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## surface area and volume Gas pains..

Posted by Mike McGinn - 2008/06/30 22:45

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how many wind generator farms could the money we've spend on the Iraqi war so far have paid for by now? Wouldn't do much good if the bad guys fly airplanes into them. -ex . \*\* Posted from <http://www.teranews.com> \*\*  
Hmm, thousands of windmills - that would take an awful lot of airplanes.

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## surface area and volume Gas pains..

Posted by exray - 2008/06/30 22:45

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how many wind generator farms could the money we've spend on the Iraqi war so far have paid for by now? Wouldn't do much good if the bad guys fly airplanes into them. -ex . \*\* Posted from <http://www.teranews.com> \*\*  
Hmm, thousands of windmills - that would take an awful lot of airplanes. That means more jobs in the aircraft industry! I'm saying all that tongue-in-cheek. Our (the US) taking over their oil infrastructure, even temporarily, was ostensibility going to pay for the military effort and all the building and rebuilding that was required. Of course we know how that has turned out. In that regard the comment about having spent the money here on windmills instead is only rhetorical. It may come to that though. Apparently there's enough \$\$\$ in Washington to use for whatever is on the front burner at the moment and I don't think bringing 'democracy' to some other country is as high in comparison as it was 5 years ago.  
-Bill .. \*\* Posted from <http://www.teranews.com> \*\*

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## surface area and volume Gas pains..

Posted by Robert Murrell - 2008/06/30 22:45

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spend on the Iraqi war so far have paid for by now?

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## surface area and volume Gas pains..

Posted by William Sommerwerck - 2008/06/30 22:45

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years ago how many cars would he have to make before it affected the weather, it would have sounded just as stupid. It's not a stupid question. The question is, how much do windmills affect the pattern and intensity of airflow? My opinion is that we'd need to erect a huge number, far more than needed, but that is sheer speculation.

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## surface area and volume Gas pains..

Posted by Peter Wieck - 2008/06/30 22:45

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Here is a better question. How many wind generators can we put up before we affect the weather? It sound like a stupid question, but if you had asked Henry Ford a hundred years ago how many cars would he have to make before it affected the weather, it would have sounded just as stupid. Not necessarily a stupid question, but different premises entirely. Windmills interrupt only a tiny fraction of the energy involved, and transfer that energy from wind to electricity. If you want to do the math, just measure the exposed surface area of the blade vs. the surface area they cover, and the volume of air they displace based on pitch and speed. The first two calculations are trivial, the last two are not. But suffice it to say that the amount of energy transferred is very small. This is not a water-turbine system that (theoretically) interrupts 100% of the flow and removes a very high percent of the potential energy available. Then, very little of the energy becomes heat (at the site, that is). Some is lost in friction, some is lost in generator inefficiencies, some is lost in wire resistance... but small overall. Then, no products of combustion are put into the atmosphere. No CO, no CO2, no NO, no NO2 or NO3, no unburnt fractions. Then, somewhere else, less fuel needs to be burned to make power - less coal, less oil, less natural gas, less nuclear even. Fewer rivers need to be dammed... So, absolutely YES, the weather will be affected - eventually. Air will become cleaner, fewer pollutants in it, less greenhouse gases... less global warming. Not a stupid or even a silly question at all. Peter Wieck Melrose Park, PA

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## surface area and volume Gas pains..

Posted by pgonshor@msn.com - 2008/06/30 22:45

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Mpffff.... no, not really. Oil is priced in dollars. Although the relative devaluation of the dollar has a \*small\* effect, the bigger cause is simple demand. There is NO MORE SURPLUS oil left in the world today. Even 5 years ago, this was not true - there was a (roughly) 3% surplus which served to keep reserves high and crude prices somewhat low. Now, China, India and Eastern Europe have consumed all of that excess \*and\* any increases since then as well. (Remaining Peter post deleted in the interest of bandwidth) I'm going to have to take you to task on this one Peter. Your logic just does not fly. Yes, oil is priced in dollars, when we Americans buy it. When other countries buy oil, they use their currency and pay an amount dictated by exchange rates. Let's say that we are talking the purchase of one barrel of oil. The current cost is roughly \$140 a barrel. So, we compete with the rest of the world at that price. Subsequently, the value of the dollar gets cut in half (compared to the Euro, or any other currency you wish to choose). As TwoMuttHeads pointed out, not long ago it took \$.82 (82 cents) to buy a Euro. Now it takes \$1.57 to buy a Euro. Assuming a barrel of oil still costs \$140, the Europeans half to spend roughly half of what we do to get that barrel of oil. Of course, by that time, the cost of a barrel of oil will be much more than \$140. The Europeans will have to spend the same amount in their currency. We will have to pay much more because our dollar has been devalued. The devaluation of the dollar has much more than a small effect.

