The Economy Hits Home: Energy and the Environment

How to be a good steward of energy *and* the environment

Volume III in a series from The Heritage Foundation

What Do You Know About Energy and the Environment?

1. Why will we never run out of oil?

A. Because oil reservoirs refill over time.
B. Because there are far more sources of oil than we could ever use.
C. Because we don't need it. There are already lots of alternatives that we can easily use instead.
D. Because its increasing price would make the use of oil uneconomical long before we ever used all the oil in the ground.

2. If developed, what source of energy is currently cost-competitive with fossil fuels for producing large amounts of electricity?

A. Ethanol
B. Wind
D. Solar
E. Positive thinking
F. Nuclear

3. **True or false: The United States gets a larger percentage of its energy from nuclear energy than France does.**

4. **Which of the following questions should you ask about any environmental policy? (Choose all that apply.)**
   A. What are the well-established facts?
   B. What would George Clooney do?
   C. Are human activities the main cause of the problem?
   D. Are those who are advocating an environmental policy motivated by good intentions?

5. **True or false: "Cap-and-trade" plans are market-based initiatives to reduce carbon dioxide emissions while avoiding government restrictions.**

6. **Who is likely to suffer most when energy prices go up?**
   A. Members of Congress
   B. Texans
   C. Oil company executives
   D. The poor

Answers:

1. D
2. F
3. False
4. A, C
5. False
6. D

How to Be a Good Steward of Energy *and* the Environment

When it comes to energy and the environment, most of us feel conflicted. On the one hand, we depend on affordable energy for almost everything—from traveling across town or across the world, to cooking our food, to running Google searches and talking to friends on cell phones. We like heating and air conditioning and don't like expensive gasoline and airline tickets.

On the other hand, we're concerned about using too much energy, depriving others of the same luxury and degrading our natural environment in the process. Our prosperity, we're often told, is unsustainable. It's a Ponzi scheme in which we rob from future generations by using up all the limited resources now. We reap the benefits; our children, the costs.

Add to this dilemma the fear that we're too dependent on foreign sources of oil, especially when it comes from countries hostile to the United States.

As a result of these concerns, many of us end up pulled in contradictory directions. We want abundant and affordable energy, but we promote energy and environmental policies that make energy more and more expensive, especially for the poor. Still worse, many of these policies, it turns out, do little to help to the environment.

It's easy to lose sight of what is at stake. Access to energy is not just about modern conveniences. Our health and long life expectancy ultimately depend on it. And in the developing world, access to affordable energy often means, quite literally, the difference between life and death.

The good news is that our worries are based more on misperceptions than reality. Affordable, abundant energy is within our reach—if we pursue the right policies. And we don't have to destroy the environment to get it.

Editor: Jay Richards, Ph.D., author, *Money, Greed and God: Why Capitalism Is the Solution and Not the Problem* (HarperOne, May 2009), and visiting fellow at The Heritage Foundation.
Illustrations: Mike Owens

Stewards

The Judeo-Christian tradition provides a solid foundation for environmental ethics and a framework that helps avoid falling for fashionable extremes and media misinformation. Some of these principles include:

First, God has created mankind "in His image" and commanded human beings to "have dominion" over the Earth. That doesn't give license to despoil the Earth. As stewards, caring for God's creation, or at least the tiny portion we can affect, is one of the human race's primary responsibilities.

Second, contrary to radical environmentalism, which tends to see human beings as alien parasites or mere consumers, the Judeo-Christian tradition sees people as part of God's good creation, as well as its crowning achievement.

Third, stewardship doesn't mean we have to take a hands-off policy with the environment. On the contrary, stewardship includes using and transforming the natural world for good purposes. Working and transforming the Earth is part of God's blessing, not a curse.

Fourth, the world is good, but it—all of it—is also now fallen. As imperfect creatures in an imperfect world, people can mess things up. We can and do pollute. We can and do act irresponsibly, ignoring the unintended but bad consequences of our actions. That's not to say this is a good thing, just that it's a reality we'll always have to deal with—it's not something the human race will someday escape.

These statements may be specific to the Judeo-Christian tradition, but most Americans would probably agree with the basic ideas they express. After all, most of us, whatever our religious tradition, want affordable energy, and we want to get it without destroying our environment in the process.

What's a Resource?

In the modern, industrialized, high-tech world, the dilemma between affordable energy and environmental stewardship is mostly a false one. Much of the mischief comes from misunderstanding the nature of resources.

When we hear "resource," we think of stuff you can weigh or count: oil in the ground, land under foot, water in a lake or aquifer, gold bars in a bank vault. Some resources are renewable: As long as we don't cut down more trees than we plant, for instance, we won't run out of lumber any time soon. And aquifers tend to fill back up as long as we don't suck them dry too quickly. Other resources aren't renewable: oil and coal, for instance. So we're constantly being told that we'll soon run out.

