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# The Real Challenge to the Polish Revolution: Cleaning the Polish Environment Through Privatization and Preventive Market-Based Incentives

G. Nelson Smith, III\*

## I. INTRODUCTION

An enormous systemic revolution recently occurred in Poland. After decades of Communist oppression, Poland overthrew its Communist dictatorship and began the slow and arduous path toward democracy.<sup>1</sup> The revolt quickly spread throughout all of Eastern Europe and climaxed with the collapse of Communist rule in Europe. Whereas most Americans are familiar with the Polish Solidarity movement and Lech Walesa, its leader, few are aware of one of the most important issues confronting Poland today: cleaning up the environment. Poland's environment is in a state of shock. Because of the continuous abuse that Polish air, water, and soil have taken over the past fifty years, the Polish environment might even be past the point of repair.

This article seeks to describe Poland's environmental ills and suggest solutions for Polish environmental cleanup. First, this article will outline Poland's environmental problems and the effects that these problems have had on the people, architecture, and natural resources of Poland. Second, this article will outline new legal approaches through which the Polish government may clean the

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1. See generally Carl Bernstein, *The Holy Alliance*, TIME, Feb. 24, 1992, at 28.

environment. Third, this article will propose preventive market-based incentives that will encourage foreign investment in Poland's environmental cleanup efforts.

## II. BACKGROUND

While Poland is over one thousand years old, its environmental problems are fairly recent.<sup>2</sup> The Polish environment began to erode shortly after World War II, when Communist rule was imposed by Joseph Stalin in the East block countries.<sup>3</sup> The principles of communism were originated by Karl Marx and Friedrich Engels.<sup>4</sup> These principles were first applied by Vladimir Lenin. Marx was concerned with the significant social problems and intolerable factory conditions throughout Germany.<sup>5</sup> Lenin attempted to apply Marx's philosophy in the Russian empire. Both Marx and Lenin believed that nature could and should be molded to fit man's desires and needs.<sup>6</sup> Joseph Stalin emerged as the new Soviet premier after Lenin's death in 1924. His philosophy was to industrialize the Soviet Union at all costs.<sup>7</sup> After World War II, Stalin forced the East block countries to apply the Soviet model of industrialization onto mainly agrarian economies.<sup>8</sup> For nearly forty-five years, Poland and the other East block countries were ruled by Communists who practiced the development of heavy industry at the expense of the environment. Communist rulers ignored growing popular concerns about dying forests, acid rain

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2. For a history of Poland, see generally ALEKSANDER GIEYSZTOR, STEFAN KIENIEWICZ & EMANUEL ROSTWOROWSKI et al., *HISTORY OF POLAND* (2d ed. 1979).

3. Patricia Koza, *Earthday - East Europe*, UNITED PRESS INT'L, April 12, 1990.

4. See KARL MARX, *DAS KAPITAL* (Samuel Moore & Edward Aveling trans., 1906)(1867) and KARL MARX & FRIEDRICH ENGELS, *THE COMMUNIST MANIFESTO* (Samuel Moore trans., Penguin Paperback 1983)(1883).

5. For a biography of Karl Marx, see generally ISAIAH BERLIN, *KARL MARX: HIS LIFE AND ENVIRONMENT* (1963).

6. Larry Tye, *The Scars of Pollution; The Iron Curtain Rises to Reveal Dirt, Death; Poison in the East*, BOSTON GLOBE, December 17, 1989, at 1. See generally EVGENE KONSTANTINOVICH FEDOROV, *MAN AND NATURE* (1972) (discussing Communist view of man and his natural environment); see also Alston Chase, *The Monster that will Drink the Danube*, TRAVELER, March 1992, at 118 (discussing Gabcikovo dam project begun by Stalin in Czechoslovakia and Hungary that will turn thousands of acres of forest into desert). For a biography of Vladimir Lenin, see generally ROLF H. W. THEEN, *LENIN* (1973).

7. Koza, *supra* note 3.

8. *Id.* For a detailed description of the Soviet model of industrialization, see generally M. K. DZIEWANOWSKI, *A HISTORY OF SOVIET RUSSIA 188-202* (2d ed. 1985). See also ROGER E. KANET, *THE SOVIET UNION & THE DEVELOPING NATIONS 44-50* (1974) (discussing Soviet attitudes on industrialization since Stalin). See also Larry Tye, *City's Riches Crumble under Torrent of Toxins*, BOSTON GLOBE, Dec. 18, 1989 at 21 (Communists "voted to remake the city [Krakow] into our industrial center"). It is interesting to note that, contrary to popular beliefs among environmental activists, capitalist countries are more heavily environmentally regulated and far cleaner than the failed Communist countries. See Tye, *supra* note 6, at 76. See also *infra* notes 20, 21 and 25 and accompanying text.

and poisoned rivers.<sup>9</sup> Officially, the levels and concentrations of pollution were classified materials, unavailable to the people. Only a few select officials—part of the *nomenklatura*—maintained records on the toll that pollution was taking on the environment.<sup>10</sup> Ecologists who opposed Stalin's Soviet model of industrialization were summarily executed.<sup>11</sup>

The threat of death compelled Communist officials to deny that coal, the main source of fuel to heat homes and fuel industrial plants, was a health hazard. They also failed to acknowledge that steel and chemical works, operating with few or no emission controls, could endanger human life. Nevertheless, Communist officials knew that forests were dying. Foresters also knew that sulfur-laden rain was destroying the trees. Physicians and biologists were aware that toxic metals were collecting in human tissue and blood.<sup>12</sup> Polish citizens were well aware of the polluted air and water. They witnessed the deadly effects of pollution in their homes and vegetation. If they openly raised concerns about these problems, however, they were subject to the same fate as the ecologists: extermination.<sup>13</sup>

Communist emphasis on industrialization, coupled with the sheer impossibility of confrontation by Polish citizens, resulted in the development and usage of pollution-ridden factories and facilities. It is these factories and facilities, along with the Communist attitude toward the environment, that have damaged Poland's environment. Most Polish factories and power plants are still devoid of scrubbing filters or "scrubbers." Whatever filters they have are obsolete and ineffective.<sup>14</sup> An example of such a plant is the Lenin steel mill. Built on the outskirts of Krakow in the 1950s, the plant is Poland's largest source of pollution. The Lenin steel mill dumps an estimated 500,000 tons of pollutants into the water and air annually.<sup>15</sup> The plants and factories were inappropriately sited.<sup>16</sup> Krakow's ancient

9. See Koza, *supra* note 3.

10. Frederick Painton, *Where the Sky Stays Dark: The Lifting of the Iron Curtain Reveals the Planet's Most Polluted Region*, TIME, May 28, 1990, at 40. See generally, MICHAEL VOSLENSKY, NOMENKLATURA (1980) (describing the privileged ruling class in Communist countries).

11. Koza, *supra* note 2.

12. Tye, *supra* note 6, at 76.

13. See generally Tye, *supra* note 6.

14. Painton, *supra* note 10, at 30.

15. Larry Tye, *Poland is Left Choking on Its Wastes*, BOSTON GLOBE, December 18, 1989, at 21.

16. Jackson Diehl, *New Breeze in Soviet Bloc is Fouled By Pollution: Large Acres May Become Uninhabitable*, WASH. POST, April 18, 1989, at A20.

city center has been virtually destroyed by a toxic yellow-brown smoke which falls as corrosive acid and dust.<sup>17</sup> Today, these toxins hang over the city for several days because of frequent temperature inversions.<sup>18</sup> As a result, the Lenin steel mill produces eighty percent of the noxious gases that hang over Krakow, along with fifty percent of the dust and sixty percent of the solid wastes.<sup>19</sup> Ironically, the Lenin steel mill network of power plants, foundries, apartment complexes and public halls was designed to represent the socialist philosophy of providing work and a "good life" to over 40,000 workers.<sup>20</sup> Clearly, both the Communist socio-economic approach and its environmental policy were completely out of touch with reality.<sup>21</sup>

Unfortunately, the Lenin steel mill problem—and many others like it—were well-concealed from the West until shortly before the demolition of the Communist system. The Communist Polish government did not permit scientists and journalists to mention the environmental problems of pollution to the public.<sup>22</sup> It was not until 1981 that the Polish government allowed citizens to form a group for the purpose of studying the threats and problems of pollution.<sup>23</sup> Until just a few years ago, any attempt to demonstrate peacefully on behalf of the environment constituted a felony punishable by up to two years in prison.<sup>24</sup>

### III. ENVIRONMENTAL PROBLEMS IN POLAND

The meltdown of the Chernobyl nuclear reactor in 1986 presented some of the first concrete evidence to the West of the environmental problems of Eastern Europe. The Chernobyl reactor's design was unsafe and the most senior operators of the facility were poorly trained. Furthermore, nineteen other Soviet reactors possessed similar catastrophic potential.<sup>25</sup> The Chernobyl accident opened a Pandora's box of previously unexposed and unimagined environmental problems throughout Eastern Europe.

In Hungary, for example, pollution is blamed for the lowest male life expectancy in Europe.<sup>26</sup> Air pollution is very high throughout all of Hungary. In Budapest, where streets contain a high volume of traffic, air pollution is so severe in the winter that one study esti-

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17. See Tye, *supra* note 15, at 21.

18. Painton, *supra* note 10, at 40.

19. Tye, *supra* note 8, at 21.

20. *Id.*

21. *Id.*

22. Diehl, *supra* note 16, at A1.

23. *Id.*

24. *Id.*

25. Tye, *supra* note 6, at 76.

26. Larry Tye, *Rallies against Pollution Paced other Protests*, BOSTON GLOBE, Dec. 18, 1989, at 20.

mated that the lung damage caused by walking outside for one hour is equivalent to smoking one pack of cigarettes.<sup>27</sup> During rush hour in Hungary, the air quality is thirty times below safe limits.<sup>28</sup> In Dorog, an industrial town near Budapest, coal plants expel sulfur dioxide and cause children to suffer from bronchitis and asthma three to four times more often than children in the rest of Hungary, and suffer twice as many congenital heart defects.<sup>29</sup>

In Bulgaria, wind and water erosion have damaged eighty percent of the arable land area. Even more alarming is the fact that one hundred fifty-eight species of plants, sixty-two species of birds, twenty-six species of fish, and seventeen species of mammals are threatened with extinction in Eastern Europe.<sup>30</sup>

As a result of a caustic soda plant in Giurgu, Romania, nitrates have contaminated the drinking water and the region near the Romanian border.<sup>31</sup> In Czechoslovakia, airborne pollution has damaged over twenty percent of the trees.<sup>32</sup> Only thirty-five percent of the Czechoslovakian sewage is treated.<sup>33</sup> Pollution in Czechoslovakia has caused the life expectancy of persons living there to drop five to seven years lower than that of persons living in the West.<sup>34</sup> In Northern Bohemia, Czechoslovakia, the life expectancy is ten years less than in the West.<sup>35</sup>

East Germany has also been damaged severely by environmental problems. As a statistical consequence of the merger of the two Germanys, reunified Germany possesses the greatest source of carbon dioxide in the world.<sup>36</sup> Moreover, Germany imports 700,000 tons of waste from the West annually.<sup>37</sup> Most of the waste dumping has proceeded without regulations.<sup>38</sup> In East Germany, the incidence of

27. Diehl, *supra* note 16, at A20.

28. Tye, *supra* note 26, at 20.

29. Tye, *supra* note 6, at 76.

30. *Id.* Forty-one species of animals have already become extinct in Poland. Tye, *supra* note 15, at 21.

