

Energy and Social Security: A Proposal

by Richard P. Ten Dyke

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" ... at some point in this century, world oil production will peak and then begin to decline ... the United States is only 3 percent of the world's estimated oil reserves, and uses 25 percent of the world's oil." (Congressional Record, March 14, 2005*.)

Our Need for Oil

The need for oil continues to grow in the United States and elsewhere. At some time demand will exceed supply. China, in particular, is emerging as a major user of oil.

It cannot be predicted exactly when the world's production oil will peak. One estimate is in the next ten years. Oil production in the United States peaked in the '70s. Some wish to believe we will continue to find new world sources, but it is possible, even with more reserves discovered, that supply will be limited for other reasons:

- (1) A limit on refining or transportation capacity
- (2) Use of cartels to restrict supply

The United States must import oil. The OPEC countries supply much of the world's oil, and they produce it at very low cost.

Other sources of oil exist. However, as new sources are opened, the cost per barrel of crude increases to higher levels. Exploration, drilling and transportation costs are higher. Canada has huge reserves of oil in tar sands, but the cost of recovery exceeds its current value.

Other Sources of Energy

Other sources of energy can substitute for oil, notably coal and nuclear. Coal is still plentiful but is dirty to burn. Nuclear has safety issues and is

marginally more costly, but not prohibitively so. (twenty percent of this country's electricity is nuclear.*) Water power is cheap and clean, but limited. Solar is costly to install and inefficient. Wind power is competitive in price but in greatly limited supply so as not to effect the balance of supply and demand. Geothermal is in the same category. Future sources, such as fusion, are dreams which are unlikely to be realized in our lifetime or ever. Hydrogen is a fuel, but it must be manufactured so it is not an energy source. Fuel cells convert energy from one form to another so are not a source.

The price of oil is climbing. As we look to the future, the price of oil will continue be regulated by supply and demand, and demand is continually growing. We can expect the price to continue to rise. We are dependent on a system over which we have no control.

Conservation

One way to solve (or delay) the problem is conservation. Conservation might be considered a source of energy, because it frees up energy for other uses.

The rate of energy consumption is determined by its price which in turn is determined by the production cost of the most costly source.

The demand for energy is price inelastic over a short time. That means that a sudden price increase will not reduce demand significantly because users have already made their commit-

Energy and Social Security: A Proposal

ments -- to cars, houses with more or less energy efficiency, and the use of products (such as fertilizer and plastics) and services (such as air travel) that require energy for production.

The elasticity is greater over the long term. Higher prices will reduce demand. Long term is the amount of time it takes for users to make new plans and choices -- buying the next car, adding insulation, postponing travel etc.

Inelasticity means that a sudden price increase will cause a windfall of profit for those who have access to supply. Over the long term, supply will increase and excess profits will diminish. But that does not alleviate the problem, because these changes take a very long time to work through the system. Those who can control supply have a long time to make a lot of money.

So conservation is a long term, not a short term remedy, but the sooner it begins, the sooner it will become effective.

Conservation can be achieved in several ways. One is through persuasion -- it has been tried and it is not effective. Another is government incentive and control. The shortages caused by OPEC withholding supply during the 70's caused the imposition of mileage requirements for automobiles. But controls are ineffective in the long term because they run counter to reasonable economic choices, and users will find ways around them.

The most effective, and possibly only way to control demand is the old-fashioned one, by price.

So What's the Problem?

One "so what" is that by buying oil abroad we are borrowing against the future by placing large sums of U. S. currency in the hands of others.

Another "so what" is that we are gradually losing control of our own destiny, being required to shape foreign policy to meet political pressures caused by our need for a continuing supply of oil.

A third "so what" is that the increasing use of fossil fuels affects the balance of carbon dioxide in

the atmosphere which may contribute to environmental problems.

A fourth "so what" is that increases in oil price are inevitable, but if we wait for this happen because of market forces, this country will be worse off than if we take some action to conserve energy now.

Some believe that this is not a real problem, that things will work out in the long term. We survived the '70s, after all, and our scientists and engineers will always rise to a challenge. This is to deny the problem as the facts are known to us today. Ignoring the problem is praying for a miracle, like fusion, which is like betting on the lottery. Others believe that this is a kind of Tsunami -- a disaster moving in our direction but one that can be solved with preparation. To prepare is a choice we have now. We will not have it forever. The sad truth is that most people don't know what to believe because they are ill-informed and don't care.

A Consumption Tax?

What about a consumption tax on oil?

An argument for it is that it would raise the price and encourage conservation. But a consumption tax has been discussed several times in the past 20 years. When mentioned there are so many arguments raised against it that the its mere suggestion is political death. The main arguments are:

(1) It is a tax on the poor.

(2) The whole country will be affected by driving up the cost of all goods due to higher manufacturing costs and higher transportation costs. It will cause deflation of the economy because growth is based on cheap oil and people (voters) will lose their jobs.

(3) Rural areas depend on oil for agriculture or transportation.

(4) Oil and automobile companies have millions in cash to support political actions opposing the idea.

