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A Comparative Study of Environmental Policy: The United States and Japan

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A COMPARATIVE STUDY OF ENVIRONMENTAL POLICY: THE UNITED STATES AND JAPAN

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This thesis is submitted in partial fulfillment of

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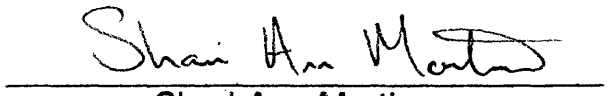

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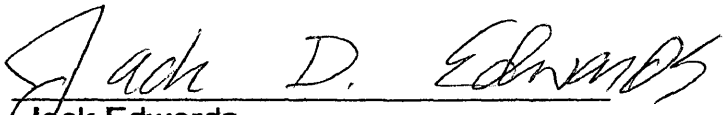

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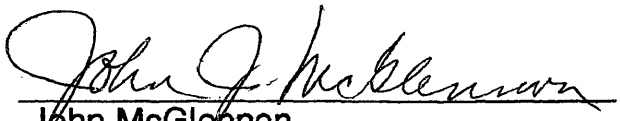

John McGlennon

TABLE OF CONTENTS

Page

ACKNOWLEDGMENTS iv

ABSTRACT v

INTRODUCTION 2

CHAPTER I. ENVIRONMENTAL POLICY IN THE UNITED STATES: THE CLEAN AIR ACT 10

CHAPTER II. ENVIRONMENTAL POLICY IN JAPAN: THE CLEAN AIR ACT 19

CHAPTER III. INDUSTRY AND AIR POLLUTION 30

CHAPTER IV. PLURALITY AND ENVIRONMENTAL POLICY 49

CONCLUSION 65

BIBLIOGRAPHY 84

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LIST OF FIGURES

Figure Page

2.0 Trend of energy per GDP in major OECD countries..... 25

2.1 Comparison of per capita carbon dioxide emissions..... 25

2.2 Consumption of controlled CFC's and halons in major nations..... 26

2.3 Number of desulfurization/denitrification plants..... 27

2.4 Number of stack gas desulfurization/denitrification facilities installed..... 27

2.5 Per capita emissions of SO_2 and NO_2..... 27

2.6 Changes in SOx and NOx emissions from stationary sources in Japan..... 27

2.7 Comparisons of Sulfur Oxide Emissions..... 27

2.8 Comparisons of Nitrogen Oxide Emissions..... 27

2.9 Government subsidies for environmental research and development..... 28

3.0 Automobile emission standards: Japan and selected countries..... 30

ABSTRACT

This study compares environmental policy in the United States and Japan through an analysis of the Clean Air Acts in both countries. As the U.S. and Japan are both constitutional democracies with similar economic goals, and the environmental policies of the U.S. and Japan are very similar, the difference in the implementation of environmental regulations is compared by analyzing the separate relationships between business and government in each country. The paper examines the Clean Air Acts of 1970 in both Japan and the U.S, and compares the success of this legislation in terms of industrial compliance and emissions reduction. The examination suggests that Japan has been more successful in its implementation of environmental regulations due to the Japanese bureaucracy's ability to control the formulation of pollution laws and direct their implementation in a cooperative effort with industry. Alternately, environmental policy making and its implementation in the U.S. is characterized by an adversarial relationship between business and government which is compounded by a political system that lacks the institutional strength to effectively implement environmental policies. The study suggests market based incentives as a means by which to approach environmental policy and achieve private sector compliance in the U.S.

A COMPARATIVE STUDY OF ENVIRONMENTAL POLICY: THE UNITED STATES AND JAPAN

INTRODUCTION

GOVERNMENT - INDUSTRY RELATIONS AND ENVIRONMENTAL POLICY: THE UNITED STATES AND JAPAN

Over the past two decades environmental regulation has become a significant factor affecting industrial policy. In every industrialized nation businesses have had to confront an increase in environmental standards in all levels of production.[1] Whether business activities involve the extraction or use of natural resources, processing operations, manufacture of final products, the packaging and sale of consumer and industrial goods, or the eventual disposal of goods and wastes, they are no longer conducted without some attention to environmental consequences.[2]

The United States and Japan provide an interesting comparison of environmental regulations and their implementation. Japan and the U.S. are both constitutional democracies which share similar democratic principles. The United States and Japan are also highly industrialized democracies with capitalist market economies and are both committed to economic growth as a national priority. Furthermore, during the early 1970's, both governments responded to public concern about environmental quality with similar administrative and legislative initiatives. In fact, only in Japan has the entire direction of environmental policy changed as rapidly over the past twenty years as it has in the United States.[3]

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[1] Rogene Buchholz, Alfred Marcus, James Post, Managing Environmental Issues: A Casebook, (Englewood, NJ: Prentice Hall, 1992) p.9.
[2] Buchholz, p.9.
[3] David Vogel, National Styles of Regulation: Environmental Policy in Great Britain and the United States, (Ithaca, NY: Cornell University Press, 1986) p.21.

Although Japan and the U.S share similar political structures and environmental policies, the difference in their implementation of environmental regulations provides an interesting comparison. Put simply, Japan has been able to implement it's environmental regulations more successfully than the United States. Ironically, the American approach to environmental regulations is the most rigid and rule oriented to be found in any industrial society.[4] The United States makes more extensive use of uniform standards for emissions and environmental quality than any other nation.[5] Yet, while American regulations enacted since 1969 impose strict environmental standards on industry, these regulations have not been implemented as successfully in the United States as they have in Japan.

The most striking difference between the creation and implementation of environmental regulations in Japan and the U.S. is related to the separate relationships between industry and government in each country. The successful implementation of Japan's environmental regulations can be attributed to the bureaucracy's ability to control the formulation of pollution laws and direct their implementation in a cooperative effort with industry. Alternately, environmental policy making and its implementation in the U.S. is characterized by an adversarial relationship between business and government which is compounded by a political system that lacks the institutional capacity to effectively implement policies.[6] In sum, while it is difficult to make cross-national comparisons of policy effectiveness, it appears that Japan has been more successful in its implementation of environmental regulations due to the cooperative efforts of Japan's business and government. Consequently, Japan

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[4] Vogel, National Styles of Regulation, p.21.

[5] Vogel, National Styles of Regulation, p.21.

[6] David Vogel, "Government - Industry Relations In The United States: An Overview," in Stephen Wilks and Maurice Wright, eds., Comparative Government - Industry Relations: Western Europe, The United States, and Japan, (Oxford: Clarendon Press, 1987) p.91.

has been more successful in controlling and decreasing pollution.

As Tyson and Zysman state, there is more than one form of capitalism, more than one way of structuring business-state relations in a democratic society.[7] This is made clear when comparing government-industry relations in the U.S. and Japan. America's policy for industry rests on three central principles: market competition, price driven adjustment, and a government limited to regulatory functions (essentially guaranteeing corporate management freedom from outside interference, specifically government interference).[8] Zysman states that the arms-length political stance that the U.S. government takes towards business rests on three structural elements: (1) the apparatus of the government, which divides powers and makes the system responsive to particular interest group demands; (2) the court system, which reinforces the fragmentation of policy and the ability of small groups to influence or block the government; and (3) the financial system, which stands at arms-length from both government and business (a securities market-based financial system with internationally oriented major banks).[9] In this system a thousand small battles must be won before any broad policy can be implemented and secured.[10]

The U.S. system is, by design, relatively weaker than other industrial countries. In the United States private groups are able to penetrate the political decision making process quite easily. The American government is so vulnerable to interest group pressures that the adoption and implementation of a coherent and consistent set of policies towards industry is next to

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[7] Laura Tyson, John Zysman, "Developmental Strategy And Production Innovation In Japan," in Chalmers Johnson, Laura Tyson, John Zysman, eds., Politics and Productivity: The Real Story of Why Japan Works, (Cambridge: Ballinger, 1988) p.60.

[8] John Zysman, Governments, Markets and Growth: Financial Systems and the Politics of Industrial Change, (Ithaca, NY: Cornell University Press, 1983) p.266.

[9] Zysman, p.262.

[10] Zysman, p.268.

impossible.[11] In addition, the strength of private capital markets in the U.S. and the autonomy of America's financial institutions leave the government with few policy instruments through which to influence the economy or industrial policy. In the American market-based financial system with internationally oriented major banks, the financial system constrains the government's capacity to intervene selectively in industry. In this situation the financial system is decentralized and power is diffused into the market.[12] Furthermore, the separation of powers doctrine, at the core of the American constitution, creates three government branches that encompass distinctly different responsibilities, practices and powers. The result of these factors is a relatively weak American government and little cooperation between business and government.[13] Both aspects stem from American political history, dating back to the Constitutional Convention and the Founding Fathers' fear of a powerful government, skepticism towards ties between government and any interest group (including business), and suspicion of government-business cooperation. As the founders intended to limit, not enhance, the powers of the state, the central feature of American politics is the fragmentation and dispersion of power and authority.

The U.S. government's weak role in industry is a consequence of the political history of America's industrialization. Politics shaped the financial system in order to block the central government's domination of the economy and to prevent political domination of industry.[14] Furthermore, America was also an early industrializer; economic change took place slowly and with

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[11] See Charles Schultze, "Industrial Policy: A Dissent," *Brookings Review*, Fall 1983; J.L. Badaracco, and D.B. Yoffie, "Industrial Policy: It Can't Happen Here," *Harvard Business Review*, Nov.-Dec. 1982.

[12] Zysman, p.269.

[13] Richard Boyd, "Government - Industry Relations in Japan: Access, Communication, and Competitive Collaboration," in Stephen Wilks and Maurice Wright, eds., Comparative Government - Industry Relations: Western Europe, The United States, and Japan, (Oxford: Clarendon Press, 1987) p.92.

[14] Zysman, p.269.

relatively little state direction.[15] Compared to other capitalist nations America's industries grew with relatively little direct government assistance.[16] David Vogel states that because the U.S. government played such a passive role in shaping industrial development, America's industrial elite developed an ideology that is highly critical of government intervention.[17]

In Japan both government policy making and business-government relations are generally cooperative in nature.[18] There exists a series of linkages and points of access and communication between government and industry, the effect of which is to integrate the industrial policy community and facilitate the movement of ideas, the representation of interests and the formation and implementation of policy.[19] Extensive use is made of these channels by both business and government. There is in fact a long tradition of close cooperation between government officials and the business community in Japan. As a late industrializer the Japanese state played a decisive role in building the economy of Japan. The pattern of state intervention established during the Meiji restoration of 1868 (during which building the economy was a primary goal) continues to the present day. Thus, a non-adversarial relationship between the public and private sector is inherent in the Japanese state. Furthermore, in Japan, the implementation of industrial policy is facilitated by a credit-based, industrial financial system which allocates resources through state influence and policies.[20] This credit-based financial system provides a powerful policy instrument for the Japanese government.

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[15] Stephen Krasner, "United States Commercial and Monetary Policy: Unravelling the Paradox of External Strength and Internall Weakness, in Peter J. Katzenstein, ed., Between Power and Plenty: Foreign Economic Politics of Advanced Industrialized States, (Madison: University of Wisconsin Press, 1978),p.62.

[16] Vogel, "Government - Industry Relations," p.96.

[17] Vogel, "Government - Industry Relations," p.96.

[18] Haruhiro Fukui, "Studies in Policy Making: A Review of the Literature," in T.J... Pempel, ed., Policy Making in Contemporary Japan, (Ithaca, NY: Cornell University Press, 1977) p.22-57.

[19] Boyd, p.65.

[20] Zysman, p.234.

Following World War II Japan's bureaucrats were able to manipulate credit, tax and trade, thereby building a strong economy and facilitating a shift from agriculture to industry. With these financial tools, the Japanese bureaucracy provided domestic producers with the support and guidance they needed to achieve competitive advantages in a global market.[21] Many academics believe that the Japanese bureaucracy, especially The Ministry of International Trade and Industry (MITI), effectively planned and directed the transformation of the Japanese economy from its comparatively backward, war-torn condition in the late 1940's to its present status as an industrial giant.[22] Several features of Japanese political and historical experience lend credence to this thesis. Japan is considered a late-developing nation, industrializing later than much of Europe and North America. Late developing states, modern political economic theory suggests, tend to establish strong, intrusive bureaucracies, which deliberately put into place the economic infrastructure that emerged more or less spontaneously in nations that developed earlier.[23] Japan is nearly always classified as a "strong state," and the influence of late development on Japanese economic institutions has been the theme of many influential studies.[24] In sum, it is generally accepted that most of the ideas for economic growth in the post WWII period came from the bureaucracy, and the business community responded to these ideas in a dependent manner. This tradition of business-government cooperation in Japan continues to remain in place to the present day.

In contrast to the United States, centralization is also found in Japan's private sector. Specifically, the separation of large and small firms is bridged in

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[21] David Friedman, The Misunderstood Miracle: Industrial Development and Political Change in Japan, (New York: Cornell University Press, 1988), p.3.
[22] Friedman, p.3.
[23] Friedman, p.3.
[24] Friedman, p.4.

Japan, as a large proportion of small firms are subcontractors of larger corporations.[25] Organizational unity is assured by an elaborate network of overlapping peak associations dominated by the larger corporations; this arrangement creates a large degree of centralization within the business community.[26] Furthermore, inter-firm trade in Japan is dominated by long-standing networks of reciprocal ties among companies. These networks are evident when they become formalized as identifiable *Keiretsu*, or industrial groupings.[27] The Keiretsu provide for their members reliable sources of borrowed capital as well as a stable core of long-term shareholders. Moreover, they establish a particularly internalized market in intermediate products, particularly in trade in raw materials and industrial products.[28] Within the Keiretsu, trade, finance, corporate control, and thus firms, become closely inter-linked. These inter-firm groups or 'Keiretsu' linkages further integrate the industrial constituency and provide a flow of ideas in both directions: from and to key bureaucratic agencies. The bureaucratic penetration and control of these networks is substantial. In addition, the limited number of Japanese commercial banks are similarly centralized, as they are all directly tied to the Bank of Japan with its monopoly power to regulate the supply of credit.[29] Industrial policy in Japan is primarily formulated within a triangle consisting of government bureaucrats, major companies, and banks. Within this triangle formal and informal consultation is the norm, rather than the exception.

Although both the U.S. and Japan are highly industrialized market-based

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[25] Peter J. Katzenstein, ed., Between Power and Plenty: Foreign Economic Politics of Advanced Industrialized States, (Madison: University of Wisconsin Press, 1978), p.315.
[26] Katzenstein, p.315.
[27] Michael Gerlach, "Keiretsu Organization in the Japanese Economy: Analysis and Trade Implications, in Chalmers Johnson, Laura Tyson, and John Zysman, eds., Politics and Productivity: The Real Story of Why Japan Works, (Cambridge, MA: Ballinger Press, 1989), p.142.
[28] Gerlach, p.142.
[29] Katzenstein, p.315.

democracies that share similar economic goals, clearly the relationship between government and industry takes on a very separate character in each nation. While the firms in Japan consider government purposes in their strategies and inform and often negotiate with the government concerning their actions, this is not the case in the fragmented and separated U.S. system. As Peter Katzenstein states,

> The lack of differentiation between state and society is a feature of the Japanese situation which facilitates policy implementation. In contrast to America, relations between business and the state are so symbiotic that it is virtually impossible to determine where one stops and the other begins. Multiple connections exist . . . linking business, the LDP, and the state bureaucracy.[30]

In these distinctly separate arenas the implementation of similar environmental regulations takes on an extremely separate nature, and thus achieves different results. For the purpose of this study we will focus specifically on air pollution because air pollution has been the most salient environmental problem in the United States and Japan since 1970, and is similar in content in both countries.[31]

The differences between the Japanese and American regulatory policies are not confined to environmental regulation. Environmental policy can be used as a basis for generalizing about the politics and administration of government regulation in both countries.[32] Thus, this study of national regulatory styles not only compares different approaches to environmental policy, but also provides a useful way of exploring the relationship between business and government in both Japan and the United States.

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[30] Katzenstein, p.315.
[31] Vogel, National Styles of Regulation, p.151.
[32] Vogel, National Styles of Regulation, p.27.

CHAPTER I

ENVIRONMENTAL POLICY IN THE UNITED STATES: THE CLEAN AIR ACT

In the United States widespread public concern for environmental conditions escalated during the 1960's. In many ways the emerging environmental movement was a successor to the civil rights and anti-war movements of the 1960's. Prior to this decade, the common perception was that human activities could not impose permanent or substantial environmental damage, let alone present health problems.[33] However, in the early 1960's many environmental crises appeared and were publicly recognized: thick and harmful smog in several cities such as Los Angeles, the "death" of many lakes and rivers due to severe contamination, as well as publicized health problems specifically attributed to toxic wastes.[34] Environmental pressure groups, aided by strong public support and substantial media attention, combined to exert considerable pressure on the government to enact significant environmental legislation. This "environmental movement" resulted in the enactment of the National Environmental Policy Act (NEPA) in 1969. Under NEPA, Congress set forth comprehensive national environmental policy guidelines for the first time. In the early 1970's many more environmental laws were enacted, such as The Clean Air Act, The Clean Water Act, and Superfund (designed to clean up toxic waste sites). Along with the introduction of environmental policies, the Environmental Protection Agency (EPA) was established in 1970 to deal with

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[33] Charles Howe, "An Evaluation of United States Air and Water Policies," *Environment*, Sept. 1991, p.11.
[34] Howe, p.11.

this new legislation.

