

Country Assessment Report

Country/Region Name- Philippines:

The Philippines is an archipelago of more than 7,000 islands situated in Southeast Asia, between Taiwan and Borneo (Malaysia). It has a population over 106 million and GDP worth \$330 billion, with a growth rate of 6.2%.

(World Bank 2018).

Economic structure and activity:

Philippines has a mixed-economic system, combining market freedom with centralised economic planning and regulation. The service sector accounts for 59.97%, achieving substantial growth in finance, banking and telecommunication services in recent years. Industry contributes 30.75% to the nation's GDP and is dominated by manufacturing of cement, steel, glass, iron, fertilisers, chemicals and oil products. The country has vast reserves in mineral wealth and its resources of copper, gold and zinc are among the largest in the world. Agriculture accounts for 9.28% of the Philippines GDP and is suffering from low productivity, weak economies of scale and insufficient infrastructure. It is the world's second largest producer of coconuts, and is a large exporter of rice, corn, sugarcane, banana, cassava and pineapple.

(Statista 2018; Santander 2020)

Top private companies with RE commitments:

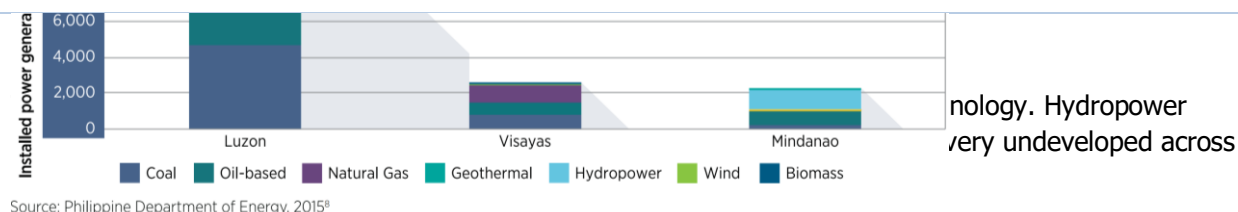


Figure 1. Installed power capacity per technology and region (IRENA 2017).

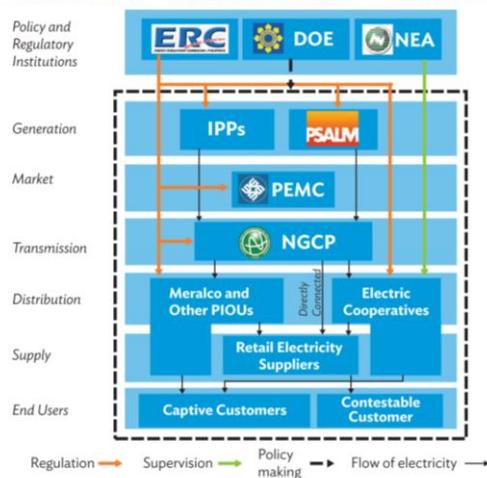
Electrical Interconnection and import/export:

As an island nation, the Philippines electricity sector is not connected to other countries, and currently consists of three main networks on the three main islands: Luzon, Visayas, and Mindanao.

Market Structure:

The Philippine power industry was reformed from a vertically integrated system to a partially unbundled system after the entrance of IPPs to market in the 1990s. Generation was subsequently deregulated and a wholesale market was introduced with open access to the transmission grid. Generation and distribution companies can remain vertically integrated if they trade between related companies. Market operation was separated from transmission ownership and system operation. Customer choice is now available from large consumers in distribution grids.

Figure 3: Structure of the Power Industry in the Philippines



DOE = Department of Energy; ERC = Energy Regulatory Commission; IPP = independent power producer; NEA = National Electrification Administration; NGCP = National Grid Corporation of the Philippines; PEMC = Philippines Electricity Market Corporation; PIOU = private investor-owned utility; PSALM = Public Sector Assets and Liabilities Management Corporation.
Source: Asian Development Bank.

Figure 1. Market structure of the Philippine's power sector (ADB 2018).

Responsible Government Department: (include key contacts)

Department of Energy (DoE) is the main government body in the power sector and is responsible for the preparation, coordination, supervision and evaluation of policy, programmes and projects relative to energy exploration, development, distribution and conservation. It aims to ensure the provision of reliable, accessible and sufficient energy resources in a sustainable way.

Renewable Energy Management Bureau is an important branch of DoE and is mandated to formulate and implement policies, plans and any other programmes related to accelerating the nation's development of renewable resources. There are five divisions: biomass; hydropower and ocean energy; geothermal; solar and wind power. In addition, a special division provides technical services to the NREB.

Energy Regulatory Commission is the regulatory body which controls the four components of the power industry: generation, transmission, distribution and supply. The EPIRA converted the Energy Regulatory Board into the ERC, strengthening its role over the industry. Its primary objective is to promote competition, market development, ensure customer choice and penalise any abuse of market power.

