

# INTERNATIONAL TRADE AGREEMENTS AND THE ENVIRONMENT: A NAFTA AND NAAEC CASE STUDY

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I. Introduction.....	319
II. International Trade and Environmental Economics Theory .....	321
III. International Policy Framework: WTO Policies .....	325
IV. NAFTA .....	328
V. NAFTA, the NAAEC, and the CEC.....	332
VI. Future Recommendations.....	335
VII. Conclusion .....	339

## I. INTRODUCTION

As the twenty-first century becomes increasingly globalized, the often competing concerns of economics and environmentalism continue to loom larger and larger as policy issues. As trade continues to liberalize globally, both in number of agreements and in those agreements' openness, there must be a correlative awareness of the effects this economic growth has on the environment. While economic growth is very important for continued rises in standards of living and in combating global poverty, these short-term benefits may accompany long-term costs to the environment. This economic growth is threatening to a number of environmental concerns. From global warming to resource depletion, environmental degradation to sustainable agricultural production; these are a few of the environmental threats to human life and biodiversity that increased trade may exacerbate. An extent of these threats are captured within the concept of transboundary environmental externalities, as created by international trade agreements.

A large portion of the world's states are a member to some form of international trade agreement, such as the European Union or the Asia-Pacific Trade Agreement,<sup>1</sup> and are governed by the World Trade Organization.<sup>2</sup> This note will

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1. See generally *EU Trade Agreements*, EUR. COUNCIL: COUNCIL EUR. UNION, <https://perma.cc/4FR6-YSFV> (archived July 13, 2019); *India to provide tariff concessions on 3,142 items to APTA members*, GK TODAY (July 3, 2018), <https://perma.cc/JSX9-W2RT>.

2. See generally *What is the WTO?*, WORLD TRADE ORG., <https://perma.cc/W2L8->

focus specifically on what we can learn from the North American Trade Agreement (NAFTA), between the United States, Mexico, and Canada, within the larger context of what is known about the relationship between international trade and the environment. This note will examine the environmental ramifications of the agreement's mechanics, the resultant increase in trade, as well as analyze the effectiveness of the agreement in providing a remedy to any transboundary environmental externalities.<sup>3</sup> NAFTA regulation touches a variety of fields common to trade between the three countries; including energy, manufacturing, and agriculture. Finally, this note will also examine and analyze the concurrent North American Agreement on Environmental Cooperation (NAAEC) and its Commission for Environmental Cooperation (CEC), which were intended to provide some balm to environmentalists' concerns over NAFTA.

Understanding these various dynamics provides a springboard for giving recommendations for improvements to international trade agreements in terms of protecting the environment. At the writing of this note, President Trump's proposal to overturn NAFTA in favor of his United States-Mexico-Canada Agreement<sup>4</sup> has not been passed by Congressional vote nor implemented. It is unclear whether or when this particular agreement will have enough Congressional support for that.<sup>5</sup> Some candidates for the 2020 United States' presidential election also have their own proposals to supplement or replace NAFTA.<sup>6</sup> Thus, the lessons learned from the experiment of NAFTA, the NAAEC, and the CEC are relevant in terms of any replacements or supplements that may seriously be considered in the coming years.

While this note may at times be critical of international trade agreements, it is important to make clear this note is not anti-trade or anti-development; it is merely pro-environment, especially in terms of overall environmental and agricultural sustainability. It does not purport to make claims either way as to the costs or benefits of international trade agreements in other contexts, such as economically

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DW2H (archived July 13, 2019).

3. "Transboundary environmental externalities" are environmental effects not truly reflected or encapsulated within market prices, specifically those which are created across international borders.

4. *Agreement between the U.S., Mexico, and Canada*, OFFICE U.S. TRADE REPRESENTATIVE (Nov. 30, 2018), <https://perma.cc/Q6UJ-CAXN>; Jen Kirby, *USMCA, Trump's new NAFTA deal, explained in 500 words*, VOX, <https://perma.cc/3L48-8J3N> (archived July 13, 2019).

5. See Christopher Sands, *Unpacking the USMCA for Congressional Approval in 2019*, CTR. FOR STRATEGIC & INT'L STUD. (Jan. 8, 2019), <https://perma.cc/FK6Z-D8TK>.

6. See Rachel Wellford & Lisa Desjardins, *What does Kirsten Gillibrand believe? Where the candidate stands on 11 issues*, PBS: NEWS HOUR (Jan. 18, 2019), <https://perma.cc/PSP9-8AN4>.

or culturally. It merely wishes to add the dimension of environmentalism into the lexicon of current debate over NAFTA and other international trade agreements.

