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## Move Over Drugs, There's Something Cooler on the Black Market - Freon: Can the New Licensing System Stop Illegal CFC Trafficking?

Saleem S. Saab

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## Comments

# Move Over Drugs, There's Something Cooler on the Black Market—Freon: Can the New Licensing System Stop Illegal CFC Trafficking?

## I. Introduction

“Our message today to CFC smugglers is simple: we will find you, we will shut down this black market and we will not let you endanger our ecosystem and our children for a few hundred dollars.”

-Attorney General Janet Reno

On January 9, 1997, Attorney General Janet Reno announced the filing of criminal charges in five districts as part of a nationwide effort to stop the illegal importation of chlorofluorocarbons (“CFC”) into the United States.<sup>1</sup> The charges were the result of the National CFC Enforcement Initiative (“Initiative”), designed to detect and deter CFC smuggling in the United States.<sup>2</sup> The initiative is a joint effort among the Customs Service, Environmental Protection Agency (“EPA”), Internal Revenue Service (“IRS”) and the Federal Bureau of Investigation (“FBI”).<sup>3</sup>

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1. Attorney General Janet Reno, *Statement on CFC Prosecutions*, January 9, 1997 [hereinafter Reno Statement].

2. *Air Pollution: Crackdown on CFC Smuggling into United States Leads to Charges Against Individuals, Companies*, 27 ER 1901, Jan. 17, 1997.

3. See Reno Statement, *supra* note 1.

The Initiative's invention stems from a loophole in the Montreal Protocol on Substances that Deplete the Ozone Layer<sup>4</sup> ("Montreal Protocol"), which entered into force on January 1, 1989.<sup>5</sup> The Montreal Protocol set forth an international effort to reduce and phase out production of ozone depleting chemicals ("ODC").<sup>6</sup> Under the Montreal Protocol, CFCs have been banned from production and use in developed countries, such as the United States, since January 1, 1996.<sup>7</sup> However, developing countries, such as Mexico, Russia, China, and India, can lawfully produce CFCs until 2006.<sup>8</sup> In addition to high excise taxes on CFC imports, this current prohibition on CFC production mixed with low production costs in developing countries provides unscrupulous individuals with a strong economic incentive to traffic in illegal CFCs.<sup>9</sup> As a result, a growing black market in CFCs has emerged in the United States.<sup>10</sup>

This black market is a current significant problem for policy-makers on both the domestic and the international level. In the last three years, smugglers have brought sixty million pounds of bootleg CFCs with a street value of \$1.5 billion into the United States.<sup>11</sup> CFC smuggling currently ranks second to narcotics.<sup>12</sup> In some areas of the country, illegal CFCs even have a higher profit ratio than cocaine.<sup>13</sup> It is not surprising, then, that there

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4. United Nations: Protocol on Substance that Deplete the Ozone Layer, *adopted and opened for signature* Sept. 16, 1987, 26 I.L.M. 1541 (1987) (*entered into force* Jan. 1, 1989) [hereinafter Montreal Protocol]; *adjusted by* the London Amendments, June 29, 1990, 30 I.L.M. 537, and by the Copenhagen Amendments Nov. 23-25, 1993, 32 I.L.M. 874.

5. *Id.* Until this past decade, the need to protect the environment on an international level had not been recognized. David R. Kracke, *Look to the Sky: Atmospheric Applications of International and Domestic Law*, 2 FALL INT'L LEGAL PERSP. 21, 24 (1989). The Montreal Protocol represents the first international response to a specific environmental problem. *Id.* at 25.

6. Global Resources, *Understanding Ozone Depletion* (visited Nov. 13, 1997) <<http://www.ucsusa.org/global/ozone.html#policy>> [hereinafter *Understanding*].

7. See United Nations: Montreal Protocol on Substances that Deplete the Ozone Layer—Adjustments and Amendments, Nov 23-25, 1992, 32 I.L.M. 874, 876 [hereinafter Copenhagen Amendments].

8. *Id.*

9. Global Resources, *Ozone Depletion Policy Briefing* (visited Nov. 13, 1997) <<http://www.ucsusa.org/global/ozonebackpol.html#illegal>> [hereinafter *Ozone Depletion*].

10. *Id.*

11. David Sheff, *The Chilling Effect*, OUTDOOR MAGAZINE, Aug. 1997, at 91.

12. *Id.* at 96.

13. See Reno Statement, *supra* note 1.

have been CFC-related mob activity, international incidents, and political infighting.<sup>14</sup>

Policymakers have recently attempted to come up with a solution to these problems. Celebrating the ten year anniversary of the Montreal Protocol, the Ninth Meeting of the Parties recently proposed a licensing system to curb CFC smuggling.<sup>15</sup> This comment is broken down into five sections with the general purpose of exploring this licensing solution and recommending alternative approaches to shutting down this black market. This comment continues, in Part II, with a discussion of the ozone layer and gives a brief history of international measures taken to preserve it. Part III narrows the focus to the United States by discussing recent CFC smuggling cases brought under Title VI of the Clean Air Act ("CAA"). Part IV analyzes the licensing proposal and recommends alternative solutions. Part V concludes the comment with a summary of the two best solutions the United States should take to curtail the CFC black market.

## II. The Importance of Stratospheric Ozone and Measures Taken to Preserve It

### A. *Understanding the Ozone*

All life exists in the biosphere.<sup>16</sup> The atmosphere, one of three components of the biosphere, is a mixture of gases and particles that surrounds the Earth.<sup>17</sup> The atmosphere provides us with the air we breathe, retains heat that warms the Earth, and shields us from damaging rays emitted by the sun.<sup>18</sup> The majority of the atmosphere lies in two regions, the troposphere and the stratosphere.<sup>19</sup> The troposphere is closest to the Earth; the

14. Sheff, *supra* note 11, at 92.

15. The Ozone Secretariat, *Meeting of the Parties in Montreal, September 1997* (visited Nov. 13, 1997) <[http://www.unep.org/unep/secretar/ozone/mop\\_4.htm](http://www.unep.org/unep/secretar/ozone/mop_4.htm)> [hereinafter *Ozone Secretariat*].

16. Office of Environmental Citizenship Atmospheric Environment Service, *A Primer on Ozone Depletion—The Environmental Citizenship Series* (visited Nov. 13, 1997) <<http://www.ns.doe.ca/udo/depl.html>> [hereinafter *Primer*]. The biosphere, a thin film of air, water and soil about 15km deep, is divided into three layers, the atmosphere (air), the hydrosphere (water), and the lithosphere (rock and soil). *Id.* This comment only addresses the atmosphere.

17. *Id.*

18. *Id.* The Earth's surface would be too cold to maintain life without this atmospheric blanket of insulation. *Id.*

19. *See Primer, supra* note 16.

stratosphere extends beyond the troposphere.<sup>20</sup> Approximately 90% of all ozone<sup>21</sup> is produced naturally in the stratosphere.<sup>22</sup>

The ozone layer is important because it acts as our planet's sunscreen by protecting all life forms from the sun's damaging ultraviolet rays.<sup>23</sup> Ozone and oxygen in the stratosphere absorb the more dangerous forms of ultraviolet radiation that would otherwise reach the Earth's surface.<sup>24</sup> Ozone also absorbs the infrared radiation that travels from the Earth back to space.<sup>25</sup> The ozone absorbed energy is re-radiated to warm the Earth even further.<sup>26</sup> Because of this greenhouse gas quality, the ozone layer must be maintained to ensure a consistent temperature balance in the atmosphere.<sup>27</sup>

Ozone levels were relatively stable until the 1970's.<sup>28</sup> In 1974, Doctors Sherwood Rowland and Mario Molina first hypothesized that human made chemicals such as CFCs have an extremely adverse effect on the ozone layer.<sup>29</sup> They speculated that CFCs remain in the atmosphere for long periods and react with and destroy ozone molecules.<sup>30</sup> In 1985, their report was corroborated

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20. *Id.*

21. *Id.* Ozone is a less stable form of oxygen. *Id.* Ozone is created when highly energetic solar rays strike molecules of normal oxygen (O<sub>2</sub>) causing the two atoms to break apart. *Id.* If a freed oxygen atom bumps into another O<sub>2</sub> atom, ozone (O<sub>3</sub>) is created. *See Primer, supra* note 16.