31. Greg Neale, *East Europe's Legacy of Death*, DAILY TELEGRAPH, June 17, 1990, at 2.

32. Tye, *supra* note 6, at 76. Thirty percent of the forests are in the process of dying due to pollution. *Id.*

33. Neale, *supra* note 31, at 2.

34. *Id.* See Clover, *infra* note 37.

35. *Id.*

36. See, Larry Tye, *On the Border, Problems become Shared*, BOSTON GLOBE, Dec. 18, 1989, at 77.

37. Charles Clover, *West Declares War on East's Industrial Legacy of Death*, DAILY TELEGRAPH, June 18, 1990, at 8.

38. Tye, *supra* note 6, at 1.

bronchitis has increased by ninety-nine percent, while asthma cases have risen by four hundred fifty-six percent.<sup>39</sup> In Bitterfeld and other cities, nearly all of the children suffer respiratory diseases because of the increased use of dirty brown coal.<sup>40</sup> Pollution contaminates eighty percent of the rivers in the Eastern part of Germany.<sup>41</sup> Most of the cities have air pollution fifty times higher than safe limits allow.<sup>42</sup> In sum, environmentally induced diseases place six million persons at risk in Germany today.<sup>43</sup>

By the most conservative estimates, the environmental cleanup of Eastern Europe will cost approximately \$500 billion.<sup>44</sup> Poland is the most polluted country in Eastern Europe.<sup>45</sup> A quick glance at the Polish waterways, for example, will cause even those individuals who are generally oblivious to environmental problems to cringe with disgust. The government regularly studies the Polish water supply and separates the water into three categories: water suitable for human consumption, water clean enough for agricultural use, and water clean enough for industrial use.<sup>46</sup> In 1989, an environmental survey undertaken by the Polish government concluded that none of the Polish waterways provided safe drinking water.<sup>47</sup> In Krakow, water contains twice the level of heavy metals that U.S. experts have declared to be safe.<sup>48</sup> In Gdansk, untreated sewage is pumped directly into the Vistula River.<sup>49</sup> Even more startling was that the survey found that sixty-five percent of the rivers were so polluted with salts, human feces, and toxins such as mercury and cyanide that industry refused to use the rivers for fear of corroding their equipment. The Vistula is now polluted with mercury levels three times higher than safe limits allow. The lead levels are twenty-five times higher than safe limits allow.<sup>50</sup> The river is so polluted that persons submerging their bodies in the water for an extended period of time will develop welts.<sup>51</sup> Approximately eighty to ninety percent of Poland's deep

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39. Tye, *supra* note 36, at 77.

40. Tye, *supra* note 6, at 76.

41. *Id.*

42. *Id.*

43. *Id.*

44. Ronald A. Taylor, *Behind The Toxic Curtain, Firms Could Clean Up in E. Europe*, WASH. TIMES, July 10, 1990, at A1. However, certain estimates have placed the price of environmental cleanup in East Germany alone at \$600 billion. *Id.* at A8.

45. *See generally* Tye, *supra* notes 6 and 15. It must be noted, however, that 45 percent of Poland's air pollution is not domestically generated; rather, it is blown onto Poland from Czechoslovakia and East Germany. Diehl, *supra* note 16, at A20.

46. Tye, *supra* note 15, at 20.

47. *Id.*

48. Koza, *supra* note 2.

49. Tye, *supra* note 15, at 20.

50. *Id.*

51. Tye, *supra* note 6, at 76.

water wells are polluted.<sup>52</sup> Sadly, the Poles have been forced to create a fourth category to describe water beyond even safe industrial use: "poza kategoria" or "beyond categories."<sup>53</sup>

Poland's soil and land problems are as serious as its water problems. There are twenty-seven officially designated zones with ecological problems.<sup>54</sup> Five of these areas are designated as ecological disaster zones. Together, these five ecological disaster areas comprise thirty-five percent of Poland's population.<sup>55</sup> Twenty-five percent of Polish soil is so contaminated that farming poses a threat to those who consume its produce.<sup>56</sup> The garden soil of upper Silesia contains levels of zinc, cadmium and mercury up to seventy percent higher than the limits set by the World Health Organization. Two towns in the region contain the world's highest recorded levels of cadmium and lead.<sup>57</sup> The pollution in Poland has destroyed over fifty percent of the trees and harmed another seventeen percent,<sup>58</sup> which translates into more than 125,000 acres of damaged or destroyed trees.<sup>59</sup> Losses of forests, crops, buildings and human health related to pollution currently cost Poland 200 to 400 billion Polish zlotys a year, which represents ten to twenty percent of Poland's national income.<sup>60</sup>

Although damage to Polish water and soil is alarming, the worst damage to the country has most likely resulted from air pollution. The main fuel used in Eastern Europe is lignite or "brown coal." Brown coal is the dirtiest source of fuel because of its high sulfur and ash content and low heating efficiency.<sup>61</sup> Poland is one of the world's leading coal-dependent countries and relies on coal for seventy-eight percent of its energy needs.<sup>62</sup> Krakow alone consumes 600,000 tons

52. *Survey: Costing the Earth, Making Polluters Pay*, THE ECONOMIST, September 2, 1989, at 7 [hereinafter *Making Polluters Pay*].

53. Tye, *supra* note 15, at 20.

54. Alan Kraus, *Europe's 'Off the Scale' Pollution Problem*, INVESTOR'S DAILY, May 30, 1990, at 1.

55. *Id.*

56. *Making Polluters Pay*, *supra* note 52, at 7.

57. Tye, *supra* note 15, at 21.

58. Tye, *supra* note 6, at 76.

59. Diehl, *supra* note 16, at A20.

60. Tye, *supra* note 15, at 20. At the time of the writing of this article, the exchange rate was 13,000 zlotys per one U.S. dollar. Interview with member of Polish Consulate, Los Angeles, CA., March 10, 1992.

61. Catherine Arnst, *East Europe Countries Face Environmental Nightmare*, REUTERS, March 22, 1990.

62. Tye, *supra* note 15, at 20. See also Karen Govannuci, *Advanced Clean Coal*

of high-sulfur coal in home stoves and heaters annually.<sup>63</sup> Consequently, soot concentrations in Krakow's air are up to thirty-five times greater than levels judged dangerous to human health.<sup>64</sup> Because they burn coal, Polish power plants waste four times more energy than those in Western Europe.<sup>65</sup> Furnaces in older Polish homes extract only ten percent of the coal's useful energy.<sup>66</sup> Polish cars have no emission controls.<sup>67</sup> Moreover, many Polish automobiles are equipped with "intelligent" engines that burn high-pollution oil-gasoline mixtures.<sup>68</sup>

Poland's significant reliance on coal and its lack of emission controls makes the country the largest overall producer of sulphur dioxide in the world, even though Poland has a population of only thirty-eight million. Polish air contains three times more sulfur dioxide than U.S. air.<sup>69</sup> In Katowice, airborne sulfur dioxide levels can reach twice the amount the government considers safe; hydrogen oxide six times its safe level; carbon monoxide twenty-one times higher its safe level; airborne dust thirty-five times its safe level, and lead up one hundred ninety-six times its safe level.<sup>70</sup> Similarly, in Lodz, approximately five hundred eighty pounds of pollutants cover each acre of land annually. The level of pollution in Lodz is three times higher than Poland's general average and one hundred thirty times higher than the average in Sweden.<sup>71</sup>

To fully understand Poland's air pollution problems, one need only look at the Nowa Huta steel mill in Krakow. Stalin built the mill to punish the residents of Krakow for failing to support the Communist regime.<sup>72</sup> Today, the Nowa Huta steel mill has over seven hundred

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*Technologies Beyond Eastern Europe's Reach*, ENERGY REPORT (Information Access Company) July 16, 1990, at 401 (discussing clean coal technology).

63. Marlise Simons, *Upheaval in the East: A Green Party Mayor Takes On Industrial filth of Old Cracow*, N.Y. TIMES, March 25, 1990, § 1, at 18.

64. Tye, *supra* note 15, at 20-21.

65. *Id.* at 20.

66. *Id.*

67. Mexico, for example, has taken severe steps to curb automobile emissions in certain cities. Juanita Darling, *Mexico City's Trucks, Buses Must Convert to Clean Fuel*, L.A. TIMES, Feb. 12, 1992, at A3. Mexican President Carlos Salinas de Gortari announced on February 11, 1992, that automobile owners in Mexico City have four years "to convert their engines to burn alternative fuels or to buy new vehicles with catalytic converters." *Id.* It is estimated that 40 percent of Mexico City's smog is caused by automobile emissions. *Id.*

68. Tye, *supra* note 15, at 21. The oil-gasoline fuel generates eight times the hydrocarbon output and 50 percent more carbon monoxide output than standard gasoline. *Id.*

69. *Id.*

70. *Id.*

71. Steven Greenhouse, *Upheaval in the East: Poland's First Solidarity Mayor Aims to Clean Up a City*, N.Y. TIMES, January 23, 1990, at A9.

72. Mary Battiata, *Eastern Europe Faces Vast Environmental Blight*, WASH. POST, March 20, 1990, at A23.

chimneys still in operation.<sup>73</sup> The plant pours black, yellow and orange smoke into the air each day and accounts for nearly one third of all the pollution produced in the region.<sup>74</sup> Nowa Huta also serves as an example of the low fuel efficiency of Polish factories. Indeed, the steel mill injects twenty pounds of soot into the air for each ton of steel it produces.<sup>75</sup> Such a statistic is terrifying when one realizes that the mill has been producing five to seven million tons of steel per year, thus giving off approximately one hundred twenty million pounds of soot annually.<sup>76</sup> Indeed, the Polish environment is in dismal shape.

