No. 05-1120

IN THE

Supreme Court of the United States

COMMONWEALTH OF MASSACHUSETTS, ET AL.,
Petitioners,

v.

U.S. ENVIRONMENTAL PROTECTION AGENCY,
Respondent.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE DISTRICT OF COLUMBIA CIRCUIT

BRIEF OF AMICUS CURIAE CALPINE CORPORATION IN SUPPORT OF PETITIONERS

Of counsel

GREGORY L. DOODY
General Counsel

SARAH G. NOVOSEL
Managing Counsel

Calpine Corporation

RICHARD E. AYRES
Counsel of Record

AYRES LAW GROUP
1615 L Street, N.W., Suite 1350
Washington, D.C. 20036
(202) 452-9200

Attorneys for Amicus Curiae Calpine Corporation

TABLE OF CONTENTS

TABLE OF AUTHORITIES

Page(s)

CASES

STATUTES

LEGISLATIVE MATERIALS

ADMINISTRATIVE MATERIALS

MEMORANDA

BOOKS

INSTITUTIONAL PUBLICATIONS

NATIONAL COMMISSION ON ENERGY POLICY, ENDING THE ENERGY STALEMATE: A BI-PARTISAN STRATEGY TO MEET AMERICA'S ENERGY CHALLENGES (2004).....7, 11

NATIONAL COMMISSION ON ENERGY POLICY, ENDING THE ENERGY STALEMATE, ECONOMIC ANALYSIS (2004).....8,16

NATIONAL ENERGY TECHNOLOGY LABORATORY, DOE, TRACKING NEW COAL-FIRED POWER PLANTS: COAL'S RESURGENCE IN ELECTRIC POWER GENERATION (2006).....15

NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, INTERIM REPORT OF THE COMMITTEE ON CHANGES IN NEW SOURCE REVIEW PROGRAMS FOR STATIONARY SOURCES OF AIR POLLUTANTS (2005).....10

U.K. SECRETARY OF STATE FOR TRADE AND INDUSTRY, OUR ENERGY FUTURE – CREATING THE LOW CARBON ECONOMY (2003).....9

U.S. NATIONAL ENERGY POLICY: REPORT OF THE NATIONAL ENERGY POLICY DEVELOPMENT GROUP TO PRESIDENT GEORGE W. BUSH (2001).....10

MEDIA SOURCES

Zachary Coile, *Industry Starts to Back Rules on Greenhouse Gas,* SAN FRANCISCO CHRONICLE, Aug. 24, 2006.....6

PRESENTATIONS

Arthur Rosenfeld, Commissioner, California Energy Commission, Presentation to the Energy Symposium (April 28, 2006).....11

I. CALPINE'S INTEREST

Calpine Corporation[1] ("Calpine") is a U.S. company that owns, leases and operates power generation facilities and sells electricity to wholesale and industrial customers in the United States and Canada. Calpine is one of the preeminent power producers in the United States, with more than 26,500 megawatts of generating capacity. Over the last decade, Calpine completed one of the largest development and construction programs in recent United States history, investing billions of dollars to construct highly efficient, low-emitting power facilities. Today, the company operates one of the cleanest, most efficient fleets of power generation in the United States. Calpine's economic interests will be directly affected by the ruling of the Court in this case.

Amicus Calpine submits this brief for two purposes. First, Calpine agrees with the petitioners that the clear and straightforward language of the Clean Air Act ("CAA") provides the U.S. Environmental Protection Agency ("EPA") with the necessary authority to adopt regulations to curtail emissions of air pollutants associated with climate change, and that the reasons EPA gave for refusing to make an endangerment finding were arbitrary and capricious. Second, Calpine wishes to bring to the Court's attention that a significant portion of the electric generating industry supports a mandatory, national program to reduce emissions of air pollutants associated with climate change, and that such a program does not have to be harmful to the economy. We also believe that such a program initiative should be

---

[1] Letters of consent from the parties are being filed in conjunction with this brief. Pursuant to this Court's Rule 37.6, counsel states that this brief was not authored in whole or in part by counsel for a party and that no one other than *amicus* and its counsel made a monetary contribution to the preparation or submission of this brief.

adopted now, while there remains time for an economically efficient transition to a lower-emitting future.

