



GOJ/EU/UNEP CLIMATE CHANGE ADAPTATION
& DISASTER RISK REDUCTION PROJECT

Hot Topic- Climate Change & Mitigation

What is climate change?

Our climate is changing because as human beings we have increased the amount of certain gases, called greenhouse gases, in our atmosphere.

We burn oil, coal and gas to produce energy for homes, factories and businesses and for our transportation needs. Burning these fossil fuels also produces greenhouse gases like Carbon Dioxide, Methane and Nitrous Oxide.

Excess greenhouse gases in our atmosphere are trapping too much heat around the earth. This heat makes our earth warmer, like a greenhouse. This is what is known as global warming. It is this increase in temperature over time which results in climate change. There is a need to reduce greenhouse gas emissions and while small developing states like Jamaica are not significant emitters, we can do our part to reduce the amount of these gases which are driving climate change.

What is Mitigation and why do it?

Climate change mitigation is broadly defined as any action taken to permanently eliminate or reduce the long-term risk and hazards of climate change to human life, property. More specifically, the International Panel on Climate Change (IPCC) defines mitigation as: "An anthropogenic (manmade) intervention to reduce the sources or enhance the sinks of greenhouse gases."

Greenhouse Gas Emissions – Global and Jamaica

Greenhouse gases such as Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O), Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs) and Sulfur hexafluoride (SF₆) are the main contributors to the changing climate. It is important to note that water vapour is also a significant contributor. These gases have enhanced the greenhouse effect which has been releasing less radiation to space and re-radiating/trapping heat around the earth's surface .

The global level of the atmospheric concentrations of greenhouse gases is 381 parts per million (ppm) (latest recorded) increasing from 1991 levels of 350ppm and pre-industrial revolution levels of 278 ppm. In the scheme of things, Jamaica is not a significant emitter of greenhouse gases. The Island's annual emissions for carbon dioxide, methane and nitrous oxide have been increasing from baseline levels in 2000 to monitoring levels in 2005.



Common Types of Climate Change Mitigation:

1. **Reduction in use of non-renewable energy sources**
2. **Public awareness-** Build awareness and increase public education at the individual, community, sectoral and national levels about the benefits of reducing greenhouse gas emissions and the actions that can be taken at the various levels to achieve this
3. **Carbon sequestration/sinks** (the removal and storage of carbon from the atmosphere)- This can be done via reforestation, restoration of wetlands and improving agricultural practices
4. **Development of green energy** (renewable energy sources such as wind, hydro and solar power)
5. **Policy development** to encourage use of renewable energy sources and cleaner and more efficient energy consumption at household, business and industrial levels

Mitigation and adaptation are the two central approaches in reducing climate related risks. Based on the current levels of CO₂ in the atmosphere, it is critical that mitigation measures be undertaken to reduce the emissions of greenhouse gases by source or enhance their removal from the atmosphere by sinks.

There is a great need for policy development to guide the reduction of greenhouse gases from their source. Although Least Developed Countries are not obligated to emission protocols under Kyoto, they should establish guidelines at the national level as emissions levels are expected to increase from developing countries. Incentives and the carbon market should also be explored as possible mitigation strategies.

Sources:

CCCC, 2009. **Climate Change and the Caribbean: A Regional Framework for Achieving Development Resilient to Climate Change** (2009-2015). Caribbean Community Climate Change Centre, Belmopan, Belize

Government of Jamaica, 2011 **The Second National Communication of Jamaica To The United Nations Framework Convention on Climate Change 2011** <http://unfccc.int/resource/docs/natc/jamnc2.pdf>

UNFCCC, 2009. **Fact sheet: The need for mitigation**. Obtained from: http://unfccc.int/files/press/backgrounders/application/pdf/press_factsh_mitigation.pdf.

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10 Jamaican Mitigation Initiatives

- Carbon Policy Development (Ministry of Science, Technology, Energy and Mining/Petroleum Corporation of Jamaica)
- Bio-Fuels Policy Development (Ministry of Energy and Mining/ Petroleum Corporation of Jamaica/Ministry of Agriculture and Fisheries)
- GOJ Policy on Environmental Stewardship (Draft Environmental Management Systems Policy) by Office of the Prime Minister/ Environmental Management Division
- E-10 Storage Capacity Expansion (Petroleum Corporation of Jamaica)
- Liquefied Natural Gas (LNG) by Ministry of Science, Technology, Energy and Mining/Petroleum Corporation of Jamaica
- IDB Technical Assistance for Energy Conservation and Efficiency in the Public Sector (Ministry of Science, Technology, Energy and Mining/Planning Institute of Jamaica)
- Improve lighting energy efficiency in hospitals and schools (Ministry of Science, Technology, Energy and Mining/ Petroleum Corporation of Jamaica)
- Improve energy efficiency of street lights and traffic lights (Ministry of Science, Technology, Energy and Mining/ Petroleum Corporation of Jamaica)
- Improve energy efficiency in the National Water Commission by using energy efficient pump motors and carrying out power factor correction (Ministry of Science, Technology, Energy and Mining/ Petroleum Corporation of Jamaica/National Water Commission)
- Wind Farm Development (Retractable Tower) (Ministry of Science, Technology, Energy and Mining/Petroleum Corporation of Jamaica)

