

# William & Mary Environmental Law and Policy Review

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Volume 24 (2000)  
Issue 1 *Environmental Justice*

Article 6

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February 2000

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### Repository Citation

Charles D. Patterson III, *Environmental Taxes and Subsidies: What is the Appropriate Fiscal Policy for Dealing with Modern Environmental Problems?*, 24 Wm. & Mary Envtl L. & Pol'y Rev. 121 (2000), <https://scholarship.law.wm.edu/wmelpr/vol24/iss1/6>

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# ENVIRONMENTAL TAXES AND SUBSIDIES: WHAT IS THE APPROPRIATE FISCAL POLICY FOR DEALING WITH MODERN ENVIRONMENTAL PROBLEMS?

CHARLES D. PATTERSON, III\*

Oil spills and over-fishing threaten the lives of Pacific sea otters.<sup>1</sup> Unusually warm temperatures are responsible for an Arctic ice-cap meltdown.<sup>2</sup> Contaminated drinking water is blamed for the spread of avian influenza from wild waterfowl to domestic chickens.<sup>3</sup> Higher incidences of skin cancer are projected, due to a reduction in the ozone layer.<sup>4</sup>

Our environment, an essential and irreplaceable resource, has been under attack since the industrial age began. Although we have harnessed nuclear energy, made space travel commonplace, and developed elaborate communications technology, we have been unable to effectively eliminate the erosion and decay of our environment. How can we deal with these and other environmental problems?

Legislators have many methods to encourage or discourage individual or corporate conduct. One available tool is tax policy, which is often designed to discourage or encourage citizen action and to promulgate social policies.<sup>5</sup> Although environmental problems are

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<sup>1</sup> See William Mullen, *Humans Again Playing Havoc With Otters*, CHI. TRIB., March 22, 1999, at 1 ("Since 1990, killer whales—probably driven to hunger by humans overfishing Alaskan waters—uncharacteristically are attacking and devouring sea-otter populations to the point of extinction in some areas of Alaska.").

<sup>2</sup> See Jim McLean, *North Iced Passage; Global Warming Opens Up New Route Across Top of World*, SCOT. DAILY REC., Apr. 7, 2000, at 39.

<sup>3</sup> See Murray Hogarth, *Chicken Pox*, SYDNEY MORNING HERALD, May 8, 1999, at 42.

<sup>4</sup> See Europe Information Service, *Research: Record Loss of Ozone in the Arctic*, EUR. REP., Apr. 8, 2000, available at 2000 WL 8841467.

<sup>5</sup> See, e.g., Mona L. Hymel, *The Population Crisis: The Stork, the Plow, and the IRS*, 77 N.C.L. Rev. 13, 107-08 (1998) ("Our current tax policies, whether by design or by default, . . . encourage wasteful, destructive consumption. President Clinton's Task Force on Population and Consumption concluded: At the moment, federal and state tax codes encourage a number of environmentally damaging activities and discourage beneficial ones.").

common, such problems have not received proportionate consideration by legislators. The time is ripe for change.

This note discusses the current state of environmental regulation, policies, and problems, and both foreign and U.S. fiscal and tax policies for coping with modern environmental problems. Part I provides a general overview concerning current environmental problems in the U.S. and overseas. Part II discusses environmental taxes used in the U.S. and overseas. Part III considers subsidies and tradeable permits as an alternative to environmental taxes. Part IV provides a comparative analysis of the economic and political structures of the United States and its overseas trading partners, and considers the appropriateness of environmental taxes and subsidies for each. Finally, this Note concludes by proposing that the best method, in terms of market efficiency and political reality, for achieving environmental improvements in the United States is to increase reliance on environmental subsidies.

## I. OVERVIEW OF ENVIRONMENTAL PROBLEMS

Environmental problems are everywhere and touch every facet of our lives. Insurance premiums<sup>6</sup> and the cost of goods,<sup>7</sup> to name but two pervasive issues, are affected by environmental concerns. Although our society continues to make significant technological progress at break-neck speed, our environmental resources are being dissipated just as rapidly. The more automobiles we manufacture and drive, the more our landfills overflow with discarded tires, while landfill-owners devise more creative and sometimes illegal methods to handle the over-capacity.<sup>8</sup> Our agricultural practices also can lead to serious pollution problems.<sup>9</sup>

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<sup>6</sup> See, e.g., Leslie Scism and Elizabeth MacDonald, *Insurers Haven't Finished Setting Up Reserves for Asbestos and Pollution, Report Suggests*, WALL ST. J., June 11, 1998, at C2 (describing the extremely large reserves that insurers must create to cover potential asbestos liabilities).

<sup>7</sup> See, e.g., James Kimmel, *Disclosing the Environmental Impact of Human Activities: How a Federal Pollution Control Program Based on Individual Decision-Making and Consumer Demand Might Accomplish the Environmental Goals of the 1970s in the 1990s*, 138 U. PA. L. REV. 505, 507 (1989) (discussing the author's proposal for an alternative to a supply-centered environmental-tax policy).

<sup>8</sup> See *Update*, CHI. DAILY L. BULL., Sept. 18, 1998, at 1 (stating that the corporate veil may be pierced and personal liability imposed when a company violates the Environmental Protection Act by burning 40,000 to 50,000 tires).

<sup>9</sup> See *Editorial*, ST. LOUIS POST-DISPATCH, Sept. 25, 1998, at C18 (noting that 1.3 billion tons of manure—the equivalent of five tons of manure for each person in America—accumulate in factory farms each year and that the U.S. Department of Agriculture is proposing national animal-waste standards).

The environment has been attacked on many levels. Although each individual can effect some change, systemic change at the organizational level may be the best way to deal with the problem.

Pollution reduction is not an inexpensive endeavor. In most industrialized countries, "approximately 1.5% to 2% of gross domestic product ("GDP") is spent on pollution reduction and nature conservation."<sup>10</sup> Generally, the more a nation spends on environmental conservation and pollution reduction, the less damage that occurs.<sup>11</sup> However, "the cost of reduction of certain pollutants increases with the reduction percentage."<sup>12</sup> Therefore, effective and efficient pollution control and environmental conservation requires a careful balancing by all concerns (federal agencies, foreign countries, state agencies, corporations and individuals).

#### A. *Corporations and the Environment*

Corporations can play a major role in environmental reform, especially corporations in "dirty" industries, who have many incentives to enact responsible environmental policies.<sup>13</sup> Corporations such as Nike and 3M Co. have implemented policies to increase their reputation as corporate leaders in ecological sensitivity.<sup>14</sup> In 1993, 3M Co. devoted 15% of its \$1 billion research and development budget to environmentally related research.<sup>15</sup> Some companies, realizing that environmentally safe

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<sup>10</sup> Harmen Verbruggen and Huib M.A. Jansen, *International Coordination of Environmental Policies*, in PRINCIPLES OF ENVIRONMENTAL AND RESOURCE ECONOMICS 228, 241 (Henk Folmer et al. eds., 1995).

<sup>11</sup> See *id.*

<sup>12</sup> *Id.*

<sup>13</sup> See *Where Bankers Fear to Tread: Responsibility for Environmental Clean Up*, ECONOMIST, May 21, 1994, at 85 (discussing American and foreign banks' reluctance to lend to companies facing environmental cleanup problems).

<sup>14</sup> See *Recent Activities*, AM. POL. NETWORK GREENWIRE, September 20, 1998 (noting that Nike is taking steps to improve its environmental record in Asian countries, and has "adopted a corporate environmental policy to integrate sustainability principles in all major business decisions"); Kevin Kelly, *It Really Can Pay to Clean Up Your Act*, BUS. WK., Nov. 7, 1994, at 141 (describing 3M's reputation as an environmentally conscious corporate leader in pollution control and recycling).

<sup>15</sup> See Kelly, *supra* note 14, at 141. "3M found that programs to combat pollution could also cut down on chemical byproducts and other waste. In 1975, the company launched a program called Pollution Prevention Pays, which solicits employee suggestions on how to cut waste and recycle materials. So far, 3Mers have generated 4,100 ideas that have eliminated 1.3 billion pounds of pollutants and saved the company more than \$710 million." *Id.*

products<sup>16</sup> appeal to certain consumer groups, use such products to spearhead marketing efforts.<sup>17</sup> Many other companies have realized that "greener" policies make good sense.<sup>18</sup>

Corporations are cleaning up for a multitude of reasons. Public opinion,<sup>19</sup> increased regulatory burdens,<sup>20</sup> rising liability,<sup>21</sup> and the potential for enhanced credibility and new business<sup>22</sup> play a part in corporate decision-makers movement towards "greener" policies.

Most large corporations have managers of areas of the corporation devoted to resolving environmental concerns.<sup>23</sup> Corporations can adopt various management systems to reduce possible environmental risk and exposure. These systems include: compensation,<sup>24</sup> monitoring and auditing of non-financial objectives,<sup>25</sup> internal pricing,<sup>26</sup> horizontal task

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<sup>16</sup> One such product is 3M's "Never Rust Wool Soap Pad," made of recycled plastic bottles, which uses a non-phosphorous soap to reduce water pollution. *See id.*

<sup>17</sup> *See id.*

<sup>18</sup> *See, e.g.,* Catherine Arnst, *When Green Begets Green*, BUS. WK., Nov. 10, 1997, at 98 ("Sonoco has created a rectangular 'paper can' for Lipton Ice Tea that is 70% recyclable. 3M has developed a plastic coating for the Navy to replace paint on trucks, ships and trains . . . which leads to greater fuel efficiency. British Petroleum has invested \$160 million in developing solar energy . . ."); Emily T. Smith, *Environment: The Greening of Corporate America*, BUS. WK., April 23, 1990, at 97 ("By 1993, for example, IBM says it will stop using . . . chemicals that destroy the ozone layer. Du Pont promises to slash air emissions 60% by 1993, to cut toxic wastes 35% by the year 2000[, and] . . . P&G is moving to less wasteful packaging . . .")

<sup>19</sup> *See Smith, supra* note 18, at 96.

<sup>20</sup> *See id.*

<sup>21</sup> *See* Andrea Lachnmayr et al., *Environmental Crimes*, 35 AM. CRIM. L. REV. 597, 599 (1998) (discussing the fact that corporations and its officers may be found liable for environmental crimes under the Resource Conservation and Recovery Act, the Toxic Substances Control Act, the Federal Insecticide, Fungicide and Rodenticide Act, Comprehensive Environmental Response, Compensation and Liability Act, the Clean Air Act, Safe Drinking Water Act, Clean Air Act, the Rivers and Harbors Act of 1899, and the Endangered Species Act).

<sup>22</sup> *See Smith, supra* note 18, at 97 (noting that in 1990 the market for pollution control products was \$100 billion).

<sup>23</sup> *See* H. Landis Gabel and Bernard Sinclair-Desgagné, *Corporate Responses to Environmental Concerns*, in *PRINCIPLES OF ENVIRONMENTAL AND RESOURCE ECONOMICS* 347, 349 (Henk Folmer et al. eds., 1995).

<sup>24</sup> *See id.* at 349-50 (describing advantages of linking the compensation of corporate agents to the measure of performance on environmental risk reduction).

<sup>25</sup> *See id.* at 350-51 (discussing how a firm can quantify the effectiveness of its agents' environmental risk-reduction efforts by conducting environmental audits, which allow CEOs to set environmental goals and establish environmental bonus systems for management).