#### IV. THE EFFECTS OF POLLUTION ON POLAND

The effects of Polish pollution have been catastrophic. One out of every four people is expected to contract cancer by the year 2000 and at least fifteen percent of those cancers will be related to the pollution.<sup>77</sup> Summertime smog, such as sulfur dioxide, attacks human tissues directly. Automobiles and factories produce nitrogen oxide, which impairs the body's immune system and leave lungs vulnerable to viruses and bacteria.<sup>78</sup> Lead produced from the pollution enters the lungs, travels through the bloodstream and proceeds to the brain.<sup>79</sup> The microscopic particles of dust and dirt spewed out by factories and pushed into the air by construction activity enter the lungs, interfere with breathing and may ultimately scar the lungs.<sup>80</sup> One Polish physician in Krakow states that "every night, we would lie in bed and we could smell the chemicals—acetone, methanol and hydrochloric acid."<sup>81</sup>

Pollution has devastated the Polish population. Average levels of lung-damaging sulfur dioxide surpass Polish safety guidelines in over twenty percent of the country. In 1990, the level was calculated at twenty-seven percent.<sup>82</sup> Life expectancy in Poland is lower than it

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73. *Id.*

74. *Id.*

75. Simons, *supra* note 63, at 18.

76. *Id.* at 18.

77. See Arnst, *supra* note 49.

78. Larry Tye, *Poison in the East; Pollution takes toll in death, disease*, BOSTON GLOBE, Dec. 18, 1989, at 62.

79. *Id.*

80. *Id.*

81. Statement of Dr. Maria Guminska, Krakow Institute of Medical Biochemistry. Battiata, *supra* note 72, at A23.

82. Tye, *supra* note 78, at 62.

was twenty years ago. Men between the ages of forty and sixty have the same life expectancy as in 1952.<sup>83</sup> Over the past decade, Poles have had the highest increase in lung cancer and fatal heart attacks in Europe.<sup>84</sup>

The effects of high pollution levels is not only present in older Poles, but is also apparent in Polish children. In Krakow, for example, children are sick more often than children in the rest of the country. Furthermore, their illnesses are more severe and last longer than in other areas of Poland.<sup>85</sup> In fact, an eight-year study that compared children in Krakow to children living in a secluded mountainous region found that children in Krakow suffered three times more asthma and four times more cold symptoms than children from the mountains.<sup>86</sup> Other surveys revealed that city children's recovery rates from illnesses such as pneumonia are two weeks longer than of those children living in rural areas. Moreover, children who live in Krakow are affected by respiratory illness four times more often than the Polish national norm, and chronic bronchitis is endemic.<sup>87</sup>

According to doctors in Krakow, city ambulances work continuously to rescue children who are suffocating from toxic air where pollution levels are high.<sup>88</sup> The Polish infant mortality rate is exceptionally high at twenty per one thousand. In comparison, Sweden's infant mortality rate is only six per one thousand.<sup>89</sup> Poles die an average of ten years earlier than their Scandinavian neighbors fifty miles away.<sup>90</sup> Moreover, studies completed by the Polish Chemical Society, the Academy of Sciences and other groups indicate that thirty to forty-five percent of Polish children are below the international norms in weight and height.<sup>91</sup> Ten to fifteen percent of Polish children are chronically ill.<sup>92</sup>

Polish pollution has not only caused physical health problems, but many psychological problems as well. Individuals who consume contaminated air and water display greater symptoms of stress and malaise.<sup>93</sup> Similarly, studies have concluded that children who have lived in highly polluted areas of Poland exhibit greater aggressiveness and irritability than others.<sup>94</sup>

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83. *Id.*

84. *Id.*

85. *Id.*

86. *Id.*

87. *Id.*

88. *Battiata, supra* note 72, at A1.

89. *Tye, supra* note 78, at 62.

90. *Id.*

91. *Id.*

92. *Id.*

93. *Id.*

94. *Id.*

Nowhere are the effects of Poland's pollution worse than in the upper Silesian industrial region. Silesia's industrialization and its erosion of natural resources began in the latter half of the 19th century.<sup>95</sup> Some of the Silesian steel mills in operation today are more than one hundred thirty years old and are crammed into densely built urban areas.<sup>96</sup> Towns were expanded and became small cities before no room was left for the construction of new railway lines. Nonetheless, more heavy industry was squeezed in the region.<sup>97</sup> Clean air, water and open spaces were soon in short supply.<sup>98</sup> Meanwhile, waste product disposal grew and entire forests and agricultural areas were destroyed.<sup>99</sup> The forced industrialization of Poland by the failed Communist regime of the USSR has resulted in a severe threat to the health of the 2.6 million people of Silesia.<sup>100</sup> The threat comes in part from toxic gases that pour sulfur dioxide and carbon monoxide into the atmosphere and give Silesia the highest mortality rate in the country: 258 per 100,000 births, compared to the national average of 184.<sup>101</sup> Along similar lines, the upper Silesian industrial region regroups fifteen percent more circulatory diseases, thirty percent more cancer rates, and forty-seven percent more respiratory diseases than the rest of Poland.<sup>102</sup> Children from the upper Silesian region, tested in Danish summer camps, exhibited up to five times more lead in their blood than children from western European cities.<sup>103</sup> Consequently, it is not difficult to understand why residents of this region live an average of ten years less than their European neighbors.<sup>104</sup>

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95. Iwona Jacyna, *A Tale of Poland's Eco-Disaster: Non-Existent Ecology*, WORLD PAPER, September 1990, at 5.

96. *Id.*

97. *Id.*

98. *Id.*

99. *Id.*

100. J.T. Nguyen, *U.N. Poor Environment Drops East Bloc Birth Rates*, UNITED PRESS INT'L, May 13, 1990.

101. See Koza, *supra* note 3.

102. Tye, *supra* note 78, at 62.

103. See Mark Maremont, Jonathon Kapstein and Gail E. Schares, *Eastern Europe's Big Cleanup*, BUS. WK., March 19, 1990, at 114-15.

104. Carol J. Williams, *Eastern Europe Gets Environment Center Pollution: The West Warns It Can Pay Little of the Cost of Cleaning Up the Industrial Waste and Poisons Left by 40 Years of Communist Rule*, L.A. TIMES, September 7, 1990, at A32.

## V. INTERNAL PROBLEMS WHICH COMPLICATE POLISH ENVIRONMENTAL CLEAN-UP

Despite Poland's awareness of its national pollution problems, several internal administrative problems complicate the herculean task of environmental cleanup. From a legal perspective, Poland's history of toxic waste legislation is very short, and until very recently, authorities did not keep track of potentially hazardous waste.<sup>105</sup> In fact, much of Polish industrial toxic waste was dumped into landfills or industrial dumps without any regard for the ramifications that such disposal would have on the environment.<sup>106</sup> In addition to *how* to cleanup the environment, Poland must also determine *who* should bear the financial burden of such a cleanup and who will suffer economically as a result of such cleanups. Eastern European countries have become less interested in environmental growth because looming mass unemployment has been given top priority.<sup>107</sup>

The reluctance of Eastern Europe to address the issue of environmental cleanup has resulted in a slowing of investment in the region by Western governments and businesses. Many of these businesses believe that they will not be able to invest in Eastern Europe on a full-scale level because of Eastern Europe's ailing economies.<sup>108</sup> Unlike many Eastern European currencies, the Polish zloty can be converted into Western currencies.<sup>109</sup> Losses resulting from environmental pollution and degradation currently amount to \$3.4 billion per year, or ten percent of Poland's national annual income.<sup>110</sup> In essence, the problem is circular: Investors will not invest in Poland until Poland cleans the environment, but Poland cannot clean up the environment without foreign investment.<sup>111</sup>

Even if Poland obtained the funds required to clean its environment, a major obstacle to the environmental problem would remain. As noted in one article, "perhaps the toughest task is balancing growth with a thorough cleanup. Should a factory with thousands of workers be closed because it poisons the river? Should pesticides and fertilizers be withheld from farmers?"<sup>112</sup> It is these questions that once unified Solidarity leaders and proponents of the environment.

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105. Celia Hooper, *Report: World's Toxic Wastes Out of Control*, UNITED PRESS INT'L, April 25, 1987.

106. *Id.*

107. *Problems Seen Limiting West's Investment in Environmental Cleanup of Eastern Europe*, INT'L TRADE REPORTER, July 4, 1990, at 1009.

108. *Id.* See Chuck Freadhoff, *Environmental Firms See Promise in Expansion into Western Europe*, (pt. 2) INVESTOR'S DAILY, August 14, 1990, at 28.

109. Taylor, *supra* note 44, at A8. The Hungarian and East German currencies are also convertible. *Id.*

110. Tye, *supra* note 15, at 20.

111. Freadhoff, *supra* note 108, at 28.

112. Maremont, *supra* note 103, at 114-15.

By struggling to resuscitate Poland's recessionary economy, Solidarity has tempered environmental action out of concern for jobs and the gross national product.<sup>113</sup> As a result of Poland's movement toward a free market economy, production has dropped thirty percent between January and November 1991. Unemployment is rising and could soon reach several hundred thousand.<sup>114</sup> These problems, combined with the proposal by the first Polish environmental mayor to shut down the Nowa Huta mill in Krakow where 30,000 people work, have caused an imminent confrontation between Solidarity and the environmentalists.<sup>115</sup>

In sum, the cost of cleaning up the environment, the lack of international cooperation and the threat of massive unemployment pose a synergistic problem that could take decades to remedy.<sup>116</sup> There are solutions, however, through which the Polish government may accelerate its badly needed environmental cleanup: Poland could encourage foreign investment in the necessary technologies and clean up the environment through privatization and preventive market based incentives.

#### VI. PRIVATIZATION AND ECONOMIC DEVELOPMENT OF POLAND'S INDUSTRY THROUGH ENVIRONMENTALLY PROFICIENT MEANS

Poland's Law on Privatization of State Owned Enterprises defines the "privatization of state owned enterprises" as: "a transfer to third parties of the shares of a corporation created as a result of a state owned enterprise into a corporation wholly owned by the State Treasury, alienation of the assets of the enterprise, or sale of the enterprise."<sup>117</sup> A state owned enterprise may therefore be transformed by the State Treasury into a privately owned enterprise or otherwise liquidated under the provisions of the privatization law.<sup>118</sup> Article 5 of the Privatization Law authorizes the Minister of Ownership Transformation (hereinafter the Minister) to transform a state-owned enterprise into a corporation.<sup>119</sup> The Minister may undertake such

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113. Battiata, *supra* note 72, at A23.

114. *Id.*

115. Simons, *supra* note 63, at 18.

116. *Pollution: A Legacy of Communism*, CHI. TRIB., March 25, 1990, at 2.

117. Law on Privatization of State-Owned Enterprises, July 13, 1990, 29 I.L.M. 1226, 1230 [hereinafter Law on Privatization].

118. *Id.* at 1230, Art. 1.

