

HOW POSITIVE ENVIRONMENTAL POLITICS AFFECTED EUROPE'S DECISION TO OPPOSE AND THEN ADOPT EMISSIONS TRADING

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I. INTRODUCTION

The politics of international environmental regulation can be mystifying. As one scholar, Jonathan Wiener, has noted, environmental regulation is often difficult to explain at the domestic level.¹ It becomes even more baffling when environmental regulation reaches a global scale.² The international management of global warming is no exception.

Currently, greenhouse gas pollution that causes global warming is one of the biggest environmental problems facing regulators. It is international in scope and effect. Most scientists agree that global warming is a dangerous threat that can potentially destabilize the planet if managers do not take action soon.⁴

The international community has been aware of the threat of global warming for decades. The first international treaty to combat

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1. See generally Jonathan Baert Wiener, *On the Political Economy of Global Environmental Regulation*, 87 GEORGETOWN L.J., 749 (1999).

2. *Id.*

4. PEW CTR. ON GLOBAL CLIMATE CHANGE, GLOBAL FINGERPRINTS OF GREENHOUSE WARMING: A SUMMARY OF RECENT SCIENTIFIC RESEARCH (2006), available at <http://www.pewclimate.org/docUploads/>

Pew%20Center%5FGlobal%20Fingerprints%5F3%2E06%2Epdf; INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS: SUMMARY FOR POLICYMAKERS, CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 5 (Feb. 2007), available at <http://www.ipcc.ch/SPM2feb07.pdf>; Juliet Eilperin, *Debate on Climate Shifts to Issue of Irreparable Change*, WASH. POST, Jan. 29, 2006, at A1.

global warming, the United Nations Framework Convention on Climate Change (UNFCCC), was signed in 1992 and went into effect in 1994.⁵ Since that time, however, countries have had a hard time agreeing on the best solution to reduce greenhouse gases. The United States initially pushed for international emissions trading as the best approach. More recently for the United States, however, inaction has become the norm when it comes to global warming. Legislators have hesitated to proceed authoritatively, fearing that no plan will decrease global emissions in a way that protects the U.S. economy.⁶

The European Union (E.U.), on the other hand, has become one of the biggest proponents for trading. In 2005, the European Union launched a greenhouse gas Emissions Trading Scheme (ETS), the largest emission trading program in the world.⁷ The trading system is a market solution to greenhouse gas emissions. Governments set a cap for overall emissions, but allow industry to trade allowances in an open market, so that the emitters with the most efficient means of reducing pollution act first.⁸

Even so, the E.U. has not historically championed emissions trading. At first, the European Commission did not favor a market approach to global warming, but instead supported a uniform emissions tax for polluters. In fact, the E.U. rejected the notion of an ETS even up until 1999.⁹ But once European managers caught on to the idea of emissions trading, they did not hesitate to prepare and institute a global market for greenhouse gas emissions.¹⁰

In some ways, the E.U.'s reaction to global warming aligns with its typically proactive stance in the face of risk. Many commentators have noted that Europe often acts quickly and informally to tackle

5. Lavanya Rajamani, *Re-Negotiating Kyoto: A Review of the Sixth Conference of Parties to the Framework Convention on Climate Change*, 2000 COLO. J. INT'L ENVTL. L. & POL'Y 201, 202-03.

6. Instead of enacting regulatory measures to decrease greenhouse gases, the United States has chosen to rely on voluntary reductions from businesses. The United States has also encouraged the development of cleaner technologies. Miranda A. Schreurs, *The Climate Change Divide: The European Union, the United States, and the Future of the Kyoto Protocol*, in GREEN GIANTS?: ENVIRONMENTAL POLICIES OF THE UNITED STATES AND THE EUROPEAN UNION 207, 219-22 (Norman J. Vig & Michael G. Faure eds., 2004).

7. Susan J. Kurkowski, Note, *Distributing the Right to Pollute in the European Union: Efficiency, Equity, and the Environment*, 14 N.Y.U. ENVTL. L.J. 698, 699 (2006).

8. Joe Kruger & Christian Egenhofer, *Confidence Through Compliance in Emissions Trading Markets*, SUSTAINABLE DEV. L. & POL'Y Winter 2006 (Vol. VI) 2, 2.

9. See *infra* notes 11-23 and accompanying text.

10. *Id.*

environmental issues without worrying about whether a solution will exactly fit the problem.¹¹ But, the trading scheme does not completely conform to European ideology. Europe has not often favored market solutions for environmental problems, relying instead on actions that control pollution from the top down.¹² The E.U. performed an extreme about-face when it shifted its focus from a command and control approach (e.g. tax) to a cap-and-trade solution. Something that was initially unpleasant¹³ for Europe became the ideal solution almost overnight.

The E.U.'s new ETS thus presents some interesting questions. What caused Europe to change its mind so quickly regarding the best solution for global warming? Did political factors cause Europe to act too fast in developing its emissions trading program instead of fully evaluating the costs and benefits to ensure that its trading approach would provide the best solution? This paper attempts to address these questions by first considering the political climate surrounding the E.U.'s sudden change of heart and then analyzing the E.U.'s assessment of its emissions trading program. I argue that Europe's decision to invest in emissions trading involved a number of factors, but largely arose because it was a way for Europe to gain advantages over other countries in the global greenhouse gas market. Further, rent-seeking politics may not have led Europe toward the perfect solution "with emissions trading, but the E.U. has fully invested itself into the ETS process, constantly readjusting its program when it finds problems.

Part II will briefly outline the history leading up to the implementation of ETS in Europe. Part III will discuss the reasons why the E.U. suddenly changed its preferences. Part IV will describe the emissions trading scheme. Part V will address the potential

11. See Ludwig Kraemer, *Development of Environmental Policies in the U.S. and Europe: Convergence or Divergence*, in GREEN GIANTS?: ENVIRONMENTAL POLICIES OF THE UNITED STATES AND THE EUROPEAN UNION 55 (Norman J. Vig & Michael G. Faure eds., 2004). To be sure, the European Union does not always act swiftly in the face of environmental uncertainty. The reality of European action is much more complex when analyzed on a closer level. See generally Jonathan B. Wiener, *Whose Precaution After All? A Comment on the Comparison and Evolution of Risk Regulatory Systems*, 13 DUKE J. COMP. & INT'L L. (SPECIAL ISSUE) 207 (2003).

