

Re: US gasoline: ridiculously cheap

Source: <http://sci.tech–archive.net/Archive/sci.energy/2007–05/msg00106.html>

- *From:* William Mook <william.mook@xxxxxxxxxxxxxxxxxxxx>
 - *Date:* 26 May 2007 08:42:42 –0700
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On May 26, 10:29 am, xnich...@xxxxxxxxxxxx wrote:

On 26 May, 13:22, William Mook <william.m...@xxxxxxxxxxxxxxxxxxxx> wrote:

Do you think the size of the US relative to these other European countries might have something to do with the amount of fuel consumed in those countries?

"Something" to do with it, but it can't be the full explanation. Just because you live in a large country doesn't necessarily mean you drive all over it.

You don't need to drive at all. So why do people do it? Because when fuel is cheap, being able to travel long distances quickly create opportunities that don't exist when you cannot do that.

Why do you think people bought cars originally anyway? Traded in their horses? Moving faster means that you can go farther in a given amount of time and cover more area. Covering more area in a given amount of time means there are more opportunities more combinations and permutations possible than when you're 'stuck' in a smaller region. So, there is a natural propensity for people to move farther and faster if they can afford it.

So, in the age of abundant and cheap oil and ever decreasing oil prices, recall the price of oil in 1960s was \$2 per barrel, people tended to want to go faster and farther – because they knew that that spelled greater variety and economic capacity – and that translated to very real benefits in increasing their ability to earn more money and get more for the money they made.

In an age of slow growth in supply and rising oil prices, the calculus of profit changes. More investments are made to make more efficient use of the energy available, and people must choose to do with less opportunity, less value, and less income as their world grows ever smaller in scope.

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Like I don't drive all over the EC even though I could do.

Because of the cost of fuel no doubt. Yet, if the cost of fuel were \$1 per barrel, you might consider getting a commercial version of a Harrier Jump Jet and having lunch in Paris and Dinner in Berlin before flying home to a new property development in Morocco..

Russia's pretty big, but gasoline prices are half those of the US, so I guess being a primary oil producer has something to do with it. But Britain produces more oil in relation to domestic demand than the US, so I guess that the taxation of petroleum fuel has something to do with it too.

Yes there are other factors, but these are fairly equalized between EC and US – so, the major differences in price are due to tax rates and EC tax rates are higher because fuel sales are less per person.

Either way, in relation to per capita income, the price of Gasoline in the US is undoubtedly too low

Nonsense. The US doesn't need to tax fuel at rates the EC does because usage is high enough to sustain all the costs associated with roads and so forth, at the lower tax rates.

It's low price encourages the status quo: fuel-inefficient vehicles, overuse of cars etc...

What is a fuel efficient vehicle? What is overuse of cars? This is a slippery slope that pays no good dividends. The answer to shortages is to create a technology where the shortages disappear. Powered roadways for example, or synfuels made from nuclear or solar sources or replacement of travel by telepresence and telerobotics..

Do you think the amount of fuel consumed per person might have something to do with the tax rates each nation must charge to pay for the roadways and such? "

You mean that if you have to do higher mileages you should be charged less?

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I mean that if I burn 700 gallons per year and you burn 100 gallons per year and we both need the same amount of roadway and we decide to pay for that roadway with taxes on fuel sold, then you will have to pay 7x as much per gallon since you consume 1/7th as much – to raise the same amount of money per person.

Alternatively, make vehicles that consume less petroleum and make public transport in cities free.

Reduce the regulation of automotive manufacture that restricts the range of possibilities in the market and you will have this. Reduce the regulations that restrict who may provide transport for hire and taxi fares will be virtually free. Reduce the regulations that restrict how vehicles may be controlled to provide automated systems of guidance, and vehicles will be very cheap indeed.

It amazes me that governments will spend billions to devise a warhead that can reliably be delivered across the world to a specific point in minutes to hours, and then say nothing can be done to guide a vehicle from one side of a town to another automatically.

Consider a nuclear power plant producing electricity at \$0.10 per kWh. Now consider a roadway that uses the same sort of technology that charges your electric toothbrush built into it. Now imagine there are electric vehicles with no gas tanks that are built to pick up this power and move the car around. Imagine the vehicle has regenerative braking that puts power back into the roadway when it stops. The vehicle is lightweight, reliable and safe. Imagine the vehicle is fully automatic and safe and the fleet of vehicles can operate with your cell phone's GPS system. So, all you've gotta do is call it and one comes right to you with you name marquee'd across the windows...

