Guide For Sustainable Procurement

Water efficient devices, Cooling devices, Solar PV

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Background

The Government of Grenada, in partnership with the German Development Corporation (GIZ), is implementing the Project, Climate-Resilient Water Sector in Grenada (G-CREWS). The G-CREWS project is jointly financed by the Green Climate Fund (GCF) and the German Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety (BMUKN) under its International Climate Initiative (IKI) and the Government of Grenada.

Under Component 1.2 of the G-CREWS project, Mainstreaming of Climate Resilience Water-Related Sectors, a guide was developed to aid procurement officers in the identification and selection of sustainable devices. These devices align with the Government of Grenada Green Public procurement regulation.

Scope

New construction and refurbishment of Government buildings and projects.

E.g.: schools, health centers, and other public facilities.

General Procurement Principles

Sustainability: Prioritize energy-efficient and water-efficient technologies.

Compliance: Ensure all equipment complies with national standards and global best practices (e.g. refrigerant safety, GWP standards).

Cost Efficiency: Focus on long-term savings, including reduced utility costs.

Vendor Requirements: Vendors must provide warranties, manuals, and service support.

Exception: Should be made for pilot projects where new or emerging technologies are going to be used.

Water Efficient Devices Requirements

Procurement officers should ensure that all water devices meet or exceed the efficiency levels outlined below:

Device	**Maximum Flow Rate / Volume**
Showerheads	≤ 1.5 **gallons per minute** (gpm)
Lavatory Faucets (public)	≤ 0.5 gpm
Lavatory Faucets (private)	≤ 1.5 gpm
Kitchen Faucets	≤ 1.5 gpm
Toilets	≤ 1.28 **gallons per flush** (gpf)
Urinals	≤ 0.125 gpf
Pre-rinse Spray Valves	≤ 1.1 gpm
Clothes Washers	Integrated Water Factor (IWF) ≤ 3.2
Dishwashers (residential)	≤ 3.5 gallons per cycle

Additional Requirements:

- Water Sense labeled or equivalent certification preferred.
- Devices must support easy maintenance and availability of parts.

Refrigerators Technical Specifications

Specification	Requirement
Refrigerant	Isobutane (R600a)
Energy Consumption	ENERGY STAR certified or equivalent (A+, or higher)
Safety Compliance	Must comply with ISO 5149 and IEC 60335 standards for hydrocarbon refrigerants

Split-Type Air Conditioning Units

Specification	Requirement
Refrigerant	R290 (Propane)
Energy Efficiency Ratio (EER)	≥ 12
Seasonal Energy Efficiency Ratio (SEER)	≥ 20
Inverter Technology	Required for energy efficiency
Safety Compliance	Must meet IEC and ISO safety standards for flammable refrigerants
Cooling Capacity	Based on room size, must include BTU calculation per project

Installation Notes:

- Must be installed by certified technicians (Certified in the safe use and handling of Natural refrigerant AC units).

- Unit must be procured from an approved supplier. Consult with National Ozone Unit.

Renewable Energy (Solar PV)

It is recommended that Solar panels certification be either CE (European Conformity), Underwriters Laboratories (UL) or an equivalent certification in line with National standards or recommendations from Central Procurement Unit.

Exceptions can be made for pilot projects introducing new technology. Bidder will give the suggestion to use either Monocrystalline or Polycrystalline Pannels.

Specification	**Requirement**
Monocrystalline	Efficiency (between 18% – 22% or higher)
Polycrystalline	Efficiency (between 18% – 22% or higher)

Glossary

Term	Definition
BTU (British Thermal Unit)	A unit of measurement for energy. In heating and cooling, it represents the amount of heat required to raise the temperature of one pound of water by one degree Fahrenheit.
CE (European Conformity)	A mandatory certification mark indicating that the solar panel complies with European Union (EU) safety, health, and environmental protection standards.
Efficiency (in solar panels)	A measure of how well a solar panel converts sunlight into usable electricity. Panels with 20% efficiency turns 20% of the sunlight received into electrical power. The higher the efficiency, the more power is produced from the same area.
Gallons per flush (gpf)	A measurement indicating the amount of water used each time a toilet is flushed. Lower gpf values help conserve water.
Gallons per minute (gpm)	A flow rate measurement indicating how many gallons of water pass through a system or fixture in one minute. Commonly used to rate water fixtures like faucets and showerheads.
Integrated Water Factor (IWF)	An efficiency metric used for clothes washers. It represents the number of gallons of water used per cycle per cubic foot of washer capacity. The lower the IWF, the more efficient the washer is. A value of ≤ 3.2 indicates high efficiency.

Term	Definition
Refrigerant	A chemical compound used in air conditioning and refrigeration systems that absorbs and releases heat as it. circulates through the system, enabling cooling or freezing.
UL Certified	A product that has been tested by Underwriters Laboratories (UL), a global safety science company, has met its safety, sustainability, and performance standards.

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