



Senate I

Energy Innovation

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Introduction

Life as we know it will not be sustainable for much longer. We rely very heavily on burning **fossil fuels** for energy, but the supply of these fuels is finite. If not within our lifetimes, then soon, the world will be forced to turn to alternative sources of energy, but each possible source has its benefits and drawbacks. You, as senators, must decide what steps should be taken to move the nation towards a renewables-based economy.

fossil fuels—*fuels formed in the ground over millions of years from the remains of dead plants and animals*

Summary of the Problem

Currently, 85% of US energy consumption comes from fossil fuels, which form at a much slower rate than the rate at which we are using them. Most sources expect petroleum reserves to run out some time between 2025 and 2070 and natural gas reserves to be exhausted in about fifty years. While there is still thought to be a large supply of coal in the world, that too may be depleted soon if countries come to rely on coal as the supplies of other fossil fuels dwindle and prices rise.

Using fossil fuels for energy can wreak havoc on the environment. Burning fossil fuels releases various gases that produce harmful effects, including acid rain and global warming. Mining for coal and drilling for petroleum can endanger nearby ecosystems.

In order to make the transition to a renewables-based economy, money must be invested in research, development, and implementation of the possible solutions. **Photovoltaic cells** show promise as a means of harnessing solar power, and wind turbines are not inexpensive or aesthetically pleasing. Both the sun and the wind are boundless resources, as are the tides, another potential energy source. The US does not rely on hydroelectric power nearly as much as some other countries, even though dams recover their cost rather quickly (they can, however, harm neighboring aquatic ecosystems). Biofuels are renewable, but do not yield much more energy than is required to produce them, and they cause food prices to rise. While it has the potential to supply a large portion of our electricity needs, nuclear fission creates dangerous radioactive waste and can result in disaster, as occurred at Chernobyl. Although we may not yet have made all the necessary technological advances to use nuclear fusion power, fusion would be a more efficient process that would not produce radioactive waste and would be less likely than nuclear fission to cause a catastrophic meltdown.

photovoltaic cell—*a device that converts solar energy into electrical energy*

Recent Developments

New Senate Proposals

Senators John Kerry (D-MA), Lindsey Graham (R-SC), and Joseph Lieberman (I-CT) outlined a plan on December 10th for a bill aiming to reduce greenhouse gas emissions to about 17% below 2005 levels by 2020 by increasing government support for offshore drilling and nuclear power plant construction, along with imposing tariffs on goods from countries without strong greenhouse gas emissions limits. Senators Maria Cantwell (D-WA) and Susan Collins (R-ME) proposed another alternative the next day, suggesting that the government sell pollution allowances to businesses and then passing most of the money to Americans in “dividend” checks to offset the higher cost of energy. The rest of the money would be put towards energy efficiency development.

Copenhagen Accord

192 world leaders met in Copenhagen for the United Nations Framework Convention on Climate Change between December 7th and December 18th to draft an agreement to work together to fight global warming. Although the final version of the Copenhagen Accords was not nearly as strident as was hoped for and expected, the agreement still demonstrates that countries around the globe agree to prevent climate change together. The pact caps the increase in global temperature at 2 degrees Celsius and sets a goal for finalizing a binding international agreement by the end of 2010. It also aims to create a fund to help poor nations cope with the threat of global warming and to monitor whether nations are actually curbing their air pollution.

EPA Proposes New Smog Limits

On January 7th, 2010, the Environmental Protection Agency (EPA) proposed stricter health standards for **smog**, a respiratory irritant formed in the air by emissions from burning gasoline, power plants, and factories. More counties nationwide will likely need to decrease their pollution rates to meet the new standard, leading to cleaner air.

smog—a kind of air pollution

Focus of Debate

Conservative View

Conservatives do not rank climate change as a high political priority. They trust in the invisible hand of the free market to take care of energy demands, believing that the private sector will come up with new solutions once there is high demand for and low supply of fossil fuels. Conservatives advocate for taking advantage of fossil fuels while they

are still available, including drilling in Alaska and relying more heavily on coal. When conservatives do support government energy initiatives, they are typically for nuclear energy and **biofuels**.

biofuels—fuel derived from biomass

Liberal View

Liberals believe that the federal government needs to incentivize the private sector to come up with viable energy solutions, beneficial for energy security in the long run and job creation in the short run. Opposed to drilling for oil in protected wildlife areas and the prolonged use of **clean coal**, liberals focus more on the impact on the environment than do conservatives. Liberals want to decrease the US dependence on fossil fuels as soon as possible and to support small-scale renewable energy operations.

clean coal—methods to reduce the environmental impact of coal-based electricity

Presidential View

President Obama takes a liberal stance on energy, using subsidies and tax incentives to encourage the private sector to work towards independence from fossil fuels. He supports government spending for energy innovation, including nuclear energy.

Questions to Consider

What weight should we give to environmental concerns in creating energy policy? Should we keep using the remaining fossil fuels or stop using them as soon as possible? What should we invest in: currently operating alternative energy sources or research and development in renewable sources that could be more effective in the long term? How should government incentives compare with private sector development? How can the government encourage renewable energy?

Conclusion

We cannot put off the issue of how we use energy and what we use for energy for much longer. Our consumption of fossil fuels has taken its toll on the environment, and soon we will be forced to look to other sources to power our nation. It is up to you as senators to come up with solutions to the problem.

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