GOLD & ENERGY ADVISOR

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"Is Our Oil Shortage Real, or Not?"

"According to media commentators, the high price of oil is just temporary. We'll just replace oil with corn ethanol, or switchgrass, or biodiesel, or something else.

"Are they right? Is 'alternative energy' a viable option? Here's my analysis!"

James DiGeorgia, Editor

- **Debunking the Oil Debunkers**
- **Stupid Ideas About the Oil Crisis**
- **My Thoughts on Alternate-Energy Stocks**

I'm sure you've noticed that our *GEA* investment approach has been having another spectacular year!

Just this month, gold skyrocketed into the $720s… silver popped up to $15…platinum hit $1,320…and oil is close to its all-time highs.

As I write this, gold and the other metals have subsided a bit—taking a well-deserved breather. But regardless of their short-term performances, I'm more convinced than ever that gold and silver are going to the moon!

However, I won't spend too much time on the metals this month. Instead, this issue will be a little unusual. I'm going to talk about oil—or, more specifically, the lack of viable alternatives to oil.

There's been a lot of news lately about various alternative energies: biofuels, renewable fuels, oil from non-crude sources, and so on. Since I'm now getting lots of mail and questions about these from you, my readers, I'm devoting this issue to…

Debunking the Oil Debunkers

Many commentators are in the news "debunking" the idea that we're experiencing a long-term oil shortage. Oil prices are unsustainably high, they say. Lots of alternative energies are ready to take over. Gasoline will be cheap again Real Soon Now.

In a way, it's the 1970s all over again. Gas prices are shockingly high, the media are complaining about price-gouging by the oil companies, and "alternative energy" is suddenly the hot topic of the day.

But there's one crucial difference. In the 1970s, the oil shock was deliberately engineered by OPEC. Today, the oil shock is happening *despite* OPEC and the other oil-producing countries. Oil producers are pumping flat-out, and still they can't keep up with demand.

Thirty years ago, the oil crises were artificial, and easily solved. Today it's the complete opposite: the problems are real, and won't be easily solved until oil prices soar even higher (and stay there for a while).

Nevertheless, there's no shortage of supposed media "experts" with solutions to our problems. Unfortunately, many of their supposed solutions will make the problem *worse* instead of better. For example, there's…

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Stupid Idea About the Oil Crisis #1: Let's Punish the Oil Companies for High Prices

Here's an example of *déjà vu*. Back in the 1970s, you might remember the "windfall profits" tax, which confiscated huge amounts of money from the oil companies. Today, there's again a growing outcry against the "outrageous" profits the oil firms are making. I expect to see serious proposals for another tax soon.

Yes, the oil companies are making big profits right now. For example, Exxon Mobil has accumulated a near-record cash hoard for a non-financial company: $31.9 billion as of March. So the howls of protest are rising: surely such a hoard is evidence of something immoral going on, and this money should be returned to the poor American gas consumer?

Rubbish! First of all, I don't remember any of the media commentators weeping for the oil companies back when oil fell below $10, and these firms were bleeding red ink. Second, Exxon Mobil *is* returning those profits to the American public (those members of the public who bought shares). The company is paying about $2 billion per month in dividends to its shareholders—many of whom, incidentally, are retired people and pension funds. Here's a question for the media commentators: why should retired pensioners have money taken away from them, and be forced to subsidize people who chose to buy gas-guzzling SUVs?

Also, Exxon is accumulating that cash for a reason—over the next five years, the company plans to spend $100 billion to develop new gas and oil resources around the world. Confiscate the money with some stupid "outrageous profits" tax, and this development can't happen…and oil prices stay high!

It frustrates me no end that the media, along with most of our politicians, are apparently too dumb to understand this. When there's a resource shortage of some kind, government interference always makes it *worse*, not better. If something is expensive, *don't* interfere with the price—let it stay expensive. The high prices will make the producers more profitable, allowing them to invest in more infrastructure and produce more, which will bring the prices back down.

