RENEWABLE ENERGY AND ELECTRICITY:
DIVERSITY, STABILITY, SECURITY, AND ENVIRONMENTAL STEWARDSHIP

Testimony of Alden Meyer
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I. Introduction

Mr. Chairman and members of the Committee, thank you for the opportunity to testify on restructuring the electricity industry. My name is Alden Meyer. I am the Government Relations Director of the Union of Concerned Scientists (UCS), a nonprofit organization of 50,000 citizens and scientists working for practical environmental solutions. For more than two decades, UCS has combined rigorous analysis with committed advocacy to reduce the environmental impacts and risks of energy. Our energy program focuses on encouraging the development of clean and renewable energy resources, such as solar, wind, geothermal and biomass energy, and on improving energy efficiency.

We will testify today in favor of including mechanisms in any electricity legislation that will increase the use of renewable energy resources in our nation's electricity generation mix. These mechanisms are needed to meet our future electricity needs, diversify our electricity supply, reduce the vulnerability of our energy system, stabilize electricity prices, and protect the environment. Specifically, we endorse a renewable energy portfolio standard - a market-based mechanism that requires utilities to gradually increase the portion of electricity produced from renewable resources.

The electricity industry penetrates every sector of the economy and our lives. It keeps our food fresh. It lights up the darkness. It powers the manufacturing process. It runs life-giving medical systems and mind-enriching information systems. It helps warm us in the winter and cools us in the summer.

But as important as electricity is to the economy, the tragic events of September 11th have brought undeniable attention to how vital and connected our energy system is to national security. The vulnerability of the energy infrastructure to attack has been increasingly recognized as a significant issue, with terrorist threats reported to nuclear power plants and natural gas pipelines, and heightened security implemented at dams, power plants, refineries, liquefied natural gas tankers and terminals, and the electrical grid. If United States energy use follows business-as-usual projections, we will become increasingly vulnerable. According to the U.S. Energy Information Administration's *Annual Energy Outlook* 2001 (AEO, 2001), and the Administration's *National Energy Plan*, the US must build 1,300 to 1,900 new electric power plants over the next 20 years—one to two plants every week—to meet projected increases in electricity demand. More than 90 percent of new generation is expected to be fueled by natural gas. In order to accommodate increasing the use of gas by 57 percent, we would have to build hundreds of thousands of miles of new gas transmission and distribution pipelines. Imports of natural gas from non-NAFTA countries—including liquefied natural gas from five OPEC countries—would increase from less

than one percent of current gas supply to about 12 percent. With increasing transportation demand, the US would become more dependents on oil imports. Even if drilling were allowed in the Arctic National Wildlife Refuge and other sensitive areas, demand for oil would increase by ten barrels for every new barrel produced domestically.

Electricity use also has a significant impact on the environment. Electricity accounts for less than three percent of US economic activity. Yet, it accounts for more than 26 percent of smog-producing nitrogen oxide emissions, one-third of toxic mercury emissions, more than 40 percent of climate-changing carbon dioxide emissions, and 64 percent of acid rain-causing sulfur-dioxide emissions.

Unfortunately, there are no quick fixes to make the United States energy independent, ensure price stability, or clean up the air we breathe. However, investments in domestic renewable energy sources can gradually reduce our dependence on imports and reduce the vulnerability of the US energy system to disruption of supplies or to attack. Investments that increase fuel diversity strengthen the ability of our economy to withstand supply interruptions or price shocks from any one fuel source. Investments that enhance the reliability of the grid by adding generation, transmission, or distribution capacity benefit everyone on the grid. Investments in regional energy sources keep money circulating and creating jobs in regional economies, and create export opportunities. And of course, investments in clean air benefit everyone that breathes the air.

By investing in renewable energy, our nation can maintain or increase a host of important public goods: national security, fuel diversity, price stability, universal and reliable electric service, economic development, and a healthier environment. Most importantly, investing in renewable energy can provide all these benefits *and* reduce electricity costs.

In the remainder of my testimony, I will review the potential for renewable energy and how it can help us maintain and increase these public goods. I will then present the renewable portfolio standard as the best policy mechanism for reducing market barriers and stimulating the development of renewable energy resources. Finally, I will review two recent studies that show we can significantly improve our efficiency and increase the contribution of renewable energy to our electricity mix, while lowering consumer energy bills.