119. *Id.* at 1231-32, Art. 5.

action pursuant to a request by both the executive director of the state-owned enterprise and its employees' council.<sup>120</sup> The parties may only file such a request after receiving opinions from the general assembly of employees and the enterprise's founding body.<sup>121</sup> The Minister may also transfer the enterprise upon the sole request of the founding body.<sup>122</sup> The founding body, however, may only file its request with the consent of the enterprise's director and employees' council after receiving the opinion of the general assembly of employees.<sup>123</sup> The Minister may deny the transformation of any state-owned enterprise into a corporation upon the belief that such a transformation might harm the environment.<sup>124</sup> Such a denial must be issued within three months of the denial of a transformation request.<sup>125</sup> The denial must set forth the reasons for the preconditions to approval of the transformation and state a period within which the Minister may reconsider the transformation request.<sup>126</sup> The requesting party(ies) may appeal the transformation request in accordance with Article 61 of the Law on state-owned enterprises.<sup>127</sup>

While privatization of Polish enterprises may occur through the efforts of interested Polish parties, the success of Polish enterprise privatization rests mainly on foreign investors.<sup>128</sup> Unless foreign investors obtain a special permit from the Polish Foreign Investment Agency, however, they are limited to a maximum acquisition of ten percent of a State Treasury-owned corporation.<sup>129</sup> Such permits are subject to generally applicable rules, which include environmental protection.<sup>130</sup> Because Poland is unable to clean its polluted environment without foreign help, Poland's Foreign Investment Law is extremely critical to the country's environmental and economic well-being.

## VII. POLAND'S FOREIGN INVESTMENT LAW

Poland's "Foreign Investment Law of 1988" took effect on January

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120. *Id.* at Art. 5 (1).

121. *Id.* at Art. 5 (2).

122. *Id.* at Art. 5 (1).

123. *Id.* at Art. 5 (2).

124. *Id.* at Art 5 (3). The section provides that the Minister may deny such transformation due to an important state interest. *Id.* Consequently, if the Minister determines that the environment is an important state interest and that transformation of a state-owned enterprise will harm the environment, the transformation may be denied.

125. *Id.* at Art. 5 (4).

126. *Id.*

127. *Id.*

128. Law of Privatization, *supra* note 117, at 1228.

129. Zbigniew M. Slupinski, Introductory Note, Law on Privatization of State-Owned Enterprises, July, 13, 1990, 20 I.L.M. 1226, 1228.

130. *Id.*

1, 1989.<sup>131</sup> The purpose of the law was to encourage foreign capital investment in Poland.<sup>132</sup> The law was also enacted to ensure protection of property, income and other rights of foreign investors.<sup>133</sup> Under the Foreign Investment Law of 1988, companies seeking to do business in Poland had to obtain a permit.<sup>134</sup> Permits were issued by the Foreign Investment Council and could be denied if the conduct of the business activity failed to protect the environment.<sup>135</sup> Denial of the permit required no explanation, but interested parties had a right to appeal the decision to the President of the Agency.<sup>136</sup> However, no appeal could proceed to the Supreme Administrative Court.<sup>137</sup>

An implicit theme throughout the entirety of the Foreign Investment Law of 1988 was the requirement that foreign business activities consider the protection of the environment. For example, if a permit had been issued to a foreign investor whose activities did not comply with environmental requirements, the issuing authority had the right to enter the company and its production facilities to review its production and financial records so as to determine whether the company was in compliance with the terms of the permit.<sup>138</sup> If the foreign investor failed to comply with the environmental requirements set forth in the permit, the authority could issue an order requiring the company to take corrective action within a specified period of time.<sup>139</sup> Failure to comply with the corrective action order could cause the issuing authority to restrict the scope of the permit or to withdraw the permit in its entirety.<sup>140</sup>

#### VIII. THE FOREIGN INVESTMENT LAW OF 1991

On June 14, 1991, Poland enacted broad legislation that relaxed and revoked numerous laws that had provided much of the existing environmental protection. The 1991 "Companies with Foreign Participation" legislation<sup>141</sup> repealed the Foreign Investment Law of 1988

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131. Foreign Investment Law, January 1, 1989, 28 I.L.M. 1518.

132. *Id.* at 1518-19.

133. *Id.*

134. *Id.* at 1522, Art. 5.

135. *Id.* at 1523, Art. 6. Grounds for denial also existed where the business activity threatened the economic interests of the state or posed threats to state secrets, security or national defense. *Id.*

136. *Id.*

137. *Id.*

138. *Id.* at 1526, Art. 14.

139. *Id.* at 1526, Art. 14.

140. *Id.* at 1526, Art. 15.

141. Law on Companies with Foreign Participation, June 14, 1991, 30 I.L.M. 875.

and significantly amended the privatization laws as well.<sup>142</sup> The result of the 1991 Act is that many of the effective tools provided by the Foreign Investment Law of 1988 and the Privatization Law, previously used to force environmental restoration and protection against further destruction, are no longer available. Poland has apparently decided that, as under the Communist regime, protection of the environment should give way to "social" progress.

The 1991 Act eliminates the Foreign Investment Agency (hereinafter the FIA).<sup>143</sup> The 1991 Act transferred the duties of the President of the FIA to the Minister of Ownership Transformations.<sup>144</sup> The net effect of the FIA's elimination was the corresponding elimination of virtually all permit requirements for foreign investors. It was these permits that Poland could have used to compel private industry to invest in environmental protection. Without risk-based incentives, such as permits, no legal mechanism exists to ensure that private industry will invest in environmental service from investing corporations. Simply stated, there is, at present, very little deterrence against environmental pollution, or incentive for corporations to cut into their profit margins to secure the protection of Poland's environment. Corporations are well aware that Poland needs their corporate money for investment purposes.

Pursuant to Article 4 of the 1991 Foreign Investment Law, a permit is only required in a few areas.<sup>145</sup> Moreover, a permit may only be denied if the activities envisaged threaten state economic interests, state security, national defense, or the protection of state secrets.<sup>146</sup> The 1991 Act refuses to deny the granting of a permit for environmental reasons.<sup>147</sup> However, once a permit is issued, it may be revoked at a later date when the company creates an environmental hazard only if protection of the environment was one of the initial terms of the permit.<sup>148</sup>

The Polish government can use Article 23 of the 1991 Foreign Investment Law to exempt a company from tax liability if the company implements environmental programs.<sup>149</sup> This is not a *risk*-based, but rather a *preventive*-based incentive approach. The Foreign Invest-

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142. *Id.*

143. Ania M. Frankowska and Radoslaw A. Gronet, Introductory Note, Poland: Law on Companies with Foreign Participation, June 14, 1991, 30 I.L.M. 871.

144. Law on Companies with Foreign Participation, 30 I.L.M. 875, 888, Art. 41.

145. *Id.*

146. *Id.* at 875-76, Art. 4. The areas where a permit is required include harbor and airport operations, real estate brokerage activities, defense industry not requiring concession, wholesale trade of imported consumer goods and performance of legal services. *Id.*

147. *Id.* at 880, Art. 17.

148. *Id.*

149. *Id.* at 880-81, Art. 19.

ment Law classifies such programs as "ensur[ing] the introduction of new technological developments to the national economy."<sup>150</sup> A private company may request a corporate tax exemption from the Ministry of Finance if it takes steps to initiate environmental protection.<sup>151</sup> While environmental protection under the 1991 Foreign Investment Law cannot be interpreted as expansively as under the Act's predecessors, there are certain provisions in which statutory ambiguities might be interpreted by, or replaced with, environmental protectionist concerns.<sup>152</sup> Unfortunately, even if the ambiguities are replaced by more definitive interpretations incorporating environmental concerns, Poland's primary focus should be on capital investment, not on pure environmental protection.<sup>153</sup>

While Poland's new privatization and foreign investment restrictions may seem fairly harsh, they are still very permissive when compared to the restrictive American environmental laws.<sup>154</sup> The new Polish environmental restrictions, combined with the catastrophic environmental problems that investors might legally inherit as a result of taking over a state owned enterprise, may nonetheless deter many foreigners from investing in Poland. As a consequence, it appears that both private industry and the Polish government will need to negotiate and compromise much more to stimulate foreign investment in Poland. Simply stated, both parties must emphasize the prevention of future environmental damage through market-based incentives.

Although environmental laws were rarely enforced during the period of Communist rule in Poland, such a lack of enforcement does not signify that environmental laws were not enacted. Several environmental laws were in effect, including laws on land management, mining, use and conservation of inland waters, forests, town and

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150. *Id.* at 882-83, Art. 23.

151. *Id.* at 882, Art. 23.

152. *Id.* The argument would be that such activity would ensure the introduction of new technological developments to the national economy. Technological developments, for example, can take place when industry is able to use the waterways to cool many of the parts needed to run a factory. As noted earlier, foreign industry has not yet reached that level of comfort with the laws as presently drafted and enforced.

153. See *supra* note 124 and accompanying text.

154. See generally Resource Conservation and Recovery Act, 42 U.S.C. § 6901 (1983 & Supp. 1991) (RCRA); Comprehensive Environmental, Response, Compensation and Liability Act, 42 U.S.C. § 9601 (1983 & Supp. 1991) (CERCLA); Clean Air Act 42 U.S.C. § 7401 (1983 & Supp. 1991) (CAA); Clean Water Act, 33 U.S.C. § 1251 (1983 & Supp. 1991) (CWA); Safe Water Drinking Act, 42 U.S.C. § 300(f) (1983 & Supp. 1991) (SWDA); Toxic Substances Control Act, 15 U.S.C. § 2601 (1982 & Supp. 1991) (TSCA).

country planning, and land recultivation.<sup>155</sup> These laws were generally viewed as administrative in nature.<sup>156</sup> In 1989, a report was issued by the socialist governments entitled "Report of the Roundtable Subunit on Ecology."<sup>157</sup> The Report outlined the steps to be taken to clean up the environment of Eastern Europe as a whole. The Report provided:

- A. Execution, with two years of the law's codification, of environmental protection through the improvement (altering) of rules and regulations. These rules should regulate two main areas of concern:
  - (1) the relation of man to nature, with particular consideration to plant and animal life;
  - (2) the relation of society to the natural environment.
- B. This regulation would apply particularly to (1) preservation of the environment, (2) protection and management of natural resources and natural values, and (3) preservation and formation of natural living conditions and better health conditions.
- C. These complex improvements to environmental law should particularly cover the following:
  - (a) protection and shaping the environment;
  - (b) protection of nature;
  - (c) water law;
  - (d) protection of rural and forest lands;
  - (e) regulation of mining and geological laws; and
  - (f) reforestation.
- D. Improvements should also consider the protection of the maritime environment of the Baltic Sea.
- E. The improvements should also aim at ensuring the completeness, thoroughness, and cohesion of environmental protection. Thus, the principle of equality before the law should exist for all the subjects taking part in the process of utilization of the natural environment.<sup>158</sup>

The Report evidenced an official recognition of the environmental problems in Poland and throughout Eastern Europe and thereby constituted a positive step toward environmental cleanup and protection. Since 1989, however, three very dramatic actions have occurred, which, along with the 1991 Foreign Investment Act, seem to dictate the direction that environmental law and protection will take in Poland. First, many Polish environmental protection laws have been drafted but never enacted.<sup>159</sup> Such a failure to enact environmental laws raises several questions regarding Poland's commitment to environmental cleanup. The repeal of the Foreign Investment Law of 1988<sup>160</sup> and of Poland's Privatization Law further augment the doubt surrounding Poland's commitment to environmental restoration.<sup>161</sup> The second dramatic action affecting Poland's environmental pro-

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155. See *infra* note 156.

