

## Driving the Climate Change Dividend

August 1, 2008

A Naramata family will be putting their \$400 Climate Action Dividend toward making their hybrid car even 'greener.' Karen and Craig Henderson, and their two children, will put the provincial government cheque toward the conversion of a Toyota Prius to a 'plug-in' hybrid car.

"We bought the hybrid a year ago, and have saved \$1500 in fuel costs over that year," says Craig Henderson. "It is my hope that our car will be converted to a plug-in hybrid this winter, and we will burn less gasoline and further reduce emissions."

The Hendersons are hoping their car will be the first plug-in Prius in British Columbia. The cost of the 'aftermarket' conversion is \$10,000, and testing indicates that the plug-in hybrid cars double their fuel efficiency. "Most of our driving is along Naramata Road, and we are averaging about 4.6 litres per 100 km. (61 Imperial miles per gallon). The plug-in change could potentially increase that to 120 mpg."

Henderson hopes that the plug-in conversion will pay for itself in five years. "The economics of doing this are still difficult to justify, but there is more to it than that. I am a big believer that we must rethink personal transportation to become cleaner and more efficient. I also love the idea of being able to charge the plug-in battery by using solar panels on my home."

Henderson is on the waiting list with a company called A123 Hymotion for their plug-in hybrid kit, the powerhouse of which is a five kilowatt battery added to the car. The extra battery will work with the factory-installed hybrid computer to ensure the car runs on electric power first before engaging the gasoline engine. "A purely electric car, while greener with no emissions, has limitations to range and speed. But, a plug-in hybrid is much more flexible. If you need to take a long road trip over mountain passes you can engage the gasoline engine," he says.

Over the past three years, there have been emerging companies in the US and Canada introducing plug-in kits for the Prius and other hybrids. Henderson attended a plug-in hybrid conference in Washington State last month and says A123 Hymotion stood out as the most market-ready leader in this field. Non-profit groups have formed in the U.S. to lobby the carmakers about the benefits of manufacturing plug-in hybrids. Google is a big proponent of the plug-in hybrid and in 2007 made grants of \$1-million to support research and development. It has committed a further \$10-million to accelerate the technology. Henderson says the first mass market plug-in hybrids will likely be a new Prius from Toyota and the General Motors Volt, but indications are that won't happen until late 2010 or 2011, and they will retail above \$40,000.

The number of Toyota Prius cars converted to aftermarket plug-ins is estimated at about seventy to eighty, including four in Canada. "The closest Canadian plug-in Prius is owned by Manitoba Hydro," says Henderson. "It's clear from the number of American public power utilities that attended the Wenatchee conference in May that five years from now the idea of plugging in your car at night to a household power socket will not be so far-fetched and the progressive utilities are planning for the near future."

Henderson says the technology he will purchase was developed by an Ontario-based firm, Hymotion, prior to its acquisition by American battery maker A123. When his Prius is at the head of the waiting list he will likely have to take the car to Seattle, unless he can find other interested British Columbians who wish to convert a Prius. "The senior manager at A123 Hymotion indicated that if we had enough installations in BC, we might be able to get the certified installers to come to Vancouver from Seattle."

Henderson will be posting more information about the plug-in conversion process on the website of the environmental charity he manages, [www.naramataconservation.org](http://www.naramataconservation.org).

Do a google search of "plug-in hybrids"