The problem with these warnings is that they are almost always based on proven or *known* oil reserves. Discovering an oil reserve costs money. BP or ExxonMobil or Shell has to spend millions of dollars digging dry holes before they discover a new reserve.

As the current supply dwindles, or as demand spikes, the price per barrel goes up. At some point, the price gets high enough that it encourages oil companies to seek out new reserves in more costly locations (since they can make a profit at the new, higher price). When they find a new reserve, they still have to tap it, transport it, refine it, and deliver it. Eventually, new supplies of oil flood the market and again regulate the price.

We can be sure that we're nowhere near running out of oil, simply because gasoline isn't a million dollars a gallon.

But since there's a fixed supply of oil, won't we eventually run out of it if we keep burning it as we are now? Yes, but long before we ran out of oil, drastically increasing prices would signal to everyone that it was time to carpool, take the bus, hitchhike, or switch to a cheaper source of energy. That's what prices *do*. They make us change our behavior in response to economic reality. And they do it far better than any nanny-state regulation. This isn't happening now because for most uses, oil is still the best and cheapest source of energy available.

Creating Resources

The fear that we're running out of resources comes from thinking of them merely as some finite amount of physical stuff. That's seems like common sense, since the Earth is finite; but it's wrong. Resources aren't just there in a tank or in the ground. On the contrary: We *create* resources.

This might sound crazy, but think about it. Most resources are resources only because of human input. Oil was merely a pollutant or an irritant to farmers until we realized it contained energy and created technologies that allowed us to refine it and use its energy.

Of course, we don't create resources out of nothing. Only God can do

that. But we can and do take the matter God has created and transform it into resources that we use. We also create technology that allows us to use those resources more and more efficiently. In fact, over time, the matter in a material resource matters less than how human beings creatively transform it for some use—wood is transformed into fuel and lumber, clay into pots and bricks, oil into gasoline and kerosene, copper into phone lines, sand into computer chips and fiber optic cables, light into lasers.

Prices, scarcity, and creativity conspire to get us to the next level, to the next resource or the next technological breakthrough. Necessity is indeed the mother of invention, but a human creator is the father.

At every stage, some pessimist can do a few calculations and predict that the current resource we're using for energy will soon be depleted. People in every era of recorded history have worried about running out of whatever resource they were using at the time. But in a free market, prices, scarcity, and creativity always conspire to get us to the next level, to the next resource or the next technological breakthrough. Necessity is indeed the mother of invention, but a human creator is the father.

Did such experiences teach the pessimists to qualify their warnings? Nope. They've continued down to the present, despite one prediction after another biting the oil-stained dust.[1]

History again and again teaches a basic lesson: Just because there's a fixed supply of wood or coal or oil or uranium doesn't mean that we are doomed to run out of energy supplies.

History again and again teaches a basic lesson: Just because there's a fixed supply of wood or coal or oil or uranium doesn't mean that we are doomed to run out of *energy* supplies. The image conjured up is of some fixed pot of stuff called "energy," with the big kids getting more than their fair share. We need to use less so that others can have more, so the argument goes.

But statistics about how much energy Americans or the industrial world are using don't take into account the total amount of energy in existence. How could they do that? As a matter of physics, every bit of matter contains enormous amounts of energy. Rather, pessimistic predictions compare how much energy we're using with how much is being *produced* at the moment.

"If you want one year of prosperity, grow grain. If you want 10 years of prosperity, grow trees. If you want 100 years of prosperity, grow people."
— Chinese Proverb

The Ultimate Resource

Too often, environmentalists treat human beings as mere consumers, but most people in free societies grow up to produce more resources than they consume. In free markets characterized by the rule of law and limited government, output per capita goes up, which means that the productivity of our labor increases.

This is the result of what the late economist Julian Simon called "the ultimate resource"—the creative imagination of human beings living in a free society. The more people in free societies there are, the more producers, problem solvers, and creators there are to transform material resources and create new resources.[2] Man, not matter, is the ultimate resource.

And that one little verb changes everything, since it begs the question: Who's producing it? Usable energy isn't just sitting in a battery somewhere, first come, first served. Somebody has to produce it. Some places produce, buy, and consume more energy than other places. Unless they're stealing, energy-consuming countries aren't taking energy from somebody else who then lacks it. Some countries can't buy or produce enough energy to meet their basic needs. That should trouble us, but the problem isn't caused by us producing and buying energy.

But Aren't We Destroying the Environment?

Okay, but you're probably thinking: Well, maybe we won't run

out of energy, but aren't we messing things up with the resources we're using now? Isn't our energy use causing global warming and destroying the planet?

That's certainly the official story of the mainstream media. But we should still take a hard look at evidence for human-induced global warming, and our conclusions should be based on real data, not "Dateline NBC."