The free market—and *only* the free market—can fix these problems. For example, did you see the news about Hawaii? A few months ago, I told you that Hawaiian politicians were instituting price controls on gasoline—they thought it 'unfair' that gas was more expensive in Hawaii than in the continental United States. (So *what* if tankers have to ship the gas an extra 2,500 miles!) Well, guess what—since the controls were instituted, the price differential has gone *up* instead of down. And the politicians are

actually stupid enough to be surprised that price controls didn't work! (Did they actually think that copying the economic model of the Soviet Union would be a *good idea*?)

Anyway, blaming the oil companies won't help oil prices, and will actually backfire if our politicians are dumb enough to try it. Let's hope they aren't.

Stupid Idea about the Oil Crisis #2: Alternative Energies Can Save Us

I covered this topic in *Global War for Oil*, but a few things have changed since I wrote that book.

What *hasn't* changed is that so far, we have no viable alternatives. There are several promising technologies in the works, but nothing that will replace oil to any significant degree in the next few years.

But you won't hear this from the media. Instead, more and more news stories are excitedly reporting about ethanol, or biofuel, or biomass, or (fill in the blank with the latest fad), and how it will solve all our problems.

Let's start with the one getting lots of press attention lately…

Ethanol

It sounds like the perfect source of energy. You grow some corn, harvest it, and throw it into a bioreactor. A week later, it comes out as ethanol (200-proof alcohol), which can be mixed into gasoline and burned in today's cars with no modifications. Surely this is an endlessly renewable source of energy, and can replace at least some of the oil that would otherwise be necessary?

Unfortunately, no. Ethanol has some serious problems, which make it completely useless as an oil replacement.

First of all, here's how the process works. You mix corn with water and yeast, alcohol is formed as the corn sugar ferments, then you distill out the ethanol. Basically, you're making high-tech moonshine.

It sounds simple—and it is—but here are the drawbacks. First of all, ethanol is corrosive. It can't be transported in our oil pipeline network, and gas with too much ethanol is hard on a car's engine. Also, an ethanol-fueled car is hard to start on a cold morning, since ethanol burns at a higher temperature than gas. And the overall process uses a lot of water (ethanol production requires 35 gallons of water per bushel of corn).

But the real problem with ethanol is that on a "net energy" basis, you aren't actually saving anything. Yes, ethanol can replace some crude oil that would otherwise be used as gasoline—but you need about that same amount of oil to make the ethanol in the first place. In other words, you burn a gallon of oil to save a gallon of oil—which is no savings at all, obviously.

Here's why. First of all, corn farming is very energy-intensive. Each year, it requires about 9 billion pounds of nitrogen fertilizer, which is made from petroleum. (Chemical manufacturers get hydrogen from crude oil, in order to make ammonia, which is used as the source of nitrogen for the fertilizer. This process uses a lot of energy; it takes twice as much energy to make a pound of ammonia as a pound of steel.) Plus, the farmers burn lots of fuel in their tractors and combines, to grow and harvest the corn.

Overall, according to one estimate, it takes about 0.87 gallons of gas to grow one bushel of corn. To make ethanol from the corn requires another 0.89 gallons, for a total of 1.76 gallons.

According to the USDA, each bushel of corn can produce about 2.66 gallons of ethanol. So it takes 1.76 gallons of gas to make 2.66 gallons of ethanol.

This sounds like we're ahead of the game, but we're not. Gallon for gallon, ethanol contains less energy than gas. It takes about 1.5 gallons of ethanol to get the same amount of energy in 1 gallon of gas. And 2.66 gallons of ethanol is roughly equivalent to 1.74 gallons of gas.

In other words, to make ethanol we burn 1.76 gallons of gas, and only get the equivalent of 1.74 gallons of gas back. On a net basis, ethanol doesn't replace oil; it actually produces a *loss* of oil.

Incidentally, there are a number of studies that have examined the EROI (energy return on investment) of ethanol. I got the above numbers from a comprehensive report from the University of California; there are others that say basically the same thing.

However, if you poke around the USDA website, you'll see numbers proclaiming that ethanol produces a positive EROI. Why the discrepancy? The study that the USDA cites is from an organization that is—surprise!—funded by Illinois corn farmers!