The Clean Air Act of 1970 established extensive and stringent pollution regulations, and thus marked the beginning of the present era of pollution control policy.[35] The six main points of the Clean Air act included:

1) Uniform national ambient air quality standards were to be set by the EPA to protect public health and welfare. These uniform standards applied to all U.S. states.[36]
2) Uniform national standards of performance for new industry were to be established.[37]
3) National emission standards for hazardous air pollutants were to be established by the EPA and would apply to existing as well as to new industrial plants. Arsenic, asbestos, benzene, beryllium, radionuclides, and vinyl chloride have all been designated as hazardous according to section 112 of the act.
4) Uniform restrictions on emissions from new motor vehicles were to be set.
5) Citizens were permitted to take legal action against any person, including the U.S. government and the EPA, alleged to be in violation of either emission standard.
6) A 30 million dollar research program was initiated to assess the causes and effects of noise pollution on public health and welfare.[38] The objective of this program was to reduce environmental noise to below a level at which there is a risk of hearing damage.

The Clean Air Act set a precedent for strong environmental legislation, and was intended to protect people and property from the hazardous effects of air pollution. However, the enactment of legislation is only a small part of the process towards achieving environmental clean up. Legislation must be applied effectively following its enactment: unfortunately, this was not the case in the United States. The Clean Air Act originally required the nation's air to be clean by 1975. However, this proved impossible, as the Clean Air Act's standards and deadlines were substantially relaxed in a series of

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[35] Carolyn Adams, Hugh Heclo, Arnold Heidenheimer, Comparative Public Policy: The Politics of Social Choice in America, Europe, and Japan, (New York: St. Martins Press, 1990) p.166.

[36] This act allowed states to set more stringent standards if they wished to do so.

[37] The New Source Performance Standards (NSPS) have been diluted and often revised by the EPA since 1971.

[38] The findings of this study resulted in the Noise Control Act of 1972.

amendments.[39]

In an attempt to postpone the costs of installing controls, industry worked to postpone compliance dates set by the Clean Air Act.[40] Although progress was made in reducing some pollutants, industry's efforts resulted in holding deadlines more than anything else. Increasing pressure for the relaxation of strict deadlines and standards eventually resulted in the Clean Air Amendments of 1977. As a result of these Clean Air Act Amendments automobile emission standards were suspended until 1980-81, and many original standards simply became research objectives.[41] According to Elsom, "with most areas of the country in 1977 not having attained the National Ambient Air Quality Standards for at least one pollutant, extensions to the deadlines were inevitable."[42] The ability of industry to use loopholes in the law to retard cleanup, in addition to the steady increase in the use of energy, made certain that emissions would rise in the future, and they did.[43]

The primary goal of a clean atmosphere remained largely the same, but the once stringent deadlines for achieving this were abandoned. Certainly industrial compliance relies largely upon the administrative agency in charge of achieving compliance. However, the Environmental Protection Agency did not possess enough power to be anything but flexible in its administration of the Clean Air Act, especially towards new industry. By 1982 some regions of the United States had met the set limits for a number of the targeted pollutants. However, most parts of the U.S. had failed to attain the standards set for carbon

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[39] Derek Elsom, Atmospheric Pollution: Causes, Effects, and Control Policies, (Oxford: Basil Blackwell Inc., 1987) p.164.
[40] Samuel P. Hays, Beauty Health and Permanence: Environmental Politics in the United States 1955-1985. (Cambridge, MA: Cambridge University Press, 1987) p.76.
[41] Hays, p.171.
[42] Elsom, p.164.
[43] Hays, p.76.

monoxide, particulate matter, smog, NOx, SOx and chlorofluorocarbons.[44]

The 1990 Clean Air Act Amendments again extended deadlines for emission standards for a long list of pollutants, but they also established tighter pollution standards for ozone (smog), carbon monoxide and particulate matter, and attempted to extensively address the problems of acid rain and energy efficiency.[45] Almost immediately, industry pushed for, and achieved, a federal regulation that drastically weakened the 1990 Clean Air Act Amendments.[46] This new rule allowed manufacturers to exceed atmospheric emission limits by as much as 245 tons of pollutants a year, merely by applying for a waiver of the limits.[47] After being lobbied heavily by industry, this regulation was adopted by Vice President Dan Quayle's business oriented Council On Competitiveness.

Following the 1970 Clean Air Act and the 1977 and 1990 Clean Air Act Amendments there have been perpetual debates, litigation, hearings, and proposals regarding further changes to the Clean Air Act. The private sector continually argues for more leniency in the Clean Air Act, as it believes that the cost of meeting stringent environmental goals is far too high. Industry argues that these costs have contributed to unemployment, inflation, a reduction in productivity, and the decline in U.S. competitiveness in world trade. Environmental groups and lobbies alternately argue the significance of strong environmental regulations, and debate the actual cost of environmental clean-up. As a result of the many opposing forces between industry, the government, and environmental groups, the initially intended goals of environmental legislation, specifically the Clean Air Act in this case, have not been met.

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[44] Hays, p.76.
[45] United States EPA, The Clean Air Act Amendments of 1990 Summary Materials, (Washington DC: Congressional Research Service, 1990) p.1-5.
[46] Tom Wicker, "An Environmental President," *Audubon*, Sept. 1992, p.44.
[47] Wicker, p.44.

The Economics of Pollution Control In The United States

An important factor to address when discussing pollution and private sector compliance towards environmental regulations is the economic benefits offered by pollution. When a factory emits wastes into the atmosphere, it is disposing of its wastes by the cheapest means available. The act of polluting the air keeps the price of its products lower than they would be if expensive control methods were used. As a consequence, the industry sells more products, thereby making more profits. Consequently, the consumers of the products buy them at a lower price. Thus, the pollution problems that presently exist are in part explainable by society's desire for consumer products, as well as its desire to buy these products at the lowest short term market price.[48]

Pollution, in economic terms, is considered an "externality" of the market system. Externalities defined, "are the costs or benefits of a transaction that are incurred or received by other members of the society but not taken into account by the parties to the transaction."[49] Put simply, those who are making use of the atmosphere for waste disposal, generally industry, are not paying for its use. In actuality they are passing the costs, specifically the consequences of pollution, including the monetary costs, onto society in general. Pollution can be costly to the general public in a variety of ways. Illnesses and health care connected with pollution involve the costs of medical care and treatment, not to mention the obvious costs of poor health to individuals. Additionally, air pollution adversely affects soil, water, agriculture, wild life, man made structures, and the weather. The effects of pollution upon these many factors are varied and costly. Even if the costs of pollution were not serious, which in fact they are, the simple purchase of an air conditioner by an individual to keep smoke or exhaust out of

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[48] Adams et. al., p.313.

[49] Paul Courant, Richard Lipsey, Douglas Purvis, Peter Steiner, Microeconomics 10th Edition, (New York, NY: Haper Collins College Publishers, 1993) p.403.

their house is a cost paid for by the public as a result of industrial "free riding."

In a free market economic system a harmful externality, such as pollution, is considered a "failure of the market."[50] Still, one of the most frequent criticisms made by U.S. industry concerning pollution control regulations is that the high cost of compliance leads to plant closures and curtailments, which in turn causes unemployment. A car bumper sticker expresses this perception, "Are You Poor, Hungry, Out Of Work: Eat An Environmentalist."[51] It is argued that the expensive pollution control equipment which companies have to purchase, install, and maintain in order to meet environmental regulations and decrease pollution, leads to many plant closures. Thus, the private sector argues that the financial costs of pollution abatement are simply too great.

Between January 1971 and June 1981, the Environmental Protection Agency identified 153 closures in firms of 25 or more workers, totaling 32,611 workers who lost their jobs supposedly due to environmental regulation.[52] However, the EPA found that environmental regulation was only one of the reasons for these closures. Many firms had closed their older, inefficient or obsolete plants, simply for the reasons that they were old and obsolete.[53] Furthermore, up to 40 percent of these layoffs were re-hired by their original companies at other plants. In comparison to these rather small numbers, the Reagan Administration's 1982 budget cuts alone led to the unemployment of one million people in both the public and private sectors.

Pollution abatement costs for industries are indeed substantial. However, these costs should be compared with the amount of money saved in wages and productivity which would be lost due to health problems caused by

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50 Courant et. al., p.403.
51 Elsom, p.174.
52 K.L. Grossman, "Job Taker or Job Maker?" *Environment* , Spring 1982, p.43.
53 G. R. Harris, "Positive Impacts of Environmental Policy on Business in the U.S.," *International Environmental Studies,* Spring 1981, p.75.

air pollution. One must consider the monetary benefits of reduced medical treatment, as well as less damage to buildings, crops and forest areas. In 1976 Senator Edmund Muskie, sponsor of the Clean Air Act, claimed that 15,000 deaths per year, as well as 15 million days of restricted activity per year, occurred as a result of air pollution.[54] Furthermore, many argue that, the number of jobs lost compared with those gained in the growing industry of pollution control is small. It has been estimated that between .5 and 1.1 million people are employed in public and private pollution control industries.[55]

There are many scientists and economists who believe that proper waste disposal and anti-pollution technologies can serve to create jobs rather than destroy them. Furthermore, environmental research and technology designed to preserve the environment offers limitless economic opportunities. If devices were to be redesigned to operate more efficiently new markets would open up for these more efficient products. Perhaps millions of refrigerators and air conditioners, both which emit chlorofluorocarbons, would eventually need to be replaced. In turn the opportunity for development, production, and sales of new refrigerators and air conditions would be enormous. This fact is a basic economic precept. While Japan is working on just such innovations, the United States is now importing most of its air pollution control devices and equipment from Japan.[56]

The current Clinton Administration, and those administrations that will follow, have the challenge of continuing to clean the air and improving the environmental quality while simultaneously encouraging economic growth. Industrialists and environmentalists will continue to argue the significance of these two goals, and each group will of course attempt to shift the balance of

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54 Elsom, p.190.
55 Grossman, p. 43.
56 Grossman, p.46.

success in their favor. The present debate on industrial policy under the Clinton Administration does include plans to achieve a better balance between environmental and economic objectives, and encourages a more cooperative effort between business and government concerning environmental policy. However, President Clinton's plans involve little new legislation, new spending, or new research proposals. Furthermore, they are all "suggested policies," lacking any real incentives for compliance or deterrents to non-compliance.

Interestingly, the Japanese government has succeeded in achieving what the United States private sector claims is impossible. Japan has drastically improved the quality of their environment, specifically their air quality, while not only maintaining their strong economic situation, but experiencing economic growth. In fact, Japan's gains in efficiency during the 1970's and 1980's were so great that it now uses just 50 percent of the resources (materials and energy) that the U.S. does to produce one unit of GNP; this is said to translate into a 5 percent cost advantage on products.[57]

In summary, it is clear that American air pollution remains a major problem, and that it has profound implications in terms of health, economic well being, as well as the preservation of natural resources and surroundings. Furthermore, the large amount of air pollutants from American sources are contributing significantly to world air pollution, and may play a major role in changing world climate patterns as well. It can be argued that the United States, a nation that holds six percent of the worlds population, yet consumes annually over 35 percent of the world's resources, generating proportionate burdens of harmful wastes, should indeed take some global environmental responsibilities. Unfortunately, as a result of many opposing forces between industry, the government, and interest groups, substantial progress has not

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[57] Emily Smith, "Growth Versus The Environment," *Business Week*, May 11, 1992, p.69.

been made in the area of air pollution or other environmental goals in the U.S., specifically when compared to Japan's progressive record.

CHAPTER II

ENVIRONMENTAL POLICY IN JAPAN: THE CLEAN AIR ACT

In order to understand the process and consequences of policy-making in Japan, specifically environmental regulation, it is first necessary to examine the history and framework of the Japanese political system. Japan has a long tradition of institutionally separating the functions of those who reign and those who rule, clearly distinguishing between sovereign authority and political power.[58] Following the Tokugawa pattern of imperial reign and feudal rule, the Meiji Constitution of 1889 placed sovereignty in the Emperor, but ratified a political structure that allowed the majority of political power to be held by the national bureaucracy.[59] Similarly, Japan's revamped constitution of 1947 (modeled on the American Democratic system) places sovereignty in the National Diet as representative of the people, but gives the bureaucracy the responsibility of formulating and implementing legislation.[60] Frank Upham states that, "the national bureaucracy remains one of the preeminent political groups in Japan, essentially dominating the Diet in both the formulation and implementation of policy."[61] Chalmers Johnson similarly contends that "in Japan politicians reign but the bureaucrats rule."[62]

Furthermore, Japan's political system is generally described as a

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[58] Frank Upham, Law and Social Change in Postwar Japan, (Cambridge, MA: Harvard University Press, 1987) p.14.
[59] Upham, Law and Social Change, p.14.
[60] Upham, Law and Social Change, p.14.
[61] Upham, Law and Social Change, p.14.
[62] Chalmers Johnson, MITI And The Japanese Miracle: The Growth of Industrial Policy, 1925-1975, (Stanford: Stanford University Press, 1982).

triumvirate consisting of the leaders of the Liberal Democratic Party (LDP), top business management, and elite bureaucrats.[63] These three groups are not only tightly interlocked, both politically and socially, but economically interdependent as well.[64] Upham states,

> The LDP politicians posses supreme formal authority: during periods of severe inter-ministerial conflict or great political sensitivity this formal authority becomes important politically, but in ordinary times the government of Japan is firmly in the hands of the bureaucracy."[65]

Typically, the Diet's legislative role consists of passing bills drafted by the bureaucracy. The bureaucrats have the uppermost role of both formulating as well as implementing policy. This of course applies to environmental policy, and possibly serves as the root of Japan's success with environmental regulations.

Following World War II the Japanese government's primary commitment was to economic growth and the transformation of the economic base from agriculture and light industry to heavy industry.[66] In order to achieve this rapid industrial development the Japanese government promoted a technology policy that was particularly harmful to the environment. The policy of "unbundling" complex technology allowed producers to set up the minimum technological core necessary for a quick, cheap start of operations.[67] This policy simply meant that the heavy and chemical industrial plants, which did not have pollution control safeguards, simply dumped untreated smoke and waste into the environment.[68] As industrialization expanded, more and more pollutants

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[63] Upham, Law and Social Change, p.14.
[64] Upham, Law and Social Change, p.14.
[65] Upham, Law and Social Change, p.14.
[66] Tyson et. al., p.67.
[67] Koji Taira, "Dialectics of Economic Growth, National Power, and Distributive Struggles," in Andrew Gordon, ed., Postwar Japan as History, (Berkeley: University of California Press, 1993) p.171.
[68] Taira, p.171.

entered the environment. By the 1960's Japan was literally the most polluted nation in the world.[69] In 1970 Dr. Marshal Goldman wrote of Japan's situation,

> As a country with perhaps the world's highest and most sustained rate of economic growth, Japan is a fascinating study not only of rapid industrialization, but also of the environmental disruption that results when modernization comes too fast and haphazardly . . . To the visiting ecologist Japan suggests what might happen the day before the earth poisons itself to death.[70]

Japan's environmental movement was initiated by a series of events in the mid-1960's known as the "Big Four" pollution incidents: mercury poisoning (from the industrial wastes released by the Japan Nitrogen Company) in Minamata and Niigata that killed and crippled thousands of people; air pollution causing asthma and bronchitis in Yokkaich; and cadmium poisoning in Toyama; which resulted in bone diseases. As the tendency of lawsuits on behalf of pollution victims increased, they became the focus of a large anti-pollution movement in Japan. The government's reaction to this movement was a substantial turnabout in industrial policy.

Japan's environmental legislation culminated in a remarkable session of the national Diet in December, 1970 known as the "Pollution Diet." At this session the national government created The Environment Agency, and passed over a dozen laws involving pollution control. The Pollution Diet enacted a series of amendments and new statutes that established Japan as an innovator in environmental policy and eventually a leader in pollution control.[71] Upham states of the "Pollution Diet,"

> Perhaps most indicative of the political mood and the complete reversal of political and social momentum was the unanimous vote of the Diet to

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[69] Vogel, National Styles of Regulation, p.29.

[70] Marshal Goldman, Ecology and Economics: Controlling Pollution in the 1970's, (Englewood, NJ: Prentice Hall Inc., 1972) p.167.

[71] Upham, Law and Social Change, p.30.

> eliminate a clause in the Basic Law for Environmental Pollution Control of 1967 that limited environmental regulation to that consistent with economic growth.[72]

This vote is considered ground breaking in terms of environmental policy, as it put environmental concerns on equal grounds with economic concerns.

Despite the previously bleak environmental situation, Japan's 1976 report on the state of the environment, submitted at a meeting of the Organization of Economic Cooperation and Development (OECD), offered an impressive record of achievement. This record was all the more impressive when compared to Japan's depressing 1972 report to the United Nations Stockholm Conference on the Human Environment which revealed Japan's substantial pollution problems.[73] As stated by Fujikura et. al., the 1976 report showed that,

> In many parts of the country pollution had declined to a remarkable degree.[74] Elsewhere it had been arrested. And in several areas Japanese industry had met the world's strictest environmental standards.[75] From an economic perspective, the most striking result of Japanese pollution control policies, analyzed under three economic models, was that GNP and employment were practically unaffected. Foreign observers recalling the dreary Japanese report to the 1972 United Nations Stockholm Conference on the Human Environment may find this transition startling, for Westerners have come to think of Japan, perhaps as a result of the conference, as a veritable cauldron of pollution.[76]

It is important to note that Japan's economy was not affected by pollution control

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[72] Upham, Law and Social Change, p.30.

