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Meeting America's Future Energy Needs

Murray Weidenbaum

A modern society is vitally dependent on an adequate supply of energy. Electricity blackouts or severe gasoline shortages quickly bring the economy to a halt. Nevertheless, we usually take energy for granted — until the shortage hits us or the price shoots up. This is a plea for getting ahead of the curve. The United States needs to develop a new national energy policy now in order to be able to meet our needs in the years ahead — before the times of crisis.

But first we have to take a step back. We need to back off the perennial debate on whether we should adopt a production-oriented strategy or a conservation-oriented strategy. The challenge of energy adequacy is going to be so great in the years ahead — and the uncertainties surrounding the future global supply of oil and natural gas will be so substantial — that the traditional dispute will soon be forgotten. Energy production and energy conservation are the twin blades of the same scissors. We need both.

Making sensible energy policy in practice is extremely difficult. That is because energy policy is an amalgam of economics, politics, environmental issues, military needs, and foreign policy concerns. Americans rarely think about energy, though it is a key to national power as well as a fundamental requirement for economic growth and national

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prosperity.

Just look at any modern economy. It is characterized by a pattern of large per capita energy consumption. That use takes many forms: gasoline to power our cars; electricity for our homes, offices, and factories; coal and natural gas for heating and production. Overall, energy wealth or poverty can be a defining factor in a nation's position in the world. The low-energy using nations — and this is not coincidence — deliver a very poor standard of living to their people.

The Energy Outlook for the United States

Let's begin by examining the overall energy situation. Any sensible analysis must have a global dimension. The United States is the largest importer of oil. We are also the world's foremost importer of natural gas. Energy is clearly a global issue. Every serious study of the subject concludes that this country faces rising dependence on foreign energy in the decade ahead. The same studies also conclude that there will be increasing likelihood of recurring worldwide energy supply problems — price spikes, supply shortages, and other unpleasant energy shocks. And those shocks can occur in peacetime as well as a result of the outbreak of war.

In geographic terms, there is a fundamental mismatch between the location of energy supplies and the location of energy demand. Except for Russia, no nation is both a major oil exporter and a major oil user. The gap is especially apparent in two cases: 1) Japan imports almost all of the energy it uses and 2) the Arabian Peninsula exports most of the energy it produces.

In general— which means in peacetime — the marketplace balances out variations in world energy supply and demand, regardless of the uneven geographical distribution. Changes in energy prices fundamentally determine how available energy supplies are allocated among the various users. But our classroom model does not work as well when hostile gov-

ernments or terrorist groups enter into the equation.

The reasons for the uneasy long-run relationship between global energy supply and demand results from the fact that most of the supply comes from the most politically unstable regions of the world — especially the Arabian Gulf and also the former Soviet republics. It may be fun to console ourselves with visions of scientific breakthroughs; however, as a practical matter we will be dependent on traditional conventional sources of energy for the rest of this decade and perhaps much longer.

Even before we get to questions of war and terrorism, pressures on both energy supply and energy demand will be increasing in the years ahead. As developing countries grow, their demand for energy rises. An oxcart society just does not require as much energy as a motorized economy. It is a chicken-and-egg situation. They need more energy to develop their economies and, as they succeed in raising their living standards, their per capita demand for energy goes up.

China is a clear but not unique example. As recently as 1989, China's oil production exceeded its consumption by 500,000 barrels a day. Since then, its economy has grown very rapidly, about 7 percent annually. By the year 2000, China's oil surplus had shifted to a deficit of 1.3 million barrels daily. That dramatic shift did not occur because of reduced production. It was the result of rising consumer incomes and demands. That country's per capita energy consumption has been rising substantially, but it is still less than one-half of the world average. As its rapid pace of economic growth continues, China's per capita energy usage will rise further. So will its imports of energy.

At the same time as the underlying demand for energy will be rising at home and abroad, pressures to limit production from existing energy sources will continue and may accelerate. Environmental and other public concerns have led to an abandonment of new nuclear energy facilities in the United States and to restricting exploration for oil in environmentally-

sensitive places such as Alaska. In addition, the concern over global warming has led to pressures to reduce the role of coal and other fossil fuels.