<sup>26</sup> *See id.* at 351-52 (noting that firms may try to calculate the environmental costs of various corporate actions and allocate these costs to the appropriate intra-corporate

restructuring,<sup>27</sup> centralization versus decentralization of decision making,<sup>28</sup> corporate sanctions,<sup>29</sup> corporate culture,<sup>30</sup> and human resource management.<sup>31</sup> Corporate environmental-management systems are a means to ensure that the company improves its environmental performance so that it is not vulnerable to lawsuits or environmental accidents.<sup>32</sup>

Although the role of government regulators in corporate environmental policy is readily discernible, the role of other institutions is equally important and may have a greater affect on corporate environmental policy. For example, banking institutions play a major role in how corporate environmental policy is implemented by monitoring the environmental practices of their creditors.<sup>33</sup> Loans secured on property may also involve unforeseen liabilities: if a bank takes possession of land and discovers that it is polluted, it may have to pay to clean it up.<sup>34</sup> Also, banks are reluctant to lend to certain businesses<sup>35</sup> that have been historical "polluters."<sup>36</sup>

Third parties and regulators monitor corporations to ensure that they comply with environmental regulations. However, is monitoring enough? Do regulators or third parties have the resources or ability to

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division, as a way to reflect the economic impact of management's environmental decision-making).

<sup>27</sup> See *id.* at 352-53.

<sup>28</sup> See *id.* at 353-54 (describing possible advantages of centralization of corporate environmental decision-making resulting from imposition of standard operating procedures that confine the agents' action, resulting in fewer environmental violations).

<sup>29</sup> See *id.* at 354 (noting that corporations may avoid some of the environmental liability arising from negligent actions of its agents by threatening dismissal or stating in the employment contract that indemnification and legal aid would be denied if the employee is found to be personally liable for the environmental accident).

<sup>30</sup> See *id.* at 354-55 (discussing the fact that corporations may create a culture that places a strong emphasis on the environment and reduces the risk of environmental hazards. Such an emphasis may be found in the corporate policy statements and the firm's history.)

<sup>31</sup> See at 355-56 (discussing how firms may invest in "greening" the firm's human capital by investing in environmentally focused employee training).

<sup>32</sup> See *id.* at 349.

<sup>33</sup> See *Where Bankers Fear to Tread*, *supra* note 13, at A1.

<sup>34</sup> See *id.*

<sup>35</sup> See *id.* So-called "dirty" businesses are said to include dry-cleaners, printers, metal-finishers, and even farmers. See *id.*

<sup>36</sup> See Paul M. Barrett, *Court Narrows Its Definition of a Polluter*, WALL ST. J., Jan. 2, 1997, at A9 (explaining how prosecutors in different states may define "polluter;" some states require that prosecutors must show that the alleged polluters knew they were discharging something dangerous).

monitor all the corporate actions that may impact the environment? The answer to both of these questions is not clear.

Although corporations may be moving in the right direction, more positive steps are needed. Incentives (environmental subsidies) or disincentives (environmental taxes) may be the best way to stimulate greater positive steps by corporations. Such alternatives will be discussed later in this Note.

How do nations currently handle environmental problems? Each nation resolves its economic problems differently. The next section addresses the alternative approaches in order to set the stage for addressing the most appropriate fiscal policy.

## B. *Multinational Issues Regarding Environmental Problems*

### 1. United Kingdom's Response to Environmental Problems

In the United Kingdom, like in the United States, pollution became a problem only after the industrial revolution.<sup>37</sup> During this period, the most damaging form of pollution was smog from coal-burning fires used in manufacturing or for heating.<sup>38</sup> In response to these problems, the United Kingdom enacted pollution-control legislation in the mid-nineteenth century.<sup>39</sup> Since then, the United Kingdom's pollution-control regulations have evolved to meet the needs of "too many people and too much industry concentrated in a limited area of the small island nation."<sup>40</sup>

The United Kingdom was one of the first nations to industrialize and one of the first to experience large-scale environmental pollution.<sup>41</sup> In 1970, the United Kingdom established its Department of Environment ("DOE"), which has the responsibility for minimizing pollution problems.<sup>42</sup> In early 1980, DOE changed the emphasis in environmental protection from merely "accumulating data to cope with immediate [environmental] issues to using data to monitor progress in attaining environmental quality objectives."<sup>43</sup> Tighter controls resulted in an eighty percent decrease in smoke emissions in the latter part of the twentieth

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<sup>37</sup> See CRAIG E. REESE, DEREGULATION AND ENVIRONMENTAL QUALITY: THE USE OF TAX POLICY TO CONTROL POLLUTION IN NORTH AMERICA AND WESTERN EUROPE 235 (1983).

<sup>38</sup> See *id.*

<sup>39</sup> See *id.* at 237.

<sup>40</sup> *Id.*

<sup>41</sup> See *id.* at 238.

<sup>42</sup> See *id.*

<sup>43</sup> *Id.* at 259.

century.<sup>44</sup> Also, officials are now taking steps to reclaim urban areas that had been used as dumping sites for hazardous waste.<sup>45</sup> Although much progress has been made in the United Kingdom, more improvements are still necessary to enhance environmental quality.<sup>46</sup>

Through the early 1980s, no environmental taxes were imposed in the United Kingdom.<sup>47</sup> Although localities have the authority to charge effluent and waste-disposal charges to finance local operations, many did not do so.<sup>48</sup> By 1995, however, the United Kingdom had imposed a number of environmental tax measures, including gas taxes, water and sewage taxes, solid waste taxes, and taxes on "employer-paid commuting expenses."<sup>49</sup>

The United Kingdom's use of environmental taxes to promote environmentally sustainable development reflects a conversion occurring in many European nations.<sup>50</sup> According to one commentator, this conversion is the result of six factors:

- the inefficiency of traditional direct regulation,
- the philosophical shift away from a regulatory state,
- the desire to make policy instruments more economically efficient,
- the need to find new sources of government revenue,
- the need to meet commitments to integrate economic and environmental policies, and
- the need to shape policy in a manner that is consistent with the Brundtland Report and the Rio Conference, which assumed that economic instruments are essential to sustainable development.<sup>51</sup>

## 2. Japan's Response to Environmental Pollution

Our Pacific competitor, Japan, has its own environmental problems. It is a small island nation whose environment is a casualty of industrialization and higher standards of living.<sup>52</sup> According to one

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<sup>44</sup> See *id.*

<sup>45</sup> See *id.* at 260.

<sup>46</sup> See *id.*

<sup>47</sup> See *id.* at 256.

<sup>48</sup> See *id.*

<sup>49</sup> See Jean-Philippe Barde, *Environmental Taxation: Experience in OECD Countries*, in *ECOTAXATION* 221, 228-29 (Tim O'Riordan ed., 1997).

<sup>50</sup> See *id.* at 224-26.

<sup>51</sup> See *id.*

<sup>52</sup> Jacob M. Schlesinger, *Thinking Green: In Japan, Environment Means an Opportunity for New Technologies: Firms Offer Grand Schemes to Suck Carbon From Air and Make Deserts Bloom*, WALL ST. J., June 3, 1992, at A1.



commentator, "Japan's postwar environmental record is largely one of unfettered commerce running roughshod over nature, yielding only when creating a serious threat to its people or its economy."<sup>53</sup> In 1992, Japan's Environment Agency<sup>54</sup> reported that Japan's carbon dioxide emissions had grown by about four percent annually since 1987.<sup>55</sup> Thick clouds of smoke could be seen over Tokyo due to nitrogen oxide emissions, which have escalated over recent years.<sup>56</sup> These increased emissions are attributed to Japanese families driving more miles in larger automobiles.<sup>57</sup>

Japanese political and industry leaders are working on solutions to environmental problems, as well as capitalizing on the demand for pollution control products.<sup>58</sup> However, Japan's carbon dioxide emissions plan relies upon an assumption that Japan can massively increase nuclear energy.<sup>59</sup> This is a crucial assumption though since the Japanese automobile industry is fervently opposed to tougher emissions controls,<sup>60</sup> and the automobile industry seems to have the support of the majority of Japanese consumers.<sup>61</sup>

Although Japan may have been reluctant to resolve the emissions problem, it took a major role in a plan to curb global warming.<sup>62</sup> On

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<sup>53</sup> *Id.*

<sup>54</sup> Japan's equivalent of the U.S Environmental Protection Agency.

<sup>55</sup> See Schlesinger, *supra* note 52, at A1. Japan's energy efficiency stagnated following 1987, after improving drastically in the previous fourteen years. See *id.*

<sup>56</sup> See *id.*

<sup>57</sup> See *id.*

<sup>58</sup> See Don L. Boroughs & Betsy Carpenter, *Helping the Planet and the Economy*, U.S. NEWS & WORLD REP., Mar. 25, 1991 at 50.

[T]he U.S. lost its lead in the smokestack scrubber market to Japan and Europe. . . . The Trade ministry in Tokyo has drawn up a 100-year plan, which looks at scientific advances that could become crucial to countering global warming. Japanese pollution-control technology has become so sophisticated that many American utilities, to comply with the Clean Air Amendments, will find themselves buying scrubbers made by Mitsubishi and Hitachi.

*Id.* at 50.

<sup>59</sup> See Schlesinger, *supra* note 52, at A1.

<sup>60</sup> See *id.*

<sup>61</sup> See *id.* "[I]n a Gallup Survey of 22 countries released in May [1992], only 31% of Japanese said they would be willing to pay higher prices to protect the environment, compared with 65% in the U.S." *Id.*

<sup>62</sup> See Charlotte Booncharoen & John Gase, *International Commitment toward Curbing Global Warming: the Kyoto Protocol*, 4 ENVTL. LAW. 917, 918-19 (1998). Scientists have concluded that global warming is due to anthropogenic increases in atmospheric greenhouse gases, and that:

The potential effects of climate change are 1) an increase in the incidence of heat-induced deaths and the spread of diseases such as

December 10, 1997, the third meeting of the United Nations Conference on Climate Change was held in Tokyo.<sup>63</sup> The agreement, known as the Kyoto Protocol,<sup>64</sup> is the first that seeks to impose legally binding restrictions on the release of environmentally harmful greenhouse-gas emissions into the atmosphere.<sup>65</sup> Japan and many other nations favored the agreement, but the United States had some major misgivings.<sup>66</sup>

### 3. Germany's Response to Environmental Issues

Historically, Germans battle the same environmental problems faced by other industrialized nations. They must deal with the environmental triple threat of air, water, and solid waste pollution.<sup>67</sup> Germans, however, seem to be dealing with these threats more effectively than the other industrialized nations. If the popularity of the Green Party<sup>68</sup> is an indication of national sentiment regarding environmental issues, then

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malaria, yellow fever, encephalitis, and cholera; 2) threats to food security; 3) increased strain on water resources; 4) rising sea levels resulting in loss of human habitat; and 5) the degradation of natural ecosystems. By 1979, the international community began to recognize climate change as a serious problem.

*Id.*

<sup>63</sup> *See id.* at 917.

<sup>64</sup> Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 37 I.L.M. 22 (opened for signature Mar. 16, 1998).

<sup>65</sup> *See* Booncharoen & Gase, *supra* note 62, at 917.

<sup>66</sup> *See id.* at 933-34. Congressional leaders were unconvinced that the Protocol would not seriously harm the U.S. economy, and the Clinton administration felt that the Protocol would have serious economic implications for the U.S.

Council of Economic Advisors chair Janet Yellen presented the Administration's economic analysis of [Protocol] implementation costs[, which] . . . predicted an increase in household energy prices of approximately three to nine percent and an increase between four to six cents per gallon in the price of gasoline during the compliance period. Another report, however, suggests that by 2000 there will be up to a fifty-five percent increase in energy prices and a forty-five cent increase in gasoline prices.

*Id.*

<sup>67</sup> *See* REESE, *supra* note 37, at 139-40.