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## surface area and volume Gas pains..

Posted by Jim Menning - 2008/06/30 22:45

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<pgons...@msn.com wrote in message I'm sorry Peter, but your logic does not fly. If the relative value of the dollar decreases by 50% relative to the Euro (or any other currency you care to choose) as TwoMuttHeads points out, that doubles the buying power of the Europeans compared to us Americans for the same \$140 barrel of oil. That is hardly a small effect. The Europeans can buy twice as much oil as we can for the same amount of Euros, because our dollar is worth only half of what it was. This drives the price of oil up and up. You say the bigger cause is simple demand. While demand will increase the cost of oil given a fixed supply, the demand for oil cannot explain the recent surge in the price of a barrel of oil. Back in November of 2007, oil prices were nearing \$100 a barrel. Prices have more than quadrupled since 2002. Has demand increased 40% in the last 8 months? No. Has demand quadrupled in the last six years? No. The devaluation of the dollar has been the major cause of why we are now paying so much more for gas. On one point I do agree with you. We do need to change our lifestyles. We consume much or oil per capita that any other country in the world. That is a shame. Dave You've failed basic economics. If there were unlimited supplies readily available, an increase in demand would see little if any effect on price. You may even see lowering prices as production becomes more efficient, or as competing producers discount their prices to try to gain more market share. If there is a limited supply available on the market, such as with a commodity like oil, a small increase in demand can have a large increase in price. That's because there are a lot more people competing to get those remaining available barrels. That's what we have been recently experiencing. A 40% price increase does not require a 40% increase in demand. A 40% price increase may represent only a few percent increase in demand. When supplies are very tight, and production can't match demand, the price can skyrocket for those last bits available that aren't already locked up in

long-term contracts. This situation may arrive soon. \*\* Posted from <http://www.teranews.com> \*\*

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## surface area and volume Gas pains..