Please do not misinterpret my point. Nobody opposes a cleaner environment. After all, economists breathe the same air and drink the same water as other people. But we should not overlook the consequences of environmental actions or ignore the need to deal with those consequences. For example, many people forget that over 50 percent of all electricity is generated from coal.

It just is not practical to say, “Let’s eliminate the use of coal because of its impact on the environment.” To keep our economy going, a substantial curtailment of coal would have to be accompanied by many other actions. As we will see, that is easier said than done.

We also need to be aware of other possible problems. Obviously, terrorist actions could interfere with the normal flow of energy from the Middle East. So could a war in Iraq. Such possibilities highlight the vulnerability of the United States to events overseas. But, even under peaceful conditions, the combination of economic and environmental pressures pushes us toward rethinking existing national policies affecting energy.

What makes this subject so difficult is that many Americans want easy answers on energy matters. For example, last year CBS News and the New York Times commissioned a comprehensive national public opinion poll on energy policy. Sixty-eight percent registered in favor of conservation and 57 percent said they wanted to protect the environment even if it meant paying higher prices for electricity and gasoline. Sounds good? Not when we consider what actions Americans were taking at the same time. Howls of outrage accompanied the normal seasonal increase in gasoline prices last summer. And who has forgotten the failure of so-called deregulation of electricity in California the year before? Why call it “so-called” deregulation? That is because the state government rolled back retail electricity rates—and was shocked when consumer use of power rose rapidly.

Down deep it seems that our fellow citizens who respond to those polls expect that other people will pay those higher prices. It reminds us of an old Washington ditty on who should bear the tax burden: “Don’t tax me, don’t tax thee. Tax the fellow behind the tree.”

Of course, we all would rather pay less rather than more for our purchases. But merely asking people to conserve energy is not very effective. How many people hold off buying SUVs because they do not want to contribute to another increase in oil imports? Cynically, we may conclude that the same number of people turn off their air conditioners on a hot August day because of their dedication to environmentalism. Serious policy proposals must be based on tougher — and less popular — approaches.

A Menu of Energy Policy Proposals

There is no simple solution to the energy problem. Experience teaches us to beware of any easy sounding answers to difficult questions. A variety of suggestions has been offered as part of a comprehensive energy policy. Some of these are designed for the short run; others would have their major impact in the future. Let us take up a representative sample of 10 of these.

1. Rely more heavily on the information approach to conserving energy.

That seems like the lightest touch, the voluntary approach. In that spirit, it has been suggested that the federal government’s existing energy labeling program be extended to cover additional products, appliances, and services. The idea is to give consumers more information on the power needed to operate the various energy-using devices. Vice President Dick Cheney’s Energy Policy Group recommended setting higher energy standards for products where technologically feasible and economically justified. That sounds pretty good. There is a practical problem with

this attractive sounding approach.

Few energy standards for appliances meet that double criterion of being both economical and technologically efficient. Unfortunately for energy conservation, many consumers find that buying a new appliance that uses less electricity is not worth the higher purchase price that has to be paid for the product. Clearly, the information approach can be helpful, but it may not carry us too far.

2. Subsidize the purchase of vehicles powered by fuel cells.

Using today's technology, fuel cells are very expensive. A short-term subsidy is likely to provide very limited incentive to manufacturers to undertake expensive long-term development, production, and marketing. Making the subsidy permanent, on the other hand, would penalize the development of other approaches to fuel efficiency, which might prove to be more cost-effective.

3. Spend more government money on improved highway infrastructure to reduce the amount of gasoline that motorists use.

The federal government could encourage the development of Intelligent Transportation Systems that would reduce road congestion. Possibilities include enhanced traveler information and navigation systems, electronic toll collection, and better management of freeway traffic (including improved signs). This idea may be very attractive to motorists. However, this approach involves significant amounts of additional government spending — and maybe higher taxes. Like the other suggestions, it could be helpful, but it is no panacea.

