ash in the Philippines. After lying dormant for 43 years, Taal volcano in Batangas province suddenly erupted on 12 January, 2020 covering the surrounding towns with grey, powdery ash that reached Metro Manila some 80 kilometres away. As the Philippines explored ways of using the ash, initial attempts at making bricks from pure volcanic ash were not successful as the bricks cracked during the curing process. Trial and error methods showed that the ideal proportion was 40 per cent volcanic ash, 30 per cent shredded plastic waste, 20 per cent white sand, and 10 per cent cement. Compressive strength tests, have determined that the bricks made with volcanic ash were as much as 60 per cent sturdier than locally available bricks. It was also a way to get rid of plastic waste.

The purpose of the Challenge is to support research that addresses the problems caused as a result of plastic waste and whose solutions will make an important contribution in reducing plastic wastes in Saint Vincent and the Grenadines.

Proposal Themes

Indicative proposal themes are as follows:

- Community involvement and enhancement
- Creating livelihoods and businesses
- Creative industry materials and supplies
- Infrastructural development/ Construction
- Diversification of agricultural input products with export potential
- Domestic applications

Call for Proposals:

Private sector agencies, entrepreneurs, and academia are invited to submit proposals aimed at addressing plastic waste in St Vincent and the Grenadines. The proposals should be no more than 4 pages (not including annexes) and must clearly outline the following:

- Title
- Objectives
- Description of the proposed solution
- Rationale, including literature review
- Methodology and approach
- Partnerships (if applicable)
- Financial Proposal

Criteria

Proposals will be judged based on the following criteria:

- Creativity
- Economic potential
- Potential for repeat consumable development
- Potential for upscaling and/or replication
- Potential to effectively resolved the problem
- Partnership arrangements on the proposal submission (e.g., academic and private sector partnerships)

Proposals that address plastics along with other waste materials, including volcanic ash, would receive bonus points.

Proposals should be submitted by **September 10, 2021** at 4:00pm AST to the following email address: **emdsvg@gmail.com**

The winning proposal will receive support for demonstration.

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Read more on ReMLit: <https://www.oecs.org/en/marine-pollution-eastern-caribbean>

Read more on SVG's ReMLit-funded Project: https://drive.google.com/file/d/1Iso3vdB2zc-1Eg6tZqMVA621_xXUVDqw/view