Analyzing the Problem: Global Warming

For almost any environmental problem (real or just reported), you should ask at least four questions, listed in the left column of the chart below.

These questions work well with the topic of global warming. The central claim about global warming is that human beings, by releasing carbon dioxide and other greenhouse gases into the atmosphere, are creating catastrophic climate change, and if we don't do something about it soon, it will be too late. However you judge this claim, it clearly bundles together answers to questions that need to be asked one at a time (see the questions listed in the right column of the chart at left).

Global Warming: A Few Questions	
1. What's the problem (that is, what are the facts)?	**Is the planet warming?**
2. What is causing the problem?	**If the planet is warming, is human activity (like carbon dioxide emissions) causing it?**
3. On balance, is it really a problem?	**If the planet is warming and we're causing it, is that bad overall?**
4. Will the proposed policy make any difference? (Will it solve the problem, make things better, or make things worse?)	**If the planet is warming, we're causing it, and that's bad, would the policies commonly advocated (e.g., the Kyoto Protocol or legislative restrictions on carbon dioxide emissions) make any difference?**

Based on current evidence, the prudent answer to the first question "Is the planet warming?" would be: "Probably." That is, we're probably in a slight warming trend, especially if you pick a conveniently cool starting point of, say, 1870. (Incidentally, we're actually cooler now than in the year 1000, so which baseline you pick makes a big difference.) This warming trend is the only question on which there really is a scientific consensus. There's plenty of debate and no consensus on the other stuff.[3]

Of course, the climate is always changing, sometimes drastically. As it happens, the past several thousand years of recorded human history have been strangely mild. The changes we are currently experiencing are well within the known natural variations in global climate.[4]

What about the second question regarding human activity as the cause? Are our carbon dioxide emissions causing this warming? Is human activity the primary cause of the warming or just a minor one? Carbon dioxide is a greenhouse gas, but there are many natural processes that might diminish or cancel its warming effects. For instance, the increase in carbon dioxide leads to more plant growth, which in turn sequesters the carbon dioxide. This is one of many examples of a natural "feedback" process that makes it very hard to predict the future climate.

Then there are the other possible causes and contributors, like changes in the energy output or magnetic activity from the sun. Recent data suggest that it's also gotten warmer on Mars.[5] ExxonMobil, Texaco, and their "cronies" didn't cause that. With predictions of future global warming, almost all the work is done by plugging the assumptions into the computer models, not by direct evidence of what's causing warming. That's why, at the moment, the prudent answer to question two would be: "We don't know."[6]

What about question three regarding the overall impact of warming? Is it obvious that global warming would be bad overall? No, it's not. It might lead to droughts in some places but to warmer, wetter, more productive weather elsewhere. The total might be a net gain. What is the optimum average global temperature? Are we moving toward it or away from it? We don't know, so the warming might be good rather than bad.

What about the question regarding the effectiveness of policies

commonly advocated to address warming? Is it obvious that reducing carbon dioxide emissions in the U.S., for example, would make much difference? No, it's not. Take the U.N.-sponsored Kyoto Protocol, which requires participating countries to reduce annual emissions to 5.2 percent below 1990 levels. The official estimate is that this would slow current warming by an undetectable 0.07 degrees centigrade by 2050. To comply, however, the estimated cost to the worldwide economy would be in the trillions of dollars (more than $150 billion *per year*).[7] Imagine what it would cost to reduce carbon emissions by 80 percent–90 percent without the benefit of a new source of energy.

In contrast, the economists that form the "Copenhagen Consensus" have identified a number of serious global problems that deserve attention well ahead of global warming. For example, they estimate that it would cost about $200 billion to outfit the rest of the world with water sanitation capacity, that's 50 to 250 times cheaper than the estimated cost of Kyoto and would yield far greater benefits.

Plans like Kyoto won't disappear any time soon. In December 2009, for instance, representatives from around the world will meet in Copenhagen. Their purpose? To discuss a new Kyoto-like international agreement to restrict carbon emissions. Any such plans are bound to have problems similar to Kyoto. Unless we're interested in practicing random acts of piety that don't do anything except squander money that would be much better spent elsewhere, we should be skeptical of the Kyoto Protocol and future similar attempts to restrict carbon emissions by fiat.[8]

What Is Cap and Trade?

Under a cap-and-trade program, each power plant, factory, refinery, and other regulated entity would be allocated allowances (rights) to emit specified levels of six greenhouse gases. However, only a certain percentage of the allowances would be allocated to these entities. The remaining percentage would be auctioned off or distributed to other emitting entities. Emitters who reduced their emissions below their annual allotment could sell their excess allowances to those who did not.

