

U.S. Energy Policy

Clifford Singer, Professor, Nuclear, Plasma and Radiological Engineering

There are two essential problems not being adequately addressed by U.S. energy policy: fluid fossil fuel prices and carbon emissions. Dealing with fuel prices requires immediate action. Limiting carbon emissions requires a more deliberate approach.

The fluid fossil fuels are oil and natural gas. The immediacy of the problem with them is not that the world is running out of their resources. Recent peak prices were over \$140/barrel for oil and nearly \$14 per thousand cubic feet for natural gas. At extraction costs half of those peak prices, there is enough global oil resource to last past the middle of this century, and enough natural gas to last even longer. The U.S. economy as a whole can readily absorb oil and natural gas prices at half of recent peak prices. The oil pricing problems have been that major oil suppliers are limiting their exploration and production. Natural gas markets are still recovering from regulatory reform and problems with bottlenecks in delivery of vast available resources to markets.

Current U.S. policy on fluid fossil fuels emphasizes subsidizing alternative energy resources and maintaining the capability to intervene militarily in producing countries. The one sure effect of subsidizing alternative energy resources is that it encourages use of more energy and thus discourages better efficiency of energy use. Mandating increased ethanol production and allowing this to increase to be produced on existing farmland also increases domestic food prices and aggravates the global malnutrition problem. Indirect and direct U.S. military intervention in the Middle East has four times *increased* oil prices since 1973. As a solution to price instability, such interventions are not only ineffective, they are downright counterproductive. Maintaining the capability for such intervention also costs hundreds of billions of dollars per year above what U.S. military costs would otherwise need to be.

Energy price volatility discourages investments needed to adjust to what would otherwise be a gradual evolution of prices. The best response is gradually increasing punitive tariffs on imports from countries that restrict exploration and production to keep prices many times higher than their production costs. The United States could impose such an oil tariff increasing by \$5/barrel every year until parity with European domestic transportation fuel costs is reached, and then be joined by the European Union until some of the members of the Organization of Oil Exporting Countries agree to negotiate production levels. Between them, the United States and the EU have enough market power to force such a deal, and other major importers might join in. Due to crossover between the uses of oil and natural gas, this approach should help stabilize natural gas prices as well as serving as a warning to Russia not to continue trying to form a natural gas cartel.

Leasing for drilling for oil and natural gas in environmentally sensitive U.S. locations should be strictly regulated and delayed for 10–15 years until oil prices bottom out. The prospect of new U.S. production coming on line would then help dampen subsequent price increases.

Predictable transportation fuel prices should help stimulate market-driven investments in energy efficiency. However, government policy lies behind one of the primary reasons the United State uses so much oil per capita: commuting from suburbs to avoid urban

center schools. Two reforms are needed to address this over the longer term. (1) Fund the basic cost of quality education through state and national income taxes. (2) Eliminate payroll taxes on the minimum wage portion of income. To be fully effective, education funding reform needs to similarly finance the full cost of Head Start and after school and summer programs to ensure that, in so far as practical, children really are not left behind. Eliminating payroll taxes on the minimum wage portion of income will relieve financial stress on families burdened by energy prices or unable to afford the commutes needed to escape districts with underperforming schools. In any case, it is going to become politically necessary to raise the upper wage limit exempt from payroll taxes, and the sooner that Social Security and Medicare are thus put on a sustainable pay as you go basis, the better.

A tax on carbon dioxide emitted into the atmosphere is the most efficient way to reduce U.S. emissions. We will instead probably end up with a system of emissions permits. That approach is more cumbersome, but it can also be effective if a limited amount of permits are repeatedly auctioned. More challenging is convincing countries like China and India to limit their use of coal, given that they have so far put a very small fraction of the amount of carbon dioxide per person into the global atmosphere compared to the United States and the EU. The only alternative to coal that is likely to satisfy Chinese demands is nuclear power. Hundreds of billions of dollars of subsidies to U.S. and European firms to help build nuclear power plants in China would be needed to have much effect, and this will be difficult to sell politically. Without some program on such a scale, we will probably wait several decades until rapidly developing countries are ready for a global deal on carbon emissions of a kind that is politically palatable in the United States. Still, effective U.S. action on carbon emissions is a necessary prerequisite. Combined with global cooperation on damping energy price fluctuations, this can set the stage for transition to a sustainable energy future.