II. STATEMENT

On its face, this case is about authority under Section 202(a)(1) of the CAA, 42 U.S.C. § 7521 (a)(1), which regulates motor vehicle emissions. But the Court's ruling will also effectively determine the EPA's authority to regulate air pollution associated with climate change from all sources, whether from motor vehicles or industrial facilities. There are two reasons for this.

First, the language of § 202(a)(1), 42 U.S.C. § 7521(a)(1), that triggers the process of regulating motor vehicle emissions is identical to language elsewhere in the CAA that initiates various processes for regulating emissions from industrial sources. Section 202(a)(1) instructs EPA to regulate each air pollutant that may "cause, or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare." Similarly, the processes of adopting regulations to control emissions from categories of new industrial sources, including electric generation, and that for developing regulations to control emissions of hazardous pollutants, are triggered by virtually identical statutory language. CAA § 111(b)(1)(A), 42 U.S.C. § 7411(b)(1)(A); and CAA §112(b)(3)(B), 42 U.S.C. § 7412(b)(3)(B).

Second, the Court's ruling will determine the outcome of a case challenging EPA's recent New Source Performance Standards ("NSPS") regulations for small steam generating boilers. 71 Fed. Reg. 9866 (Feb. 27, 2006). In explaining its decision not to regulate the air pollutants associated with climate change from such boilers, EPA took the position that "it does not presently have the authority to

set NSPS to regulate CO_2 or other greenhouse gases that contribute to global climate change." 71 Fed. Reg. 9866, 9869 (Feb. 27, 2006). Thus the EPA has put in issue its authority to regulate industrial sources of the air pollutants associated with climate change in the review of its small boiler regulation. This case is currently suspended pending a decision on joint motions of the parties to hold the case in abeyance while awaiting this Court's definitive ruling on the issue of EPA's authority to regulate air pollutants associated with climate change. *Coke Oven Environmental Task Force v. EPA,* No. 06-1131 and consolidated cases (D.C. Cir., 2006) .

III. ARGUMENT

1. The CAA Provides EPA with Authority to Regulate Air Pollutants Associated with Climate Change, and EPA Has Arbitrarily Refused to Exercise Its Authority.

The petitioners in this case present a straightforward question of statutory interpretation: Does the plain language of the CAA provide the EPA with the authority to regulate air pollutants associated with climate change? Calpine agrees with petitioners that the language of the CAA clearly authorizes such regulation.

This authority is apparent in the language of CAA § 202(a)(1), 42 U.S.C. § 7521(a)(1), which directs the EPA Administrator to determine whether "any air pollutant" from new motor vehicles or engines "cause[s], or contribute[s] to air pollution which may reasonably be anticipated to endanger human health or welfare." In turn, the "air pollutants" subject to regulation are defined in the broadest terms. CAA § 302(g), 42 U.S.C. § 7602(g). The statute also defines "welfare" in very broad terms, specifically listing impacts on climate, as well as a host of other climate-related

consequences, as welfare effects. CAA § 302(h), 42 U.S.C. § 7602(h). This language, like that in *Whitman v. American Trucking Ass'n, et al. ("Whitman")*, 531 U.S. 457 (2001) is clear and "absolute," id. at 465, an "elephant" that cannot be hidden in a "mousehole[]." Id. at 468.

EPA's attempt to justify its refusal to find the pollutants associated with climate change "endanger public health and welfare" is entirely arbitrary, invoking considerations that have nothing to do with the statutory standard, and ignoring (or misusing) those that do. Had the EPA applied the statutory endangerment test, and engaged the relevant questions under that test, it could not have rationally avoided a determination that regulation is necessary under § 202(a)(1) of the CAA.

