

The Solar Electric Car

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“Going green” is one of the trends in the American society. Have you ever taken the time to think about how often we drive our cars? In ten years, the average American drives 134,760 miles (Federal Highway Administration, 2011). If our automobile manufacture can push towards a solar-battery-powered car, it can open up opportunities for the automotive industry to join “the green movement.” According to Dr. John DeCiccio, a senior fellow at Environmental Defense, “About 20 percent of all greenhouse gas emissions come from cars and light trucks like SUVs, contributing to climate change, air pollution, and diseases in the U.S.” (2002).

Electrical automobiles have been out since the 1800’s; according to M. Bellis’ article “History of Electric Vehicle,” the first electrical car was built in 1828 by Hungarian Ányos Jedlik. One hundred and eighty-three years later, there hasn’t been a real push towards energy-efficient cars. General Motors (GM) has tried to push toward “the green movement.” In 1997, GM released the first battery-powered car named EV1 (“Electric Cars: Low-Impact Vehicle,” 1996.) In 1988, GM also won a solar Challenge Race across Australia with their Sunraycer (“1988 GM Sunraycer,” 1988). “Going green” relates to the pursuit of knowledge that can lead to environmentally friendly and ecologically responsible decisions and lifestyles, which can help protect the environment and sustain its natural resources for current and future generations.

Environmentalism has also been considered in the definition of “going green.” This term describes the movement to protect the quality and continuity of life through the conservation of natural resources, prevention of pollution, and the sustainable management of land use practices (Duggan, 2010). If the average American drives 13,476 miles a year, he/she is contributing to the poisonous substances in the atmosphere. According to the Federal

Highway, there is 51% carbon monoxide (CO) in the atmosphere (Socha, 2007). If we could combine the two technologies of solar energy and electricity to make a more efficient vehicle, it could help decrease air pollution, disease, and the use of natural resources.

The sun plays a major role in the creation of a solar-battery powered car. There are three main components to this system. During the day, the car would be powered by the sun with the solar panels. The power from the solar panels would start the car, and the alternators would recharge the batteries as shown below in the illustration, Figure 1, below.

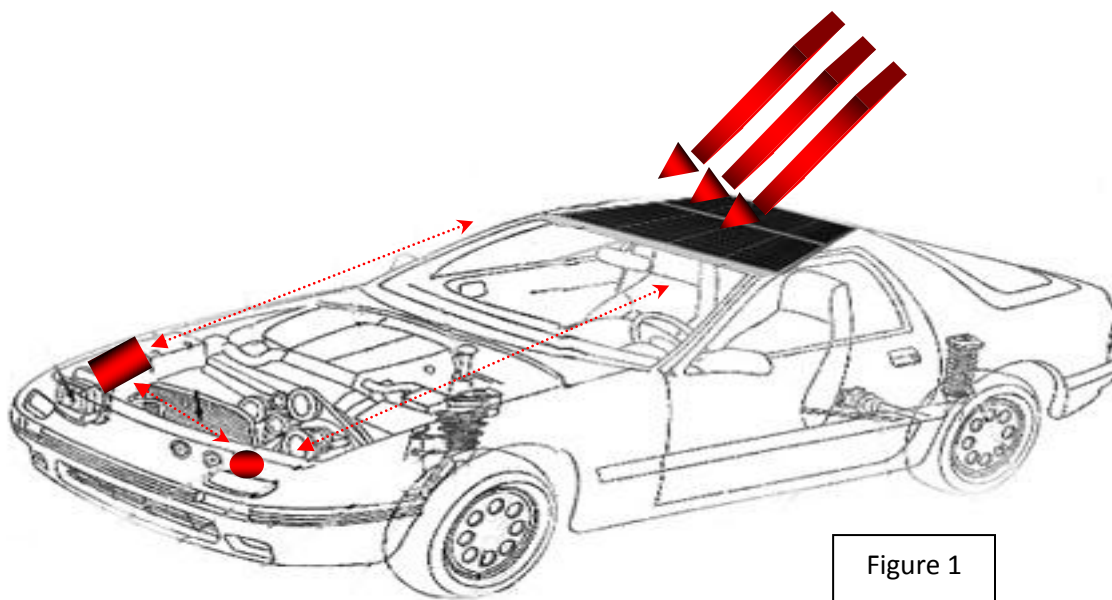


Figure 1: Illustration of a car with a solar panel.

If there is a cloudy day, the owner can always use a wall outlet to recharge his/her vehicle. For those who travel at night, the batteries should have enough power from the solar

panels to start up at night if the car were placed outside for that day. It is also known that “Electric motors have very few moving parts and do not need fluids such as engine oil, anti-freeze, or transmission fluid so they require relatively little maintenance and are far less likely to leak” (“Benefits,” 2011).

Carbon monoxide contributes to smog production, which is poisonous in high concentrations. The green movement for the automotive industry would be beneficial for the environment and society because the air would be able to retain less pollution from the gas and smog that is evacuated from cars, buses, and trucks that use gasoline as a vital source to operate motor vehicles. If General Motors can put the solar- and battery-powered technology together, it would change the automotive industry immensely. For instance, instead of plugging in an electrical car because it is low on fuel or only riding during the daytime and charging up the car through the sun, it would be beneficial to combine the two technologies to cut back on pollution and carbon monoxide production. Since going green is the new trend, why not combine the two and change history with a “going-green driving machine”?

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