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Renewable energy matrix development, biodiversity conservation agenda and climate change strategy: Three fundamental cornerstones of environmental sustainability in Costa Rica

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Renewable energy matrix development, biodiversity conservation agenda and climate change strategy are the three fundamental cornerstones of environmental sustainability in Costa Rica. Costa Rica is located in Central America isthmus, between Nicaragua and Panama. It is one of the greenest nations with 27% territories under protected areas, currently features greater biodiversity than Europe or North America and even though constitutes 0.034% of the total earth surface represents around 5% of the planet biodiversity. The nation is a core zone with thousands of renewable megawatts; in fact the energetic matrix is based on 95% of renewable sources including wind (3.8%), geothermal (12.5%), biomass (0.7%), solar (~0.5%) and hydropower (77.5%). Furthermore the country has a lofty sustainability aspiration; grow into the first developing country with a running climate change strategy and carbon neutral plan by 2021. Country approach is composing by metrics and programs of mitigation, vulnerability, adaptation and capacity-building. Government and private institutions are using budget, laws, and incentives to promote education, culture and public awareness. Regarding all this status, the main goal of this paper is to discuss the Costa Rica's environmental sustainability through articulation and analysis of energy, biodiversity and climate change strategies. For this purpose it is integrated relevant and recent information about legal, technological and new business policy improvements. The analysis is based on extensive and multidisciplinary surveys, interviews with stakeholders, pertinent statistics and updated journal reports. Finally, a roadmap is addressed through main challenges and gaps of each three components. In this study the cornerstones selected are not mutually exclusive but reinforcing.

Biography

José Rodrigo Rojas M is an Ecologist. He gained his MSc from National University of Costa Rica and PhD from Austral University of Chile. He started a career in renewable energy projects as consultant, later as teacher, currently is Senior Researcher at the Environmental Department Planning of Costa Rican Institute for Electricity. In the last 10 years he has published papers on conservation, renewable energy and climate change in reputed journals from Costa Rica, United States, Germany and England. He won several international awards from Austria (LAC-ACCESS), Germany (DAAD, GIZ), and USA (Audubon Society, San Diego, Stanford and Yale Universities). His current focus is climate change-renewable energy.

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