Like petitioners in this case, Calpine does not ask the Court to decide either the content or timing of a program to reduce emissions of these air pollutants. As with other CAA programs, the initial judgment that a pollutant causes or contributes to adverse effects on public health or welfare is separate from subsequent policy decisions about what sort of program will be efficacious, and when such a program should go into effect. *Whitman,* 531 U.S. at 470. We have no doubt that crafting such a program will be a complex task, but not beyond the capability of the EPA, which has had notable success at stimulating technological innovation and reducing costs as a result of intelligent program design. *See, e.g.*, R. MORGENSTERN, ED., ECONOMIC ANALYSIS AT EPA (RESOURCES FOR THE FUTURE PRESS 1997). In any case, these complex issues are not before the Court, which need only interpret the plain language of the statute.

2. A Significant Portion of the Electric Generating Industry Supports a Mandatory National Program to Reduce Emissions of the Air Pollutants Associated with Climate Change.

A significant portion of the electric generating industry believes that mandatory national regulation of the air pollutants associated with climate change is inevitable and desirable, and finds the current stasis in federal policymaking counterproductive and potentially economically wasteful. To date, companies operating 20 percent of all U.S. generating capacity have publicly endorsed mandatory, national regulation to reduce emissions of air pollutants associated with climate change.

In recent testimony before the U.S. Senate, many investor-owned electric generating companies endorsed, in unequivocal language, mandatory, economy-wide policies to regulate emissions of the air pollutants associated with climate change. *Climate Change: Conference Before the Senate Comm. on Energy and Natural Resources*, 109th Cong. 420 (2006) ("Climate Change Hearings"). Companies endorsing mandatory national emission regulations include Duke Energy Corporation,[2] Exelon Corporation,[3] General

---

[2] Statement of Ruth Shaw, Group Executive for Public Policy and President for Duke Nuclear, Duke Energy Corporation: "Duke Energy favors U.S. policy on climate change that, first, is mandatory, not voluntary; second, is economy-wide in its scope, sending consistent signals to all sectors in all regions. . . ." Climate Change Hearings at 4.

[3] Statement of Elizabeth Moler, Executive Vice President, Government and Environmental Affairs and Public Policy, Exelon Corporation. "I want to stress the need for a mandatory, comprehensive, and balanced national greenhouse gas program." Id.

Electric Energy,[4] PNM Resources,[5] Sempra Energy, Entergy Corporation, FPL Group (parent company of Florida Power & Light), Pacific Gas and Electric Company, Public Service Enterprise Group, and Calpine Corporation.[6]

"[I]t is only a matter of time before Congress enacts federal carbon constraints," says Ceres, a national organization that speaks for a group of more than 50 institutional investors from the U.S. and Europe managing nearly $3 trillion in assets. CERES, INVESTOR RESPONSIBILITY RESEARCH CENTER, INC., CORPORATE GOVERNANCE AND CLIMATE CHANGE: MAKING THE CONNECTION 12 (2006) *available at* www.ceres.org.

The association representing publicly-owned electric generation, whose members supply 15 percent of the nation's power, also recognizes that there is "an emerging public consensus and a building political directive that inaction is not a viable strategy." Zachary Coile, *Industry Starts to Back Rules on Greenhouse Gas,* SAN FRANCISCO CHRONICLE, Aug. 24, 2006, at A1 (quoting Alan Richardson,

---

[4] Statement of David Slump, General Manager, Global Marketing, GE Energy, General Electric Company: "GE supports congressional action now to start reducing greenhouse gas emissions." Id. at 5.

[5] Statement of Jeff Sterba, Chairman, President, and CEO, PNM Resources (an energy holding company that provides electric and gas service throughout the western United States): "[W]e . . . support the move to a mandatory program . . . that is economy-wide." Id. at 6.

[6] Statement of Michael Bradley, Executive Director, Clean Energy Group, representing Calpine, Entergy, Exelon, Florida Power & Light Company, Pacific Gas and Electric, and Public Service Enterprise Group: "Our members support the adoption of a mandatory greenhouse gas regulatory program. . . . " Id. at 40.

President and CEO of the American Public Power Association).