Since it would create a "market" for trading carbon credits, cap and trade is often mistakably called a "market-based" approach. But this is just slick marketing. Over time, the cap would be ratcheted down, requiring greater cuts in emissions and more harm to the economy.

Make Room for $2,979 in Cap and Trade

Americans will have to find $2,979 a year more in the family budget if Congress passes a cap-and-trade bill to counter global warming, according to a Heritage Foundation study. The annual cost per family of four would increase to more than $4,600 by 2035, accumulating to more than $71,000 from 2012 to 2035. For comparison purposes, here are some average annual household expenditures:

$1,764 All meat, poultry, fish, eggs, dairy products, fruits and vegetables

$1,797 All furniture, appliances, carpet, and other furnishings

$1,881 All clothes and shoes

$1,783 All electricity and natural gas

$1,709 All property taxes

Sources: Bureau of Labor Statistics, Consumer Expenditure Survey, 2007; Heritage Foundation Center for Data Analysis.

heritage.org

Some Fake Solutions: Cap and Trade and Its Cousins

Unlike plans that are frankly designed to restrict emissions by government control, others are said to be "market-based." Despite this good branding, however, these plans (such as cap and trade) are coercive attempts to limit carbon emissions, which, for the foreseeable future, means limiting our energy use. In effect, cap and trade is a tax on productivity.

In a real market, our use is limited by a price that reflects supply and demand. So-called cap-and-trade plans would force businesses and consumers either to use less fossil fuel-based energy or buy credits from businesses that do. This would give immense power to unelected bureaucrats, who would be in charge of deciding how much carbon certain industries would be allowed to emit. By imposing limits on emissions, these plans would artificially inflate prices for the purpose of weaning us off of fossil fuel. So by design (if not description), they're *intended* to increase the cost of using fossil fuels.

The effects are easy to predict: suppressed economic growth, job losses, and higher energy prices. Increases

CAP & TAX: Top Ten Problems with Cap and Trade

1. Cap and trade is a massive energy tax
2. It will not make a substantive impact on the environment
3. It will kill jobs
4. It will cause electricity bills and gas prices to sharply increase
5. It will outsource manufacturing jobs and hurt free trade
6. It will make you choose between energy, groceries, clothing, and haircuts
7. It will be highly susceptible to fraud and corruption
8. It will hurt senior citizens, the poor, and the unemployed the most
9. It will cost American families over $3,000 a year
10. President Obama admitted "electricity rates would necessarily skyrocket" under a cap-and-trade program[9]

in energy costs especially hurt lower-income Americans, since fuel costs are a higher portion of their expenses.

Since cap-and-trade proposals have been less than popular with voters, Congress is now debating alternatives. Some of these new schemes are as simple as placing a tax on carbon emissions, while others, such as "cap and dividend" or "cap and invest," are really variations of the original.

Take cap and dividend. Under this plan, customers would receive dividend checks from auctioning their carbon credits. You might think these checks would offset the costs of the plan. As carbon prices rise, so do the dividend checks. But so do the energy prices that consumers must pay. Further, rebates or not, the higher energy prices would reduce economic activity by forcing businesses to cut costs elsewhere, possibly by reducing their workforce and thus doing damage that no check would cover.

Of course, if these policies really helped to prevent environmental disaster, the benefits might outweigh the costs. Unfortunately, even if carbon emissions are damaging the environment, these schemes would do little to reverse the damage. Assuming that our carbon emissions are causing warming, an Environmental Protection Agency analysis has shown that if the U.S. reduced those emissions by 60 percent by 2050, we might reduce the global temperature by 0.1–0.2

degrees Celsius by 2095. That's miniscule, and a 60 percent reduction is *enormous*—far larger than any cap-and-whatnot scheme can accomplish—and would destroy the American economy.

It's easy to see how these carbon-cap plans would increase the cost of fossil fuels—gasoline, coal, and natural gas. But they also would inflate the price of non-carbon sources of energy, since such sources would be more competitive at higher prices than they would be *without* a carbon-cap. Subsidies and special tax breaks for renewable energy sources along with caps on carbon provide little incentive for renewable energy source companies to reduce costs. Instead, these policies would stifle innovation and lead to more dependence on government for handouts. In other words, the plans could actually *delay* our transition to newer forms of energy.

The bottom line? The costs of capping carbon emissions are real, large, immediate, and ongoing. The benefits, in contrast, are small, theoretical, and remote.

The Best Solution to Energy and Environmental Problems: Economic Freedom

Environmental policy is a costly good. Societies start to worry about the environment once they have solved basic problems of survival. Americans with four-bedroom houses, three square meals a day, two cars, and one dog are much more likely to fret about recycling, topsoil erosion, and the plight of the fish in the local reservoir. Africans who live in shanty towns have more immediate priorities. So prosperity is actually a prerequisite for environmental concern, not its cause.