22. *Id.*

23. *Id.*

24. *Id.* The shorter the wavelength, the more biologically damaging UV radiation is if it reaches the Earth. *Id.* There are three types of ultraviolet radiation. *See Primer, supra* note 16. UV-A is the least damaging and reaches the Earth in the largest quantity. *Id.* UV-B is potentially very harmful; however, most of the UV-B radiation is absorbed by ozone in the stratosphere. *Id.* UV-C is the most damaging, but all UV-C is absorbed by oxygen and ozone in the stratosphere and never reaches the Earth's surface. *Id.*

25. Gordon Keys, *Atmospheric Ozone* (visited Nov. 13, 1997) <<http://www.commpages.com/globe/ozone.htm>>.

26. *Id.*

27. *Id.*

28. *See Primer, supra* note 16.

29. Sherwood F. Rowland and Mario Molina, *Stratospheric Sink for Chlorofluoromethanes: Chlorine Atom Catalyzed Destruction of Ozone*, NATURE, Vol. 249, 810-814 (1974).

30. Bing Ling, *Developing Countries and Ozone Layer Protection: Issues, Principles and Implications*, 6 TUL. ENVTL. L.J. 91, 92 (1992).

by the discovery of an ozone "hole"<sup>31</sup> over the Antarctic by a British survey team.<sup>32</sup>

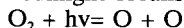
Simply stated, ozone depletion occurs when more ozone molecules are being broken apart than are naturally created.<sup>33</sup> Ozone can be destroyed by chemicals that react with ozone directly, or by those that react with the temporarily freed oxygen atom whenever ozone or normal oxygen atoms break apart.<sup>34</sup> Chlorine and bromine are the halogen atoms largely responsible for ozone destruction.<sup>35</sup> These two atoms are prevalent in human made chemicals such as chlorocarbon compounds ( $\text{CCl}_4$  and  $\text{CH}_2\text{Cl}_2$ ), CFCs ( $\text{CFCl}_3$  and  $\text{CF}_2\text{Cl}_2$ ), and halon compounds ( $\text{CF}_3\text{Br}$  and  $\text{CF}_2\text{CIBr}$ ).<sup>36</sup> Solar ultraviolet radiation breaks these compounds apart in the stratosphere thereby releasing the destructive chlorine and bromine compounds.<sup>37</sup> These released chemicals are extremely dangerous to ozone because they participate in a "catalytic cycle, that is, where one trace chemical can be responsible for destroying tens or even hundreds of thousands of ozone molecules."<sup>38</sup> This catalytic cycle is created because CFCs and halons have an atmospheric lifetime of fifty and several hundred years; their concentrations persist in the atmosphere long after

31. The term ozone "hole" refers to "a large and rapid decrease in the abundance of ozone molecules, not the complete absence of them." See *Primer, supra* note 16.

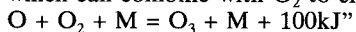
32. *Id.* By 1991, average global ozone values declined by about 3% since 1979. *Id.* The majority of this drop in levels is seen in the Antarctic region where ozone decreases of 60% have been observed. *Id.* In addition, 15% of the Southern hemisphere (about twice the size of Canada) was affected due, in large part, to CFC use and stratospheric winds. *Id.*

33. See *Primer, supra* note 16. The chemical formula for the natural creation and destruction of ozone is as follows:

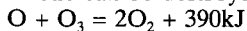
"Sunlight breaks down oxygen molecules to form atoms:



which can combine with  $\text{O}_2$  to create ozone:



Ozone can be destroyed naturally:



See *Keys, supra* note 25.

34. Global Resources, *The Science of Stratospheric Ozone Depletion* (visited Nov. 13, 1997) <<http://www.ucsusa.org/global/ozonebacksci.html>> [hereinafter *Science*].

35. *Id.*

36. *Id.*

37. *Id.*

38. *Id.* It is estimated that one trace chemical can destroy as many as 100,000 ozone molecules before it forms a stable compound and diffuses away. See *Understanding, supra* note 6.

production and emissions of these chemicals has stopped.<sup>39</sup> Because CFCs and halons remain intact, scientists estimate that the ozone layer will not return to "normal" pre-1980 chlorine levels until the year 2060.<sup>40</sup>

Scientists have estimated that this loss of ozone directly contributes to an increase in skin cancers, suppression of the human immune system, disruption to plant life (including reduced yields and increased susceptibility to pests and disease), a reduction in the growth of photoplankton, and a decrease in the number of aquatic species.<sup>41</sup> Because of these adverse effects on the environment, nations have recognized a need to promulgate international rules to reduce the depletion of the ozone layer.

### *B. Global Response to Ozone Depletion*

No global unity of action existed when Rowland and Molina published their report in 1974. The United States was the first country to recognize the need to minimize the use of CFCs when, in 1978, it enacted regulations which banned CFC use in nonessential aerosol products.<sup>42</sup> U.S. legislative action in the 1982 Clean Air Act also sought to control other CFC uses.<sup>43</sup> Other countries, such as Canada, followed the United States' lead by enacting their own regulations to restrict CFC use.<sup>44</sup> These isolated acts by a few countries, however, were not correcting the global problem of ozone depletion.<sup>45</sup> As a result, the United Nations Environment Program ("UNEP") was called upon to take affirmative measures toward limiting international CFC use.<sup>46</sup>

In 1980, the Governing Council of UNEP established a working group to address possible solutions to the growing

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39. See *Science*, *supra* note 34.

40. See *Primer*, *supra* note 16.

41. *Id.*

42. Lori B. Talbot, Comment, *Recent Developments in the Montreal Protocol on Substances that Deplete the Ozone Layer: The June 1990 Meeting and Beyond*, 26 INT'L LAW. 145, 157 (1992). The state of Oregon was the first U.S. jurisdiction to undertake measures to protect stratospheric ozone by prohibiting CFCs in aerosol products. See OR. REV. STAT. §§ 468a.625-.660 (1992).

43. 42 U.S.C. §§ 7450-7459 (1982).

44. Alice M. Noble-Alligire, Comment, *The Ozone Agreements: A Modern Approach to Building Cooperation and Resolving International Environmental Issues*, 14 ILL.U.L.J. 265, 271 (1990).

45. Talbot, *supra* note 42, at 157. Furthermore, the United States was having difficulty enforcing the provisions of the 1982 CAA amendments. See Noble-Alligire, *supra* note 44, at 271.

46. See Noble-Alligire, *supra* note 44, at 272.

international concern about ozone depletion.<sup>47</sup> In May of 1981, UNEP issued the first Resolution to Draft Framework Convention to protect the ozone layer.<sup>48</sup> Thereafter, four years of heated negotiations ensued.<sup>49</sup> This was due in large part to the USEPA's dismissal of the importance of ozone layer protection as just "another environmental scare."<sup>50</sup> Two years later, international interest in protecting the ozone layer escalated as new scientific discoveries negated previously estimated low levels of ozone depletion.<sup>51</sup>

In March of 1985, thirty-six states participated in a conference in Vienna, Austria with the purpose of creating a framework for a coordinated international response to stratospheric ozone depletion.<sup>52</sup> The resulting Vienna Convention for Protection of the Ozone Layer,<sup>53</sup> imposed certain obligations upon adopting states.<sup>54</sup> The Vienna Convention established a schedule for regular party meetings to discuss new scientific discoveries<sup>55</sup> and a process for participating countries to create environmental regulations.<sup>56</sup> Because there was no consensus among the parties as to the specific controls needed, the convention called for the adoption of protocols pursuant to the general obligations of the convention.<sup>57</sup>

47. Kracke, *supra* note 5, at 32.

48. *Id.*

49. *Id.*

50. *Id.* The USEPA, under the Reagan administration, refused to address the issue because they relied on inaccurate scientific data when taking the position to undermine the importance of ozone protection. *Id.*

51. *See* Kracke, *supra* note 5, at 32. In 1983, scientific advancements in measuring the ozone layer combined with increased use of CFCs and growing public concern forced the USEPA to take measures to address the ozone problem. *Id.* at 32-33.

