



The Green Door

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The Green Door is a monthly newsletter of sustainable living and real estate geared to present and future homeowners.

"You don't need a weatherman to know which way the wind blows". - Bob Dylan

Sustainable Mobility

The concept of sustainable mobility will surely change many times throughout our lifetimes. Today we define it as transportation with minimal or no fossil fuel dependency and we aim to decrease CO2 emissions. Tomorrow we may be looking at transportation that actually produces valuable resources. Ironically, new sustainable solutions come with the rising cost of fuel? If our oil supply has hit its peak and started decreasing and global demand is still rising, there is only one price direction for fossil fuel: straight up. Consumers and businesses are under pressure to figure out how to manage their costs. **Oil will eventually get priced out, forcing the transition to another energy source.** Even if we were to tap into unconventional sources of oil, we would still be looking at a much higher basic cost of production without considering the environmental costs.

Cars impose a heavy public burden. By some estimates, over 50% of all America's urban land is devoted to accommodating cars. Furthermore, most of America's cars are parked over 90% of the time. That means a lot of urban land and a lot of vehicles aren't being used very efficiently. Sustainable mobility can be addressed through increasing the options for alternative transportation and fuels. **Google, for example, runs a Biodiesel shuttle between its main office in Mountain View and San Francisco. The company calculates that, based on reducing employees' driving back and forth in cars, it is saving some 2,325 gallons of gas per week.**

Ultimately though, for any of this to work, the bulk of us have to want it to work. We've been through one oil crunch, a few decades back, and had we maintained a path of efficiency and conservation, we'd be in a different situation right now. Why is it so hard to get people out of their cars and onto public transportation or their bikes or even just walking? Habit and preference. Being able to go where you want to, when you want to, with a minimum of physical effort, a maximum of comfort, and little immediate visible downside. It is not a phenomenon associated with just the U.S., although we are currently the extreme example of it. There have been a number of studies done on the direct correlation between economic development and vehicle-miles traveled. This is one of the reasons that the rapid development of the Asian economies will have such an impact on global oil consumption.

"To counter the individual impulse, you need a combination of education and incentive/disincentive (stick your hand in the flame, it burns; drive a big gas guzzler, pay a lot of extra money)". - Mike Millikin

Government comes into play for both incentives (tax breaks, investments in new technologies) and disincentives (carbon tax, fuel tax, etc.). But the market ultimately will have its say. **So what does the future of automobiles look like?** Well, if you bought a new Prius recently, you know that a lot of people are interested in the 47 miles to the gallon it gets. The Oak Ridge National Lab forecasted possible hybrid share of the vehicle market in the U.S. and they calculated that diesels and hybrids together could capture 40 percent or more of the light-duty vehicle market by 2012. You can now find also find Biodiesel distributors serving just about every state, but most heavily on the two coasts and in the Midwest. The National Biodiesel Board estimates that U.S. producers have a combined current capacity of 150 million gallons per year, although in 2004, they produced only 30 million gallons. So the potential to meet demand is there but when will demand meet potential?

Present-day electric-vehicle technology (which could allow you to plug into the power produced by residential solar panels) is not being talked about by mainstream media. The same thing (relative oddball obscurity) would have happened to hybrids, were it not for the doggedness of Honda and Toyota. **A new technology needs a resolute champion.** Even some of the more amazing success stories needed corporate "parents." No automaker took on electric vehicles in that manner. Honda and Toyota did take that role with hybrids, even though from a business point of view, it looked like a losing strategy.

Common sense tells us that the hydrogen fuel economy is many years away at best, especially when considering the larger issues of infrastructure and support. There are plenty of opportunities for commercial fleets to convert to hydrogen produced on site with renewable technologies (wind, solar, bio-mass). Those efforts should be encouraged, as the more knowledge and experience we get, the better off we'll be in having a shot at making this a reality in the market. We need time to do it right, time we can get by relying on other technologies (plug-in hybrids, electric) to reduce our fuel consumption. We can not use a coming hydrogen economy as an excuse to not take immediate action now.