4. Explore for and extract petroleum from a portion of the Arctic National Wildlife Refuge (ANWR).

Any mention of ANWR is guaranteed to generate fierce debate. That usually happens even if you add the proviso that these energy activities should be limited to those that do not result in any significant adverse impact to the surrounding environment. Let us note that much of the opposition comes from people who have never seen that part of Alaska. Many who have been there take a more moderate position. Nevertheless, every part of ANWR continues to be off-limits to energy exploration or drilling.

5. Eliminate or reform Corporate Average Fuel Economy (or CAFE) standards that stipulate a minimum number of miles per gallon that a car company's annual production must meet.

That position runs counter to the popular viewpoint. Nevertheless, most economists believe that mileage standards are inefficient. No other developed country relies on this form of regulation to achieve greater energy efficiency in transportation — and they all tend to be more energy-efficient than we are. Without meaning to, CAFE standards encourage people to drive more. That adverse result should not surprise us. After all, the tougher the standards, the cheaper it is to drive. The other industrialized nations rely on different approaches such as higher gasoline taxes.

Americans also have been encouraged to buy less fuel-efficient vehicles such as minivans and SUVs as the result of a quirk in federal CAFE regulations. The standards on automobiles are tougher than on light trucks; and the regulations define minivans and SUVs as light trucks. A level playing field for fuel efficiency would raise the costs of minivans and SUVs, thus, reducing their sales. Still, making this change to CAFE regulations would not reduce gasoline consumption a great deal because it would now make the costs of driving these vehicles less expensive.

6. *Government regulators should adopt “one stop” shopping when it comes to approving new energy installations.*

This is a practical suggestion. Here the United States might learn a lesson from the Japanese experience. It is not easy in that country to get approval for a new power plant (nuclear or conventional) or for a new airport or any other major facility. Much time, effort, and analysis go into dealing with all the facets and interest groups involved. But, unlike the approach followed in the United States, once a decision is made, it tends to be final.

By contrast, in this country, at various stages in the planning and construction process for any new energy facility, approval must be obtained from a variety of federal, state, and local regulators. Each tends to impose different requirements. Little effort at coordination is in evidence. The resultant approach is reminiscent of a pinball machine: the project sponsor is bounced around from agency to agency. Many proposals for expanding energy supplies are abandoned during this tedious and uncertain process. The result is also to raise the cost of the energy-producing facilities that are approved.

The most dramatic example of the shortcomings of the existing approach to energy regulation was the experience with the Shoreham nuclear power plant in New York State. After getting all of the required approvals to design and build the facility, construction was authorized, completed, and fully met the required specifications. However, the entire project was abandoned — and the multi-billion-dollar power plant demolished. Why?

Because, at the very end of the process, the governor of New York arbitrarily refused to issue an operating certificate. He cited reasons that were evident before the project got underway.

Whatever your personal views on the safety and desirability of atomic power, Shoreham is an example of the shortcomings of the status quo in regulatory policy. Whether or not we agree with the decision, it

would have been understandable if the government refused to authorize the construction of a nuclear plant in the first place. But a regulatory system that encourages a utility to invest huge amounts of money and resources and then tells them to tear the whole thing down qualifies for a new Nobel Prize in economic idiocy. By the way, the cost of electricity in New York State is substantially above the national average.

7. Eliminate one of the most serious continuing problems with existing nuclear power plants — where to store the used or spent fuel.

Nobody wants a nuclear storage facility in his or her backyard any more than he or she wants a smelly factory nearby. In both cases, however, recent advances in technology have made those facilities much safer than in the past. Surely, the lax safety practices of the former Soviet Union would not seem to be relevant to the United States in the twenty-first century. Nevertheless, no community is going to volunteer to accept a new nuclear waste storage facility because there are no special benefits for doing so.

Here is a suggestion for changing local attitudes on this subject: offer a strong economic incentive to the locality that agrees to host the spent fuel. For example, each power station shipping spent fuel could be required to provide a financial payment to the area where the waste facility is located. That locality thus would receive tangible benefits to offset the intangible costs that it perceives (such as fear of lower property values). Of course, there is no assurance that the financial incentive would attract sufficient local support, but it may be worth trying.