Energy and Social Security: A Proposal

These are big hurdles to overcome because the arguments are partly true. Is there is way to do this which will alleviate many of these problems, and end up being to the long term benefit of this country?

A Proposal:

Here is the proposal:

(1) Institute a fuel consumption tax over time, with a small increase in the tax every year for a period of twenty years.

(2) Invest these tax revenues in our deteriorating Social Security / Medicare programs: The money can be used to prevent the erosion of existing programs and reduce the wage-tax which is imposed on all wage earners earning less than \$90,000 per year. (This use of funds does not rule out other remedies to the Social Security / Medicare funding issue, such as increasing the cap to a level above \$90,000.)

Before getting into the merits or demerits of the proposal, I would like to jump ahead to deal with one very interesting possibility. **The tax on oil consumption would not actually increase the price of oil dollar-for-dollar, but somewhat less.** Let us look at that argument.

Oil comes from a variety of sources; some produce it at higher cost than others. As demand increases relative to supply, the price for crude oil is established by the cost of the highest cost supplier, making large profits possible for the low-cost suppliers.

Low-cost producers, such as those in the OPEC cartel, can produce more if they decide to. But the price of crude oil is held up by the fact they can withhold supply, creating a price squeeze.

If a "tax" were added to oil, the price at the pump would immediately increase by the amount of the tax. But this increase would be temporary because some users will reduce consumption, and the demand will fall. Over time, reduced demand will gradually create a situation of over-supply.

Unless the low cost suppliers further constrain supply, the price at the pump will tend to fall until the demand again clears the market. I am not saying that the price will fall to the original levels, but **some of the tax will have to be absorbed by the suppliers.** So the tax cost will be shared by both the users and the suppliers.

On the other side of the ledger, the funds raised by the tax will go into the Social Security / Medicare system. So if you trace the money, **it is like having OPEC share in the funding of the Social Security System.** Furthermore, these dollars will remain with this country and reduce our current and heavy imbalance of payments.

OPEC will not be happy and might reduce supply further in order to return to previous price for crude and profit levels. However two things will prevent this from happening. First, by reducing supply they will also be reducing their own profits, so they must find a balance, and will not reduce supply to the point that they get their old prices back. Second, worldwide demand is increasing, so there is now greater opportunity to make profit by selling at the lower prices to new users.

That an oil consumption tax is a tax on the poor should be easy to deal with. The proposal will replace some of the wage tax that is now imposed on wage earners, who are the "poor" we are trying to protect. We could make the new approach even less regressive by creating a floor for the wage tax, say the first \$10,000 of wages, which would not be taxed at all. Of course, the tax offset will not affect all persons equally. At least one newspaper will run a story about a person on welfare who can not pay for oil deliveries and gets no offsetting benefits from a reduction in the wage tax.

Another benefit of reducing the wage tax is that we now "offshore" manufacturing because employee costs are cheaper abroad. They don't have a wage tax; one of our costs is the wage tax itself. So we are taxing that which we wish to encourage. Even further to the point, an increase in energy costs may cause some "labor saving" equipment to become marginal, and encourage the retaining of workers.

Energy and Social Security: A Proposal

A third issue, that the economy will suffer, is ameliorated by the proposal of a slow increase in the tax over time. This allows the decision makers in the economy to make adjustments knowing that energy will be costing more in the future. Price at the pump will increase with or without the tax, but the proposal will make it more apparent. With conservation oil prices ten years from now, even with the tax, may be no higher that they would be without it. Further, the expectation of higher energy costs will encourage creative people to find new ways to conserve and will make some new sources of energy more competitive. **This will create new jobs** to replace some of those which may be eliminated. Automobile companies are now investing in hybrid cars, for example, and this is a new opportunity for engineering and manufacturing jobs.

A call for action.

There are many assumptions in what I have written, and I am sure that many readers feel that we should view this as a theory that should be studied further. I do not disagree. But in the meantime, I am personally convinced that the foregoing is a reasonable statement of the facts, and a reasonable proposal. (As for facts, read the discussion from the Congressional Record referenced below.) For the proposal to succeed, it must first be debated. There must be leadership for this debate, because the arguments against a oil consumption tax are almost implanted in our DNA. No politician will touch the idea at the present time. The only way for this result to become a serious proposition is for others to take up the banner. It has to be a "grass roots" effort because leadership is unlikely to emerge from those in government.

Our government responds to public opinion. The public should learn and understand about the consequences of indifference and inaction. This requires education. Call it a movement. Getting it started is the most important task .

The first suggestion is to change the name from Energy *Consumption* Tax to Energy *Conservation* Tax or Energy *Preservation* Tax.

If you wish support this proposal, you may copy and send this paper to a friend or representative. You can support candidates for office that share these goals and ideas. We have no formal organization to receive donations, but if you wish to contact the author to lend your support, the address is below.

This material was prepared for and presented to the Great Decisions Discussion Group of Katonah, affiliated with the Foreign Policy Association. Printable copies are available in pdf format on the internet at: <http://www.bedfordny.com/energy>

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* Congressional Record, March 14, 2005 Representatives Wayne Gilchrest (R, MD) and Roscoe G. Bartlett (R, MD) speaking before the House.