3. Regulation of the Air Pollutants Associated with Climate Change Is Not a Threat to the Economy.

With intelligent policy design, the effect on the American economy of regulating the air pollutants associated with climate change will be modest. While a transition to less-emitting technologies in the energy and other sectors of the economy will not be without cost, the impact on economic growth will most likely be measured in fractions of one percent of Gross Domestic Product. This reality stands in stark contrast to the alarmist view expressed by EPA. Memorandum of Robert E. Fabricant, EPA General Counsel (Aug. 28, 2003), at 10.

The National Commission on Energy Policy ("National Commission"), a private, bi-partisan organization (*see* List of Members in Appendix A), analyzed the economic effects of a program to reduce emissions of air pollutants associated with climate change that would slow and then effectively halt increases in emissions growth from U.S. sources by 2025. NATIONAL COMMISSION ON ENERGY POLICY, ENDING THE ENERGY STALEMATE: A BI-PARTISAN STRATEGY TO MEET AMERICA'S ENERGY CHALLENGES (2004) ("NCEP Report").

The National Commission developed an extremely comprehensive program to reduce emissions of the air pollutants associated with climate change that includes major changes in important segments of the economy, including energy and motor vehicles. Its proposal includes an emission trading program for industrial sources of the air pollutants associated with climate change, accelerated development and deployment of advanced energy technologies, and

strengthened fuel economy standards for cars, small trucks, and heavy duty tractor-trailer trucks.[7] In order to understand the effects of such a comprehensive emission reduction program on the American economy, the National Commission conducted economy-wide modeling of its proposals. The National Commission concluded that, despite the sweeping measures included in its proposal, the impact on the American economy would be small. "The accumulated loss in GDP relative to the Reference Case," the Commission said,

> increases from 0.08 percent in 2010 to 0.18 percent in 2020. That is, total growth from 2005 to 2020 is 63.2 percent rather than 63.5 percent . . . a real dollar loss of $13 billion out of a total GDP of $16.5 trillion in 2010. . . and $42 billion out of a total GDP of $22.6 trillion in 2020. . .

NCEP Report Economic Analysis at 15-16.

The Energy Information Administration ("EIA"), the independent statistical and analytical agency of the Department of Energy ("DOE"), analyzed the energy supply,

---

[7] More specifically, the National Commission's strategy included an emissions cap-and-trade mechanism for energy-related CO_2, methane from coal mines, nitrous oxide emissions from nitric and adipic acid production, and emissions of global warming gases such as hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride; a 36 percent increase in the Corporate Average Fuel Economy ("CAFE") standards for cars and light trucks; federal assistance to encourage accelerated development and deployment of advanced energy technologies; new building codes and appliance efficiency standards; and federally-subsidized programs to stimulate deployment of Integrated Gasification Combined Cycle, carbon capture and sequestration technologies, and tax credits for power generations that do not emit air pollutants associated with climate change.

demand, and fuel import impacts of the National Commission's recommended pollution control program. The findings of EIA's report show similarly small effects on the national economy:

> By 2025, potential and actual real GDP are, respectively, about 0.26 percent and 0.4 percent below their reference case levels. These changes do not materially affect average economic growth rates for the 2003 to 2025 period.

ENERGY INFORMATION ADMINISTRATION, U.S. DOE, IMPACTS OF MODELED RECOMMENDATIONS OF THE NATIONAL COMMISSION ON ENERGY POLICY xi (2005).

The findings of the U.S. EIA are entirely consistent with those of other governments. In the United Kingdom, the government has committed itself to a 60 percent reduction in carbon dioxide emissions by 2050. Its plan to achieve such steep reductions in emissions estimates that the cost would be "very small – equivalent in 2050 to just a small fraction (0.5 to 2 percent) of the nation's wealth, as measured by GDP, which by then will have tripled as compared to now." U.K. SECRETARY OF STATE FOR TRADE AND INDUSTRY, OUR ENERGY FUTURE – CREATING THE LOW CARBON ECONOMY 9 (2003).

