

Executive Summary
Margo Thorning, Ph.D.
Senior Vice President and Chief Economist
Before the Environment and Public Works Committee
Subcommittee on Clean Air, Climate Change, and Nuclear Safety
Of the United States Senate
June 5, 2003

- **Impact of Carbon Caps on the U.S. economy.** The reason that the Bush Administration rejected the Kyoto Protocol approach to addressing climate change was that they had analyzed the costs of sharp, near term emission reductions and found that the economic costs were significant and the benefits (in terms of reduced global concentrations of CO₂) were negligible. A range of credible macroeconomic models showed that reducing U.S. CO₂ emissions to the Kyoto Protocol level (7 % below 1990 levels by 2010) would reduce U.S. GDP by 2 to almost 4 percent annually.
- **Impact of Clear Skies Act of 2003 (S.485) on the Financial Health of the Utility Sector.** Most observers conclude that pollution reduction targets in S.485 will be a challenge for utilities and add billions of dollars to utilities costs. Nonetheless, some in the industry believe that the Clear Skies goals are achievable and can be reached without sharp impacts on electricity prices or on the financial viability of the industry. Providing certainty to investors for the next decade and a half as to the targets for the three pollutants is, in this instance, likely to reduce the risk and the cost of capital for utility investors.
- **Impact of Carbon Emission Targets on the U.S. Utility Sector.** Proponents of carbon emission caps for the utility sector argue that eventually the U.S. will decide to impose carbon caps and that utilities would feel that "safer" about investing if they were told now what the carbon reduction target would be. The argument has several weaknesses. **First**, imposing carbon caps such as those proposed by Senator Jeffords, which requires a reduction in CO₂ in the range of the cut required by the Kyoto Protocol would be just the first step in a series of ever more severe emission reductions. **Second**, unlike their competitors in the EU, U.S. firms would be compelled to meet the emission caps mandated by government legislation. Thus, European companies are not generally threatened with harsh legal penalties as are U.S. firms when targets are missed. **Third**, carbon caps will increase the price of electricity. As U.S. economic growth slows in response to higher electricity prices, demand for electricity falls and profits decline. Thus, by weakening demand for the product (electricity) carbon caps will increase the risk and uncertainty of investment in utilities.
- **A Positive Step to Reducing the Risk and Increasing Certainty for Utility Investment.** Many experts conclude that the depreciation allowances provided for utility investments under the Federal tax code are out of date. Now that utility markets are becoming increasingly deregulated, investors have no assurance that their investment will actually pay off. Thus, shorter capital cost recovery periods could materially reduce the risk of investment because the payback period would be shorter.
- **Climate is a Global Issue, Requiring a Global Perspective.** Any threat of climate change associated with greenhouse gas emissions is linked to global emissions, not emissions in any one country or one industry. And given that emissions in developing countries like China and India are projected to account for 84% of the increase in global emissions between 1990 and 2010, any climate policy that does not address developing country emissions is doomed to failure.

Statement of
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Introduction

My name is Margo Thorning and I am pleased to present this testimony to the Senate Environment and Public Works Committee, Subcommittee on Clean Air, Climate Change, and Nuclear Safety.

The American Council for Capital Formation represents a broad cross-section of the American business community, including the manufacturing and financial sectors, Fortune 500 companies and smaller firms, investors, and associations from all sectors of the economy. Our distinguished board of directors includes cabinet members of prior Republican and Democratic administrations, former members of Congress, prominent business leaders, and public finance and environmental policy experts.

The ACCF is now celebrating its 30th year of leadership in advocating tax, regulatory, environmental, and trade policies to increase U.S. economic growth and environmental quality.

We commend Chairman Voinovich and his committee for their focus on positive changes to the Clean Air Act as contained in the Bush Administration's Clear Skies proposal. The Clear Skies proposal calls for reductions in SO₂, nitrous oxides (NO_x), and mercury, but does not regulate CO₂ emissions. The focus of my testimony will be on the potential impact of the Clear Skies Act of 2003 and proposals to cap power plant carbon emissions, such as those put forward by Senator Jeffords, on the financial health and vitality of the utility sector. Other proposals include caps on emissions for other sectors of the economy.