II. Renewable Energy Potential, Benefits, and Barriers

The United States is blessed by an abundance of renewable energy resources from the sun, wind, and earth. The *technical* potential of good wind areas, covering only 6% of the lower 48 state land area, could theoretically supply more than one and a third times the total current national demand for electricity. An area 100 miles square in Nevada could produce enough electricity from the sun to meet annual national demand. We have large untapped geothermal and biomass (energy crops and plant waste) resources. Of course, there are limits to how much of this potential can be used *economically*, because of competing land uses, competing costs from other energy sources, and limits to the transmission system. The important question is how much it would cost to supply a specific percentage of our electricity from nonhydroelectric renewable energy sources. As this testimony will later show, recent analyses demonstrate we could affordably generate at least 20% of our electricity from nonhydro renewable energy by 2020.

The benefits of renewable energy are as plentiful as the resource itself – environmental improvement, economic development, and increased fuel diversity and national security.

Using fossil fuels – coal, oil and natural gas – to make electricity dirties the nation's air, consumes and pollutes water, hurts plants and animal life, creates toxic wastes, and causes global warming. Using nuclear fuels also poses serious safety and security risks. Renewable energy resources can provide many environmental benefits by avoiding these impacts and risks. Harnessing renewable energy conserves natural resources for future generations, and reduces the environmental impacts of mining, refining, transporting, burning, and disposing of wastes from fossil fuels, as well as reducing air emissions. They provide insurance against increased costs from stricter environmental regulations in the future.

Renewable energy provides new economic development opportunities, especially in rural areas that are rich in wind and biomass resources. According to the US Department of Energy, generating 5 percent of the country's electricity with wind power by 2020 would add $60 billion in capital investment in rural America, and create 80,000 new jobs.

The avoided costs of reducing damage and risks to public health and our environment can have a significant impact on economic development. The largest external costs from pollution caused by fossil-fuel electricity generation are probably human health costs, in the form of health treatment costs, higher health insurance rates, missed work, and lost life.

Renewable energy technologies also offer the potential for a very large export market, as many countries around the world are increasing their use of renewable resources.

Renewable energy diversifies our energy resource portfolio, reducing exposure to energy supply interruptions and price volatility, which can effect the entire economy. They provide additional options for customers, which will increase customer satisfaction with retail choice, and provide additional competition with fossil and nuclear generators, which can help restrain fuel price increases.

There is now a growing recognition that renewable energy and efficiency can enhance energy security. An official banner at the Administration's Renewable Energy Summit last week read: "Expand Renewable Energy For National Security." James Woolsey, former head of the Central Intelligence Agency, Robert McFarlane, President Reagan's former national security advisor, and Admiral Thomas Moorer, former chair of the Joint Chiefs of Staff, together recently wrote Congressional leaders urging enactment of minimum standards for renewable fuels and electricity, and to increase energy efficiency funding, in order to increase national security.

In spite of these compelling environmental, economic, and security benefits, renewable energy technologies continue to face many market barriers, which unnecessarily keep them from reaching their full potential.

Renewable energy has made great strides in reducing costs, thanks to research and development and growth in domestic and global capacity. The cost for wind and solar electricity has come down by 80-90% over the past two decades. However, like all emerging technologies, renewable resources face commercialization barriers. They must compete at a disadvantage against the

entrenched industries. They lack infrastructure, and their costs are high because of a lack of economies of scale.

Renewable energy technologies face distortions in tax and spending policy. Studies have established that federal and state tax and spending policies tend to favor fossil-fuel technologies over renewable energy. A recent study by the Renewable Energy Policy Project showed that between 1943 and 1999, the nuclear industry received over $145 billion in federal subsidies vs. $4.4 billion for solar energy and $1.3 billion for wind energy. Another study by the non-partisan Congressional Joint Committee on Taxation projected that the oil and gas industries would receive an estimated $11 billion in tax breaks and loopholes that subsidize exploration and production activities between 1999 and 2003. In addition to receiving subsidies for research and development, conventional generating technologies have a lower tax burden. Fuel expenditures can be deducted from taxable income, but few renewable technologies benefit from this deduction, since most do not use market-supplied fuels. Income and property taxes are higher for renewable energy, which require large capital investments but have low fuel and operating expenses.