156. Julian Juergensmeyer, *Environmental Protection in Post Socialist Eastern Europe: The Polish Example*, 14 HASTINGS INT'L & COMP. L. REV. 831 (1991).

157. *Id.* at 838.

158. *Id.* at 838 (quoting Report of the Roundtable Subunit on Ecology 1, 9 n.29 (Scitran, CA trans.).

159. *Id.* at 839.

160. See *supra* notes 130-39 and accompanying text.

161. See *supra* notes 116-29 and accompanying text.

gram is the fall of communism in Europe. The collapse of the USSR as a Communist hegemonic state signifies that Soviet financial support is no longer available to former Soviet block countries such as Poland. The complete lack of financial assistance from the USSR has resulted in an urgent need of financial assistance from the West. Poland recognizes the need for such assistance. Consequently, Poland has requested associate membership in the European Economic Community (hereinafter EEC).<sup>162</sup> This request will probably have the most dramatic effect on Poland's willingness and ability to clean its environment. From a economic and diplomatic perspective, it is essential for Poland to show a good faith effort to bring its environmental legislation up to EEC standards.

#### IX. EC LAW

The European Community was formed in 1957 by the Treaty of Rome<sup>163</sup> and currently consists of twelve members.<sup>164</sup> While the EEC was rather lax in its establishment of environmental laws,<sup>165</sup> the Single European Act (hereinafter the SEA) was enacted in 1987, and gives the EEC explicit environmental law and policy-making powers.<sup>166</sup>

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162. See *EC Negotiator Visits Poland After Row Over Farm Exports*, REUTERS LIBR. REP., Sept. 19, 1991; and *EC Approves Imports*, NEWSDAY, Oct. 1, 1991, at 14.

163. 28 U.N.T.S. 11.

164. The twelve members of the EEC are Belgium, Denmark, France, Ireland, Italy, Germany, Greece, Luxembourg, the Netherlands, Portugal, Spain and the United Kingdom.

165. Directives are legislation proposed by the EEC that must be implemented by its members within a specified period of time. While it is true many directives were in place prior to the enactment of the Single European Act, few oversight and enforcement mechanisms are available to the EEC if a member state fails to implement the directive. For an understanding of how the EEC operated prior to the SEA and the roles of the EEC legislative bodies, see Christian Zacker, *Environmental Law of the European Economic Community: New Powers Under the Single European Act*, 14 B.C. INT'L & COMP. L. REV. 249 (1991).

166. Single European Act, Art. 130r, Feb. 17, 1986 (hereinafter SEA). Specifically, Article 130r of the SEA provides:

1. Action by the [European Economic] Community relating to the environment shall have the following objectives:
  - to preserve, protect and improve the quality of the environment,
  - to contribute towards protecting human health,
  - to ensure a prudent and rational utilization of natural resources.
2. Action by the Community relating to the environment shall be based on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source, and that the polluter should pay. Environmental protection requirements shall be a component of the Community's other policies.

Several provisions in Article 130(r) of the SEA are of particular interest to Poland. Section 2 of the Article provides that preventive actions should be taken and that environmental damage should be rectified at the source.<sup>167</sup> Section 3 requires that certain factors be considered when enacting legislative environmental protection.<sup>168</sup> Those relevant to Poland include:

1. the environmental conditions of Poland;
2. a cost/benefit analysis on the type of action necessary to clean Poland; and
3. the economic and social benefit to the country as a whole if legislation was enacted.<sup>169</sup>

In short, while many of the Polish environmental protections were technically eliminated by the Foreign Investment Law of 1991, such environmental protection procedures were resuscitated by the SEA. This effect of the SEA causes a major economic dilemma for Poland, because Poland's justification for loosening many of its restrictions was to encourage foreign investment. The following question arises: How can Poland actively encourage foreign investment and simultaneously comply with the goals of the Report of the Roundtable Subunit on Ecology?

Preventive market-based incentives could play a critical role in the development of a structured environmental restoration program in Poland and provide a solution to Poland's economic-environmental quandary. Whereas *remediation* focuses on cleaning up the environment, the goal of *prevention* lies in preventing environmental damage. Preventive market-based incentives involve procedures such as environmental auditing, training, electronic data collection, waste minimization, recycling and protective facility design. Preventive

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3. In preparing its action relating to the environment, the Community shall take account of:
    - available scientific and technical data,
    - environmental conditions in the various regions of the Community,
    - the potential benefits and costs of action or lack of action,
    - the economic and social development of the Community as a whole and the balanced development of its regions.
  4. The Community shall take action relating to the environment to the extent to which the objectives referred to in paragraph 1 can be attained better at Community level than at the level of the individual Member States. Without prejudice to certain measures of a Community nature, the Member States shall finance and implement the other measures.
  5. Within their respective spheres of competence, the Community and the Member States shall co-operate with third countries and with the relevant international organizations. The arrangements for Community cooperation may be the subject of agreements between the Community and the third parties concerned, which shall be negotiated and concluded in accordance with Article 228.

The previous paragraph shall be without prejudice to Member States' competence to negotiate in international bodies and to conclude international agreements. *Id.*

167. *Id.* at § 2.

168. *Id.* at § 3.

169. *Id.* at § 2.

market-based incentives are critical to Poland's acceptance into the economic structure of Western Europe for several reasons. The first and obvious reason for focusing on the development of preventive market-based incentives in Poland is that the EEC requires such a focus by its members.<sup>170</sup> However, the reason for the adoption of such incentives in Poland lies much deeper than their requirement under EEC law. In December of 1992, the European Community is scheduled to become a unified consumer market.<sup>171</sup> This market will unify approximately three hundred implementing directives, three hundred twenty million people and an annual net purchasing power of approximately \$280 billion.<sup>172</sup> The unification should result in the formation and relocation of many large corporations to Western Europe. If Poland is to have any success in attracting some of these corporations, it must show an immediate willingness to correct its environment.

Second, preventive market-based incentives should be implemented in Poland because they signify *immediate* efforts to match Western European environmental standards. While remediation is a slow and time-consuming process,<sup>173</sup> the effects of preventive market-based incentives are very rapid. Remediation is also a very costly process.<sup>174</sup> Poland does not have the time or money to implement a remedial program throughout the country. Moreover, even if it did possess the time and money, Poland lacks the necessary expertise to

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170. *Id.* at § 5.

171. *Completing the Internal Market*, White Paper from the Commission to the European Council, COM (85) 310. See Jean Thieffly, Philip Van Doorn & Simon Lowe, *The Single European Market: A Practitioner's Guide to 1992*, 12 B.C. INT'L & COMP. L. REV. 357 (1989).

172. G. Nelson Smith, *A Comparative Analysis of European and American Environmental Laws: Their Effects on International Blue Chip Corporate Mergers and Acquisitions*, 14 HASTINGS INT'L & COMP. L. REV. 573, 579 (1991).

173. An example of the remediation process is the United States' Hazardous Substance Trust Fund or "Superfund." Since the enactment of CERCLA in 1980, there have been approximately 1,236 sites listed on the National Priorities List (NPL). See Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. § 7401 (1983 & Supp. 1991); see also *Relief for Lenders Under Superfund Law is Expected in 1991*, BANKING EXPANSION REP., Feb. 4, 1991, at 5; *34 Million to Clean Up the Summit National Dump; State of Ohio and EPA Sign Decree*, BUS. WIRE, June 29, 1990; Robert Rice, *A very profitable practice*, FIN. TIMES, May 15, 1991, at 14. Only 29 of the 1,236 sites have been cleaned sufficiently to be removed from the list. See Robert Rice, *Superfund Clean-up Costs Increasing Rapidly*, FIN. TIMES WORLD INS. REP., April 26, 1991, at 12.

174. For CERCLA sites, a 1986 General Accounting Office report estimated that the average cost for a hazardous waste cleanup was approximately \$25 million. See Smith, *supra* note 172, at 582.

ensure an effective remediation. The result would amount to tremendous waste and redundancy by Polish officials due to the complexity of Poland's environmental problems. The adoption of preventive market-based incentives in Poland would send a clear message to foreign investors that Poland has acted substantively to prevent, and through prevention, to correct its environmental problems. Preventive market-based incentives are therefore more attractive options than remediation efforts in a country as devastated by environmental damage as Poland. Indeed, they are not simply an alternative to remedial cleanups, but rather a prerequisite to remediation in general.

#### X. ENVIRONMENTAL AUDITING

One of the most important preventive market-based incentives that Poland should implement is the environmental audit. Poland should encourage countries and corporations to conduct environmental audits throughout Poland. Environmental Secretary of the United Kingdom Michael Heseltine has noted that "the most important contribution the West could make to emerging eastern democracies would be to transfer environmental technology, skills and management techniques."<sup>175</sup> However, Poland and its Eastern European neighbors must identify their environmental problems before they may reap the full benefit of such transfers from their Western brethren.

Under Communist rule, most of Poland's environmental problems were concealed from the population. Consequently, a generalized environmental audit would serve three purposes. First, the audit would identify the various environmental problems in Poland and the remedial activities that Poland can implement to reverse some of the damages that Communism has wrought on the Polish environment. Second, the audit would indicate the type of management structure required by an effective environmental program. Third, the audit would provide potential private investors with information concerning Poland's environmental problems. When companies do not know the extent of the environmental problems in a country, they often tend to shy away from any transactions that could expose the company to environmental cleanup costs.<sup>176</sup> This will ring true in Poland, where the government is considering the adoption of a civil liability statute<sup>177</sup> similar to the "polluter pays" provision of the

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175. See *Eastern Europe: Ministers Praise Efforts in East; Reject Idea of Europe-Wide Environment*, INT'L ENV'T DAILY (BNA) July 8, 1991.

176. See Smith, *supra* note 172, at 597.

177. Jeurgensmeyer, *supra* note 156, at 841-42.

SEA.<sup>178</sup> Environmental audits would make it much easier for corporations to distinguish contamination belonging to the corporation's predecessor. Because audits would facilitate a delineation of predecessor contamination, foreign companies would be less susceptible to incur liability. The net effect of environmental audits would be a reduction of corporate concerns surrounding undeserved liability for environmental cleanup fees. Audits are a good example of an effective preventive market-based incentive because they focus on the prevention of harm rather than its remediation.