[73] Koichiro Fujikura, Julian Gresser, Akio Morishima, Environmental Law in Japan, (Boston: The MIT Press, 1981) p.229.

[74] This is based on the OECD report, "Environmental Policies in Japan." A report of the Organization for Economic Cooperation and Development (1977).

[75] Perhaps the clearest index of environmental improvement is the dramatic reduction of SO2 (sulfur dioxide) concentrations since 1967. For example, in 1974, average concentrations were 50 % lower than those in 1967. Concentrations of CO (Carbon Monoxide) also diminished substantially. All monitoring sites reporting in 1975 registered compliance with the 1975 ambient air quality standards.

[76] Fujikura et. al., p.229.

efforts, in fact Japan's economy has seen steady growth despite their success with pollution controls.[77]

Japan's situation is interesting and significant to the study of environmental policy making for several reasons. First, Japan's pollution control efforts have been more effective than measures conducted in the United States or other Western countries.[78] Furthermore, it is generally believed that pollution control regulatory policies have been executed more efficiently and equitably in Japan than comparable U.S. initiatives.[79] Michio Hashimoto, the advisor to Japan's Environment Agency and president of the Overseas Environmental Cooperation Center states that, "economic development and environmental preservation are not conflicting goals."[80] This belief is contrary to U.S. industry's attitudes towards environmental regulations and economic growth.

To a large degree, Japan's success with environmental policy can be traced to their regulatory process and, specifically, industry's compliance with environmental regulations. This is due to the fact that Japan's environmental policy is built upon an extremely strong business-bureaucracy coalition. Another significant factor is the bureaucracy's virtual monopoly over the legislative process in Japan.[81] Within these relationships Japan has successfully combined healthy economic growth with tough pollution controls.

Evidence of Japan's Success

The Japanese government has succeeded in achieving what the United States often claims is impossible. Japan has drastically improved the quality of

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77 The Japanese Ministry of Foreign Affairs, "Japan's Environmental Endeavors," (Tokyo: Kasumigasei Chiyoda-ku,1992) p.4.
78 Fujikura et. al., p. 229.
79 The Japanese Ministry of Foreign Affairs, p.2.
80 The Environment Agency of Japan, "Economic Development and the Environment: The Japanese Experience," (Tokyo, Japan: Kasumigasei Chiyoda-ku, 1992) p.1.
81 Fujikura et. al., p.230.

its environment, specifically the air quality, while maintaining strong economic growth. In fact, Japan's gains in efficiency during the 1970's and 1980's were so great that it now uses just 50 percent of the resources (materials and energy) that the U.S. does to produce one unit of Gross National Product (GNP); this resource efficiency is said to translate into a 5 percent cost advantage on products.[82]

Upon the commencement of Japan's environmental regulations, Japan began to achieve great success in energy conservation, specifically in the industrial sector. As illustrated in figure 2.0, since the early 1970's energy efficiency in Japan has continually improved and Japan has achieved the highest level of energy efficiency among the major industrialized countries.[83] Since the first oil crisis, energy consumption per Gross Domestic Product (GDP) in Japan has decreased more rapidly than any other developed country.[84] Figure 2.0 illustrates that the volume of energy consumption per GDP is also the lowest. Adherence to policies concerning energy use, as well as the investment in new equipment, made this possible in Japan. A change in industrial processes into those which are less energy-demanding and the wide use of energy efficient consumer products has contributed to Japan's efficient use of energy.

To deal with air pollution, energy efficiency must be improved by curbing carbon dioxide emissions caused by energy consumption. Figure 2.1 demonstrates that Japan emitted far less than half of the carbon dioxide emitted per capita in the U.S in 1988.[85] This fact remains true to the present day.[86] The

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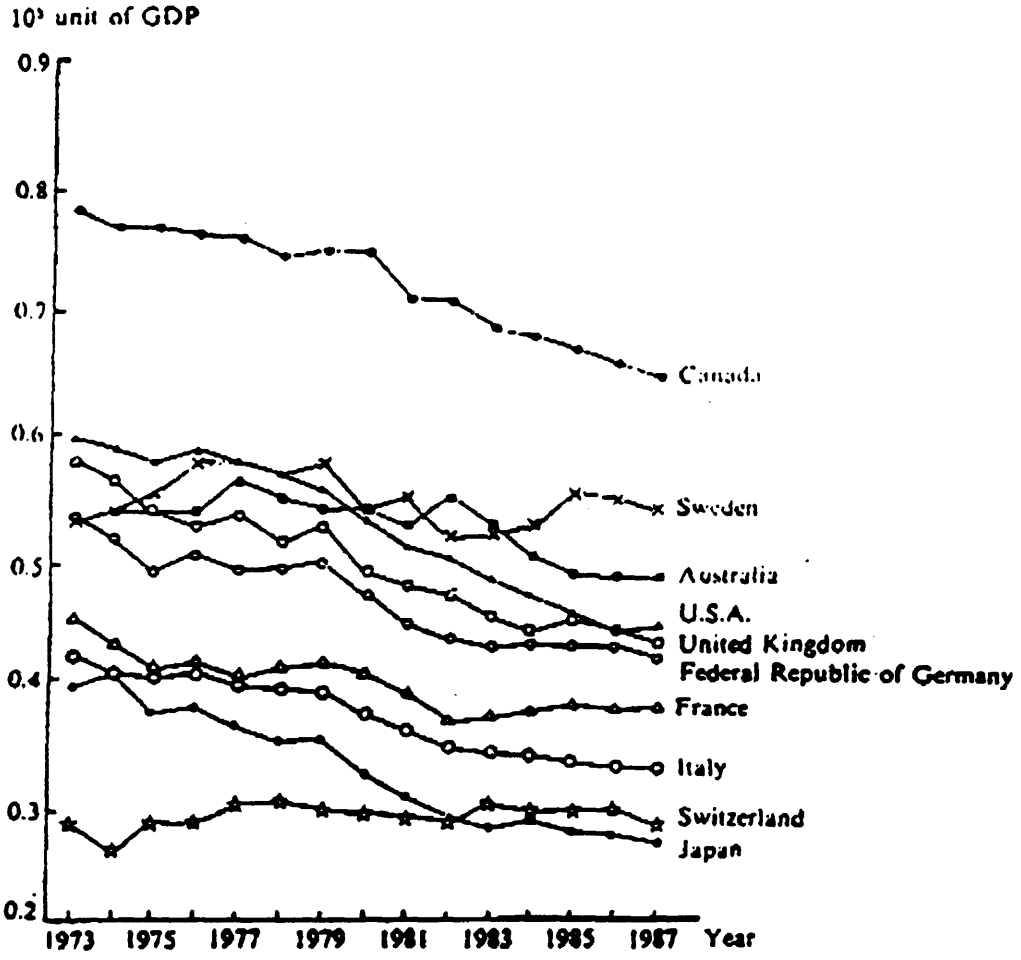
[82] Emily Smith, "Growth Versus the Environment," *Business Week*, May 11, 1992, p.69.
[83] Japanese Ministry of Foreign Affairs, "Japan's Environmental Endeavors," 1992, p.2.
[84] Organization For Economic Cooperation and Development, "Energy Balances of OECD Countries," (Paris, France: OECD Publications, 1986 & 1987).
[85] Organization For Economic Cooperation and Development, "Environment Data, "1988, Calculated on the basis of United Nations Energy Statistics.
[86] Jacob Schlesinger, "Thinking Green: In Japan Environment Means an Opportunity for New Technology," *The Wall Street Journal*, June 3, 1992, p. A10.

Trend of energy per GDP in major OECD countries

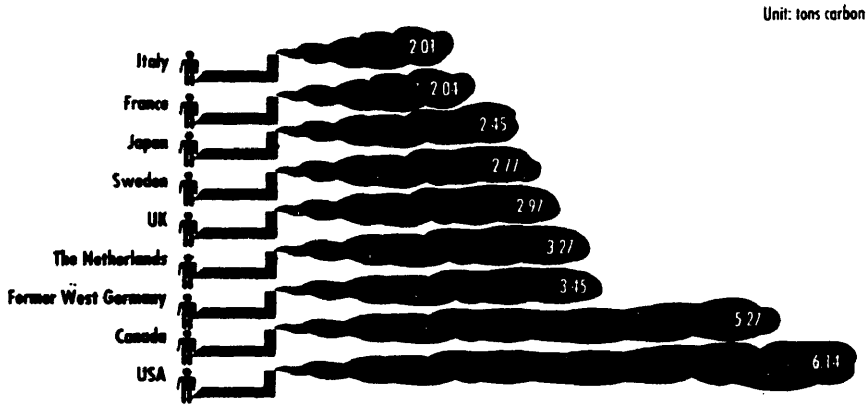


Energy per GDP=primary energy demand(toe)/GDP (1 million US$(1985))

(Source) Energy Balances of OECD Countries. 1986/1987

Figure 2.0

• **Comparison of Per Capita Carbon Dioxide Emissions (1988)**



Source: OECD Energy Balance 1988

Figure 2.1

emission of carbon dioxide is generally thought to increase in parallel with the expansion of economic growth. However, since 1973, Japan has succeeded in nearly stabilizing energy related carbon dioxide emissions while maintaining high GNP growth.[87] Japan's commitment to continue its strong pollution control practices was reinforced when Japan pledged in 1990 to continue to stabilize carbon dioxide emission over the next decade. The U.S. refused to make such a commitment.[88]

The central causes of ozone depletion are chlorofluorocarbons (CFCs) and halons used by industries as refrigerants in air conditioners and as cleansers for electronic parts. At the 1985 Vienna Convention for the Protection of the Ozone Layer, and the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, the international participants agreed to the total phase-out of controlled CFCs by the year 2000. The United States did not agree to this measure, but Japan did. As of 1986 Japan's consumption of CFC's and Halons was less than 50 percent that of the United States (See Fig. 2.2).[89] As of 1992 Japan's production and consumption of CFCs have been steadily reduced based on the schedule of the Montreal Protocol: CFC production has decreased by about 26 percent, and consumption has decreased by 33 percent in comparison to 1986 levels.[90] In order to meet the deadlines of the Montreal Protocol, MITI provides low interest loans and tax incentives to companies that make efforts to recycle and reuse CFC substances, as well as limit their production of chlorofluorocarbons and halons.[91] Furthermore, the Ministry of International Trade and Industry stated in July of

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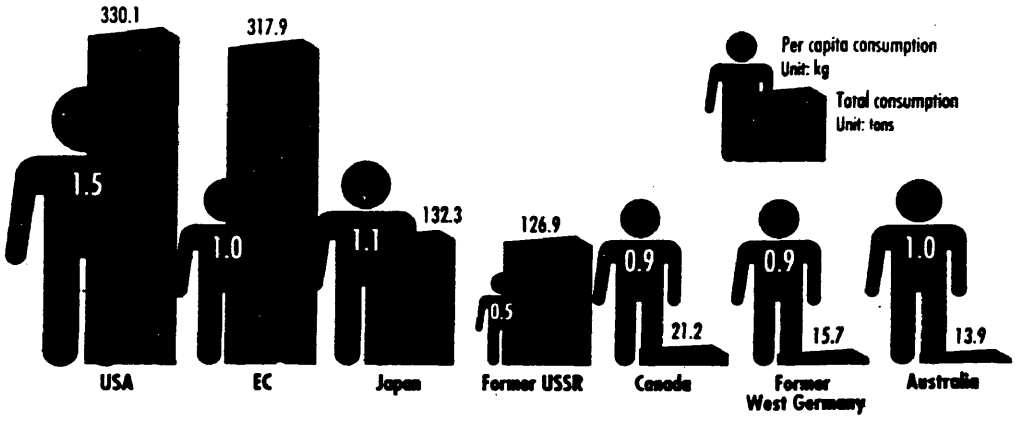
[87] OECD, "Environment Data," 1988.
[88] Ibid., p.A10.
[89] UNEP, Statistical Yearbook, 1986..
[90] Japanese Ministry of Foreign Affairs, p.5.
[91] The Environment Agency of Japan, "Economic Development and the Environment: The Japanese Experience," 1992.

• **Consumption of Controlled CFCs and Halons in Major Nations (1986)**



Source: UNEP, Statistical Yearbook (1986)

Figure 2.2

1990 that it was increasing financial help to industries that emit CFCs.[92]

Acid Rain, an additional result of air pollution, develops when air absorbs sulfur oxides (SOx) and nitrogen oxides (NOx) produced by burning fossil fuels. According to the United Nations Economic Commission for Europe, by 1987 acid rain had destroyed over 30 percent of Europe's forests. Acid rain also acidifies the soil and bodies of water, causing damage to crops, vegetation, and fish. Even marble and metal structures are damaged and eroded by acid rain. Since 1973, Japan has regulated NOx and SOx emissions from commercial and industrial sources. According to the Organization for Economic Development, Japanese environmental standards for SOx and NOx emissions, as well as for other particles associated with acid rain, are the strictest in the world.[93] Furthermore, as shown in figures 2.3 and 2.4, 76 percent of the world's desulfurization and denitrification plants are located in Japan, more than six times the number of desulfurization plants and twelve times the number of denitrification plants as in the United States as of 1989.[94] Japan's 2,189 desulfurization and denitrification plants represent the highest number of such plants in the world.[95]

Additionally, Japanese companies use enhanced fuels or fuels with low sulfur levels to meet Japan's strict standards. As a result of these efforts, Japan's per capita emissions of SOx and NOx in 1989 were 7.8 percent and 12 percent respectively of U.S. levels, as shown in Figure 2.5. Furthermore, as illustrated in Figure 2.6, Japan's levels of SOx and NOx emitted from industry dropped significantly through the 1980's, indicating successful industrial compliance towards emission regulations. As indicated by figures 2.7 and 2.8,

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[92] The Environment Agency of Japan, 1992.
[93] Organization for Economic Development, Environmental Policies in Japan, (Paris: OECD Publishing, 1977) p.25.
[94] Japanese Ministry of Foreign Affairs, 1992, p.7.
[95] Japanese Ministry of Foreign Affairs, 1992, p.7.

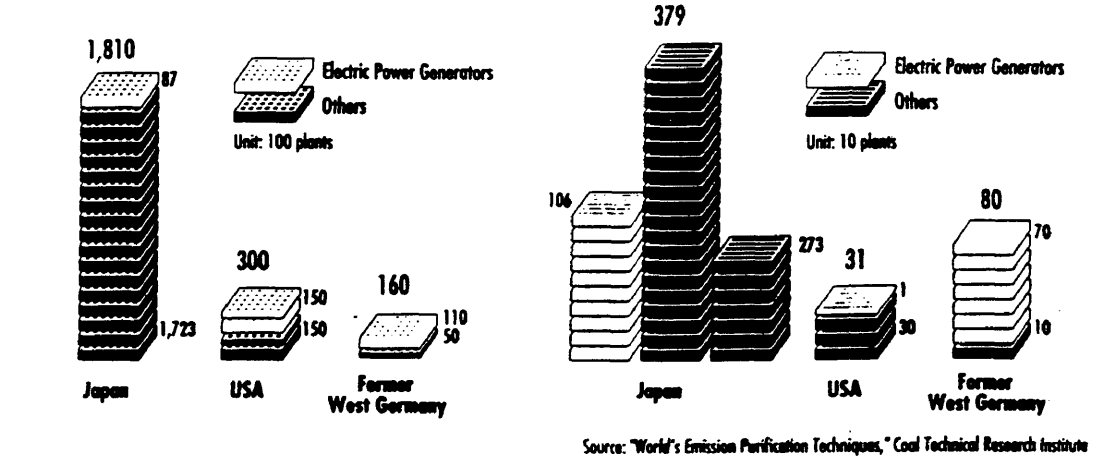

• Number of Desulfurization Plants (1989)
1,810
87
1,723
Electric Power Generators
Others
Unit: 100 plants
300
150
150
160
110
50
Japan
USA
Former West Germany
• Number of Denitrification Plants (1989)
379
106
273
Electric Power Generators
Others
Unit: 10 plants
31
1
30
80
70
10
Japan
USA
Former West Germany
Source: "World's Emission Purification Techniques," Coal Technical Research Institute

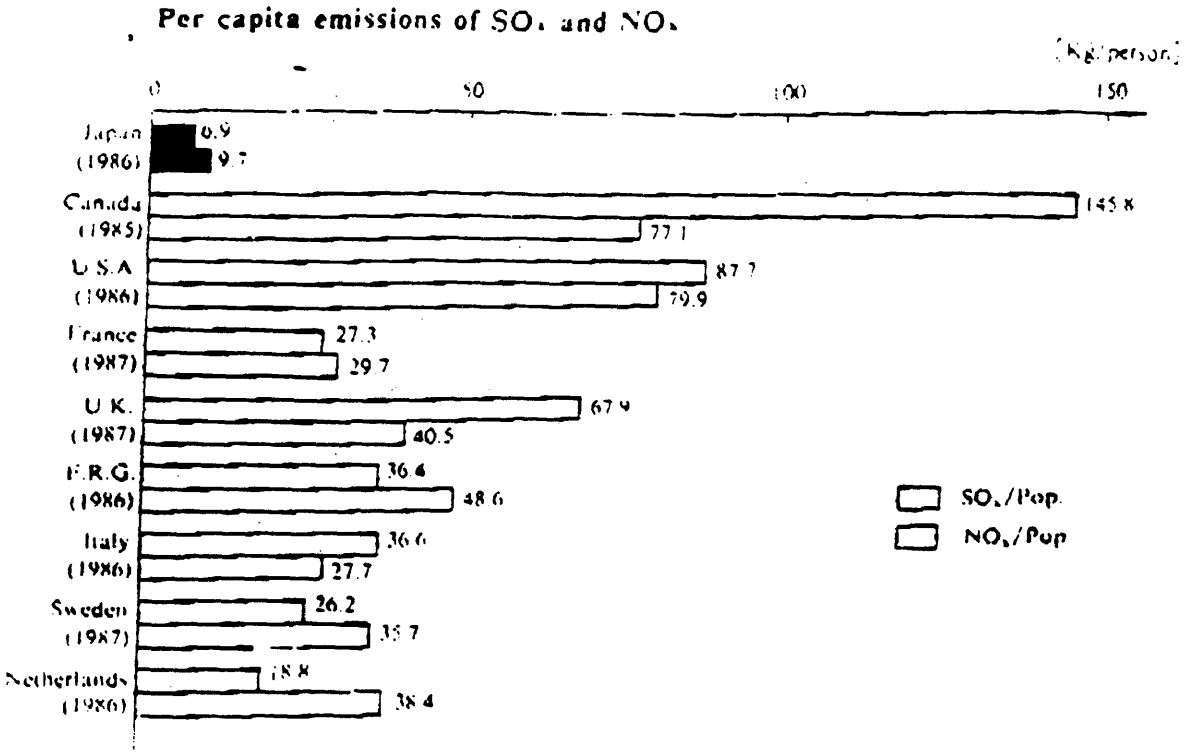
Figure 2.3

Number of Stack Gas Desulfurization and Denitrification Facilities Installed (1989)

	Japan	United States	West Germany	Other countries
Desulfurization				
Electric power plants	87	150	110	50
Other plants	1,723	150	50	50
Total	1,810	300	160	100
Denitrification				
Electric power plants	106	1	70	20
Other plants	273	30	10	10
Total	379	31	80	30

Source: Professor Jumpei Ando, Chuo University, *Sekai no haien joka gijutsu* (The World's Stack Gas Purification Technology), Coal Mining Research Center, Japan, 1990.