Posted by Jim Menning - 2008/06/30 22:45

Mpffff.... no, not really. Oil is priced in dollars. Although the relative devaluation of the dollar has a \*small\* effect, the bigger cause is simple demand. There is NO MORE SURPLUS oil left in the world today. Even 5 years ago, this was not true - there was a (roughly) 3% surplus which served to keep reserves high and crude prices somewhat low. Now, China, India and Eastern Europe have consumed all of that excess \*and\* any increases since then as well. (Remaining Peter post deleted in the interest of bandwidth) I'm going to have to take you to task on this one Peter. Your logic just does not fly. Yes, oil is priced in dollars, when we Americans buy it. When other countries buy oil, they use their currency and pay an amount dictated by exchange rates. Let's say that we are talking the purchase of one barrel of oil. The current cost is roughly \$140 a barrel. So, we compete with the rest of the world at that price. Subsequently, the value of the dollar gets cut in half (compared to the Euro, or any other currency you wish to choose). As TwoMuttHeads pointed out, not long ago it took \$.82 (82 cents) to buy a Euro. Now it takes \$1.57 to buy a Euro. Assuming a barrel of oil still costs \$140, the Europeans half to spend roughly half of what we do to get that barrel of oil. Of course, by that time, the cost of a barrel of oil will be much more than \$140. The Europeans will have to spend the same amount in their currency. We will have to pay much more because our dollar has been devalued. The devaluation of the dollar has much more than a small effect. Actually, Peter's logic matches that of most economists who can't find any other explanation that can reasonably explain the high gas prices. Currency exchange rates go up and down, but not directly in correlation with the price of oil (gold, corn, or any other commodity). Currency exchange rates only go directly up or down compared to other currencies. What you can purchase and the amount you pay for purchases varies by much more than the exchange rate. Demand for oil recently has only been going up. The current cost of oil cannot be blamed largely on the weakness of the US\$. The world market for oil IS priced in US dollars, as Peter claimed. That is the standard of the industry. There has been recent talk of switching to other (more stable) currencies, but that hasn't happened yet. And comparing the US\$ to any other currency is not as simple as it appears. Other governments are doing what they can in their own areas to combat inflation and other problems, often by artificially propping up their own currencies. Yes, when anyone buys oil, they will be paying out of their own currency type. But that has nothing to do with the actual cost of the oil. It may appear the Europeans are getting a better deal because their currency has held its value better compared to the US dollar. But that alone doesn't explain the recent dramatic increase in the cost of a barrel of oil. A Euro cost 1.47 US\$ at the end of 2007. Today the exchange rate puts it at \$1.58. That's only a 7.48% increase. In the same period of time, a barrel of oil on the open market went from around \$98 to around \$140. That's an increase above 42%. If the value of the dollar to the Euro were a large factor, the percentages would be much closer than they are. So the exchange rate does have only a small effect compared to the effect increased demand has. As Peter correctly noted, the depletion of the buffer amount of oil production that has been available in the past is the main reason for the current rapid increase in oil costs. Production of oil in the world has been more or less constant over many years. It is only in the last few years that the demand from India and China have increased rapidly. If the dollar recovers some of its strength, it could level out with (or surpass) the Euro again, negating that influence altogether. But nothing pleasant is likely to reduce the demand for oil in the near future (decades). Even if the dollar gains a lot of strength in the future you can expect to see oil prices still go a lot higher as China and other developing countries take advantage of the global marketplace as they do whatever they can to bring their countries up to par with the rest of the world. \*\* Posted from <http://www.teranews.com> \*\*

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## surface area and volume Gas pains..

Posted by Madness - 2008/06/30 22:45

As of 1 July, gasoline from the fuel point on post is going from \$3.75 a gallon to \$4.97 a gallon.. more than a 20% jump in one fell swoop..

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## surface area and volume Gas pains..

Posted by Peter Wieck - 2008/06/30 22:45

I'm sorry Peter, but your logic does not fly. If the relative value of the dollar decreases by 50% relative to the Euro (or any other currency you care to choose) as TwoMuttHeads points out, that doubles the buying power of the Europeans compared to us Americans for the same \$140 barrel of oil. That is hardly a small effect. The Europeans

can buy twice as much oil as we can for the same amount of Euros, because our dollar is worth only half of what it was. This drives the price of oil up and up. You say the bigger cause is simple demand. While demand will increase the cost of oil given a fixed supply, the demand for oil cannot explain the recent surge in the price of a barrel of oil. Back in November of 2007, oil prices were nearing \$100 a barrel. Prices have more than quadrupled since 2002. Has demand increased 40% in the last 8 months? No. Has demand quadrupled in the last six years? No. The devaluation of the dollar has been the major cause of why we are now paying so much more for gas. On one point I do agree with you. We do need to change our lifestyles. We consume much or oil per capita that any other country in the world. That is a shame. Dave You've failed basic economics. If there were unlimited supplies readily available, an increase in demand would see little if any effect on price. You may even see lowering prices as production becomes more efficient, or as competing producers discount their prices to try to gain more market share. If there is a limited supply available on the market, such as with a commodity like oil, a small increase in demand can have a large increase in price. That's because there are a lot more people competing to get those remaining available barrels. That's what we have been recently experiencing. A 40% price increase does not require a 40% increase in demand. A 40% price increase may represent only a few percent increase in demand. When supplies are very tight, and production can't match demand, the price can skyrocket for those last bits available that aren't already locked up in long-term contracts. This situation may arrive soon. \*\* Posted from <http://www.teranews.com> \*\* Both of you would be correct were either Asia or Europe purchasing oil with Euros converted to dollars. But, as it happens, they are purchasing oil mostly with dollars that we give them and that are mostly otherwise not a very hot currency. Keep a couple of things in mind - The Chinese currency and the Middle-Eastern currencies are pegged both to the dollar. The Canadian dollar is nearly at Par, and the Mexican Peso is gaining strength - both relative to the dollar. The Middle East is a very large trading partner with Europe, China and the United States (apart from purely military material, the middle-east purchases ~\$100 billion dollars worth of goods per year from the US, Saudi is responsible for ~70% of that. So, Europe wants also to sell to the Middle East, as does China - Trust me, a Sony television in the Souks of Al-Khobar is not going to be priced at \$1000, based on the strength of the Euro when it was \$350 last year. Nor will Mercedes price their vehicles based on the strength of the Euro and for the same reasons. Sales would simply stop. There is one helluval lot of massaging going on with the price of oil - about every country in the world would dearly and fervently appreciate any economic policy that supports the dollar and 'reduces' the price of oil - but that is a faint hope because the US hasn't the wherewithal at this point to support the dollar in any meaningful way without further devastating the economy at home. But suffice it to say that there is no surplus oil. There never will be any again. The economies of China, India and Eastern Europe, in that order, are sucking up whatever increase and surpluses as might be and will be. It will be a sellers' market, and when sellers such as Saudi with a very fast-growing, very poorly educated, very bored population can buy a few more years of internal peace based on heavy prices, they will. God help us if the Saudi government fails and is replaced with one hostile to the US. Oil will be priced at \*just\* below the world-economy failure threshold - and not one penny less until it stops coming. The sooner we need less of it, the sooner we will break the dependency on foreign suppliers. But we will never, ever, see a world-wide surplus again short of prices that make oil-sands practically exploitable. There is as much oil tied up in that source as ever was all others combined - at about \$750/barrel to exploit. Peter Wieck Melrose Park, PA