Implementing environmental audits throughout Poland not only makes sense in the context of prevention, but it also makes sense in the legal and political contexts. The EEC is currently drafting an environmental audit directive.<sup>179</sup> The purpose of the directive is to "promote the use of environmental auditing as a toll for systematic, periodic and objective evaluation of environmental performances."<sup>180</sup> The EEC has proposed the environmental audit as a management tool.<sup>181</sup> To effectively compete with members of the EEC, environmental audits are essential to Poland. Many persons in Poland recognize the need for environmental audits. As noted by Poland's Prime Minister, Jan Krzysztof Bielecki:

We have a lot of damages, done by the system for 45 years. And if we are serious and responsible, we cannot say that overnight it will be solved. If I could add on a very technical and specific point, we usually, especially on the environmental questions, we usually start with a professional environmental audit, which is done by professionals, usually for a firm.<sup>182</sup>

While the policy pronounced by Prime Minister Bielecki is a step in the right direction, substantive private and foreign investment may only be achieved once companies feel secure that their actions will not render them civilly accountable to the Polish government or the EEC. As a consequence, legislation requiring environmental audits in Poland is vital to Polish corporate and economic growth.

## XI. TRAINING

A cost effective preventive market-based incentive is corporate-

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178. SEA, *supra* note 166, at Art 130r(2).

179. Stacy Shapiro, *Eco-Audits Raise Awareness*, BUS. INS., April 22, 1991, at 41. The regulation is entitled "Regulation Establishing a Community Environmental Auditing Scheme for Certain Industrial Activities." *Id.*

180. *Id.*

181. Emma Chynoweth & Debbie Jackson, *European Sector is Set for Sizable Growth*, CHEMICAL WK., Feb. 27, 1991, at 26.

182. *Prime Minister of Poland Talks to Business Audience*, E. EUR. REP., Sept. 23, 1991, at 6.

sponsored training for Polish employees responsible for the development, storage, treatment and disposal of hazardous waste and air toxins. Such training is required in the United States.<sup>183</sup> An understanding of chemical interaction and alternative treatment methods could reduce and even eliminate hazardous constituents. Payment for such training could have been deducted from the taxable income of corporations under Poland's previous Foreign Investment Act.<sup>184</sup> The tax deduction would have been in accordance with Article 27 of Poland's Foreign Investment Law, which provides that donations for socially beneficial purposes are tax deductible.<sup>185</sup> The amount of the tax outlined by Article 29 was significant. "The income of a foreign Shareholder is subject to an income tax of thirty percent, unless international agreements concluded by the Polish People's Republic provide otherwise."<sup>186</sup> Although these Acts have been repealed, such training would be consistent with Section 1 of Article 130(r) of the SEA.<sup>187</sup> Training would help preserve, protect and improve the quality of the environment. Training would also contribute towards the protection of human health and would ensure the prudent use of natural resources.

In sum, training would be of significant benefit to private corporations in Poland because it would allow large corporations access to a cheaper work force than that of Western Europe. Training would also be beneficial to Poland not only because it would help to protect the environment but because it would increase the competitiveness of the Polish work force by giving Polish labor effective and useful tools.

## XII. ELECTRONIC DATA COLLECTION

Another preventive market-based incentive that Poland should adopt is an electronic data system capable of collecting and storing miscellaneous information anywhere from air emissions to hazardous waste manifests. The United States requires the Environmental Protection Agency (hereinafter the EPA) to collect environmental data. The United States' data gathering requirement became prominent with the enactment of the Resource Conservation and Recovery Act (hereinafter RCRA), which requires the Administration of the EPA to "collect, evaluate and disseminate information on the methods and costs of collection and other discarded material management

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183. See 42 U.S.C. § 9601 (1983 & Supp. 1991); 42 U.S.C. §§ 6901-6992k (1983 & Supp. 1991).

184. 29 I.L.M. at 1533.

185. *Id.* at Art. 27.

186. 29 I.L.M. at 1534, Art. 29.

187. SEA, *supra* note 166, at 130r § 1.

practices."<sup>188</sup>

Eastern Europe's electronic infrastructure is poorly developed. The poor communication structure in Eastern Europe has been described by one expert as follows:

One of the things that everybody will tell you is that if you want to create a market economy and be competitive in this world - if you want to trade - you have got to be able to communicate. In Eastern Europe communications is a disaster. If you try to call somebody to do business there, it takes five to ten phone calls. As to faxes, you do not want to see East European faxes; I get them - it is a deciphering operation because half the lines are missing. Western businessmen are not used to that type of standard. Frequently, you send a bid and the price is missing. They say, "Forget it, you're not in the running." A communications infrastructure is what we ought to be funding.<sup>189</sup>

Such arguments obviate the need for privatized investments in automated electronic data banks in Poland. The creation of such data banks would clearly increase corporate proficiency throughout Poland. Moreover, Polish hazardous waste and air emission data would be invaluable to Polish authorities. The easy access and sharing of data base information would minimize Polish costs incurred by the repetitious treatment of sites with similar problems. Poland could develop such electronic automated data systems if funds invested by private enterprises were matched by the United States or EEC members pursuant to Sections 3 and 5 of the SEA.<sup>190</sup> Section 3 provides that available scientific and technical data shall be taken into consideration when determining the most appropriate action to take for the purposes of environmental protection. Because of the magnitude of the information needed to determine what efforts are necessary to clean up Poland, most of the information would be stored on computers. These computers and data bases should be provided in part by the EEC in accordance with Section 5 of the SEA, which states

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188. H.R. REP. NO. 1491, 94th Cong., 2d Sess., pt. 1, at 13 (1976), *reprinted in* 1976 U.S.C.C.A.N. 6238, 6251. The House Report continues as follows:

These will include methods to reduce the volume of waste generated; the existing and developing technologies for energy and materials recovery from discarded materials; their cost, reliability and risk; hazardous waste, damage resulting from disposal of hazardous waste; methods of centralizing or properly treating such hazardous waste; methods of financing resource recovery facilities, sanitary landfills, and hazardous waste treatment facilities; and locating new markets for resources recovered from waste.

*Id.*

189. PRESENT AT THE CREATION: A NEW DEVELOPMENT BANK FOR EUROPE IN THE AGE OF ENVIRONMENTAL AWARENESS, *reprinted in* Proceedings of the Eighty Fourth Annual Meeting of the American Society of International Law, March 28-31, 1990, at 86 (hereinafter NEW DEVELOPMENT BANK).

190. 29 I.L.M. at 1526, Art. 16.

that EEC members should cooperate with third world countries.<sup>191</sup> Matching EEC funds would render private investment in electronic data systems cost effective in the medium and long term. With such systems, the Polish work force would have a greater ability to comply with environmental laws and regulations. Heightened environmental compliance would increase the likelihood of Polish participation in a larger unified Europe. Increased participation of foreign companies in the cheaper Polish work force would result in the realization of a much larger profit margin by private industry. In sum, a company's bottom line would increase as a direct result of private investment in electronic data systems in Eastern Europe.

### XIII. WASTE MINIMIZATION AND RECYCLING

One of the most critical aspects of the establishment of preventive market-based incentives is the development of strategic waste minimization and recycling programs. This is where the primary emphasis of preventive market-based incentives must be placed. Unfortunately, the technical alteration facilities required to implement a waste minimization strategy are extremely expensive. Hence, the success of a corporate or privatized waste minimization and recycling program will depend in great part on financial aid from government institutions and external lending institutions. Many governments and banks recognize that they are indeed the impetus behind the success of recycling and waste minimization programs. The European Bank for Reconstruction and Development (hereinafter the Bank) has decided to invest initial capital of \$10 billion to "promote [the] environmentally sound development of Eastern Europe."<sup>192</sup> The Bank is considered the only international lending body that has an express environmental protection mandate.<sup>193</sup> The Bank was created by industrialized countries to help reconstruct Eastern Europe by granting loans and acquiring shares in joint operations. The Bank has selected three projects for capital participation. One of the sites is the Silesian region of Poland.<sup>194</sup>

Much of the Bank's participation has resulted from the problems that arose after the formation of the Polish Communist regime. As noted by Philippe Sands, Director of the Centre for International Environmental Law:

[S]ince the period of 1944-45 when the World Bank was established, two of the biggest and most significant changes that have occurred in that forty-five year period are, first, the recognition of the significance of the environmental

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191. SEA, *supra* note 166, at Art. 130r.

192. *European Bank Gears Up to Tackle Cleanup of Central, Eastern Europe*, 14 INT'L ENVTL. REP. (BNA) 110 (hereinafter *European Bank*).

193. *Id.*

194. *Id.*

problems facing the planet, and second, - and no one has yet alluded to this - the role of nongovernmental organizations particularly in reference to environmental issues.<sup>195</sup>

Sands concludes by stating that the Bank should give particularly high priority to energy conservation projects and environmentally sound agricultural activities.<sup>196</sup> In sum, the European Bank for Reconstruction and Development has set aside a significant amount of money to encourage waste minimization and recycling because it views Europe as a single, unified entity with a single, unified environment.<sup>197</sup>

The United States has also participated in a waste minimization and recycling program in Poland. In March 1991, the EPA decided how to distribute its \$35 million allocated for fighting pollution in Krakow. It was determined that \$20 million will be used to purchase equipment and to fund projects directed towards alleviating pollution derived from burning high-sulphur coal.<sup>198</sup> Ten million dollars will finance a desulfurization device for a power plant in Skawania, near Krakow which will begin operations in Poland in 1993. The remaining \$5 million will establish an automatic air pollution monitoring network in the region adjoining Silesia.<sup>199</sup>

Such government and private lender participation, however, will only fund a small portion of the total cost represented by the development of waste minimization and recycling facilities. Capitalist countries and lending institutions could encourage corporate participation in waste minimization and recycling by using debt-for-nature swaps. Via such transactions, the countries and banks involved would cancel a portion of Poland's debt in exchange for an equal investment by Poland in conservation or waste minimization and recycling. Similarly, private corporations could use their own hard currency funds to buy a portion of Polish debt at a significant discount. In turn, part of the hard-currency obtained would be used to finance waste minimization and recycling projects in Poland.<sup>200</sup> The

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195. See NEW DEVELOPMENT BANK, *supra* note 189.

196. *Id.* at 91.

197. *Id.* at 88. Sands states: "The simple fact is that Europe's environment is a single environment; it is not a divisible environment, and the Bank for European Reconstruction and Development presents a wonderful opportunity to ensure that the environment of Europe as a whole is taken into account." *Id.*

198. *Officials Reach Agreement on Finances Allocated to Fight Pollution in Krakow*, 14 INT'L ENVTL. REP. (BNA) 142.

199. *Id.*

200. See *Debt-for-Nature Strategy Said to Remain Underused by Countries, Banks*, 14 INT'L ENVTL. REP. (BNA) 276.

entire amount of the debt purchased could be tax-exempt, since recycling and minimization would entice foreign corporations to invest in Poland.<sup>201</sup> In sum, governmental and lending institution financing, combined with debt-for-nature purchases by privatized corporations, could minimize the cost of recycling and waste minimization to private investors and positively impact environmental cleanup and prevention in Poland.