Impact of Carbon Caps on the U.S. economy

The reason that the Bush Administration rejected the Kyoto Protocol approach to addressing climate change was that they had analyzed the costs of sharp, near term emission reductions and found that the economic costs were significant and the benefits (in terms of reduced global concentrations of CO₂) were negligible. A range of credible macroeconomic models showed that reducing U.S. CO₂ emissions to the Kyoto Protocol level (7 % below 1990 levels by 2010) would reduce U.S. GDP by 2 to almost 4 percent annually.

The models on which the Administration relied showed that as carbon emissions are capped or constrained, economic growth slows due to lost output as new energy taxes are imposed and prices rise for carbon-intensive goods, which must be produced using less carbon and more expensive production processes. In addition, the capital stock accumulates more slowly reflecting the premature obsolescence of capital equipment due to the sharp energy price increases required to meet a target of reducing emissions to 93 % of 1990 levels by 2010.

Instead, the Administration has chosen a different strategy, one based on accelerating the downward trend in U.S. greenhouse gas (GHG) emission intensity. The goal of reducing economy wide GHG intensity per dollar of GDP by 18 percent over the next decade (compared to a 14 % reduction under the baseline) will allow continued economic growth while encouraging a slowing of the rate of growth of CO₂ emissions. This alternative approach does, however, require a major commitment to incentives for deploying new technology, a long term research and development program for carbon sequestration, alternative energy sources for electricity generation, transportation and energy conservation.

Given the quality and quantity of empirical research by demonstrating that near term targets and timetables for CO₂ emission reductions will cost U.S. jobs, economic growth and competitiveness (see www.accf.org for testimony before the Senate Governmental Affairs Committee in June, 2001 for more details), it seems unwise to propose hobbling the U.S. utility sector with the same type of

regime which the U.S. Senate rejected by a vote of 95 to 0 in 1997 for the U.S. economy as a whole.

Impact of Clear Skies Act of 2003 (S.485) on the Financial Health of the Utility Sector.

The focus of the Committees' hearing today is to assess the effects of S.485, the "Clear Skies Act of 2003" on the ability of the utility sector reduce pollution from SO₂, NO₂ and mercury and meet the expected growth in demand for electricity as well. Most observers conclude that pollution reduction targets in S.485 will be a challenge for utilities and add billions of dollars to utilities costs. Nonetheless, some in the industry believe that the Clear Skies goals are achievable and can be reached without sharp impacts on electricity prices or on the financial viability of the industry. Providing certainty to investors for the next decade and a half as to the targets for the three pollutants is, in this instance, likely to reduce the risk and the cost of capital for utility investors.

Impact of Carbon Emission Targets on the U.S. Utility Sector

Proponents of carbon emission caps for the utility sector argue that eventually the U.S. will decide to impose carbon caps and that utilities would feel that "safer" about investing if they were told now what the carbon reduction target would be. The argument has several weaknesses.

First, imposing carbon caps such as those proposed by Senator Jeffords, which requires a reduction in CO₂ in the range of the cut required by the Kyoto Protocol would be just the first step in a series of ever more severe emission reductions (see Figure 1). This agenda was clearly understood by the architects of Kyoto in 1997. For example, Tim Wirth, the former Clinton Administration climate policy negotiator, testified in 1997 that carbon emissions had to be cut by up to 10 times the Kyoto target (a 70 percent reduction). The UK has recently announced a target of a 60 percent reduction by 2050. Adopting a proposal such as S. 366, which requires cuts almost as large as the Kyoto Protocol would increase the pressure on the U.S. from the European Union to adopt the EU's next emission reduction target for the second commitment period. The EU is expected to push for a 60 percent reduc-

tion from 1990 emission levels by the year 2050 at the COP 9 meeting later this year in Italy. Thus, even if the U.S. imposes a carbon cap like that in S.366, there can be no certainty those caps will hold in the future and that the goal posts will not be moved back in response to pressure from the EU.