"The end of our oil-based economy will be the single most critical event in the long history of human civilization, and each of us will live to see it and be responsible for dealing with it". - Anonymous

Unfortunately, the issues of global warming and fossil fuel depletion are less than immediate for the majority. People tend to generalize based on immediate experience. Doesn't seem hotter, so how can the world be warming? They also read or hear contradictory reports. **On any given day headlines might say (a) the price of oil is going up, (b) the price of oil is going down.** Most people don't have the time to sit down and actually sort through everything. So there's a media coverage issue there. In other words, there's no foundation for agreement (or belief) for most people. Without strongly held convictions, you don't have activism. Most dramatic change occurs when the objective conditions become so intolerable they force activity on a sufficient number of people to make the change. That hasn't happened yet with global warming or with oil depletion. But when faced with hard evidence or an impact that affects us directly, we can change course rapidly in this country. It happened after the first oil crises. It happened in California after the major blackout, voluntary measures cut electricity consumption to the point where we didn't have a repeat. It's starting to happen with auto purchases (sales of full-size SUVs dropping). One way it becomes more immediate for people is for them to understand what others are doing and why. Ask around, I bet you will find people you know that have made a switch.

So back to passenger vehicles. What do you do with your old Subaru Outback when you can't afford a new hybrid or a diesel? Vehicle maintenance and driver behavior play very important roles in maximizing fuel efficiency and minimizing emissions in older cars. Keep the tires at the right pressure, keep the filters clean, the engine tuned, and so on. Basic stuff. In terms of driving, you can make a big difference by not speeding. Studies have estimated that on the highway, some 50 percent of the energy required to keep rolling is aimed at overcoming aerodynamic drag. As speed increases, the aerodynamic drag and rolling resistance increase. Cut the speed, conserve fuel. A rule of thumb says that an increase in passenger car speed from 65 mph to 70 mph typically results in a 10 percent decrease in fuel economy. The 10 percent decrease is not a linear relationship -- there is an increasingly greater increase in fuel consumption as speed increases. The 55 mph speed limit was originally established 30 years ago in response to the set of oil crises then. In traffic, you can cut your engine at traffic lights, or if you're stopped for more than a few seconds. As an example, the Japanese government is taking a campaign for such manual "idling stop" from buses and taxis and other commercial vehicles to the general car-owning population in an effort to save fuel and reduce greenhouse-gas emissions. In tests run by the government, idling-stop reduced fuel consumption by 13.4 percent. We are now seeing automatic stop-start systems appear in even non-hybrid new cars.

How quickly do people worldwide need to change their consumptive nature in order to stop the wrecking ball of unsustainability? Urgency varies with **assumption** of the date of the actual onset of depletion. If we actually hit peak production within the next year or so, as many are increasingly thinking, we're in for a rough decade at the minimum, more likely two.

Information, in part, was taken from Grist and Mike Millikin, publisher of green-car blog. <http://www.greencarcongress.com/>

A Greener Seattle Highlight:

Did you know? About 2000 people in the Seattle area currently fill their engines with Biodiesel. The cost of diesel is about \$2.79 a gallon and Biodiesel is \$2.95, making it a lot more competitive than it has been previously. They are currently two filling stations, Dr. Dan's in Ballard and Laurelhurst Oil near the U-Village. <http://biodieselblog.com/2005/05/seattle-update.shtml>

Seattle based Flexcar is the nation's first and largest car-sharing service. Members use automated, self-service reservation and vehicle access systems to drive any of dozens of new, fuel-efficient Flexcar cars, trucks, and minivans located across several metropolitan regions. <http://www.flexcar.com/default.asp>

On May 16th, Seattle Mayor Nichols officially committed our city to meeting the standards of the Kyoto Protocol. 161 other Mayors nationwide have joined him in this pledge.

If you are interested in other transportation alternatives visit Transportation Choices Coalition at: www.transportationchoices.org/

You might not want to know!! Lawmakers in Olympia ended the session on Wednesday by passing an \$8.5 billion transportation package that includes a 9.5-cent gas tax over four years, the biggest increase in state history. The package raises the gas tax by 3 cents a gallon the first year, 3 cents the second year, 2 cents the third year and 1.5 cents in the fourth. It includes \$2 billion for the Alaskan Way Viaduct in Seattle, \$972 million for Interstate 405 on the Eastside, and \$500 million toward replacing the Highway 520 bridge over Lake Washington. Major construction on the Alaskan Way Viaduct is slated to begin in 2009. Whether they close it altogether or keep parts of it open is still up for debate, regardless rush hour traffic will be poorly affected.

www.wsdot.wa.gov/projects/viaduct/Schedule.htm

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