So if you're a corn farmer, ethanol is a great deal (especially because of special government subsidies that pay you to grow it). But for the rest of us, ethanol isn't a good deal at all. And it certainly won't solve our energy problems.

Ethanol from Switchgrass

In his State of the Union address, President Bush mentioned switchgrass. This is a tall grass native to the high plains, which can be grown and harvested like hay, then converted into ethanol. Optimists are excited because you can get about 50 gallons more ethanol from an acre of switchgrass than from an acre of corn.

Latest prices as GEA goes to press—May 19, 2006

Comex spot contract: silver $12.28, gold $657.00
Nymex spot platinum: $1313.40, palladium $351.80
Nymex Light Sweet Crude Oil $68.74

Silver coins			Dealer will buy at this price	Dealer will sell at this price
100 1 oz. silver American Eagles			$1,300	$1,395
100 1 oz. common rounds			$1,200	$1,325
$1,000 face value US pre-1965 coin bag (circulated)			$8,400	$9,000
$1,000 face value US circulated silver dollar bag (VG or better)			$10,500	$13,500
US Morgan silver dollars	PCGS MS64		$45	$65
	PCGS MS65		$110	$140
	PCGS MS66		$280	$375
Platinum coins				
U.S. Platinum Eagle:	1 oz.		$1,295	$1,360
	1/2 oz.		$640	$700
	1/4 oz.		$315	$365
	1/10 oz.		$145	$156
Gold coins				
Australian Kangaroo			$650	$685
British sovereign (Kings)			$147	$189
(Elizabeths)			$147	$189
Canadian Maple Leaf			$656	$680
Credit Suisse 1 oz. gold bar			$645	$670
Mexican 50 peso Centenario			$783	$825
South African Krugerrand			$649	$670
US Gold Eagle:	1 oz.		$659	$667
	1/2 oz.		$328	$363
	1/4 oz.		$160	$180
	1/10 oz.		$65	$75
US $20 double eagle:				
Liberty	Raw	MS60	$650	$775
	NGC	MS63	$900	$1,300
	NGC	MS64	$1,800	$1,950
	NGC	MS65	$4,150	$5,950
Saint Gaudens	Raw	MS60	$625	$725
	NGC	MS63	$800	$900
	NGC	MS64	$1,000	$1,100
	NGC	MS65	$1,275	$1,650

Prices courtesy of Universal Coin & Bullion
(800) 459-COIN (2646)

In reality, there's little to get excited about. Grass is much less energy-dense than corn, so the grass costs more to harvest and transport in terms of energy per unit mass. Plus, the grass costs more to convert to ethanol: corn contains lots of sugar, but the grass is mostly cellulose, which has to be broken down into sugars by special enzymes before fermentation can begin.

In the end, corn and switchgrass cost about the same per gallon of ethanol produced. So switchgrass won't save us either.

But what about Brazil?

Energy optimists like to point to Brazil as a model. Thanks to ethanol, this country has successfully weaned itself off foreign oil, and expects to become energy-independent this year.

The Brazilians have managed to get their ethanol's cost slightly below the cost of gasoline, and they've now replaced about 30 percent of their gas usage with ethanol. That sounds like something we should do ourselves…until you realize a few things.

First of all, Brazil didn't do this overnight. The government started its ethanol program back in the 1970s, in response to the OPEC oil shocks. So it took almost 30 years to get to this point. It also cost billions of dollars, and the program was very unpopular with the people (the military-dictatorship government rammed it down their throats).

Plus, one of the steps was to cut off all government subsidies to the domestic farmers. This forced the farmers to make their operations more efficient, and helped lower the cost of sugar cane (the raw material for Brazil's ethanol). Personally, I can't see this happening in the U.S.—the farming lobby here is powerful and well-funded, and has even managed to get the federal government to pay them for *not* farming certain things. I can't see politicians being brave enough to fight them and end the huge subsidies.