National Transmission Corporation (TRANSCO) is the system operator of the Philippine's electrical transmission and sub-transmission system. It assumes the authority and responsibility of the NPC for the planning, construction and centralised operation and maintenance of high voltage transmission facilities, including grid interconnections.

Wholesale Electricity Spot Market provides the mechanisms for identifying and establishing the price of actual variations from the quantities transacted under contracts between sellers and buyers of electricity. It was designed to create a more competitive electricity market and offer a reasonable and more affordable rate to end-users. The Philippine Electricity Market

Corporation was incorporated on the initiative of the Department of Energy as the governance arm of the Wholesale Electricity Spot Market

Power Sector Assets and Liabilities Management Corporation (PSALM) is owned and controlled by the government, taking ownership of the NPC's generation assets, liabilities, independent power producer (IPP) contracts, real estate and other disposable assets. Its primary objective is to manage the orderly privatisation of NPC assets and IPP contracts in order to liquidate all NPC financial obligations in an optimal manner. The sale of NPC assets increases private sector participation in the industry

National Renewable Energy Board (NREB) is responsible for evaluating and recommending the RPS to the Department of Energy put forward other proposals to enact the development of the NREP (National Renewable Energy Plan). It also oversees and reviews progress of the NREP, including compliance with the RPS in off-grid areas. It was established from the Renewable Energy Act and comprises of both state representatives and other relevant stakeholders.

(IRENA 2017)

Existing/Planned Energy Legislation: (is there a CPO)

Electric Power Industry Reform Act (EPIRA) - passed in xxxx to reform the power industry to enable greater private sector participation in order to achieve electric security. Its primary objective was to accelerate national electrification and achieve a high quality, reliable and affordable electricity. The EPIRA restructured the power sector by unbundling it into four interconnecting subsectors: generation, transmission, distribution and supply. To achieve this, the EPIRA restructures the power industry by unbundling it into four sectors: (1) generation (2) transmission (3) distribution and (4) supply. The deconstruction of the once vertically integrated industry ushered in a variety of new entities including the Wholesale Electricity Spot Market, the Power Sector Assets and Liabilities and Management Corporation, and TRANSCO.

(IRENA 2017)

Environmental Legislation for RE:

Electric Power Industry Reform Act (EPIRA) - passed in 2001 to reform the power industry to enable greater private sector participation in order to achieve electric security. Its primary objective was to accelerate national electrification and achieve a high quality, reliable and affordable electricity. The EPIRA restructured the power sector by unbundling it into four interconnecting subsectors: generation, transmission, distribution and supply. To achieve this, the EPIRA restructures the power industry by unbundling it into four sectors: (1) generation (2) transmission (3) distribution and (4) supply. The deconstruction of the once vertically integrated industry ushered in a variety of new entities including the Wholesale Electricity Spot Market, the Power Sector Assets and Liabilities and Management Corporation, and TRANSCO.

Renewable Energy Act- passed in 2008 to provide the legal and institutional framework for promoting renewable energy across the Philippines. The primary objective is to achieve self-sufficiency of power by acceleration the exploration and deployment of renewable technologies. The act offers a range of fiscal and non-fiscal incentives for private sector investors, renewable energy equipment manufacturers and suppliers as well as renewable

energy project developers. This includes the FiT which guarantees a fixed price for at least 12 years and an RPS which mandates a minimum percentage of power generation from renewables for all on-grid systems.

(IRENA 2017)

Existing/Planned Certificate Systems: (purpose, extent)

RE market potential:

The Philippines geographical positioning along the Pacific "Ring of Fire" enables access to a breadth of geothermal energy potential. The Department of Energy estimates a technical capacity of up to 2,600 MW. Other assessments have highlighted an abundance of untapped hydropower reserves worth up to 13,097 MW. The majority of this capacity would be generated by 18 large hydro schemes, with the rest comprising of mini and micro hydro initiatives almost 900 sites. 11,055 km² of land has been identified with good to excellent wind resources. The wind speeds average between 6.4-10.1 m/s and the power density values are 300-1,250 W/m² at a 40m height making grid-connected power generation viable. The Philippines also possesses significant potential in harnessing solar energy. Average solar irradiation levels are 5.1 kWh/m² per day and reaches 6.1 kWh/m² during April in Luzon.

Market risks and challenges:

A surplus in applications for renewable energy projects confront the grid operators with a significant challenge. Most notably, areas where the grid is less developed, and demand is low yet have an abundance of renewable resources face a problematic distributional challenge. It is now becoming increasingly common for wind and solar power to be curtailed to ensure reliable grid operation.

Extent of Engagement with Government: (brief summary of any contact already made with the national government regarding certification in general and I-REC)

Expected response from Government:

Current Environmental Reporting in Energy:

Any other Relevant Information:

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Code Manager Observation

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