<sup>68</sup> The Green Party was established in Germany in 1980 on "a platform of peace and environmentalism." Cacilie Rohwedder, *Germany's Greens Joining with Leftist In Bid to Oust Kohl in September Ballot*, WALL ST. J., Jan. 23, 1998, at A10. As Germany's third largest political party, it wants "environmental-tax reform, a departure from nuclear power and a reduction in the use of brown coal for energy through a tax based on carbon-dioxide emissions." *Id.*

Germans have a newly found enthusiasm for environmental causes.<sup>69</sup> Corporations such as Royal Dutch/Shell Group, for example, have learned never to underestimate the importance of environmental issues in Germany.<sup>70</sup> "Shell . . . abandoned . . . plans to sink the junked Brent Spar oil platform in the North Sea" after motorists threatened to boycott its gas stations and environmentalists threatened to mount fierce protests. Shell's German sales dropped by 20% to 30% during the controversy."<sup>71</sup>

Germany's corporations and business executives are receptive to proposals for environmental taxes to achieve the goal of a healthier environment.<sup>72</sup> "[I]n a recent survey of corporate executives, two thirds said they would support the introduction of environmental taxes if they were offset by lower wage costs."<sup>73</sup> As of January 1, 1995, Germany implemented a number of environmentally related taxes and charges.<sup>74</sup> The growing popularity of the Green Party indicates that Germany may increase its reliance on taxes rather than charges.<sup>75</sup>

#### 4. The United States' Response to Environmental Pollution

United States citizens are victims of the same types of environmental pollution as their overseas neighbors. Air,<sup>76</sup> water, and solid waste pollution are problems in the United States as well. U.S.

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<sup>69</sup> See *id.*

<sup>70</sup> See Cacilie Rohwedder & Peter Gumbel, *Shell Bows to German Greens' Muscle; Reversal of Plan to Sink Rig Shows Growing Clout of Environmentalists*, WALL ST. J., June 21, 1995, at A15.

<sup>71</sup> *Id.*

<sup>72</sup> See Rohwedder, *supra* note 70, at A15.

<sup>73</sup> *Id.*

<sup>74</sup> See Barde, *supra* note 49, at 228-29.

<sup>75</sup> See *id.* at 230. Charges, which are usually payments for a service rendered, may be differentiated from taxes, which are not earmarked to specific environmental or other purposes; politicians have greater discretion over whether tax funds will be allocated to environmental programs or other projects. See *id.*

<sup>76</sup> See, e.g., Sam Delson, *SMOG Tax Credits to Clean Air at Issue; Backers: The Measure will Fight Pollution. Opponents: It's Corporate Welfare*, PRESS-ENTERPRISE, Oct. 24, 1998, at A01, available in 1998 WL 19810956 (noting that on many days the air quality in Riverside and San Bernardino California exceeds the federal ozone standard); Mary Beth Regan, *The Dustup Over Fine Air Pollutants*, BUS. WK., Mar. 24, 1997, 203 ("[S]cientific evidence suggests that dust specks—emitted from coal fired power plants, boilers, . . . other industrial sources[, and] autos—can cause health problems linked to 10,000 and 100,000 premature deaths each year . . . [and] could be among the nation's most dangerous public health threats.")

environmentalist groups are also sounding the alarm for global warming.<sup>77</sup> U.S. political leaders, however, are not leading the global warming debate.<sup>78</sup> The lackadaisical response of the U.S. to global warming may be due to predictions that our economic activity will be minimally affected.<sup>79</sup> “Developed countries like the United States, Canada, Japan, and the European nations will only be the least affected by global warming because the economic activity most affected is agriculture.”<sup>80</sup> In recent years, “as the increase in the incidence of cancer . . . has been linked to increased levels of carcinogenic and toxic substances, . . . [the public has focused on] the control of the production, use, and disposal of toxic substances,”<sup>81</sup> a highly visible and expensive environmental problem, instead of more subtle problems like global warming.

a. Short History of Environmental Policy in U.S.

The National Environmental Policy Act of 1969<sup>82</sup> was the first comprehensive statement of federal environmental policy.<sup>83</sup> Shortly thereafter, the 1970 Presidential Reorganization Plan No. 3 created the EPA.<sup>84</sup> Although EPA has become the lead agency responsible for environmental matters, several other federal agencies also have responsibility for various aspects of the environment.<sup>85</sup>

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<sup>77</sup> See, e.g., Lester R. Brown, *The World Transformed: Envisioning an Environmentally Safe Planet*, THE FUTURIST, May 1, 1993, at 17 (stating that global warming is potentially the most economically disruptive and costly change that has been set in motion by our modern society).

<sup>78</sup> See A. Dan Tarlock, *The Influence of International Environmental Law on United States Pollution Control Law*, 21 VT. L. REV. 759, 760 (1997). See generally Charlotte Booncharoen, *supra* note 62, at 933-34 (noting that Janet Yellen, chair of Clinton’s Council of Economic Advisors, said the U.S. economy would be adversely affected by the Kyoto Protocol). Tarlock notes that “the Bush Administration succeeded in watering down the Global Climate Change Convention,” Tarlock, *supra*, at 762, and that the United States does “not always follow . . . international environmental standard[s] and . . . can be challenged as violations of the General Agreement on Tariffs and Trade (GATT) and the North American Free Trade Agreement (NAFTA).” *Id.*

<sup>79</sup> See Tarlock, *supra* note 62, at 778.

<sup>80</sup> *Id.*

<sup>81</sup> REESE, *supra* note 37, at 281.

<sup>82</sup> 42 U.S.C. §§ 4321-4379d (1994 & Supp. IV 1998).

<sup>83</sup> See REESE, *supra* note 37, at 282.

<sup>84</sup> See *id.*

<sup>85</sup> See *id.* at 281-82. The Department of Agriculture is responsible for soil conservation; the Commerce Department’s National Oceanic and Atmospheric Administration handles meteorological services and the coastal zone management program, including fisheries conservation; the U.S. Army Corps of Engineers controls the nation’s navigable waters;

Generally, "Federal and State environmental policy on air, water, and solid hazardous waste pollution is characterized by Federal prohibitions, regulatory rules and guidelines, standards, technical assistance, and direct financial aid with State implementation, monitoring, and enforcement."<sup>86</sup> Some states, however, enact their own environmental legislation to deal with unique and pressing environmental issues.<sup>87</sup>

State environmental requirements, in some instances, are more stringent than federal environmental legislation and regulations.<sup>88</sup> Some of the more progressive states, such as California, may be bellwethers for the direction of national environmental regulatory schemes.<sup>89</sup>

Historically, "[e]nvironmental policy in the United States is implemented primarily through the use of regulation. . . ."<sup>90</sup> Regulation or "command and control" policy is the traditional policy type, most often applied in practice.<sup>91</sup> As previously stated, these regulations, standards, or procedures may be enforced at the federal or state agency level.<sup>92</sup> However, the use of economic instruments (environmental taxes, subsidies, and tradeable permits) has emerged as a functional and popular alternative.<sup>93</sup> Due to the rising cost of greater regulation, environmentalists, corporations, and the general public welcome such alternatives.<sup>94</sup>

Direct regulation is economically inefficient "because . . . [it] involve[s] all the heavy costs of enforcement without avoiding entirely the costs of monitoring in whose complete absence violations simply cannot be detected."<sup>95</sup> Direct regulation is generally aimed at the production

the Department of Interior manages federal lands and the outer Continental Shelf, and oversees strip-mining operations; the Department of Housing and Urban Development is responsible for community development, including water supply and sewage oversight; and the Department of Energy is involved in energy-related issues.

<sup>86</sup> *Id.* at 291.

<sup>87</sup> See REESE, *supra* note 37, at 282.

<sup>88</sup> See *id.* "New York is known for its progressive sanitation laws and environmental administration, whereas Michigan has been considered a leader in conservation legislation. . . . California is now generally considered to be the leader among the states in dealing with environmental protection and growth, especially air pollution." *Id.*

<sup>89</sup> See Delson, *supra* note 76, at A01.

<sup>90</sup> REESE, *supra* note 37, at 290.

<sup>91</sup> Hans Vos, *Direct Regulation and Economic Instruments: Antagonists or Allies?*, in ENVIRONMENTAL POLICY BETWEEN REGULATION AND MARKET 305, 305 (Claude Jeanrenaud ed., 1997).

<sup>92</sup> See REESE, *supra* note 37, at 290.

<sup>93</sup> See Vos, *supra* note 91, at 305-06.

<sup>94</sup> See *id.*

<sup>95</sup> WALLACE E. OATES, THE ECONOMICS OF ENVIRONMENTAL REGULATION, 101-02 (1996).

sector, is highly restrictive, and creates no financial incentives for modifying behavior.<sup>96</sup> Consequently, many foreign countries have revised their environmental regime, backing away from an entirely direct regulatory regime because of its inherent inefficiencies.<sup>97</sup>

The remainder of this Note will discuss the alternatives to greater environmental regulation. Keeping in mind that environmental taxes and subsidies have been embraced by a number of foreign countries,<sup>98</sup> this Note will explore the different types of economic incentives, and will recommend that the United States utilize environmental subsidies in order to promote its environmental policy.

## II. ENVIRONMENTAL TAXES

### A. *What are Environmental Taxes?*

Environmental taxes, often called “ecotaxes” or “green taxes,” enhance environmental protection and provide a source of additional governmental revenues.<sup>99</sup> Ecotaxes are particularly effective because they function to internalize externalities, provide incentives for consumers to change behavior, raise revenue, and diffuse pollution sources.<sup>100</sup>

### B. *Benefits of Environmental Taxes*

Environmental taxes are economically justifiable because they force “externalities”<sup>101</sup> to be internalized. That is, they cause actors to internalize, or bear, the full cost of the activities they engage in (and, of

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<sup>96</sup> See Vos, *supra* note 91, at 310.

<sup>97</sup> See REESE, *supra* note 37, at 389 (referring to the fact that the six OECD nations sanctioned regulation and taxation).

<sup>98</sup> See European Environmental Agency, *Environmental Issues Series No. 1, Environmental Taxes: Implementation and Effectiveness 7* (visited January 28, 2000) <<http://org.eea.eu.int:80/documents/Issuerep/EnvTaxes/default.htm>>.

<sup>99</sup> See Joe Loper, *Evaluating Existing State and Local Tax Codes from an “Environmental Tax” Perspective: The Case of Energy-Related Taxes*, 12 PACE ENVTL. L. REV. 61 (1994).

<sup>100</sup> See European Environmental Agency, *supra* note 98.

<sup>101</sup> An externality is any cost or benefit, associated with any activity, that is not realized by the actor. A classic example of a negative externality is a factory that emits pollution. In this example, one of the costs, or harms, associated with the operation of the factory is the pollution that results. This cost/harm is not borne wholly by the factory operator, but by the surrounding public, even though the factory operator derives all of the benefits from operating his facility. Thus, the factory operator is said to have “externalized” his pollution costs.

course, pass those costs on to consumers of the end product or service through higher prices). Without internalization, the full economic costs of activities are not considered because externalized costs are not factored into the prices of goods and services, thereby causing large market distortions.<sup>102</sup> With environmental taxes, however, all external costs, direct and indirect, are paid for by the polluter (and ultimately, the consumers of the polluter's product or service), leading to an efficient re-allocation of the burden of pollution. In other words, environmental taxes lead to "fair and efficient" prices by re-distributing costs.<sup>103</sup>

During recent years, environmental taxes have become increasingly popular in some countries. In these countries, environmental taxes are supported by a number of different stakeholders<sup>104</sup> because they conform to the "polluter pays" principle.<sup>105</sup> This is a fundamental fairness rationale that makes environmental taxes popular in some quarters.<sup>106</sup>

Environmental taxes provide incentives for polluters to change their behavior,<sup>107</sup> and for consumers to use less of the taxed product.<sup>108</sup> Although some environmental taxes target consumers,<sup>109</sup> others target producers,<sup>110</sup> ultimately, all of the costs associated with any given tax are passed on to the consumers of the environmentally harmful products or services. Therefore, environmental taxes are successful at changing

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<sup>102</sup> See European Environmental Agency, *supra* note 98.