The findings presented above are a function of the many options available for reducing emissions of air pollutants associated with climate change. For those in the electric generation sector and its customers, there are a wide variety of options available to reduce emissions.

a. Build new plants to meet future demand using fuels with lower emissions. An electric generating company has many options with regard to fuel when it invests in a new

unit. Units powered by renewable sources such as wind, water, solar or geothermal heat, and nuclear units, produce no emissions of the air pollutants associated with climate change. Biomass-powered facilities produce no net emissions. Among fossil fuels, a new natural gas-fired plant produces approximately 60 percent less carbon dioxide emissions than a typical coal-fired plant per unit of energy generated. Choices among these options will be critical, given that the DOE has estimated that to meet future demand for electricity, "the United States will have to build . . . more than 60 to 90 plants a year, or more than one a week." U.S. NATIONAL ENERGY POLICY: REPORT OF THE NATIONAL ENERGY POLICY DEVELOPMENT GROUP TO PRESIDENT GEORGE W. BUSH 5-10 (2001).

b. Replace old, high emitting capacity with new cleaner units. Currently 74 percent of U.S. coal-fired generating capacity is more than 26 years old. NATIONAL RESEARCH COUNCIL OF THE NATIONAL ACADEMIES, INTERIM REPORT OF THE COMMITTEE ON CHANGES IN NEW SOURCE REVIEW PROGRAMS FOR STATIONARY SOURCES OF AIR POLLUTANTS 54, tbl.3-3 (2005). In many cases generating companies face the question whether to continue investing in these outdated coal-fired units or invest in new, cleaner technologies. A variety of technologies are available that offer the opportunity to generate electricity, even when using coal as a fuel, while limiting, or even eliminating, emissions of the air pollutants associated with climate change. Advanced, less polluting technologies for using coal include integrated gasification combined cycle ("IGCC") which reduces emissions of the air pollutants associated with climate change by about seven to ten percent compared with traditional coal technologies. IGCC also offers a lower cost potential to capture and sequester carbon rather than emitting it into the atmosphere.

c. Improve operational efficiency of existing plants. Significant reductions in emissions can be accomplished by simply improving the efficiency of operations. Calpine has committed to EPA that it will reduce emissions of carbon dioxide from its generating plants by four percent per unit of electricity generated over a five year period. Calpine's program includes more than a dozen initiatives targeted to improve the thermal performance of the company's already efficient combined cycle gas-fired turbine units. The company is making physical modifications and optimizing operating practices as well as improving the management of its fleet's recoverable performance degradation.

d. Increase energy efficiency in the economy. Increasing the energy efficiency of industrial processes, consumer products, and motor vehicles reduces emissions of the air pollutants associated with climate change and costs simultaneously. The potential for increased efficiency has been demonstrated over the past 30 years in California, where peak demand for electricity has been reduced by 54 percent by aggressive energy efficiency measures. Arthur Rosenfeld, Commissioner, California Energy Commission, Presentation to the Energy Symposium 12 (April 28, 2006).[8] As a result of this program, California electricity consumption per person, which was the same in 1960 as the U.S. average, is now more than one-third lower than the U.S. average. Id. at 13. For the future, the National Commission concluded that "it is possible to cost-effectively reduce the nation's annual energy consumption by at least 16 quads per year in 2025 in these three sectors [industrial, commercial,

---

[8] *Available at* http://www.energy.ca.gov/commission/commissioners/rosenfeld/html.

transportation] using known efficiency technologies." NCEP Report at 32.

4. Environmental Regulation Has Stimulated Innovation and Lowered the Cost of New Technology.

Stimulating technological innovation to provide higher levels of environmental quality and economic productivity is a fundamental objective of the CAA, evident throughout the statute. *See* 42 U.S.C. §§ 7408(h), 7411(a)(1), 7412(d)(2), 7475(a)(4), 7491(b)(2)(A), 7651(b); *see also, Whitman,* 531 U.S. at 490-492; *Union Electric v. Environmental Protection Agency*, 427 U.S. 246, 257 (1976). Congress first adopted the policy of "technology forcing" in the Clean Air Amendments of 1970, *Alabama Power v. Costle,* 636 F.2d 323, 372 (D.C. Cir. 1979).[9] In 1977 amendments to the CAA, Congress explicitly stated its intent that the law would provide "incentives for improved technology," that those improvements would "become widespread far more rapidly," and that vendors of cleaner