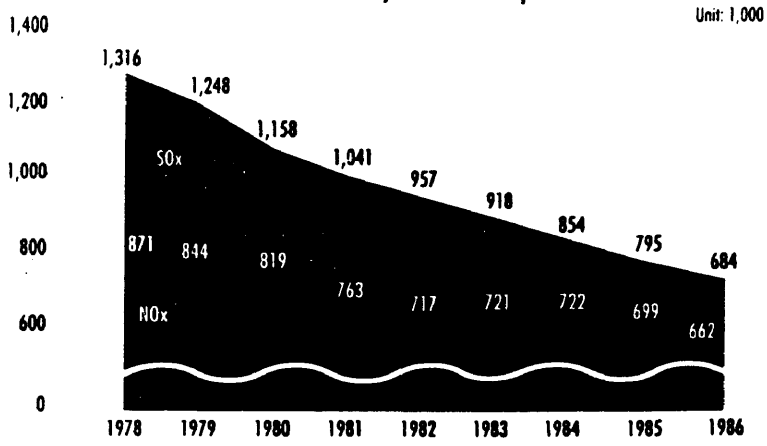
Figure 2.4



Source=OECD Environmental Data 1989

Figure 2.5

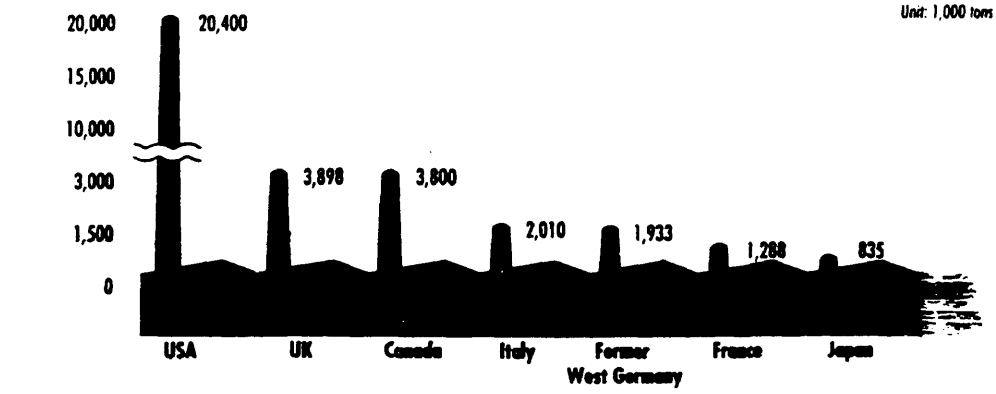
• Changes in SOx and NOx Emissions from Stationary Sources in Japan



Source: Environment Agency

Figure 2.6

• **Comparison of Sulfur Oxide Emissions (1987)**

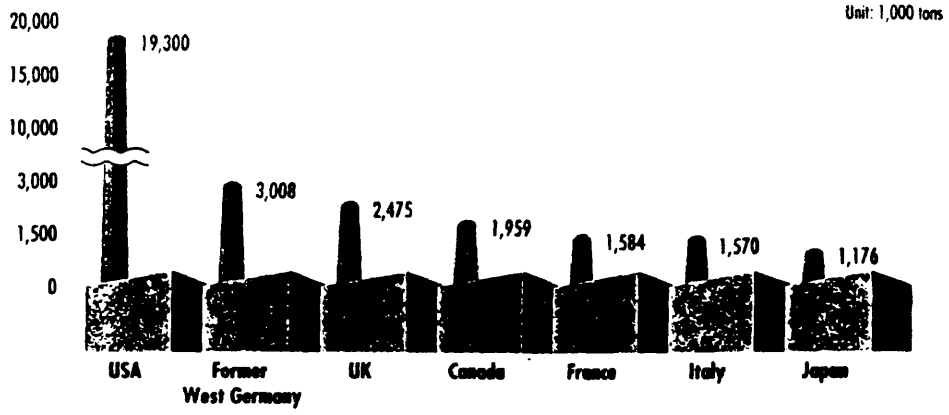


Note: Japanese figures as of 1986

Source: OECD Environmental Data

Figure 2.7

• **Comparison of Nitrogen Oxide Emissions (1986)**



Note: Canadian figures as of 1985

Source: OECD Environmental Data

Figure 2.8

by 1986 and 1987 Japan's SOx and NOx emissions were well below U.S. emission levels.[96] As of 1992 Japan's SOx emission level was 4 percent that of the United States, and the NOx emission level was 6 percent of the U.S. level.[97]

It seems clear from these statistics that Japan is continually attempting to strike a balance between economic growth and ecological soundness. Japan's Ministry of International Trade and Industry was once entirely focused on increasing industrial productivity, now it seems to focus on combining sound economic growth with tough pollution controls. In Japan, Environmental innovation is gradually becoming linked to industrial competitiveness.

Research and Development in Japan

Japan has put a great deal of money into research to help industry solve pollution problems. Most of The Ministry of International Trade and Industry's (MITI) 50 million dollar global outlays in 1991 went to government-industry projects to develop environmentally friendly technology.[98] Furthermore, MITI designed a detailed 100 year blueprint on how to eliminate a variety of pollutants, and recently opened a new Research Institute of Innovative Technology for the Earth (RITE); the world's first commercial environmental technology institute.[99] In 1992 RITE was given a budget of 6.2 billion yen and additionally received 8,000 million yen from local governments and industry, making RITE the largest project ever launched by MITI.[100] MITI has also set up the International Center for Environmental Technology Transfer, so that other nations can benefit and contribute to this undertaking.

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[96] Organization For Economic Cooperation and Development, "Environment Data," 1987.
[97] Organization For Economic Cooperation and Development, 1987, p.10.
[98] Christopher Anderson, "A Huge Increase For Global Environment," *Nature,* January, 1991, p.95. These R&D expenditures are not to be confused with the R&D budget of Japan's Environment Agency. The noted expenditures are projects of MITI, a separate agency from the Environment Agency.
[99] Anderson, p.95.
[100] Anderson, p.94.

RITE is modeled after the government-industry consortia that made Japan world competitive in semiconductors and computers. It is currently targeting seven fields, and each project has up to 16 companies participating. Many other Japanese ministries, such as the Construction Ministry and the Agriculture Ministry are joining in the venture and starting their own environmental programs. This substantial support for technical assistance and research programs is meant to encourage industries to reduce their produced waste and to identify new processes to control pollution. By comparison, the U.S. government spends relatively little money on waste reduction or research efforts. For example, in 1988 the EPA's budget request for activities to minimize waste was only .03 percent of its operating budget.[101] (See Fig. 2.9).

Fig. 2.9 Government Subsidies for Environmental Research and Development, In Millions of U.S. Dollars (At 1980 Price Level) And As A Percentage of Total Research and Development Expenditures.

	1975		1979		1983		1985	
	$	%	$	%	$	%	$	%
United States:	$235.6	.9	$308.5	1.0	$171.6	.5	$198.2	.5
Japan:	$ 62.6	1.5	$ 81.3	1.6	$ 80.4	1.4	----------	

*Source: OECD, Environmental Data Compendium (Paris: OECD, 1987), p.301.

Clearly, the Japanese are reaching both environmental and economic goals while continuing to put a great deal of money into further research to help solve environmental problems. If Japanese companies are as successful at creating environmental technology as they have been in so many other consumer and industrial markets, the United States may face the real possibility that environmental competitiveness will ultimately exacerbate trade tensions. American policy makers would then be placed in the awkward political position of trying to discourage the domestic sale of environmentally sounder products

[101] Adams et. al., p.343.

even as they champion the virtues of clean air and environmental protection.

In summary, although Japan and the U.S. share similar formal political structures, and have implemented almost identical pollution policies, Japan's regulations, specifically air pollution regulations, have been implemented more successfully. This success in achieving industrial compliance is primarily due to the bureaucracy's ability to control the formulation of pollution laws and cooperate with industry in their implementation. Importantly, the relationship between business and government in Japan is not adversarial, rather it involves many avenues of formal and informal cooperation. Additionally, the Japanese government offers many research and financial incentives to industries in order to reinforce a strong working relationship between the public and private sectors in their efforts towards environmental clean up.

CHAPTER III

INDUSTRY AND AIR POLLUTION:
A Case Study of the Automobile Industry in the United States and Japan

Fig. 3.0

Automobile Emission Standards
Japan and Selected Countries
(g/km)

	CO	HC	NOx
Japan (1976)	2.10	0.25	0.60
Japan (1978)	2.10	0.25	0.25
U.S.A.(1975)	9.30	0.93	1.93
U.S.A.(California 1975)	5.60	0.56	1.25
Canada (1975)	15.62	1.25	1.94
Sweden(1976)	24.20	2.10	1.90

CO=Carbon Monoxide / HC=Hydrocarbons / NOx=Nitrogen Oxides
*Source: OECD Environmental Policies in Japan, Paris 1977

It has previously been suggested that several factors are responsible for Japan's success with pollution controls and regulatory compliance. The absence of these same factors can also explain the United States' comparatively anemic efforts and accomplishments with this same goal. In brief these factors include 1) Japan's strong business - bureaucracy coalition as opposed to a powerful U.S. private sector constantly resisting administrative regulations 2) Financial aid and incentives given to Japanese industry to induce both research and compliance compared to a lack of little or no financial or research assistance in the U.S. 3) A pluralistic U.S. political system that serves to debate and dilute substantial pieces of legislation, thus destroying the initial purpose of legislation, as opposed to Japan's relatively closed political

system. These points can be effectively illustrated in a case study of industrial compliance following the enactment of the Clean Air Acts in both Japan and the United States.

Kelley, et al. state that, "The hallmark of contemporary American industry is bigness."[102] As of 1976 half of all manufacturing assets were held by the hundred largest companies in America.[103] According to the U.S. Department of Commerce, although smaller companies have made substantial gains and have softened this statistic, this figure remains fairly accurate.[104] Most of these large industries (automobile, steel, paper, petrochemical, oil, and power) are oligopolistic. The most powerful firms in these areas adopt very cohesive positions on environmental policy. Kelley et al. state of these firms,

> Concealed behind a public-relations smoke screen of exhortations about the need to balance environmental protection with continued industrial growth, they consistently resist the enactment and enforcement of legislation designed to promote environmental policy.[105]

U.S. firms believe that it is in their best interest to resist any government controls which would increase their production costs. Some industries are, of course, more adversely affected by control efforts than others. These include such industries as automobile manufacturers, oil companies, and electric power utilities. This combination of resistance by the relatively few, but politically and economically powerful, industries serves to adversely affect U.S. environmental policy through strong anti-control lobbies at all levels of government.[106]

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[102] Donald Kelley, Kenneth Stunkel, Richard Wescott, The Economic SuperPowers and The Environment: The United States, The Soviet Union, and Japan, (San Francisco, W.H. Freeman and Company, 1976) p.29.
[103] Kelley et. al., p.29.
[104] Howard Schreier, The United States Department of Commerce, July 20, 1993.
[105] Kelley et. al., p.30.
[106] Paul Downing, Air Pollution And The Social Sciences, (New York: Praeger Publishers, 1971) p.5.

Once again we will examine the Clean Air Act of 1970 to study U.S. industry's reaction to environmental legislation. The 1970 Clean Air Act was the strongest piece of legislation aimed at restoring and maintaining the quality of the environment yet passed in the United States. It was designed to give the nation a clean and healthy atmosphere by the mid 1970's. However, considerable opposition from the private sector, in conjunction with the energy and economic crisis, resulted in a great deal of relaxation in this goal. An example of this effort to resist and reduce regulations can be provided by the automobile industry.

The 1970 Clean Air Act gave many new powers to the Environmental Protection Agency in a variety of areas affecting air pollution. With regard to auto emissions, the law required a 90 percent reduction in emissions from the levels produced by 1970 models of automobiles. These reductions were to be achieved by January 1, 1975 for unburned hydrocarbons and carbon monoxide, and by January 1, 1976 for nitrogen oxides. These standards could be deferred for one year beyond the 1975 and 1976 target dates upon application by individual manufacturers. The deferment was dependent upon whether the EPA Administrator determined after a hearing, that 1) meeting the standards by the dates set was not technologically feasible, and 2) that the company in question had made a "good faith" effort to meet the standards stipulated by the law.[107]

In 1970, the American automobile manufacturers were denounced as one of the nation's largest contributors to air pollution, accounting for about one third of all health imperiling chemicals released into the air in the 1970's.[108] In many cities pollution levels were several times higher than federal health

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[107] "The Question of Relaxing Automobile Emission Controls," *The Congressional Digest*, March 1974, p.73.
[108] "Car Trouble," *The New Republic*, August 11, 1973.

standards recommended. Additionally, the EPA had found that one quarter of the children in cities had unacceptable lead levels in their bodies from breathing air contaminated with lead from exhaust.[109] There was no doubt that the need for a substantial decline in automobile engine pollutants was a necessity. However, the emission standards in the Clean Air Act of 1970 met much opposition from the American automobile industry, an industry whose managers had traditionally exercised a great deal of autonomy concerning the external environment.

The United States automobile industry so vehemently attempted to abolish the Clean Air Act's regulations that it initiated one of the most intense lobbying efforts of its time. Both Edward Cole, President of General Motors, and Lee Iacocca, Executive Vice President of Ford, personally took their case to Washington. Iacocca, who called a meeting of key Ford suppliers and dealers to mount a large telegram campaign, went so far as to claim that the bill, "could prevent continued production of automobiles after Jan. 1, 1975."[110] Lobbyists for the automobile industry met with Caspar Weinberger, Deputy Director of the Office of Management and Budget, in an attempt to garner support for interventions against the 1975 deadline. According to the automobile companies these regulations were considered a total infringement upon free-market objectives and a continual disruption in the functioning of their companies.[111]

The automobile industries stated that the Clean Air Act stipulations exceeded their technological capabilities, and that attainment of the vehicle emission standards for carbon monoxide and hydrocarbons by 1975, and for

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[109] The United States Environmental Protection Agency, "National Air Quality and Emissions Trends Report," 1991, p.1-3.
[110] "Detroit's Battle with Washington," *Business Week,* December 5, 1970.
[111] Robert Shook, Turnaround: The Ford Motor Company, (New York: Prentice Hall Press, 1990) p.6.

oxides of nitrogen by 1976, was impossible.[112] The resistance by the auto companies took various forms, from lobbying Congress in order to delay the implementation of standards, to igniting media campaigns, to simply refusing to meet emissions standards and mandates on time.[113] Conversely, many scientists as well as politicians and environmentalists were convinced that the automobile industry could, and should be expected to, comply with the standards of the Clean Air Act. Senator Muskie claimed that Detroit already possessed the laboratory technology to meet the 1975 standards.

The earliest filing date for complaints about the deadline was January 1, 1972. General Motors, then the richest company in America, was the first to approach the EPA on January 12. Shortly following General Motor's initiative, Ford and Chrysler made separate appeals. Together the automobile companies showered the EPA with more than 2,000 pages of evidence claiming that despite its best efforts, the industry would not be able to meet the deadline dates. In April 1972, the United States Environmental Protection Agency held a hearing on the 1975 emission control standards required by the Clean Air Act. This time the "Big Three of Detroit" (General Motors, Chrysler, and Ford) insisted on at least a one year postponement of the implementation of the standards. Testifying before officials of the EPA in Washington, executives of General Motors, Ford, Chrysler, and American Motors stated that their vehicles could not meet the strict and "unrealistic" standards for exhaust emissions.