12. Inho Choi, *Global Climate Change and the Use of Economic Approaches: The Ideal Design Features of Domestic Greenhouse Gas Emissions Trading with an Analysis of the European Union's CO₂ Emissions Trading Directive and the Climate Stewardship Act*, 45 NAT. RESOURCES J. 865, 896-97 (2005) (describing the general preference among the European public for pollution taxes over emissions trading).

problems and pitfalls of Europe's approach. Finally, Part VI will discuss whether Europe acted too quickly.

II. THE ROAD LEADING UP TO THE E.U. ETS

In 2003, the E.U. adopted a directive to initiate emissions trading within the E.U. and in 2005, the E.U. was the first state to officially begin operating an ETS for greenhouse gas emissions.¹³ Today, Europe is one of the biggest proponents of a global trading market as a way to alleviate global warming.¹⁴ But the E.U. has not always been in favor of trading. During most of the 1990s, the E.U. adamantly opposed market mechanisms as environmental regulatory options.

After the United Nations Framework Convention on Climate Change (UNFCCC) went into effect in 1994, the E.U. attempted to block emissions trading as a method to reduce greenhouse gas pollution. At the first Conference of the Parties (COP-1) to the UNFCCC in 1995, Japan, Canada, the United States, Australia, and New Zealand lobbied for the inclusion of emissions trading which would allow states flexibility in meeting UNFCCC targets.¹⁵ European countries stood in opposition to those proposals, preferring hard-nosed approaches like a community-wide carbon tax.¹⁶ During negotiations at subsequent COPs, the United States and others continued to push for emissions trading as a cost-effective way of combating global warming, but the E.U. continued to oppose such mechanisms.

Even as late as 1997, just before the negotiations in Kyoto, the insistence on emissions trading by the U.S. 'was met with caution from most European countries' because they 'feared that trading might provide a cheap way for the U.S., Canada, Australia, and New Zealand to 'buy' themselves out of their obligations' and because there was 'a certain mistrust of such concepts by continental European countries.'¹⁷

13. Catherine Boemare, Philippe Quirion, & Steve Sorrell, *The Evolution of Emissions Trading in the E.U.: Tensions Between National Trading Schemes and the Proposed E.U. Directive*, 3S2 CLIMATE POL'Y S105, S106 (2003).

14. See Atle C. Christiansen & Jørgen Wettestad, *The E.U. as a Frontrunner on Greenhouse Gas Emissions Trading: How Did it Happen and Will the E.U. Succeed?*, 3 CLIMATE POL'Y 3, 4 (2003).

15. Atle C. Christiansen, *The Role of Flexibility Mechanisms in E.U. Climate Strategy: Lessons Learned and Future Challenges.*, 4 INT'L ENVTL. AGREEMENTS: POL., L. & ECON. 27, 28 (2004).

16. *Id.*

17. Edwin Woerdman, *Path-Dependant Climate Policy: The History and Future of Emissions Trading in Europe*, 14 EUR. ENV'T 261, 262 (2004) (quoting S. OBERTHÜR & H.E.

During the negotiations in Kyoto, however, the E.U. eventually conceded to make trading a part of the Kyoto Protocol in order to gain concessions from the United States and Russia concerning emissions targets.¹⁸ Although the E.U. continued to limit the use of emissions trading after the Kyoto Protocol was opened for signature in 1997,¹⁹ there were signs that the E.U. was changing its position.

In 1998, the European Environment Commissioner noted that the E.U. needed to get involved in emissions trading so that other countries did not entirely “dictate the rules.”²⁰ A communication also noted that it might be possible for the E.U. to establish its own trading system by 2005.²¹ In 1999, another communication alluded to the cost-savings of a broad and comprehensive trading system.²² But, it was not until 2000 that the E.U. formally broadcast its acceptance of emissions trading. The E.U. issued a Green Paper that outlined several options for initiating a full trading system.²³ Then in 2001, the Commission issued a formal directive with a proposal for a mandatory system that would allow the trading of carbon dioxide emissions between several industrial sectors.²⁴ The Council of Environmental Ministers upheld the proposal in 2002, and the Parliament endorsed the proposal with some minor changes in 2003.²⁵

E.U. action on emissions trading was relatively fast. After the E.U. issued a proposal for trading, the final directive outlining a plan for the E.U. ETS was finalized only two years later. What’s more surprising is that the ETS gained approval so quickly, considering that the E.U. had spent many years in efforts to oppose the plan.

III. REASONS FOR THE ABOUT-FACE

During the past decade, the E.U. has evolved from an enemy of cap-and-trade to a frontrunner in emissions trading. The change in E.U. policy is noteworthy both for the speed with which it happened

OTT, *THE KYOTO PROTOCOL: INTERNATIONAL CLIMATE POLICY FOR THE 21ST CENTURY* 188-90 (1999))

18. *Id.*

19. *Id.*

20. Jørgen Wettestad, *The Making of the 2003 E.U. Emissions Trading Directive: An Ultra-Quick Process Due to Entrepreneurial Proficiency*, *GLOBAL ENVTL. POL.*, Feb. 2005, at 1, 3.

21. *Id.*

22. *Id.*

23. *Id.*

24. *Id.* at 4.

25. *Id.* at 4-5

and because it resulted in a complete reversal of policy for the E.U. This section will address how this regulatory about-face happened so quickly and the reasons behind the change, briefly summarizing some of the conditions surrounding E.U. action when it instituted an emissions trading approach.

