



A Roadmap for America's Energy Future

Summary of the Energy Roadmap

In the last 25 years, U.S. energy needs have grown dramatically while supplies have stayed virtually steady. In just the past decade alone energy demand increased by more than 12 percent while domestic production increased by less than one percent.

In the past few years, we saw massive economic damage inflicted by rapidly rising energy prices. This simply reinforced the critical need for policies that promote production of a broad range of domestic energy supplies. As the economy recovers, we will most certainly see energy prices creep back up. Now is not the time to penalize energy production. We must take proactive steps to incentivize energy production that will provide short-term relief while investing in our long-term alternative energy future.

A Roadmap for America's Energy Future promotes energy policies that facilitate the production of traditional resources, as well as support the rapid development of market-based alternative energy sources.

Outer Continental Shelf

The Outer Continental Shelf (OCS) is estimated to hold nearly 420 trillion cubic feet of recoverable natural gas resources and 85 billion barrels of oil. This is enough natural gas to heat 100 million homes for 60 years or enough oil to replace current Persian Gulf imports for 59 years. Up until 2008, over 80 percent of the nation's oil and natural gas resources on the OCS were completely off-limits to energy exploration and production due to Congressional and Presidential moratoria. Unfortunately, sighting the *Deepwater Horizon* accident, many in Congress seek to re-impose both of these bans and once again lock up these valuable resources.

The Energy Roadmap increases the supply of American energy by immediately moving forward with a leasing program on the already open OCS. It further distributes a portion of the revenues not shared with State and localities to a renewable energy trust fund to pay for a renewable energy auction. Moreover, it requires the Secretary to, in each five-year leasing program, include lease sales that offer oil and gas leasing for at least 75 percent of the available unleased acreage within each OCS Planning Area.

Arctic Coastal Plain

Most experts agree that the potential of recoverable oil and gas on the Coastal Plain of the Arctic National Wildlife Refuge (ANWR) may rival the initial reserves at Prudhoe Bay. In 1980, the U.S. Geological Survey estimated the Coastal Plain could contain up to 17 billion barrels of oil and 34 trillion cubic feet of natural gas. However, before oil and gas





development in ANWR can proceed, Congress and the President need to authorize leasing and development.

There is capacity to bring this oil to market. In 1996, the North Slope oil fields produced about 1.5 million barrels of oil per day, or approximately 25 percent of the U.S. domestic production. However, Prudhoe Bay, which accounts for over half of North Slope production, began to decline in 1988, and no new fields have yet been discovered with the potential to compensate for that decline. ANWR development offers us the best chance to replace this lost oil production.

The Energy Roadmap increases American energy by opening the Arctic Coastal Plain to exploration in an environmentally-sound manner, which could provide an additional one million barrels of oil per day. It requires timely lease sales, provides for revenue sharing with the State, designates a fund to mitigate the effects of exploration and development, and devotes a portion of the revenues for a renewable energy trust fund to pay for the renewable energy auction.

Oil Shale

America's oil shale deposit is the largest unexploited hydrocarbon resource on Earth. It is estimated that more than two trillion barrels of oil are held in oil shale deposits most of which is located in Utah, Colorado and Wyoming. These oil shale deposits represent more oil reserves than are contained in all the countries in the Middle East combined, and this resource is believed to be capable of eventually producing 10 million barrels a day for more than 100 years.

The Energy Roadmap codifies the oil shale lease program and restores leasing activities that were already underway prior to being halted in February 2009, by the Obama Administration. It mandates that a lease sale be held within 180 days of enactment.

Coal to Liquid

Coal-to-liquid fuel technologies are well-established and have been improved by 30 years of U.S. government research and development efforts. The technology is ready for widespread commercialization. Technology has come a long way since the first coal-derived liquid fuel (a synthetic crude oil) was produced through direct liquefaction in the early 1900s. Germany had 25 liquefaction plants that, at their peak in 1944, produced more than 124,000 barrels daily and met 90 percent of the nation's needs.

There are more than 250 billion tons of recoverable U.S. coal reserves – equivalent to an estimated 800 billion barrels of oil (compared to Saudi Arabia's proven reserves of 260 billion barrels). United States coal can be converted through proven, existing modern technology into clean, zero-sulfur synthetic oil and oil products at a cost of approximately \$35 per barrel. Unlike other energy resources, the location and quantity of U.S. coal reserves are known and mapped – exploration isn't necessary.





America's national security is dependent on the availability of liquid fuels. For example, the U.S. Department of Defense is the single largest consumer of transportation fuels in the country, using 369,000 barrels per day.

Unfortunately, the Democrat Congress enacted Section 526 of Public Law 110-140, the Energy Independence and Security Act of 2007. It states in its entirety:

No Federal agency shall enter into a contract for procurement of an alternative or synthetic fuel, including a fuel produced from nonconventional petroleum sources, for any mobility-related use, other than for research or testing, unless the contract specifies that the lifecycle greenhouse gas emissions associated with the production and combustion of the fuel supplied under the contract must, on an ongoing basis, be less than or equal to such emissions from the equivalent conventional fuel produced from conventional petroleum sources.

Section 526 was added largely to stifle the Defense Department's plans to buy coal-based (or "coal-to-liquids") jet fuels. To limit the ability of the Pentagon to get its fuels from friendly sources and force increased petroleum importation from unfriendly or unstable countries does nothing less than put our national and economic security at risk.

