

Renewable Energy Act for Energy Self-Sufficiency and Harmful Emission Reduction¹

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Introduction

Energy sector is the leading emitter of greenhouse gases (GHGs) in the Philippines (REECS, 2010)³. In 2000, there is a leap of 39% from 1994 emission record of 50,038 CO₂^e Gigagrams on this sector. Emissions mostly come from the combustion of imported fuels and other activities related to the production of energy, such as coal mining, oil and gas exploration, production and processing (EMB, 2011).

Republic Act No. 9513 or the 'Renewable Energy Act of 2008' was codified in December 2008 to affirm the government's commitment to accelerate the utilization of renewable energy (RE) resources in the country. This is to effectively reduce harmful emissions and achieve economic development while protecting health and environment. Renewable energy is an essential part of the country's low emission development strategy and is vital to addressing challenges of climate change, energy security, and access to energy.

Under this law, the State is mandated to accelerate exploration and development of RE resources to achieve energy self-reliance; increase utilization of RE by institutionalizing the development of national and local capabilities; encourage the development and utilization of RE resources as tools to effectively prevent or reduce harmful emissions; and establish necessary infrastructure and mechanisms to carry out the stipulated mandates in the Act. The law suggests RE resources that could be alternatively utilized such as solar, wind, hydro, biomass, geothermal and ocean energy.

Renewable energy policy mechanisms

RE development is encouraged on both on-grid and off-grid system⁴. In an on-grid system, several policy mechanisms were promoted which include Renewable Portfolio Standard, Feed-in-Tariff System, Net-Metering for RE, Green Energy Option, among others. In an off-grid system, concerned parties were mandated to source a minimum percentage of its total annual generation from RE resources in the area concerned.

- *Renewable Portfolio Standard RPS* is a policy which places an obligation on electric power industry participants such as generators, distribution utilities, or suppliers to source or produce a specified fraction of their electricity from eligible RE resources. The purpose of which is to contribute on the growth of the renewable energy industry by diversifying energy supply and to help address environmental concerns of the country by reducing GHG emission.

¹ A short policy paper submitted to the Food and Fertilizer Technology Center (FFTC) for the project titled "Asia-Pacific Information Platform in Agricultural Policy". Short policy papers, as corollary outputs of the project, describe pertinent Philippine laws and regulations on agriculture, aquatic and natural resources.

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³ Other emitters of GHGs in the atmosphere are industrial processes, agriculture, and waste sector. Land-use change and forestry (LUCF) is considered as carbon sequester sector. Data are based on the discussion on 'Current Status of GHG Emission' part of the NEEDS report (p. 3-4).

⁴ On-grid system refers to electrical systems composed of interconnected transmission lines, distribution system, substations, and related facilities for the purpose of conveyance of bulk power on the grid in the Philippines while off-grid system refers to electrical system not connected to wires and related facilities of the On-Grid Systems of the Philippines.

- *Feed-in Tariff (FIT) System* is a scheme that involves an obligation on the part of electric power industry participants to source electricity from RE generation at a guaranteed fixed price for a given period of time. This system is adopted to accelerate the development of emerging RE resources through fixed tariff mechanism.
- *Green Energy Program* is a mechanism established to provide end-users or households the option to choose RE resources as their source of energy.
- *Net Metering for RE* is a consumer-based renewable energy incentive scheme wherein electric power generated by an end-user (such as house or office with photovoltaic system) from an eligible on-site RE generating facility and delivered to the local distribution grid may be used to offset electric energy provided by the distribution utility to the end-user.
- *Adoption of Waste-to-Energy Technologies* that will encourage conversion of biodegradable materials such as, but not limited to, animal manure, agricultural waste, into useful energy through processes of anaerobic digestion, fermentation, and gasification, among others.

Incentives and privileges for renewable energy development

Incentives and privileges were stipulated for RE development initiatives. Incentives are provided to RE projects and programs; hybrid and co-generation system; RE commercialization; and farmers engaged in the plantation of biomass resources. To avail these incentives and privileges, it is encouraged that parties be registered and accredited by Department of Energy and Board of Investments.

For all the entities involved in RE development, fiscal incentives include, among others, tax exemption for importation of inputs, components, parts, and materials and income tax holidays. Other incentives and privileges stipulated include tax rebate for purchase of RE components; financial assistance program; exemption from the universal charge or charge imposed for the recovery of the stranded cost; cash incentive of RE developers for missionary electrification; payment of transmission charges; and priority and must dispatch for intermittent RE resource.

Regulatory framework

The Department of Energy (DOE) is mandated to lead the implementation of the Act. As the lead agency, DOE is mandated, among others, to perform necessary actions for the execution of enumerated RE policy mechanisms and formulate and to implement National Renewable Energy Program or NREP.