Many of the benefits of renewable resources, such as reduced pollution and greater energy diversity, are not reflected in market prices, thus eliminating much of the incentive for consumers to switch to these technologies. Important additional market barriers to renewable resources include: lack of information by customers, institutional barriers, the small size and high transaction costs of many renewable technologies, high financing costs, split incentives among those who make energy decisions and those who bear the costs, and high transmission costs.

Some have called for future support of renewable energy through "green marketing," selling portfolios with a higher renewable energy content (and lower emissions) to customers who are willing to pay more for them. We strongly support green marketing as a means to increase the use of renewable energy and reduce the environmental impacts of energy use. Surveys show that many customers are willing to pay more for renewable energy, and pilot programs have shown promising, but not overwhelming results.

Green marketing is not a substitute for sound public policy, however. There are many barriers to customers switching to green power, not the least of which is inertia. More than fifteen years after deregulation of long-distance telephone service, half of telephone customers still had not switched suppliers, even though they could get much lower prices by doing so. A recent study by the National Renewable Energy Laboratory projects that in an optimistic scenario, green marketing could increase the percentage of renewable energy in our electricity mix from about 2 percent today to only about 3 percent in ten years.

With green electricity, the benefits of any individual customer's choice accrue to everyone, not the individual customer. Green customers gets the same undifferentiated electrons and breathe the same air as their neighbors choosing to buy power from cheap, dirty coal plants, creating a strong incentive for people to be "free riders" rather than pay higher costs for renewables. People recognize this public benefits aspect of green power. While they consistently say they are willing to pay more for electricity that is cleaner and includes more renewables, they overwhelmingly prefer that everyone pay for these benefits over relying on volunteers. A deliberative poll by Texas utilities found that 79 percent of participants favored everyone paying a small amount to support renewables, versus 17 percent favoring relying only on green marketing.

III. The Renewable Portfolio Standard

Many policy solutions exist to reduce market barriers to renewable energy development:

- federal public benefit fund to match state programs for energy efficiency, renewable energy, research and development, and protecting low-income customers
- net metering, allowing consumers who generate their own electricity with renewable energy systems to feed surplus electricity back to the grid and spin their meters backward
- production tax credits of 1.7 cents per kWh for renewable energy would be extended and expanded to cover all clean, renewable resources (excluding hydropower)
- increased spending on renewable energy research and development

The deployment of all these policy solutions will be required to truly level the playing field for renewable energy. However, we believe that a national Renewable Portfolio Standard (RPS) is the cornerstone of any comprehensive policy approach to stimulate renewable energy development. A national RPS can diversify our energy supply with clean, domestic resources. It will help improve our national security, stabilize electricity prices, reduce natural gas prices, reduce emissions of carbon dioxide and other harmful air pollutants, and create jobs—especially in rural areas—and new income for farmers and ranchers. For these reasons, we believe a national RPS should be included in any electricity bill.

The RPS is a market-based mechanism that requires utilities to gradually increase the portion of electricity produced from renewable resources such as wind, biomass, geothermal, and solar energy. It is akin to building codes, or efficiency standards for buildings, appliances, or vehicles, and is designed to integrate renewable resources into the marketplace in the most cost-effective fashion.

By using tradable "renewable energy credits" to achieve compliance at the lowest cost, the RPS would function much like the Clean Air Act credit-trading system, which permits lower-cost, market-based compliance with air pollution regulations. Electricity suppliers can generate renewable electricity themselves, purchase renewable electricity and credits from generators, or buy credits in a secondary trading market. This market-based approach creates competition among renewable generators, providing the greatest amount of clean power for the lowest price, and creates an ongoing incentive to drive down costs.

Twelve states—Arizona, Connecticut, Iowa, Maine, Massachusetts, Minnesota, Nevada, New Jersey, New Mexico, Pennsylvania, Texas, and Wisconsin—have enacted minimum renewable energy requirements. But energy production creates national economic and environmental problems that need national solutions. As such, an RPS is included in legislation currently pending in the U.S. House of Representatives by Representative Pallone (H. 3037) and Representative Woolsey (H. 2478). In the Senate, the RPS is included in legislation by Senator Daschle (S. 1766) and Senator Jeffords (S. 1333).