Finally, and most importantly, Brazil has lots of advantages that we don't. First of all, they can raise crops cheaply: they have lots of rain, lots of cheap land, and lots of cheap labor. Second, the warm Brazilian climate allows them to grow sugar cane, which can be turned into ethanol much more cheaply than our corn (which is mostly starch).

The International Energy Agency (IEA) agrees with this analysis. It recently said that low-cost ethanol production will be mostly limited to developing countries, but it's the developed countries that need it the most. (It also admitted that there's currently no "substantial international trade in ethanol," nor is there the necessary infrastructure to support it. Remember, ethanol creates unique challenges in transportation.)

We can't duplicate the Brazilian model here.

Biodiesel

Another item in the news lately is biodiesel: fuel usable by diesel engines but obtained from biological sources (usually vegetable oil).

Vegetable oil in diesel engines? It sounds funny, but the diesel engine was actually invented to work on plant oils (Rudolf Diesel used peanut oil as the first fuel for his new invention back in 1895). Modern engines are designed to work on a petroleum derivative instead, but vegetable oil can still be modified and made usable.

In fact, Dynoil recently announced it's building a 100,000 barrels-per-day biodiesel refinery near Houston. This facility will change vegetable oil into something that can be mixed into diesel fuel and burned in our cars and trucks.

Sounds good, doesn't it? There's only one problem. This plant can only refine 100,000 barrels of vegetable oil into fuel each day, but we consume 20 million barrels of crude oil per day. In other words, this plant can only replace a negligible 7 minutes of daily American petroleum consumption.

No problem—we'll just build more refineries, right? Wrong! This single plant will process 1.5 billion gallons of vegetable oil each year—which is already ***half*** of the total U.S. production of 3 billion gallons!

Presumably, this plant will have a significant impact on food prices, since it's going to wipe out half our nations' supply of vegetable oil each year. But it will hardly impact energy prices at all.

In order to replace just *one hour* of petroleum consumption each day, we'd need 8 of these refineries. Those plants would need 12 billion gallons of vegetable oil each year, which is four times our current production. So we'd need to multiply our national output of vegetable oil by a factor of five (four times for the biodiesel, plus the current amount used for food) to pull this off. This ain't gonna happen!

Just for reference, the entire world uses about 977 million barrels of vegetable oil each year. If every single drop was converted into fuel instead, it would only be about 12 days worth of consumption. (Plus there's the ethical question of burning up food in our cars, in a world where some people are starving.)

Biodiesel sounds good, but there's far too little available to make a difference.

Biomass and Biofuels

You might have heard the word "biomass" in the news. It refers to the conversion of wood chips, paper pulp, and other biological waste to energy. It's the same basic process I described for switchgrass: you have to convert the cellulose to sugars, then ferment the sugars into ethanol. So biomass isn't any more feasible than switchgrass is.

Overall, no form of "biofuels" (fuel from biological materials) can save us. Even the IEA, which is considerably more optimistic than I am, admits that only "a third or more of road transportation fuels worldwide could be displaced by biofuels in the 2050-2100 time frame."

So before we have enough biofuels to replace just one-third of road transportation fuel—itself just a fraction of overall oil usage—we'll need to wait another *50 years*.

Biofuels might help us many years from now, but I don't expect anything significant until then.

Oil Sands

Way up in northern Canada, there's a geological formation the size of Florida. That formation is an enormous deposit of "oil sand"—a tarry material that looks like motor oil mixed with Play-Doh.

These sands contain oil—lots of it. The Canadian province of Alberta has an estimated 174.5 billion barrels of recoverable reserves. This gives Canada the 3rd largest oil reserves in the world.

As a result, there's now a thriving industry extracting oil from the sands. This is good news for the world—finally, there's a place with lots of oil that's not run by terrorists or nutjob dictators. Indeed, I expect Canada to be an important oil supplier for the foreseeable future—probably one of the key factors that will eventually solve our energy problems.

But that future isn't here yet. Canada is already selling oil from the sands, but it will be years before the industry is big enough to solve the world's oil crisis.

