# FROM DEPENDENCE TO RESILIENCE – CARICOM ENERGY MONTH

Guyana as a member of CARICOM, observes Energy Month during November. Energy remains a *strategic priority* for all CARICOM countries, as the region confronts unprecedented challenges in a worsening climate, the ongoing public health crisis, and declining economies. These, and other, issues are captured in this year's theme: **'*From Dependence to Resilience: Fueling our Recovery with Sustainable Energy*'** as the region that is seized, *in particular*, with the increasingly volatile global oil prices, which are at a record seven year high, is seeking to decouple its economy from imported fossil fuels, which provides more than 80% of its energy needs.

Critically, as world leaders assemble at COP26 to make decisions on issues, including energy, that are linked to global climate change, the activities of CEM are focused on the engagement of decision makers, from the public sector (policy and regulations) and industry (business and investments), who will join academics and other civil society actors at the Seventh Edition of the Caribbean Sustainable Energy Forum (CSEFVII) from the 22nd to 25th November. Held biennially, this year's Forum will be hosted in collaboration with the Government of Barbados, and would feature a diverse mix of speakers, including Heads of Governments and Ministers, business and thought leaders, and sector experts.

### *A closer look at renewable energy*

Renewable energy is energy that has been derived from earth's natural resources that are not finite or exhaustible, such as wind and sunlight. Renewable energy is an alternative to the traditional energy that relies on fossil fuels, and it tends to be much less harmful to the environment.

### *Types of renewable energy*

- *Solar* - Solar energy is derived by capturing radiant energy from sunlight and converting it into heat, electricity, or hot water. Photovoltaic (PV) systems can convert direct sunlight into electricity through the use of solar cells.
- *Wind* - Wind farms capture the energy of wind flow by using turbines and converting it into electricity.
- *Geothermal* - Geothermal heat is heat that is trapped beneath the earth's crust from the formation of the Earth 4.5 billion years ago and from radioactive decay. Sometimes large amounts of this heat escapes naturally, but all at once, resulting in familiar occurrences, such as volcanic eruptions and geysers. This heat can be captured and used to produce

geothermal energy by using steam that comes from the heated water pumping below the surface, which then rises to the top and can be used to operate a turbine.

- *Hydroelectric* - Dams are what people most associate when it comes to hydroelectric power. Water flows through the dam's turbines to produce electricity, known as pumped-storage hydropower. Run-of-river hydropower uses a channel to funnel water through rather than powering it through a dam.
- *Ocean* - The ocean can produce two types of energy: thermal and mechanical. Ocean thermal energy relies on warm water surface temperatures to generate energy through a variety of different systems. Ocean mechanical energy uses the ebbs and flows of the tides to generate energy, which is created by the earth's rotation and gravity from the moon.
- *Hydrogen* - needs to be combined with other elements, such as oxygen to make water as it does not occur naturally as a gas on its own. When hydrogen is separated from another element it can be used for both fuel and electricity.
- *Biomass* - Biomass is organic matter that comes from recently living plants and organisms. Using wood in your fireplace is an example of biomass that most people are familiar with.

***Renewable Energy in Guyana***

Guyana, as a member of the Caribbean Community (CARICOM) has a target of 20%, 28% and 47% renewable electricity generation to be reached by 2017, 2022 and 2027 respectively. The 1994 National Energy Policy created the Guyana Energy Agency. It aimed at the development of indigenous resources, including biomass, as well as medium/small/mini/micro hydropower, solar and wind power for remote and isolated communities in the short term to medium term and large hydropower in the longer term.

The Low Carbon Development Strategy (LCDS) was launched in 2009 with the aim of transforming Guyana's electricity sector from nearly 100% fossil fuel based to nearly 100% renewable energy based. The achievement of this objective is based on the development of the 165MW Amaila Falls hydropower project, as well as the operationalizing of a high pressure 30MW biomass (sugarcane bagasse) cogeneration plant.

Fiscal incentives include, since 2012, VAT and import duty exemptions for renewable electricity equipment, energy efficient lighting, solar appliances, solar water heaters and solar cook-stoves.

Guyana is currently dependent on imported petroleum-based fuels as its main source of energy. However, the energy sector is poised for significant transformation due to Guyana re-committing itself to the development of its indigenous renewable energy resources, and to pursue 100% renewable energy in electricity generation.

According to the Environmental Protection Act Cap 28:01, installation for hydro-electric energy production requires Environmental Authorisation, which is only issued by the EPA.

**Sources**

‘IRENA (2015), Renewable Energy Policy Brief: Guyana; IRENA, Abu Dhabi’

https://caricom.org/caricom-energy-month-begins/

https://justenergy.com/blog/7-types-renewable-energy-future-of-energy/

***You can share your ideas and questions by sending letters to: “Our Earth, Our Environment”, C/O ECEA Programme, Environmental Protection Agency, Ganges Street, Sophia, GEORGETOWN, or email us at: eit.epaguyana@gmail.com. Follow us on Facebook and Instagram and subscribe to our YouTube channel.***