52. *See* Kracke, *supra* note 5, at 33. The term "states" refers to nations. In addition to the thirty-six states which participated, observers were sent from seven other states and seven international organizations. *Id.*

53. Vienna Convention for Protection of the Ozone Layer, Mar. 22, 1985, 26 I.L.M. 1516 (1987) [hereinafter Vienna Convention].

54. *See* Kracke, *supra* note 5, at 33-34. While thirty-six states participated in the convention, only twenty states and the EC adopted it. *See* Noble-Alligire, *supra* note 44, at 272.

55. *See* Vienna Convention, *supra* note 53, art. 6, 26 I.L.M. at 1531-32.

56. *See id.* art. 2, 26 I.L.M. at 1529-30.

57. *See id.* art. 8, 26 I.L.M. at 1538. There were several internal weaknesses in the Vienna Convention. The most important one being that parties to the convention were only bound by their good faith adherence to the convention's provisions. *See* Kracke, *supra* note 5, at 34.



From September 14 to 16, 1987, representatives from fifty-four states met in Montreal to establish a protocol to the Vienna Convention.<sup>58</sup> The result was the Montreal Protocol,<sup>59</sup> “the first concrete global measure to protect the Earth’s atmosphere from possible damage caused by human activity.”<sup>60</sup>

### C. *The Montreal Protocol*

1. *Brief Overview.*—The purpose of the Montreal Protocol is “to protect the ozone layer by taking precautionary measures to control equitably total global emissions of substances that deplete it, with the ultimate objective of their elimination on the basis of developments in scientific knowledge, taking into account technical and economic considerations.”<sup>61</sup> To achieve this goal, the Montreal Protocol establishes a “phase-out period” for ODCs. The phase-out period grants importers baseline production and consumption allowances.<sup>62</sup> These allowances have been steadily reduced from their onset in 1986 to the complete ban on production in 1996.<sup>63</sup> For companies that do not possess baseline production or consumption allowances, the Montreal Protocol allows inter-company trades.<sup>64</sup>

2. *The Montreal Protocol—The Early Years—1987-1990.*—Developing, or Third World, countries<sup>65</sup> were initially reluctant to adopt the Montreal Protocol because they did not view the problem as the result of their actions.<sup>66</sup> Furthermore, economic

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58. See Kracke, *supra* note 5, at 36.

59. Montreal Protocol, *supra* note 4, 28 I.L.M. 1541.

60. Kracke, *supra* note 5, at 37. The Montreal Protocol is based on two premises. First, it is founded on the idea that preventative measures are better than curative measures. Second, it is founded on the premise that industry, governments and environmental groups can work together and agree on a plan to exercise cooperative control measures on a global scale. *Id.*

61. Montreal Protocol, *supra* note 4, 26 I.L.M. at 1551.

62. *See id.*

63. 1996 is the current date for developed countries as amended by the 1992 Copenhagen Amendments discussed *infra*, note 104, at 874.

64. See Montreal Protocol, *supra* note 4, 26 I.L.M. at 1551.

65. Developing countries are those “whose annual calculated level of consumption of the controlled substance is less than 0.3 kilograms per capita on the date of the entry into force of the Protocol for it, or any time thereafter within 10 years of the date of entry into force of the Protocol . . .”. *Id.* at 1555.

66. Ling, *supra* note 30, at 96. Global environmental protection, not limited to stratospheric ozone protection, has been typically viewed as a “rich man’s problem, a rich man’s solution.” Elizabeth P. Barrat-Brown, *Building a Monitoring and Compliance Regime under the Montreal Protocol*, 16 YALE J. INT’L

underdevelopment and the lack of financial, technical and administrative capability dissuaded developing countries from participating in the global regime.<sup>67</sup> To abate some of these concerns, special provisions were granted to developing countries which extend their phase-out period.<sup>68</sup> These special provisions balanced the need for effective control measures with Third World economic interests.<sup>69</sup>

Article 2 of the Montreal Protocol provides a concrete schedule for controlling production and consumption of CFCs and halons.<sup>70</sup> By July 1, 1989, consumption and production of CFCs were to be frozen at 1986 levels.<sup>71</sup> CFC production and consumption levels were to be reduced 20% annually by 1993, and 50% by 1998.<sup>72</sup> Parties were allowed to take more stringent measures than those required by the protocol.<sup>73</sup> Developing countries, however, were granted a 10 to 15% leeway on these figures and a ten-year extension for implementation.<sup>74</sup> The current CFC smuggling problem is largely attributable to this extended phase-out period for developing countries.

Article 4 regulates the trade of ozone-depleting chemicals (ODCs).<sup>75</sup> Article 4 effectively tries to force nonparties to join the protocol and limit their CFC emissions by banning bulk imports of nonparty products that contain the controlled substance or are manufactured with them.<sup>76</sup> Each party to the protocol was to ban imports from nonparties by January 1, 1990.<sup>77</sup> Exports were also controlled by dissuading developed countries from trading with nonparties and prohibiting developing countries from doing so.<sup>78</sup>

L. 519, 534 (1991).

67. Ling, *supra* note 30, at 102.

68. Talbot, *supra* note 42, at 158.

69. *Id.*

70. Dale S. Bryk, *The Montreal Protocol and Recent Developments to Protect the Ozone Layer*, 15 HARV. ENVTL. L. REV. 275, 280 (1991).

71. Montreal Protocol, *supra* note 4, art. 2(1), 26 I.L.M. at 1552. The Parties had until January 1, 1992 to freeze halon at 1986 levels. *Id.* art. 2(2).

72. *Id.* arts. 2(3), 2(4), 26 I.L.M. at 1552-53.

73. *Id.* art. 2(11), 26 I.L.M. at 1554.

74. *Id.* art. 5, 26 I.L.M. at 1555-56.

75. Talbot, *supra* note 42, at 158. Annex A of the Protocol categorizes ozone-depleting chemicals into two groups. Group I lists five targeted CFCs and Group II lists the three targeted halons. Montreal protocol, *supra* note 4, 26 I.L.M. at 1561. Group I and Group II substances are identical to those listed as Class I and Class II in the Clean Air Act.

76. Talbot, *supra* note 42, at 160.

77. Montreal Protocol, *supra* note 4, art. 4, 26 I.L.M. at 1554-55.

78. *Id.* art. 4(2), 26 I.L.M. at 1555.

3. *The Montreal Protocol—After the First Amendments—1990-1992.*—In 1989, scientific assessment of the ozone layer showed that the original schedule calling for a 50% CFC reduction by 1998 was wholly inadequate in solving the problem.<sup>79</sup> Recognizing the inadequacy of the initial protocol, the parties established working group meetings to address the continuous depletion problems.<sup>80</sup> The first of such meetings was held in Helsinki, where the delegates signed the Helsinki Declaration on the Protection of the Ozone Layer (“Helsinki Declaration”).<sup>81</sup> The Helsinki Declaration called for a phase-out of CFCs by the year 2000 and a phase-out of halons as soon as feasible.<sup>82</sup> While the declaration was not binding on the signatories, it represented their intent and goals for the June 1990 formal meeting in London.<sup>83</sup>

Prior to the meeting in London, the parties held a working group meeting in March to discuss amendments to the protocol.<sup>84</sup> A final meeting was held in May to discuss the overall future of the global environment.<sup>85</sup> Here, the delegates signed the Declaration of Environmental Interdependence<sup>86</sup>, which adopted a five-point plan for the June 1990 meeting in London.<sup>87</sup> Furthermore, the declaration also called for establishing financial mechanisms to aid developing countries with their transition costs.<sup>88</sup>

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79. Bryk, *supra* note 70, at 282.