A. Failure of the Carbon Tax

One of the main reasons the E.U. began supporting an emissions trading program is that the carbon tax program it had initially proposed did not have political support. In the early 1990s, the European Commission supported a tax partly because it was difficult for the Commission to ensure uniform implementation and compliance of regulations throughout Europe.²⁶ The thinking was that European governments might have an incentive to oversee a tax if individual governments could derive revenues as a result.²⁷ By the time the Kyoto negotiations began, however, efforts to implement a tax through the European Council of Ministers had failed. A carbon tax did not have support from industry or from certain key European nations like the U.K. and Spain.²⁸

This may have been because a carbon tax provided less flexibility for member states. A carbon tax would have been uniform across Europe in order to create efficiency for the E.U., but E.U. members have varying amounts of pollution and wealth. A tax would impose the same on all countries, rich and poor. Moreover, some members would have been paying a great deal more in taxes than others. Using a trading scheme would improve flexibility. Under cap-and-trade, the E.U. could set one overall cap on emissions, but allocate allowances to each country based on its individual emissions. The E.U. could grant poorer countries more allowances to soften differences in economic impact across member states. Furthermore, trading meant less pressure on industry if the allowances were initially issued for free, whereas a tax (or auctioned allowances) charges industry for all residual emissions.

It should also be noted that when the E.U. started to investigate the possibility of taxes, there were only fifteen member states within the E.U. By the time the ETS was introduced, there were twenty-five members (now there are twenty-seven). More member states meant

26. Kruger & Egenhofer, *supra* note 8, at 3.

27. *Id.*

28. Wettestad, *supra* note 20, at 8.

a greater number of emissions sources. There is some evidence that market mechanisms are more attractive to regulators as the number of regulated sources increase.²⁹ This could be because more sources means a bigger market and more options in terms of trading for the participants. A command and control system is easier to administer when there is homogeneity in the market which is more likely with a smaller number of emitters.³⁰ When the composition of the E.U. changed, it could also have altered the key players involved in negotiations shifting preferences towards emission trading.

Once the Kyoto Protocol was signed, it became clear that an emissions trading scheme was going to happen in the future, because it was an integral component of the Protocol. Under Kyoto, the E.U. had committed to an eight percent reduction of 1990 emission levels by 2012. In order to meet its targets, the E.U. would need a common policy.³¹ Some E.U. member States like the U.K. and Denmark had already begun to develop emissions trading programs in their countries.³² To ensure that all the European nations could operate on a level playing field and to avoid fragmentation, it made sense for the E.U. to change its focus from a top down to a bottom up approach.³³ The E.U. could set up its own trading rules that would apply to the entire European bubble. This harmonization would allow Europe to set the pace for a global trading scheme. At the same time, a flexible market would permit individual nations to retain control over their own trading programs.³⁴

B. Industrial Influence

In addition to the E.U.'s need to reject its tax initiatives, there was a strong pull from the industrial sector to implement an emissions trading program. Although the industry was not enthusiastic about a carbon tax, they began to support market approaches like cap-and-trade in the late 1990s.³⁵ Signaling that trading markets could be

29. See Katrina Wyman, *Why Regulators Turn to Tradable Permits: A Canadian Case Study*, 52 U. Toronto L.J. 419, 497-99 (2002) (describing how governments tend to turn to market mechanisms as the number of pollution sources increase).

30. *Id.*

31. *Id.*

32. Woerdman, *supra* note 17, at 262.

33. Christiansen & Wettstad, *supra* note 14, at 7.

34. See PETER ZAPFEL & MATTI VAINIO, PATHWAYS TO EUROPEAN GREENHOUSE GAS EMISSIONS TRADING HISTORY AND MISCONCEPTIONS 10-11 (2002).

35. Wettstad, *supra* note 20, at 10.

feasible in large industrial sectors, two major oil companies, BP and Shell, even started their own internal emissions trading markets in 1998 and 2000, respectively.³⁶ Furthermore, major non-governmental organizations supported emissions trading schemes in favor of uniform taxes. Overall, there was “general support for emissions trading from a majority of business and industry groups across the E.U.”³⁷

C. *Symbolic Politics*

Perhaps the most jarring event to occur during the E.U.’s decision-making process was the United States’ decision to officially withdraw from Kyoto negotiations in March of 2001.³⁸ U.S. departure meant that the E.U. could become a major entrepreneur in the formation of a global trading market.³⁹ Without the United States in the game, the E.U. could step into the forefront and condemn U.S. politics by posing itself as the champion of the environment.

The United States’ rejection of international efforts also may have united European nations as common allies in the battle against global warming.⁴¹ If the E.U. could implement an ETS, it might serve to rebuild international momentum. If an emissions trading scheme became a success, it could even possibly entice the United States to rejoin the international negotiation table.⁴² The European Union could use an ETS as a diplomatic tool in the future.

D. *Internal E.U. Politics*

Many external factors influenced the E.U. to adopt emissions trading, but internal dynamics also played a role. In the late 1990s and early part of the 21st Century, central commission officials within the Directorate General Environment (DG ENV) started to support emissions trading. One Commissioner, Jos Delbeke, was frustrated by the failure of the carbon tax, and he strongly desired to make

36. *Id.*

37. Christiansen & Wettestad, *supra* note 14, at 9.

38. ZAPFEL & VAINIO, *supra* note 34, at 12.

39. Wettestad, *supra* note 20, at 16.

41. ZAPFEL & VAINIO, *supra* note 34, at 12.

42. See Christiansen & Wettestad, *supra* note 14, at 41; see also David M. Driesen, *Free Lunch or Cheap Fix?: The Emissions Trading Idea and the Climate Change Convention*, 26 B.C. ENVTL. AFF. L. REV. 1, *27 (1998).

emissions trading a success.⁴³ Peter Zapfel, who had studied emissions trading in the United States, joined the Commission in 1998.⁴⁴ Additionally, the commission received feedback from legal advisors and working groups that an emissions trading program could allow the E.U. to “exert control over the climate policy process and pull the E.U. together.”⁴⁵

