Solar energy research and development guyana

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(Georgetown) February 05, 2024 - The Guyana Energy Agency (GEA) has recorded notable milestones from energy projects undertaken in 2023 as Guyana pursues important steps to decouple economic growth from using fossil fuels for electricity generation and harness its low-carbon resources. GEA"s energy progress has helped to address rising electricity demands and enhanced access to renewable energy supply across local communities.

GEA supported the implementation of a massive electrification project to supply, deliver and distribute 30,000 Solar Home Energy Systems to Hinterland and riverine communities in Guyana. A total of 26,398 units were distributed as of December 2023. Each 160-Watt system can power two (2) 9-Watt LED lamps, one (1) 12-Watt stand fan, and is equipped with a USB Port for the charging of portable electronic devices. At the completion of the 30,000 Solar PV Home Energy Systems project, a total of 4.8 MW will be installed across the ten (10) administrative regions.

GEA also installed two solar PV mini-grids supplying electricity to twenty-three (23) buildings in the communities of Orealla and Siparuta, Region Six (East Berbice Corentyne). Orealla was equipped with a 45-kilowatt (kW) mini solar installation and a 135 kilowatt per hour (kWh) battery energy storage system, while Siparuta had a 45kW mini solar installation with a 105kWh battery energy storage system.

Government of Guyana commissioned its second mega-scale solar farm, the 1.5 MW utility-scale solar PV plant at Bartica, Region Seven (Cuyuni-Mazaruni) in March 2023.

At twenty-two (22) off-grid locations, GEA installed over 163 kWp of solar PV capacity and 800 kWh of battery energy storage. The installations provided electricity to public and community buildings across Regions One, Two, Three, Four, Six, Seven, Nine and Ten within twenty (20) communities Malborough, Siriki, Schepmoed, PlegtAnker, Baracara, Lighttown, Macushi, Muritaro, Kaikan, Aishalton, Karasabai, Georgetown, Smith Creek, Mabel Sandy, Martindale, Rockstone, Lanaballi, Bartica, Kartabo and Jawalla.

During the year, GEA supported the implementation of the Small Hydropower Project in Kumu and Moco Moco, Region Nine, which aims to provide hydroelectricity to Lethem and its surrounding environs. The project is constructing a new 1.5 MW Kumu hydropower plant and rehabilitating and upgrading the defunct Moco Moco hydropower plant to 0.7 MW capacity. The Small Hydropower Project is 37 per cent completed and is scheduled for completion and commissioning by 2025.

In 2022, the solar PV installed capacity was 7.96 megawatts with the addition of the 1-megawatt Lethem solar PV farm, ten (10) off-grid systems at Loo Creek in Region Four, and fifty-nine (59) solar PV systems at public buildings. In 2023, the solar PV installed capacity increased by 6.661 megawatts to 14.62 megawatts with the

additions that include the 1.5 megawatts Bartica solar PV farm, completion of 21 solar mini-grids, 22 solar PV systems at public buildings, and distribution of 26,398 solar home energy systems.

GEA welcomes the 2024 budget approval which includes allocations for the construction of a 0.6 MW solar farm for Leguan, completion of the 0.65 MW solar farm at Mahdia, five (5) new solar PV mini-grids at Awarewaunau, Katoka, Maruranau, Yupukari and Nappi in Region Nine and funds for the supply and installation of off-grid solar PV systems at 42 locations.

The Guyana Energy Agency continues to support national efforts in transforming the country"s sustainable low-carbon pathway and the energy sector as it contributes to providing cleaner, affordable energy access for all, as well as promoting energy efficiency and conservation practices.

"Replace incandescent light bulbs with compact fluorescent lamps or CFLs. CFLs use up to 75% less energy than incandescent bulbs. Same brightness, less energy, more savings."

Guyana"s energy demand is growing and more solar power projects are coming on stream in coastal and hinterland areas to meet that demand, according to the Chief Executive Officer of the Guyana Energy Agency (GEA), Dr. Mahender Sharma.

The DBIS is Guyana"s main power grid that uses diesel, an environmentally- harmful fossil fuel, to produce power. It supplies about 78 percent of the country"s energy needs.

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