Full text available on the internet. "Peak Oil in the U.S. House of Representatives"
<http://www.globalpublicmedia.com/articles/363>

Addendum

Additional quotes from the referenced item in the Congressional Record:

"So peak oil [the point of maximum output] for the United States occurred in 1970, and it is true that every year since then we have pumped less oil and found less oil.

"We have pumped probably three-fourths of the oil in Prudhoe Bay. ... ANWR has considerably less oil [estimated to be one-half] than Prudhoe Bay, so the contribution will be significantly less.

"A couple of Congresses ago, I was privileged to chair the Energy Subcommittee on Science. One of the first things I wanted to do was to determine the dimensions of the problem. ... there was not much deviation in what the estimate is as to what the known reserves are out there. It is about 1,000 gigabarrels. [billions of barrels] That sounds like an awful lot of oil. But when you divide into that the amount of oil which we use, about 20 million barrels a day, and the amount of oil the rest of the world uses, about 60 million barrels a day. I think. If you divide that into the 1,000 gigabarrels, you come out at about 40 years of oil remaining in the world.

"We are getting very close to the unit it takes as much energy to get the oil out as you get out of the oil.

"What is the current U.S. status? We have only 2 percent, between 2 and 3 percent, not really known for certain, but approximately 2 percent of the known reserves of oil. We use 25 percent of the world's oil. By the way, we have about 8 percent of the world production. What that means is if we have only 2 percent of the reserves and 8 percent of the production, that means we are real good at pumping oil, does it not? That means we are pumping our reserves at roughly four times faster than the rest of the world.

"... we will still be using about 25 percent of the world's oil. We are now importing about two-thirds of that. At the Arab oil embargo we imported about one-third of that.

"Last year, China used about 30 percent more oil. India now is demanding more oil. As a matter of fact, China now is the second largest importer of oil in the world. They have passed Japan.

"Most people do not know it, but all of our nitrogen fertilizer is made from natural gas.

"But Jevons Paradox says that frequently when one works to solve a problem, they really make the situation worse. [arguing that increasing supply now will only make us more dependent in the future] The challenge, then, is to reduce consumption ultimately to a level that cannot be sustained indefinitely without succumbing to Jevons Paradox.

"Obviously, there is not an inexhaustible amount of oil in the world; so we have the exhaustible resource, ... Oil, as the Members may have noticed, is \$54 or \$55 a barrel ... and the experts are saying we are probably going to see \$60 before we see \$50.

Energy and Social Security: A Proposal

"... one little gallon of gas, which, by the way, is still cheaper than water. We pay more for water in the grocery store than we pay for gas at \$2 a gallon at the pump, added up.

"We now are doing a lot of talking here in the Congress and fortunately across the country about Social Security, and it is a big problem. But I tell the Members if the problem of Social Security is equivalent to the tidal wave produced by the hurricane, then this peak oil problem is equivalent to the tsunami. The impact and the consequences are going to be enormously greater than the impact and the consequences of Social Security or Medicare or those two put together.

"We are, as I mentioned, less than 5 percent of the world's population, and we use 25 percent of the world's energy. I was in Europe a month or so ago, and their comment was somewhere between anger and disdain. "You are still only paying \$2 a gallon for gasoline in your country." It is \$5.50 or \$6.00 a gallon there. And they are not unmindful that this one person in 22 in the world is using 25 percent of the world's energy. We have a real opportunity to be a role model.

"There are tar sands in Canada, there is oil shale in this country, but it takes an awful lot of energy to get energy out of those. You may not have much more than a one-and-a-half to one. I have heard it takes six barrels of oil to get one net barrel of oil out of these tar sands and oil shale. There is an awful lot there, but there are considerable environmental costs and enormous economic costs to develop it.

"Part of the first problem is trade deficits and national security because of our oil dependence.

"The other problem with our oil dependence is that we are burning fossil fuel. We are returning to the atmosphere carbon that has not been there in this amount for millions of years, and what we are burning in decades it took the natural processes millions of years to lock away.

"It is a real pity. Oil and natural gas are, in a very real sense, too good to burn. They are the feedstock for an enormous petrochemical industry. I mentioned only the fertilizer that grows our crops and the pesticides we make from oil. We live in a plastic world, and all of that plastic is made from oil.

"Two other ways (besides fusion) to get energy from nuclear. One is the light water reactor, which is all we have in this country. By the way, tonight when you go home, every fifth home and every fifth business would be dark if we did not have nuclear. It produces 20 percent of all of our electricity. But there is not all that much fissionable uranium in the world, so we are not going to get there with light water reactors. France produces about 80 percent of its electricity from nuclear. They have a lot of breeder reactors. They do what the name implies, they make more fuel than they use, with big problems, in enrichment, shipping it around, squirreling away the products for a quarter of a million years. That presents enormous challenges to us. So there is the potential here in nuclear, but a lot of problems involved with it. It is not just that simple. By the way, it takes a lot of oil to build a nuclear power plant."