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## surface area and volume Gas pains..

Posted by John Byrns - 2008/06/30 22:45

I think I'd like to build me an HHO generator & install it in my car. If some don't know what I'm talking about, Google, HHO Gas. People keep talking about this as if it is some sort of panacea, but I have never been able to understand how this saves any energy, as it takes a large energy input to manufacture the HHO Gas. Can you explain what the benefit of using HHO Gas in your car is? It seems to me like HHO Gas is nothing more than an alternate form of storage battery whose main advantage is rapid refueling/charging. Regards, John Byrns

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## surface area and volume Gas pains..

Posted by Peter Wieck - 2008/06/30 22:45

I think I'd like to build me an HHO generator & install it in my car. If some don't know what I'm talking about, Google, HHO Gas. a)  $\text{HHO} = \text{H}_2\text{O} = \text{water}$ . b) If you are writing about electrolysis and separating  $\text{H}_2\text{O}$  into  $\text{H}_2$  and  $\text{O}_2$  ( $2\text{H}_2\text{O} + \text{energy} = 2\text{H}_2 + \text{O}_2$ ), the amount of energy you put in to electrolyze the water exceeds what comes out. Sure, there is a certain amount of excess energy generated by your vehicle which \*could\* be used to electrolyze the water and there \*would\* be some hydrogen generated which \*could\* be dumped down the air-intake (along with the Oxygen) and reburnt. \*BUT\* The volumes involved will be miniscule based on the energy available and the volume of the reaction vessel. Do this at home to test this contention. Use slightly salty water to aid conduction and speed the reaction - distilled water won't do it so well and plain water will react according to mineral content. But even several

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amps at 12.6V and a very long anode and cathode will barely make enough hydrogen to support a small flame, much less move a 3000 pound vehicle. Be very careful how you set up the experiment - raw hydrogen is explosive if mixed with air and heat - the Hindenberg comes to mind. Put another way, its a fraud/fake/false/perpetual motion machine. Now, this came up in another NG - there IS some virtue in water injection. It cleans valves and helps to decarbonize engines if done properly. So, those who don't take good care of their cars (and, think about it, that would be those most likely to fall for this sort of snake oil) will see a rise in gas mileage based on a cleaner running engine - PRESTO - CHANGO - it MUST be the HHO. Whereas those with properly maintained engines may actually see a drop in efficiency if the computer does not like all that water in the system - don't some of them require the O2 sensor to be altered/bypassed? Ever wonder why if the engine is supposed to be so much more efficient and better running? Madness does cover it well. Peter Wieck Melrose Park, PA

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## surface area and volume Gas pains..