<sup>103</sup> See *id.*

<sup>104</sup> See *id.* The groups that have endorsed environmental taxes include: Society for the Promotion of the Swiss Economy, Federal Young Entrepreneurs' Association in Germany, European Business Council for a Sustainable Energy Future, European Employers Association, European Roundtable of Industrialists, Union of Industrial and Employers' Confederation of Europe ("UNICE"), The European Environmental Bureau ("EEB"), the European Trade Union Confederation, World Energy Council, Commission of Global Governance 1995). See *id.* Furthermore, surveys show that seventy-three percent of the public agrees with green taxes. See *id.*

<sup>105</sup> See *id.*

[T]his principle provides that, while some public funds may be used to subsidize the private sector's pollution control costs, the major portion of such costs should be paid for through increases in the prices of goods and services in accordance with the producer's use of environmental assimilative capacity and/or through lower profits or wages in highly polluting industries.

REESE, *supra* note 37, at 388-89.

<sup>106</sup> See *id.*

<sup>107</sup> See Loper, *supra* note 99, at 64.

<sup>108</sup> See European Environmental Agency, *supra* note 98.

<sup>109</sup> See, e.g., *id.* (stating that tax differentials on leaded/unleaded gasoline target consumers).

<sup>110</sup> See, e.g., *id.* (stating that carbon taxes target producers).

behavior. And because the administrative costs of implementing a tax are lower than the costs of regulating an industry directly, they are a more cost-effective means of changing behavior than regulation.<sup>111</sup> Due to this fact, environmental taxes have supplemented other economic incentives as well as environmental regulation in a number of foreign countries.<sup>112</sup>

Environmental taxes minimize pollution control costs because they don't require costly government oversight.<sup>113</sup> All of the management decisions are in the hands of the polluter—it must decide whether it is cheaper to pollute and pay the associated taxes, or to devise a more environmentally-friendly way of doing business.<sup>114</sup> Under such a regime, those polluters that face higher costs for pollution reduction techniques will be more likely to pay the tax, while those who can reduce pollution more cheaply will be more likely to choose that option.<sup>115</sup> Therefore, results will still be achieved without costly monitoring or oversight by the government.<sup>116</sup>

Environmental taxes encourage innovation because producers have an incentive to find alternative, more environmentally-friendly means of production.<sup>117</sup> One example was the U.S. tax on chloroflourocarbons (“CFCs”), which encouraged the development of substitute chemicals that are less harmful to the atmosphere, and also turned out to be profitable to export.<sup>118</sup> Another example was the Swedish tax on sulphurous diesel fuel, which led to development of new, cleaner fuels.<sup>119</sup>

Proponents of environmental taxes argue that resultant increases in eco-efficiency help put into practice the “precautionary principle,” which ensures a reduction of polluting substances before there is definite evidence of a grave harm associated with those substances.<sup>120</sup> In other words, environmental taxes would help us avoid the dangerous lag time between recognition of a harm, and a regulatory response to that harm.

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<sup>111</sup> *See id.*

<sup>112</sup> *See id.*

<sup>113</sup> *See id.*

<sup>114</sup> *See European Environmental Agency, supra note 98.*

<sup>115</sup> *See id.*

<sup>116</sup> *See id.* Note, however, that taxes may not always be as effective as regulation when the environmental effects of pollution are local; in such instances the pollution reduction cost producers in that area may need to be controlled, and a tax is a less certain way of doing this than regulation. *See id.*

<sup>117</sup> *See id.*

<sup>118</sup> *See id.*

<sup>119</sup> *See id.*

<sup>120</sup> *See European Environmental Agency, supra note 98.*



Environmental taxes also raise revenues that can be used to improve the environment or fiscal health of the nation or state.<sup>121</sup> When environmental taxes are used for purposes other than environmental enhancement, this is known as the "double dividend."<sup>122</sup> "[T]he first dividend is the improvement in environmental quality, while the second or additional dividend is any extra benefits derived from using the revenues to reduce pre-existing distortions in the economy."<sup>123</sup> Many argue that the existence of the second dividend (reduction of pre-existing distortions in the economy) is questionable.<sup>124</sup> Imposing another form of taxation, however, during a period of revenue surpluses, such as those found in the U.S., may generate tremendous political debate.<sup>125</sup>

### C. *Environmental Tax Components*

Effective and efficient environmental taxes require linkage and revenue earmarking. Taxation should be closely linked to the pollution

<sup>121</sup> See *id.* See also Daniel McCoy, *Reflections on the Double Dividend Debate*, in *ECOTAXATION* 201, 201 (Tim O'Riordan ed., 1997).

<sup>122</sup> See McCoy, *supra* note 121, at 201-14.

<sup>123</sup> *Id.* See also European Environmental Agency, *supra* note 98 (stating that environmental taxes may be followed by a reduction in other forms of taxes on labor, capital or savings; these taxes are generally more economically costly than environmental taxes, so the shift of tax burden from these activities to environmental taxes increases efficiency and welfare); McCoy, *supra* note 121, at 208:

the prospects for a second dividend are greater when 1) the initial differences in the marginal efficiency costs of the different tax rates are large, 2) the tax burden from the environmental tax falls primarily on those factors with low marginal efficiency costs, 3) the environmental tax base is sufficiently broad and 4) the recycled revenues are targeted to reduce tax rates on factors with marginal efficiency costs.

<sup>124</sup> See European Environmental Agency, *supra* note 98. See, e.g., Stefan Proost and Denise Van Regemurter, *Testing the Double Dividend Hypothesis for a Carbon Tax in a Small Open Economy*, in *ENVIRONMENTAL POLICY BETWEEN REGULATION AND MARKET* 131, 150-51 (Claude Jeanrenaud ed., 1997) (noting that the strong version of the double dividend assumption was rejected in one economic model). According to McCoy,

. . . a simple general equilibrium model [that] cast[s] doubt on the strong form of the double dividend claim, where an environmental tax is increased to reduce an existing tax on labour. The result is pivotal on the uncompensated wage elasticity of labour supply: if it is positive, as most empirical work suggests, the strong form fails.

McCoy, *supra* note 121, at 207.

<sup>125</sup> See Jacob M. Schlesinger, *Where's the Beef? Even in the Heartland of Revolt, Tax Cuts Don't Top the Agenda: Californians Share Consensus, Rooted in 90's Prosperity, To Use Surplus Otherwise: Besides, Bite Has Been Easing*, WALL ST. J., Mar. 5, 1999, at A1.

that it aims to control.<sup>126</sup> Where the linkage between the tax base and pollution is weak, the tax may fail to have a desired impact on pollution, and may introduce unnecessary and costly distortions into production and consumption decisions.<sup>127</sup>

Linkage is very difficult in some circumstances. It is particularly difficult when there is a wide range of available production techniques, or where the range of technologies is small and the tax base pollution relationship is broadly stable across production techniques because producers can easily shift to a different method of production, thereby circumventing the tax.<sup>128</sup> In circumstances where linkage is poor, complementary or substitute pollution control measures, like subsidies or additional regulation, may be appropriate.<sup>129</sup>

Revenue earmarking is also an essential element of the environmental tax mix. This is the process of pre-assigning revenue to particular agencies or allocating it to meet certain expenditure needs.<sup>130</sup> It includes an element of pre-commitment, or of “tying the government’s hands” in the use of revenues from the environmental tax.<sup>131</sup> Earmarking, which goes further than linkage, is used to show the business community and individual taxpayers that the responsible governmental body is trying to improve the environment rather than merely increasing the tax coffers.<sup>132</sup>

Without earmarking, environmental taxes may be used for any non-environmental purpose. In such cases, they are described as fiscal environmental taxes.<sup>133</sup> Environmental taxes used for non-environmental purposes must be used with caution because they may invite significant political backlash, especially in the U.S. European nations, in trying to

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<sup>126</sup> See Stephen Smith, *Environmental Tax Design*, in *ECOTAXATION* 21, 27 (Tim O’Riordan ed., 1997). See also European Environmental Agency, *supra* note 98 (discussing the six-stage linking process for effective environmental tax reform: 1) identifying and defining the environmental problem, 2) discussing the need for policy intervention and setting objectives, 3) designing and assessing effective and efficient options, 4) selecting, discussing, and adapting the instrument chosen, 5) introduction of instrument, implementation of control and enforcement, and 6) modification of instrument after evaluation).

<sup>127</sup> See McCoy, *supra* note 121, at 207.

<sup>128</sup> See Smith, *supra* note 126, at 27.

<sup>129</sup> See *id.* at 29. For example, “if the objective is to deal with urban congestion, high petrol taxes might be supplemented by subsidies to urban public transport and taxes on urban parking spaces.” *Id.*

<sup>130</sup> See *id.*

<sup>131</sup> See *id.*

<sup>132</sup> See *id.* at 30.

<sup>133</sup> See European Environmental Agency, *supra* note 98, at 21-22.

avoid this problem, assign environmental tax revenues to particular government environmental agencies.<sup>134</sup> In order to garner public support for widespread environmental tax reform in the United States, the tax statute must ensure that environmental tax revenues are assigned to environmental agencies responsible for implementing environmental policy.

D. *Environmental Taxes in the U.S.*

1. Overview of Environmental Taxes in the U.S.

Environmental taxation in the United States has taken two forms: taxation of pollution control investments<sup>135</sup> and excise taxes.<sup>136</sup> These two forms, however, can be used to describe a great number of environmental taxes that are in effect. Currently there are excise taxes on ozone depleting chemicals,<sup>137</sup> taxes on gasoline,<sup>138</sup> a manufacturers' excise tax on heavy vehicles, an excise tax on automobile tires weighing over forty pounds, a "gas guzzler" tax on automobiles with unsatisfactory fuel economy ratings, a "feedstock tax" on petroleum and chemical industries, and an excise tax on coal sales.<sup>139</sup>

In the United States, environmental taxes are also imposed at the state level. Various states impose vehicle and fuel-related taxes; for example, Arkansas imposes taxes on tires and batteries, and Texas imposes coastal protection fees on crude oil.<sup>140</sup> Severance taxes on mineral resources are also imposed at the state level.<sup>141</sup> User fees, a form of tax,

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<sup>134</sup> See Smith, *supra* note 126, at 29.

<sup>135</sup> See REESE, *supra* note 37, at 293. Many of the environmental tax provisions found within the U.S tax code are indirect. See *id.* See, e.g., I.R.C. § 167 (tax-related consequences on capital cost-recovery provisions, i.e., depreciation or rapid amortization or investment tax credit); I.R.C. § 169(d) (special tax provisions for the profits of pollution control facilities); I.R.C. § 48(a) (proceeds of Industrial Development Bonds that are used for pollution control facilities provide favorable tax consequences).

<sup>136</sup> See *id.* at 373-83.

<sup>137</sup> "[T]he ozone-depleting chemical tax [was] introduced in conjunction with the Montreal Protocol to phase out emissions of chlorofluorocarbons ("CFCs") and halons into the atmosphere." OATES, *supra* note 95, at 202-03

<sup>138</sup> "While the tax [on gasoline] is not primarily an instrument for environmental management, it clearly has some side effects on environmental, especially air, quality[.] . . . encouraging the use of more fuel-efficient cars, reducing commuting distances, and increasing the use of mass transit." *Id.* at 203-04

<sup>139</sup> See *id.* at 204-09.

<sup>140</sup> See *id.* at 206.

<sup>141</sup> See *id.*

are used for municipal solid waste.<sup>142</sup> There are other direct and indirect taxes imposed at the state level. For example, New Jersey has introduced a set of fees for discharges into waterways.<sup>143</sup> Also, California levies a waste-water discharge permit fee.<sup>144</sup> Although these policies vary from state to state, state-imposed environmental taxes indicate that state policy makers may share some of the same environmental concerns as federal policy makers.