## II. INTERNATIONAL TRADE AND ENVIRONMENTAL ECONOMICS THEORY

To best analyze NAFTA's effects from an environmental perspective, a general theoretical framework will first be presented for understanding trade liberalization's effect on the environment, which will then be used in application to NAFTA as a case study. The linkage from trade liberalization policy to the environment is the creation of transboundary environmental externalities, in addition to increased production.<sup>7</sup> At the national level, a general policy goal from an integrated environmental and economic perspective is to internalize the externality.<sup>8</sup> This is much harder to achieve at a transnational level.<sup>9</sup> It bears the policy question: who has the authority and who should bear the costs; the importers, exporters, or some other party?<sup>10</sup> An Environmental Justice Theory<sup>11</sup> as well as a World Systems Theory<sup>12</sup> approach bears critical analysis in framing this issue, as developing countries may find themselves bearing the brunt of environmental costs from the free trade expansion. More developed countries can often exert greater coercion through International Governing Organization's (IGOs) with both more and less-developed countries as members.<sup>13</sup> Transnational Corporations (TNCs) originating in More Developed Countries (MDCs) but operating in Less Developed Countries (LDCs) also function in a system insulating them from accountability. This helps to afford Transnational Corporations leverage and clemency in their operations and dealings with LDCs.<sup>14</sup> This relationship is arguably typified in the dealings between the United States, Mexico, and Canada, two MDCs, and one LDC.

There are many potential environmental gains from policies and agreements

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7. JONATHAN M. HARRIS, *TRADE AND THE ENVIRONMENT* 2 (2004), <https://perma.cc/4GEA-RGDR>.

8. *Id.*

9. *Id.*

10. *Id.*

11. *See generally* DAVID SCHLOSBERG, *DEFINING ENVIRONMENTAL JUSTICE* (2007).

12. *See generally* CARLOS A. MARTINEZ VELA, *WORLD SYSTEMS THEORY* 4 (2001).

13. *See* Donald J. Puchala, *World Hegemony and the United Nations*, 7 INT'L STUD. REV. 571, 576-77 (2005).

14. Kamil Omoteso & Hakeem Yusuf, *Accountability of Transnational Corporations in the Developing World*, 13 CRITICAL PERSPECTIVES ON INT'L BUS. 54, 55-56 (2017) ("TNCs have, and continue to benefit immensely from international law, which protects their property rights and contractual interests, they also ought to be accountable through international law. This is particularly important as their clout usually undermines the institutions of governance in developing countries with notoriously weak governance mechanisms to protect all relevant stakeholders.").

that liberalize trade. Jeffrey Frankel, of the Harvard Kennedy School, posits that more openness is important for encouragement of technological and managerial innovations that reap environmental benefits.<sup>15</sup> This includes promoting more efficient production, which lowers the marginal use of energy and materials.<sup>16</sup> TNCs also spread more efficient or green technologies,<sup>17</sup> and tend to facilitate the updating and greening<sup>18</sup> of power plants and energy sectors.<sup>19</sup> There is also the pressure from MDCs with economic and political power, such as the United States, over other countries to improve their environmental standards.<sup>20</sup>

One way larger states help to set the pace for others is through TNCs, as TNCs often apply the highest standards of any of the states they operate in as their general standard—out of convenience—leading to higher standards on average than with less or no trade.<sup>21</sup> Another potential benefit is the removal of distortional subsidies, which Trade Agreements (TAs) prohibit on environmentally harmful products such as pesticides used in agriculture.<sup>22</sup> There also seems to be a statistically significant correlation in lower levels of SO<sub>2</sub><sup>23</sup> to trade openness though with a complicated causality.<sup>24</sup> These are the main theorized environmental benefits from trade liberalization. Applied specifically to analyzing NAFTA, these are likely the achievement benchmark for the potential environmental benefits from a Regional Trade Agreement (RTA) (such as NAFTA or USMCA) and its corollary

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15. JEFFREY FRANKEL, HARVARD UNIV., GLOBAL ENVIRONMENTAL POLICY AND GLOBAL TRADE POLICY 4 (2008), <https://perma.cc/83XS-KU4K>.

16. HARRIS, *supra* note 7, at 5.

17. Green technologies are technologies that are more environmentally friendly than other alternatives.

18. Greening: making more environmentally friendly—i.e., greening an agricultural practice as a response to resultant environmental degradation.

19. HARRIS, *supra* note 7, at 9.

20. *Id.* at 5.