8. Promote the use of market forces to conserve energy.

One place to start is to eliminate the many government programs that artificially encourage the use of energy by subsidizing the production of conven-

tional fuels. The Internal Revenue Code is riddled with special provisions that reduce the price of producing fossil fuels and thus encourage their consumption. As we would expect, the repeal of these archaic provisions is strongly opposed by the industries directly benefiting from them. But whatever is your position on global warming, it is hard to make a convincing case for continuing these special subsidies from the U.S. Treasury. We need to remember the basic economics of energy: the higher the market price of conventional fossil fuels, the sooner that new energy sources become economically feasible. This is no panacea either because the sum of all these subsidies – except for ethanol production – is relatively “small potatoes” in the huge fossil fuels industry.

Another possibility is to eliminate the “caps” and other regulatory restrictions on rates charged for the use of energy, especially electricity. This change would require a more sympathetic attitude toward increases in the price of energy on the part of environmental and consumer groups who enthusiastically urge energy conservation yet shy away from using the price system to achieve the desired result. In a modern society, prices are the most effective mechanism to encourage production and discourage consumption of specific products.

9. Promote the construction of natural gas pipelines from the Arctic to the lower 48 states.

Natural gas is increasingly becoming the fuel of choice for new power plants. Canada is the United States’ most secure external source of supply. Building new pipelines crossing the border will enhance the energy available to U.S. users. Of course, that will require working with the governments of Canada and the state of Alaska to resolve a host of detailed regulatory issues. Canada may be a foreign country, but it surely is a close and friendly neighbor. The inevitable bureaucratic obstacles can and should be overcome.

10. Accelerate expenditures on the research and development of new energy sources.

In the longer run, the United States will have to find alternatives to the finite supplies of petroleum and natural gas. History clearly demonstrates how an economy moves from one energy source to another. That shift does not occur when supplies of the traditional fuel are exhausted. The changeover occurs as the price of the new substitute becomes lower than the price of the traditional fuel. That is how kerosene replaced whale oil for household illumination — before whales became extinct. Shifts in relative prices also explain why natural gas and then electricity replaced kerosene as illumination sources. Government can and should encourage research and development on new energy sources and on more energy-efficient products and processes. But the marketplace remains the basic mechanism through which shifts in energy sources will occur on a large scale.

No one of these ten proposals is a “silver bullet”. It will take a combination of measures like these — or perhaps some newer or better innovations — to meet the energy needs of the United States in the years ahead.

Conclusions

America’s energy security should be viewed in dynamic terms. It is misleading to focus exclusively on the current combination of energy sources or on today’s energy balance of trade (substantial net imports). Energy security is truly achieved through actions that enhance an economy’s ability to respond to supply shocks and to the volatile price changes that accompany such shocks. We can reduce our vulnerability to aggressive geopolitical pressures from overseas energy suppliers.

Here are some major examples:

- Expand emergency stockpiles such as the strategic petroleum reserve.
- Rely on a greater variety of standard as well as

unconventional energy sources in order to reduce vulnerability to supply disruptions in any individual region of the world or in any specific production category.

- Develop the flexibility to switch quickly to alternative fuels.
- Maintain an effective economic stabilization mechanism. This means the ability to rapidly adjust monetary and fiscal policies that help to cope with large and disruptive shifts in energy prices.

To the extent that U.S. domestic energy policies drift, more power will be lodged in the leaders of the major energy exporting nations. In contrast, reducing dependence on foreign energy — and enhancing the ability to deal with sudden supply shocks — will lead to strengthening the position of the United States in world affairs. Energy policy is no esoteric topic that the United States can afford to put on the back burner. It goes to the heart of America's national security, political independence, and economic welfare.

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In 1981 and 1982, Dr. Weidenbaum was President Ronald Reagan's first Chairman of the Council of Economic Advisers. He helped to shape the economic policy of the Reagan Administration and was a key spokesman on economic and financial issues. He was Assistant Secretary of the Treasury for Economic Policy in the Nixon Administration.

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