Office of Sustainability

AFV Barriers and Policies

The University of South Carolina has poised itself as a hub for growth in the Alternative Fuels industry through its systematic adoption of the Genesis 2015 project, which strives to lower the campus fleet CO2 emissions by 90% by 2015. President Harris Pastides said the University of South Carolina is “making a commitment that will drive Carolina into a new era of environmental responsibility.” Many challenges, however, are standing in the way of the program’s success.

The short-term challenge of the Alternative Fuels Industry is raising public and private awareness of different fuels and their benefits. The majority of the public is not exposed to alternative fuels on a regular basis and therefore is hesitant to believe in its efficiency and safety. Propane tanks, for instance, burn clean compared to nearly every other alternative fuel. However, the large storage tanks that are often welded onto the bottom of the back bumper make most people uneasy at first sight. A readjustment of public opinion is needed so that everyone is aware that propane is actually a very safe alternative as long as the proper training is performed. The same can be said for other fuels, especially in regards to their fueling processes. Other barriers to the adoption of alternative fuels include fuel cost, vehicle purchase or modification cost, storage capacity, inadequate subsidies, availability of qualified technicians, a perceived reduction in comfort, and concerns about the environmental impacts of harvesting alternative fuels.

While these barriers must all be acknowledged, the inherent problem with supplying alternative fuels is the lack of infrastructure and public demand for specific fuels. We are in the middle of the chicken and egg dilemma. We know where we need to
go, but we are still finding the best way to get there. Propane has already grown a sustainable distribution network and infrastructure, making it readily available in every state. While direct Propane pumps are still not publicly available everywhere, propane canisters can be distributed to fleet stations or homes. Propane therefore has a foot in the door as vehicle conversions are becoming more and more financially feasible and efficient.

Compressed Natural Gas has been used widely in households and businesses also, but its distribution network as a fuel has not been fully developed yet in the state of South Carolina. Delhi, India is a successful champion of CNG use as it converted its public transportation buses from gasoline to CNG in order to lower the skyrocketing pollution levels in the metropolis. The bustling city, often gridlocked due to the high population density, undertook an incredible project and succeeded. India, however, has the growing middle class to support the large capital injection needed to create systematic reforms in transportation. As the US is still facing stagnant growth across the country, it is unlikely that a tax increase to support such a large-scale reform would be welcomed with open arms. That being said, the University of South Carolina could be the incubator to examine the feasibility of CNG fuel as a veritable alternative to gasoline if funding through federal and state grants is made available.

A solution that will help raise awareness and increase public appeal would be eco-labeling the vehicles currently running on alternative fuels. This increased exposure to alternative fuels is an instrumental step in adopting alternatives as the new standard of fuel. While tax incentives are a great way to increase alternatively fueled vehicle sales, the availability, and therefore convenience, of the fuels is a difficult barrier to conquer.
The distribution network must expand with the long-term commitment of fleet conversions by either private or public entities such as the University of South Carolina.

Solutions that are already in place in South Carolina include income tax credits for alternative fuel users (IR Code Section 30B), retail subsidies for ethanol and biodiesel, equipment cost reductions for manufacturers of fuel cell batteries, state sales tax exemptions for hydrogen distributors, and infrastructure tax credits for biofuel manufacturers and distributors. These solutions are excellent catalysts for adoption of alternative fuels, but in order to reshape an industry we must first reshape the opinion of the public in order to gain support for organic growth. The University of South Carolina’s Genesis 2015 project is the strong foundation for statewide change in the alternative fuel industry, and with it’s continued success, we are lowering our dependence on foreign oil, creating jobs and networks with other companies, and building a sustainable future for our successors, one brick at a time.
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