The RPS is the surest mechanism for securing the public benefits of renewables and for reducing their cost to enable them to become more competitive. It is a market mechanism, setting a uniform standard and allowing companies to determine the best way to meet it. The market picks the

winning and losing technologies and projects, not administrators. The RPS will reduce renewable energy costs by:

- Providing a revenue stream that will enable manufacturers and developers to obtain reasonable cost financing and make investments in expanding capacity to meet an expanding renewable energy market.
- Allowing economies of scale in manufacturing, installation, operation and maintenance of renewable energy facilities.
- Promoting vigorous competition among renewable energy developers and technologies to meet the standard at the lowest cost.
- Inducing development of renewables in the regions of the country where they are the most cost-effective, while avoiding expensive long-distance transmission, by allowing national renewable energy credit trading.
- Reducing transaction costs, by enabling suppliers to buy credits and avoid having to negotiate many small contracts with individual renewable energy projects.

Some people have asked why hydropower is not eligible to earn renewable energy credits in most RPS proposals. The primary reason for not including hydro is that it is a mature resource and technology. In most cases, it is already highly competitive. It will not benefit appreciably from the cost-reduction mechanisms outlined above, and an RPS that included hydro would produce negligible, if any, increases in hydro generation. Because it is a much larger resource than other renewables, however, giving hydro tradable renewable energy credits would greatly increase the cost of an RPS without increasing the benefits.

Some people have also expressed concerns about the variable output of renewable sources like solar and wind, and believe that an RPS would affect the reliability of our energy system. However, the electric system is designed to handle unexpected swings in energy supply and demand, such as significant changes in consumer demand or even the failure of a large power plant or transmission line. There are several areas in Europe, including Spain, Germany, and Denmark, where wind power already supplies over 20% of the electricity with no adverse effects on the reliability of the system. Several important renewable energy sources, such as geothermal, biomass, and landfill gas systems can operate around the clock. Studies by the EIA and the Union of Concerned Scientists show these renewable plants would generate over half of the nation's non-hydro renewable energy under the 20% RPS in 2020. Renewable energy can increase the reliability of the overall system, by diversifying our resource base and using supplies that are not vulnerable to periodic shortages or other supply interruptions. Solar energy is also generally most plentiful when it is most needed—when air-conditioners are causing high electricity demand.

IV. Benefits of a Renewable Portfolio Standard

Two recent studies, one by the U.S. Energy Information Administration (EIA) and the other by the Union of Concerned Scientists, show that a 20% RPS by 2020 is achievable, affordable, and can increase energy security while reducing local and global environmental hazards. When combined with energy efficiency measures and additional renewable energy investments, the RPS can significantly lower consumer energy bills.

The EIA report was conducted at the request of Representative McIntosh, in the context of legislative proposals to reduce emissions at power plants. As part of their analysis, the EIA examined the costs of using the RPS to achieve levels of 10% and 20% renewable electricity supplies by the year 2020.

The EIA scenarios found benefits to increasing renewable energy use despite including a number of assumptions that are extremely unfavorable to renewable energy. Many of these assumptions were examined and rejected by the Interlaboratory Working Group—from the National Renewable Energy Lab, Oak Ridge National Lab, Pacific Northwest Lab, Battelle Memorial Institute, and Lawrence Berkeley National Lab—in their *Scenarios for a Clean Energy Future* (IWG, 2000). In some of the most important such assumptions, EIA

- Uses higher cost and worse performance assumptions for most renewable technologies than recent experience and projections by the utilities' Electric Power Research Institute and DOE;
- Arbitrarily increases the capital cost of wind, biomass, and geothermal technologies by up to 200% in a given region after a fairly small amount of the regional potential is met; more than 90 percent of the highest value wind resources in the US, for example, are assigned a capital cost multiplier of 200%; and
- Limits the penetration of variable output resources like wind and solar power to 15% of a region's electricity generation; in parts of Germany, Denmark and Spain, wind power is already providing more than 20% of total electricity generation.