## 2. Congressional Response to Environmental Taxes

Over the years, a number of Congressional representatives have made proposals calling for environmental taxes. In 1990, for example, House Ways and Means Chairman Dan Rostenkowski offered a half-trillion dollar plan to solve the budget deficit that included \$3.2 billion in environmental taxes, and which might have included taxes on chemicals linked to acid rain.<sup>145</sup> President Bush, however, rejected the proposed tax increases, including the environmental taxes.<sup>146</sup>

California, well-known for its alternative approaches to many issues, has also been the source of progressive environmental-tax proposals. In 1990, California Congressperson Fortney "Pete" Stark proposed that the tax code be used to implement long-term strategies to protect the environment.<sup>147</sup> Stark's proposal was not enacted, but Stark

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<sup>142</sup> See *id.* at 207.

<sup>143</sup> See *id.* at 209.

<sup>144</sup> See *id.*

<sup>145</sup> See Ronald D. Elving, *Rostenkowski's Deficit Plan Enlivens Budget Debate*, CONG. Q. WKLY. REP., Mar. 17, 1990, at 818.

<sup>146</sup> See *id.*

<sup>147</sup> See 136 CONG. REC. E709-03 (daily ed. March 19, 1990) (statement of Rep. Stark). Representative Stark read into the record a presentation made by Roger Dower and Robert Repetto of the World Resources Institute at a hearing of the Ways and Means Committee. The speakers stated:

Most taxes have the potential to distort economic choices. Environmental taxes are quite different. . . . Environmental taxes addressing either [air or water] pollution . . . can provide important economic benefits. . . . [T]axing carbon as a means of reducing the risks of global warming offers a special opportunity for a cleaner application of environmental taxes in that it is not currently regulated. . . . The level at which environmental taxes should be set is relatively straight forward[:] . . . estimate the expected value of future risks associated with the discharge into the environment of an additional unit of pollution.

*Id.*

has continued to support environmental taxes to reduce degradation occurring in the environment as a result of global warming:

[T]he Republicans are busy talking about flat taxes and sales taxes and reducing the tax on interest and dividends. What we should all be talking about is lowering the tax on labor and job skills and increasing it on pollutants. . . . I have introduced legislation to remove tax subsidies on the extraction of polluting fuels and minerals. I am preparing legislation to move to the next step and gradually increase taxes on pollutants that contribute to global warming and the degradation of the environment. The money raised from these taxes can be used to fund lower taxes on wages and incomes, so that the average citizen is not hurt by these environmental taxes and so that our whole economy can begin to work for the long-term health of the world environment.<sup>148</sup>

Environmental tax proposals have been embraced by others. The former head of the Congressional Budget Office, Rudolph Penner, has argued that taxes on pollution and environmentally unsound practices could smooth the transition to a new tax system.<sup>149</sup> Penner's view may be appealing to some, but the current economic climate and public sentiment regarding tax policy and ever increasing tax burdens may make implementation or passage of such a plan difficult.

## E. *Environmental Taxes in Foreign Countries*

### 1. Environmental Taxes in Europe

The European Commission supports a shift from currently existing tax systems (i.e., value added taxes and income taxes) to an environmental tax system.<sup>150</sup> Such a shift is recommended for the same reasons as

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<sup>148</sup> 142 CONG. REC. E46-01 (daily ed. Jan. 22, 1996) (statement of Rep. Stark).

<sup>149</sup> See *Pollution Taxes Could Boost Shift to New System, Former CBO Head Says*, 28 Env't. Rep. (BNA) No. 48, at 2655 (April 10, 1998). Penner argued, just as Stark did, that the tax-shift concept calls for reducing the burden of taxes on work and other productive activities while placing the burden instead on pollution or damaging activities. See *id.* Under this model, environmental taxes could ease difficulties in reforming Social Security and revamping the Internal Revenue Code. See *id.*

<sup>150</sup> See REESE, *supra* note 37, at 387 ("France, West Germany, and the United Kingdom are also members of the European Economic Community. Therefore, they are subject to

discussed earlier (i.e., internalization of externalities, or incentives provided for technological innovation). Environmental taxes, however, represented only 1.5% of total European Union taxes in 1993.<sup>151</sup> In only a few countries do environmental taxes represent a larger proportion of total taxes.<sup>152</sup> Therefore, although environmental taxes are supported in Europe, they are not yet pervasive or as effective as they could be.

## 2. Barriers to Environmental Taxes in Europe

In Europe, environmental taxes face a number of legal and political hurdles. These barriers include: 1) a perceived impact on national competitiveness, 2) a negative impact on low-income groups, 3) conflicts with national taxes and the European Union, or world trade rules, 4) the consensus requirement of the European Unanimity Rule for votes on fiscal measures, and 5) existing environmental subsidies.<sup>153</sup>

### a. Competitiveness

Certain European countries provide substantial energy tax incentives (subsidies) to the most energy intensive sectors in order to help

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decisions of the European Commission, Council of Ministers, and Parliament, which was popularly elected for the first time in the summer of 1979.”). *See also* David Gee, *Economic Tax Reform in Europe: Opportunities and Obstacles*, in *ECOTAXATION*, 81, 83 (Tim O' Riordan ed., 1997):

Economic tax reform involves shifting a large proportion of taxation off the value-adding activities of people (employment, enterprise and saving) and onto the value-subtracting use of energy and resources and associated creation of wastes and pollution. The shift would involve *gradual* changes to tax and other incentives over a period of 2-20 years, following *extensive consultation* with industry, interest groups and the public. An ETR package would include *complementary measures* such as the removal of subsidies on unsustainable activities; *regulations* on energy efficiency; *investment incentives* to encourage eco-efficiency; *adjustment measures* for energy intensive sectors; and information campaigns. It would be based on *revenue recycling* and *budget neutrality*, resulting in the wiser use of nature and the wider use of people.

*Id.* (quoting the European Commission).

<sup>151</sup> *See* European Environmental Agency, *supra* note 98.

<sup>152</sup> *See id.* In Denmark and the Netherlands, environmental taxes represented 5.1% and 4% respectively—still relatively small amounts. *See id.* Yet, when taxes are classified as energy taxes, then they represent 5.2% for the European Union as a whole. *See id.* In Portugal energy taxes represent 10% of total taxes and in Greece, Italy, and the United Kingdom they represent 6% to 7% of total taxes. *See id.*

<sup>153</sup> *See id.*

those businesses compete in the world markets,<sup>154</sup> even though these subsidies are a clear violation of the European Commission's "polluter pays" principle. Asking these countries to implement environmental taxes would be to ask them to completely reverse their current fiscal policies—not a request likely to be fulfilled.

There is no easy solution to the problem of competitiveness. Mitigating competitiveness concerns would be unnecessary, however, if there was uniformity of tax and subsidy systems across European Union member nations.<sup>155</sup>

#### b. Vulnerability of Low Income Consumers & Households

Low-income consumers and households are potentially vulnerable to environmental taxes because they spend proportionately more of their income on some environmentally sensitive goods, such as energy and water, than do the more affluent.<sup>156</sup> This may present an insurmountable political and logistical hurdle to imposing environmental taxes. For example, "[t]he inability of the British Government in 1994 to raise the value-added tax on domestic fuel from 8% to 17½% was at least partly due to concerns about the impact of this tax increase on the poor."<sup>157</sup>

Because the means of mitigating the regressive effects of environmental taxes are varied and are very specific to the tax and benefit systems of the particular countries, there can be no one quick fix for this problem.<sup>158</sup>

#### c. Compatibility Problems

Individual European member nations also may experience compatibility problems. Taxes at the member-state level may be incompatible with the internal market or other European Union rules.<sup>159</sup>

Again, this problem could be avoided if there was some uniformity of tax and subsidy systems across European Union member nations. Such uniformity, however, seems extraordinarily likely at the present time.

#### d. The European Union's "Unanimity Rule"

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<sup>154</sup> *See id.*

<sup>155</sup> *See id.*

<sup>156</sup> *See id.* One study indicated that the EC carbon energy tax would be regressive unless compensatory measures were taken. *Id.*

<sup>157</sup> European Environmental Agency, *supra* note 98.

<sup>158</sup> *See id.*

<sup>159</sup> *See id.*

The European Union's Unanimity Rule is another hurdle to a widespread environmental tax regime.<sup>160</sup> This rule, enacted under Article 130s of the Treaty on European Union,<sup>161</sup> provides that "provisions primarily of a fiscal nature" are to be adopted by the Council "acting unanimously on a proposal from the Commission."<sup>162</sup> Unless the Treaty is amended to allow for "qualified majority voting," European Union member states will have a difficult time implementing a widespread environmental tax regime.<sup>163</sup>

### III. SUBSIDIES AND TRADEABLE PERMITS

Subsidies and tradeable permits<sup>164</sup> are frequently offered as an alternative to environmental taxes or increased environmental regulation.<sup>165</sup> They are more economically efficient than direct regulations for most of the same reasons as environmental taxes.<sup>166</sup>

#### A. *Benefits of Environmental Subsidies*

Environmental subsidies offer the same environmental benefits as environmental taxes.<sup>167</sup> Subsidies provide incentives to produce less, to minimize pollution costs, and to be innovative.<sup>168</sup> Unlike taxes, however, subsidies do not generate additional government revenues, but are actually government expenditures.<sup>169</sup> This is not always problematic though during periods of increasing government revenues. At these times, when

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<sup>160</sup> *See id.*

<sup>161</sup> Treaty on European Union, February 7, 1992 (visited April 22, 2000) <<http://europa.eu.int/abc/obj/treaties/en/entoc01.htm>>

<sup>162</sup> *Id.*

<sup>163</sup> *See* European Environmental Agency, *supra* note 98.

<sup>164</sup> Tradeable permits are only briefly discussed to provide a fuller understanding of regulatory alternatives, while subsidies are discussed in greater depth.

<sup>165</sup> *See* OATES, *supra* note 95, at 93.

<sup>166</sup> *See id.* "Subsidies may be desirable if there is reason to suspect that direct controls constitute the only alternative that is feasible politically." *Id.* The reasons are: "a) direct controls are likely to allocate pollution quotas among polluters in an arbitrary manner, while taxes or subsidies will do this in a manner that works automatically in the direction of cost minimization," *id.*, and b) a direct control does not necessarily provide an incentive not to pollute. *See id.*

<sup>167</sup> *See* Albert L. Nichols, *Case Study 2: The Regulation of Airborne Benzene*, in INCENTIVES FOR ENVIRONMENTAL PROTECTION 145, 158 (Thomas C. Schelling ed., 1983).

<sup>168</sup> *See id.*

<sup>169</sup> *See id.*



tax relief is demanded, this characteristic may actually make environmental subsidies than environmental taxes.<sup>170</sup>

### B. *Distinction Between Environmental Subsidies and Tradeable Permits*

Tradeable permits are used in addition to, or as substitutions for, taxes, subsidies, or increased regulation. They are not common, however, and are used by only a few countries.<sup>171</sup> Tradeable permits "are based on the principle that any increase in emission must be offset by a decrease of emission of an equivalent, and sometimes greater, quantity."<sup>172</sup> The process involves a firm buying 'rights' or permits to pollute from other firms located in the same control area, which are then required to abate their emission by an amount equal to the additional pollution emitted by the new activity.<sup>173</sup> The objectives of tradeable permits are to minimize the costs of pollution control while improving the environment and reconciling economic development activity with protection.<sup>174</sup>

Tradeable permits have many advantages, among which is that they are a low-cost incentive for pollution control.<sup>175</sup> Also, the number of permits on the market is fixed, so there is no uncertainty regarding the level of achievement of environmental objectives.<sup>176</sup> "New plants can settle in a controlled area by buying permits from existing plants, thus making economic growth and environmental protection in this area compatible."<sup>177</sup> Lastly, "tradeable permits automatically adjust to inflation, . . . contrary to taxes[,] which need periodic adjustment or indexation."<sup>178</sup> For these reasons, tradeable permits for air pollution achieved environmental benefits in the United States following enactment of the Clean Air Act<sup>179</sup> in 1977.<sup>180</sup>

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<sup>170</sup> *See id.*

<sup>171</sup> *See Barde, supra* note 49, at 226. Although tradeable permits are used extensively in the United States, abroad they are used only on a limited basis in Australia, Canada, and Germany, and used. *See id.*

<sup>172</sup> *Id.* at 225.