Favorable internal politics also allowed the Commission to transform emissions trading from a proposal to a formal directive in only two years. In comparison to the carbon tax, the flexibility and cost-effectiveness that an emissions trading scheme promised made it easier for DG ENV to sell their plan to DG Competition and DG Enterprise.⁴⁶ Furthermore, because only a few E.U. member states had started to initiate trading programs on their own, the fear that an E.U. plan might clash with state initiatives was minimal.⁴⁷ Even for those who may have opposed particular components of emissions trading, building a majority would have been difficult due to the complexity and breadth of the plan.⁴⁸ Finally, the commission wisely left controversial decisions about caps and allocations with member states rather than debating them within the commission.⁴⁹

E. Learning from U.S. Experience

Another factor that influenced the European Union's change of heart was the learning process it underwent throughout its participation in the Kyoto process. The United States first introduced the idea of emissions trading during Kyoto negotiations as a way to address climate change.⁵⁰ The White House asked the Department of Justice to compile a report that would detail the advantages of emissions trading based on U.S. experience with trading programs.⁵¹ The final Kyoto Protocol included emissions trading guidelines that were based on advice from U.S. negotiators.⁵² In essence, Kyoto

43. *Id.* at 6; Wettestad, *supra* note 20, at 12.

44. Wettestad, *supra* note 20, at 12.

45. *Id.*

46. *Id.* at 13.

47. *See id.* at 13-15.

48. *See id.* at 13. (citing “declining disagreement” within the Commission because of “push and pull” factors in the proposal and a U.S. “pull-out of the global process”).

49. *Id.* at 14.

50. Jonathan B. Wiener, *Something Borrowed for Something Blue: Legal Transplants and the Evolution of Global Environmental Law*, 27 *ECOLOGY L.Q.* 1295, 1310-1311 (2001).

51. *Id.*

52. *Id.* at 1312-13.

borrowed the legal concept of emissions trading from U.S. national experience. In much the same way, the E.U. was able to borrow the legal structures for trading from both Kyoto and U.S. advisors when designing its own national emissions trading scheme.⁵³

In addition, the European Commissioners consulted directly with U.S. economists about the potential for a trading market in greenhouse gas emissions.⁵⁴ Experts with real-life experience in trading markets were able to give the E.U. advice about the strength and pitfalls of cap-and-trade systems.⁵⁵ Because the clean air trading schemes for SO₂ and NO_x in the United States had already been a success, the E.U. was also more willing to listen to U.S. recommendations.⁵⁶ Additionally, much had been written about the trading programs that were already in existence. The E.U. could use those materials in designing its own ETS. Although the E.U. had been skeptical of trading systems in the past, concrete knowledge about the benefits of cap-and-trade systems may have sparked the E.U. to change its mind.

Overall, there were a number of factors that may have influenced the E.U. to shift its focus from a tax scheme to an emissions trading market, including public perception and economic shifts. However, it appears that the E.U. decided to embrace emission trading largely because it could realize gains for its industry and for its political leaders, both internally and in the eyes of the international community.

The question still remains, however, whether the political process that caused the E.U. to make such a rapid policy shift will also result in environmental benefits. Before discussing the effectiveness of the ETS, it is important to present the trading scheme in more detail.

IV. THE EMISSIONS TRADING SCHEME

Whether all or some of the above factors influenced the E.U. to support cap-and-trade, the E.U. was finally ready to adopt a formal ETS in 2003. The E.U.'s ETS is a groundbreaking environmental achievement. It incorporates twenty-five countries, six different industry sectors, and about 12,000 individual sources of carbon

53. For a thorough discussion of the concept of legal borrowing, see Jonathan B. Wiener, *Better Regulation in Europe* in CURRENT LEGAL PROBLEMS 2006, VOL. 59 (eds. Jane Holder & Colm O'Conneide); see also Wiener, *supra* note 50.

54. *Id.* at 16.

55. Christiansen, *supra* note 14, at 6.

56. Wettestad, *supra* note 20, at 16.

dioxide emissions.⁵⁷ No other cap-and-trade system in history has been so large and covered so many different pollution sources.⁵⁸ In comparison, the U.S. acid rain trading program for SO₂ only covers one industrial sector and about 3,000 sources of pollution. The U.S. NO_x trading system only covers two industrial sectors and about 2,400 sources of pollution.⁵⁹ It is with good reason that critics have questioned whether the E.U. jumped into the ring too soon.⁶⁰ Assuring a successful ETS is going to be difficult due to the novelty of the program. Before discussing the potential pitfalls of an ETS, however, this section will give a brief overview of the E.U. ETS—what it covers and the details of the program.⁶¹

Overall, the E.U. ETS is a flexibility mechanism that promotes the use of energy efficient technology and facilitates trading in order to help E.U. member states in reaching their Kyoto targets.⁶² The E.U. ETS is set to run in phases. The first phase officially started in January of 2005 and is set to run until 2007. After that, the ETS will run in successive five-year phases.⁶³ At the end of every phase, the E.U. will review the process and make amendments.⁶⁴ During the first phase, the ETS will only cover large industrial sectors.⁶⁵ Additionally, the only greenhouse gas that can be traded on the market in the first phase is CO₂.⁶⁶ However, the E.U. will likely

57. PEW CTR. ON GLOBAL CLIMATE CHANGE, THE EUROPEAN UNION EMISSIONS TRADING SCHEME (E.U.-ETS): INSIGHTS AND OPPORTUNITIES 1 (2006), available at <http://www.pewclimate.org/document.cfm?documentID=440> [hereinafter E.U. ETS TRADING SCHEME].

58. *Id.* at 4; Cinnamon Carlarne, *Climate Change Policies and Ocean Apart: E.U. & U.S. Climate Change Policies Compared*, 14 PENN ST. ENVTL. L. REV. 435, 464 (2006).

59. E.U. ETS TRADING SCHEME, *supra* note 57, at 4.

60. *See generally* Wettestad, *supra* note 20.

