



Electric Vehicles in Brazil?

By Alfred Szwarc

Recently, the Brazilian sugar and ethanol industry was unfairly accused of lobbying against the electric car, despite neither having participated in any of the discussions coordinated by the Federal Government on the issue nor having released any official statements against the idea. To understand the sugarcane industry's vision on electric vehicles, they would first have to be clearly defined.

Internationally, this definition encompasses all vehicles that have an electric propulsion system. The energy can be generated by batteries or other sources, such as an internal combustion engine, as is the case with hybrid vehicles, or an aerial network, such as those used with trolley-type or electric buses. Granted, several battery-run vehicles for special uses (forklifts, golf carts, mopeds, etc) are already in use in Brazil. However, the daily use of electric cars is still incipient all over the world despite huge efforts to make those cars popular. A broad spectrum of automotive and other specialists believe these vehicles will take around 10 to 15 years to achieve a significant share of the market.

Issues such as the high price for these vehicles, their limited autonomy, the frequent need to recharge and the sharp devaluation of used models still need to be resolved. According to the International Energy Agency (IEA), the battery remains the most expensive component in an electric car and improvements, such as increased autonomy and decreased recharging time, are essential to the success of these vehicles. The IEA reports that a 30 kW/h battery, with slightly more autonomy than a battery model currently being imported by an automaker in Brazil, costs US\$18,000 and is expected to last five to seven years.

Would the reader be willing to purchase a second-hand electric car equipped with a battery about to expire? It is important to note that recharging the battery on a domestic outlet would take 8 to 20 hours, depending on the installation, and the costs involved to make sure that installations are secure for this type of use are high. In a country like Brazil, where long distances are covered, it would be necessary to make several stops to recharge batteries. Each stop would take at least 30 minutes using fast charging equipment, in addition to the time consumed in probable lineups. Battery exchange systems may end up being developed, but that would require a level of standardization for car batteries that does not exist today for much simpler batteries, in cell phones, notebook computers and other portable equipment for example.

Clearly there's a lot that needs to happen before feasibility is achieved, so it is vital that cooler heads prevail in any analysis, particularly if it involves investing in technology and research in this field. The use of public funds to subsidize millions of vehicles equipped with technology that still needs to evolve, unless financing is devoted to research, is a measure that is not in line with national priorities.

On the other hand, the hybrid electric vehicle has matured, with three million of them in use in 50 countries and sales continuing to rise. Hybrids are cheaper than cars equipped solely with batteries and are not subject to their limitations. They offer



spreading the word about clean and renewable solutions from sugarcane



autonomy, drivability, convenience and reliability similar to regular vehicles and show substantial advantages in reducing emissions as well as energy use. By substituting gasoline motors in hybrid vehicles with ethanol or flex motors, and by encouraging their production in the country, Brazil can bring about environmental and economic benefits on a scale that electric vehicles cannot achieve in the near future.

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Alfred Szwarc is the UNICA's Emissions and Technology Consultant