conferenceseries.com

2nd World Congress on CLIMATE CHANGE AND ENVIRONMENTAL HEALTH

November 02-03, 2022 | Webinar

Fueling greenhouse gas emissions reduction for climate change mitigation by renewable energy options expansion: Case study Jamaica

Delmaria Richards

University of Tsukuba, Japan

Renewable energy (RE) is the fastest-growing energy source globally. Classic unconventional renewable energy sources (RES) such as biogasification, wind, and solar PV prevent substantial amounts of greenhouse gas (GHG) emissions by contributing to 29% of the world's electrification demand in 2020. In particular, 19 % of Jamaica's electricity is generated by renewables. Expansion of these RES will play a substantial role in absorbing excess CO2 emissions at comparable low environmental and socioeconomic costs. Moreover, it will aid Jamaica's plan under the National Development Contribution to reduce the energy sector's GHG emissions by 2 million tons (Mt) of CO2e relative to 2005 emissions of 8.2 M Mt CO2e.

Among the unconventional RE sources photovoltaic solar energy has been using fewer natural resources compared to fossil fuels for energy generation; wind energy is the cheapest source of electricity, and biogasification offers great solutions for manure management, waste recycling, plus the reduction in soil, air, and water pollution.

This study analyzes the amount of potential energy which can be generated from the three energy sources then evaluates potential emission reduction from proposed projects derived from the RES. Varying methods are utilized to determine GHG emissions abatement. However, all methodologies incorporate techniques from the IPCC Guidelines of 2006 and 2019.

Biography

Delmaria Richards is a Japan Science and Technology Agency (JST) research fellow and teaching assistant at the University of Tsukuba, Japan. She is also a teaching assistant at the Tsukuba University of Technology. Her academic background covers integrated resource waste management (IRWM) and environmental policy and planning (EPP), certified by the University of Tsukuba through the Sustainability Science, Technology, and Policy Program. Ms. Richards also holds a master's degree in environmental sciences as well as a certificate in Global Energy and Climate Policy from SOAS University of London. Additionally, she has experience and qualifications working in the areas of nature and heritage conservation in Japan and Jamaica, with certifications from IUCN, ICCROM, UNESCO, Kanazawa University, and the University of Tsukuba.