<sup>173</sup> *See id.*

<sup>174</sup> *See id.* at 225-26.

<sup>175</sup> *See Jean-Philippe Barde, Environmental Policy and Policy Instruments, in PRINCIPLES OF ENVIRONMENTAL AND RESOURCE ECONOMICS 201, 220 (Henk Folmer et al. eds., 1995).*

<sup>176</sup> *See id.*

<sup>177</sup> *Id.*

<sup>178</sup> *Id.*

<sup>179</sup> 42 U.S.C. §§ 7401-7671q (1994 & Supp. IV 1998).

Tradeable permits present a number of difficulties as well. While they can either be allocated free of charge or sold, in practice they have always been allocated based on past emission records.<sup>181</sup> As a result, the initial rights to use the environment are granted to polluters.<sup>182</sup> Furthermore, tradeable permit rules, in some cases, are too complex, thereby increasing transaction costs in the re-allocation of permits.<sup>183</sup> In addition, "there may be strong political opposition to allowing market forces to regulate the environment, although existing tradeable permit systems operate under strict regulatory controls."<sup>184</sup>

Although tradeable permits are a viable alternative to environmental subsidies and environmental taxes, the remainder of this note will discuss the differences between subsidies and taxes.

### C. *Environmental Subsidies in Europe*

Generally, European countries rely upon environmental taxes rather than special tax deductions, investment credits, or other forms of environmental subsidies.<sup>185</sup> There are a few examples, however, of European nations using accelerated amortization or depreciation, forms of tax subsidies.<sup>186</sup> For example, France provides rapid amortization for pollution facilities constructed before 1977, Germany provides accelerated amortization for facilities purchased or manufactured before 1979, and the United Kingdom allows a 100% deduction in the year of acquisition for pollution facilities.<sup>187</sup>

### D. *Environmental Subsidies in the United States*

#### 1. Accelerated Cost Recovery System

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<sup>180</sup> See *id.* at 220-21. It is estimated that the Clean Air Act, with its emission-trading regime, will yield a 20% reduction in abatement costs for SO<sub>x</sub> alone, and that, between 1990 and 1995, one billion dollars per year in cost savings were achieved. See *id.*

<sup>181</sup> See *id.* at 220.

<sup>182</sup> See *id.*

<sup>183</sup> See Barde, *supra* note 175, at 220.

<sup>184</sup> See *id.*

<sup>185</sup> See European Environmental Agency, *supra* note 98. Generally, environmental subsidies are disfavored in European nations due to the view that such subsidies violate the "polluter pays" principle. See REESE, *supra* note 37, at 416.

<sup>186</sup> See REESE, *supra* note 37, at 329.

<sup>187</sup> See *id.* at 411.

The United States grants taxpayers an option to depreciate certified pollution control facilities<sup>188</sup> over a period of five years.<sup>189</sup> In order to do so though, the taxpayer must ensure that state and federal authorities have certified that the facility conforms to both state and federal pollution control requirements.<sup>190</sup> The state or federal certifying authority must consider a number of factors before determining whether such a facility is a certified pollution control facility.<sup>191</sup> Many state certifications of pollution control facilities experience legal challenges.<sup>192</sup> In many cases,

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<sup>188</sup> The term "certified pollution control facility" means "a new identifiable treatment facility which is used, in connection with a plant or other property in operation before January 1, 1976, to abate or control water or atmospheric pollution or contamination by removing, altering, disposing, storing, or preventing the creation or emission of pollutants, contaminants, wastes, or heat." I.R.C. § 169(d)(1) (1994).

<sup>189</sup> See I.R.C. § 169 (1994).

<sup>190</sup> See I.R.C. § 169(d)(1)(A) & (B) (1994).

<sup>191</sup> [T]he EPA Regional Administrator should consider the following factors (where applicable) in its determination:

- 1) Whether the applicant is in compliance with all the regulations of federal agencies applicable to the use of the facility, including conditions specified in any permit issued to the applicant by the Army Corps of Engineers under Section 13 of the Rivers and Harbors Act of 1899, as amended,
- 2) All applicable water quality standards, including water quality criteria and plans of implementation and enforcement established pursuant to Section 10(c) of the Federal Water Pollution Control Act or State laws or regulations,
- 3) Plans for the implementation, maintenance, and enforcement of ambient air quality standards adopted or promulgated pursuant to Section 110 of the Clean Air Act,
- 4) Recommendations issued pursuant to Section 10(e) and (f) of the Federal Water Pollution Control Act or Sections 103(e) and 155 of the Clean Air Act,
- 5) Water pollution control programs established pursuant to Sections 3 or 7 of the Federal Water Pollution Control Act,
- 6) Local government requirements for control of air pollution, including emission standards,
- 7) Standards promulgated by the Administrator of the Environmental Protection Agency pursuant to the Clean Air Act.

REESE, *supra* note 37, at 345 (quoting EPA Guidelines pursuant to I.R.C. 169, 36 FR 189, Reg. Sec. 20.8(a) – (c))

<sup>192</sup> See, e.g., *Rush v. Alabama Dep't of Revenue*, 416 So. 2d 1023 (Ala. Civ. App. 1982) (holding that facilities designed to remove impurities from public drinking-water supply qualified for exemption from sales and use taxes); *Du-Mont Ventilating Co. v. Illinois Dep't of Revenue*, 383 N.E. 2d 187 (Ill. 1978) (finding that the intake sides of a system designed to clear inside air and collect dust removed from a foundry is a pollution control facility for tax exemption purposes where the intake was appurtenant to exhaust and dust-collector segments of the facility).

states courts “have held that certain property was not a ‘pollution control facility’ within the meaning of a statute providing for tax exemption for such a facility.”<sup>193</sup> EPA lists the following devices as air pollution control facilities: inertial separators; wet collection devices (scrubbers); electrostatic precipitators; cloth filter collectors (baghouses); direct fired afterburners; catalytic afterburners; gas absorption or adsorption equipment vapor condensers; vapor recovery systems; floating roofs for storage tanks; afterburners, secondary combustion chambers, or particle collectors used in connection with incinerators; and a contact sulfuric acid plant in a flash copper smelting furnace.<sup>194</sup> The Environmental Protection Agency also has characterized many other types of equipment as water pollution control facilities.<sup>195</sup>

The accelerated cost recovery method for certified pollution control facilities has been criticized for a number of reasons. First, this method restricts the credit to investment that neither results in improved profitability, nor pays for the facility’s cost through the recovery of waste.<sup>196</sup> Secondly, the accelerated cost recovery method only applies to plants that were in operation before January 1, 1976.<sup>197</sup> Thus, section 169 of the Internal Revenue Code “fails to create an incentive to build new plants that cost more but provide better control of toxic wastes for that

<sup>193</sup> Daniel E. Feld, *Validity and Construction of Statute or Ordinance Allowing Tax Exemption for Property Used in Pollution Control*, 65 A.L.R. FED. 434, 438-39 (1975).

<sup>194</sup> See REESE, *supra* note 37, at 345.

<sup>195</sup> EPA considers the following types of equipment to be water pollution control facilities:

(A) A facility to concentrate and recover vaporous by-products from a process stream for reuse as raw feedstock or for resale, unless the estimated profits from resale exceed the cost of the facility . . . .

(B) A facility to concentrate or remove “gunk” or similar “tars” or polymerized tar-like materials from the process waste effluent previously discharged in the plant effluents. Removal may occur at any stage of the production process.

(C) A device used to extract or remove insoluble constituents from a solid or liquid by use of a selective solvent; an open or closed tank or vessel in which such extraction or removal occurs; a diffusion battery of tanks or vessels for countercurrent decantation, extraction, or leaching, etc.

(D) A skimmer or similar device for removing grease, oils and fat-like materials from the process or effluent stream.

40 C.F.R. pt. 20 app A (2000).

<sup>196</sup> Richard Westin, *Understanding Environmental Taxes*, 46 TAX LAW. 327, 344 (1993). “The most serious criticism of the . . . provision is its inapplicability in cases where it can add any value or profit.” *Id.*

<sup>197</sup> See I.R.C. § 169(1) (1994).

increased cost.”<sup>198</sup> This provision of Section 169 induces inefficient pollution control methods because it provides incentives for end-of-pipe technologies, but not for more efficient process modifications.<sup>199</sup> Section 169 merely acts as a bandage on a problem that requires more radical surgery.

## 2. Investment Tax Credit

“The [investment tax credit] is another tax benefit associated with the acquisition or use of most pollution control facilities. . . . [T]he acquisition of pollution control technology for use either in a trade or business can be expected to generate an investment tax credit.”<sup>200</sup> The business energy credit is ten percent of the cost of the pollution control equipment or equipment installation costs.<sup>201</sup> The credit, however, has many restrictions. “Under prior law there was a seemingly endless list of innovative technologies that could qualify for the credit,”<sup>202</sup> but the list has become drastically smaller recently.<sup>203</sup>

Generally, the definition of a pollution control facility for investment tax credit purposes is much more restrictive than that for similar property under Section 169 (amortization of pollution control facilities).<sup>204</sup> “Special purpose buildings or their structural components and land improvements used exclusively for the treatment of pollutants are eligible for Section 169 amortization.”<sup>205</sup> However,

neither buildings nor their structural components (except for qualified rehabilitated buildings) qualify for [investment tax credit purposes], although tangible real property does qualify for the [investment tax credit] where such property is used as an integral part (including the storage of bulk commodities) of manufacturing, production, or extraction, or of furnishing transportation, communications, electrical energy, gas, water, or sewage disposal services.<sup>206</sup>

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<sup>198</sup> Westin, *supra* note 196, at 344.

<sup>199</sup> *See id.*

<sup>200</sup> REESE, *supra* note 37, at 335.

<sup>201</sup> *See* Westin, *supra* note 196, at 347.

<sup>202</sup> *Id.*

<sup>203</sup> *See id.*

<sup>204</sup> *See* REESE, *supra* note 37, at 364.

<sup>205</sup> *See id.*

<sup>206</sup> *Id.*

Also, special rules pertain to property leased to the government or tax-exempt organizations, which restrict the availability of investment tax credits for pollution-control facilities.<sup>207</sup>

### 3. Credit for Producing Fuels From Nonconventional Sources

“Section 29 [of the Internal Revenue Code] grants a credit for getting fuel from difficult sources. . . .”<sup>208</sup> These sources include “coal seams, tar sands, and geopressed brine.”<sup>209</sup> The section 29 credit is “equal to \$3 multiplied by the barrel-of-oil equivalent of qualified fuels sold by the taxpayer as defined by the regulations. For purposes of section 29, the amount of the tax credit is measured in barrel-of-oil equivalents.”<sup>210</sup>

The section 29 tax credit serves a very important function with respect to coal. “Coal seams contain a vast amount of methane, a severe greenhouse gas.”<sup>211</sup> Most coal operators let the gas escape into the atmosphere when they extract coal, but “[i]f there is sufficient incentive, they will be encouraged to trap and sell the methane.”<sup>212</sup> Section 29 provides the coal operator with an added incentive. As a result, “there are significant section 29 projects in the United States”<sup>213</sup> to take advantage of the credits, arguably providing substantial environmental benefits, although not providing significant commercial benefits.<sup>214</sup>

Internal Revenue Service regulations and administrative guidance relating to the nonconventional fuel sources credit is limited.<sup>215</sup> Primarily the statute, legislative history, and a few private letter rulings by the Internal Revenue Service and the Federal Energy Regulatory Commission supply the bulk of information and guidance on the credit.<sup>216</sup> Due to the lack of regulatory guidance and information, credit eligibility may go unnoticed.<sup>217</sup>

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<sup>207</sup> See *id.*

<sup>208</sup> Westin, *supra* note 196, at 347.