The main problem is that the oil is so difficult to extract. As you can imagine, mining frozen tarry gunk out of the ground during a bitter Canadian winter is not an easy process. Nor is it cheap to get the oil from the gunk once it's been mined. For that matter, most of the deposits can't even be mined: they're too deep. So companies are now experimenting with melting the sludge in the ground (by drilling wells and injecting steam), so it can be pumped out instead of mined.

There are also substantial environmental costs. Forests are being clear-cut to expose deposits, and the deposits themselves are strip-mined. Recovering and processing the petroleum releases up to 3 times more greenhouse gases than crude oil does.

It also requires lots of water—four barrels of water for each barrel of oil—which is polluted and poisoned in the process. To store the waste, there are now huge man-made toxic lakes in Canada, which can't

be cleaned up by any known process. (The Canadian National Energy Board recently admitted that "The ponds must be constructed to last indefinitely, [since] there is currently no demonstrated means to reclaim fine fluid tailings.")

As a result of all this, oil sand petroleum is very expensive. It costs five times as much to produce as Middle Eastern crude. Therefore, it only stays viable while oil prices are high, and by itself it can't bring oil prices down very far.

Lastly, the industry is still too small to make a significant dent in the world's supply/demand situation. Since the sands aren't viable unless oil prices are high, the industry has only recently become profitable. Companies are now frantically expanding their operations, but a new oil-sands facility takes seven years from groundbreaking to the first produced barrel. Also, according to an article in *Fortune*, the industry needs 30,000 new employees. Companies are recruiting heavily all over the world, but a Shell spokesperson told the magazine they're expecting the process to take 10 years.

So again, although oil sands will probably be a boon long-term, it will take at least a half-decade—maybe even a decade or more—before the sands can significantly help us.

Portfolio Updates

In Update #174, we recommended letting our Noble Energy (**NE**) puts expire. We kept $330 per contract as profit.

We let our Chevron (**CVX**) option position get called away. We made $75 per contract as profit.

We rolled over our Talisman Energy (**TLM**) calls into May.

In Update #175, we rolled over some of our April options into May and June: Newfield Exploration (**NFX**), EOG Resources (**EOG**), Encore Acquisition (**EAC**), and Cimarex Energy Co. (**XEC**).

In Update #182, we recommended (for aggressive investors only), selling a contract of Atwood Oceanics Inc June $47.5 puts (**ATWRW**). We also recommended selling a contract of Noble Energy Corp. June $75 puts (**NERO**). Again, both recommendations are risky and for aggressive/experienced investors only.

In Update #183, we took profits on our Ensco Int'l calls (**ESVFH**), and made about $300 per contract. We also took profits on our Diamond Offshore calls (**DIAFM**), and made about $950 per contract.

In Update #184, we bought 2 contracts of Suncor Sep. $65 calls (**SUIM**). We also sold short one contract of Suncor June $80 puts (**SURP**).

We also bought 2 contracts of Anadarko Petroleum August $85 calls (**APCHQ**), and sold short one contract of June $100 puts (**APCRT**).

Shale Oil

In the American West, there's a tremendous bonanza: an estimated two *trillion* barrels of oil. This is by far the world's biggest oil reserve, several times bigger than even Saudi Arabia's. It's in the form of shale oil: a clay-like material containing kerogen, a thick form of petroleum. To get the oil, you mine the rock, crush it, and heat it to melt out the oil.

The problem is that this process is too expensive. It costs far more than the oil itself is worth. Over the years, many have tried to solve this problem, but nobody's succeeded. (The most spectacular failure was twenty years ago—investors lost $5 billion when the government's shale-oil program collapsed. Since then, investors have been wary of getting involved again.)

Shale oil would be a tremendous resource for America. If we could make it work, all our energy problems would go away. But that day, if it ever occurs, is far off in the future.

Natural gas

Many look to natural gas (NG) to solve our oil crisis. But gas isn't the answer either.

In the U.S., natural gas production is on a long-term decline. If we're going to get more gas, we need to buy it from outside our borders. Unfortunately, our facilities for importing gas are at maximum capacity. We have only a handful of terminals that can process LNG—liquid natural gas, carried by tankers—and they can't handle any more traffic. There have been efforts to build more LNG terminals, but each time, the location chosen to receive the terminal has refused. (Nobody wants any tankers, each containing the explosive power of an atomic bomb and each easily targeted by terrorists, coming and going from their harbor.)