Second, unlike their competitors in the EU, U.S. firms would be compelled to meet the emission caps mandated by government legislation. In contrast, the relationship between the regulators and the regulated is different for industry in the EU; there is more accommodation and willingness to let targets slip if they are not achieved. Thus, European companies are not generally threatened with harsh legal penalties as are U.S. firms when targets are missed. In addition, the European Union's own projections indicate that the EU is not likely to meet its first GHG emissions reduction target.

Third, carbon caps will increase the price of electricity. As U.S. economic growth slows in response to higher electricity prices, demand for electricity falls and profits decline. As utilities attempt to switch from coal to natural gas to reduce CO₂ emissions, gas prices rise which in turn raises the cost of feedstocks to the chemical and fertilizer industries and fuel to other industrial sectors. As previous research has demonstrated, carbon caps will make it harder for U.S. manufacturing to keep its operations at home and will increase the attractiveness of locating in areas like China with low cost labor and no carbon emission caps. Thus, by weakening demand for the product (electricity) carbon caps will increase the risk and uncertainty of investment in utilities.

A Positive Step to Reducing the Risk and Increasing Certainty for Utility Investment

Many experts conclude that the depreciation allowances provided for utility investments under the Federal tax code are out of date. Now that utility markets are becoming increasingly deregulated, investors have no assurance that their investment will actually pay off. Thus, shorter capital cost recovery periods could materially reduce the risk of investment because the payback period would be shorter. A U.S. Department of the Treasury report to Congress released in 2000 noted that the current class lives for utilities may no longer be appropriate because of increased competitiveness in

the industry.

If the United States is to meet the challenges of maintaining strong productivity growth, then new investment in all types of assets, including energy supply, will be required. For example, investor-owned utilities estimate needed capital expenditures of almost \$90 billion over the 2001–03 period. A study commissioned by the ACCF Center for Policy Research shows that the United States ranks in the bottom third or below in terms of capital cost recovery allowances for transmission and generation of electricity, as well as investments in pollution control (see Figure 2 and Table 1). For example, after five years, a U.S. company recovers only 29 percent of its investment in a combined heat and power generation facility compared to 51 percent in Germany, 53 percent in Japan, 100 percent in the Netherlands, and 105 percent in China. Thus, investment costs are recovered much more quickly in these and other countries with which the United States competes or where U.S. business might choose to locate or expand manufacturing operations. (See previous ACCF testimony at www.accf.org for additional international comparisons.)

Corporate tax rates are also high in the United States relative to our competitors, and this tendency is worsening. The average top corporate income tax rate in the European Union has dropped from 34.4 percent in 1995 to 31.7 percent in 2001; the top U.S. corporate income tax rate was 35 percent in 1995 and remains at that level today.

