

**Statement of Francis S. Blake  
Deputy Secretary of Energy  
U.S. Department of Energy  
before the  
House Budget Committee  
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Mr. Chairman, Congressman Spratt and Members of the Committee I want to thank you for the opportunity to testify before you today on the economic effects of energy policy.

**Trends in the Energy Markets**

I will begin my testimony by discussing some of the major trends in energy markets and changing patterns in US energy consumption. In 2000, America consumed 99 quadrillion British thermal units (or quads) a year in all forms of energy, while our domestic production was only 72 quads. This imbalance between energy demand and domestic energy production is made up with imports. Between now and 2020 our energy demand is projected to rise at a rate of 1.3% a year. If the energy intensity of the U.S. economy – the amount of energy needed to generate a dollar of GDP – remained constant, our energy demand would reach 179 quads in 2020. Under current policies, improved energy efficiency and structural changes in the economy suggest that forecasted energy demand in 2020 can be lowered to 127 quads. This would continue the decline of 58% in US energy intensity since 1970. [Figure 1]

Another important trend relates to energy consumption and the electricity generation mix. Electricity represents an increasingly larger share of total energy consumption. [Figure 2] This trend will likely continue as our high technology economy becomes more dependent on electricity to power everything from our computers, to our cell phones and palm pilots. At the same time, the mix of fuels we use to generate electricity has changed and will continue to do so over the next 20 years, with natural gas predicted to be the fuel choice for most new power plants. [Figure 3]

Increasing competition has also spurred significant change in the structure of our energy industry. To better understand the changing mix of electricity generation resources, it is helpful to look at both capital and fuel costs for different types of power plants. In a deregulated environment in which recovery of capital costs is no longer guaranteed to power plant developers, firms are less likely to commit the massive capital investments required to construct large nuclear and coal base load facilities. Instead, they are attracted to the relatively lower capital cost of smaller and more modular new natural gas fired facilities, despite higher fuel costs. [Figure 4]

Increased demand for natural gas has strained both production capabilities and the pipeline delivery system. Bottlenecks and capacity constraints have restricted this new dynamic industry, resulting in soaring commodity price volatility. Similarly, our electricity system is strained. Investment has not kept pace with demand, with the result that system overloads are occurring with increasing frequency. [Figure 5] These infrastructure limitations exacerbate problems of supply and demand in areas like California.

Increased volatility adds risk for energy dependent businesses, including producers and consumers. Accompanying this increased price risk has been the added regulatory uncertainty associated with an industry in transition and an outmoded set of rules and regulations that often restrict or delay new investment and can result in investment dollars being allocated inefficiently. An example of the effect of regulatory uncertainty can be seen in the slow pace of investment in new power generation throughout most of the 1990's when the rules of the newly competitive generation market were still being developed in many States. This in turn has been followed by a significant acceleration in investment over the last couple of years as competitive wholesale markets have taken hold. [Figure 6]

### **Economic Effects of the National Energy Policy**

Chapter Two of the Report of the National Energy Policy Development Group (NEPDG) is entitled “Striking Home” and addresses the impacts of high energy prices on families, communities and businesses. The Report points to a nearly 20-year decline in the share of household income devoted to energy needs. But importantly, the Report notes that between 1998 and the end of last year, that share has risen by almost 26% from 3.8 to 4.8 percent of after-tax income. [Figure 7] The Report also cites higher fuel and oil prices as representing one-third of the increase in farm production costs in 2000.

On March 7, 2001, the Federal Reserve reported that businesses across the country experienced high fuel and other energy costs in February 2001 but were unwilling or unable to pass these costs on to consumers. This absorption of increased energy cost decreased the profit margins of many businesses. About one quarter of the increase in total unit costs of non-financial, non-energy corporations in the final quarter of last year reflected a rise in energy costs. Beyond the costs associated with higher energy prices for families, agriculture and businesses, there is also a broader macroeconomic impact of energy price increases as set out in Dr. Hubbard’s testimony.

With an energy industry in transition and an economy that has been negatively affected by recent high energy prices, it is important that we develop the tools to more critically evaluate the effects of energy policies on the economy. Earlier this year the Energy Information Administration (EIA), the independent statistical and analysis arm of the Department of Energy, released a report entitled “Energy Price Impacts on the U.S. Economy.” The report concluded that both the level of prices and the level of price volatility may hinder economic growth and lead to inappropriate investment decisions. The report also suggested that over the entire 4-year period 1997 through 2001, a steady path of energy prices throughout could have boosted GDP growth by 0.2 percentage points, to a rate of 4.3 percent rather than its actual 4.1 percent. As we look to implement the recommendations of the NEPDG and develop long-term solutions to our energy challenges, we will need to build on the analytical capabilities of groups like EIA to undertake further work of this kind.

As we study the effects of energy on the economy, it is important to note the need for improved transparency in competitive energy markets. Price volatility has spurred increased use of energy risk management tools ranging from long-term contracts, to futures and options and complex energy derivatives. These tools are of growing importance to businesses for the mitigation of energy price risk. In order for these markets to thrive and provide energy producers and consumers with a forum to manage risk, there must be a level of information symmetry. Transparency provides consumers with the information to make rational decisions on energy consumption, and we need reliable, independent information to provide transparency to our competitive energy markets.

### **National Energy Policy**

The Report of the NEPDG recommends a comprehensive approach to challenges that are long-term in nature. The recommendations are balanced, with a number of proposals addressing energy efficiency to ensure that the improvements made in lowering the level of energy intensity over the last 30 years continue into the next two decades. At the same time, the report recognizes the changing nature of the energy industry and the need to address issues of constrained supply and infrastructure to meet our energy needs in the future.

The Report addresses the need to expand and diversify our energy resource base by increasing domestic production while looking to expand global markets through cooperation within our own hemisphere and encouraging increasing energy resource development abroad. Removing transmission bottlenecks, expanding refinery capacity and encouraging the expansion of our pipeline network will further decrease the likelihood for future price spikes caused by supply limitations or disruptions. The Report also recognizes the important role of renewable fuels and promotes environmentally sound increases in energy supply.

The Report further addresses regulatory barriers and regulatory complexity. Working to limit regulatory uncertainty will create a more robust investment environment; allowing refiners, electricity generators, and other energy providers to make the appropriate investment decisions to improve the efficiency of existing facilities, while simultaneously, looking to new projects to better serve the energy consumer. The Report also requires EPA to study opportunities to maintain or improve environmental benefits of state and local "boutique" clean fuel programs while exploring ways to increase the flexibility of the fuels distribution infrastructure, improve fungibility, and provide added gasoline market liquidity.

Finally, the Report advocates protecting lower income consumers from the effects of high energy prices by strengthening the Low Income Home Energy Assistance Program. Additionally, the President recently requested \$150 million in FY2001 supplemental funding for LIHEAP. The NEPDG also recommends further funding of \$1.2 billion over the next 10 years for the Department of Energy's Weatherization Assistance Program, which concentrates on making homes more energy efficient. This increase nearly doubles the funds dedicated to this program over the next decade.

## **Conclusion**

Today, there is little question that the effects of energy on the economy are significant. Recognizing this fact, the NEPDG has provided a valuable and balanced blueprint to address the energy needs of the American economy through increased energy supply, improved infrastructure and more efficient use of our energy resources. Meeting our energy challenges is critical to maintaining a healthy economy and while we recognize that additional work needs to be done to quantify the relationship between the energy and the economy, we must act now to ensure that supply limitations and price volatility do not limit economic growth.

I again thank the Committee for the opportunity to testify today and look forward to answering any of your questions.