<sup>209</sup> See *id.*

<sup>210</sup> Mark A. Muntean, *Rebirth of a Tax Credit: An Overview of Code Section 29*, 27 S. TEX. L. REV. 235, 236-37 (1985).

<sup>211</sup> Westin, *supra* note 196, at 347.

<sup>212</sup> *Id.*

<sup>213</sup> *Id.*

<sup>214</sup> See *id.*

<sup>215</sup> See Muntean, *supra* note 210, at 236.

<sup>216</sup> See *id.* at 236-37.

<sup>217</sup> See *id.* at 248-49.

The usefulness of the section 29 credit in achieving environmental protection objectives is limited further because its availability is restricted. First, "the credit is unavailable with respect to any sales to related parties."<sup>218</sup> Regulations determine who are related parties. Second, the credit "provides that a producer must allocate production to royalty owners before calculating the credit."<sup>219</sup> Third, "the credit . . . is reduced for any grants, tax-exempt bonds, or subsidized energy financing . . . ."<sup>220</sup> Lastly, "the amount of the credit is also reduced by any amount allowed as a credit under section 38,<sup>221</sup> less recapture liability recognized with respect to the same property."<sup>222</sup> The credit is also "nonrefundable . . . and may not exceed the taxpayer's tax liability for that year."<sup>223</sup> The credit "also may not be carried forward or backward to other tax years"<sup>224</sup> as allowed for some beneficial tax provisions.<sup>225</sup>

Although the Section 29 credit has regained popularity "due to poor market conditions for oil and gas,"<sup>226</sup> credit eligibility and incentives may be revised with enhanced environmental concerns in mind. With an improved economic climate in the United States,<sup>227</sup> environmental subsidies may be an appropriate use of tax surpluses.<sup>228</sup>

While the tax subsidy for conventional fuel sources that was discussed above can be at least marginally useful in protecting the environment, a favorable tax subsidy for alternative energy facilities has been eliminated.<sup>229</sup> According to Richard Westin, "[p]rior U.S. law permitted the issuance of tax-exempt bonds whose proceeds were used to finance the construction of hydroelectric facilities and pollution-control equipment. . . . Holders of these bonds were not subject to federal income taxes on the interest income the bonds produced."<sup>230</sup> The government's

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<sup>218</sup> *Id.* at 237 (quoting I.R.C. § 29(a) (1994)).

<sup>219</sup> *Id.* (quoting I.R.C. § 29(d)(3)).

<sup>220</sup> *Id.* at 239 n.25 (quoting H.R. REP. NO. 817, at 300 (1980)).

<sup>221</sup> Section 38 deals with the Investment Tax Credit discussed *supra*.

<sup>222</sup> Muntean, *supra* note 210, at 239 (quoting I.R.C. §§ 38, 29(b)).

<sup>223</sup> *Id.* (quoting I.R.C. § 29(b)(5)).

<sup>224</sup> *Id.*

<sup>225</sup> *See id.*

<sup>226</sup> *Id.* at 248.

<sup>227</sup> *See* J. D. Foster, *U.S. Economy Slowing Down? Cut Taxes*, WALL ST. J., July 22, 1998, at A14. (commenting that the U.S. domestic economy is "fundamentally sound, with no apparent excesses built up, virtually zero inflation, and strong productivity growth").

<sup>228</sup> *See id.* (noting that the federal government will run a surplus of about \$520 billion over the next five years, and about \$1.6 trillion over the next 10 years).

<sup>229</sup> *See* Westin, *supra* note 196, at 348.

<sup>230</sup> *Id.*

subsequent withdrawal of this tax benefit (which Westin deemed “inexcusable”<sup>231</sup>) removed an important means of financing alternative energy facilities.

#### IV. COMPARATIVE ANALYSIS OF THE UNITED STATES AND ITS OVERSEAS TRADING PARTNERS WITH RESPECT TO ENVIRONMENTAL TAXES AND SUBSIDIES

As previously discussed in this Note, the world faces a multitude of environmental problems. Different nations have contrived various methods of dealing with the problem, as discussed above. Some European nations, such as Germany, have embraced environmental taxation as an alternative method to resolve competing objectives of stimulating gross national product growth, promoting stable employment, collecting vital tax revenues, all while protecting environmental interests. Now the United States is faced with the question of whether it should follow Europe’s trend, or continue with its current methods and practices. Before an appropriate course of action may be recommended, various differences between the United States and other nations should be addressed.

##### A. *Political and Structural Differences*

The political differences between the United States and its foreign partners are significant and lead to a uniqueness that makes wholesale importation of political ideas and governance structures extremely difficult. One such difference is the American system of dual sovereignty, and its resultant fragmentation of political power. Historically, this system of sharing power between the federal government and the states has been a tremendous source of tension.<sup>232</sup> This, in turn, has caused ebbs and flows

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<sup>231</sup> *Id.*

<sup>232</sup> At the Virginia Ratification Convention in 1787, William Grayson questioned the coherence of a system of dual federal/state sovereignty:

How are two legislatures to coincide, with powers transcendent, supreme, and omnipotent? . . . I never heard of two supreme coordinate powers in one and the same country before. . . . It surpasses everything that I have read of concerning governments, or that I can conceive of by the utmost exertion of my facilities.

The history of government involvement in cleaning the air portrays the uncomfortable tension between federal and state sovereignty Grayson alluded to over two hundred years ago. Richard Stewart, in his exploration of federalism in environmental policy, notes that a host of



in federal authority to regulate interstate commerce.<sup>233</sup> Thus, in the United States, unlike in Europe, successful environmental policies or enforcement mechanisms may be impeded due to uncertainties regarding federal regulatory authority.

In most countries' political regimes, pollution problems have been handled at the local level when public health effects necessitate their resolution.<sup>234</sup> Generally, the national government is only called upon when the environmental problems have become so pervasive that local governments are not equipped to handle the problem.<sup>235</sup> Frequently the national government encounters local resistance and must use indirect controls to achieve national objectives.<sup>236</sup> This kind of local resistance is especially prevalent in the United States.<sup>237</sup>

### 1. United States' System of Federal/State Environmental Coordination

The strength of federal authority currently brought to bear on environmental law in the United States is a fairly recent phenomenon.<sup>238</sup> "Until the late 1960s, environmental regulation in the U.S. was considered

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"utilitarian" and "nonutilitarian" factors have led us to favor state and local governance on issues relating to environment. He writes, "In our nation, the factors favoring non-centralized decision-making have been powerfully reinforced by geography, history, and the structure of politics."

Jason S. Grumet, *Old West Justice: Federalism and Clean Air Regulation 1970-1998*, 11 TUL. ENVTL. L.J. 375, 381-82 (1998) (footnotes omitted) (quoting Dale D. Goble, *The Compact Clause and Transboundary Problems: A Federal Remedy for the Disease Most Incident to a Federal Government*, 17 ENVTL. LAW 785, 798-99 n.50 (1987) and Richard Stewart, *Pyramids of Sacrifice? Problems of Federalism in Maintaining State Implementation of National Environmental Policy*, 86 YALE L.J. 1196, 1210, 1211 (1977)).

<sup>233</sup> Compare, e.g., *National League of Cities v. Usery*, 426 U.S. 833 (1976) (holding that Congress may not regulate traditional state governmental functions) with *Garcia v. San Antonio Metro. Transit Auth.*, 469 U.S. 528 (1985) (holding that the traditional governmental functions test used in *National League of Cities* is unworkable); *FERC v. Mississippi*, 456 U.S. 742, 771 (1982) (holding that Congress has authority under the Commerce Clause to compel states to consider proposed regulations and procedural requirements as conditions) with *United States v. Lopez*, 514 U.S. 549 (1995) (holding that the Gun-Free Zones Act of 1990 exceeded Congress' authority to regulate interstate commerce).

<sup>234</sup> See REESE, *supra* note 37, at 409.

<sup>235</sup> See *id.*

<sup>236</sup> See *id.*

<sup>237</sup> See Grumet, *supra* note 232, at 381-82.

<sup>238</sup> See Alfred R. Light, *He Who Pays the Piper Should Call the Tune: Dual Sovereignty in the U.S. Environmental Law*, 4 ENVTL. LAW. 779, 783 (1998).

primarily the domain of states and municipalities.”<sup>239</sup> Beginning in 1969, however, Congress began passing numerous environmental statutes under its Commerce Clause authority.<sup>240</sup> Between 1969 and 1976, Congress enacted a tremendous amount of legislation requiring state and local governments to play major roles in the new federal regulatory initiatives.<sup>241</sup> Expanded federalism continued through most of the decade, with only brief periods of restraint.<sup>242</sup>

Cooperative federalism, the view that federal environmental statutes should utilize state administration and enforcement mechanisms in the implementation of federal regulatory regimes,<sup>243</sup> which requires states to cooperate with the federal government when states enforce federal environmental regulations, is now undergoing constitutional attack.<sup>244</sup> Traditional U.S. environmental statutes include a number of economic incentives and hierarchical supervisory safeguards provided by the federal government to guarantee efficient monitoring and enforcement by state and local governments.<sup>245</sup> However, *Printz v. United States*,<sup>246</sup> which invalidated provisions of the Brady Law that required state officials to enforce a other portions of the federal statute regulating the sale of firearms,<sup>247</sup> calls into question “the legitimacy of various intergovernmental programs”<sup>248</sup> and the federal economic incentive

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<sup>239</sup> *Id.*

<sup>240</sup> *See id.* at 783 n.16.

<sup>241</sup> *See id.* at 787 n.37. New environmental statutes that gave state and local governments a role in federal regulatory initiatives included: the Toxic Substances Control Act, Pub. L. No. 94-469, 90 Stat. 2003 (1976) (codified as amended at 15 U.S.C. §§ 2601-2671 (1994 & Supp. IV 1998)); the Coastal Zone Management Act of 1972, Pub. L. No. 92-583, 86 Stat. 1280 (codified as amended at 16 U.S.C. §§ 1451-1464 (1994 & Supp. IV 1998)); the Clean Water Act Amendments of 1972, Pub. L. No. 92-500, 86 Stat. 816 (codified as amended at 33 U.S.C. §§ 1251-1376 (1994 & Supp. IV 1998)); the Safe Drinking Water Act of 1974, Pub. L. No. 93-523, 88 Stat. 1660 (codified as amended at 42 U.S.C. §§ 300f to 300j-26 (1994 & Supp. IV 1998)); the Resource Conservation and Recovery Act, Pub. L. No. 94-580, 90 Stat. 2795 (1976) (codified as amended at 42 U.S.C. §§ 6901-6992k (1994 & Supp. IV 1998)); the Clean Air Act Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676 (codified as amended at 42 U.S.C. §§ 7401-7671q (1994 & Supp. IV 1998)).

<sup>242</sup> *See Light*, *supra* note 238, at 787. According to Light, the Supreme Court began to curb what it believed to be an excessive expansion of the federal government and its bureaucracies in 1976 and again in the 1990s. *See id.*

<sup>243</sup> *See id.* at 782.

<sup>244</sup> *See id.* at 779.

<sup>245</sup> *See id.* at 792.

<sup>246</sup> 521 U.S. 898 (1997).

<sup>247</sup> *See id.*

<sup>248</sup> Light, *supra* note 238, at 792.

safeguards usually found in environmental law.<sup>249</sup> In light of the changing relationship between federal, state, and local environmental authorities, changes in national environmental policy or methods for achieving policy objectives should be considered when thinking about the feasibility of adopting environmental taxes and subsidies like those that are beginning to be implemented in Europe.