---

[9] The federal courts have consistently upheld the CAA's goal of stimulating technological innovation as a way to achieve ambitious environmental standards. In 1973, the U.S. Court of Appeals for the District of Columbia Circuit rejected the argument that EPA was limited to standards requiring "technology in being as of the time of the application." *International Harvester Co. v. Ruckelshaus*, 478 F.2d 615, 629 (D.C. Cir. 1973); *see also Natural Resources Defense Council v. Thomas*, 805 F.2d 410, 429 (D.C. Cir. 1986); *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 391 (D.C. Cir. 1973); *Natural Resources Defense Council v. EPA*, 655 F.2d 318, 328 (D.C. Cir. 1981) ("EPA was 'expected to press for the development and application of improved technology rather than be limited by that which exists today.'" [citations omitted]); *Wisconsin Electric Power Co. v. Reilly,* 893 F.2d 901, 909-10 (7th Cir. 1990) ("[I]n passing the Clean Air Act Amendments, Congress intended to stimulate the advancement of pollution control technology."); *Husqvarna v. EPA*, 254 F.3d 195 (D.C. Cir. 2001) ("Congress intended the agency to project future advances in pollution control capability.") (citing *NRDC,* 805 F.2d at 410).

technologies would have a "guaranteed market." *See* S. Rep. No. 95-127, at 31 (1977), *reprinted in* 1977 CRS Legislative History 1371, 1405; *See also* H.R. Rep. No. 95-294, at 186 (1977), *reprinted in* 1977 CRS Legislative History 2465, 2653.

Regulation under the CAA has provided powerful and effective market signals that have stimulated new emission control technologies, product substitution, and alternative manufacturing methods. Section 202(a), the subject of this litigation, is responsible for the development of motor vehicle catalytic control and electronic engine management technologies that have reduced new vehicle emissions of the regulated pollutants by well over 95 percent, while allowing higher fuel economy and performance. 40 CFR Part 86. Sulfur oxide "scrubbers" and selective catalytic reduction technologies to cut emissions of sulfur oxides and nitrogen oxides, now being deployed on electric generating facilities across the U.S., were developed in response to CAA regulations. 40 CFR Part 60, Subpart Da; and 40 CFR Part 73 (scrubbers); 40 CFR Part 76 (nitrogen oxides). Regulations adopted under Title VI of the CAA, §§ 7671c and 7671d, implementing the Montreal Protocol, were responsible for the development of entirely new substitute chemicals for widely-used compounds that were associated with reductions in the earth's protective stratospheric ozone layer. 40 CFR Part 82. Without the ban on future use of ozone-depleting CFCs, "users would not have switched to substitutes – even when they were more cost-efficient." RENE KEMP, ENVIRONMENTAL POLICY AND TECHNICAL CHANGE 316 (UNU-MERIT 1997).[10]

---

[10] Regarding the success of the program in reducing emissions of pollutants associated with depletion of the stratospheric ozone layer, *see also* Stephen Anderson and Madhava Sarma, PROTECTING THE OZONE LAYER: THE UNITED NATIONS HISTORY, United Nations Environmental

Finally, CAA regulation has stimulated development of increasingly efficient gas turbine electric generating technology. The efficiency of new state-of-the-art generating facilities today is approximately 33-40 percent higher than was standard in the 1970's. Declaration of Donald P. Walters, Vice President, Calpine Corporation, before the United States Court of Appeals for the District of Columbia Circuit (Nov. 11, 2004) in *State of New York, et al., v. United States Environmental Protection Agency*, 443 F.3d 880 (D.C. Cir. 2006).

