

CHOOSING THE GREEN ENERGY OPTION: WILLINGNESS TO PAY OF METRO MANILA RESIDENTS FOR SOLAR ENERGY

Paolo Magnata, Ateneo de Manila University, Phone +639175497513, E-mail: paolo.magnata@obf.ateneo.edu

Overview

The energy market in the Philippines remains to have one of the highest electricity rates in the region averaging at US\$0.16/kWh (PHP6.89/kWh), excluding VAT, as opposed to the overall energy market average of US\$0.13/kWh (International Energy Consultants, 2016). The movement towards renewable energy, specifically solar energy, will pose as an expensive one with the country's energy sector providing Feed-in-Tariff (FIT) rates as high as US\$0.17/kWh (8.69PHP/kWh) for solar energy power plants. At the current state of the country's regulatory background increasing the share of renewables will potentially result to an increase in residential electricity bills three times higher than their current costs (Ravago et. al, 2016). The issue lies in the uniform charge that consumers have to bear when consumers may potentially have varying levels of utility regarding the sources of their electricity. Consumers, if given the option to choose where their electricity will come from, may potentially choose economically costlier sources of electricity due to higher levels of utility received from consuming electricity from greener and more environmentally friendly sources of electricity. To find out how much Filipino consumers are willing to pay for Solar Energy, a contingent valuation (CV) survey was conducted on a sample that was representative of Metro Manila to elicit their willingness-to-pay (WTP) and a Single Bounded Dichotomous Choice (SBDC) and Double Bounded Dichotomous Choice (DBDC) analysis was used to estimate how much they are willing to pay to avail the proposed program.

The paper is organised as follows: After the introduction the second section gives a brief comparative overview about the energy sectors of ASEAN countries. The third section provides an in-depth discussion on the regulatory setting of the Philippines regarding the country's energy market, the development of the energy sectors' fossil-fuel dependence, and the current transition towards renewable energy. In section four the the contingent valuation surveys and the results are discussed. Finally, the last section is where policy implications are discussed.

Methods

Contingent Valuation (CV)

Results

First, CV surveys have been widely used to elicit and estimate WTP for electricity around the world. However, the Philippines has only explored the tool for non-market goods in the health, environment, and transportation sector.

Second, the results of the CV survey using SBDC and DBDC analysis show that consumers are willing to pay a premium the electricity they use comes from Solar Energy. The premium is estimated to be at US\$5.71 (PHP268.42) – US\$9.26 (PHP435.37) per month which is approximately 0.80% - 1.29% of their monthly household income.¹

Third, it was discovered that besides higher income in a household, a higher level of self-perceived knowledge on environmental awareness significantly affected the likelihood of a consumer to pay the premium for the proposed use of Solar Energy as a source of their household's electricity.

Conclusions

Residential consumers of electricity are willing to pay a premium on top of their current electricity bill for a proposed program wherein a portion of the electricity they use comes from solar energy. This opens the possibility of using an incentive mechanism of the country's Department of Energy called the Green Energy Option. It provides consumers the ability to decide where the electricity they use comes from. The movement towards renewable energy is an expensive one not only for the government but also to consumers; however, the use of this policy can potentially balance the shift of the economic burden from uniformly charging all consumers to equitably charging consumers based on their willingness to pay for renewable and environmentally friendly sources of electricity.

¹ US\$1 = PHP 50

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