These assumptions, and others, lead to projections of very high renewable energy prices in high renewable energy penetration scenarios. With the availability and penetration of the lowest cost wind and biomass resources assumed to be sharply limited, higher RPS levels require harvesting more expensive renewable resources. Under an RPS of 20% renewable energy content by 2020, renewable energy generation is expected to cost 4.5 cents per kilowatt hour above the price of other resources in 2010, and 5 cents per kWh more in 2020. As a result, electricity prices are projected to increase by 3.3% in 2010 and 4.3% in 2020, according to the testimony of Mary Hutzler, Acting Director of the EIA, to the US House of Representatives Subcommittee on Energy & Power (Hutzler, 2001). Total electricity revenues would be $6 billion higher in 2010 and $7.3 higher in 2020.

In the text of its report, EIA also notes that

> Lower use of natural gas in the electricity sector when a 20-percent RPS is assumed is projected to cause average wellhead prices for natural gas to be 7 percent lower in 2010 and 17 percent lower in 2020.

However, EIA did not report or testify on the extent to which these lower natural gas prices offset higher electricity costs. By adding total residential, commercial and industrial energy expenditures in Appendix E, Table 3, it can be seen that total non-transportation energy costs would be only $3 billion higher in 2010 and actually $0.5 billion lower in 2020 under the 20% RPS than under business as usual (Figure 1). The net present value costs of the RPS scenario are only $14 billion higher than the business as usual case (1999 dollars, 5% discount rate).

EIA also found that a 20% RPS would increase average electricity prices (the cost per unit of electricity) by only 3% over business as usual levels in 2010 and 4% in 2020 (Figure 2). With a 20% RPS, electricity prices in 2020 are still projected to be nearly 7% lower than they are today.

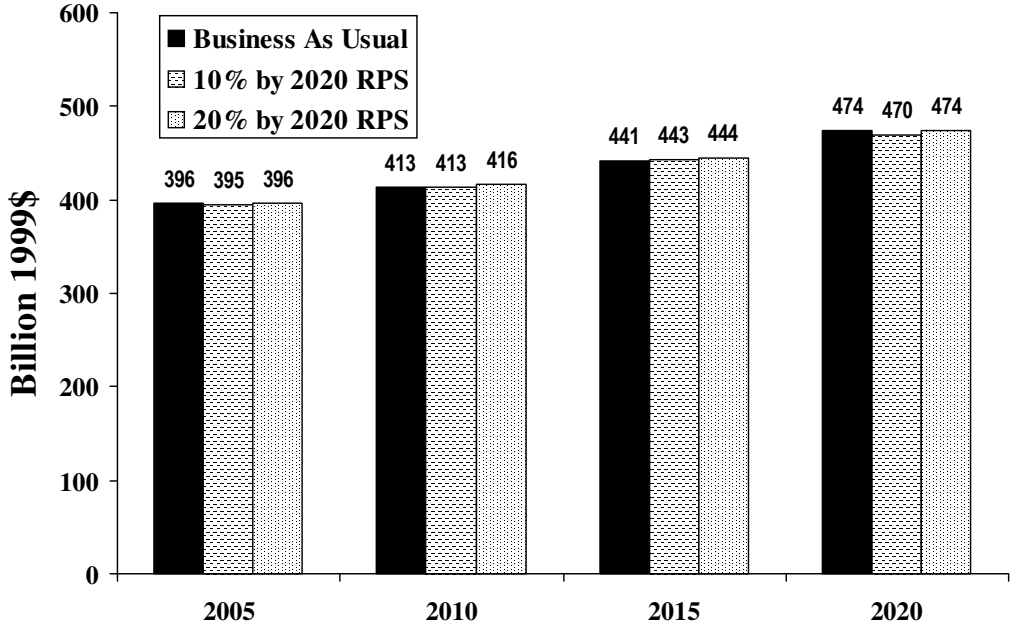
Even these small increases in electricity prices are largely offset, however, by lower natural gas prices. Because an RPS creates a more diverse and competitive market for energy supply, EIA finds that these market forces would reduce natural gas prices and bills.

Diversifying the electricity mix with renewable energy also helps stabilize electricity prices by easing pressure on natural gas prices and supplies. Under a 20% RPS, average consumer natural gas prices are 3% lower than business as usual in 2010 and 9% lower in 2020. These lower prices would save gas consumers $10 billion per year by 2020.

A 20% RPS would also help reduce emissions from power plants. Under an RPS, carbon emissions from power plants would be 55 million metric tons or 8% lower than business as usual in 2010 and 137 million metric tons or 18% lower in 2020, according to EIA.