Cooperative federalism obviously requires a partnership between states and the federal government.<sup>250</sup> It also assumes that a national consensus exists as to the goals and objectives for environmental quality.<sup>251</sup> Such a willingness and national consensus regarding environmental quality seems to be currently absent in the U.S though.<sup>252</sup> Therefore, an expanded national tax, in the form of an environmental tax, may be difficult to enact in the United States.<sup>253</sup>

## 2. Foreign Partners' System of National/Regional Environment Coordination

The success of some European countries, who have not experienced problems enacting environmental tax reform, may be attributed to the fact that they experience less tension between national, state, and local governments.<sup>254</sup> Although France has a central/national political regime and Germany has a federal/state regime,<sup>255</sup> their systems do not exhibit the historical tension between state and federal powers that characterize the U.S. political system.<sup>256</sup>

France, Germany, and the United Kingdom are all members of the European Economic Community, so they are all subject to the decisions of the European Commission, Council of Ministers, and Parliament.<sup>257</sup> The European Community has supported environmental taxation as an alternative to other tax regimes.<sup>258</sup> Although membership in the European Community may be similar in some respects to state involvement in a

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<sup>249</sup> See *id.*

<sup>250</sup> See *id.* at 782.

<sup>251</sup> See *id.*

<sup>252</sup> See Henry Lee, *The Political Economy of Energy Taxes: An Assessment of the Opportunities and Obstacles*, 12 PACE ENVTL. L. REV. 77, 78 (1994).

<sup>253</sup> See *id.* (recognizing the lobbying power of major energy producing and consuming industries to defeat energy-tax initiatives).

<sup>254</sup> See REESE, *supra* note 37, at 387.

<sup>255</sup> See *id.* at 386.

<sup>256</sup> See *id.*

<sup>257</sup> See *id.* at 387.

<sup>258</sup> See European Environmental Agency, *supra* note 98.

federal/state system, our European partners have not so far experienced comparable tensions between the parties, as shown by the fact that the member nations uniformly follow the policies dictated by the Commission.<sup>259</sup>

### 3. Environmental Planning

Ideally, a national or regional environmental (or physical) planning system would delineate the long-term, preferred use of a country's land and water resources through a political process wherein both social and economic values are considered and conflicts are resolved through explicit tradeoffs or optimization.<sup>260</sup> National, regional, and local interests limit coordinated environmental planning, since all these interests must be aligned in order to achieve a comprehensive long-term environmental planning regime.<sup>261</sup> As a result, very few countries maintain such a regime over the long term.<sup>262</sup>

National or regional planning systems exist in France, Sweden, and the United Kingdom.<sup>263</sup> In these systems, the national government only defers to local governments "where the central government's legislative body has determined that the local authorities can be most effective."<sup>264</sup> In federal/state systems, "superior fiscal resources and a national environmental policy should enable the Federal governments to effect piecemeal environmental planning at the State or provincial level, while at the same time preserving local government's traditional role in the land use planning."<sup>265</sup>

Generally, environmental planning systems in the United States are developed by local authorities through their land use planning authority, which may result in a piecemeal environmental planning system in each state.<sup>266</sup> Previously, Congress used federal funding as an inducement for states to comply with federal environmental planning objectives, "playing upon the states' knowledge that a federal agency would directly regulate

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<sup>259</sup> See generally *id.*

<sup>260</sup> See REESE, *supra* note 37, at 392.

<sup>261</sup> See *id.*

<sup>262</sup> See *id.* Sweden is one of the few countries with a national system of physical planning that comes close to satisfying the requirements of the ideal environmental planning system. See *id.*

<sup>263</sup> See *id.*

<sup>264</sup> *Id.*

<sup>265</sup> *Id.* at 397.

<sup>266</sup> See REESE, *supra* note 37, at 394.

in the area within the state, should the state choose not to 'cooperate.'"<sup>267</sup> However, following the *Printz* decision, federal approaches to obtain state cooperation may be in question.<sup>268</sup> This illustrates another subtle difference between the U.S. environmental planning system and the systems of other countries, providing further support for the notion that a national environmental tax regime may not be workable or politically feasible in the United States' current political atmosphere.

Therefore, although European and Pacific Rim countries may embark upon fundamental tax reform by instituting environmental-tax systems, political and structural differences unique to the United States may call for less sweeping reforms. Environmental subsidies, as illustrated by the Section 29 and Section 38 credits, are a more appropriate remedy in this regard, since a federally imposed environmental tax system may be difficult to implement in the U.S.

## B. *Economic Differences*

### 1. Economic Condition of U.S. Foreign Trade Partners

Many of the United States' trading partners are experiencing economic difficulties.<sup>269</sup> Thus, although many European environmentalists and economists sing the praises of environmental taxation, national leadership is under pressure to reduce taxes in order to stimulate growth.<sup>270</sup> Therefore, uncertainty exists as to whether European environmental tax reform is sustainable.

Japan is facing economic difficulties of its own. Japanese leaders are scrambling to deal with lower government credit ratings, a shaky banking system and decreasing asset values brought on by deflationary pressures.<sup>271</sup> Due to the multitude of Japanese economic problems, some are calling for tax cuts in order to spur investment.<sup>272</sup> Proponents of Japanese tax cuts also argue that the imposition of additional taxes in

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<sup>267</sup> See Light, *supra* note 238, at 799.

<sup>268</sup> See *id.* "Printz thus calls into question the legitimacy of various intergovernmental programs found in environmental laws." *Id.* at 792.

<sup>269</sup> See, e.g., Foster, *supra* note 227, at A14 (stating that Japan has had virtually no growth for six or seven years and is now officially in a recession); Paul J. Deveney, *International World Watch*, WALL ST. J., Dec. 2, 1998, at A15 (stating that Germany and France experienced double-digit unemployment rates in 1998).

<sup>270</sup> See Paul J. Deveney, *International World Watch*, WALL ST. J., Dec. 2, 1998, at A15.

<sup>271</sup> See Alan Reynolds, *Japan Should Cut Taxes to Spur Investment*, WALL ST. J., Sept. 11, 1998, at A14.

<sup>272</sup> See *id.*

1987, 1989 and 1992 may have contributed to Japan's current economic instability.<sup>273</sup> Therefore, Japan is not likely to enact meaningful environmental tax legislation in the near term. Also, Japanese leaders are unlikely to pressure the U.S. to enact similar environmental tax legislation given current economic conditions.

## 2. Economic Conditions in the U.S.

The United States, in contrast to its trading partners, is experiencing unprecedented economic growth.<sup>274</sup> In the first quarter of 1998, annualized growth was 5.4% and 1998 fourth-quarter annualized growth was more than 6%.<sup>275</sup> Due to a growth in federal tax revenues from an improved economy, the United States can expect to experience a federal budget surplus over the next decade.<sup>276</sup>

Federal taxes were estimated to be 20.1% of gross domestic product in 1998.<sup>277</sup> Many argue for greater tax cuts rather than more federally imposed taxes.<sup>278</sup> "Congress has repeatedly rejected higher taxes on energy despite the arguments by environmentalists, and more recently, some economists, that such taxes would provide substantial environmental benefits, and if properly designed, might even spur economic growth."<sup>279</sup>

Currently, including state and local taxes, government taxes represent one-third of the economy,<sup>280</sup> the highest level in history.<sup>281</sup> Federal, state and local taxes on gasoline have nearly tripled over the past eighteen years.<sup>282</sup> Therefore, Congressional attempts to enact more environmental taxes may be equivalent to political suicide for bill sponsors and proponents. Thus, instead of more expansive taxation, tax reductions may be appropriate. Tax cuts focused on small businesses or cuts that encourage investment in new plants and equipment have found approval,<sup>283</sup> and environmental subsidies are especially palatable in the current economic and political climate.

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<sup>273</sup> See *id.*

<sup>274</sup> See Foster, *supra* note 227, at A14.

<sup>275</sup> See *id.*

<sup>276</sup> See *id.* The Congressional Budget Office estimates that the federal government will run a surplus of about \$520 billion over the next five years, and of about \$1.6 trillion over the next ten years. See *id.*

<sup>277</sup> See *id.*

<sup>278</sup> See *id.*

<sup>279</sup> Lee, *supra* note 252, at 77.

<sup>280</sup> See Schlesinger, *supra* note 125, at A1.

<sup>281</sup> See *id.*

<sup>282</sup> See *id.*

<sup>283</sup> See Foster, *supra* note 227, at A14.

## V. CONCLUSION

The world faces enormous environmental challenges. National and international communities are struggling to find solutions for environmental problems such as global warming, water and air pollution. The solutions must be tailored to the fiscal, cultural and political realities in each nation.

Corporations often are not averse to expending greater sums to enhance the environment, since they have much to gain by enacting responsible environmental policies. However, fiduciary duty to shareholders means corporate directors must temper their environmental expenditures with an eye toward the type of environmental problem, potential legal liability, and their market competitors' costs of compliance with environmental regulations.

Federal, state, and local governments have a number of tools at their disposal that can make the corporate director's job less difficult, including environmental incentives (subsidies or tradeable permits) or disincentives (taxes). If properly applied, these tools can act as catalysts to promote responsible corporate environmental policies.

Nations also can use a variety of tools to ensure responsible corporate environmental policy. In Europe, environmentalists and economists prefer environmental taxes over other methods such as subsidies. Although the United States has enacted some environmental taxes, environmental subsidies are more common at the federal level.

What's good for a goose is not necessarily good for a gander. Although environmental taxes may be widely popular in other areas of the world, such a regime is not appropriate in the United States' current political and economic environment. There are a multitude of reasons.

First, the United States, unlike many of its foreign partners, is experiencing robust economic growth. The United States is experiencing tax surpluses for the first time in decades. As stated above, many groups are arguing for tax reductions rather than tax increases. A new tax regime would be difficult to enact, especially one that may be characterized as regressive. Arguably, nations that previously enacted environmental tax regimes may be hard pressed to pass similar legislation in the current economic environment.

Second, the United States has a fundamentally different political system than its international competitors. Historically, tension has existed between the federal and state governments in the United States. A

structural change to the tax system, which environmental reform would entail, will exacerbate this tension, especially since there is no national consensus as to the method by which environmental problems should be resolved.<sup>284</sup>

Additionally, the United States has historically provided corporate relief through tax incentives, which include accelerated depreciation for pollution control devices and facilities, investment tax credits, credits for producing fuels from nonconventional sources, and tax free financing for alternative energy sources. Credit expansion, rather than tax increases, should be pursued in the U.S., given the current economic situation.

The accelerated cost recovery method for certified pollution control facilities should be revised to make it available to newer facilities. Currently, the credit fails to provide an incentive to build new plants that can provide better pollution controls.<sup>285</sup> Also, a credit should not be revoked when the added pollution equipment results in increased profitability from, or value to, the facility. A better approach is an objective test based on whether the pollution control equipment was added *primarily* for environmental enhancement, rather than for increased profitability or value.

The nonconventional fuel sources credit has been highly successful. Unfortunately, it is too restrictive in not allowing credit to be carried forward or back. As a result, coal operators with net loss operations have little incentive to engage in the type of environmentally responsible behavior for which the credit was enacted. Congress should provide carrybacks<sup>286</sup> and carryforwards<sup>287</sup> in order to further stimulate that behavior.

Based on the current economic and political environment, as well as the United States' historical approach to environmental taxes at the federal level, tax subsidies are the most appropriate fiscal policy to deal with current environmental problems. Congress should focus on credit expansion rather than tax increases.

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<sup>284</sup> See Lee, *supra* note 252, at 78.

<sup>285</sup> See Westin, *supra* note 196, at 344.

<sup>286</sup> A carryback allows a taxpayer to apply a net operating loss "to each of the two years preceding the taxable year of such a loss." I.R.C. § 172(b) (1994). They allow taxpayers to recognize tax benefits in the current year for losses realized in prior years.

<sup>287</sup> A carryforward allows a taxpayer to apply a net operating loss from one year to each of the next twenty taxable years.