80. Talbot, *supra* note 42, at 158.

81. Helsinki Declaration on Protection of the Ozone Layer, May 2, 1989, 28 I.L.M. 1335 [hereinafter Helsinki Declaration].

82. *Id.*

83. Talbot, *supra* note 42, at 162-63.

84. *See Montreal Protocol: Discussion and Amendments*, 20 ENVTL. POL'Y & L. 75 (1990).

85. *Lawmakers from Around the World Sign Declaration on Global Environment*, DAILY REP. FOR EXEC. (BNA) No. 86, at A-11 (May 3, 1990).

86. Declaration of Environmental Interdependence, *reprinted in* 20 ENVTL. POL'Y & L. 112, 117.

87. *Id.* The five point plan sought to (1) expand coverage of ozone depleting substances, (2) accelerate the previously agreed-upon reduction schedule, (3) limit the growth of HCFCs, (4) eliminate CFCs, halons, CCl<sub>4</sub>, and methyl chloroform as soon as possible but no later than 2000, and (5) eliminate HCFC production as soon as possible, but no later than January 1, 2030. *Id.*

88. *Id.*

The London Amendments<sup>89</sup> adopted the five goals of the Helsinki Declaration.<sup>90</sup> The 1990 London Amendments made the Montreal Protocol the first international treaty where governments pledged to eliminate specific chemicals from the environment while establishing a funding mechanism to aid developing countries in achieving these goals.<sup>91</sup> The London Amendments adopted the following schedule for expedited CFC phase-out and created a funding mechanism for assistance to developing countries:

*a. Accelerated phase out.*—While many of the parties favored a total phase out of CFCs by 1997, pressure from the United States and Japan resulted in a final agreement mandating total elimination of CFC production and use by the year 2000.<sup>92</sup> However, the parties did agree to accelerate the phase out schedules. The new schedule called for a 20% CFC reduction by 1993, a 50% CFC reduction by 1995, an 85% CFC reduction by 1997, and complete reduction by 2000.<sup>93</sup> Developing countries continued to maintain a 10 to 15% leeway in these figures<sup>94</sup> and a ten-year extension for implementation.<sup>95</sup> In addition, the Parties agreed to specific reduction schedules for the other ODCs which had not been phased out in the initial protocol.<sup>96</sup>

*b. Funding mechanism.*—In order to assist developing countries phase out ozone depleting substances, the parties established a Multilateral Fund of \$240 million.<sup>97</sup> In addition to

89. See Montreal Protocol Parties: Adjustments and Amendments to the Montreal Protocol on Substances that Deplete the Ozone Layer, June 29, 1990, 30 I.L.M. 537 [hereinafter London Amendments].

90. Compare Helsinki Declaration, *supra* note 81 with London Amendments, *supra* note 89.

91. See London Amendments, *supra* note 89, art. 2A-2B, 30 I.L.M. at 539-41; Talbot, *supra* note 42, at 162-63.

92. Katya Jestin, *International Efforts to Abate the Depletion of the Ozone Layer*, 7 GEO. INT'L ENVTL. L. REV. 829, 832 (1995). The United States was particularly worried that a 1997 phase-out would not give industry enough time to develop safe alternatives to the ODCs. Talbot, *supra* note 42, at 162.

93. London Amendments, *supra* note 89.

94. *Id.*

95. *Id.*

96. See generally *id.* The ODCs added by the London Amendments include other fully halogenated CFCs (CFC-13, -111, -112, -211, -215, -216, -217), carbon tetrachloride (CCl<sub>4</sub>), methyl chloroform (CH<sub>3</sub> CCl<sub>3</sub>), and HCFCs (HCFC-21, -22, -31, -121, -122, -123, -124, -131, -132, -133, -141, -142, -151, -221, -222, -223, -224, -225, -226, 231, -232, -233, -234, -235, -241, -242, -243, -244, -251, -252, -253, -261, -271). *Id.*

97. Montreal Protocol, *supra* note 4, arts. 10(1), 10(6), 26 I.L.M. at 1560.

facilitating financial and technical cooperation, the fund supports the incremental costs of such phase out acts as information distribution, country-specific studies, workshops, and training sessions.<sup>98</sup> The Multilateral Fund is administered and monitored by the Executive Committee<sup>99</sup> in cooperation with UNEP, the World Bank, the United Nations Industrial Development Organization, and the United Nations Development Program.<sup>100</sup> India and China, developing countries which produced 20,000 tons of CFCs a year at the time of the London Amendments, were designated to receive \$40 million each from the fund.<sup>101</sup> The remainder was to be divided among other developing countries.<sup>102</sup>

4. *The Montreal Protocol—The State of the Law Today—1992 to Current.*—In 1992, the parties met again to discuss accelerated phase-out schedules for the listed ODCs in the Montreal Protocol.<sup>103</sup> The resulting Copenhagen Amendments<sup>104</sup> modified the current phase-out schedule and added two more chemicals to the list.<sup>105</sup>

The new schedule called for a 75% CFC reduction by 1994 and complete reduction by 1996.<sup>106</sup> Developing countries continued to maintain a 10 to 15% leeway in these figures<sup>107</sup> and a ten-year extension for implementation.<sup>108</sup>

The two previously unregulated ODCs added to the list were HBFCS and methyl bromide (CH<sub>3</sub>Br).<sup>109</sup> The Copenhagen

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98. *Id.* at 1560, art. 10(1), 26 I.L.M. at 1560.

99. The Executive Committee consists of seven members from other countries. Bryk, *supra* note 70, at 287. The United States will hold a permanent seat on the committee because it was the largest contributor to the fund (\$40 million). *Id.*

100. Montreal Protocol, *supra* note 4, art. 10(5), 26 I.L.M. at 1560.

101. Bryk, *supra* note 70, at 286-87. Modernization efforts in India and China during this period had led them to invest heavily in CFC based technology. Larry B. Stammer, *Saving the Earth: Who Sacrifices?*, L.A. TIMES, Mar. 13, 1989, at 1. During this period, China had invested in twelve CFC production plants to provide its population of 1.1 billion with refrigerators. *Id.* Similarly, India's CFC use had increased 30 percent per year. Donella Meadows, *New Ozone Accord is One Giant Step for Mankind*, L.A. TIMES, July 8, 1990, at M2.

102. *The Ozone Layer: The Lady Turned*, THE ECONOMIST, July 7, 1990, at 43.

103. See United Nations: Montreal Protocol on Substances that Deplete the Ozone Layer—Adjustments and Amendments, Nov. 23-25, 1992, 32 I.L.M. 874 [hereinafter Copenhagen Amendments].

104. *Id.*

105. *Id.*

106. *Id.* art. 2A-2E, 32 I.L.M. at 875-78.

107. *Id.*

108. Copenhagen Amendments, *supra* note 104, art. 2A-2E, 32 I.L.M. at 875-78.

109. *Id.* art. 2H, 32 I.L.M. at 880-81.

Amendments required developed nations to completely phase-out HBFCs by 1996 and to freeze production of methyl bromide by 1995.<sup>110</sup> As of January 1998, 161 countries are Parties to the Convention and Protocol.<sup>111</sup>

### III. Enforcement of Stratospheric Ozone Protection in the United States

#### A. Introduction

The United States has two primary mechanisms to protect stratospheric ozone. First, the United States pledged its commitment to reduce production and consumption of CFCs and ODCs by signing onto the Protocol and implementing its commitments into the Clean Air Act and the Stratospheric Ozone Protection Regulations.<sup>112</sup> Second, Congress has imposed a federal excise tax on CFC consumption and use in an effort to price CFCs out of the U.S. market.<sup>113</sup>

#### B. Implementing the Montreal Protocol into Title VI of the Clean Air Act

On April 3, 1990, the United States Senate approved the Stratospheric Ozone Protection revision of the Clean Air Act which later became Title VI of the law.<sup>114</sup> Title VI addresses a more aggressive and comprehensive phase out schedule, requires action by the EPA, and imposes trade sanctions to ensure that ODC use will be eventually eliminated.<sup>115</sup> Title VI provisions are more comprehensive than the Montreal Protocol in addressing production freezes, phase-out dates, use restrictions, labeling, recycling, and disposal of products.<sup>116</sup> Under Title VI, the Administrator

110. *Id.*

111. The Ozone Secretariat, *Ozone Treaties* (visited Nov. 13, 1997) <<http://www.unep.org/unep/secretar/ozone/treatie2.htm>>.