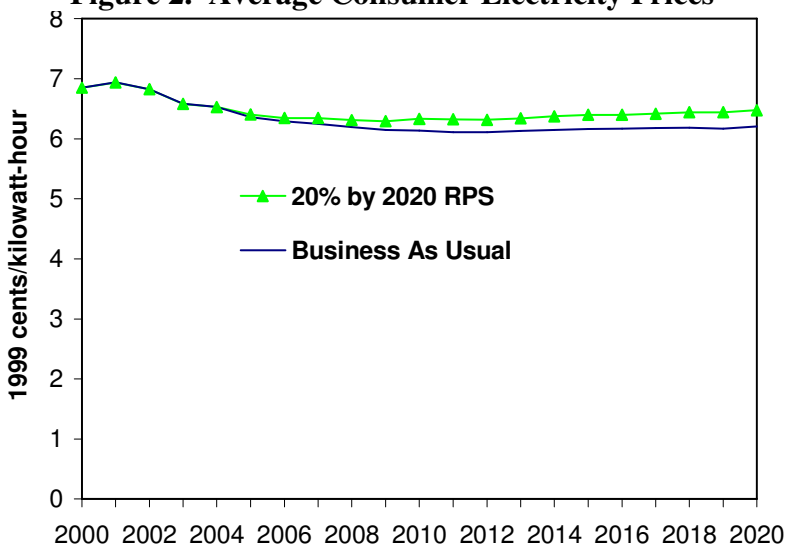
With an RPS of 10% by 2020, even though renewable energy still costs more than the price of gas generation throughout the entire period, consumers actually save $4.4 billion net present value in the RPS case over business as usual (Figure 1). Electricity prices as well as gas prices to consumers would be lower under the RPS in the near term and the long term, as natural gas price reductions for electricity generators lowers the overall price of electricity more than renewable energy costs add to it.

Figure 1. Total Consumer Energy Bills (not including transportation)



Source: EIA, *Analysis of Strategies for Reducing Multiple Emissions from Electric Power Plants*, July 2001, Table E3.

Figure 2. Average Consumer Electricity Prices



The Union of Concerned Scientists, in *Clean Energy Blueprint: A Smarter National Energy Policy for Today and the Future*, investigated the costs and benefits of two energy efficiency and renewable energy scenarios, compared to business as usual. We did not examine RPS-only scenarios, as EIA did, but looked at a 20% RPS in combination with other renewable energy and energy efficiency policies.

The narrower scenario consisted primarily of the policies in the Renewable Energy and Energy Efficiency Investment Act of 2001 (S. 1333), sponsored by Senator Jeffords. In addition to a 20% RPS, S. 1333 would establish a federal public benefit fund and net metering. We also assume that research and development spending on renewable energy and efficiency would increase 60 percent over three years to levels recommended by the President's Committee of Advisors on Science and Technology.

We also investigated the costs and benefits of the RPS with an expanded suite of renewable energy and energy efficiency policies. In addition to the above policies, these included:

- Production tax credits of 1.7 cents per kWh for renewable energy would be extended and expanded to cover all clean, nonhydro renewable resources, helping to level the playing field with fossil fuel and nuclear generation subsidies.
- Combined heat and power: Incentives would be provided and regulatory barriers removed for power plants that produce both electricity and useful heat at high efficiencies.
- Improved efficiency standards: National minimum efficiency standards would be established for a dozen products, generally to the level of good practices today. In addition, existing national standards would be revised to levels that are technically feasible and economically justified.
- Enhanced building codes: States would adopt model building codes established in 1999/2000, as well as new more advanced codes established by 2010.

- Tax incentives would promote efficiency improvements for buildings and equipment beyond minimum standards.
- Industrial energy efficiency measures: Industry would improve its efficiency by 1 to 2 percent per year through voluntary agreements, incentives, or national standards.