61. ETS is only one part of the larger E.U. climate change program. The climate change program is an umbrella program that “sets minimum emission reduction requirements for its member states [and] also provides a forum for community-wide coordination, voluntary programs, and trading schemes.” Carlarne, *supra* note 58, at 460. The entire climate change program includes voluntary agreements between the E.U. and European, Japanese, and Korean car manufacturers to produce cleaner automobiles, directives to target energy efficiency through best technology deployment, as well as regulations for pollution and landfills among other things. *Id.* at 461. This paper will only focus on the ETS within the larger climate change program.

62. *See generally* Council Directive 2003/87, 2003 O.J. (L 275) 32 (EC); *see also* Carlarne, *supra* note 58, at 464.

63. E.U. ETS TRADING SCHEME, *supra* note 57 at 7.

64. Joseph Kruger & William Pizer, *Greenhouse Gas Trading in Europe*, 46 ENVIRONMENT 1, 8-10 (2004).

65. E.U. ETS TRADING SCHEME, *supra* note 57 at 7.

66. *Id.*

incorporate more sectors and more greenhouse gases during later phases.⁶⁷

The E.U. ETS incorporates six industrial sectors which cover a range of installations, including electricity and heat production plants with greater than 20MW capacity, oil refineries, coke ovens, metal, ore, and steel installations, cement kilns, glass and ceramics manufacturing plants, and paper, pulp, and board mills.⁶⁸ In total, these industries embody about half of the total CO₂ emissions in the E.U. Notable industries which are not covered in the first phase but may be included later are transportation and building energy.

At its core, the ETS is a system that facilitates the trade of CO₂ allowances. There are a fixed amount of allowances which are distributed to firms at the beginning of every phase and can be traded during that phase.⁶⁹ Firms must relinquish an allowance for every ton of CO₂ emitted each year.⁷⁰ Individual E.U. member states determine the amount of allowances to be distributed in each state and the method of distribution.⁷¹ They are also required to establish electronic registries for allowances. The commission oversees all the registries and monitors for irregularities.⁷² Each member state must detail their allocation decisions in a National Allocation Plan (NAP) that is submitted to the European Commission before the start of each phase. The Commission reviews and analyzes all the NAPs based on eleven criteria including technical aspects, targets, and competition.⁷³ Although some Member States did not submit their NAPs to the E.U. before the start of the first phase on January 1, 2005,⁷⁴ at this time, NAPs from all twenty-five states participating in the first phase have been submitted and approved, albeit with some modifications.⁷⁵ Although banking of excesses allowances is allowed from year to year during the first phase, whether firms can bank from one phase to the next is left to member state discretion.⁷⁶

67. See generally Kruger & Pizer, *supra* note 64.

68. E.U. ETS TRADING SCHEME, *supra* note 57 at 7.

69. *Id.*

70. *Id.*

71. Carlarne, *supra* note 58, at 464.

72. See generally Kruger & Pizer, *supra* note 64.

73. Carlarne, *supra* note 58, at 464.

74. E.U. ETS TRADING SCHEME, *supra* note 57, at 10.

75. Carlarne, *supra* note 58, at 464-65.

76. E.U. ETS TRADING SCHEME, *supra* note 57, at 7-8.

Under the ETS, firms have the ability to opt—out of the ETS if they are using equivalent means to achieve reductions.⁷⁷ Instead of applying to entire sectors, the opt-out option only applies to individual installations, and can only be used during the first phase.⁷⁸ Firms are also able to pool installations within sectors if they want to work together to meet industry targets.⁷⁹ Additionally, member states are able to opt-in additional sources and sectors that are not already covered in the ETS.⁸⁰

The ETS lays out guidelines for monitoring, reporting, and verification of compliance.⁸¹ The guidelines describe different methodologies that are ordered in tiers based on degrees of accuracy.⁸² Although installations are supposed to use the top tier methodologies, they may petition member states to use methodologies from the lower tiers if they show that it is necessary.⁸³ All self-reported emissions must be verified by an independent third party.⁸⁴ Member states may require, however, that firms provide private third party verification in order to reduce the burden on government resources.⁸⁵

The penalties are large if a firm emits more CO₂ than is covered by its allowances—forty Euro per ton of CO₂ emitted in the first phase and 100 Euro per ton after that.⁸⁶ Firms are also required to make up missed reductions in the following year. During the first phase, however, there is one relief.⁸⁷ The European Commission can decide to issue additional, non-transferable allowances to a firm with unusually high emissions if there is a “force majeure” set of circumstances, or an act of God beyond the firm’s control.⁸⁸

Finally, the E.U. has issued a directive that will allow the E.U. to link its ETS to other trading schemes and also to project mechanisms

77. *Id.* at 8.

78. *Id.*

79. *Id.*

80. *Id.*

81. Joseph Kruger, FROM SO₂ TO GREENHOUSE GASES: TRENDS AND EVENTS SHAPING FUTURE EMISSIONS TRADING PROGRAMS IN THE UNITED STATES 14 (2005), available at <http://www.rff.org/Documents/RFF-DP-05-20.pdf>.

82. *Id.*

83. *Id.* at 14-15.

84. E.U. ETS TRADING SCHEME, *supra* note 57, at 8.

85. Kruger, *supra* note 81, at 15.

86. E.U. ETS TRADING SCHEME, *supra* note 57, at 8.

87. *Id.*

88. *Id.*

of the Kyoto Protocol like the Clean Development Mechanism (CDM) and the Joint Implementation Mechanism (JIM).⁸⁹ The E.U. can link to other trading schemes through bilateral agreements. At this time, no linkages to other schemes have been finalized under the directive⁹⁰ although Norway has agreed to link its trading program to the E.U. ETS under the European Economic Area Agreement and is currently awaiting approval from Iceland and Liechtenstein.⁹¹

As for the Kyoto mechanisms, firms can use credits from developing countries under the CDM in the first phase and firms can use credits from other countries under the JIM starting in the second phase.⁹² There is no limit to the CDM credits in the first phase, but after that member states will decide how many CDM and JIM credits they will allow in their NAPs.⁹³

V. POTENTIAL PITFALLS

The E.U. ETS is the first of its kind. It is the largest cap-and-trade program in world history.⁹⁴ It also utilizes a decentralized approach for the setting of caps and the allocation of allowances, as well as the monitoring of industry emissions, something that is relatively novel for cap-and-trade programs.⁹⁵ As a result, the E.U. ETS has been widely criticized.⁹⁶ This section will briefly summarize the major criticisms of the E.U. ETS and potential future pitfalls for the program.