Also, embodied in the Act are the creations of National Renewable Energy Board or NREB (Section 27 of the Act) and Renewable Energy Management Bureau or REMB (Section 32 of the Act). NREB⁵ act as a collegial body tasked to recommend policies to DOE and monitor the implementation of the Act. In addition, the Board recommends specific actions to support the activities of DOE especially the NREP. REMB, on the other hand, is in the forefront of effective implementation of the provisions of the Act. As such, the Bureau developed and formulated NREP to accelerate the development, utilization, and commercialization of RE resources and technologies, among others.

⁵ The Board is multi-sectoral body composed of representatives from the following agencies: Department of Energy, Dept. of Trade and Industry, Dept. of Finance, Dept. of Environment and Natural Resources, National Power Corporation and National Transmission Corporation; and one representative each from the following sectors: RE developers, Government Financial Institutions, private distribution utilities, electric cooperatives, electricity suppliers; and non-governmental organizations.

National renewable energy program⁶

National Renewable Energy program or NREP, launched on June 2011, outlines the policy framework enshrined in RA 9513. It sets the strategic building blocks that will help the country achieve the goals set forth in the Renewable Energy Act. It indicated interim targets for the delivery of energy sources within the timeframe of 2011 and 2030. In principle, it provided the basis for national and local renewable energy planning that will identify specific actions and period upon which outcomes will be generated.

The Program ultimately seeks to increase RE-based capacity to an estimated 15,304.3 Megawatt (MW) by year 2030, almost triple the 2010 level of 5,438 MW (Table 1). This sum is a consolidation of targets on each individual sectoral sub-programs namely: geothermal, hydropower, biomass, wind, solar, and ocean.

Table 1. Total installed capacity (2010), target capacity (2030), and projected milestones per RE resources sector

Sector	Installed capacity, (MW) as of 2010	Total Installed capacity (MW) by 2030	Projected milestones
Geothermal	1,966.0	3,461.0	Low-Enthalpy Geothermal Resource Assessment completed by 2015
Hydro	3,400.0	8,724.1	Construction of Sea Water Pumped Storage Demo Facility by 2030
Biomass	39.0	315.7	Mandatory E10 blend for all gasoline vehicles by 2012
Wind	33.0	2,378.0	Grid parity by 2025
Solar	1.0	285.0	Smart Grid and Concentrated Solar Thermal Power Demo completed by 2015; Grid parity by 2020
Ocean	0	70.5	First Ocean Energy Facility operational by 2018
TOTAL	5,438.0	15,304.3	

Source: National Renewable Energy Program Executive Summary

Each sectoral sub-programs follows a roadmap that indicates milestones targeted over a covered period. The realization of these targets depends on the implementation of several activities that include: (a) RE industry services; (b) RE resource development; (c) RE research, development and demonstration; and (d) RE technology support.

Government share

The government has the share on the proceeds derived by RE Developers which is equal, in general, to one percent (1%) of the RE developers gross income (except indigenous geothermal energy which is 1.5% of their gross income). No government share is collected from proceeds of Biomass resources development and of micro-scale projects for communal purpose and non-commercial operations which are not greater than one hundred kilowatts. The accumulated government share will be distributed to national and local government by 60% and 40% respectively.

Renewable energy trust fund

Renewable Energy Trust Fund or RETF was established, in pursuant to Section 28 of the Act, to enhance the development and greater utilization of RE. The fund is utilized through grants, loans, equity investments, counterpart fund or such other financial arrangements necessary for the attainment of the activities stipulated in the Act. The fund is used to, among others, finance research and development works engaged in RE and support

⁶ Discussions are lifted from the Department of Energy website (<https://www.doe.gov.ph/microsites/nrep/index.php>) and the 'National Renewable Energy Program Executive Summary' (<https://www.doe.gov.ph/microsites/nrep/index.php?opt=execSummary>) accessed on April 4, 2014.

the operation or RE resources to improve their competitiveness in the market. The RETF is mostly funded from fees and penalties collected and net annual income of Philippine owned and controlled corporation⁷.

Conclusion

Energy sector is one among the contributors of GHGs in the country. Through the enactment of the Renewable Energy Act of 2008, it is hoped that energy self-sufficiency will be achieved and dependence on GHG emitter energy sources will be reduced. With the policy mechanisms laid down, incentives and privileges stipulated, regulatory framework established, financial support appropriated, among others, acceleration of utilization of RE resources and participation from stakeholders, more importantly from the private sectors, are expected.

References

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⁷ Specifically, RETF is funded from: (1) proceeds from the emission fees collected from all generating facilities consistent with Philippine Clean Air Act; (2) One and a half percent (1.5%) of the net annual income of the Philippine Charity Sweepstakes Office; (3) One and a half percent (1.5%) of the net annual income of the Philippine Amusement and Gaming Corporation; (4) One and a half percent (1.5%) of the net annual dividends remitted to the National Treasury by the Philippine National Oil Company and its subsidiaries; (5) Contributions, grants, and donations; (6) One and a half percent (1.5%) of the proceeds of the Government Share collected from the development and use of indigenous non-RE resources; (7) any revenue generated from utilization of RETF; and (8) proceeds from fines and penalties imposed under the Act.