

A Proposal to Reduce Greenhouse Gas.

**By John Penry
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My Proposal is to Make Plug-in Series Hybrid Pickup-trucks

Description of technology, product or service

The purpose of this project will be to manufacture Plug-in Series Hybrid Drive Pickup Trucks that will allow the owner to drive long distances, or do regular commuting. I would use the "Crew Cab" design trucks, which carry passengers, and have four doors. The truck will have the ability to carry not only supplies, but additional people comfortably. A plug-in series hybrid Truck would be capable of over 100 miles per gallon, which is 5 times the travel per gallon, and 1/5 the carbon footprint. The goal is to keep the retail price under \$25,000.

Replacing the drive engine with a smaller horsepower engine that is used only for generating electricity would mean that an engine that runs on renewable energy sources could also be used. There are several diesel engines that could be used. We are still evaluating the generation engine.

The Pickup Truck design allows the batteries to be placed in a frame under the bed of the pickup, and not inside the passenger compartment, as the battery packs in the Prius call for. Being a plug in as well as a serial would extend the miles per gallon rate.

Texans love trucks. For a Hybrid to sell in Texas, it will need to be a Truck. There are many Crew Cab style (4 door) pickup truck models available that would allow the truck to be used to carry additional passengers, yet have a small curb weight.

Using series hybrid technology would mean that there would be fewer batteries required to use the truck as a commuter vehicle, making it lighter than it would be if it was a 100% electric powered vehicle.

Retaining the fuel tank would mean that the truck could go almost 1000 miles on a tank of gasoline, or alternative fuel.

Biographies of key personnel

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John Penry. Seguin, Texas.

John Penry has been in Information Technology since 1984, but his experience with automobiles is extensive. He rebuilt a Chevrolet 265 engine while in high school, and has done his own repairs on most of the cars he has owned. John became interested in Electric vehicles when a friend, a former race car driver, Bruce Mabrito, sent him a link about the T-Zero race car.

Besides bouncing ideas off of Bruce Mabrito, John Penry is also in contact with many members of the AustinEV group, and Professor Eng in China, who developed a serial Hybrid car in 1971.

Product development plan, including key risk factors and plan to address each

At first we would locate used medium size pickup trucks. Models that would be considered would be Chevy S-10, Ford Ranger, Mazda B2000, and Nissan Frontier. I would want to keep the trucks selected at a maximum of 3 to 4 year old range. I would replace the gasoline engine with the necessary equipment to make the pickup a Plug-in serial hybrid. After sales of these conversions become popular, we may be able to find a manufacturer who will sell us a new "glider" that we can install the serial hybrid components in. Phoenix Motors is currently planning to market a Series Hybrid Sport Utility Truck, but at a price of almost \$45,000 per unit. This price is not affordable to most people. I want to keep the sales price about the same as the price of a new Toyota Prius, possibly a few thousand more.

My house is located on Court Street in Seguin, Texas, and it is in a mixed commercial/residential area. Court Street is the busiest street in Seguin. There are 17,000 cars that pass my house each day. A lot of Seguin people work in San Antonio, which is over 30 miles from Seguin. Borrowing from the Plug-in-America campaign, I would put a banner advertisement on the sides and back of my truck that reads "This truck gets 100+ miles per gallon" or whatever the range is when finally calculated.

Another marketing approach would be to rent booth spaces at all the local events, such as the Seguin Trade Days, Wurstfest in New Braunfels, and any car shows, and anything having to do with renewable energy or alternative fuels.

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I would also stage several "Trans-Texas on a Tank of Gas" events to show that this truck can go from one end of Texas to the other without stopping for gas. That is almost 1000 miles. It would be newsworthy if a truck could drive from Brownsville to Dallas, or Beaumont to El Paso on a tank of gas. Each event would be promoted via news releases to the media. Press releases are free advertisements.

I would also sponsor any events held by the local Public Radio station that have to do with either "going green" or alternate fuels. The local National Public Radio station had an event recently, and it was sponsored by Zap Cars of San Antonio.

I would have my truck(s) at events such as Maker Faire in Austin.

Partnerships necessary for success

There would be a need for sources for electric vehicle parts, such as motors, generators, chargers, and controllers. I have located several dealers for these items, and continue to search for the best price, design, and specifications.

I would need to establish partnerships with the local economic development boards in Seguin, New Braunfels, and San Antonio. They would assist in the promotion of the business by promoting use of Electric Cars, Serial Hybrids, and the idea of being environmentally aware.

The energy companies in this area would be another source of promotion. They could offer a rebate to people who make a Hybrid Purchase.

There is a local college, Texas Lutheran College. They do not have an engineering department, but it is possible that I could get some students interested in assisting with projects of this nature.

I could also offer to allow engineering students at the University of Texas at San Antonio assist with engineering problems.

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Description of target market and simple financial projections

The City of Seguin is located 30 miles from San Antonio. There are many people who commute daily to San Antonio from the Seguin Area .

Parallel Hybrid cars do get better gas mileage, but at present, the Prius does not offer the room available in a medium size pickup. A Prius when used as a PHEV loses some of the carrying capacity and cargo capacity.

Marketing the Serial Hybrid would have to be accomplished via news stories, and personal demonstrations. When I sold my address stones, I found that once the first stone was sold, it was neighbors who bought the additional stones. Each Truck I sell is an advertisement for the next sales. A quality product will be promoted by the proud owner.

Financial Projections:

Knowing that conversion of cars from gasoline to electric takes time, and that even after I get the processes worked out, there is only so many trucks that can be converted in a week's time. If the demand for these trucks picks up, I have several friends who would join me in this venture. Converting only two trucks per week would be a beginning goal. When the sales reach five per week, I will have to call for assistance. If the goal is to sell these trucks at a price of less than \$25,000, I believe a profit of \$2000 to \$4000 per truck is possible, once volume purchasing power is obtained.

If Chevrolet fails to produce their Volt Series Hybrid, the "Trans Texas Pickup Truck" could become quite a popular vehicle. In many small towns across Texas, I have seen dealerships that have closed down, and the facilities are vacant. These empty buildings would be ideal for use as conversion shops. I know of one in the Lubbock area that is for sale for under \$70,000. It has 6 bays and a 1600 foot storage building, and sits on 4.5 acres of land.

Using the formula for building a Series Hybrid Truck, other people in other cities could be convinced to create these trucks. I would be willing to assist other conversion shops to get started.

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Funding needs, both short term and over the life of the business

I could do the first conversions in my own garage, and if they sell, then I can look at a large warehouse to use. There is a former car dealership building for sale here in Seguin that could be used if the demand reaches a high level. It is priced a lot higher than the site mentioned above.

By partnering with the Seguin Economic Development Board, I could probably obtain matching funds if the plan was to put life back into a defunct building, and to create more jobs for the area.

Projected reductions in greenhouse gas emissions and other impacts on sustainability

I project that using a Series Hybrid truck instead of a gasoline truck would reduce the emissions to at least 1/5 for each truck that is converted. Using clean diesel generators, or ethanol power may reduce the amount even more.

Use of Cellulosic Ethanol is another area I would promote. If we could make fuel out of waste vegetation instead of materials used for food, we could make an economical fuel source that would also reduce emissions.

Thank you,

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