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Going Green: Can the World Afford It?

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By Darryl R. Isherwood
FOXBusiness

An eco-conscious car buyer who wanders into an auto showroom in search of a "green" SUV will find that the cost of a [popular base model hybrid](#) is \$29,860 -- \$29,110 after a \$750 federal tax credit -- \$8,000 more than the base model gasoline-powered vehicle.

Overall, the hybrid vehicle is rated for 32 miles per gallon, while the conventional SUV is rated for 24 MPG. With the extra fuel economy, the hybrid driver will travel about 120 miles further on a tank of gas. With gas hovering around \$2.75 per gallon, the savings will amount to about \$10.30 for every 15 gallon tank of gas used.

While that savings seems substantial, to make up the difference in the price of the two vehicles, the hybrid driver would need to consume roughly 776 tanks of gasoline -- more than 372,000 miles of driving -- to break even on the purchase of the green vehicle. Put another way, a hybrid owner who uses a tank of gas per week would save roughly \$540 per year in gas costs, putting the payback on his hybrid at nearly 15 years.

That rough calculation is an illustration of the dilemma facing both consumers and environmentalists who view so-called green tech as the wave of the future: How do you convince consumers to adopt technology that on the whole will cost them more than what they already use.

"This is a question we have confronted many times since our fund's genesis," said Sean Schickedanz, general partner of Clean Pacific Ventures, which provides seed money for green tech startups. "A lot of business plans we saw were predicated on the belief that there is large consumer base out there that will choose a green product with a higher price point simply because it's green. As a firm we have decided that's not true. We think for technology to be successful, there needs to be value there beyond 'greenness.'"

In the world of alternative energy, the calculus is similar as consumers must weigh a substantial outlay of cash with a payback that could be years down the line, or power that costs from a few cents to as much as 20 cents more per kilowatt hour, versus the status quo of cheap, coal-fired electricity.

The most green among us might think nothing of a \$20,000 home solar array that pays for itself in 14 years and provides free energy thereafter. But the ubiquitous "Joe Sixpack" who became the GOP's stand in for everyday Americans during the last presidential election, probably won't, or more likely, probably can't.



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SPECIAL REPORT



The True Cost of Going Green

Even the electric car, long thought to be the future of automobiles, is hampered by the cost of its batteries. And new models such as the Chevy Volt, once advertised as the electric car for the masses, is slated to cost upwards of \$35,000. A Tesla, the high-end electric vehicle capable of speeds of up to 120 miles per hour and a range of 240 miles, will run more than \$100,000.

Nissan Motor Corp. ([NSANY](#)) chief executive, Carlos Ghosn, acknowledged the problem with the high pricetag in November when he unveiled the company's new Leaf electric car. Nissan has not yet released the price of the car scheduled to debut next year.

"For an electric car to make inroads, we have to make sure it starts at the same cost as a conventional car," he said.

So what's the solution?

Last week, President Obama promised \$2.3 billion in subsidies dedicated to alternative energy. The goal, the president said, is to "help close the clean energy gap that has grown between America and other nations while creating good jobs, reducing our carbon emissions and increasing our energy security."

That money is on top of billions in grants and subsidies poured into alternative energy in the past as well as federal and state tax benefits awarded for adopting various forms of green energy.

"If you account for the subsidies, [renewable energy](#) is actually not that expensive," said Mark Jacobson, a professor of civil and environmental engineering at Stanford University.

Some countries, such as Germany, have subsidized renewable energy in the form of feed-in tariffs, which guarantee producers of renewable-energy can sell power at an above-market price, with the price guaranteed for 20 years. As a result, Germany has more solar panels in use than any other country.

"Sometimes subsidies are necessary to jumpstart an activity," said Appalachian State economics professor John Whitehead. "It is probably so in this case. So, if you think the cost of the subsidy is less than the benefits of clean energy, and it seems so to me, then a temporary subsidy is good. The hope is as the demand for renewable energy increases, firms will find cost savings and they'll become more competitive with non-renewables."

But to many, subsidies only prolong the problem.

Despite an unprecedented amount of cash dedicated to the cause, the United States still gets only about 13% of its total energy from alternative sources, and just over 4% comes from solar and wind power.

"If these things could stand on their own they wouldn't need to be subsidized," said Patrick Michaels, a senior fellow at the conservative Cato Institute and a contributing author and reviewer of the United Nations Intergovernmental Panel on Climate Change. "If they worked the right way there would be windmills and solar panels everywhere and we'd all be driving hybrid cars."

Nat Goldhaber, of venture capital firm Claremont Creek Ventures, agrees. Subsidies, he argues, are a way to offset the extra cost of green activities, but what happens when politics or economics, or even whims, change?

"Wait and see what happens to all of these green tech companies that came into existence to take advantage of government grants and subsidies," Goldhaber said. "Sooner or later, that money runs out."

Not so fast, Jacobson says. The coal and oil industries receive substantial subsidies and any comparison of costs has to take those into account.

"The fossil fuel industry gets \$100 billion per year in subsidies in the tax code," Jacobson said. "People complain when the renewables get subsidies on the order of \$1 billion to \$2 billion per year. To make alternative energy a reality, you have to shift those subsidies from fossil fuels to renewables."

Take out those subsidies and the cost for fossil fuels is much closer to renewable, says Jacobson, who co-authored a paper outlining how the planet can be 100% powered by alternative energy by 2030.

There is also the societal impact of fossil fuels, he says, which takes into account medical costs caused by fossil fuel emissions, notably smog.

"When you account for the subsidies and [health](#) effects, alternatives are actually cheaper," said Jacobson, whose house is outfitted with a solar array and who drives an electric-powered Tesla.

Still, he acknowledges that in many cases cost is a barrier to going green, and both businesses and individuals often need a push.

Ron Gonen thinks he's found that push.

Gonen is the founder of RecycleBank, a New York City company that offers rewards points for various green activities, including recycling and reuse of goods. (See "Turns Out it Really Is Easy (and Profitable) To Be Green.")

RecycleBank's concept of Economy answers the question of how to motivate consumers by rewarding them for turning green - in this case, with certificates worth discounts at 1,200 local and national businesses.

"We find that in our economy creating incentives for people is the way to motivate them to take the action that the society wants," Gonen said. "Incentives work much better than regulations and fines."

BI Worldwide also hopes to tap into consumer incentives with its EcoBonus program, which rewards consumers for purchasing products with an environmental bent, such as organic foods and Energy Star appliances. Points earned through the purchases are good for product and vacation awards.

By offering the bonus points, the company hopes to give consumers a reason to do the right thing beyond feeling good about the choice.

"These products are often premium priced because they are paying externalities and they are taking responsibility for their footprint in a way that other companies aren't," said Tiger Beaudoin, vice president of marketing at BI Worldwide.

Suzanne Shelton, president of the Shelton Group, a marketing firm focused on motivating consumers to make "green" choices, said altruism is generally far down on the list of reasons for consumer behavior.

"It's rare that people decide to buy a green product because they have this altruistic feeling that they want to save the world," Shelton said. "We find there is about 20% of the population that are pretty hard core environmentalist or practical environmentalists, but there are boundaries."

Shelton pointed to last year when gas topped \$4 per gallon. Almost immediately consumer behavior changed. People drove less and interest in hybrid cars spiked, she said. "That \$4 was a big motivator to save gas," she said.

Goldhaber summed up the issue when he described the Holy Grail of green venture capital.

"One of the things I look for is [investments](#) which, after installation, bring about either no inconvenience or in fact make life more convenient, and at the same time save energy with a reasonable amount of time to pay-back. That to me is the golden investment."

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