Under the 1970 Clean Air Act, EPA Administrator Ruckelshaus could grant an extension only if the industry demonstrated that the required technology did not exist, despite a "good faith" effort to comply. According to

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[112] Elsom, p.171.

[113] Dennis Patrick Quinn, Restructuring the Automobile Industry: A Study of Firms and States in Modern Capitalism, (New York: Columbia University Press, 1988) p.96.

Ruckelshaus the automobile industry simply did not meet this requirement. Ruckelshaus stated that, "They have not established that the technology does not exist. The auto industry has neither built adequate test facilities nor provided adequate financial support or cooperated with independent suppliers."[114] Significantly, the fact that two Japanese auto companies had already begun manufacturing cars that met the 1975 U.S. standards helped persuade Ruckelshaus to veto the request for an extension. However, the auto makers appealed the EPA's decision to the U.S. Court of Appeals in Washington. The Court found in February 1973 that economic considerations had to be taken into account despite claims to the contrary by the EPA's Administrator William Ruckelshaus.[115] Thus, in April 1973, the Environmental Protection Agency was forced to succumb to the pressures of the automobile industry and granted a one year extension for many emission standards.[116]

While Ruckelshaus eventually granted this extension, he did establish two sets of interim standards for 1975, one for cars sold in California and the other for cars sold elsewhere (See Fig. 3.0). These national interim standards were still strict enough that the auto makers were forced to use catalysts in California models. Chrysler Corporation, behind GM and Ford in research and technology, had the biggest problem with these new standards. Chrysler opposed the use of catalysts even in California, stating that it could not comply. Ruckelshaus, however, expressed doubts as to whether Chrysler had made a "good faith" effort to meet the original standards. Engelhard Industries had testified at the EPA hearings that Chrysler had refused to buy its catalysts because Engelhard had supported the original Clean Air Acts standards.[117] Chrysler denied this charge.

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[114] "Detroit failed to sway the EPA," *Business Week*, May 20, 1972.
[115] Buchholz et. al., p.83.
[116] Elsom, p.171.
[117] Elsom, p.171.

Upon achieving this one year extension the US automobile companies had a double strategy. They wanted the extra year to continue working out the problems with catalysts and to propose interim emission levels for 1975 that would not need catalysts. More importantly, they tightened their campaign to get Congress to relax or repeal the Clean Air Acts standards altogether. In fact, Chrysler came up with a whole media campaign stating just this intent. They argued that the strict regulations were not necessary for public health and would raise car prices substantially. Executives from the automobile companies continually lobbied senators and representatives, attempting to get amendments to the Clean Air Act introduced by members of both political parties.

Resistance by the U.S. Automobile Company

Considering them a detrimental infringement, The Ford Motor Company was very much opposed to the politically imposed emission standards, and thus was one of the largest lobbying forces behind the automobile industry's attempt to continually postpone attainment dates. Ford vigorously lobbied all levels of government, and avidly stated its position at a series of Washington hearings, as well as to individual politicians and to the public. Ford's Chairman, Henry Ford II sadly declared that, "They (the government) took the fun out of the business."[118] Helen Petrauskas, Ford's current Vice President of Environmental and Safety Engineering explains, "Ford was asked to meet certain requirements piecemeal - do this by this date, so much by this year, and then do this, and so on, meaning that every year, we had to regroup and come up with more changes."[119] The Clean Air Act Regulations were not only seen as an infringement upon free market objectives, but were also considered a continual

[118] Shook, p.7.
[119] Shook, p.6.

disruption in the functioning of the company.

General Motors, along with the other U.S. auto manufacturers, were well known for resisting industrial policies. General Motors, one of the worlds biggest manufacturing companies, already had a history of discrepancies in the areas of both automobile safety and pollution. Ralph Nader's 1960 protests on the design and safety record of the Corvair forced GM to discontinue the Corvair model. In California in 1966, GM's spokesmen protested against proposed legislation establishing tougher standards for auto exhausts. It would be impossible for GM to comply, they claimed. However, once the legislation had been passed, it turned out not to be impossible for GM to meet the new California standards. In 1969 the auto industry's conspiracy to evade technological revisions was exposed when the Justice Department filed an antitrust suit against the domestic manufacturers and their trade association, the Automobile Manufacturers Association. It was found that the AMA and four automobile corporations had been conspiring to restrain the development and marketing of auto exhaust control systems since 1953.[120] The evidence brought together by a Los Angeles grand jury outlined the cross-licensing agreement and other close associations between these so called "auto competitors" that forged this illegal, "united front of inaction."[121] In September 1969 the domestic auto companies entered into a consentual agreement with the government agreeing never to engage in such a conspiracy again. Yet, in the 1970's they again united in a full blown effort to evade the Clean Air Act's emission standards.

Following the Clean Air Act of 1970 General Motors again vehemently protested the new national standards. GM's Chairman, James Roche publicly denounced the Clean Air Act, referring to it as, "A crusade for radical changes

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[120] Shook, p.13.
[121] Shook, p.13.

in our system of corporate ownership- -changes so radical that they would all but destroy free enterprise as we know it."[122] Although Ford and GM genuinely believed that they were being asked to do more than their share for the environment, one shouldn't overlook the fact that in the last quarter of 1972 they turned the greatest profits that they had yet recorded, netting 252 million dollars and 651 million dollars respectively.[123]

Ralph Nader, a consumer activist who protested against safety discrepancies in the auto industry in the 1960's, entered the arena to confront the auto industry's resistance to emission standards. Nader stated,

> What the giant auto corporations say they cannot accomplish in 1975, two small Japanese auto companies have already accomplished. According to official US Environmental Protection Agency test results, Honda and Toyo Kogyo have easily met the 1975 standards for 50,000 miles with their respective vehicles. In these durability tests the Japanese vehicles performed well under the levels of emissions permitted for carbon monoxide, hydrocarbons and oxides of nitrogen.[124]

Nader also pointed out that the National Academy of Sciences, in a report prepared for Congress under the Clean Air Act, concluded that the US auto industry would be able to meet the 1975 standards with four types of systems. These systems included 1) a modified conventional engine equipped with an oxidation catalyst, 2) carbureted stratified charge engine (like Honda), 3) a Wankel engine equipped with a thermal reactor (Mazda), and 4) the diesel engine. Contrary to the US industries claims, the NAS found that the domestic manufacturers could meet the 1975 standards with modified conventional engines equipped with an oxidation catalyst.[125]

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122 Shook, p.6.
123 "Car Trouble," *The New Republic*, August 11, 1973.
124 Ralph Nader, "I Think I Can't..." *The New Republic*, March 10, 1973, p.13.
125 Nader, "I Think I Can't," p.13.

The Automobile Industry's Success

The First Session of the 93rd Congress saw the introduction of a number of bills directed specifically at the question of modifying emission standards. Additionally, several committees such as the Senate Committee on Public Works, the Senate Committee on Air and Water Pollution, and The House Subcommittee on Public Health and Environment, held hearings concerning this issue. In December 1973, the House opened floor debate on the proposed National Energy Emergency Act, which included emission control modifications to the Clean Air Act. In June, 1974 Congress passed the Energy Supply and Environmental Coordination Act, which extended the emissions deadline for yet another year.[126] Shortly following this extension, the Ford Motor Company asked for a third one year extension of the auto emission deadlines.[127]

In March of 1975 the House Subcommittee on Health and the Environment began hearings on issues related to amending the 1970 Clean Air Act. After more pressure from the automobile industry, and claims that the regulations were too difficult to reach and were affecting production, the EPA suspended the emission standards until 1977 and 1978, to allow vehicle manufacturers to devote more time to improving fuel economy. However, the automobile industry claimed that vehicle emission requirements were adversely affecting the automobile industry and would give foreign producers an advantage over the U.S. automobile industry. These economic and technological arguments gained increasing public, media and government attention as the energy crisis emerged and was followed by an economic recession.

In what became an enduring campaign for the automobile industry, the big three auto manufacturers again asked Congress to delay the emission

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[126] Nader, "I Think I Can't," p.13.
[127] Buchholz et. al., p.84.

standards scheduled for the 1977 and 1978 model cars. The standards cannot be met, they once again claimed, without a drop in fuel mileage and increases in car prices. Chrysler stated that 1977 standards would raise new car prices by 260 dollars. All of the auto companies said that the 1978 standard for nitrogen oxides could not be met. In contrast, two Japanese made cars, Honda and the Wankel powered Mazda, had already met the 1975 standards by 1973, without using catalysts (the controversial engine that the US auto makers were using to cut emissions). Honda also easily met the 1976 nitrogen oxides standard. Richard Ayers of the Natural Resources Defense Council stated, "That engine (Hondas) destroys Detroit's case. What can they say when a relatively midget company does what the giants cant."[128]

Still, the U.S. automobile companies continued making cars under 1977 standards because they thought that Congress was going to grant them an extension. Both Houses of Congress had indicated that this was their intent. The Senate had passed a bill extending 1977 standards one year. The House of Representatives adopted an amendment offered by John Dingell, a Democrat from Michigan who served a constituency largely dependent on the automobile industry. Dingell's amendment would have given the industry five years to gradually meet the revised final emission standards.[129] However, Utah Senator Jake Garn, a Republican from Utah, filibustered against the compromised version of the bill. Ironically Senator Garn sympathized with the auto industry in terms of granting them more lenient standards. However, Garn was angry about a totally separate provision of the bill, that had nothing to do with the automobile industry.

Senator Garn contested a separate provision that said Utah and other

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[128] "Emission Controls: What Detroit Wants From Washington," *Business Week*, March 31, 1972, p.15.
[129] "Detroit and Congress," *Forbes*, Feb. 15, 1977, p.33.

unpolluted states could not pollute up to the national limits; they must keep their air clean, with no significant deterioration. To Garn and his constituents this seemed to be a ban on any further industrialization. So Garn filibustered against the whole bill, killing it for that session of Congress. In doing so he destroyed the limited reprieve Congress was prepared to give the automobile industry.

However, the automobile industries' case was reinforced with the energy crisis (the oil embargo of 1973), rising unemployment, and continual claims that stringent vehicle emission requirements were adversely affecting the automobile industry and would give foreign producers an advantage over the U.S. automobile industry. These factors served to slowly ease the political and public weight on the auto industry to meet emission standards. Eventually Clean Air Act Amendments were passed in August 1977. These amendments postponed the original 1975-6 carbon monoxide and hydrocarbon standards until 1981, and relaxed the standard for oxides of nitrogen to take effect later than 1981, not specified.[130] Many of the initial 1970 standards were never met as the legislation was debated, lobbied and eventually diluted. It is important to understand that this lobbying to continually avoid and push back emission standards was and is not endemic to the automobile industry. Several other industries have succeeded in other emission postponements as well (DuPont recently lobbied aggressively for many of the 1990 amendments to the Clean Air Act).

This case study illustrates that environmental policy making in the United States is marked by intense industrial lobbies, and takes place against a platform of decentralization in both policy-making and administrative functions. As is illustrated by the auto industry's continual lobbying efforts in Congress, the

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[130] Elsom, p.171.

Executive Branch, the EPA, and the public arena, the U.S. political system is extraordinarily open, or pluralistic, in the sense that competing interests can organize and lobby all levels of government with few restrictions. In conjunction with this pluralistic environment is the assumption that all sides will have their say in some appropriate forum. However, as environmental lobbies have typically lacked the financial resources of business, and thus the ensuing political power of business that follows from financial resources, environmental regulations often express the interests of industry in the United States.

Industrial and business groups have distinct advantages in their struggle with environmental lobbies. They are very knowledgeable about the formal as well as the informal rules by which the political system operates. Many business lobbyists are highly paid lawyers or experts in technical fields; hence they can participate directly or indirectly in the legislative process by suggesting policies or by providing industry sponsored data or commentary on proposed environmental legislation.[131] Additionally, campaign contributions are an effective tool for the private sector, with the implied threat of political sanctions and loss of further funds to a candidate for failure to resist regulations. Private Sector lobbyists may also generate a deluge of letters or organize other public opinion measures to support their pro-growth, anti-regulation efforts.

Although environmentalists can use similar tactics, the business lobbyists are better equipped with funds, as most environmental organizations are dependent on voluntary contributions which are not tax deductible. Furthermore, environmental groups with tax exempt status are legally forbidden to lobby, whereas business firms can write off as business expenses many costs associated with their lobbying.[132] These factors have all served to give strength to industry's effort to oppose and limit environmental regulations in the

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[131] Kelley et. al., p.153.
[132] Kelley et. al., p.153.

United States. In the United States the decade of the1970's was referred to as the "environmental decade" as a result of the large body of environmental legislation enacted by Congress during that time. But the implementation of the legislation is still occurring well into the 1990's; not only Clean Air legislation, but Clean Water, Superfund, and many other pieces of environmental legislation.

Japan's Automobile Industry And The Clean Air Act

As previously established, due to the fact that Japan was a late developing nation and needed centralized political and financial controls to develop economically, policy making in Japan takes place through an elaborate process of consensus making dominated by the Liberal Democratic Party (until recently), government bureaucracies, and industry. This approach minimizes political conflict, and results in a tightly restricted decision making system in which the majority of policy proposals come from the bureaucracies themselves.[133] Additionally, the LDP and MITI have provided industry with tax breaks and tariff shields in order to entice them to reach emission goals. Furthermore, both the Japanese government and business place a great deal of importance on innovation and new technology. Subsequently, both the public and private sectors invest a great deal of money into research and development. In 1971, research on electronics, motor vehicle safety, and pollution control, received top priority for research and development in Japan.[134]

Detroit auto makers did indeed spend millions of dollars attempting to improve automobile emissions. However, the U.S. government told its

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[133] Kelley et. al., p.186.
[134] C.S. Chang, The Japanese Auto Industry and the U.S. Market, (New York: Praeger Publishers, 1981) p.57.

automobile companies to reach the same standards as Japanese industry, yet offered little financial or research assistance to achieve this goal. Perhaps this is why most automobile innovations have been the work of foreign automobile companies. With the exception of the turbine, all of the more promising alternative automobile engines have been developed in Europe and Japan.

The only long standing government automotive research and development effort in the U.S. has been that of the Army Tank Automotive Command.[135] The primary government responsibility for civilian automotive research and development in the 1970's was placed in the Energy Research and Development Administration (ERDA).[136] The funding for Alternative automotive engines program was about three tenths of one percent of ERDA's energy research and development budget. This was 5.6 million in fiscal 1971 and 7.2 million in 1975.[137] Research funding and tax incentives for industry in the United States is quite a different situation from that of Japan.

In September 1971, the responsibility of setting Japan's auto emission standards was transferred from the Ministry of Transportation to the newly created Environment Agency. Japan's automobile induced air pollution was as bad if not worse than U.S. levels. In 1970 and 1971 photochemical smog was so abundant in Japanese cities that it was becoming a significant health hazard. By 1972 Japan's new Environment Agency had laid out recommendations for auto emission standards to be met in Japan by 1975 and 1976. Japan decided to adopt the same emission standards as the U.S. Clean Air Act standards (some of Japan's were actually more stringent). Because the U.S. was a major market for Japanese automobiles, Japan reasoned that it would have to meet U.S. standards anyway.

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135 Arnold Reitze, "Stalled," *Environment*, Aug., 1977, p.41.
136 Reitze, p.41.
137 Reitze, p.41.

However, by 1973 the U.S. EPA had extended its enforcement deadlines. Consequently, Japanese automobile companies argued that it was not immediately necessary to meet the U.S. standards. Because of this opposition the Environment Agency requested that a Central Council reconsider the 1976 NOx standards, much as the U.S. had. The Central Council initiated an Expert Advisory Committee on Automotive Production and set out to reexamine the issue.[138] After a great deal of investigation the Central Council maintained that the auto industry possessed the technology to meet the 1976 NOx standard, but did require more time to mass produce these new engines.[139]

With the conclusion of the controversy over the 1976 deadline The Environment Agency established plans for obtaining compliance by the new 1978 deadline. During this time the Air Pollution Bureau assembled a study group on NOx emission control in order to bypass any future complications. The NOx study group gathered data on new technological developments that could improve emission standards, and researched the issues that were certain to be debated in the future regarding the capability of reaching NOx emission regulations. The NOx study group worked with automobile industry executives and independent research technicians to investigate all problems that could arise with industry compliance.

The Japanese Automobile Company

In 1973, the whole nature of the issue changed. Previously, in February 1971, Honda Motor had announced the development of its new Compound Vortex Controlled Combustion (CVCC) engine system. This system was created in order to meet automobile exhaust emission control regulations for both Japan

[138] Fujikura et. al., p. 270.
[139] Fujikura et. al., p.142.

and the United States. In 1973, around the same time that the United States decided to postpone the initial standards of the Clean Air Act, Honda Motor's cars with CVCC engines were introduced to the public. Honda's introduction of the CVCC engine made the formerly minor auto maker one of the major players in the U.S. market. In 1973 the National Academy of Sciences in the United States gave top marks to Honda's CVCC engine, which it said was the world's first to meet the 1975 standards set forth by the U.S. Clean Air Act.[140] In tests held in Michigan, Honda's four cylinder engines, using no catalysts, achieved pollution counts well below EPA standards even after running for 50,000 miles. Honda executives announced that they would no longer seek any postponements in emission requirements, and that their new car, the Civic, would go on sale in the U.S. by 1974.[141]

In May 1973, a hearing was held on the Japanese 1975 emission control standards. While many of the Japanese manufacturers did favor a postponement, Honda Motor and Toyo Kogyo stated unequivocally that they could meet the standards on time.[142] Many of the other auto companies announced that with tax incentives and research funding they too could meet the 1978 standards. In August, 1976, five of the nine Japanese automobile companies announced at a hearing held by the study group that they would meet the NOx standard in 1978.[143] The NOx study group immediately concluded its report and announced to the Environment Agency that all emission standards could and would be met by 1978. Subsequently, all of the Japanese automobile manufacturers were able to meet Japan's 1978 emission standards which called for a 90 percent reduction in most emissions.[144]

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[140] Tetsuo Sakiya, Honda Motor: The Men, The Management and the Machines, (Tokyo: Knoansh International, 1982) p.182.
[141] Sakiya, p. 182.
[142] Sakiya, p.182.
[143] Fujikura et. al., p.272.
[144] Fujikura et. al., p.272.