112. See Clean Air Act §§ 101-618, 42 U.S.C. §§ 7401-7671q (1994); 40 C.F.R. pt. 82 (1996).

113. See I.R.C. §§ 4681(a), 4682(a) (1996).

114. S. 1630, 101st Cong., 1st Sess. (1990).

115. Talbot, *supra* note 42, at 164.

116. Robert Stewart, *Stratospheric Ozone Protection: Changes Over Two Decades of Regulation*, NAT. RESOURCES & ENV., Fall 1992, at 24-25. For a complete listing of controlled substances and correlating phase-out schedules under Title VI of the Clean Air Act, see 42 U.S.C. §§ 7671a-e.

has the authority to promulgate regulations that are more stringent phase-out schedules.<sup>117</sup>

CFCs are a regulated Class I "controlled substance" under the CAA.<sup>118</sup> The CAA extensively regulates the import, export, production, consumption and transfer of controlled substances.<sup>119</sup> The CAA, however, does not prohibit the domestic sale, trade, or other exchange of controlled substances because a domestic transaction does not involve the "consumption"<sup>120</sup> of a controlled substance as defined in the Act.<sup>121</sup> In domestic transactions where there is no contemplation of producing, importing, or exporting a controlled substance, the CAA requires certain actions to be taken by retailers and consumers to ensure that they are in accord with the provisions of the act.<sup>122</sup>

International CFC transactions are covered under the act because such transactions constitute the consumption of a controlled substance.<sup>123</sup> Producers and importers must obtain production and consumption allowances<sup>124</sup> from the EPA to

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117. 42 U.S.C. § 7671e.

118. 42 U.S.C. § 7671-7671q. Adopted from the Montreal Protocol, the CAA regulates Class I and Class II substances. 42 U.S.C. § 7671a. Class I substances include the five groups of the most potent ozone depleting chemicals, such as CFC-11, -12, -113, -114, -115 (Group 1); halons (Group II), all other fully halogenated CFCs (Group III); carbon tetrachloride (Group IV); and methyl chloroform (Group V). *Id.* Class II substances consist of all hydrochlorofluorocarbons ("HCFCs"). *Id.*

119. *Id.*

120. The term consumption is defined as "the amount of that substance produced in the United States, plus the amount imported, minus the amount exported to Parties to the Protocol." 42 U.S.C. § 7671(6). Similarly, consumption of a controlled substance means the production plus imports minus exports of a controlled substance. 40 C.F.R. § 82.3.

121. 42 U.S.C. § 7671(6).

122. 42 U.S.C. § 7671j. The CAA regulations force persons involved in the domestic transaction to meet record keeping and labeling requirements. *Id.* Specifically, the regulations prohibit any person, including an individual or legal entity from selling or distributing or offering for sale or distribution, any class I or class II substance for use as a refrigerant to any person unless (1) the buyer is certified, pursuant to § 82.161, as a Type I, Type II, Type III, or Universal Technician, (2) the buyer is certified, pursuant to 40 CFR part 82, subpart B, as an automotive air condition repair person, (3) the refrigerant is sold only for eventual resale to certified technicians or to appliance manufacturers, (4) the refrigerant is sold to an appliance manufacturer, (5) the refrigerant is contained in an appliance, and (6) the refrigerant is charged into an appliance by a certified technician or apprentice during maintenance, service or repair. 40 C.F.R. § 82.152; 40 C.F.R. § 82.154(m).

123. See 40 C.F.R. § 82.4(1)-(q).

124. Consumption allowances are privileges granted by the regulatory agency to produce and import controlled substances. 40 C.F.R. §§ 82.5-6, .13 (1991).

engage in these transactions.<sup>125</sup> The EPA maintains a system to track these allowances.<sup>126</sup> Because smuggling affects the consumption allowance, charges against individuals or corporations are brought under Title VI of the CAA.<sup>127</sup>

Failure to comply with the regulations regarding the sale or transfer of a controlled substance can result in substantial civil and criminal penalties. Persons can be liable for civil penalties up to \$25,000 per day for each violation.<sup>128</sup> The number of violations is based on the number of canisters or pieces of equipment which contain the controlled substance.<sup>129</sup> These penalties can become quite exorbitant as eight canisters can bring penalties of \$200,000. Criminally, the violator is subject to a prison sentence of up to five years and additional fines.<sup>130</sup> These criminal fines and penalties are doubled for second offense convictions.

### C. Excise Tax on CFCs

The United States' second enforcement mechanism to protect stratospheric ozone is its imposition of a federal excise tax on CFC consumption and use.<sup>131</sup> The tax, increasing the manufacturer's, producer's, or importer's total cost, is meant to encourage companies to discontinue their use of ODCs.<sup>132</sup> At the same time, the tax gives these companies incentive to develop ozone friendly substitutes.<sup>133</sup>

Congress has steadily increased the excise tax over time.<sup>134</sup> In 1993, the first year the tax was levied, the IRS set the base tax at \$3.35 per pound, which amounted to \$100.50 per standard thirty pound CFC-12 cylinder.<sup>135</sup> The base tax increased to \$4.35 per pound (\$130.50 per standard thirty pound CFC-12 cylinder) in 1994.<sup>136</sup> For the 1995 calendar year, the base tax increased to

125. *Id.*

126. *Id.*

127. See *U.S. v. Omega Refrigeration Corp.*, CR 97-14; *U.S. v. Steinberg*, 97-20-CR-Moore; *U.S. v. Tominelli*, 95-0364-CR-Hurley.

128. 42 U.S.C. § 7413(b)(2).

129. *Id.*

130. 42 U.S.C. § 7413(c)(1).

131. See I.R.C. §§ 4681(a), 4682(a).

132. See I.R.C. § 4681 et. seq.

133. Gregory A. Orlando, *Understanding the Excise Tax on Ozone Depleting Chemicals*, TAX EXECUTIVE, Nov. 1, 1990 at 361.

134. *Putting the Heat on Freon Smugglers*, MIAMI DAILY BUS. REV., Jan. 5, 1996, at A6.

135. I.R.C. § 4681(b).

136. *Id.*



\$5.35 per pound (\$160.50 per standard thirty pound CFC-12 Cylinder).<sup>137</sup> For each calendar year after 1995, the base tax amount is the prior year's base tax increased by forty-five cents.<sup>138</sup> Currently, the base tax is \$6.70 per pound (\$201.00 per standard thirty pound CFC-12 cylinder).<sup>139</sup> The manufacturer, producer, or importer is liable for this tax upon sale of the ODC in the United States and must remit it to the IRS on a quarterly basis.<sup>140</sup>

#### *D. Loopholes and Economic Disincentives Foster a Black Market*

While the excise tax has effectively raised the cost of CFCs, it is largely responsible for the creation of an illegal market in the United States.<sup>141</sup> With eighty million CFC air-conditioned automobiles still on the road, the demand for a cheap source of CFCs is high.<sup>142</sup> Auto shops, who can purchase the illegal CFCs for a price less than the excise tax, are quick to choose the illegal CFCs over the more expensive CFCs from the nation's dwindling stockpile.<sup>143</sup> Such businesses can realize a profit of \$2000 per canister.<sup>144</sup>

In addition to this economic disincentive, the structure of the government tracking system has led to white collar smuggling of

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137. *Id.*

138. *Id.*

139. *Id.*

140. I.R.C. § 4681(b). A violation of the Internal Revenue Code can result in civil fines and penalties, criminal prosecutions, and the confiscation of illegal products. I.R.C. § 7201-7216.