#### XIV. ENVIRONMENTAL PROTECTION THROUGH PROTECTIVE AND REMEDIAL FACILITY DESIGN

Another preventive market-based incentive that Poland could use to entice privatization and environmental cleanup is the active participation of foreign governments, environmentalists and corporations at the design stage of production facility construction. With the use of protective and remedial facility design, foreign governments and environmentalists can ensure that available modern technology is used to minimize the output of pollutants. Such a process should include the severe reduction and ultimate elimination of coal as the major source of energy in Poland. In exchange for the use of best available technologies, Poland could agree to exempt investing corporations from environmental liability, provided the terms of their permits are followed. This type of exemption approach is similar to a recent law enacted in Germany. On March 22, 1991, Germany passed "The Law to Remove Obstacles to Privatizing Businesses and to Promote Investment."<sup>202</sup> Unlike Germany's approach, which only exempts existing hazardous waste sites from liability, Poland's approach should be more expansive. In Poland, both active or inactive waste sites that have used the best available technology should be exempted from liability. The exemption should only be waived if the corporation failed to use agreed upon technology or if it failed to abide by the terms of its permit. If the agreed upon technology or the terms of the permit are not followed, then the corporation will find itself out of synchronicity with the terms of the SEA.<sup>203</sup> Thus, failure to take appropriate corrective action should cause the exemption to be waived.

The conversion of Poland's reliance on coal to a cleaner source of energy would result in a significant number of lost jobs. While many former coal workers might not be placed into newly privatized positions, unemployment numbers could be minimized by enacting a

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201. See *supra* note 152 and accompanying text.

202. Gesetzes zur Beseitigung von Hemmnissen bei der Pricatisierung von Unternehmen und zur Forderung von Investitionen. See *Parliament to Exempt Investors in East From Environmental Liability at Waste Sites*, 14 INT'L ENVTL. REP. (BNA) 162.

203. See generally SEA, *supra* note 166.

preference-eligible law which would give qualified Polish coal workers the first right of refusal for a particular job. Training these preference-eligible workers would be considered a move to protect and improve the environment in accordance with Article 130(r) of the SEA.<sup>204</sup>

#### XV. OTHER TYPES OF PREVENTIVE MARKET-BASED INCENTIVES

While there is no question that the environmental problem in Poland is serious, it would be error for those investing in Poland's cleanup to derive their cleanup standards from American laws. Although most of the environmental problems in Poland have developed over the last forty years, Poland's industrial history reaches back two hundred to three hundred years.<sup>205</sup> Consequently, Poland's environmental problems will be different from those of the United States. Ironically, although the air quality in the southern Polish cities of Krakow and Katowice is among the poorest in the world, it is no worse than the air in Germany's Ruhr Valley or Port Talbot, Wales twenty years ago.<sup>206</sup>

In sum, Poland's legislative emphasis should be placed upon research, education and the reduction of pollution. For example, at least eleven Polish coal mines discharge effluents containing fifty to sixty milligrams of salt per liter.<sup>207</sup> The total output of sodium chloride as a byproduct of the waste water discharged by these Polish mines add up to more than 9,000 tons per day.<sup>208</sup> Poland must conduct research in order to desalinate rivers polluted by coal deposits. Currently, no such technology exists, although several Japanese and Western European countries have unsuccessfully attempted new water processing methods.<sup>209</sup> Saltwater technologies are desperately needed to reduce sulfur dioxide emissions, to remove and treat polluted soil, to develop sludge drainage systems for municipal sewage, to incinerate toxic wastes and to monitor air and water.<sup>210</sup> In addition to developing and implementing new technologies, Poland can

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204. *Id.* at Art. 130r.

205. *Hungary, Poland Said at Top of List for U.S. Aid to Stem Environmental Damage*, 13 INT'L ENVTL. REP. (BNA) 231.

206. *Direct Pollution Control Aid Unnecessary, U.K. Analyst Argues*, 13 INT'L ENVTL. REP. (BNA) 516.

207. *Poland Expects by 2000 to Harmonize Its Standards With the European Community*, 13 INT'L ENVTL. REP. (BNA) 435.

208. *Id.*

209. *Id.*

210. *Id.*

also fine those who discharge pollutants into rivers. Such fines could generate substantial revenues to pay for the development and modernization of treatment plants.<sup>211</sup> Moreover, the fine will deter excessive discharges.<sup>212</sup>

With respect to Poland's air pollution, increased energy prices and a general restructuring of industry should eliminate the worst air pollution problems.<sup>213</sup> In addition, the use of new low emission engines<sup>214</sup> and a reduction of fossil fuel dependency could further ease air pollution.<sup>215</sup> Such policies would enable Poland to adopt EEC environmental standards within the next ten years.<sup>216</sup>

## XVI. FOREIGN GOVERNMENT AND CORPORATE INVESTMENT

From a political perspective, there is little doubt that Western investment in Poland's environmental cleanup would be a good investment. As a preliminary matter, it is obvious that the systematic contamination of clean air, water and land will render Poland's reversal of such pollution substantially dependent upon help from foreign aid and investment. Economically speaking, at present, Poland is very poor. From a political perspective, Poland is a country attempting to convert from Communism to Democracy. The West has rightfully applauded Poland's conversion to democracy. Yet, as the push for democracy continues, so do mass unemployment and food shortages. Taken synergistically, unemployment, food shortages and a contaminated environment have increased psychological anxiety among the government and the people. This has resulted in a lack of stability in the newly formed democratic government. This instability is further augmented by a contaminated food chain and shortened life spans.<sup>217</sup>

Helping Poland clean its environment translates into helping Poland secure democracy. Although Poland is no stranger to democracy, democracy is new and unfamiliar to most Poles today. Instead, Poles today know only Communism and the destruction that Communism and its forced application wrought upon their country. If the West invests in Poland's environmental cleanup, many Poles would visualize democracy as a form of government that, unlike Communism, cares about its people. In essence, such is the true definition of

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211. *Id.*

212. *Id.*

213. *Id.*

214. *Id.*

215. *Economic Considerations in Eastern Europe Dwarf Environmental Concerns, Report Says*, 13 INT'L ENVTL. REP. (BNA) 435.

216. SEA, *supra* note 166, at Art. 130r.

217. *Polish Environmentalist Says Economic, Environmental Recovery Linked*, 13 INT'L ENVTL. REP. (BNA) 330.

democracy.<sup>218</sup> Western countries must recognize that using economic resources for massive East European environmental cleanups will act as more of a deterrent against improper East European political or military actions in the short and medium term than would the construction of nuclear weapons.<sup>219</sup> In other words, the disappearance of

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218. Democracy is legally defined as: "That form of government in which the sovereign power resides in and is exercised by the whole body of free citizens directly or indirectly through a system of representation, as distinguished from a monarchy, aristocracy or oligarchy." BLACK'S LAW DICTIONARY 432 (6th ed. 1990). Derived from this notion is that the free citizens and those that represent them will voice popular concerns and pass laws to protect the people. As noted earlier in the text, the Stalinist regime concentrated on one thing: Communism at all costs. See *supra* notes 1-11 and accompanying text. In other words, the philosophical form of government outweighed any concern of its citizens. Communism is legally defined as: "In the pristine sense, the ownership of the means of production by the community, each member of the community participating in production according to his ability and sharing in the products according to his need." BALLENTINE'S LAW DICTIONARY 231 (3d ed. 1969). This definition supports the argument that the community, not the individual, is important in Communism. The idea that democracy is concerned with individuals is self-evident. Democracy is defined, in layman's terms, as: "A state of society characterized by tolerance toward minorities, freedom of expression, and respect for the essential dignity and worth of the human individual with equal opportunity for each to develop freely to his fullest capacity in a cooperative community." WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 600, def. 6 (3d ed. 1971) (emphasis added).

219. While certain funds must be used to defend the region in the case of potential conflict, much of the military threat has diminished with the demolition of Communism in Eastern Europe. Therefore, what makes this proposal incredibly feasible is the extremely rapid demise of Communism. Very few military or political analysts predicted such a quick fall of Communism. Consequently, most governments probably believed that they would have to continue the arms race. Because of the decreased threat, Western governments are now enjoying a "peace dividend." The legislative history of the Support for East European Democracy Act of 1989, H.R. 3402, 101st Cong., 1st Sess. (1989), most effectively states the strategic interest of the West. It states:

Remarkable change is sweeping across Eastern Europe. Poland and Hungary are taking steps to dismantle communist party rule and state control of the economy. The goal in both countries is to revive economic growth through a reform of government and society based on western models. In an apparent reversal of the Brezhnev Doctrine, the Soviet leadership is allowing Eastern European reformers to pursue their own course.

Events unthinkable just a year ago are now taking place in Poland and Hungary. In June, opposition candidates from Solidarity defeated the Communist Party in the first free elections in Poland since World War II, winning all but one of the seats in Parliament which were contested. A Solidarity-led government took office in Poland on September 12, 1989. By late September, that government had presented a plan for radical reform of the economy based on free market principles.

In Hungary, the ruling Communist party has changed its official name from "Socialist Workers" to "Socialist," and adopted a platform calling for free markets and free elections. It anticipates being a majority part, either in coalition or in opposition, after elections scheduled for early 1990.

The key question for the United States is how best to support this process of reform in Eastern Europe. The committee believes that the United States has

aid that promotes healthy food and a healthy environment would likely draw more of a public outcry in Poland than a weapons build-up, *per se*.<sup>220</sup>

Much of the cost of clean-up could readily be absorbed by Western governments. A small shift in some of the appropriation for defense in Western Europe would accomplish much. Western and East European countries could severely cut border guard appropriations and shift the savings to environmental cleanup efforts. Furthermore, since this money has been appropriated for the "defense" of East Europe since World War II, the cost of such an investment would constitute little or no increase in capital expenditures.<sup>221</sup>

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a strong national interest in supporting, consolidating, and furthering economic and political evolution in Eastern Europe.

Developments in Poland and Hungary offer the United States an unprecedented opportunity. U.S. foreign policy is beginning to achieve goals sought in Eastern Europe since the 1940s - free elections and free markets. The stakes for the United States are much higher than simply reform in Poland and Hungary. These two countries can serve as a model not only for the Soviet Union and other Eastern European countries in transition from communist rule to democracy, but for other non-democratic regimes as well.

A peaceful realignment of Eastern Europe in the direction of political and economic freedom - the kind of reform now taking place in Poland and Hungary - is a decisive shift in the global balance of power. It is a shift that favors the U.S. interests. Such dramatic reform in Eastern Europe also may result in a diminution of the Soviet threat and in the future make possible a reduction of military forces in Eastern and Central Europe.

The committee is convinced that the dramatic changes in Eastern Europe offer exciting opportunities for the United States. Western support cannot ensure that reform in Poland and Hungary will succeed, but the committee believes that the United States has an obligation to support reform in Eastern Europe, on behalf of our strategic interests as well as the values in which we believe.

H.R. REP. NO. 278, 101st Cong., 1st Sess., pt. 2, at 1-3 (1989), *reprinted in* 1989 U.S.C.A.N. 744, 744-45.

