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FORECAST STUDY OF THE CONSUMPTION OF ELECTRICITY BY LOW VOLTAGE CUSTOMERS OF CAMEROON UNTIL 2035 AND THE IMPACT OF ENERGY EFFICIENCY ON THE SUPPLY AND DEMAND FOR ELECTRICITY.

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ABSTRACT

In this article, we perform quarterly estimate of the demand for electricity by customers of Cameroon Low Voltage using electricity as an energy source for the period starting in 1975 and ending in 2011. This approach aims at providing data on consumption of Low Voltage customer until 2035 and to assess the impact of energy efficiency on consumption. To carry out this prediction, we used linear and exponential models (Cobb-Douglas) whose parameters were estimated by EVIEWS 7.2 software. The exogenous variables used in this forecast are the socio-economic indicators namely the global GDP (GDPG), GDP per capita (per capita GDP), the number of households (H); the number of subscribers (S) and the population (PO). From this analysis it appears that the Cobb -Douglas models are better than linear models. The model including the overall gross domestic product (LGDPG), population (LP0) and the number of subscribers (LS) and autoregressive terms and mobile average was the best because it provided the highest coefficient of determination with 'Akaike (AIC) and Schwartz (SC) minimal criteria. We also note that the establishment of an energy efficiency policy would reduce the demand of electricity by about 10% and losses on the supply by about 3.2%.

KEYWORDS: Energy Efficiency, Forecasting, Linear Models, Exponential Models, Socio-Economic Indicators

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