Introduction
The Asian Development Bank (ADB) has supported the development of the Kinoya Sewerage Treatment Plant Greenhouse Gas Emission Reduction Project under ADB’s loan Suva–Nausori Water Supply and Sewerage Development in the Republic of Fiji. The project develops and expands water supply and sewerage treatment systems in Suva and Nausori urban areas. The project is the first sewerage treatment initiative in Fiji to be registered as a Clean Development Mechanism (CDM) project.

The project involves capturing and destroying methane emissions generated from decomposing organic sludge. Methane is a greenhouse gas (GHG) and has 21 times more global warming potential than carbon dioxide (CO₂). By recovering and destroying methane, the project leads to GHG mitigation.

Being the first methane capture and combustion project in Fiji, it sets an example as a clean technology demonstration model for existing and new wastewater treatment plants in the country.

The program contributes to establishing management practices at wastewater treatment plants to reduce GHG emissions. Although regulation for the treatment of domestic and industrial wastewater in Fiji exists, there is no regulation stipulating methane recovery from wastewater treatment plants. With the revenue generated from the CDM, the Water Supply and Sewerage Department (WSD) will be able to deploy such new environment-friendly practices across the country.

Quick CDM Facts
- Project type: Waste handling and disposal
- Methodology: AMS-III.H. version 16—Methane recovery in wastewater treatment
- Current status: Registered (Project number 4552)
- Start of crediting period: September 2011
- Estimated average annual emission reductions: Approximately 22,000 tons CO₂ equivalent

The project activity also contributes to the country’s sustainable development goals. Additional benefits include significant improvements in the local environment and hygiene by eliminating obnoxious odors and air pollution, thereby improving the living and working conditions for the communities.
The project\(^1\)

The Kinoya Sewerage Treatment Plant Greenhouse Gas Emission Reduction Project comprises recovery and destruction of methane generated from anaerobic decomposition of organic matter in wastewater. The gas recovered is flared in enclosed units where complete combustion of the methane-rich digester gas (biogas) occurs, ensuring maximum destruction of the GHG. The plant treats approximately 472 cubic meters per day of wet sludge.

The project reduces GHG emissions by approximately 22,000 tons CO\(_2\) per year. The CDM revenue helps the project proponent overcome significant barriers related to technology and human resource capacity.

In the absence of the project, methane would be vented out into the atmosphere, contributing to GHG emissions.

The project is registered with the CDM Executive Board (CDM EB). The project is expected to start generating carbon credits from September 2011.

The project is developed by the WSD under the Ministry of Works, Transport and Public Utilities, Government of Fiji.

First of its kind in the applicable geographical area

The project is a first-of-its-kind methane recovery and flaring activity in Fiji. In the absence of CDM, the WSD has no incentive to implement the project due to the risks associated with the introduction of a new type of technology in the country. CDM, therefore, provides an opportunity for the WSD to seek better wastewater management practices.

The total cost of the Suva–Nausori Water Supply and Sewerage Development project is about $72 million, of which ADB has committed a loan of $47 million.

ADB is providing assistance in the overall capacity development to help strengthen policy and institutional capacity of the country’s water supply and sewerage management system. ADB’s Technical Support Facility, under its Carbon Market Program, has been providing CDM-related technical assistance including preparing project design document seeking host country approval, facilitating validation, registering with the CDM Executive Board and post-registration monitoring of the CDM project.

The project serves as a model—particularly to similar small island developing states—to harness the benefits of CDM toward enhancing the water supply and sewerage treatment in a sustainable way.

CDM Briefs are prepared by the Technical Support Facility under the Carbon Market Program.

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1 For more information, please visit http://cdm.unfCCC.int/Projects/DB/TUEV-SUED1299488431.41/view (General link) http://cdm.unfCCC.int/UserManagement/FileStorage/WNUJ6AIvzQDRPZCMX8FTo4L95YSEHO (PDD link) and www.adb.org/Documents/RRPs/FJ/rrp_fij_32200.pdf

In this publication, $ refers to US dollars.  