220. This statement is based upon the fact that whenever there has been an invasion or government crackdown on individuals attempting to secure democracy in Soviet Bloc countries, Western countries have condemned the actions but never used military force to quash such an invasion. In Poland, for example, the violent suppression of the Solidarity Union was condemned but no military action was ever taken. During the 1956 Hungarian uprising, Soviet tanks attacked the Hungarian populace with no ensuing Western military retaliation. Most recently, Latvia and Lithuania felt the military might and power of the Soviet Union when the Soviet Union attempted to block those countries' political actions. Soviet actions were once again condemned without military repercussions. Such condemnations lacking military action by Western nations could lead conspirators involved in future political uprisings against democracy in Poland to believe their actions would be verbally condemned by the West, but never militarily countered.

221. The United States has begun to recognize the importance of investing in Poland's environmental cleanup. In 1989, Congress passed the Support for East European Democracy Act. Section 502 of the Act provides for environmental initiatives for Poland and Hungary. Title V, § 502, 103 Stat. 1317 (1989) (codified at 22 U.S.C.A. § 5452 (1990)). Section 502 states:

(a) PRIORITY FOR THE CONTROL OF POLLUTION

The Congress recognizes the severe pollution problems affecting Poland and Hungary and the serious health problems which ensue from such pollution. The Congress therefore directs that a high priority be given in the implemen-

Polish cleanup investment incentives are not only governmental,

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tation of assistance to Poland and Hungary, to the control of pollution and the restoration of the natural resource base on which a sustainable, healthy economy depends.

(b) EPA ACTIVITIES GENERALLY

In addition to specific authorities contained in any of the environmental statutes administered by the Environmental Protection Agency, the Administrator of that Agency (hereinafter in this section referred to as the "Administrator") is authorized to undertake such educational, policy training, research, technical and financial assistance, monitoring, coordinating, and other activities as the Administrator may deem appropriate, either alone or in cooperation with other United States or foreign agencies, governments, or public or private institutions, in protecting the environment in Poland and Hungary.

(c) EPA ACTIVITIES IN POLAND

The Administrator shall cooperate with Polish officials and experts to—

- (1) establish an air quality monitoring network in the Krakow metropolitan area as a part of Poland's national air monitoring network; and
- (2) improve both water quality and the availability of drinking water in the Krakow metropolitan area.

(d) EPA ACTIVITIES IN HUNGARY

The Administrator shall work with other United States and Hungarian officials and private parties to establish and support a regional center in Budapest for facilitating cooperative environmental activities between governmental experts and public and private organizations from the United States and Eastern and Western Europe.

(e) FUNDING OF EPA ACTIVITIES

To enable the Environmental protection Agency to carry out subsections (b), (c), and (d), there are authorized to be appropriated \$10,000,000 for the 3-year period beginning October 1, 1989, to carry out chapter 1 of part I of the Foreign Assistance Act of 1961 (22 U.S.C. 2151 and following; relating to development assistance) or chapter 4 of Part II of that Act (22 U.S.C. 2346 and following; relating to the economic support fund). These funds may be used to carry out those subsections notwithstanding any provision of law relating to the use of foreign assistance funds.

(f) DEPARTMENT OF ENERGY ACTIVITIES RELATING TO FOSSIL FUELS

(1) CLEAN COAL

The Secretary of Energy shall cooperate with Polish officials and experts to retrofit a coal-fired commercial powerplant in the Krakow, Poland, region with advanced clean coal technology that has been successfully demonstrated at a comparably scaled powerplant in the United States. Such retrofit shall be carried out by one or more United States companies using United States technology and equipment manufactured in the United States. The Secretary may vest title in any property acquired under this paragraph in an entity other than the United States.

(2) EQUIPMENT ASSESSMENT

The Secretary of Energy shall cooperate with Polish officials and experts and companies within the United States to assess and develop the capability within Poland to manufacture or modify boilers, furnaces, smelters, or other equipment that will enable industrial facilities within Poland to use fossil fuels cleanly. The Secretary may vest title in any property acquired under this paragraph in an entity other than the United States.

(3) AUTHORIZATION OF APPROPRIATIONS

To carry out paragraphs (1) and (2) of this subsection, \$30,000,000 is authorized to be appropriated for the 3-year period beginning October 1, 1989. Not more than \$10,000,000 of the funds appropriated under this paragraph may be used to carry out the requirements of paragraph (1).

but also market-based and corporate. From a corporate perspective, Poland's cost of living, combined with its high rate of unemployment, make its cost of labor dramatically lower than that of Western countries. However, corporations must remember that most of Poland's rivers cannot currently be used for most industrial purposes because of their intense pollution. Therefore, before corporations can take full economic advantage of Poland's cheap labor, they must help clean up Poland's environment.<sup>222</sup>

Moreover, because Polish democracy is in its neonatal stage of re-birth, corporations that invest in Poland's environment early on will develop a strong relationship with the Polish government for decades to come. These investments are critical for Poland, a country desperately trying to employ its people and help jumpstart its economy. More likely than not, the Polish people will remember those who helped them reach those goals. As a consequence, the more a corporation invests in cleaning Poland's environment, the more likely it will be that the Polish government will allow the corporation to expand. With increased expansion will come more jobs for the Polish people, and more political clout for the corporation. In sum, large political gains are to be reaped by corporations that invest in the Polish environmental cleanup.<sup>223</sup>

Finally, and most importantly, those with the ability to clean the Polish environment have a moral obligation and responsibility to do so. People are dying at a massive rate as a result of pollution. Because of the disparity between the rates of Western and Polish deformities, birth defects, and death, it is extremely difficult for Westerners to comprehend the severity of the problem in Poland. However, the problem is as severe as it is real. With twenty-five per-

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(g) PRIORITY FOR EFFICIENT ENERGY USE

In view of the high energy usage per unit of output in Hungary and Poland, the Secretary of Energy shall give high priority to assisting officials of Poland and Hungary in improving the efficiency of their energy use, through emphasis on such measures as efficient motor, lights, gears, and appliances and improvements in building insulation and design.

(h) ALTERNATIVE INVESTMENTS IN ENERGY IN HUNGARY.

It is the sense of the Congress that the Executive branch should work with the Government of Hungary to achieve environmentally safe alternative investments in energy efficiency, particularly with regard to projects along the Danube River.

*Id.* at 1317-18. See also *U.N. Report Says Western Help Needed to Battle Pollution in Eastern Europe*, 13 INT'L ENVTL. REP. (BNA) 487.

222. See *supra* notes 46-63 and accompanying text.

223. New laws in Poland allow 100 percent foreign equity ownership. The laws also allow corporations to hire as many employees as they want and to set salary policies. Laurie M. Brank, *Perestroika in Eastern Europe: Four New Joint Venture Laws in 1989*, 20 LAW & POL'Y INT'L BUS. 1, 18 (1989). However, while these laws may be in effect technically, whether the laws are actually followed by the Polish government remains a political issue. Ensuring that these laws are followed from a practical political standpoint would necessitate a heavy investment in environmental cleanup.

cent of the Polish people facing cancer by the year 2000 and the male life span being shortened dramatically by the effects of pollution, Poland's population will suffer for generations to come if nothing is done to renew the Polish environment. At a minimum, therefore, the environmental clean-up in Poland should occur simply out of respect for mankind. The political and financial advantages of the cleanup further support such action.

#### XVII. PROGRESS IN CLEANING UP THE POLISH ENVIRONMENT

One element that the East European nations have in their favor is an environmental movement that was one of the driving forces behind the overthrow of the Communist system.<sup>224</sup> A poll released in April 1990 revealed that eighty-three percent of the Czechoslovakian respondents considered the environment the "first priority" of the new government.<sup>225</sup> President of Czechoslovakia Václav Havel has agreed and is currently making the environment his top priority.<sup>226</sup> In fact, forty-five percent of the Czech population stated that they would be willing to take a cut in their living standard if environmental protection proves costly.<sup>227</sup>

Poland is also taking steps to clean the environment. In February 1990, the people of Krakow elected Poland's first environmental mayor, whose election both stunned and annoyed the Solidarity movement, which leads the new Polish government.<sup>228</sup> At present, the deputy mayor of Krakow possesses the power to close polluting plants.<sup>229</sup> Moreover, the deputy mayor has promised to reduce production at the steelworks by thirty percent by the end of 1990.<sup>230</sup> Similarly, in Walbrzych, decisions have been made to close three mines, a coking plant and other related enterprises.<sup>231</sup>

Financial support from many countries has been pledged to aid Poland's environmental cleanup. The EEC has agreed to provide \$40 million for Polish and Hungarian cleanups.<sup>232</sup> Germany will forgive Poland's DM 500 million debt in exchange for control of pollution

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224. Arnst, *supra* note 61.

225. Priscilla Panton, *Earth Day: Greening from the Roots Up*, TIME, April 23, 1990, at 76.

226. Arnst, *supra* note 61.

227. *Id.*

228. *Id.*

229. Tye, *supra* note 8, at 21.

230. *Id.*

231. Jacyna, *supra* note 95, at 5.

232. Clover, *supra* note 37, at 8.

headed westward.<sup>233</sup> Sweden has agreed to provide \$45 million.<sup>234</sup> The United States has agreed to give Krakow \$15 million, \$10 million of which will go to refit Krakow powerplants with clean technology.<sup>235</sup> However, the cost of refitting just one plant is approximately \$100 million. Consequently, the U.S. fund is meant more as a gesture to encourage private investment than as a means to reduce environmental harm.<sup>236</sup> At least one Dutch environmental company has taken up the challenge by building hazardous waste incinerators in Poland and Hungary at a price of \$52 million.<sup>237</sup> From 1990 to 1995, the company will coordinate the construction of eight 12,000 metric ton incinerators which will be equally divided between Poland and Hungary. These mobile units will be on line in 1991 and operated entirely by local staff in 1995.<sup>238</sup>

#### XVIII. CONCLUSION

Despite initial steps taken by the Polish government, it remains to be seen whether the efforts are too few and too late. One thing is clear: If it isn't too late, then the steps to save Poland's environment must be immediate and drastic. While efforts to provide financial assistance do not go unnoticed, the amounts donated do virtually nothing to preserve the environment. Because pollution migrates—especially airborne pollution—Europe and the rest of the world must recognize that if they do not take appropriate preventive measures today, Polish pollution will severely affect their environment tomorrow. The European Economic Community and the rest of the world need to take notice of Poland's environmental problems, and realize that unless they take steps to prevent the spread of Poland's pollution, Poland's devastating problems could soon become their own.

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233. James Rogers, *Financing the Environment Forum: The Cost of Cleaning Up*, INST. INVESTOR, July 1990, at 7. At the time of the writing of this article, one U.S. dollar was equivalent to 1.6 German Deutschmarks. WALL ST. J., Mar. 30, 1992, at C1.

234. Battiata, *supra* note 72, at A1.

235. *Id.*

236. *Id.*

237. *Dutch Win East Europe Contracts*, CHEMICAL WK., May 9, 1990, at 36.

238. *Id.*