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Cities Alliance
Cities Without Slums

Hosted by:  UNOPS



Financial Support Mechanism

Grant for Renewable Energy and Waste-to-energy in Greater Monrovia

Solid waste disposal has become an overwhelming task for the municipal authorities in Monrovia, which face severe constraints in tackling the mounting waste situation. The significant amount of uncollected solid waste within the city poses a major public health hazard.

Another issue for Monrovia residents is lack of electricity access. World Bank data demonstrates that 16.8 per cent of urban residents and less than 2 per cent of rural residents have electricity access. This lack of electricity contributes to the burning of biomass for energy, straining the environment and generating pollution.

Direct Award Facility for Community-based Projects in Renewable Energies

To address solid waste and energy concerns, Cities Alliance is establishing a grant facility that allows local implementing partners to access renewable energy technological packages in the form of direct awards to pilot small community-based projects. The facility is implemented through the European Union project, "Implementing Waste-To-Energy Innovative Approaches in Greater Monrovia."



The grant facility will disperse a maximum of six direct awards of value no greater than

\$50,000, ensuring that all investments promote small-scale renewable energy initiatives at the community level. The renewable energy packages will include a combination of the goods and items in the following areas:

- **Waste to energy through biodigesters.**
- **Solar-based technologies to improve electricity supply to existing facilities.**
- **Other renewable energy related solution that fit the purpose and scope of the award.**

Selection Criteria and Beneficiaries

The grant facility will provide direct awards to targeted partner institutions that have been identified as ideal to pilot the renewable energy technologies. The approach is to strengthen the capacity of local institutions by driving a learning process through the implementation of pilot projects that can provide lessons learnt in the energy sector at community level.

The entities were selected primarily based on their involvement with the Cities Alliance Liberia Country Programme and their role in improving the solid waste management systems at the national and community level.

Cities Alliance will make the direct awards these organizations to enable them to test and better understand solar and waste to energy technologies; educate the public at

The six proposed entities to receive the direct awards are the following:



Government institutions at national level:

Environment Protection Agency (EPA) and Ministry of Internal Affairs (MIA)



City corporations of the Greater Monrovia:

Monrovia City Corporation (MCC) and Paynesville City Corporation (PCC)



Civil society networks:

Federation of Petty Traders and Informal Workers of Liberia (FEPTIWUL) and YMCA/ Federation of Liberia Urban Poor Savers (FOLUPS).



¹ All dollar amounts are in U.S. dollars, unless noted.



large on the climate change impacts of reducing greenhouse gases and adopting clean renewal energy options; and pilot the viability of scaling up this renewable energy technologies in informal settlements as an alternative to conventional fuel- based source of electricity in Liberia.

Each organization will be individually approached by Cities Alliance and requested to identify a highly public site where the green technologies can be installed. Based on their findings, they will be requested to submit an implementation plan for the installment of the technology package The implementation plan will demonstrate the following:

- **How the organization will ensure the installation, long-term management and sustainability of the technologies?**
- **How the adoption of any or all these technologies will support the organization to better realize its institutional objectives?**
- **How the organization will outreach to the broader public to inform them of the benefits of such clean technologies and the importance of reducing greenhouse gas emissions?**

Technologies

The projects will explore some of the following technologies.

Waste-to-energy Biodigesters

Biodigesters enable food waste to be

locally disposed and transformed into useful cooking gas, providing a partial alternative solution to the disposal of the organic fraction of solid waste. Additionally, it helps the city in saving the huge costs of transporting such waste to infill sites. In return, the user can harvest safe cooking gas. The same home biogas biodigester can be linked to a toilet facility, also enabling the safe transformation of human waste into useful gas and compost.

Renewable Energy Technologies

Given the desperate need for clean and reliable energy and the slow complex road to the mass electrification of the Greater Monrovia area, the opportunity exists to introduce different energy options based on solar technology.



Water heater: The heating up of an electric water geyser is expensive, accounting for between 40 to 60 per cent of a household's electricity bill, making hot water an unaffordable option for poorer communities. Solar water geysers, fuelled by sunlight, decrease the carbon footprint and is limitless and free.



Public Lighting: An average conventional streetlamp operating 8 hours a day, 365 days a year, consumes approximately 880kWs of electricity per annum. Solar street lighting reduces or eliminates those electricity costs and improves public safety and security.



Internal lighting: In Liberia, many public facilities (including schools) are internally too dark to enable ease of reading, learning and productive work. Solar panels can effectively light up such spaces, improving productivity and reducing greenhouse gases.



Charging stations: With the absence of electricity, households find it difficult to charge up needed appliances typically telephones, radios and lights. Solar power provides the opportunity to furnish public charging points, enabling greater ease of accessibility.



Waste-to-energy units: Community-based technologies that use waste as a primary source can produce energy at small, local, household level.

Expected Results

The launch of the grant facility dedicated to community-based renewable energy projects introduces to Greater Monrovia a window of opportunity for public institutions to pilot green technologies in public facilities with the main purpose of improving the delivery of services at community level. The expected results of the grant facility are the following:

- **Six direct awards have been released to local institutions.**
- **\$275,000 have been awarded to local institution in the form of grants.**
- **At least six pilot projects have been successfully implemented.**
- **At least six communities have been benefited by receiving one pilot project.**
- **At least three types of renewable energy technology have been introduced and piloted at community level.**

About Cities Alliance

Cities Alliance is a global partnership that supports cities in delivering sustainable development and tackling urban poverty, with a particular focus on informality in secondary cities. It brings together all urban actors to foster well-run, sustainable cities that provide equal opportunities for all residents.

About Cities Alliance Liberia

The Cities Alliance Liberia Country Programme (LCP) provides long-term, programmatic support to help Liberia realise its developmental objectives. Launched in 2016 with funding from Comic Relief, it is an ambitious, multi-level, urban development programme that aims to improve the lives and opportunities of 400,000 slum dwellers in Greater Monrovia. It also includes two projects on primary waste collection (2018–2021) and innovative waste-to-energy initiatives (2018–2020) funded by the EU.

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