Our analysis used the US Energy Information Administration's NEMS computer model, with scenarios run for UCS by the Tellus Institute. We based our business-as-usual scenario on Annual Energy Outlook 2001 (EIA, 2000), the EIA's long-term forecast of US energy supply, demand, and prices. The year 1999 is the last year of history in the model, which makes projections through 2020. The efficiency policies were developed by and modeled by the American Council for an Energy Efficient Economy. The calculated energy savings were used to adjust the AEO forecasts. The energy efficiency costs were annualized and added to the model output. We modified several NEMS assumptions for renewable energy, generally in line with the IWG Clean Energy Future analysis, in order to model these technologies more accurately and applied these modifications to both the business-as-usual scenario and the Clean Energy Blueprint.

Combined with increased research and development, S. 1333 would save consumers a total of $70 billion between 2002 and 2020, with savings reaching $35 billion per year by 2020.Under a higher-gas-price scenario, cumulative savings would reach $130 billion between 2002 and 2020.Monthly bills for a typical household would decline from about $40 per month in 2000 to $34 per month in 2020, as against $38 per month under business as usual and $25 per month under the Clean Energy Blueprint.

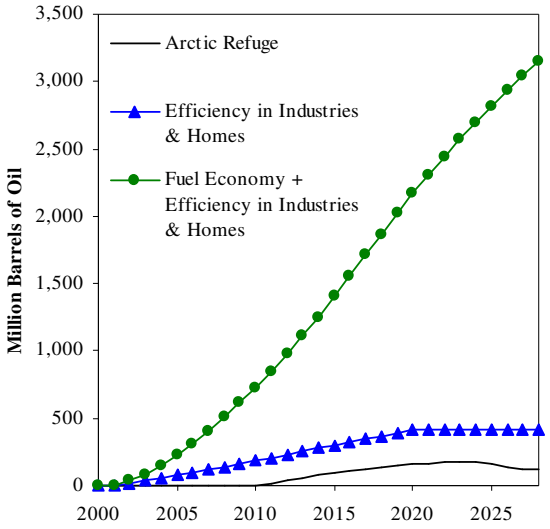
Carbon dioxide emissions from power plants would be nearly one-third lower than under business as usual by 2020, while sulfur dioxide emission levels would be 8 percent lower and nitrogen oxide emissions 15 percent lower.

When combined with the energy efficiency and additional renewable energy policies included in the Clean Energy Blueprint, the economic and environmental benefits of the RPS are are even greater. Under the Blueprint, total energy use would be 19 percent lower than business as usual by 2020 and only 5 percent higher than 2000 levels, due to increased energy efficiency in homes, offices, and factories. Natural gas use would grow by 8 percent from today's level, but be 31 percent less than business as usual by 2020. Coal-fired electricity generation is 61 percent below business as usual in 2020 and 53 percent lower than today's levels.

Oil use would be reduced by 5 percent, saving over 400 million barrels per year by 2020.More oil would be saved over the next 18 years than is economically recoverable from the Arctic National Wildlife Refuge over 60 years. The Clean Energy Blueprint did not include oil savings from increased energy efficiency and renewable energy use in the transportation sector. Another recent UCS study has shown that fuel economy improvements in cars and light trucks would provide significant oil savings (UCS, 2001). If these savings were combined with the savings from the Clean Energy Blueprint, the United States would save more than 15 times the oil available in the Arctic Refuge at today's oil prices and total oil use would be 9 percent lower in 2010 and 23 percent lower in 2020 than under business as usual. If these savings were combined with the savings from the Clean Energy Blueprint, net savings to consumers would increase to over $150 billion per year by 2020 and $645 billion between 2002 and 2020.

Nonhydro renewable energy sources (wind, biomass, geothermal, and solar) would produce 20 percent of the nation's electricity by 2020. Energy efficiency measures would offset projected growth in electricity use. Combined heat and power plants would meet 39 percent of commercial and industrial electricity needs. Thus, the Clean Energy Blueprint would replace 975 of the 1,300 new power plants the *National Energy Policy* says we need by 2020, and retire 180 existing coal

Figure 3. Oil Savings from Fuel Economy Standards and Efficiency in Industries and Homes vs. Potential Arctic Refuge Supply