The Energy Roadmap spurs the development of America's alternative fuels by repealing the "Section 526" prohibition on government purchasing fuels derived from sources such as oil shale, tar sands and coal-to-liquid technology. It also encourages the use of clean coal-to-liquid technology by allowing the Department of Defense to plan, construct and operate a coal-to-liquid facility to ensure a secure domestic supply of fuel for the United States military.

Nuclear

The Environmental Protection Agency estimates that in 2009 electricity generation was responsible for 41% of carbon dioxide emissions in the United States. The 104 nuclear reactors in America today provide the United States with 20 percent of its electricity and 72 percent of its carbon-free electricity. Nuclear power is a safe, reliable, efficient, and affordable source of energy. Increasing nuclear power threefold will create 480,000 construction jobs, 140,000 permanent jobs, and \$20 billion in local, State, and Federal tax revenue each year. Expanding nuclear power threefold will reduce carbon dioxide emissions by 1.4 billion metric tons annually and will reduce carbon emissions by 65% from current levels by 2050. It will also produce 320 gigawatts of electricity to power 237 million households and would constitute 52% of United States electricity portfolio by 2030.

The Nuclear Waste Policy Act of 1982 requires the Federal government to take ownership of high-level nuclear waste and spent nuclear fuel and build a permanent geologic repository in which to store this waste. In 1987, Yucca Mountain was selected to be the sole geologic repository in which to store high-level and spent nuclear fuel waste. Despite the foregoing laws, the government has failed to accept high-level and spent nuclear fuel waste from utilities and has delayed construction of the Yucca Mountain repository. Failure to accept high-level and spent nuclear fuel waste has led to more than 74 lawsuits filed by utilities against the government, \$1 billion in settlements being paid, and an estimated \$16.2 billion in potential liabilities to settle remaining lawsuits. Each year the government refuses to





accept high-level and spent nuclear fuel waste adds an estimated \$500 million in additional liabilities associated with future lawsuits. Nuclear waste and regulatory barriers are seen as the most significant barriers to the future development of additional nuclear power.

The Energy Roadmap mandates the permitting of 200 new nuclear reactors over the next 30 years to strengthen America's commitment to clean, reliable energy. To ensure this occurs, the Energy Roadmap expedites the combined construction and operating license procedure and puts in place a process to pre-certify reactor designs that are already operating internationally. It further sets a path for the licensing of small and modular nuclear reactors which can be used for locally distributed power.

The Energy Roadmap also provides a long-term solution for spent nuclear fuel by requiring the Nuclear Regulatory Commission (NRC) to finish its review of the Yucca Mountain repository without political interference, and repeals its 70,000 metric ton limitation, letting science and technology dictate how much the repository can safely hold. Should science and technology disqualify Yucca Mountain, then the NRC is directed to find an alternative site. In both cases, the Energy Roadmap envisions the repository being operated by an independent entity that will, using the nuclear waste trust fund as seed money, manage all aspects of the facility and set the fee for storage space.

The Energy Roadmap provides for recycling of spent nuclear fuel, thereby decreasing the demand for storage space at Yucca Mountain and amounts accumulating at sites across the country. The NRC would have two years to establish a process to license such recycling facilities. The Energy Roadmap further clarifies law that the Federal government will take possession and dispose of spent nuclear fuel and high level radioactive waste.

Renewable Energy Trust Fund

Year after year, funding for alternative energy has to compete for scarce tax dollars in the massive federal budget process in Washington. Furthermore, alternative energy projects have to rely on haphazard tax credits which require complicated financial transactions to monetize. Neither option provides stability nor are they the most efficient use of taxpayer funding. To ensure our alternative energy future is secure, we need to provide a dedicated source of funding for such projects that is technology neutral and market-based.

The Energy Roadmap dedicates the federal revenue (potentially hundreds of billions of dollars over the next 30 years) from traditional energy development and dedicates it to the American-Made Energy Trust Fund. The monies in the fund will be completely dedicated to the development of alternative energy technologies.

Renewable Energy Reverse Auction

It is important that the free market determine our energy future. However, the American public has made it clear they want to transition our nation to alternative energy. Unfortunately, these technologies have not matured to the point where they can be self-sufficient in a free market.





While renewable energy will most certainly need some sort of taxpayer assistance for the foreseeable future, the Energy Roadmap approaches such federal assistance based on market principles rather than the current random nature of federal support. The Energy Roadmap does not pick winners and losers; it bases federal support on free market principles using funds that were deposited in the American-Made Energy Trust Fund.

The Energy Roadmap sets up a reverse auction for renewable energy in which projects will bid for federal assistance on a per megawatt basis. The lowest bid wins – irrespective of the technology. Auction winners would enter into a contract with the federal government to generate a specified amount of renewable energy and do so in a specified timeframe. The auction winners would also forgo existing federal tax credits to receive funding from the action. They would further have to provide a deposit to the federal government to ensure the winners will follow through with the contracted amount of energy. If they fail to fulfill the contract, the federal government will retain the deposit.

Greenhouse Gas Regulation

The regulation of Greenhouse Gas (GHG) emissions by the Environmental Protection Agency (EPA) stands to be the largest disincentive to producing new sources of domestic fossil fuel energy. These are the exact sources necessary to bridge the gap between our short-term needs and our long-term goals. The EPA has signaled that it plans to take action under the Clean Air Act to restrict carbon dioxide emissions.

The Energy Roadmap takes a very narrow approach to this issue by merely restricting the EPA from regulating GHGs in terms of addressing climate change. It leaves enacted EPA's ability to regulate GHGs for any other reason authorized by the Clean Air Act. The Energy Roadmap prevents consideration of climate change-related impacts of GHGs on any species under the Endangered Species Act.