Further, those of us who are comfortable enough to fret about such things should not forget those who are less fortunate. We should take care not to impose unnecessarily costly measures that disproportionately burden the poor and hamper the economic growth they need to lift them out of poverty.

It's only by characterizing carbon dioxide as a pollutant that we've missed all the good news about *long-term* environmental improvement in modern societies. On almost every measure, we are healthier and our environment is cleaner than it has been even in the recent past.[10] Much of this has come not from government control of the economy, but from the prosperity created by *free* people in *free* economies.

In the developed world, most of the really important trends—wealth, infant mortality, life expectancy,

nutrition—and leading environmental indicators such as air and water quality, soil erosion, and toxic releases have improved enormously, not grown worse, in recent decades.[11] In general, the wealthier a country is, the more environmentally sustainable it is.[12]

We've long since solved and forgotten about the most devastating environmental problems that still plague the poorest parts of the world. They're the ones caused by bacteria, viruses, insects, and particulate matter. Free of such problems, we now complain about mysterious chemicals in our food that kill no one and fret about the clean water that comes out of every tap in the U.S. because it doesn't taste as good as bottled water from a well in France or Fiji.

Innovations made possible by societies that enjoy political and economic freedom have increased life expectancy worldwide in the past 50 years, even in poor countries. The trends decline only in countries with widespread war and extremely corrupt and despotic governments.[13]

Of course, just because things are getting better doesn't mean the environment is as good as it can be. We *should* continue to seek solutions to real, well-known, tangible pollution problems, especially at the local level. Sometimes environmental regulation is in order, but more often than not, there are market-based solutions that work better. For instance, strong private property laws are often the best ways to encourage people to act in environmentally friendly ways. We tend to act less responsibly when we are not directly affected by our actions. We're more likely to keep our own bathroom clean than to keep the airport bathroom clean.

Going Forward: Affordable Energy and Environmental Stewardship

The general principles to follow for environmental stewardship and energy use are pretty simple. We should conserve energy in ways that make economic sense, as individuals and as a country, and we should work to free energy markets both at home and abroad.

The following are some specific ideas that ought to shape future energy and environmental policies.

1. Seek out and develop likely sources of energy within U.S. borders.

We should explore all U.S. lands and waters, using technologies that are far safer and more efficient than those of the past. The federal government has placed far too many restrictions on domestic oil and natural gas production.

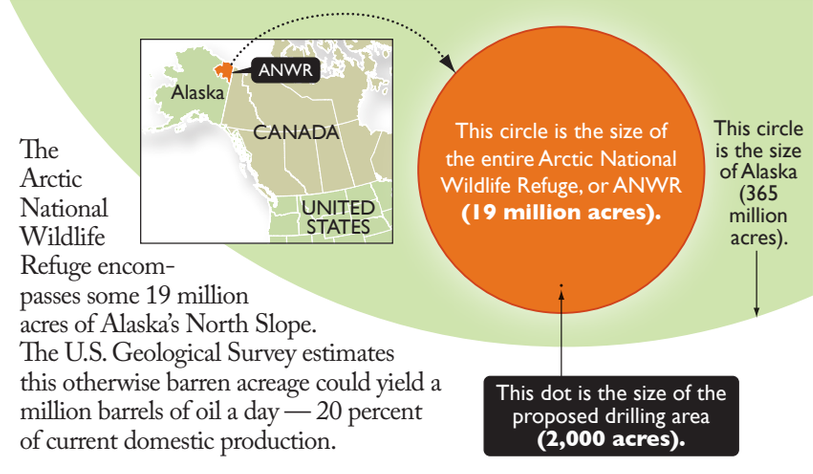
For example, it has prohibited the exploration and use of oil reserves in the Arctic National Wildlife Refuge (ANWR) in northern Alaska. We have the technology to access this oil with very little environmental impact. Drilling would take place on a mere 2,000 acres of the *19 million*-acre reserve, and there's no reason to think that any wildlife would be harmed.

By not using such domestic sources of energy, we make ourselves more vulnerable to drastically fluctuating prices and supplies caused by foreign political disruptions. Oil cartels such as OPEC intentionally manipulate the supply and therefore the price of oil. The less domestic oil we produce, the more dependent we are on such providers.

2. Avoid counterproductive regulations, mandates, and red tape.

When it comes to energy and the environment, many federal policies are all pain and no gain. The full cost of current and proposed regulations and mandates should be evaluated and compared with the likely environmental benefits. Red tape has restrained the expansion of refineries, construction of new pipelines and

Alaskan Drilling: Small Area, Big Potential



The Arctic National Wildlife Refuge encompasses some 19 million acres of Alaska's North Slope. The U.S. Geological Survey estimates this otherwise barren acreage could yield a million barrels of oil a day — 20 percent of current domestic production.

