

## Renewable Energy Goals in the Philippines at 2030

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The looming effect of climate change continues to spur the development of alternative sources of energy. The development and optimal use of the country's renewable energy resources are central to the Philippine's sustainable energy agenda. Over the years, technology has improved the ability to harness energy from renewable resources. This will later on reduce an economy's dependence towards imports and contribute to domestic employment of labor and resources. The Philippines registered an average renewable energy supply of 16.47 million tons of oil equivalent (MTOE) from 2000 to 2012, with an average share of 43.21 percent to the total energy supply. The largest producer of wind power, and the solar manufacturing hub in Southeast Asia, the Philippines envisions to be the world leader in geothermal energy with the country's untapped renewable energy potential (Philippine Development Plan 2011-2016). The geothermal energy accounted for the biggest share of 53.89 percent of the total renewable energy supply from 2000-2012, followed by biomass with 32.99 percent and hydro with 13.10 percent. The remaining shares were divided between solar and wind energies.

Renewable energy is an essential part of the country's low emissions development strategy and is vital to addressing the challenges of climate change, energy security and access to energy. The Philippines has one of the most comprehensive legislations for promoting renewable energy in the ASEAN region. On December 16, 2008, the Philippines enacted the Renewable Energy Act of 2008 to accelerate the exploration, development, and utilization of renewable energy resources in order to enhance the country's energy security, thereby lessening its heavy dependence on fossil fuels and reducing electricity rates. The Department of Energy launched the National Renewable Energy Program (NREP) on June 14, 2011, to achieve the goals laid down under the Renewable Energy Act of 2008. The NREP sets targets for solar, wind, geothermal, hydro and ocean technologies to 15,234.30 MW by 2030 from 5,439 MW in 2010 almost triple the country's renewable energy-based capacity. In this background, the current study makes an attempt to evaluate the economic and environmental impacts of the targeted Renewable Energy production in the Philippines using a Global Computable general equilibrium (CGE) framework. It applies the GTAP database of version 9.

Preliminary results show that an increase in gross domestic product (GDP), industrial output, and employment as a consequence of the additional production of solar, wind, geothermal and Hydro energy. It also contributes to nation's GHG emission reduction target. It is useful for assessing the country's progress in fulfilling its targets as well as its implications to various agents in the economy. The prospects for renewable energy development in the Philippines are promising. However, several challenges besetting the renewable energy sector have to be addressed to realize fully its potential. These are: 1) high cost of renewable energy development due to a limited number of local manufacturers; 2) lack of capacity-building and training opportunities to enhance technical capabilities of stakeholders and potential developers; 3) need for stronger R&D on renewable energy; 4) limited infrastructure support.