

RENEWABLE ENERGY PRODUCTION AND ENVIRONMENTAL CONSERVATION: KEYSTONES OF LEADERSHIP OF COSTA RICA

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The main goal of this paper is to present the road map and milestones of current leadership of Costa Rica within renewable energy production and environmental protection. Nearly total energy produced (11210 GWh) during 2017 came from renewable sources, counting more than 350 days' demand was met with 99% of total clean energy entirely avoided fossil fuels in generation. Total installed capacity accounted 3529 MW, hydropower contributes with 77.4%, followed by wind energy (11.49%), geothermal (9.97%), and with less contribution, bagasse (0.78%), solar PV (0.02%) and thermic (0.33%). Present-day administration has made environmental protection a national priority and one of those main concerns has been to reduce Costa Rica's greenhouse gas emissions through decreasing the use of fossil fuels and promoting green portfolio energy sources. In fact, a positive change in regulations and a massive market, for clean and renewable sources, stamps a new era of investigation and exploration towards increasing share of renewable sources in primary energy supply. Local strategies include scheduling more hydro projects, in both sides of the country, with big reservoirs for better dam regulation, adding new geothermal fields, spread distributed energy plan of PV projects and expand power to wind-offshore capacity. Additionally, encourage private distribute generation, reducing thermal power, and take advantage of private investment through tenders of renewable markets for non-conventional renewable sources. Newer mechanisms such as net metering, feed-in tariffs they are also opportunities for developing renewable energy initiatives. Still remain challenges; hundreds of megawatts of hydro, marine and geothermal potential are confined to national parks, preserved areas and Indian territories. Therefore, is predictable additional complexities imposed by the negotiations and agreements with indigenous communities, although a part of this potential could not be affordable.

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