21. FRANKEL, *supra* note 15.

22. HARRIS, *supra* note 7, at 8.

23. Dep't of the Env't & Heritage, *Sulfur dioxide (SO<sub>2</sub>)*, AUSTL. GOV'T: DEP'T ENV'T & ENERGY (2005), <https://perma.cc/QEQ3-8BNQ> (“Sulfur dioxide affects human health when it is breathed in. It irritates the nose, throat, and airways to cause coughing, wheezing, shortness of breath, or a tight feeling around the chest. The effects of sulfur dioxide are felt very quickly and most people would feel the worst symptoms in 10 or 15 minutes after breathing it in. Those most at risk of developing problems if they are exposed to sulfur dioxide are people with asthma or similar conditions.”); *Sulfur Dioxide Basics*, EPA, <https://perma.cc/G4D3-4QTA> (archived July 13, 2019) (“The largest source of SO<sub>2</sub> in the atmosphere is the burning of fossil fuels by power plants and other industrial facilities” and is harmful to both human health and ecological systems).

24. FRANKEL, *supra* note 15, at 11.

environmental agreement.

Of course, there are substantial potential environmental costs to liberalized trade as well. It is possible richer countries will effectively “export pollution by importing goods whose production involves high environmental impacts.”<sup>25</sup> The scale of production will likely be increased (comparative advantage creates more production overall, plus there is a larger market for any one product), increasing pollution and environmental damage.<sup>26</sup> There are also potential indirect effects, such as displacement by TNCs of smaller groups, as well as increases in specific types of environmentally damaging trade, such as in toxic waste or in endangered species.<sup>27</sup> Some theorists worry about a “race to the bottom” where domestic producers and associated interest groups use political pressure to lower environmental standards because they fear competition from other countries, warning a loss of sales, employment, and investment.<sup>28</sup> Some research suggests, however, that environmental regulation is not significant in firms’ global competitiveness.<sup>29</sup> Labor costs and market access are actually far more relevant to a firm’s behavior.<sup>30</sup> Simply the perception of this risk, however, can be damaging to the prospect of better environmental regulation.<sup>31</sup> Aggregate data also tends to suggest production of “CO<sub>2</sub>... [may] be exacerbated by trade.”<sup>32</sup>

It is difficult to weigh these costs and benefits definitively in the abstract. They may apply differently to alternative TA’s, depending on the individual characteristics of each member state. Factors constituting these costs and benefits are also manipulated through policies, regulations, institutions, and larger frameworks or systems, which change the likelihood of their impact. Costs and benefits must also be weighed differently in considering the short or long run. From a holistic economic, political, and legal perspective however, these environmental costs and benefits should be analyzed alongside the economic, political, and cultural costs and benefits of trade liberalization more commonly analyzed in any trade policy evaluation.

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25. HARRIS, *supra* note 7, at 5.

26. *Id.*

27. *Id.*

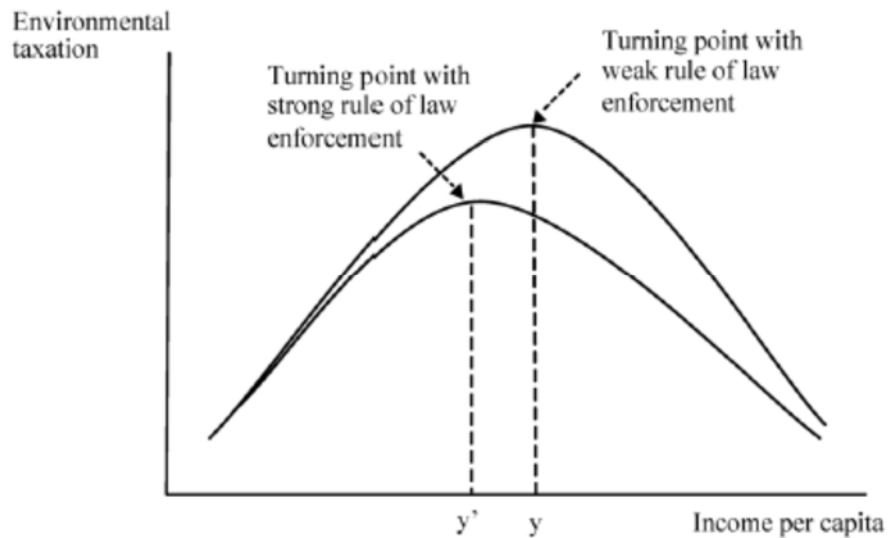
28. FRANKEL, *supra* note 15, at 3.

29. *Id.*

30. *Id.* at 3-4.

31. *Id.* at 4.

32. *Id.* at 6.

ENVIRONMENTAL KUZNET CURVE EXAMPLE<sup>33</sup>

One theoretical tool to better help understand and weigh these costs and benefits is the Environmental Kuznet's Curve—shown above.<sup>34</sup> While it is controversial, this theory suggests “environmental damage increases in the early stages of growth, but diminishes once nations reach higher levels of income.”<sup>35</sup> Thus, the acceleration of development catalyzed by more open world trade would lead to the ultimate environmental benefits sooner.<sup>36</sup> Under this theory, economists Grossman and Krugman in 1995 “estimated that SO<sub>2</sub> pollution peaked when a country's income was about \$5,000-\$6,000 per capita (in 1985 dollars). Most developing countries have not yet reached this threshold.”<sup>37</sup> This effect is demonstrated by major industrialized cities' patterns of air pollution, as well as patterns of deforestation

33. Concetta Castiglione et al., *Is There any Evidence on the Existence of an Environmental Taxation Kuznets Curve? The Case of European Countries Under Their Rule of Law Enforcement*, 6 SUSTAINABILITY 7242, 7248 (2014).