141. Nancy San Martin, *Freon Smuggler Cuts Deal for Cooperation Man Still Faces High Fines*, SUN SENTINEL, Sept. 25, 1996, at 5B.

142. Sheff, *supra* note 11, at 94.

143. *Id.* Smugglers from developing countries can purchase freon for as little as \$2 a pound and still make a profit. James Gerstenzang and Robert L. Jackson, *U.S. Authorities Try to Put Freon Black Market on Ice Probe: Fifteen People are Charged with Smuggling Illegal Air Conditioning Chemical Linked to Depletion of Ozone Layer*, L.A. TIMES, Jan. 10, 1997, at A12. The smuggler can then sell it on the U.S. black market for at least \$20. Angie Cannon, *U.S. Tackles Smugglers of Freon Gas for Air Conditioners*, PHILA. INQUIRER, Jan. 10, 1997, at A5. In 1996, a canister of freon that cost \$160 in Tijuana could get \$600 or more in Santa Ana, CA. Andre Mouchard and Kim Christensen, *Hey, Wanna Buy Some of the Cool Stuff? AUTOS: The Fastest Growing Black Market Isn't Guns or Drugs, It's Freon*, THE ORANGE COUNTY REGISTER, Oct. 13, 1996, at A01. [hereinafter *Cool Stuff*].

144. Sheff, *supra* note 11, at 96. Businesses realize such excessive profits by purchasing the bootleg thirty pound canister of R-12 for \$400 and charging the customer \$80 per pound. *Id.*

CFCs. The EPA regulates the importer's consumption allowance by tracking their purchase and sale of CFC-12 cylinders through bills of lading and other manifests submitted by the importer of the ODC.<sup>145</sup> If the importer represents that the ODC will remain in the United States, he is subject to the excise tax upon sale of the ODC and a reduction in his consumption allowance.<sup>146</sup> The IRS, however, will not levy an excise tax and the EPA will return consumption allowances previously reduced if the manifests represent that the importer is receiving the ODC for transshipment, that is, immediate shipment outside the United States.<sup>147</sup>

#### *E. A New Method of CFC Smuggling Emerges*

The technique employed by unscrupulous individuals to smuggle CFCs into the United States usually requires collusion among several persons. Simply stated, the smuggler supplies the United States government with fraudulent bills of lading. In these bills of lading, the smuggler, who usually purchases the CFC-12 cylinders from an international supplier, fraudulently states that the purchase is for transshipment outside the United States.<sup>148</sup>

Through this transshipment or immediate exportation misrepresentation, the smuggler is able to receive a much lower price for the CFC-12 cylinder because he avoids the ODC excise taxes.<sup>149</sup> The smuggler, however, keeps the CFC-12 in the United States and realizes substantial profit from resale to consumers. At the same time, the international supplier's consumption allowances are returned to him by the EPA, provided the supplier produces within the United States, which allows the international producer to import more freon into the United States.<sup>150</sup>

#### *E. Cases Brought by the United States*

In the last three years, the Customs Service has seized more than 1.5 million pounds of CFCs with an estimated street value of

145. Indictment of R. Colin Dayton, Christopher Farnham, Richard Pelati, Refrigerant Management Services, Inc., and R & C Sales, Crim. No. 97-12, Jan. 9, 1997, at 1-3, E.D. Pa. (on file with the author) [hereinafter Dayton Indictment].

146. *Id.*

147. I.R.C. § 4681 et seq.

148. See Dayton Indictment, *supra* note 145, para. 20 at 9.

149. *Id.* Such ODC excise taxes are inapplicable to purchases for transshipment. *Id.*

150. *Id.*

at least \$18 million.<sup>151</sup> As of October 24, 1997, the United States has brought thirty-seven actions against individuals and corporations for violations of freon smuggling under the CAA.<sup>152</sup> There have been twenty-seven convictions with jail sentences up to fifty-seven months.<sup>153</sup>

The first charges brought under the CAA for CFC smuggling were against Jose Prieto and Paul Zborovsky in February 1995.<sup>154</sup> The indictment charged the men with conspiracy to smuggle and falsification of documents used to show transshipment.<sup>155</sup> Prieto was sentenced to twenty-six months in jail and three years supervised release, while Zborovsky served four months in prison, three years supervised release, and was assessed a \$5,000 fine.<sup>156</sup>

In another highly publicized case, Irma Hennberg was convicted of smuggling 4,000 tons of Russian made R-12 with a street value of \$52 million into the Port of Miami.<sup>157</sup> She had been charged with filing thirty-four false manifests with the U.S. Customs Service.<sup>158</sup> Hennberg was sentenced to 57 months in jail, three years supervised release, and was charged a \$10,000 fine.<sup>159</sup>

In a seventy-count indictment, Bruce Burrell was charged with seventeen criminal CAA violations, twenty-six counts of money laundering, five counts of willful tax evasion and obstruction of justice.<sup>160</sup> The charges stemmed from Burrell's conspiring with codefendant, Casey Raja, to import CFC-12 into the United

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151. See Cannon, *supra* note 143, at A12. While 1.5 million pounds may seem like a startling figure, officials estimate that 20 million pounds actually crossed the U.S. borders illegally last year. Associated Press, *Banned Coolant is a Hot Item for Smugglers*, NEWSDAY, Jan. 10, 1997.

152. CFC Case Info, U.S. Department of Justice Environment and Natural Resources Crime Division—Env't'l Crimes section, Fri. Oct. 24, 1997.

153. *Id.*; see also *Briefs*, PEST & TOX. CHEM. NEWS, Nov. 19, 1997, at 2. The maximum penalty for an individual convicted of freon smuggling is five years in prison and a \$250,000 fine. *CoolStuff*, *supra* note 143, at A01. In big cases, prosecutors typically add charges of money laundering and tax evasion to increase the penalty. *Id.*

154. Anne Day, *Two Accused of Smuggling Freon Into U.S.*, WASH. POST, Jan. 19, 1995, at A9.

155. *Id.*

156. CFC Case Info, *supra* note 152, at 4.

157. Sheff, *supra* note 11, at 96.

158. *Id.* The manifests claimed the gas would be transshipped to Curacao. *Id.*

159. CFC Case Info, *supra* note 152, at 3.

160. See Indictment of Bruce Burrell and Kersi Raja, Crim. No. 95-0757-CR-Serguson. Burrell, who was arrested in Costa Rica, was the first environmental criminal to be extradited to the United States. See *CFC Smuggler Arrested in Costa Rica*, GLOBAL ENV'T'L. CHANGE REP., Dec. 22, 1995, at 4.

States.<sup>161</sup> Both Burrell and Raja were sentenced to one year in jail, two years supervised release, and assessed \$75,000 and \$100,000 fines respectively.<sup>162</sup>

Understanding the technique employed in white collar CFC smuggling is facilitated by an analysis of a grand jury indictment. The following case is the largest charge of freon smuggling to date.<sup>163</sup> The defendants are accused of smuggling approximately 1,572,000 pounds of refrigerant into the United States in 1994 and 1995, earning profits of \$1 million and depriving the Government of excise taxes of \$7,126,200.<sup>164</sup>

### G. *United States v. Dayton*

1. *The Parties.*—The indictment charged three individuals, R. Colin Dayton, Christopher Farnham, and Richard Pelati, and two affiliated corporations, Refrigerant Management Services, Inc. (“RMS”) and R & C Sales, with violating numerous provisions of the Clean Air Act, Title 42, United States Code, Section 7413(c)(1) and 7671c and tax evasion under Title 26 of the United States Code, Sections 4681-82.<sup>165</sup> Dayton, the organizer and leader of the conspiracy to illegally import CFC-12 into the United States, owned and operated RMS, a Pennsylvania corporation located in the Eastern District of Pennsylvania.<sup>166</sup> RMS’s business consisted of selling thirty pound cylinders of CFC-12 to numerous customers throughout the United States.<sup>167</sup> Dayton also owned and operated R & C Sales with coconspirator Farnham in Boca Raton, Florida.<sup>168</sup> R & C Sales sold refrigerant gas to Florida residents.<sup>169</sup>

Codefendant Pelati was employed by National Refrigerants, Inc. (“National”), located in Philadelphia, Pennsylvania.<sup>170</sup> He was in charge of National’s sales and marketing and served as Dayton’s contact at National.<sup>171</sup> Jose M. Diaz, a coconspirator charged in Florida, owned and operated International Refrigerants

161. *Id.*

162. CFC Case Info, *supra* note 141, at 3.

163. John H. Cushman Jr., *U.S. Prosecutors in 6 Cities File Charges of Smuggling Refrigeration Gas*, N.Y. TIMES, Jan. 10, 1997, at A12.