There's another possibility though: if other countries increased *their* use of natural gas, thus freeing up more crude oil on world markets for our use. Unfortunately, that isn't happening either.

A good illustration of this is China, which has been trying to wean itself off coal and onto natural gas. In the last few years, the Chinese have replaced many coal-burning factories and utilities with NG-powered plants. But NG has become so expensive, they're abandoning their efforts and returning to coal and oil. The *Wall Street Journal* reports that four gigawatts of power—about 40 percent of China's gas-fired power plant capacity—is now shut down due to a lack of gas.

As another example, the *WSJ* described a Chinese city named Tongchuan. In the 1990s, the

city's coal-burning factories polluted the air so badly that Tongchuan couldn't be seen on satellite images. (Chinese leaders called it "the invisible city.") The city was blanketed in a permanent fog, and everything was covered in a layer of ash. Tongchuan's 800,000 residents refused to wear white clothing because it would soon be stained black. Health problems were common, in both adults and children.

Then, in 1997, the city began building a spiderweb of pipes connecting Tongchuan to a gas field 310 miles away. Local homes switched from coal heating and cooking over to NG, and the local air quality improved a bit.

But today, local leaders in Tongchuan are planning a new factory, and it will be powered by coal, not gas. Thanks to the world energy shortage, the NG trend was short-lived, and smoke and ash will return to the streets of Tongchuan.

No, natural gas can't solve our energy problems either.

Coal to Liquids

Coal is solid hydrocarbons, and crude oil is liquid hydrocarbons. So we can liquefy coal, and get oil. The technology has actually been available since the 1940s—in World War II, the Germans used it after their troops were thrown out of the Romanian oil fields.

Unfortunately, the technology is too expensive to help us right now. Oil prices will have to go much higher to make it viable.

CTL can be done directly, or indirectly. Using the direct method, you take coal, add hydrogen and a solvent, and make "syncrude" (synthetic crude oil). This process is very difficult: it requires temperatures of 750 F, pressures of over one hundred atmospheres, and an appropriate catalyst.

Alternately, you could use the indirect method. Here you gasify the coal first, to make carbon monoxide and hydrogen. Then you convert the gases into liquid. There's even a commercial plant doing this (it's in South Africa).

But neither process is cheap, and starting a CTL industry in the U.S. would require a huge amount of money. According to Department of Energy estimates, a plant with a daily production of 33,200 barrels would cost $2.2 billion. To replace just five percent of daily U.S. oil consumption, we'd need over 30 such plants, which would cost $66 billion.

We'd also need 180 million tons of bituminous-grade coal annually (and even more for lesser grades of coal)—this would make coal prices shoot through the roof, which would in turn send the cost of electricity skyrocketing (since electrical utilities rely heavily on coal to generate power).

Coal to liquid is a good idea, but won't be viable until oil prices go much higher. Even then, CTL could probably only replace a small fraction of oil usage.

Nuclear Power

Uranium is a hot commodity nowadays—its price has more than doubled in the last few years. And recently, for the first time in 15 years, a European country (Finland) is starting construction on a new nuclear power plant. A few other European countries are thinking of expanding their nuclear power industry too.

But nuclear power can't help us. First of all, a single nuke plant costs billions of dollars to build. Second, it would take at least a decade to build a new plant in the U.S.—and that's assuming little resistance from the local residents, which is unlikely. Third, nuclear plants produce electricity, which doesn't help us drive our cars.

So nuclear power can do little to solve our oil shortage.

Hydrogen

There's lots of fuss lately about hydrogen-based cars using fuel cells. Fuel cells produce electricity, with zero pollution (the only byproduct is water).

The fuel-cell-powered car would indeed be a wonderful technology—once it works. But so far, it doesn't.

First of all, electric cars use batteries that are still heavy, crude, and inefficient. Second, we need a national network of fuel stations that can dispense hydrogen—a tremendous capital investment will be required.