Studies of the influence of regulation – particularly market-based regulation such as the acid rain program – show that market-based programs will reduce the cost of meeting environmental standards. The acid rain program, CAA Subchapter IV-A, 42 U.S.C. §§ 7642-7651*o*, has produced large reductions in emissions of sulfur oxides for a cost about one-half that of a traditional command and control program.[11]

5. National Regulation Is Needed Now to Give the Marketplace Clear Signals for How to Provide Value in the Future.

If electric generating companies are to choose the options that minimize emissions of the pollutants associated

---

Programme (2002) at 345 *et seq.*; *See also,* R. BENEDICK, OZONE DIPLOMACY: NEW DIRECTIONS IN SAFEGUARDING THE PLANET, (enlarged ed., Harvard University Press 1998), and JAMES K. HAMMITT, CHOOSING ENVIRONMENTAL POLICY: COMPARING INSTRUMENTS AND OUTCOMES IN THE UNITED STATES AND EUROPE 158-174 (R. Harrington, R. Morgenstern, T. Sterner, eds., Resources for the Future Press 2004).

[11] D. ELLERMAN, P. JOSKOW, R. SCHMALENSEE, J-P MONTERO, E. BAILEY, MARKETS FOR CLEAN AIR: THE U.S. ACID RAIN PROGRAM 293-296 (Cambridge U. Press 2000).

with climate change, they must receive market signals that can only be provided by national regulation. Fundamental economic principles tell us that when a price is attached to a good that has been considered free, or the supply limited by regulation, there will be innovation to reduce the use of the good.

Because low- and non-emitting technologies are generally more expensive than traditional pulverized coal boilers, they will not be broadly deployed by the market until regulations are adopted that limit emissions of pollutants associated with climate change, raise the cost of emitting such pollutants, or both. So long as emissions of these pollutants remain an unregulated economic externality, the market will not value technologies that emit less of them.

> Market demand seems to be the crucial factor for the successful exploitation of technological opportunities. In the case of cleaner technologies, market demand depends strongly on government policy.

Kemp, *supra* at 240.

Currently, 153 new coal-fired power plants are under development or construction, according to the DOE. NATIONAL ENERGY TECHNOLOGY LABORATORY, DOE, TRACKING NEW COAL-FIRED POWER PLANTS: COAL'S RESURGENCE IN ELECTRIC POWER GENERATION (2006). Nearly all of the companies developing these units are planning to use the same basic technology that has been used since the early Twentieth Century – burning pulverized coal in a boiler and exhausting the waste products into the atmosphere.

Investments in such outdated facilities will preclude investments in advanced, less polluting technologies. As in

any sector, financial capital is limited within the power industry. If built, these boilers will represent a massive investment of capital that commits our nation to 50-75 years of high emissions of air pollutants associated with climate change. To prevent such misallocations of capital, a market signal from federal regulators is needed.

Market signals are also needed to increase the development of renewable energy sources, such as wind, tides, geothermal heat, solar and biomass. Although some of these sources are already making inroads in the market, regulation of emissions will allow renewables to compete more effectively with fossil fuels. The National Commission estimates that, under the strategy it analyzed, wind and biomass capacity would be nearly four times as great as under the status quo. NCEP Report Economic Analysis at 14.

6. Patchwork Regulations Will Increase Costs.

In the absence of national regulation, states and localities are adopting a variety of control programs of their own. Companies that operate nationally, such as Calpine, face a serious risk of having to comply with a patchwork of multiple overlapping regulatory programs. A proliferation of such programs could have significant negative effects on the cost and effectiveness of Calpine's actions to reduce emissions.

California has adopted legislation and regulations to limit emissions of air pollutants associated with climate change from motor vehicles. CAL. HEALTH & SAFETY CODE

§ 43018.5 (2006). Ten other states[12] are moving to adopt the same program, which would affect at least a third of all new cars and light trucks sold in the United States. Four states[13] already regulate emissions from electric generating facilities, and others are considering such regulations.[14] Seven northeastern states[15] recently agreed to a "Regional Greenhouse Gas Initiative" establishing a "cap and trade" system to reduce emissions of air pollutants associated with climate change from industrial sources, including electric generation. The participating states have agreed to adopt regulations to implement the program by December 31, 2008.