One of the most controversial features of the E.U. ETS is that it leaves decisions about caps and allocation to member states. Leaving such important decisions to the discretion of member states can be dangerous for a number of reasons. First, they might be influenced by political pressure to grant more allowances to industry than they should, meaning less emissions reduction than is needed to meet

89. Council Directive 2004/101/EC, 2004 O.J. (L 338) 18.

90. E.U. ETS TRADING SCHEME, *supra* note 57, at 8.

91. Press Release, The Norwegian Government Accepts to Include the EU Emissions Trading Directive in the EEA Agreement (March 2006), *available at* <http://www.regjeringen.no/en/dep/md/Press-Centre/Press-releases/2006/Norway-accept-EU-Emissions-Trading-Directive.html?id=419857>.

92. *Id.* at 8-9.

93. *Id.* at 9.

94. *See supra* note 58 and accompanying text.

95. *See* Kruger & Egenhofer, *supra* note 8, at 6.

96. *See, e.g.*, Richard N. Cooper, Alternatives to Kyoto: The Case for a Carbon Tax (Nov. 9, 2006) (unpublished manuscript), *available at* http://www.economics.harvard.edu/faculty/cooper/papers/Kyoto_ct.pdf.

Kyoto targets.⁹⁷ There is some evidence that member states have already over-allocated emissions so much that they might have difficulty meeting the reductions required under Kyoto.⁹⁸

Second, member states may try to game the system by granting a large number of allowances to one particular industry in order to gain a competitive advantage in that industry over other member states.⁹⁹ This would be similar to the race to the bottom scenario that is often described when discretion for environmental regulation is left to states of the United States.¹⁰⁰ The fear is that states will race to institute the least friendly environmental regulations in order to attract industry to the state.¹⁰¹ In the case of the E.U. ETS, such gaming may create industry losers who do not have the resources to effectively lobby member state governments for allowances. Additionally, it may again lead to over-allocation for particular industries.

Third, not all E.U. member states have the institutional capacity to effectively allocate and monitor allowances.¹⁰² There will likely be some variability amongst member states in terms of how vigorously they enforce emissions regulations.¹⁰³ Large differences between member states may create inconsistencies that undermine the E.U. ETS by creating an uneven playing field, thus threatening the efficiency of the program.¹⁰⁴ Member states may also differ as to how they accredit third-party verifiers.¹⁰⁵ Already, differences exist between member states regarding the rules for accreditation and verification.¹⁰⁶ If verification differences are significant, allowances could become less valuable because the enforcement of the rights that accompany allowances will be unpredictable.

Another potential pitfall of the E.U. ETS is the process of submitting and reviewing NAPs, which has been an "extremely high profile and contentious process."¹⁰⁷ Because of the above-described

97. Kurkowski, *supra* note 7, at 710-11; Kruger, *supra* note 81, at 15.

98. Kurkowski, *supra* note 7, at 711-16, 717-23.

99. *Id.*; Kruger, *supra* note 81, at 15.

100. See, e.g., Kirsten H. Engel & Scott R. Saleska, *Subglobal Regulation of the Global Commons: The Case of Climate Change*, 32 *Ecology L.Q.* 183, 201-02 (2005).

101. *Id.*

102. Kruger, *supra* note 81, at 15.

103. Kruger & Egenhofer, *supra* note 8, at 11.

104. *Id.*

105. *Id.*

106. *Id.*

107. E.U. ETS TRADING SCHEME, *supra* note 57, at 12.

problems, the European Commission has had to reject NAPs from some member states and has even had to threaten legal action in order to encourage them to speed up the process of making allocation decisions.¹⁰⁸ The difficulty in creating NAPs could cause member states to expend extra administrative costs in order to implement an ETS. In the long run, member states might even become disenfranchised with the entire program.

Aside from the NAPs, another worry concerning the E.U. ETS is the potential for “hot air”, a term to describe empty allowances which do not actually result in any decrease in emissions.¹⁰⁹ A potential source for hot air might come from the Russian Federation.¹¹⁰ The Kyoto Protocol granted Russia extra allowances to sell as an incentive to join Kyoto.¹¹¹ Although the extra allowances are not recognized in the E.U. ETS, member states can still purchase credits from Russia in order to meet Kyoto targets.¹¹² As a result, member states could commit to fewer reductions within the ETS program if they are able to meet Kyoto targets using Russian credits.

The E.U.’s decision to grandfather allowances instead of auctioning them has also been controversial. In the first phase, member states are only allowed to auction up to five percent of allowances; in the second phase, only ten percent may be auctioned.¹¹³ The grandfathering of most of the permits means that current emitters will receive free allowances based on a percentage of their current emissions, rather than having to purchase the allowances during an auction.¹¹⁴ Under this system, new industrial installations will have a difficult time entering the market. New entrants will typically have equal footing with old emitters in a cap-and-trade market if both are forced to purchase allowances at an auction.¹¹⁵ An imbalance emerges in the E.U. ETS system because new entrants will largely be forced to purchase allowances while old emitters will get

108. *Id.*

109. *Id.* at 14-15.