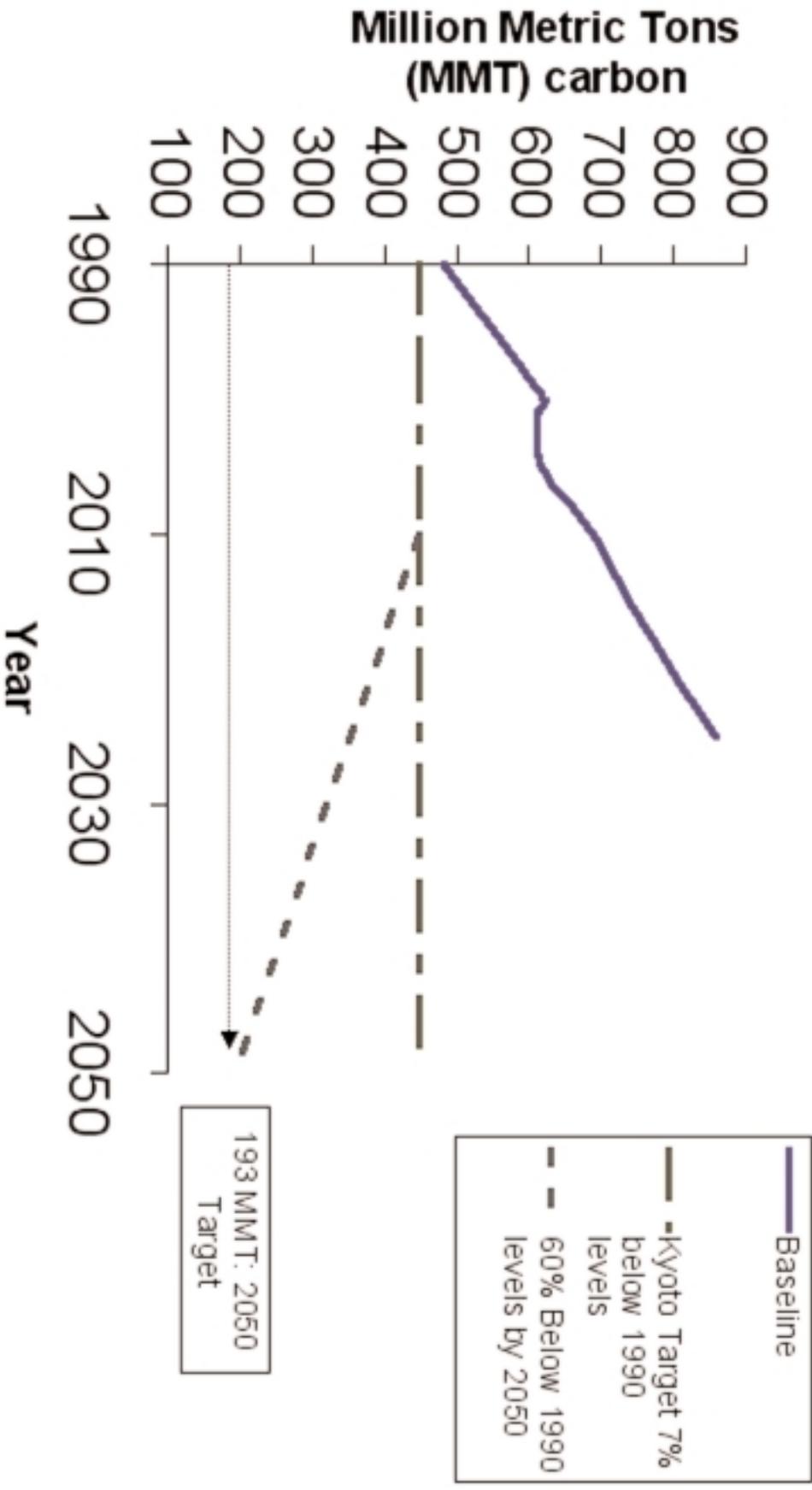
Climate is a Global Issue, Requiring a Global Perspective

Any threat of climate change associated with greenhouse gas emissions is linked to global emissions, not emissions in any one country or one industry. And given that emissions in developing countries like China and India are projected to account for 84% of the increase in global emissions between 1990 and 2010, any climate policy that does not address developing country emissions is doomed to failure. Promoting a voluntary, economy-linked goal for developing countries encourages their participation in a global effort without threatening their goal of improving living standards for their citizens.

Progrowth tax changes, including faster depreciation and enhanced tax credits combined with regulatory reform could strengthen the U.S. economy and reduce emissions intensity.