Now, because its not hauling an engine around, and its not hauling fuel around, and its a little more efficient than a regular car due to regenerative braking, and its a little more efficient than a regular car because its professionally (via computer) driven – let's say it gets 80 mpg equivalent – and has the same performance as a typical car. Range is of course, unlimited – because power comes from the roadway.

Now, the electricity driving the car we said was \$0.10 per kWh. Now, there are 120 MJ in a gallon of gas – and 3.6 MJ in a kWh. So, this is equivalent to \$3.33 per gallon of gas prices. But because of improved efficiency, we're down to about \$1.66 per gallon – assuming 40 mpg is standard for that car.

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Now, without a driver, and fully automated, this car could be owned by the passenger the same way a private jet is owned by a Net Jet operator. Fractional ownership. Say each of these vehicles cost \$20,000 (half the price of a JDAM upgrade) – and say that one vehicle could easily service 7 people. That's \$2857 per person. Vehicles are in service say 7 years – so that with financing is \$35 per month. That's your monthly fee.

At 80 mpg – that's .24 miles per kWh – so at \$0.10 per kWh, you pay only \$1.00 for every 24 miles travelled. Maintenance of an all electric vehicle, is known, using golf cart and similar vehicles, and separating out the battery costs – but then adding them back in again to account for road costs – annual maintenance and service costs are likely to be 5% of the fixed capital cost of the vehicle – so that's another \$10 per month.

So, I can imagine that a person would join a CARNET program that covers a service area of powered roadways. You join by paying \$65 per month, and you get 480 miles each month free. After that you are charged \$1 per ride, and \$0.04 per mile for any ride exceeding 24 miles – you are legally 1/7th owner of car, and you can carry up to 5 non paying passengers and so many pounds of luggage each trip.

If your vehicle is not available another vehicle in the CARNET network will be substituted. The monthly payment includes vehicle service and maintenance and operation all of which are provided by CARNET Services Corp.

You access the network by your cell phone as mentioned earlier. You can depreciate your ownership interest in your vehicle, and the vehicle if sold at the end of the lease period will return revenues to you and the other owners.

It's inescapable: Any future US government that wants to avert an international environmental disaster will have to increase gasoline prices and tax the superprofits of the oil companies to pay for the 60% reduction in US CO2 emissions required. Clearly, that's not a course that the present one is prepared to take.

Low cost solar panels located in the US West and Southwest generate hydrogen gas by electrolysis when the sun shines at a cost of \$170 per ton. This hydrogen is distributed across the US by the National Hydrogen Pipeline. Major users are coal fired power plants and metallurgical coal users. The power plants burn hydrogen gas, each ton of which has the same heating value as 6.2 tons of coal. Metallurgical coal users switch to hydrogen as a reducing agent to smelt ores – producing H2O rather than CO2. In this use 1 ton of hydrogen replaces over 3 tons of coal.

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The US burns 20 million barrels of liquid fuels each day. 865,000 tons of hydrogen gas has the same heating value as this much oil. Converting conventional automobiles to hydrogen fuel, by replacing the gasoline engine with a high pressure hydrogen tank – allows all cars now on the road to switch to hydrogen. The emerging hydrogen retailer offers to make the switch while at the same time offering a credit against hydrogen purchases with discounts equal to the cost of the conversion.

At 700 bar or 10,000 psi 30 kg of hydrogen can be stored in a cubic meter of space. A gallon of gas contains 120 MJ. 865 grams of hydrogen have this same heat value – which at this pressure occupy 1/35th of a cubic meter. 1 gallon occupies 1/263rd cubic meter – so relatively speaking the hydrogen takes 7x the volume to store the same energy. But, total volume is easily accommodated in most vehicles. Four tanks totalling 1/10th cubic meter each would be sufficient to give the equivalent of 16 gallons of gasoline – which is sufficient for most cars.

At \$170 per ton, fuel prices are equivalent to \$0.15 per gallon!

Using this approach the US would be totally independent of foreign sources of energy, eliminate ALL its CO₂ emissions and reduce its energy costs to 1/20th their present levels.