In the absence of federal regulation, state and even local regulatory programs can be expected to proliferate. Based on its erroneous reading of the clear language of the CAA, EPA has refused to advance a unifying national program. We urge this Court to declare the law clearly so that EPA may move forward with the regulatory process.

---

[12] Connecticut, Maine, Massachusetts, New York, New Jersey, Pennsylvania, Rhode Island, Oregon, Vermont, and Washington. Ceres Report, *supra* at 12.

[13] Massachusetts, New Hampshire, Oregon and Washington. Id.

[14] For example, California A.B. 32, "Global Warming Solutions Act of 2006."

[15] Connecticut, Delaware, Maine, New Hampshire, New Jersey, New York, and Vermont. Maryland, is expected to be added to the list. The District of Columbia, Massachusetts, Pennsylvania, Rhode Island, the Eastern Provinces of Canada, and New Brunswick are observers in the process. The model rule for the cap and trade system, together with additional information on the RGGI, is available at www.rggi.org.

IV. CONCLUSION

For the reasons presented herein, the Court should reverse the judgment of the Court of Appeals.

Respectfully submitted,

Richard E. Ayres
Counsel of Record

Ayres Law Group
1615 L Street, N.W. Suite 1350
Washington, D.C. 20036
(202) 452-9200

Counsel for Amicus Curiae
Calpine Corporation

Of counsel

Gregory Doody
General Counsel

Sarah Novosel
Managing Counsel

Calpine Corporation
Washington Office
1401 H Street, N.W.
Suite 510
Washington, D.C.
20005

AUGUST 31, 2006

APPENDIX

APPENDIX A

COMMISSIONERS OF THE NATIONAL COMMISSION ON ENERGY POLICY

John P. Holdren, Co-Chair. Teresa and John Heinz Professor of Environmental Policy, Harvard University; Director of the Woods Hole Research Center.

William K. Reilly, Co-Chair. Founding Partner, Aqua International Partners; former Administrator, U.S. Environmental Protection Agency.

John W. Rowe, Co-Chair. Chairman and CEO, Exelon Corporation.

Phillip R. Sharp, Congressional Chair. President, Resources for the Future; former U.S. Representative, Indiana.

Marilyn Brown. Interim Director, Oak Ridge National Laboratory's Engineering Science and Technology Division.

Ralph Cavanagh. Senior Attorney and Co-Director, Natural Resources Defense Council Energy Program.

Errol B. Davis, Jr. Chancellor, University System of the State of Georgia.

Senator Rodney Ellis. State Senator, Texas.

Leo W. Gerard. International President, United Steelworkers of America.

Robert E. Grady. Managing Partner, Carlyle Venture Partners, the Carlyle Group; former Executive Associate Director, U.S. Office of Management and Budget.

F. Henry Habicht. CEO, Global Environment and Technology Foundation; former Deputy Administrator of the U.S. Environmental Protection Agency.

Frank Keating. CEO, American Council of Life Insurers; former Governor of Oklahoma.

Richard A. Meserve. President, Carnegie Institution; former Chairman, U.S. Nuclear Regulatory Commission.

Mario Molina. Professor, University of San Diego; co-recipient of the 1995 Nobel Prize in Chemistry for pioneering work in the atmospheric chemistry of stratospheric ozone depletion.

Sharon L. Nelson. Chief, Consumer Protection Division, Office of the Attorney General, State of Washington; Chair, Board of Directors, Consumers Union.

Richard L. Schmalensee. Professor of Economics and Management, Massachusetts Institute of Technology; John C. Head III Dean, Sloane School of Management; former member, President's Council of Economic Advisors.

Susan Tierney. Managing Principal, the Analysis Group; former Assistant Secretary, U.S. Department of Energy.

R. James Woolsey. Vice President, Booz Allen, Hamilton; former Director, U.S. Central Intelligence Agency.

Martin B. Zimmerman. Clinical Professor of Business, Ross School of Business, University of Michigan; former Group Vice President, Ford Motor Company.