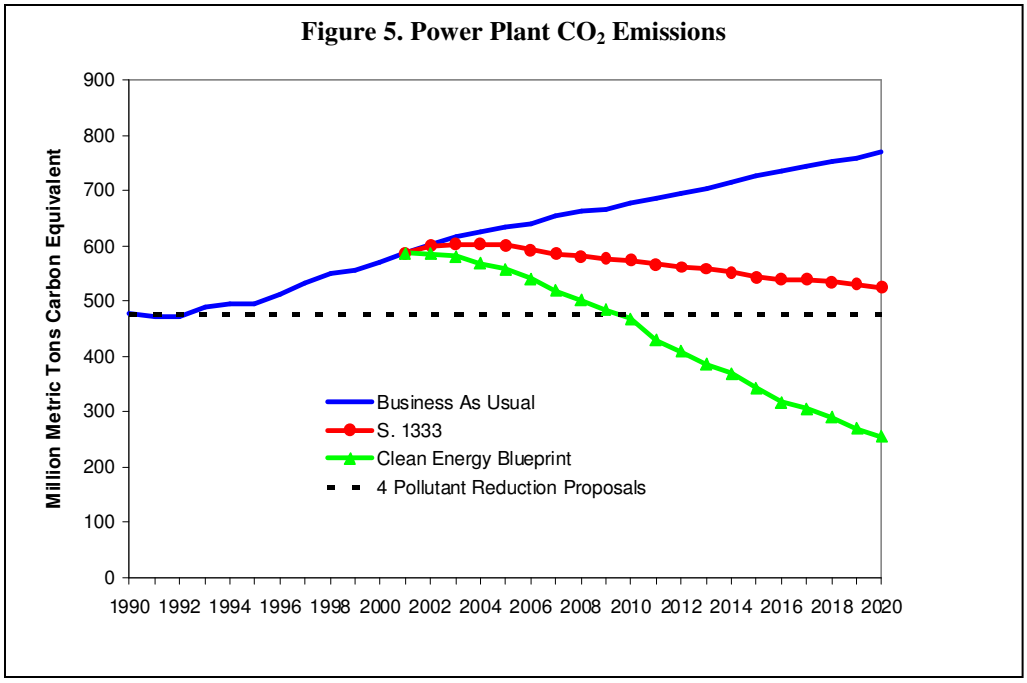
plants and 14 nuclear plants, reducing the number of vulnerable energy facilities.

By 2020, natural gas consumption at major power plants is 89 percent lower than business as usual. However, when CHP plants are included, natural gas still fuels 36 percent of total electricity generation in 2020 under the Clean Energy Blueprint. Because of lower electricity demand and because natural gas is used both to generate electricity and to produce useful heat, overall natural gas generation is 33 percent lower than business as usual in 2020.

Under the Clean Energy Blueprint, net energy savings would grow to $105 billion per year by 2020, totaling $440 billion between 2002 and 2020. (Total savings between 2002 and 2020 are in 1999 dollars using a 5 percent real discount rate.) A typical family would save $350 per year in lower energy bills by 2020 (Figure 4).

The Blueprint's efficiency and renewable energy policies reduce natural gas prices by 27 percent by 2020, saving businesses and homes that use natural gas nearly $30 billion per year.

The Clean Energy Blueprint would reduce power plant carbon emissions—which are heating up the earth and threaten to destabilize the climate—two-thirds by 2020 compared to business-as-usual projections (Figure 5). Sulfur dioxide emissions, which are the primary cause of acid rain, and nitrogen oxide emissions, a major cause of smog, would both be reduced more than 55 percent.



The Clean Energy Blueprint would reduce the "need" to drill for natural gas and to build some significant portion of the over 300,000 miles of new pipelines called for in the administration's National Energy Policy. It would also reduce the need to mine, transport, and burn 750 million tons of coal per year by 2020 compared to business-as-usual projections. Moreover, energy efficiency and renewable energy can be increased faster than new fossil and nuclear energy supplies could be developed.

VI. Conclusion

Survey after survey has shown that Americans want cleaner and renewable energy sources, and that they are willing to pay more for them. A recent survey for the Sustainable Energy Coalition found that 79% of voters support an RPS of 10%, vs. only 17% who oppose it.

The combination of EIA and UCS studies demonstrate that renewable energy technologies can provide Americans with the clean and reliable electricity they mandate, while also saving them money and contributing to energy security and significant reductions in harmful emissions.

We respectfully urge you to include provisions that stimulate energy efficiency and renewable energy development – specifically the renewable portfolio standard – in any electricity bill considered by the Committee. Thank you very much.

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