Eiji Toyoda recounts the process of reaching emission standards at Toyota during the early 1970's. Eiji states,

> Naturally, we knew that there was little solid evidence to support the case for tighter regulations. The only answer the Environment Agency could give us was: 'It's better to have clean air than dirty air.' But implementing auto emissions controls will raise the price of cars, we insisted. 'Money is of no concern when it comes to people's health, they replied.' There was nothing we could say to that.[145]

The challenge was in both maintaining Toyota's existing performance levels and meeting the standards. Toyota worked with MITI, the Environment Agency, and eventually Honda, to reach emission standards. Eiji Toyoda stated that initially the company saw little hope of meeting the final target by the specified date:

> We had the whole company working on the problem, but when we learned of the merits of the low emissions CVCC engine developed by Honda, we swallowed our pride and asked them for the technology. These efforts were applauded by the Environment Agency.[146]

Toyota eventually reached all of the emission standards set by the Environment Agency due to the combined efforts of business, government, and inter-business relations.

Compliance by Japan's Automobile Industry

What is remarkable is that while the biggest automobile company in the world, General Motors, was still at the design stage, two small Japanese companies had already designed engines that passed emission tests in U.S. and Japanese factories and had put these new engines into the marketplace (Honda's Civic and Toyo Kogyo's Mazda). The success of the Japanese

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[145] Eiji Toyoda, Toyota: Fifty Years in Motion, (New York: Kodansha International, 1985) p.140.
[146] Toyoda, p.142.

automobile industry in meeting stringent standards can be attributed to a variety of factors. Primary among these factors were the Japanese government's many efforts to work with the automobile industry on achieving emission standards. Unlike the United States, when the Japanese government and Environment Agency announced their stringent regulations they also attempted to achieve compliance by offering recommendations and advice concerning technical and economic difficulties. An additional motivation was the generous tax incentives and research funding that were offered in order to reward companies that produced low pollution cars, and penalized companies that did not. Environment Agency officials also relied on the Study Group on NOx Emission Control to bring technical problems of compliance into an arena that allowed government and industry to work together to acquire more knowledge regarding emission capabilities, and to discuss present technological problems regarding compliance issues.

The effectiveness of administrative guidance, as well as research and financial aid from the government, help explain why Japanese automobile companies did not challenge the implementation of the Environment Agency's regulation through extensive litigation as the U.S. auto industries did.[147] This guidance by Japan's administrative agencies also provides an explanation as to why Japan was able to reach their designated emission standards while the United States automobile industries were not. In sum, the close relationship between the bureaucracy and industry in Japan has served to achieve environmental ideals as easily as they have also served economic growth. In fact, they have currently achieved one without sacrificing the other.

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[147] Fujikura et. al., p. 273.

CHAPTER IV

PLURALITY AND ENVIRONMENTAL POLICY

The United States political system was designed to represent a variety of interests. The Founding Fathers wanted a government that was responsive to the people. They also wanted a government of balanced and limited powers. Thus, from the adoption of the Constitution in 1787 until the present day, the principle of separation of powers has existed at the core of the American Constitutional order. Although powers are not separated in a pure sense, the three branches of government do encompass distinctly different responsibilities and practices. It has often been suggested that the separation of powers makes it extremely difficult for American institutions to generate the political leadership necessary to make strong coherent policy, and instead often inhibits action and coordination in government. James McGregor Burns argues that,

> The fear of arbitrary power and majority tyranny so dominated the minds of the framers that they devised a political system that made any kind of effective political action extremely difficult, if not impossible. . . to a large extent our system was designed for deadlock and inaction.[148]

Added to this system is a market-based economy in which information and competition is allocated through independent players in an economic market that is dislocated from the political system. In this arena there is a lack of centralized power and a great deal of fragmentation. Private groups,

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[148] Joseph M. Bessette and Jeffrey Tullis, "The Constitution, Politics and the Presidency," in Joseph M.Bessette and Jeffrey Tulles, eds., The Presidency In The Constitutional Order, (Louisiana State University Press: Baton Rouge, 1981) p.5.

specifically well organized and wealthy groups, have many advantages in this system. Interest groups can penetrate the political decision making process at virtually all levels. Administrative agencies are open to direct infiltration by groups concerned with specific agency decisions. Political representatives are also susceptible to groups with financial resources and political power. Finally, in this plural system the media is a powerful tool to those who have the resources to use it. As noted earlier, all of these factors contributed to the success of the U.S. automobile lobby in defeating environmental regulations. Thus, the plurality of the separated U.S. political system infringes upon the implementation of its environmental regulations.

This is not to say that U.S. decision makers are hapless victims of societal pressure groups. They are not. U.S. leaders have been able to formulate clear policy objectives. In international monetary issues, they have had a relatively free hand because of the arenas in which decisions have been made.[149] However, the structural characteristics of the American polity allow domestic groups to impose more constraints on the state than in most other advanced countries.

Political Economies and Environmental Policy

In the pluralistic political system of the U.S., the economic system further aggravates the already fragmented system. When analyzing comparative environmental policy, the central factor to examine is how, and to what extent, the national government goes about interacting or intervening with private sector practices. Max Weber made the distinction between a "market economy" and a "planned economy." A market economy is a political economy in which

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[149] On the importance of decision-making arenas see E.E. Schattschneider, The Semi-Sovereign People: A Realist's View of Democracy in America, (New York: Holt, Rinehart, and Winston, 1960).

the private sector makes independent economic decisions and the central government allows or encourages the private sector to act independently. Put simply, in a market-based system such as that of the U.S., the government is essentially removed from the economic market. Thus, U.S. leaders have relatively few policy instruments for intervening in the economy. In a planned economy, which Japan maintains many elements of, the government decides the overall direction of the economy; it influences the economy by directing its funding to specific industries or markets. Certainly all states intervene in the economy to a certain extent, the question is to what degree.

Chalmers Johnson labels modern Japan as "plan rational", and defines the United States as "market rational." Johnson states,

> A market rational state concerns itself with the forms and procedures of economic competition, but it does not concern itself with substantive matters. The plan rational state, by contrast, has as its dominant feature precisely the setting of such substantive social and economic goals.[150]

Furthermore, Johnson states that the most important evaluative standard in a market rational society is efficiency, as compared to effectiveness taking precedence in a plan rational system. Consequently, plan rational systems are capable of greater effectiveness than the market rational system in handling industrial policy, and specifically pollution regulation. The fact that Japan has many characteristics of a planned or plan rational economy, has allowed it to achieve more success in pollution control than the United States.

The American combination of an intensely decentralized system with a market-oriented democracy has often resulted in policies that have been so debated and compromised that their original intent is diluted and often rendered ineffective. To simply acquire information from the private sector, much less

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[150] Chalmers Johnson, MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925-1975, (Stanford, California: Stanford University Press,1982) p.19.

force private producers to modify their processes, the U.S. government must intrude in a way that runs counter to strong traditions of private property and a market economy in the U.S., where business and industry is not under the purview of government. In the U.S. the private sector is an independent entity with one goal - to increase profits. However, as the United States is also a very pluralistic society which includes many interest groups, the desires of both the executive and legislative branches must contend with the desires of environmental pressure groups and other special interest groups to regulate industry's actions regarding the environment. Thus, industry and environmentalists ally themselves with various government authorities or agencies to battle over regulatory standards. The constant conflict between free market philosophy and environmental regulation serves to compromise the policy-making process, resulting in a weakly implemented environmental policy and the highest rate of appeals, postponement and litigation in the world where environmental regulation is concerned.[151] The effects of successfully lobbying against initial legislation were illustrated during the U.S. auto industry's campaign against The Clean Air Act's regulations.

Administrative Agencies and Environmental Policy

In the U.S. system, the private sector maintains a great deal of autonomy, and the public sector consists of separated branches with separated powers. In this fragmented system the bureaucracy has limited influence, and thus limited ability to implement its goals. When comparing separate approaches to environmental policy in the U.S. and Japan, it is important to realize that Japan's bureaucracy has traditionally dominated the legislative process in Japan, due to its central role in developing Japans economy following both the

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[151] Vogel, National Styles of Regulation, p.27.

Meiji restoration and, more specifically, WWII. Japan's administrative agencies maintain a great deal of economic and political power and Japan's private sector continues to be guided by these strong bureaucratic agencies. Furthermore, Japan's administrative agencies attract the highest ranking graduates of the best Universities in Japan, and the positions of top officials in the Ministries have traditionally been the most prestigious in the Japanese society.[152] Chalmers Johnson states that, "the elite bureaucracy of Japan makes most major decisions, drafts virtually all legislation, controls the national budget, and is the source of all major policy innovations in the system."[153] Conversely, American policy decisions are principally made in Congress, which also controls the budget. Furthermore, U.S. bureaucratic agencies tend to have their own individual interests, thereby exacerbating the existing fragmentation of power.

The success of Japan's pollution abatement policies can be largely credited to the strength of both the Japanese business-government coalition, as well as the strength of Japan's administrative agencies. The bureaucracy's traditional monopoly over the legislative process, and the consequential lack of success of opposition sponsored bills regarding environmental policy support this thesis. The Japanese bureaucracy's power is further reinforced by the fact that it not only drafts legislation, but it is also the principal interpreter of legislation.[154]

Conversely, in the United States, Congress basically interacts with the administrative agency by saying, "here is the problem-deal with it."[155] Furthermore, the U.S. administrative agency, the EPA, does not have the authority or the funds that it needs to coerce industry into achieving the set

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[152] Johnson, p.20.
[153] Johnson, p.21.
[154] Fujikura et. al., p.233.
[155] Buchholz et. al., p.81.

regulatory standards. This stands in stark contrast to MITI and The Environment Agency in Japan, both of which have considerably more means of promoting industry's compliance for pollution standards than does the EPA. National policy-making in Japan is almost entirely dominated by a strong and capable bureaucracy interested in increasing technology and efficiency in the constant pursuit of economic growth.

The Business Lobby in the United States

In the United States, there are no set goals or rules concerning environmental policy making and its implementation. Those with large resources, such as industry, have always been better represented by interest groups, and the least wealthy have typically failed to organize.[156] Consequently, the rise of interest groups and decline of political parties over the past three decades has drastically aggravated the U.S. policy making process. George Stiglers's "capture theory" of regulation assumes self interested behavior by both politicians and their constituents. Under this view, representatives and political parties seek electoral success as well as the power and perks of political office. They do not act on behalf of their own views or values concerning policy; they, in effect, sell political power to any group that purchases policies with votes and resources. Therefore a group's ability to offer the requisite payment is the basis of an effective political demand.[157]

Similar to the capture theory, the "Electoral Theory of Congress", developed by David Mayhew and Morris Fiorina, is based on the premise that members of Congress seek only reelection. In regard to legislation, the theory suggests, members of Congress earn electoral rewards mainly by servicing

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[156] Jeffrey Berry, The Interest Group Society, (Boston: Little Brown and Co., 1984) p.3.
[157] Paul Quirk, Beyond Self Interest, (Chicago: The University of Chicago Press, 1990) p.184.

organized interest groups and seeking benefits for their constituents. These activities give benefits to groups that are capable of recognizing their representatives effort, and rewarding them with some form of support. Consequently, members of Congress gain little support by trying to advance broad interests or to implement an ideology.[158] In short, Congress has an exceedingly limited capacity to serve the broad or diffuse interests of the nation as a whole. Instead its main desire is to distribute particularized benefits to specific localities and organized groups.[159]

Administrative agencies also have incentives to adopt certain policy preferences. Some agencies have independent ties with particular business sectors, interest groups and/or Congressional committees.[160] These independent forces generate intense activity aimed at influencing the bureaucracy's decisions and actions. According to Paul Quirk, one of the most common and serious criticisms of administrative agencies is that which accuses regulatory agencies, "of persistently serving the interests of regulated industries to the neglect or harm of more general, or 'public,' interests."[161] Such behavior is variously referred to as "clientelism," "agency capture," or "producer (or industry) protection."[162] Regardless of the name, the accusation implies excessive industry influence on regulatory agencies.[163] As regulations often have major effects on the interests and practices of regulated industries, industry perceives that its overall financial position can be significantly affected by regulatory agency decisions, in response it can generate intense activity aimed at influencing them.

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158 Quirk, Beyond Self Interest, p.186.
159 Quirk, Beyond Self Interest, p.186.
160 Paul J. Quirk, Industry Influence in Federal Regulatory Agencies, (Princeton: Princeton University Press, 1981) p.13.
161 Quirk, Industry Influence, p.4.
162 Quirk, Industry Influence, p.4.
163 Quirk, Industry Influence, p.4.

Aside from lobbying, and the financial advantage that industry maintains in lobbying efforts, there are many ways that the private sector can generate influence of a regulatory agency. In some cases the information on which agency decisions are based is often obtained mainly from the regulated industries themselves. This is sometimes due to the failure of non-industry groups to participate in the policy making process, or from the fact that only industry has the information needed for the decision.[164] It is also suggested that under certain political administrations industry can influence the bureaucratic appointment process, in this case appointees tend to favor the interests of industry.[165] Additionally, regulated industries and firms may be able to reward or punish regulatory agencies through their access to higher political authorities. Another explanation for the "capture" of an agency by industry has to do with the career patterns of regulatory officials; specifically those who leave their agencies and go to work for regulated industries.[166] Finally, although Quirk questions its frequency, there remains the matter of corruption and of practices that border on corruption. Bribes, legitimate business opportunities, speaking engagements, trips, gifts, all may at times be offered to regulatory officials with the intention of influencing them.[167] As regulatory legislation tends to permit the administering agency some discretion, through the use of vague statutory standards as "the public interest, or, as deemed necessary," regulatory agencies are able to, and often do, protect industry interests.

Clearly, the most vigorous opposition to environmental objectives in the United States comes from the business community. In legislative,

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[164] Quirk, Industry Influence, p.17.
[165] Quirk, Industry Influence, p.17.
[166] Quirk, Industry Influence, p.19.
[167] Quirk, Industry Influence, p.20.

administrative, and judicial action, in the mass media, in public relations campaigns, in scientific and technical claims and data, its resistance to ecological concerns and environmental regulations is great. Each form of business, be it raw material production, manufacturing, commerce, transportation, or construction, has its own particular objection to environmental proposals, and almost all business groups find common reasons to produce a shared objection to pollution regulations.

While citizen movements have certainly played, and still do play, a role in the structuring of environmental policies, they have seldom shaped environmental policy directly.[168] That shaping takes place largely through the interaction of administrators and large well organized national interest groups representing either environmental causes or industrial interests. In this process the private sector typically proves to be the most influential. The U.S. Congress, Executive branch, and the EPA are all strongly influenced by powerful business lobbies that continually resist government regulations, such as air pollution polices.

The Council On Competitiveness

The business lobby has not only had a great deal of control over the actions of Congress and administrative agencies, but it increased its power vis a vis Congress and the bureaucracy during the presidential administrations of Presidents Reagan and Bush. The Task Force on Regulatory Relief was created under Ronald Reagan's presidency in an effort to cut federal regulations of business. In a 1981 speech President Reagan stated, "American Society experienced a virtual explosion in government regulation in the 1970's. Excessive and inefficient regulations limit job opportunities, raise prices and

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[168] Buchholz et al., p.81.

reduce the incomes of all Americans."[169] President Reagan proudly claimed that after the first year of the task force's operation his administration had, "acted quickly and effectively to cut away the thicket of federal regulations... a thicket that was stifling business and industrial growth."[170] The task force was extremely effective in cutting the costs and effectiveness of EPA regulations.

In a concurring speech in 1981 Vice-President Bush similarly declared that "we have regulated ourselves to death."[171] On March 31, 1989 President Bush issued an executive order creating the Council On Competitiveness. The Council served to review issues that dealt with the competitiveness of the U.S. in the international market, including regulatory relief. The Council On Competitiveness was headed by Vice President Quayle. Quayle's actions and intentions as head of The Council aroused a great deal of concern from the Council's critics, as Quayle's preemptive power as head of The Council was so strong that he was frequently able to overrule the heads of federal agencies such as the EPA.