Source: Institute for Energy Research.

heritage.org

The Heritage Foundation *The Economy Hits Home: Energy and the Environment*

electricity transmission lines, and construction of new power plants.

Several key domestic energy sources, particularly coal and nuclear power, can help us to achieve more energy independence—but only if costly regulations and procedural requirements are revised or eliminated. We cannot seek independence from foreign providers while at the same time making it extremely hard (if not impossible) to use our own sources.

3. Seek energy independence that makes economic sense.

Freely buying competitively priced oil from a foreign producer is not a mere "transfer of wealth." Free trade is a win-win game for all participants, and that holds for oil as well as for consumer goods. Tariffs and protectionism won't help us in the long run.

If we can buy energy from friends less expensively than we can produce it ourselves, then we should follow Adam Smith's advice:

> What is prudence in the conduct of every family can scarce be folly in that of a great kingdom. If a foreign country can supply us with a commodity cheaper than we ourselves can make it, better buy it of them with some part of the produce of our own industry, employed in a way in which we have some advantage.[14]

Of course, buying energy from unstable or unfriendly places is another matter. We don't want to fund terrorist regimes or allow them hold us hostage economically. But we need to pursue energy independence from such regimes in a way that minimizes the economic cost to Americans. Raising taxes on gasoline while mandating or subsidizing expensive or unproven alternative fuels and vehicles leads to large costs with marginal—or even negative—results.

The best way to diversify our fuel use away from petroleum, foreign or otherwise, is to let the private sector, following *real* market incentives, develop alternatives that can compete in their own right. Domestically, the federal government's role should be limited to conducting basic research and removing regulatory and tax barriers that impede innovation in the private sector. In addition, we should eliminate artificial restrictions on international growth in alternatives, such as the tariffs that limit ethanol imports into the United States.

4. Develop real alternatives.

There are several fashionable alternative energy sources that, for the foreseeable future, can't replace fossil fuels. Wind, solar, and hydroelectric sources can contribute around the edges, but they simply don't produce enough reliable energy to drive our modern economy. Their limits are based on the laws of physics, and those laws can't be waived by Congress.

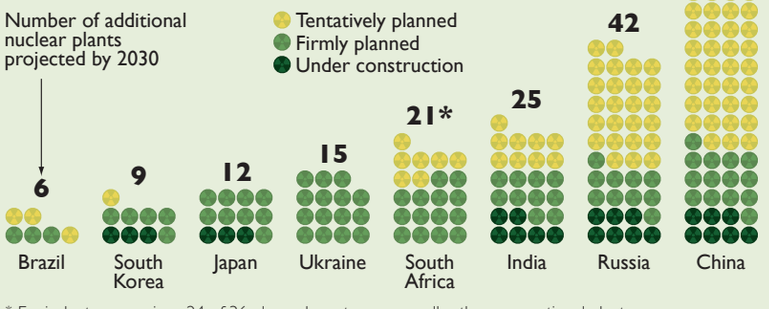
Ethanol in some forms also might carry a bit of the load, but at the moment, domestic ethanol doesn't make much economic sense. It competes for price with oil only because its production is subsidized by the taxpayer. If it were competitive, it wouldn't need such subsidies. It also has harsh unintended consequences, including driving up prices for the foodstuffs such as corn on which the poor are most dependent. And Ethanol is not even that environmentally friendly, despite the slick advertising.

We can't yet switch completely to alternatives to oil. For producing large amounts of electricity, however, there already is one technology that is cost-competitive with fossil fuels: *nuclear power*, which relies on fission reactions using uranium rods. France now gets over 70 percent of its energy from nuclear power plants.

Regrettably, because of bad

Other countries' nuclear power plans

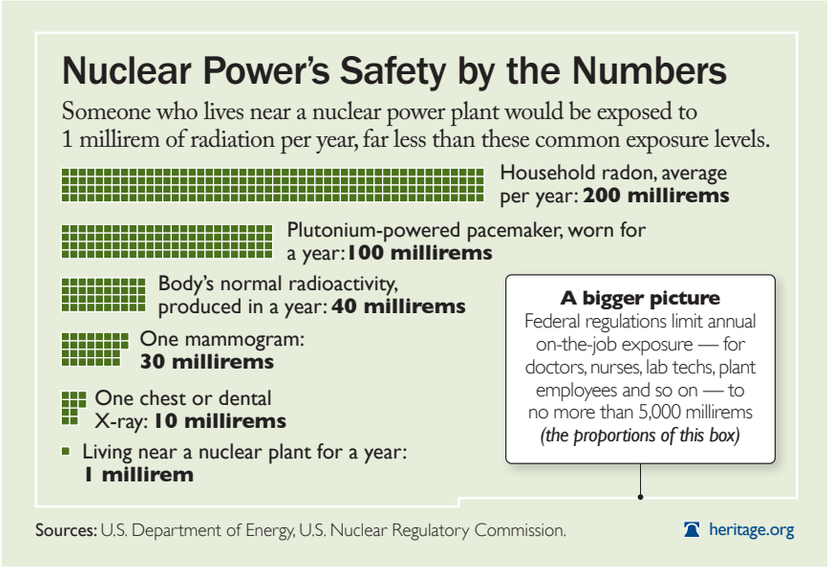
As China, Russia, India and other competitors embrace nuclear power to increase their energy independence, America's inaction threatens to leave us far behind in commercial production of emissions-free domestic energy. A total of 104 reactors operate in the U.S., but — despite growing demand for affordable electricity — not a single new one has been ordered in 30 years.