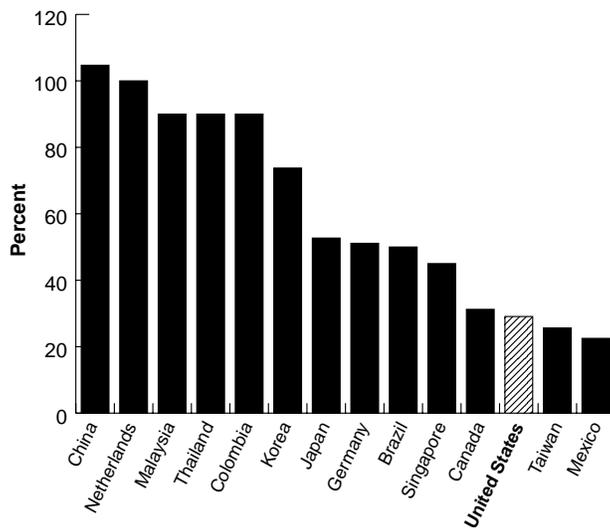
Figure 1

Projected Carbon Dioxide Emissions from U.S. Electricity Generation, 2005-2025



Source: Energy Information Administration, US Department of Energy, "Annual Energy Outlook 2003".

Figure 2 International Comparison of Nominal Capital Cost Recovered After Five Years for Combined Heat and Power Facilities
Percent of total investment expenditure



Note: The data above show the cumulative amount of capital cost recovery deductions from taxable income allowed under each country's tax code after five years.

Source: Data from Arthur Andersen LLP, Washington, D.C.

Table 1 International Comparison of Nominal Capital Costs Recovered After Five Years for Energy Investments and Pollution Control Equipment
Percent of total investment expenditure

	Electric Generating Plants			Electric Transmission & Distribution Lines	Combined Heat & Power Generation Facilities Using Conventional Fuel (assumes power for sale)	Distribution of Industrial Steam & Electricity Generated for Self-Use	Pollution Control Equipment ²	
	Gas ¹	Coal	Nuclear				Input Modification (e.g., scrubbers)	Discharge Modification (e.g., thermal discharge control)
United States	37.7%	29.1%	37.7%	29.1%	29.1%	37.7%	65.8%	65.8%
Brazil	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%	50.0%
Canada	31.2%	31.2%	31.2%	16.8%	31.2%	16.8%	35.5%	35.5%
China	52.4%	52.4%	52.4%	104.7%	104.7%	104.7%	104.7%	104.7%
Colombia	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	100.0%	100.0%
Germany	41.0%	41.0%	34.1%	34.1%	51.1%	41.0%	56.6%	56.6%
Japan	48.4%	48.4%	48.4%	31.9%	52.7%	88.3%	80.1%	80.1%
Korea	26.0%	26.0%	26.0%	73.8%	73.8%	73.8%	44.5%	44.5%
Malaysia	90.0%	90.0%	90.0%	90.0%	90.0%	90.0%	100.0%	100.0%
Mexico	22.5%	22.5%	22.5%	22.5%	22.5%	22.5%	100.0%	100.0%
The Netherlands	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Singapore ³	45.0%	DNA	DNA	45.0%	45.0%	45.0%	70.0%	70.0%
Thailand	91.0%	91.0%	91.0%	90.0%	90.0%	90.0%	90.0%	90.0%
Taiwan	24.4%	24.4%	24.4%	34.3%	25.7%	34.3%	100.0%	100.0%

Notes:

The data above show the cumulative amount of capital cost recovery deductions from taxable income allowed under each country's tax code after five years.

1) The United States depreciation for electric generating plants is for gas turbine facilities. However, gas turbines operated in a combined cycle with a conventional steam unit are depreciated like coal facilities.

2) The United States number for pollution control equipment is for pollution control equipment placed in service on July 1 of a year at a coal or combined heat and power facility placed in service before January 1, 1976. The percentage for pollution control placed in service on July 1 of a year at a gas or nuclear facility placed in service before January 1, 1976 is 78.2%. Pollution control facilities at facilities placed in service on January 1, 1976 or later are depreciated on the same basis as the rest of the facility.

3) There are no coal or nuclear power plants operating in Singapore.

Source: Data from Howard A. Cooper, Thelen Reid & Priest LLP, and Arthur Andersen LLP, Washington, D.C., updated December 18, 2001.