Representative Henry Waxman (Democrat-California), a principal author of The Clean Air Act, charged that The Council was systematically attempting to undermine the implementation of the Clean Air Act's mandates. The Competitiveness Council suggested more than a hundred changes to the Clean Air Act of 1990. The most controversial was a proposed amendment that would allow companies to set their own pollution levels.[172] Waxman claimed that this provision would basically negate the Clean Air Act by allowing a polluter to increase emissions without limit if a state did not object within seven days. Changes were also made by The Council on pollution permits, allowing

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169 "The Regulators Ride Again," *The New York Times*, April 28, 1991, p.5.
170 "The Regulators Ride Again," p.5.
171 "The Regulators Ride Again," p.5.
172 Christopher Thanner, "The Role of Dan Quayle's Council on Competitiveness in the Federal Regulatory Process", An unpublished paper presented to Dr. William Morrow,12-12-91.

industries to increase their emissions under the claim of "emergency circumstances." The Competitiveness Council could effectively get away with many of its deregulatory attempts, as it maintained that it was part of the White House and, consequently, its communications and actions were part of the Executive decision making process and not subject to Congressional oversight.[173] Therefore, from 1981 (following the automobile industry's last compliance deadline) to 1992 the Regulatory Relief Task Force and the Council on Competitiveness acted solely to minimize the effects of federal regulations on the private sector. The Council successfully rewrote regulatory law, and acted in opposition to Congress's legislative mandate as well as the EPA's public mandate to pass and implement environmental legislation.

The Media and Environmental Policy

Interest group lobbying is also directed at influencing any government institution or official indirectly by attempting to sway public opinion, with the intent of influencing the action of an institution of official. Thus, the business lobby in the U.S. goes beyond the political system to acquire public support as well. In the public policy arena, the private sector has to promote free enterprise and overshadow those forces that would serve to paint a negative picture of free enterprise. In this new activism of business lobbies, advocacy-issue advertising has become an effective public relations vehicle for business. Companies are attempting to make themselves heard and seen in a positive light on a broad range of social, economic, environmental, and other legislative issues.[174] Sethi points out,

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[173] "Competitiveness Council Under Scrutiny" *The Washington Post*, November 26, 1991, p.A19.

[174] S. Prakash Sethi, Handbook of Advocacy Advertising: Concepts, Strategies, and Applications, (Cambridge, MA: Ballinger Publishing Company, 1987) p.10.

> This important communication tool will influence not only the activities of its sponsors- -notably the private corporate sector- -but also the nature of public policy debate. One has only to look at the onslaught of political commercials during an election campaign to appreciate how they have irrevocably changed the character of the electoral process, and indeed the political process, in the United States.[175]

Over the past three decades there has been a tremendous increase in the effectiveness and growth of advocacy advertising in the United States. In a nationwide survey of public attitudes regarding this promotional advertising, 60 percent of the respondents endorsed the concept of corporate advocacy advertising, even though 64 percent acknowledged that companies using such advertising might have an unfair advantage over public interest groups, as they would have less money to spend for such advertisements.[176] 57 percent of those who said they had been aware of issue advertising reported that the ads had caused them to change their minds about an issue.[177] What they learned from the ads prompted 84 percent of respondents to vote for or against a candidate; 40 percent to attempt to change someone else's mind about an issue; and 25 percent to write to public officials.[178]

According to these percentages advocacy advertising is an effective tool for business. Consequently, the private sector has used advocacy advertising for a multitude of reasons; to clear a tarnished public image, to oppose regulatory policy, to sell an idea, to support a political candidate sympathetic to private sector interests, or to promote itself as environmentally responsible. As noted in the automobile industry's case study, Chrysler Corporation utilized the power of advocacy advertising against the Clean Air Act in the 1970's. Although this tool is available to other groups as well, they typically do not have

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[175] Sethi, p. 4.
[176] Sethi, p.16.
[177] Sethi, p.16.
[178] Sethi, p.16.

the funds or resources necessary to utilize the mass media as readily and effectively as big business. This phenomena of advocacy advertising has recently occurred in other countries, particularly Canada, Great Britain, and Western Europe, but has not reached such a degree in Japan.[179]

Culture and Cooperation

It is clear at this point in the study that two different political approaches to environmental policy exist within the U.S. and Japan. The political structures themselves have partially evolved as a result of separate cultures and histories. The plurality of the U.S and the strong bureaucratic system of Japan serve as examples of such political traditions and cultures.

In Japan the implementation of government industrial policy is facilitated by a credit-based industrial finance system, which allocates resources through state influence and administrative policies.[180] The central concern of the Japanese state, specifically following WWII, has been economic development. From the beginning of the post WWII era, the Japanese bureaucracy had a strong commitment to moving labor out of low productivity sectors into high wage industries, specifically moving labor out of agriculture and into industry. The industrial structure built in Japan since 1945 has, to a large degree, been due to the deliberate restructuring promoted by Japan's bureaucratic agencies. The bureaucracy channeled resources into those industries for which there was a growing domestic demand and potential economic growth. Thus, policy for industrial development in Japan was historically formulated within a triangle of government bureaucrats, major companies, and banks. In this process the centralized bureaucracy was, and remains, somewhat insulated from

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179 T.J. Pempel, ed., Policy Making in Contemporary Japan, (Ithaca, NY: Cornell University Press, 1977) p.36.
180 Zysman, 234.

parliamentary and public pressure and has "been manned by a mandarine elite that stands first among equals."[181]

In combination with historical factors Japan's eastern culture offers a very different platform for industrial regulation when compared to the U.S.'s free and open western society.[182] Shuji Hayashi writes, "All behavior- -greetings, table manners, sleeping habits; how people ride an escalator, run a meeting, or reach a consensus- -is part of culture. These forms of behavior are transmitted from generation to generation."[183] In the Japanese culture there is a tradition of submissiveness to authority, possibly making Japan a more fertile ground for policy implementation and adherence. Additionally, in Japan, management emphasizes completion of a task and attainment of objectives, where the predominant pattern in all organizations is teamwork.[184] Hayashi claims that the Japanese feel very uncomfortable about leaving a task only ninety percent completed.[185]

The U.S. does not have this similar historical or cultural backdrop to draw from. As previously stated, the U.S. political system is relatively weak when compared to other industrialized countries. The founding fathers specifically intended to construct a system designed to restrain power. In addition, in this relatively weak system of separated powers, private groups are able to penetrate the political process quite easily, consequently effecting policy making and policy outcomes. Furthermore, America's financial system is also decentralized, leaving the government with few economic controls by which to influence industry. Thus, due to cultural and historical reasons, Japan is better able to achieve a strong and consistent environmental regulatory policy, while

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[181] Zysman, p.235.
[182] Shuji Hayashi, Culture and Management in Japan, (Tokyo: University of Tokyo Press, 1988), p. 33.
[183] Hayashi, p.33.
[184] Hayashi, p.37.
[185] Hayashi, p.37.

the U.S. system and culture tends to encourage deliberation and deadlock at the expense of action.

Summary

It is apparent that in some policy areas, governments distinguish themselves from one another more by their policy implementation methods than by their choice of policy content.[186] As examined throughout this paper, over the past twenty-five years the United States and Japan have adopted similar environmental regulations, specifically air pollution standards as seen in this study. The national governments of both the United States and Japan have set comparable emission regulations for similar types of atmospheric pollutants. However, when it comes to implementing this legislation, each government approaches industry compliance by contrasting means. In the simplest sense, what separates these approaches from one another is the balance they adopt between enforcement through a concerted industry-government effort, as seen in Japan, or enforcement in a fragmented arena consisting of conflicting views and competing power forces, as in the United States.

The frequent confrontations occurring in this system are not only confrontations between opposing sides, industry versus environmentalists, but rather, confrontations pitting each of these groups against various governmental authorities.[187] Environmentalists constantly sue the regulatory agencies to secure stricter environmental regulations, while business groups sue to relax these regulations.[188] The eventual results of these adversarial relationships upon pollution policy has been lengthy litigation, lenient regulations with far reaching schedules, and few punishments for noncompliance. Conversely, in Japan regulatory policy is typically the product of an alliance between national

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[186] Adams et. al., p.344.
[187] Adams et. al., p.324.
[188] Adams et. al., p.324.

government Ministries and business associations. Through this intricate network between institutions, industry interests are incorporated into the policy making process and, in turn, administrative agencies encourage businesses to cooperate with the decided regulatory standards. Fujikura et. al. state,

> Of course, industry has at times fiercely remonstrated against governmental policies that it deemed scientifically unsound or economically onerous. Yet basically the interchange has been in spirit a partnership. Indeed, this cooperative pattern is also evident within and between industries, despite keen economic competition.[189]

A more unified system, such as produced by Japan's tight network of business and government, obviously has an advantage in imposing and overseeing environmental regulations. Fujikura et. al. state that, "One of the most striking aspects of the Japanese administration's approach to enforcement surely must be the apparent reliance on negotiation and guidance."[190] In the alternate U.S. example, Tom Eagle of the U.S. Environmental Protection Agency states that, "Everything is a battle to get things done at the EPA; a battle with industry, with the present administration, with Congress, with a deluge of opposing interests on every side."[191] The previous case study of the automobile industry illustrates the constantly competing forces in the U.S, and the effects of this intensely plural and fragmented system. The case study also illustrates the positive results of Japan's government and industry working together in Japan; results exemplified through the NOx study group, administrative research and development teams, and government research funding and tax incentives.

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[189] Adams et. al., p.324.
[190] Fujikura et. al., p.261.
[191] Tom Eagle, Senior Policy Analyst in the Office of Air Pollution, The United States Environmental Protection Agency, 5-2-93.

CONCLUSION

Following World War II Japan based its re-vamped state on the American model of a market based constitutional democracy.[192] Over the past twenty-five years the United States and Japan have also adopted similar environmental policies. However, Japan has achieved an impressive level of environmental clean-up while the U.S., in comparative terms, has not. Environmental regulations have not been implemented as successfully in the United States as they have in Japan. The successful implementation of environmental regulations in Japan is due primarily to the bureaucracy's ability to control the formulation of pollution laws and cooperate with industry in their implementation. Conversely, the implementation of environmental regulations in the U.S. is characterized by an adversarial relationship between business and government, within a state that lacks strong institutional powers.

Salem Katsh et. al. describe the business-government relationship in the U.S.:

> An adversarial framework has traditionally governed relations between public and private sectors in the United States. Rooted in the basic Jeffersonian ideals, which are suspicious of both 'big business and big government,' this framework has evolved into a complex of laws and regulations designed to maintain the independence of, and distance between, American industry and government officials so that each sector can serve as a check on the discretionary power of the other.[193]

Additionally, the U.S. government maintains little command of material

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[192] Samuels, p.9.

[193] Salem Katsh, Ira Millstein, The Limits of Corporate Power, (New York: Macmillan, 1981) p.3.

resources, such as the control of credit, that can be used to offer incentives to industry.[194] Furthermore, the U.S. government plays a marginal role in the allocation of capital and has relatively little public ownership.[195] In this situation there is little cooperation between industry and government in the U.S. concerning industrial policy. Environmental policy, in particular, has been associated with an increase in political conflict between industry and government; thereby making an already adversarial relationship even more contentious.[196]

This adversarial relationship takes place in a highly visible, very accessible and fragmented political arena. The legislative process in the United States is extremely pluralistic. Set regulations are based on collected evidence presented by contending sides and interpreted according to specific procedures that are open to appeals and challenges at all stages, and in all arenas. Policy-making in the United States is typically long and contentious, and often ends in litigation. In terms of environmental policies this process produces the highest rates of appeals, postponement and litigation in the world, which of course serves to impede environmental policy and its implementation.[197] It is interesting to note that in response to the stricter environmental standards since the 1970's, American businesses have hired more lawyers while Japanese businesses have hired more engineers.[198]

In contrast, given the close connections linking Japanese government and business, the Japanese regulatory process is directed through government-industry cooperation. Most industrial policy decisions in Japan are based upon negotiation, discussion and consultation. Fujikura et. al. state that,

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[194] Krasner, p.61.
[195] Vogel, National Styles of Regulation, p.27.
[196] Vogel, National Styles of Regulation, p.27.
[197] Vogel, National Styles of Regulation, p.27.
[198] Adams et. al., p.325.

"by permitting industry to contribute to identifying and implementing its own solutions to a problem, administrative guidance contributes significantly to the effectiveness and fairness of the administrative process."[199] The three forces that have typically served to unify Japan's policy making process are the leaders of the Liberal Democratic Party, the leaders of business, and the elite bureaucrats. Upham states of this relationship,

> The locus of political power was, and remains today, in the constant formal and informal consultations among these forces and in the strong personal, political, and economic relationships binding the representatives of these groups to one another.[200]

Formal and informal consultation is facilitated by a practice of elite recruitment from Tokyo University in both the public and private sectors.[201] Additionally, advisory councils and policy clubs bring together officials, politicians, and industrialists on a regular basis.[202] To further this strong business-government relationship business-oriented ministries, such as the Ministry of Finance and the Ministry of International Trade and Industry, retire their top bureaucrats at a relatively early age, who then often serve as board members for large companies.[203] In these executive positions former Vice-Ministers maintain close relations with their former ministry subordinates who have often moved into the vacated government post.[204] Within this intricate network industry's interests are incorporated into the policy-making process and, in turn, top administrative agencies encourage businesses to cooperate with set regulatory standards. Thus, negotiation and compact are at the core of business-state

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199 Fujikura et. al., p.234.
200 Upham, Law and Social Change, p.28.
201 Boyd, p.67.
202 Boyd, p.67.
203 Kelley et. al., p.38.
204 Kelley et. al., p.38.

relations in Japan.[205]

The success of Japan's regulatory policies can be further attributed to the bureaucracy's ability to control the formulation of pollution laws and direct their implementation in a concerted effort with various ministries, such as MITI and the Environment Agency, as well as private sector firms. The strength of Japan's bureaucracy is so sound that even the Liberal Democratic Party's recent loss of power is believed to have little if any effect over the bureaucracy's objectives. Karel Van Wolferen, a specialist in Japanese politics, believes that the crumbling Liberal Democratic Party will not result in politicians wresting control from the bureaucrats, for given the intricate business-bureaucratic power, this is hardly possible.[206] In fact, Van Wolferen argues that, "an obstructionist press and political coalitions wrecked by internal strife could further weaken Japan's politicians and further consolidate bureaucratic and business-bureaucratic power."[207]

Japan's centralized business community is also linked to the state through the Keiretsu system. Inter-firm trade in Japan is dominated by long-standing networks of reciprocal ties among companies, or groups of firms, formally identified as Keiretsu.[208] Within the Keiretsu, trade, finance, and corporate control become closely linked.[209] Furthermore, the Keidanren, a membership of more than 100 industry-wide associations, adjusts and mediates differences of opinion among its various member industries and businesses, and submits recommendations to the government regarding industrial policy.[210]

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[205] Richard J. Samuels, The Business of the Japanese State: Energy Markets in Comparative Historical Perspective, (Ithaca: Cornell University Press, 1987) p.2.
[206] Karel Van Wolferen, *The New York Times*, July 6, 1993, p.A17.
[207] Van Wolferen, p.A17.
[208] Michael Gerlach, "Keiretsu Organization In The Japanese Economy: Analysis and Trade Implications," in Chalmers Johnson, Laura Tyson, and John Zysman, eds., Politics and Productivity: The Real Story of Why Japan Works, (Cambridge: Ballinger, 1989) p.142.
[209] Gerlach, p.142.
[210] Boyd, p.72.

Thus, the cooperative effort between government and business, and the lack of fragmentation in the private sector, results in cohesion and centralization. This stands in stark contrast to the constant conflict between various institutions, business, and interest groups that typifies U.S. government-business relations.

Additionally, the Japanese government provides a great deal of financial incentives to promote industry compliance with regulations. If too many industries are concentrated in one area, the central government subsidizes both the municipal government and the factory for relocation costs.[211] The Japanese government may also construct an industrial site for the company, or subsidize the cost.[212] As stated earlier, the government additionally provides tax incentives and special loans to help businesses comply with regulation codes. There also exists in Japan the Environmental Pollution Control Service Corporation, a government owned and operated entity.[213] It was established by the government to effectively control pollution without inhibiting economic growth. Among its many purposes the Environmental Pollution Control Service Corporation selects environmentally approved sites for industry, reserves or builds protected areas, and installs pollution control and abatement equipment.[214] On a smaller scale, Japanese administrative agencies have research groups within their agencies to assist the private sector with development. The U.S. government does not provide similar services for its industries, nor does it typically give financial incentives to the private sector to encourage regulatory compliance.

The central feature of American politics is the fragmentation and dispersion of power and authority. Federalism, the separation of powers doctrine, judicial review, the absence of a strong party system, a bicameral

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[211] Fujikura et. al., p.259.
[212] Fujikura et. al., p.259.
[213] Fujikura et. al., p.259.
[214] Fujikura et. al., p.262.

Congress, an independent judiciary, and a plethora of interest groups all serve to exasperate a state system in which power is separated by design. According to Stephen Krasner, "in comparison with their counter-parts in other industrial countries, U.S. central decision makers have difficulty extracting the domestic resources that they need to implement state policies."[215]

The U.S. bureaucracy, unlike Japan's bureaucracy, is relatively weak. In comparison with the advanced industrial countries, the U.S. bureaucracy has great difficulty in formulating and implementing its goals.[216] Furthermore, the U.S. bureaucracy is open to direct infiltration by groups concerned with specific agency decisions. Thus, the bureaucracy's fragmentation and lack of power hinders the effective implementation of policy. The United States Environmental Protection Agency, although a strong U.S. administrative agency, does not maintain the legislative or implementary power that the Japanese Ministries, such as MITI or the Environment Agency hold. As stated throughout this paper, in Japan the implementation of emission and ambient standards and the attainment of many other policy objectives depends primarily on administrative enforcement.[217] Conversely, policy decisions in the U.S. are made by Congress. Consequently, the EPA does not maintain enough legislative power to effectively implement or enforce their environmental regulations.