Posted by Gordon Richmond - 2008/06/30 22:45

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I think I'd like to build me an HHO generator & install it in my car. If some don't know what I'm talking about, Google, HHO Gas. People keep talking about this as if it is some sort of panacea, but I have never been able to understand how this saves any energy, as it takes a large energy input to manufacture the HHO Gas. Can you explain what the benefit of using HHO Gas in your car is? It seems to me like HHO Gas is nothing more than an alternate form of storage battery whose main advantage is rapid refueling/charging. Regards, John Byrns The advantage is that the scammers who sell you plans for those worthless machines get to fatten their wallet. Gordon Richmond

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## surface area and volume Gas pains..

Posted by John Stone - 2008/06/30 22:45

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Mpffff.... no, not really. Oil is priced in dollars. Although the relative devaluation of the dollar has a \*small\* effect, the bigger cause is simple demand. There is NO MORE SURPLUS oil left in the world today. Even 5 years ago, this was not true - there was a (roughly) 3% surplus which served to keep reserves high and crude prices somewhat low. Now, China, India and Eastern Europe have consumed all of that excess \*and\* any increases since then as well. Peter, I'm not sure what to believe, but the president of OPEC disagrees with you, seeing dollar devaluation as a major part of increased oil prices. It really sounds like a big finger pointing game, with speculators laughing all the way to the bank. <http://tinyurl.com/4z36ja>

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## surface area and volume Gas pains..

Posted by Jeffrey D Angus - 2008/06/30 22:45

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I think I'd like to build me an HHO generator & install it in my car. If some don't know what I'm talking about, Google, HHO Gas. The advantage is that the scammers who sell you plans for those worthless machines get to fatten their wallet. Gordon Richmond Not that Wikipedia is \_the\_ source of All the is True but... They do have a couple of articles about this technology. Notably: [http://en.wikipedia.org/wiki/Water-fuelled\\_car](http://en.wikipedia.org/wiki/Water-fuelled_car) and [http://en.wikipedia.org/wiki/Stamley\\_Meyers%27\\_water\\_fuel\\_cell](http://en.wikipedia.org/wiki/Stamley_Meyers%27_water_fuel_cell) There are outfits selling plans for \$249 (They were on sale for \$49 so I snatched a set.) Moderately detailed plans, but there is a LOT of fiddling to do with your vehicle based on those plans. And of course, if you look around, you can find free plans online as well. There are also outfits that sell a add on accessory to just put under the hood and ready to run, so to speak. They start at about \$250 and go up to \$1500 or so based on engine size. The free plans imply that you can run an engine wholly on the HHO gas. The paid for plans and the kits available make it clear that it is just an additional fuel source to augment the gasoline used normally. If the numbers are to be believed, with an increase of 40% in mileage, that translates to a 40% cost savings, by using the water HHO generator in addition to your normal gasoline. The hidden costs are the damage to your engine by running water through it and the exhaust system. Additionally, you have to play with the O2 sensor to fool the electronic ignition computer into letting your car run a bit leaner. What I find intriguing about this whole thing is the pulsed electrolysis of the water. It seems to work best at a 20-25 KHz rate. Not surprisingly, this is roughly the same rep-rate that make ultrasonic cleaners work. Perhaps, like a quartz crystal, they are relying on the mechanical resonance of the water to assist in the electrolysis. (At a considerable bit of saving in the energy required to do so.)

Jeff

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## surface area and volume Gas pains..

Posted by Brenda Ann - 2008/06/30 22:45

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Here is a better question. How many wind generators can we put up before we affect the weather? It sound like a stupid question, but if you had asked Henry Ford a hundred years ago how many cars would he have to make before it affected the weather, it would have sounded just as stupid. Not necessarily a stupid question, but different premises entirely. Windmills interrupt only a tiny fraction of the energy involved, and transfer that energy from wind to electricity. If you want to do the math, just measure the exposed surface area of the blade vs. the surface area they cover, and the volume of air they displace based on pitch and speed. Two other things worth mentioning: 1) when counting surface area, one also has to count the surface of the support structure But... 2) I would tend to doubt that a million windmills would make anywhere near the difference in the weather patterns than the multiple millions of other buildings already extant.