110. *Id.*

111. *Id.*

112. *Id.*

113. Choi, *supra* note 12, at 920.

114. *Id.*

115. Tom Tietenberg, *Tradable Permits in Principle and Practice*, 14 PENN. ST. ENVTL. L. REV. 251, 270-73 (2006).

allowances for free. Member governments may also be losing out on potential revenues that could be derived from auctions.¹¹⁶

VI. DID THE E.U. MOVE TOO FAST?

Considering all the criticism surrounding the E.U. ETS and its high profile status in the international community, it is logical to ask whether the positive politics that caused the E.U. to rapidly adopt emissions trading may have resulted in environmental losses. As stated above, the European Commission turned the ETS from a proposal to a directive at a quick pace. The Commission went from being an enemy of emissions trading to one of its biggest supporters at the same break-neck speed. Nevertheless, the E.U. has not embarked on this unique cap-and-trade program completely blind-folded. The E.U. conducted considerable reviews of the emissions trading process before the official start of the ETS and it has continued those reviews during the two years that it has been in operation.

To begin with, it is important to remember that the E.U. was not working off a blank slate when it started to consider emissions trading in the late 1990s. Emissions trading programs had already been successful in reducing SO₂ and NO₂ in the United States. Many countries had also used cap-and-trade and permit systems to manage a wide variety of resources from fisheries to water.¹¹⁷ Out of these programs grew a large amount of research on flexible market mechanisms as an alternative for environmental regulation.¹¹⁸ Considerable amounts of scholarship and commentary also existed on the costs and benefits as well as the uncertainties associated with different facets of trading systems.¹¹⁹ In reality, the E.U. had a wide array of knowledge to utilize when it designed its own ETS.

In addition to the research that already existed on other trading systems, before issuing a final directive the E.U. commissioned its own studies on the effects of a trading system on E.U. member states as well as the effects of different options associated with a trading scheme.¹²⁰ The E.U. also consulted U.S. advisors with direct experience in trading systems throughout the ETS approval process.¹²¹

116. *Id.*

117. *Id.* at 252-53.

118. Kruger & Egenhofer, *supra* note 8, at 4-5.

119. *Id.*

120. See, e.g., David Harrison, Jr. & Daniel B. Radov, NAT'L. ECON. RESEARCH ASSOCS., EVALUATION OF ALTERNATIVE INITIAL ALLOCATION MECHANISMS IN A EUROPEAN UNION

As a result, the E.U. did take lessons from previous emissions trading systems when designing the E.U. ETS. Even though certain elements of the E.U. ETS have been criticized, there are a number of components which have been applauded. For example, the ETS has extremely tough penalties which make the rights associated with allowances more powerful. The U.S. experience with the SO₂ trading program likely influenced the E.U. to include strong penalties in its ETS.¹²² Part of the success of the SO₂ trading program in the United States is attributable to the strict compliance components of the system.¹²³ The European Commission even cited the compliance record of the U.S. SO₂ program in its draft directive for an ETS.¹²⁴

In addition, the E.U. has wisely chosen to continue its evaluation of the ETS after the program's implementation. The E.U. commissioned McKinsey & Company and Ecofys to monitor and review the program during the first two years of operation.¹²⁵ Recently, those companies released the results of a survey which ran from June to September of 2005 and involved "517 companies, government bodies, industry associations, market intermediaries and NGOs (Non-Governmental Organizations)."¹²⁶ The survey results demonstrated that the E.U. ETS is impacting corporate behavior.¹²⁷ They also showed that the participants were most interested in the long-term variables of the ETS, including the setting of caps and allocation rules into the future.¹²⁸ However, there was no consensus among participants about the best approaches regarding those alternatives.¹²⁹

In November of 2006, the European Commission released a report with a preliminary review of the ETS program since its

GREENHOUSE GAS EMISSIONS ALLOWANCE TRADING SCHEME (2002), available at <http://ec.europa.eu/environment/climat/pdf/allocation.pdf>; P. Capros & L. Mantzos, THE ECONOMIC EFFECTS OF E.U.-WIDE INDUSTRY-LEVEL EMISSION TRADING TO REDUCE GREENHOUSE GASES (2000), available at http://ec.europa.eu/environment/enveco/climate_change/primes.pdf.

121. Wettestad, *supra* note 20, at 16.

122. Christiansen & Wettestad, *supra* note 14, at 11.

123. *Id.*

124. *Id.*

125. McKinsey & Co. & Ecofys, REVIEW OF E.U. EMISSIONS TRADING SCHEME: SURVEY HIGHLIGHTS 1 (2005), available at http://ec.europa.eu/environment/climat/pdf/highlights_ets_en.pdf.

126. *Id.*

127. *Id.* at 2.

128. *Id.*

129. *Id.* at 3.

inception.¹³⁰ The Commission found that ninety-nine percent of firms had fulfilled their emissions reporting requirements for 2005 emissions and that the emissions of greenhouse gases were lower than expected in the first year of the program.¹³¹ At the same time, the commission recognized that the certainty and predictability of the program needs to be improved and that there needs to be more stakeholder involvement.¹³²

In response, the E.U. established a separate working group to examine the E.U. ETS in greater detail.¹³³ The working group will consist of “experts from the commission, member states, academics, industry, and the NGO community.”¹³⁴ The working group will solicit input from interested parties, utilize reports from member states on their ETS experiences, and consult other outside recommendations.¹³⁵ It will be focusing primarily on four topics. First, the working group will investigate whether the ETS directive should increase its scope to include additional industrial sectors and/or greenhouse gas emissions.¹³⁶ Second, it will conduct a complete reassessment of the NAPs and their impact on the consistency within the market.¹³⁷ It will consider the option of instituting a single cap that would apply to all member states.¹³⁸ The working group will also explore whether granting allowances for five-year periods creates enough certainty for potential investors.¹³⁹ Third, the group will consider whether monitoring and compliance should be more consistent between member states in order to improve harmonization.¹⁴⁰ Finally, the working group will study the option of linking the ETS to other trading schemes as well as whether the ETS should continue to

130. *Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee, and the Committee of the Regions: Building a Global Carbon Market – Report Pursuant to Article 30 of Directive 2003/87/EC*, COM (2006) 676 final (Nov. 13, 2006), available at http://ec.europa.eu/environment/climat/emission/pdf/com2006_676final_en.pdf.