Krasner contends that the weakest kind of state is one which is completely permeated by pressure groups and, of all the industrialized democracies, the U.S. is probably the closest to this pole of weakness.[218] This state of affairs exists because the United States' political system is open to various interests at all levels. Additionally, the American Constitution checks

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[215] Krasner, p.53.
[216] Zysman, p.267.
[217] Fujikura et. al., p.259.
[218] Krasner, p.57.

government's powers by limiting legal authority in all arenas, dividing power within the government, and dividing power among groups in society.[219] Because institutional powers are separated between the different branches of government, this system offers little centralized power and leaves few tools with which to implement policy.

Alternately, Japan is reputed to be among the strongest and most centralized states in the industrial world.[220] These distinctly different characteristics of both the U.S. and Japan are integral aspects of each state's history. Each nation's approach to the regulation of industry needs to be understood within the political and historical context in which it evolved.

As Krasner contends, American society was born modern; it was not necessary to have a strong state to destroy a traditional society or an aristocracy.[221] America was also an early industrializer; economic change took place slowly and with relatively little state direction.[222] Even through the 1930's, the U.S. federal government played little direct role in the development of the nation's industry's. Compared with other capitalist nations, America's steel, electric, textile, automobile, and chemical industries grew with relatively little direct government assistance.[223] Hence, the U.S. government's weak role in industrial affairs is largely a consequence of the political history of America's industrialization.

Although Japan's vision of a post-war Democratic state was almost entirely based on the American model, Japan developed its own form of democracy that reflected the particular history and politics of Japan.[224]

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219 Krasner, p.62.
220 Samuels, p.9.
221 Krasner, p.62.
222 Krasner, p.62.
223 Vogel, "Government - Industry Relations," p.96.
224 Frank Upham, "Unplaced Persons and Movements," in Andrew Gordon, ed., Postwar Japan As History, (Berkeley: University of California Press, 1993) p.346.

Japan's history led to cooperation between business and government. Following WWII the extensive involvement of government in industrial development was decisive in saving the country from economic and political dependence upon the industrial West and in creating conditions for Japan's economic success.[225] The legitimacy of this relationship has its historical roots in the Miji Restoration of 1868, in which economic development was similarly the state's central goal. The existence and development of this model of cooperation is not very well understood by Americans. Kahan et. al. state, "Too few Americans really understand the closely interwoven monolith that rules Japan. This is not the phantom 'Japan Inc.,' . . . The actual monolith is part and parcel of Japan's traditional - that is prewar - ruling elite."[226]

As a result of these different relationships between business and government in Japan and the U.S., the implementation of similar environmental policies takes on distinctly different forms and results in both countries. Although the U.S. has experienced sound improvements in environmental quality, Japan has achieved much higher levels of improvement in environmental quality. Due to the cooperative efforts of industry and government, Japan is better able to implement its environmental regulations than the United States. Conversely, stringent environmental regulations have been established in the U.S., yet many of these standards have never been met. The most vigorous opposition to environmental objectives in the United States comes from the business community. In legislative, administrative, and judicial action, in the mass media, in public relations campaigns, in scientific and technical claims and data, the private sectors resistance to environmental regulations is great. Each form of business, be it raw material production,

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225 Boyd., p.85.

226 M. Kahan, F.W. Richmond, How To Beat The Japanese At Their Own Game, (Englewood Cliffs, NJ: Prentice Hall, 1983) p.26.

manufacturing, commerce, transportation, or construction, has its own particular objection to environmental regulations. Due to the open nature of the U.S. system, and the absence of cooperation between business and the state, U.S. businesses can effectively lobby and litigate environmental regulations to death.

A pluralistic political system in which legislation is so negotiated, compromised, and diluted by various interests is a central factor in the often self-regulatory practices of business in the United States. This situation allows the private sector in the U.S. to effectively evade stringent environmental standards. Consequently, it becomes apparent why the Clean Air Act was so drastically weakened. The irony of this situation is that there is a much stronger environmental movement in the U.S. than in Japan. A 1990 Gallup poll showed that 76% of American's consider themselves environmentalists.[227] However, because of its historically cooperative state-business relationship, Japan has been able to formulate and implement rigorous environmental regulations and achieve a level of environmental cleanup that is superior to the United States.

Recommendations

Japan

The Japanese government obviously has the ability to pass strong regulatory policy as well as the ability to achieve private sector compliance. The existence of organization and cooperation between business and the bureaucracy is at the root of Japan's regulatory success. In short, the Japanese state is essentially capable of making decisions and of enforcing them once these decisions are made.[228] This capability is clearly seen in Japan's success

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[227] Christopher Bosso, "Adaptation and Change in the Environmental Movement," in Allan Cigler and Burdett Loomis, eds., Interest Group Politics, (Washington DC: Congressional Quarterly Inc., 1991) p.156.
[228] Pempel, p.16.

with its Clean Air Act and with pollution abatement in general.

Unfortunately, unless people are dropping dead in the street from pollution, environmental policy remains a value question; what aspects of the physical environment are important, and why? The question becomes, does the physical environment, as well as plant and animal species, have an intrinsic value in and of themselves? Japan does not always seem to think so. Japan has the capability of enforcing strong environmental policies, yet apart from pollution abatement the Japanese government and society choose to limit their environmental policy making. In the areas of environmental protection, the preservation of scenic or rare environments, and the protection of endangered plant and animal species, Japan's environmental record is weak if not controversial. The continued debate over commercial whaling is a primary example of this fact. Whaling is considered by most developed countries to be cruel, unnecessary, and ecologically threatening, yet Japan's whaling industry remains in existence, and Japan continually fights for international access to this trade. To the present day Japan is attempting to revoke the international ban on commercial whaling of the Minke whale, even though this species has only recently been removed from international endangered species lists. The U.S. on the other hand has opposed commercial whaling for over a decade, and continues to oppose this practice in other countries.

As stated in the opening of this paper, the 1977 Organization for Economic Cooperation and Development reviewed the environmental policies of Japan and their apparent success. The OECD's report was highly complimentary of Japan's efforts towards, and great success with, pollution clean up. However, the concluding comments of the report addressed Japan's need to consider environmental policy in a broader context. The report stated that although Japan had succeeded with pollution abatement, the policies

ignored environmental "amenities" such as beauty, quietness, privacy, and other un-measurable elements such as these.[229] Pollution problems can be defined: pollution levels can be measured and pollution sources can be identified. Alternately, amenities are difficult to measure or define quantitatively in order to designate levels of improvement. Japan's environmental policies were and are specifically focused towards pollution abatement, this concentrated effort is significant in the success of this goal.

Japan seems to act only upon environmental issues that directly effect the health of its population or the efficiency of the Japanese society. This is the greatest disappointment concerning Japan's environmental agenda. Japan has the capability and political power to affect significant environmental changes, to achieve pollution abatement as well as environmental and species preservation, yet for the most part both Japan's citizens and the government choose to forgo a broad approach to environmental policy. Thus, in the case of Japan it is recommended that the application of pollution problems be extended to apply to a more comprehensive environmental agenda.

The United States

If the United States were to decide that it wished to reach the air quality emission standards and overall environmental success that Japan has achieved through its regulatory system it would have to learn from the practices of Japan's policy implementations. Specifically, administrative agencies in the U.S should be allotted more regulatory power, interest group access should be restricted, and most importantly the U.S. public and private sectors must work together in an attempt to achieve environmental goals and regulatory compliance. More specifically, the Environmental Protection Agency, rather

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[229] Pempel, p.252.

than Congress, would have to establish strict emission standards and compliance schedules through scientific and technical consultation. This would have to be done in absence of interest group recommendations, either business or environmental. Following the establishment of emission standards, the EPA would have to work with the private sector and the government to design an implementation program. This program would necessarily include financial incentives, such as loans, tax reductions for compliance, and government research and development funding. By increasing the EPA's implementation and regulatory responsibility the regulatory process would be centralized, thereby allowing the EPA to practice its political mandate and eliminate the many cleavages used to bypass environmental policy and achieve private sector self regulation in the United States. Although these suggestions do not entail an entire overhaul of the U.S. political system, they would require limits to interest group access, increased bureaucratic responsibility and power, and most importantly a cooperative business-government effort focused upon achieving substantial private sector compliance to environmental regulations.

Furthermore, although environmental interest groups remain forceful, they are too fragmented and diverse and have too many contending forces, to successfully achieve their various goals. In fact there are many environmental interest groups that encompass identical platforms, yet compete with one another for funding and political access. Additionally, the ability of non-profit organizations to compete with wealthy private sector interests is very limited in such a plural political system. If a more united force existed for environmental issues, the presence of environmental groups would be more politically powerful. In short, environmental groups should combine efforts when possible and perhaps even merge organizations. In relation to this problem, Mancur Olsen states in the *Rise and Fall of Nations,* that when a nation such as the

United States is so overrun with various interests and interests groups, they all pull any significant political effort apart. Consequently, no substantial policy can be created or implemented, the political system is stagnated, and the nation eventually faces decline.[230] In this case greater restrictions on lobbying are in order. This mandate would curb private sector powers by limiting some avenues (perhaps financial) of political access, as well as encourage environmental groups into organizing a more united effort. Restrictions would not eliminate or obstruct public access to the policy making process, they would simply lend more organization to the political process, and perhaps give well organized environmental interest groups more legitimacy.

Most importantly, the United States public and private sectors must attempt to cooperate in order to achieve improved environmental conditions. The United States environmental movement has remained popular since the 1960's. However, a united effort from the government and industry in terms of environmental policy has not been evident. As business-government cooperation is at the core of Japan's success with environmental policy, the U.S. must learn from their example. In order to achieve a cooperative relationship the U.S. government and industry must realize that environmental policies can be financially sound policies. The global market for environmentally friendly products is worth an estimated $200 billion dollars a year, and is growing tremendously.[231] Which country wins the race to perfect and sell green technologies will depend to a large degree on who has the best engineering and marketing skills.[232] But equally important may be the encouragement that companies get from their government. Governments can

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[230] Mancur Olson, The Rise and Decline of Nations: Economic Growth, Stagflation, and Social Rigidities, (New Haven: Yale University Press, 1982).
[231] Michael Lemonick, "The Big Green Payoff," *Time*, June 1, 1992, p.62. .
[232] Lemonick, p.62.

exert enormous influence over how aggressively businesses take the environment into account, using tough standards in connection with incentives and rewards. The U.S government has done a relatively poor job of encouraging business to innovate. Fortunately, some U.S. companies, such as 3M Corporation (Minnesota Mining and Manufacturing) realized, without the government's help, that being environmentally conscious can also lead to growth. 3M has drastically reduced pollution and waste at its manufacturing plants, and despite the conventional wisdom that says environmentalism is a luxury, has steadily increased profits as a result of the company's environmental efforts.[233]

"Once industrialists think about it seriously, they almost inevitably see the financial advantages of investments in environmental technology," says Hugh Faulkner, executive director of the Business Council for Sustainable Development.[234] Yet, continues Faulkner, even with greater industrial environmental consciousness,

> There could clearly be no prospect for sustainable development in either the developed or the developing world without government incentives. The nations that wield those carrots and sticks most skillfully will be the leaders of the new green revolution, and their industries will eventually be the ones to profit from it.[235]

This is a fact that Japan seems to have realized, but the United States has yet to accept. A report from the World Resources Institute says that the U.S. has fallen far behind in the effort to develop "green" technologies.[236] The report also addresses the Japanese government's long standing belief that "private firms benefit from assistance in endeavors of long-term strategic importance

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[233] Lemonick, p.62.
[234] Lemonick, p.62.
[235] Lemonick, p.62.
[236] Lemonick, p.62.

and that a future economic payoff will materialize from providing it."[237] The question is, with Japan and Western Europe continually striving for environmentally sound industries, what international position will the United States hold once these countries have increased their efficiency and growth to a point where the U.S. is no longer a supplier; no longer a competitor. Apart from the environmental implications, certainly the economic results are already apparent.

There are some recent signs that the United States government is initiating some cooperative efforts with business. Recently, the Clinton administration released a blueprint for reducing greenhouse gases, proposing ways for companies to gradually cut back on their levels of greenhouse gas emissions. The plan outlines more than 50 projects in which industry and federal agencies can cooperate in cutting emissions.[238] The provisions call for such actions as suggesting that employers offer cash vouchers rather than subsidize parking with the intent of encouraging the use of public transportation. The problem with this cooperative effort is that most of the provisions rely on voluntary participation by private industry; very few provisions are actually mandatory. Furthermore, this plan involves little legislation and virtually no new spending.[239] Therefore, there is very little incentive for industry to participate and no punishment if they choose not to. While Clinton's effort to encourage government and business' efforts is on the right track, it cannot prove to be significantly effective if the effort lies solely on federal suggestions and voluntary compliance. Future environmental policy in the United States must consist of more than this. If the U.S. public and private sectors wish to cooperate towards environmental goals environmental policy must include stringent standards

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237 Lemonick, p.62.
238 "Clinton Sets Plan to Cut Emissions," *The New York Times,* Oct. 18, 1993, p. A1.
239 "Clinton Sets Plan to Cut Emissions," p.A1.

accompanied by research and development aid and financial incentives designed to encourage companies to reach these standards.

Market Based Environmental Policy

Aside from imposing restrictions on lobbying, increasing the EPA's regulatory powers, or altering the U.S. constitutional order, there are few means by which the United States can follow Japan's example of efficient environmental policy making and its implementation. Japan has been more successful with environmental regulations due to the strength of its bureaucracy, the state's economic powers, and historically strong business-government relations. There are many elements of Japan's success that cannot be transferred to the U.S. system such as historical business-government ties, inter-firm ties, and a government with a powerful bureaucracy that can direct the economy. Perhaps the U.S should not attempt to look towards Japan's example, but instead explore alternatives to regulatory policy that would work with the U.S political-economic traditions instead of against them.

It is important to remember that U.S. industries are not paying the real cost of producing their goods, they instead expect the public and the government to absorb the cost of cleaning up their waste. If a company was expected to pay for its pollution, emissions would most likely be minimized. There are two recent suggestions from the economic community aimed at controlling pollution through the use of free market ideals. One approach is to tax pollution. For example, a tax per pound on a pollutant emitted could be imposed on power plants and other industries. A tax could even be imposed on automobile emissions based on each car's expected emissions, further based on actual emission levels.[240] The other approach that economists recommend

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[240] Steven E. Rhoads, The Economist's View of the World: Governments, Markets and Public

is a tradable discharge license. The regulatory agencies could determine the total amount of emissions to be allowed in an area and then issue permits or licenses for these emissions. The permits would be bought and sold like industrial property by companies.[241] If a firm would rather buy another company's excess discharge license on a specific contaminant rather than install new equipment, this would be possible. This makes it financially sound for a firm to emit less pollutants in order to sell its excess license.[242]

Unfortunately, these recommended methods do not serve to reduce pollution as much as they serve to effectively control or enforce pollution. Yet, economists argue that past and current environmental legislation has been postponed, revised and evaded by the Congress, the courts, and the EPA. While an effort to reduce pollution levels is optimally desired, controlling pollution is preferable to the current rise in pollution. These suggestions would serve to enforce existing legislation by making emissions costly to a firm. Excess emissions would result either in higher taxes, or in tying up money in costly emissions permits. Their point should be well taken and seriously considered.

Both of these suggested market based mechanisms have an advantage over the existing regulatory system in their ability to rechannel self-interest so that it becomes congruent with environmental policy.[243] Put simply, emissions would cost firms a great deal of money. As previously stated, emissions would result in either higher taxes or in tying up money in costly emissions permits. When economic incentives have changed, many firms will find it profitable to clean up their emissions rather than to delay cleaning up by fighting the EPA.[244]

Policy, (New York: Cambridge University Press, 1985) p.44.
[241] Rhoads, p.44.
[242] Rhoads, p.44.
[243] Rhoads, p.45.
[244] Rhoads, p.45.

Additionally, these proposals would cut down on litigation. As it stands now if delay saves a company more than it loses in court costs, the company has an incentive to appeal at every stage, even if it thinks it will eventually lose.[245] Under the tax scheme a company would owe back taxes if it lost and there would also be less to litigate. Since the EPA would not be requiring each firm to meet a certain standard for emission or to install a particular technology by a particular date, the courts would not have to determine whether the EPA's rules for each firm were reasonable.[246] Or, under the license suggestion, the court would find that the Congress has determined that it wants air or water of a given cleanliness. To get it requires limiting emissions to the level indicated by the emissions licenses. If a firm believes it must go to unreasonable and disproportionately great expense to clean up, the court can easily point out that the firm has the alternative of buying a marketable license from one of the firms with proportionately lower costs.[247]

These plans each propose achieving industrial compliance through and within the current market system using market incentives. This is particularly attractive considering the U.S. private and public sector's strong free market principles. Furthermore, these proposals require no changes in the current political system, they instead *use* the market based economic system. Additionally, under the current regulatory system once a firm is in compliance it has no incentive to still do better. With the incentive schemes the possibility of increasing profits by reducing pollutants remains, as long as any taxes are paid or capital is tied up in marketable effluent licenses.[248] Thus, not only is compliance reached under the market incentive system, but innovations aimed at continually improving environmental quality and reducing emissions are

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[245] Rhoads, p.45.
[246] Rhoads, p.45.
[247] Rhoads, p.45.
[248] Rhoads, p.47.

encouraged as well.

An alternative to environmental regulations is available through market based incentives for industrial compliance. By using free market incentives to entice industrial compliance, the present regulation system would be reformed and hopefully improved. As this study shows, the U.S. is not as well equipped to achieve environmental standards through regulation as Japan, perhaps for the United States free market environmentalism is a sound solution.

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