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THE FUTURE OF THE BRAZILIAN CNG MARKET WITH THE FLEX FUEL TECHNOLOGY DEVELOPMENT

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The Monte Carlo simulation is an effective methodology for projection when is presented a high uncertainty scenario, and quite useful for companies evaluate the effects of the strategic decisions during the strategic planning process or the government entities define new public policies for energy substitutes.

The projections results of the dependent variables, the potential market loss for CNG conversion and the quantity of CNG conversions, were satisfactory and consistent, even considering the occurrence of the unlikely scenario for fuel prices evolution, evidencing the effectiveness of the model adopted.

Although the satisfactory results obtained, further studied concerning the fuel prices forecasting process should be made in order to better incorporate the public policies changes to the model, improving its accuracy, nevertheless this development opportunity does not invalidate the effectiveness of the model.

The loss of CNG competitiveness was already expected on the long term due to CNG price increase versus other fuels price (MIRACCA & HASS, 2006). The public policy established by the government, through Petrobras, for gasoline price in the recent past only accelerated this phenomena reducing significantly the conversions to CNG and preventing the expansion of the CNG fleet.

Other aspects to be considered are the recent policies tax exemption on the sale of new vehicles which are linked to credit expansion with reduced interest rates and increase of payment terms, providing higher economic inclusion of Class C and D, and in consequence record sales of new vehicles and sharp depreciation in the resale vehicles. This strong renewal of the fleet affects the assumptions used in the simulation, such as the new vehicles sales, maximum age of potential vehicles for conversion, as well as the terms required by consumers to recover the investment in CNG conversion.

The current lack of conversions and the demand reduction affects several economic agents in CNG industry. Several conversions centers were closed, gas stations that have recently invested in the installation of compressors shall not adequately remunerate their investment, the expansion projects of the distribution to the residential market, which use CNG stations as anchors of consumption have become unviable, and the most severe effect is the credibility loss of CNG's business.

To reverse this scenario in Sao Paulo, CNG industry will find new obstacles as consequence from policies adopted in the recent past. New investments in the CNG market will require shorter term remuneration and additional guarantees. The consumer himself will have much resistance to be persuaded to perform the conversion of your vehicle.

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