131. *Id.* at 3. The report noted that the decrease in emissions could reflect actual reductions, but that they may also reflect an over-estimate of baseline emissions. *Id.*

132. *Id.* at 5.

133. *Id.* at 6.

134. *Id.*

135. *Id.*

136. *Id.* at 7.

137. *Id.* at 7-8.

138. *Id.* at 8.

139. *Id.*

140. *Id.*

recognize credits under the Kyoto Protocol.¹⁴¹ The conclusions of the working group will be translated into legislative proposals and applied to the third phase of the ETS.¹⁴²

The E.U. has also completed a final regulatory impact assessment for the E.U. ETS in compliance with the Better Regulation Initiative and under guidance from the European Commission Impact Assessment Guidelines.¹⁴³ The assessment considers the uncertainties of the E.U. ETS as well as the major benefits and costs of the program. The assessment concludes that the benefits of the program adequately justify the costs.¹⁴⁴

To be sure, the E.U. did not conduct as much regulatory analysis as agencies in the United States usually do when they issue new regulations. In particular, the E.U. did not consider regulatory alternatives in conducting its assessment of the costs and benefits. It also did not integrate as much public participation.¹⁴⁵

Returning to the influence of politics, the question remains whether the E.U. maintained the correct balance between political gains and environmental effectiveness. It could be argued that politics may have allowed the E.U. to achieve the most environmental gains possible at the time. Section III described the confluence of factors that played into the E.U.'s decision to charge ahead with emissions trading. It may be that all those factors together created the "perfect storm" of opportunity for the E.U.. At any other time, an ETS may not have had such broad political appeal or the ability to pass muster with all the E.U. member states. But, in truth, it is still too early to make a sweeping statement. The possibility remains that the E.U. ETS may flounder and ultimately fail as a solution to rising global greenhouse gas emissions.

Even so, the E.U. has conducted an adequate assessment of emissions trading alternatives in order to justify its actions under the ETS. More importantly, the E.U. has continued to re-evaluate and re-assess its ETS at every step. Even though the ETS contains a number of flaws and will continue to experience set backs as it

141. *Id.* at 8-9.

142. *Id.* at 2.

143. *See* PARL. EUR. DOC. (SEC 791) (2005).

144. EUROPEAN COMMISSION, E.U. EMISSIONS TRADING SCHEME FULL REGULATORY IMPACT ASSESSMENT 42 (2005), available at [http://www.defra.gov.uk/environment/climate change/trading/eu/pdf/euets-finalria.pdf](http://www.defra.gov.uk/environment/climate_change/trading/eu/pdf/euets-finalria.pdf).

145. Stephen M. Johnson, *Economics vs. Equity II: The European Experience*, 58 WASH. & LEE L. REV. 417, 450-54 (2001).

evolves, the E.U. has continuously recognized the inadequacy and failings of the ETS as it has progressed. Further, the E.U. is making strides to integrate stakeholder participation throughout the assessment process.

Because the threats from global warming are so ominous, the speed with which the E.U. initiated its ETS is less important than the fact that the E.U. has taken action in the face of risk. The E.U. has not jumped the gun. As the European Commission has stated, the "cost of inaction on climate change potentially has much greater costs than those associated with the implementation and running of the E.U. ETS."¹⁴⁶ Of course, the gravity of the situation requires the E.U. to take extreme care with any action. In a sense, the E.U. is shouldering the burdens of the planet by investing resources into an ETS promise. Even so, it was more important for the E.U. to continue moving swiftly forward in the face of uncertainty rather than freezing up against the enormity of the problem.

In the end, the entire experience of the E.U. ETS has spawned interesting conclusions. First, politics in the E.U. to address climate change can largely be attributed to reducing costs and increasing the likelihood of adoption by heterogeneous member states. Throughout the international negotiation process, the E.U. acted in a way that was most advantageous for itself. Although the E.U. likely had in mind the larger threat of global warming, it directed its policies in a way that created economic and political gains for the E.U. Second, political influences that focus on rent seeking may also result in environmental success, especially when it comes to market mechanisms. The flexible nature of cap-and-trade solutions may allow governments to monitor programs and adjust them for changes in both politics and the environment. Finally, political factors may have different environmental outcomes depending on the varying levels of risk. Global climate change is a unique challenge. Although the E.U. needed to act quickly to address climate change, such headstrong approaches may not be appropriate in all situations.

VII. CONCLUSION

The E.U. ETS is a revolutionary new program that will have far-reaching implications for the world in its attempts to battle global climate change. The development and evolution of the ETS has been fascinating both because of the speed with which it happened and

146. EUROPEAN COMMISSION, *supra* note 143, at 42.

because the E.U. has not consistently been a strong supporter of market mechanisms. There are a number of reasons the E.U. may have turned to emissions trading: because there was no political support for a carbon tax, because there was strong industry backing for a cap-and-trade system, because U.S. experience with market mechanisms had already been successful, or because immediate action was called for after the United States dropped out of Kyoto negotiations.

Whatever the impetus, the E.U. ETS is one of the great environmental policy experiments. Notwithstanding the remaining hurdles, the E.U.'s experience demonstrates that international environmental politics is a complicated process. To be sure, policymaking is a delicate balance and it is not always wise to invest in untested resolutions. However, the E.U. has been able to both act quickly and to continuously readjust itself. Upon close examination, it appears that the E.U. used trading negotiations to its advantage, accepting trading as an alternative only when the E.U. had something to gain from trading. Once the E.U. recognized the benefits of trading, it was able to push the policy through rapid development and initiation. Positive rent-seeking may have caused the E.U. to act quickly, but the E.U. has taken precautions to better ensure that its trading scheme will be environmentally effective. Considering the extreme dangers of climate change, the E.U.'s level of commitment is sufficient to justify speedy action.