164. Dayton Indictment, *supra* note 145, paras. 26, 27.

165. *Id.* para. 18.

166. *Id.* paras. 11, 12.

167. *Id.*

168. *Id.* para. 13.

169. Dayton Indictment, *supra* note 145, para. 13.

170. *Id.* para. 5.

171. *Id.*

and Commodities, located in Miami.<sup>172</sup> Diaz used his business to purchase CFC-12 on behalf of the named defendants.<sup>173</sup>

2. *The Conspiracy Used to Smuggle CFC-12.*—Dayton was a former employee of National.<sup>174</sup> Dayton asked Diaz to act as a “straw purchaser” because National would not sell to Dayton directly.<sup>175</sup> Dayton’s contact at National, Pelati, handled Diaz’s purchases of CFC-12.<sup>176</sup> When purchasing the cylinders of CFC-12, Diaz misrepresented to National that the CFC-12 would be transshipped through false bills of lading purchased from Irma Hennberg,<sup>177</sup> and other documents.<sup>178</sup> Through these misrepresentations, Dayton and Farnham were able to receive a much lower price that excluded the federal ODC excise tax.<sup>179</sup>

Pelati, knowing that the CFC-12 would remain in the United States, assured Diaz he’d be able to purchase the CFC-12 at prices charged for the transshipment.<sup>180</sup> Diaz, with Pelati’s supervision, submitted the false bills of lading and other documentation to the EPA to have National’s consumption allowances returned.<sup>181</sup> For their part in the conspiracy, Pelati and Diaz were paid cash kickbacks from Dayton and Farnham.<sup>182</sup> In total, the conspirators fraudulently purchased approximately 52,400 thirty pound cylinders of CFC-12 for \$3,738,000, a purchase price which excludes the ODC excise tax.<sup>183</sup>

#### IV. Analysis and Recommended Solutions

The United States Customs Service and other regulatory agencies face inherent obstacles in searching for illegal CFCs.

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172. *Id.* para. 16.

173. *Id.*

174. Dayton Indictment, *supra* note 145, para. 22.

175. *Id.* para. 22.

176. *Id.* para. 23.

177. An overwhelming majority of large-scale seizures have been discovered through “the most time honored of methods: one smuggler finks on another.” Sheff, *supra* note 11, at 123. Nowhere is this more prevalent than in the Dayton case. Dayton and Farnham learned how to smuggle from Burrell and Raja. Dayton Indictment, *supra* note 145, para. 20. Dayton and Farnham purchased false bills of lading from Irma Hennberg for \$5,000 each. *Id.* para. 4. All three were charged and sent to prison.

178. Dayton Indictment, *supra* note 145, para. 5.

179. *Id.* para. 22.

180. *Id.* para. 23.

181. *Id.* para. 25.

182. *Id.*

183. Dayton Indictment, *supra* note 145, para. 9.

Unlike drugs, CFCs, an odorless gas, cannot be detected by trained dogs.<sup>184</sup> In addition, CFC canisters are similar to those used for other legal gases, making border patrolling useless.<sup>185</sup> Even if suspect canisters are found, the smuggler can easily fool a customs agent with a false bill of lading marked for transshipment.<sup>186</sup> Therefore, increasing surveillance at border checkpoints also does not solve these problems.

As a precursor to addressing solutions to the CFC smuggling problem, the United States must receive full bipartisan support for the Montreal Protocol. Recent state legislative actions attempt to undermine international achievements in protecting the ozone layer.<sup>187</sup> Nevada's legislature is negotiating a bill, A.B. 163, that would attempt to override the protocol.<sup>188</sup> The Arizona House passed a similar bill in 1995 that legalized production, sale, and use of CFCs.<sup>189</sup> Both bills, however, have no legal impact as they are superseded by the Clean Air Act.<sup>190</sup>

Aside from promoting bipartisan support, the following section discusses the recently proposed licensing system for CFC trade, and discusses four other potential solutions to curb CFC smuggling. These problem areas include the current tracking and tax system, coordinated transnational police activities, the Multilateral Fund, and uneducated consumers.

#### A. *Licensing System*

At the Ninth Meeting of the Parties to the Montreal Protocol, the parties adopted a new licensing system to control trade.<sup>191</sup> Effective at the start of 2000, this solution will track CFC trade by attaching party licenses to each import and export of CFCs.<sup>192</sup> The system promotes regular information exchange between parties to better enable customs and police officials track trade in CFCs and detect unlicensed trade.<sup>193</sup>

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184. Sheff, *supra* note 11, at 123.

185. *Spanish Companies Implicated in CFC Black Market*, GLOBAL ENVTL. CHANGE REP., Dec. 22, 1995, at 7.

186. Sheff, *supra* note 11, at 123.

187. *See Ozone Depletion*, *supra* note 9.

188. Sheff, *supra* note 11, at 98.

189. *Id.*

190. *See Ozone Depletion*, *supra* note 9. The bills are little more than symbolic of the skeptical views on ozone depletion of the Republican majority. *Id.*

191. *See Ozone Secretariat*, *supra* note 15.

192. *Id.*

193. *Id.*

On its face, the licensing system appears to be a step in the right direction; however, it is not without its faults. The starting date of 2000 is entirely too late. During the two-year moratorium, an estimated forty million pounds of smuggled CFCs may cross U.S. borders with potential release into the atmosphere.<sup>194</sup> Assuming such an international licensing system would work, it must be effective immediately or adverse effects on the ozone layer will be extended even deeper into the next century.

Additionally, it is unclear whether such a system will work in practice. As seen in the United States, such tracking systems have caused clever individuals to figure out a method of beating the system. Without a centralized international regulatory agency, communications among parties may be hindered by bureaucratic red tape. A smuggler may go undetected for years given the time lag created by matching the massive number of licenses from international producers and consumers.

#### *B. Coordinated Multilateral Police Activities*

In order for such a licensing system to work, an agency/organization must be established to coordinate police activities and collate tracked licenses. Interpol chiefly provides the current information exchange service for international law enforcement.<sup>195</sup> Interpol is composed of police agencies representing over a hundred governments.<sup>196</sup> It functions as a central repository for the collection, transmission, and analysis of information on international criminals.<sup>197</sup> The new licensing system should be collated through Interpol because it is already a well-established organization.<sup>198</sup> Starting a new international collating system would take too many years to be effective in the fight against CFC smuggling. Because of its large databases, Interpol would be an especially effective tool against organized CFC smuggling, particu-

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194. See Cannon, *supra* note 143, at A12.

195. Ethan A. Nadelmann, *The Role of the United States in the International Enforcement of Criminal Law*, 31 HARV. INT'L L.J. 37, 46 (1990).

196. *Id.*

197. *Id.* Such information includes names, mug shots, and fingerprints. *Id.*

198. This author notes that Interpol is not without its critics. *Id.* at 47. Some may suggest that the licensing system would burden this service that too often fails to adapt to changing circumstances. *Id.* Nonetheless, Interpol would certainly adapt better than any newly established organization.

larly the Russian mob.<sup>199</sup> Interpol, however, may be ineffective against first time offenders as they have no criminal history.

