



BASICS OF ELECTRICITY

Consumers expect electricity to be available whenever they plug in an appliance, turn a switch, or open a refrigerator.

Generation

In Barbados, electricity is generated by the conversion of heat energy (burning of a fuel) to mechanical energy to electrical energy.

Essentially, there are three types of plant used in the generation of electricity; namely Steam, Diesel and Gas.

1. Steam - the primary energy source in this process is Bunker C also known as fuel oil, which is used to convert boiling water to steam. The energy produced is then used to drive the turbines.
2. Diesel - the primary energy source in this process is also diesel fuel. Low speed diesel plant is generally used for base load due to its efficiency. Medium and high speed diesel plants are generally less efficient and hence used for peak demand. Base load power is the electricity generated by the utility company around the clock. Peak demand occurs when many people want electricity all at the same time.
3. Gas - these turbines are normally used for peak demand. Combined cycle turbines use the heat produced from the gas turbines to produce energy for steam turbines.

Transmission

In order to reduce power losses, electricity is transmitted at high voltages through transmission lines at 24,000 Volts.

Distribution

The transmission lines transport electricity to substations where the voltage is reduced to 11000 Volts and distributed to various districts. The voltage is further reduced at the pole nearest to your home to 120 Volts which is the voltage of regular household equipment.

Electricity Regulation

The establishment of a tariff structure for utilities in Barbados is the responsibility of the Fair Trading Commission.

Market Structure

The Barbados Light & Power (BL&P) is responsible for generation, transmission and distribution of electricity. BL&P is presently the only company permitted to sell electricity in Barbados thereby enabling it to operate as a monopoly. The rates charged therefore are designed to recover the cost of all processes involved in making electricity available to customers.