Bioenergy Markets and Policies: Assignment 1

Biofuel utilisation in the Philippines

1. Description of the product or technology

In 1995, Philippines has an estimated total energy consumption of about 32.45 million tons oil equivalent in which share of biomass is about 11.5 MTOE or 35.45%. The most significant native source of energy are fuelwood which is mostly for domestic use and other wood biomass which was about 48% of energy consumption (Elauria et al., 1999). As of 2008, the energy supply in the Philippines was 39.3 million ton (crude oil equivalent) where more than 50% is for domestic energy supply. An important energy resource which comprise of 14.1% of total primary energy is from biomass energy such as wood waste and bagasse. Furthermore, to meet the emerging need of energy in the country, renewable energy for instance biofuels has been utilised and being adopted. Biofuels has been found to potentially lessen the energy insecurity, perform as a biodegradable energy source, and as an alternative to the depleting fossil-based fuels (Maruyama et al., 2009). Moreover, it addresses the country’s dependence on imported fossil fuel and its utilisation acts as a strategy to mitigate greenhouse gas emissions. Under the Biofuels Act of 2006 (Republic Act No. 9367), biofuels refer to bioethanol and biodiesel and other fuels made from biomass and primarily used for automotive, thermal and power generation, with quality specifications in accordance with Philippine National Standards. The law requires all liquid fuels for motors and engines sold in the country should contain locally-source biofuels. The Renewable Energy Act of 2008 (Republic Act No. 9513) aims to affirm the government’s commitment to accelerate the utilization of renewable energy resources in the country. Biodiesel or fatty acid methyl ester, has been an alternative to substitute petroleum diesel (Razon, 2009). In a research conducted by Razon, there were 27 plant species found and evaluated in providing feedstock for biodiesel production. And out of that 27 plant species, 15 were found to have possible potential and conforms to biodiesel standards of the European Standard Organization (CEN) and the American Society for Testing Materials (ASTM). Bioethanol is a form of ethanol and currently has four feedstock: sugarcane, corn, cassava and sweet sorghum. It was used as gasoline blend in the country.

![Figure 1. Primary energy supplies in the Philippines](image-url)
2. Description of the market

Philippines is an agricultural country and the raw materials used to produce biofuels are mainly from agricultural crops. To comply on the laws pertaining to renewable energy and biofuels, the government is executing National Biofuels Program (NBP) to encourage investments in production and utilisation of biofuels including the development of associated technologies in order to efficiently produce and secure the supply of the product.

Philippines seen among top biofuel consuming countries in Asia. It was projected to reach 935 thousand TOE and 1.282 million TOE for biodiesel and also for bioethanol. The market of bioethanol has an increasing trend due to the existence of the Biofuel Act of 2006 and the increase in blend rate to 20% starting 2020. According to the National Renewable Energy Program, the goal is to raise the ethanol mandate to E20 by 2020 and to E85 by 2025. By 2020, the required biodiesel blend will be raised to 10 percent.
3. **Description of the policy measures**

The Biofuels Act of 2006 started being enforced in January 2007. The law mandates various minimum percentages of locally-sourced biofuels (meeting certain standards) to be blended into liquid fuels for motors and engines. It requires a minimum 1% biodiesel blend by volume in all diesel fuels within 3 months of the Act’s enforcement, and 5% bioethanol blend by volume within two years in all gasoline fuels being distributed and sold in the Philippines. This volumes are to progressively increase; for biodiesel to 2% within 2 years, and for bioethanol to 10% within four years. The regulation is accompanied by an incentive scheme comprising various fiscal incentives. The biofuels component (local or imported) in fuel is exempt from specific tax, and raw materials used for the production of biofuels are exempt from value added tax (VAT). Water effluents resulting from biofuel production are exempt from payment of wastewater charges. In addition, financing for the production, storage, handling and transport of biofuel or biofuel feedstock, including blending of biofuels with petroleum, is to be prioritised by government financial institutions (Biofuels Act).

The Renewable Energy Act of 2008 provides the legal and institutional framework necessary for harmonising policies on the development of renewable energy technologies. The Act aims to enable the Philippines to move rapidly towards its goal of being 60% energy self-sufficient by 2010 by developing and utilising resources such as solar, wind, hydropower, ocean and biomass energy.

The law provides following incentives for the renewable energy sector:

- seven-year income tax holiday and tax exemptions for the carbon credits generated from renewable energy sources.
- 10% corporate income tax, as against the regular 30%, is also provided once the income tax holiday expires.
- 1.5% realty tax cap on original cost of equipment and facilities to produce renewable energy.

The law also prioritises the purchase, grid connection and transmission of electricity generated by companies from renewable energy sources and power generated from renewable energy sources will be value added tax-exempt. It sets out specific measures that are to be elaborated, for example within 3 years the National Renewable Energy Board must formulate and promulgate rules for a renewable portfolio standards (RPS) obligation on all electricity suppliers (Renewable Energy Act).

4. **Evaluation of the effect of this measures**

Philippines was the first country in Southeast Asia to enact biofuels legislation. However, due to the government’s requirement, oil companies are still presently importing a large amount of ethanol to comply, hence, the goal to be less dependent on imported fuel has been neglected. It was definitely apparent that the biofuel blending requirement increased the market for production investment and the consumption as well. The number of domestic producers is growing, and there is still competition from regional sources. However, one of the drawbacks to effectively and sustainably implement the usage of biofuels was the limitation of feedstock or raw material security. On the other hand, the advantage of utilising it is its relatively harmless when spilled in the environment.
5. References


https://www.officialgazette.gov.ph/2008/12/16/republic-act-no-9513/