And last but not least, we need a source for all that hydrogen. One way to get it is from natural gas—which, as I've already mentioned, is also in a shortage. Another way is to split water molecules with electricity—which means we'd better start building lots of nuclear- and coal-powered utility plants. That's not going to happen either.

An entire nation driving around in zero-pollution electric cars—this is a wonderful dream. But right now, that's all it is.

Solar

The same is true for solar energy. This produces electricity, which doesn't help us drive our cars, trucks, and trains. Plus, solar electricity is still more expensive per kilowatt than other forms.

Alternative Energies Aren't Ready

So as you can see, alternative energy won't solve our oil shortage. Most of the ideas are nowhere near viability. Some won't help even once they are.

A couple of them are very promising, especially oil sands (one of the few that are actually producing anything right now). But even then, it will be years before they make a significant impact. Meanwhile, oil prices will stay high.

There's just one more proposed solution I haven't discussed yet. That's…

Stupid Idea About the Oil Crisis #3: Hybrid Vehicles Will Save Us

I've already discussed the problems with pure electrical vehicles, and hybrid vehicles aren't much better. Yes, it's fashionable to "save the planet" by driving a hybrid—certain celebrities even make it a point to be seen in their trendy Priuses. But in reality, there's little planet-saving going on.

Hybrids are much more expensive than conventional vehicles, making them cost-ineffective. Plus, they aren't necessarily very fuel-efficient anyway: for example, Toyota's new hybrid Camry will only get 40 mpg, and the new Lexus will be in the high 20s. You can get better mileage than this driving a conventional compact vehicle.

So far, hybrids are little more than hype. I expect this situation to improve, but not quite yet.

What About All of These Solutions Combined?

I've said that none of these proposed solutions are workable on their own. None are ready to replace more than a small percentage of our oil usage.

Of course, there's no reason we couldn't add them all together, and cumulatively replace a large percentage of oil use. No reason, that is, except money!

As I've shown, any one of these solutions will require a large investment. If we need multiple solutions, then the overall price tag gets astronomical.

How could we pay such a high price? If our bankrupt government tries to fund it, it means the dollar gets inflated and debauched even more than it already is, which means the price of oil and other commodities will soar even higher. If instead the free market develops the alternatives (a far preferable solution), oil prices still have to stay high to justify the necessary investment.

So either way, oil will stay high. The only way I can see it coming down is if demand falls significantly—which would probably mean an economic contraction or even depression. And then the price of oil will be the least of our problems.

A Bubble in Alternate Energy Stocks?

Several readers have written, asking why I haven't recommended any alternative-energy stocks.

It's simple—I don't want to buy any! Most of them are little more than overhyped "story stocks" with nothing behind them. I'm only interested in decent, solid companies, and there are only a few of those.

Unfortunately, the good and bad alike have all been bid up to astronomical levels. Investors have stampeded into any stock that claims to be working on a solution, and the stocks are ridiculously valued. Prices are sky-high, usually with nothing to back them up. This is like an energy version of the dot-com bubble, and I want no part of it.

I'm currently looking at an energy mutual fund that should give us most of the benefits of this sector, while avoiding most of the drawbacks. I'll be issuing an email Update with more detail—you might even have received it by the time this newsletter is published. But I wanted to mention it here as well.

Oil Prices Will Remain High!

Like any other market, it's impossible to predict short-term price movements. Oil might come down a bit in the next few months. In fact, I hope it does, so we can add to our *GEA* energy portfolio during the weakness.

But long-term, over the next few years, oil has nowhere to go but up. As I've documented in this newsletter, our oil problems are systemic and fundamental. And despite the fantasies you hear from the media, there's no immediate solution in sight.

That's not to say our problems will never be solved. As I said, I'm hopeful about several of the technologies I've described. But these won't become solutions—in fact, they *can't* become solutions—until oil soars to excruciating, painful new heights, and stays there for several years.

I don't like it any more than you do. But I'm determined to prepare for it, and to profit along the way. I hope you are too!