The United States must make efforts to be a key player in the international fight. First, the United States should establish an Ozone Depleting Chemical Enforcement Agency ("ODCEA") modeled after the Drug Enforcement Agency ("DEA").<sup>200</sup> While the current National CFC Enforcement Initiative is a step in the right direction, it is not coordinated enough on the local level to defeat this crime. The ODCEA should constantly communicate with local law enforcement officials, provide training and undertake joint CFC enforcement operations with local police, lobby for changes in local laws to facilitate enforcement objectives, and establish programs to educate consumers. (see Consumer Education section below).

Second, the United States needs to modify its tracking system. American owned international CFC producing industries must submit manifests to the United States governmental agencies.<sup>201</sup> The governmental agency would then match importer's and supplier's manifests. If the importer's is marked for transshipment and the foreign supplier's is marked as a sale, then the importer is most likely smuggling. This process would make it easier to catch white-collar CFC smugglers. Criminals, like those in *Dayton*, would be prevented from illegally importing CFCs much earlier than the current system provides.

### C. Adjust the Tax System

The excise tax only fosters the black market because an exception exists for transshipment. If this element is removed from the equation, the problem may be solved. By taxing CFCs marked for transshipment, the United States will be effectively cut off as a mid-destination port for CFCs because international producers will be less willing to absorb this additional cost. In turn, the United

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199. Sheff, *supra* note 11, at 96. Currently, Russian factories generate sixty percent of the world's freon with total production capacities estimated at 100,000 tons. *Sweden Contributes to Freon Elimination Project*, OZONE DEPLETION NETWORK ONLINE TODAY, Sept. 10, 1997, available in 1997 WL 7482447.

200. The DEA is the most extensive international presence of any civilian law enforcement agency. Nadelmann, *supra* note 195, at 48. The DEA keeps 250 agents, representing the U.S. interest in international drug control, in sixty cities in forty-four states. *Id.*

201. If the Interpol solution is adopted, the foreign supplier could submit the invoice to the closest Interpol agency. Interpol could then work with each government's tracking system.



States will no longer have to spend as many tax dollars regulating trade for the purpose of returning consumption allowances. Consequently, the black market will be shut off as the price of transhipped CFCs will mirror the price of consumed CFCs. Adjusting the tax system in this manner may reduce and possibly eliminate the need for a licensing and coordinated multilateral policing system.

#### *D. Multilateral Fund and Developing Countries*

There have been numerous funding difficulties since the establishment of this international trust.<sup>202</sup> Because of the funding problems, developing countries have delayed transition to ozone friendly substitutes.<sup>203</sup> The only solution to this problem is to increase privatization of technology transfer to avoid funding inept projects. Private industry, which is reluctant to transfer technology for free because of the amount of resources spent to obtain such technology, must change their views.<sup>204</sup> Developing countries represent important markets for private industry.<sup>205</sup> Companies which aid developing countries have the opportunity to establish themselves in key emerging markets.<sup>206</sup> These companies also enhance their reputation and image through positive exposure in the media.<sup>207</sup>

One such private technology transfer has occurred with complete success. Nortel, a leading global supplier of telecommunications equipment, provided funding for experts to transfer its technologies to companies in Mexico.<sup>208</sup> Nortel provided experts at no charge, funded the travel costs of "key players," and

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202. For example, only \$216 million had been placed in the Multilateral Fund out of the \$393 million promised. *Cash Crisis Cited as Major Threat to Use of Non-Ozone Depleting Substances*, 17 INT'L ENV'T REP. (BNA) No. 21, at 841 (Oct. 19, 1994). In addition, implementing agencies only distributed one sixth of the actual contributed amount, approximately \$25 million, to developing countries. *Id.*

203. *Id.* at 842.

204. See John Ntambirweki, *The Developing Countries in the Evolution of an International Environmental Law*, 14 HASTINGS INT'L & COMP. L. REV. 905, 919 (1991).

205. Deborah Leipziger, *Companies and Non Profits Team Up to Address Global Problems* (visited Nov. 20, 1997), <http://www.accesspt.com/cep/newslets/other/1096.htm>>.

206. *Id.*

207. *Id.*

208. *Id.*

monitored the success of the program.<sup>209</sup> The Multilateral Fund was then called upon solely to fund the project.<sup>210</sup> As a result of this project that took a mere nine months to complete, Nortel has been able to use their environmental leadership as a competitive advantage.<sup>211</sup> Nortel has been able to enter new markets more easily, establish contacts in developing countries, manage risk, and reduce taxes.<sup>212</sup>

#### *E. Increase Education of Consumers*

The government must increase consumer education about CFC smuggling and the resulting dilapidating ozone layer through a nationwide campaign. Similar to the "War on Drugs" campaign during the Reagan Administration, the National CFC Enforcement Initiative (or the proposed ODCEA) should warn consumers that illegal CFCs are impure and may cause damage to the equipment in which they are placed.<sup>213</sup> Through commercials during prime time hours, the EPA should actively inform users that a toll free 800 number exists for general information on CFCs and for reporting illegal CFCs.

The EPA should also provide a service where an end consumer can find a list of mechanics certified by the International Mobile Air Conditioning Association or the Mobile Air Conditioning Society. The service should also inform consumers how to avoid illegal CFCs. Specifically, consumers should ask about the type of CFC being used and its origin. As well, the service should warn consumers to avoid any CFC priced less than \$30 per pound.<sup>214</sup> If the end-user consumers refuse to purchase illegal CFCs, then demand will drop and the black market will be shut off.

Similarly, the government should give people who service CFC-using equipment an incentive to alert the EPA or FBI rather than purchase the illegal CFCs. This can be accomplished through a temporary increase in their consumption allowance or through economic incentives like monetary rewards for voluntarily reporting or excise tax refunds for compliance. Alternatively, the government should consider subsidizing the retrofitting of older cars with

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209. *Id.*

210. *See* Leipziger, *supra* note 206.

211. *Id.*

212. *Id.*

213. *See* *Ozone Depletion*, *supra* note 9.

214. *See* *Cool Stuff*, *supra* note 143, at A01.

ozone-friendly alternatives.<sup>215</sup> This would give consumers an incentive to switch to non-ODCs as the cost of replacing non-ODCs would be cheaper than CFCs.<sup>216</sup>

## V. Conclusion

The Montreal Protocol is the result of an international response to the grave effects of CFCs and ODCs on the environment. Because of its inherent weaknesses, a growing black market in CFCs has erupted in the United States fueled by high excise taxes and continued production in developing countries. In their most recent meeting, the Parties attempted to solve CFC smuggling by adopting an international licensing system, starting in 2000, to track CFCs. This two-year time lag only promotes increased smuggling. Such a program must be effectuated immediately. Furthermore, the program will not work without a concerted and coordinated effort from the global community. This can only be accomplished if all nations consistently report to Interpol.

The United States has two options to curtail the CFC smuggling problem within its borders. It can either adjust the current excise taxing system to include a tax on transshipped CFCs or establish its own coordinated policing activity, like the proposed ODCEA, to enforce the new licensing system. The result of a national program tailored to fight CFC smuggling would be that educated consumers will be less likely to purchase illegal CFCs. In addition, economic incentives such as monetary rewards for reporting smugglers, subsidizing retrofitting of CFC air conditioned automobiles, and returning all or a portion of excise taxes for compliance would aid in shutting down the black market.

Finally, there needs to be an increased effort by private industry to aid developing countries switch to non-ODCs. By transferring technologies, private companies will benefit by establishing themselves in developing markets and enhancing their reputation and image through positive media coverage. The cost of implementing such programs is minimal and can be absorbed by these larger publicly owned companies.

The CFC black market is unique from other black markets in that it not only affects the overall economy but also endangers the environment and the health and welfare of its inhabitants. This

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215. Sheff, *supra* note 11, at 94.

216. *Id.* at 93, 94.

market must be shut down or future generations will suffer the consequences of today's actions.

*Saleem S. Saab*