* Equivalent power, since 24 of 36 planned reactors are smaller than conventional plants.

Sources: World Nuclear Association, International Herald Tribune, Asia Times.

heritage.org



government policy and misleading environmentalist scare tactics, the nuclear industry all but died in the U.S. Although we still get 20 percent of our electricity from nuclear power, the fact is that no one has committed to building a new nuclear plant in this country for some 30 years.

Despite its bad press, however, nuclear energy is safe and environmentally friendly. It emits nothing into the atmosphere, and no one has ever been injured as a result of commercial nuclear power in this country. A rational energy policy should therefore allow for the construction and use of more nuclear power plants.[15]

Let's Keep Our Heads

Just as our ingenuity gives rise to new resources and technologies in a market economy, it can also forge solutions to real environmental problems caused by energy consumption. Harnessing private property, economic freedom, and prosperity to improve the environment is infinitely wiser than accepting counterproductive and coercive government regulation of the economy.

If we consider *long-term* past trends rather than just our little slice of time, we should expect scarcity and creativity to conspire in the future as they have in the past. We will eventually move away from fossil fuels as a dominant source of energy. For electricity, there are already live alternatives like nuclear power—if we will use it. Looking forward, we can only guess at the other resources and technology that will replace oil once it becomes too expensive. Given what we know historically about how prices and inventors work in a free economy, however, we should expect a solution rather than a disaster as long as we don't ignore what we already know.

In short, *we should rely on markets and American ingenuity, not counterproductive government coercion, to gain access to unused sources of energy and drive our transition to new sources of energy*. This will not only protect America's long-term energy interests. It will also promote good stewardship of resources.

Your Turn:

- Why is environmental stewardship important to you?
- What are some practical ways you can exercise good stewardship of the environment?
- What is your greatest concern about access to energy?
- Are you worried about U.S. dependence on foreign oil supplies? Why or why not?
- Why do you think stories of environmental catastrophe are so popular?
- If your friend told you that there is a scientific consensus about "global warming," how would you respond?
- When you hear "nuclear energy," what images come to mind? Where do you think your mental images came from?

Now What Do You Know About Energy and the Environment?

1. Why will we never run out of oil?
2. If developed, what source of energy is currently cost-competitive with fossil fuels for producing large amounts of electricity?
3. True or false: The United States gets a larger percentage of its energy from nuclear energy than France does.
4. What questions should you ask about any environmental policy?
5. True or false: "Cap-and-trade" plans are market-based initiatives to reduce carbon dioxide emissions while avoiding government restrictions.
6. Who is likely to suffer most when energy prices go up?

To read more on these topics, see:

- Jay W. Richards, *Money, Greed, and God: Why Capitalism Is the Solution and Not the Problem* (San Francisco: HarperOne, 2009), chapter 8.
- Nicolas Loris and Ben Lieberman, "Capping Carbon Emissions Is Bad, No Matter How You Slice the Revenue," Heritage Foundation *WebMemo* No. 2443, May 14, 2009, at *http://www.heritage.org/Research/EnergyandEnvironment/wm2443.cfm*.
- David Kreutzer, "The Economic Impact of Cap and Trade," Testimony before the Energy and Commerce Committee, U.S. House of Representatives, April 22, 2009, at *http://www.heritage.org/Research/EnergyandEnvironment/tst050709b.cfm*.
- Stuart M. Butler and Kim R. Holmes, "Twelve Principles to Guide U.S. Energy Policy," Heritage Foundation *Backgrounder* No. 2046, June 26, 2007, at *http://www.heritage.org/Research/EnergyandEnvironment/bg2046.cfm*.
- Daniella Markheim, "Climate Policy: Free Trade Promotes a Cleaner Environment," Heritage Foundation *WebMemo* No. 2408, April 24, 2009, at *http://www.heritage.org/Research/tradeandeconomicfreedom/wm2408.cfm*.
- Jack Spencer and Nicolas Loris, "Dispelling Myths About Nuclear Energy," Heritage Foundation *Backgrounder* No. 2087, December 3, 2007, at *http://www.heritage.org/research/energyandenvironment/bg2087.cfm*.