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## surface area and volume Gas pains..

Posted by Martin Crossley - 2008/06/30 22:45

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Ouch....quite a jump. Its \$4.55 here in California, and heading up fast. Major hit to our economy while our politicos hold hearings for show, and do nothing. As usual. Steve Brenda Ann <bren...@shinbiro.com wrote in message As of 1 July, gasoline from the fuel point on post is going from \$3.75 a gallon to \$4.97 a gallon.. more than a 20% jump in one fell swoop.. Just had my domestic gas bill: 6.15p/kWh= USD 0.123/kWh. Petrol (95 octane unleaded) is 115.9p/litre = USD 8.74/US gall. Diesel is about 132p/l = USD 9.95/US gall Gas for cars (LPG, Autogas) is 56.6 p/litre = USD 4.27/US gall. And they are thinking of introducing a congestion charge of ?6 = USD 12 total, per day, to go from Stockport to work in Manchester & back (15 miles round trip.) Martin.

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## surface area and volume Gas pains..

Posted by maar...@panic.xx.tudelft.nl - 2008/06/30 22:45

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how many wind generator farms could the money we've spend on the Iraqi war so far have paid for by now? Wouldn't do much good if the bad guys fly airplanes into them. Which would require a lot of planes and a lot of badguys... Not very efficient.

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## surface area and volume Gas pains..

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I'm going to have to take you to task on this one Peter. Your logic just does not fly. Yes, oil is priced in dollars, when we Americans buy it. When other counties buy oil, they use their currency and pay an amount dictated by exchange rates. Let's say that we are talking the purchase of one barrel of oil. The current cost is roughly \$140 a barrel. So, we compete with the rest of the world at that price. Subsequently, the value of the dollar gets cut in half (compared to the Euro, or any other currency you wish to choose). As TwoMuttHeads pointed out, not long ago it took \$.82 (82 cents) to buy a Euro. Now it takes \$1.57 to buy a Euro. Assuming a barrel of oil still costs \$140, the Europeans half to spend roughly half of what we do to get that barrel of oil. Of course, by that time, the cost of a barrel of oil will be much more than \$140. The Europeans will have to spend the same amount in their currency. We will have to pay much more because our dollar has been devalued. The devaluation of the dollor has much more than a small effect. The interesting part is, that our fuel prices are mostly higher then yours... Prices in Europe are between 1,30 and 1,60 euro per liter, because of taxes.

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## surface area and volume Gas pains..

Posted by maar...@panic.xx.tudelft.nl - 2008/06/30 22:45

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I think I'd like to build me an HHO generator & install it in my car. If some don't know what I'm talking about, Google,

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HHO Gas. I am still trying to figure out (without building one yet) if this would actually work. For example Diesel engines can be run with a few percent of LPG gas added to the air intake and will then run much cleaner and also have less fuel consumption. HHO may have the same effect.

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## surface area and volume Gas pains..

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## surface area and volume Gas pains..

Posted by maar...@panic.xx.tudelft.nl - 2008/06/30 22:45

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I think I'd like to build me an HHO generator & install it in my car. If some don't know what I'm talking about, Google, HHO Gas. a) HHO = H<sub>2</sub>O = water. Actually HHO is the semi scientific name for a flammable mixture of Hydrogen gas and Oxygen.

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## surface area and volume Gas pains..

Posted by Roger D Johnson - 2008/06/30 22:45

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I think I'd like to build me an HHO generator & install it in my car. If some don't know what I'm talking about, Google, HHO Gas. I'm going to rip out my fancy computer controlled fuel injection system and replace it with one of those 200 MPG carburetors the backyard inventors were always coming up with in my younger days! Regards, Roger

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## surface area and volume Gas pains..

Posted by exray - 2008/06/30 22:45

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I think I'd like to build me an HHO generator & install it in my car. If some don't know what I'm talking about, Google, HHO Gas. I'm going to rip out my fancy computer controlled fuel injection system and replace it with one of those 200 MPG carburetors the backyard inventors were always coming up with in my younger days! Regards, Roger Plus you'll get increased horsepower and reduced engine wear! (or is it the other way around?) . \*\* Posted from <http://www.teranews.com> \*\*

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