Endnotes

1. Julian Simon, *The Ultimate Resource 2* (Princeton, N.J.: Princeton University Press, 1998), pp. 164–167.

2. Two recent documentary films illustrate this point: *The Call of the Entrepreneur* (Acton Media, 2007) and *The Ultimate Resource* (Free to Choose Media, 2007).

3. Michael Asher, "Survey: Less Than Half of All Published Scientists Endorse Global Warming Theory," DailyTech, August 29, 2007, at *http://www.dailytech.com/Survey+Less+Than+Half+of+all+Published+Scientists+Endorse+Global+Warming+Theory/article8641.htm*.

4. See Guillermo Gonzalez and Jay W. Richards, *The Privileged Planet* (Washington, D.C.: Regnery Publishing, 2004), pp. 21–43.

5. See Kate Ravilious, "Mars Melt Hints at Solar, Not Human, Cause for Warming, Scientist Says," *National Geographic News*, February 28, 2007.

6. For a detailed study of global climate variations in geologic history and their possible causes, see Dennis Avery and Fred Singer, *Unstoppable Global Warming: Every 1,500 Years* (Lanham, Md.: Rowman & Littlefield, 2007).

7. See Bjørn Lomborg, "Kyoto's Misplaced Priorities," Project Syndicate, 2005, at *http://www.copenhagenconsensus.com/Press/Articles%20in%20English.aspx*.

8. The Copenhagen Consensus did a cost-benefit analysis to determine how best to spend $50 billion in humanitarian aid. Their top picks were projects to prevent HIV/AIDS, iron deficiency in women and children, and malaria. The Kyoto Protocol ranked 16th out of 17 ways to spend the money, even when assuming that carbon dioxide is largely responsible for global warming. See discussion at *http://www.copenhagenconsensus.com*. See also Bjørn Lomborg, ed., *Global Crises, Global Solution* (Cambridge: Cambridge University Press, 2004).

9. "Obama: My Plan Makes Electricity Rates Skyrocket," YouTube, January 17, 2008, at *http://www.youtube.com/watch?v=HlTxGHn4sH4.*

10. See Bjørn Lomborg, *The Skeptical Environmentalist: Measuring the Real State of the World* (Cambridge: Cambridge University Press, 2001), pp. 3–33.

11. See Steven F. Hayward and Amy L. Kaleita, *Index of Leading Environmental Indicators*, 12th edition (San Francisco: Pacific Research Institute and Washington, D.C.: American Enterprise Institute, 2007).

12. See Lomborg, *The Skeptical Environmentalist*, p. 33.

13. See Simon, *Ultimate Resource 2*, pp. 223–273. See also the worldwide demographic data at *http://www.gapminder.com*.

14. Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations Book IV, Ch 2* (London: W. Strahan and T. Cadell 1776).

15. The American Energy Act is one way to improve this. See Jack Spencer, "The American Energy Act Puts Nuclear on the Fast Track," *Heritage Foundation WebMemo* No. 2477, June 10, 2009, at *http://www.heritage.org/Research/EnergyandEnvironment/wm2477.cfm*, and Ben Lieberman, "The American Energy Act: An Energy Bill with Some Real Energy in It," Heritage Foundation *WebMemo* No. 2479, June 11, 2009, at *http://www.heritage.org/Research/EnergyandEnvironment/wm2479.cfm*.

The Heritage Foundation is a research and educational institution—a think tank—whose mission is to formulate and promote conservative public policies based on the principles of free enterprise, limited government, individual freedom, traditional American values, and a strong national defense.

Our vision is to build an America where freedom, opportunity, prosperity, and civil society flourish. As conservatives, we believe the values and ideas that motivated our Founding Fathers are worth conserving. As policy entrepreneurs, we believe the most effective solutions are consistent with those ideas and values.

As an institution committed to restoring the family to its central role in American society, The Heritage Foundation recognizes that economic dynamics and the extent of government's reach into everyday life significantly impact the freedom of the family and the character of our culture. Free market policies and a limited, constitutional role for government are the ideal conditions for creating a family-friendly society. One of the goals of The Heritage Foundation's Family & Religion Initiative is to show the links between pro-family and free market principles of governance, and "The Economy Hits Home" series is a part of this effort.

Leadership *for* America Ten Transformational Initiatives

The Family & Religion Initiative is one of 10 Transformational Initiatives making up The Heritage Foundation's Leadership for America campaign. For more products and information related to this Initiative or to learn more about the Leadership for America campaign, please visit *heritage.org*.


American Leadership


Education


Energy & Environment


Entitlements


Enterprise & Free Markets


Family & Religion


First Principles


Health Care


Protect America


Rule of Law

214 Massachusetts Avenue, NE
Washington, DC 20002