34. *Id.*

35. HARRIS, *supra* note 7, at 10.

36. *Id.*

37. FRANKEL, *supra* note 15, at 2.

over the twentieth century in the United States.<sup>38</sup> It is inaccurate, however, to portray this process as inevitable simply as a result of promoting growth.<sup>39</sup> This result needs government regulation, often correlated positively with legitimate democracy, rule of law, and good “mechanisms of regulation”.<sup>40</sup> While some suspect this effect is linked to the transition of an economy from agricultural to industrial to service, this is contradicted by the fact that under this analysis high incomes would lead to better outcomes even when externalities created are transnational, but this is not the case.<sup>41</sup> However, Gallagher, in *Free Trade and the Environment*, critiques the Environmental Kuznet’s Curve.<sup>42</sup> He explains the research was limited as a predictor for only a handful of pollutants, such as sulfur and particulates.<sup>43</sup> The datasets were restricted to already developed countries and one cannot assume that these countries hold the same properties as still developing ones—or discount the coercive exploitation they later exercise on less developed countries. Newer data now suggests the turning point is much higher than the original estimates, and there are probably other factors beyond income correlated to this effect as confounding variables.<sup>44</sup> Yet, this does not nullify the value of this theory. Instead, it provides useful insight into scenarios more accurately representing its data parameters, and a rough overall guide.

Recognizing the limits of these data parameters also provides some provocation of further research and theorizing. More research is necessary to understand the effects of countries that have reached a more economically developed state and who may differ either in substantive respects (such as governmentally, culturally, extent of economic regulation, geography, and natural resources) to currently less developed countries or who actively or implicitly economically exploit those still developing countries.

### III. INTERNATIONAL POLICY FRAMEWORK: WTO POLICIES

Almost any trade policy or agreement, including NAFTA, must be conducted under the international framework and jurisdiction of the World Trade Organization (WTO), assuming the parties in question are members—which the United States, Mexico, and Canada all are.<sup>45</sup> This IGO is the closest to having any world-

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38. *Id.*

39. *Id.*

40. *Id.*

41. *Id.*

42. KEVIN P. GALLAGHER, *FREE TRADE AND THE ENVIRONMENT* 12-20 (2004).

43. *Id.* at 14.

44. *Id.* at 15-16.

45. *See Members and Observers*, WORLD TRADE ORG., <https://perma.cc/9Q6B-LWZC>

wide international regulatory framework over trade liberalization in regards to environmental impact. The WTO has over 120 member nations and affiliated bodies—and through agreements, past and ongoing—working to “lower tariffs and nontariff barriers to trade, as well as to eliminate subsidies for export industries.”<sup>46</sup> The General Agreement on Tariffs and Trade<sup>47</sup> (GATT) Article XX is the closest to directly acknowledging environmental policy as tangential to this, stating “countries are allowed to restrict trade in order to ‘conserve exhaustible natural resources’ or to protect ‘human, animal, or plant life or health.’”<sup>48</sup> As the WTO’s own website puts it:

The WTO has no specific agreement dealing with the environment. However, the WTO agreements confirm governments’ right to protect the environment, provided certain conditions are met, and a number of them include provisions dealing with environmental concerns. The objectives of sustainable development and environmental protection are important enough to be stated in the preamble to the Agreement Establishing the WTO.<sup>49</sup>

In panel decisions arbitrating between parties, however, the WTO has controversially interpreted this article very narrowly.<sup>50</sup> They also created an Environmental Committee, which can make recommendations on trade agreements based off of studies they have done on the relationship between trade and the environment.<sup>51</sup> However, the WTO, per its own website, sees its role in safeguarding the environment as very restricted; they are reticent to intervene beyond making recommendations on environmental questions arising from trade and do not wish to act as an international environmental policy agency.<sup>52</sup> They tend to defer to Multilateral Environmental Agreements (MEAs), of which around 200 exist and to which around twenty directly regulate trade.<sup>53</sup> The WTO has been suspicious of “green protectionism,” which is the supposed use of environmental protectionism as an excuse

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(archived July 13, 2019).

46. HARRIS, *supra* note 7, at 12.

47. See CHAD P. BROWN, SELF-ENFORCING TRADE: DEVELOPING COUNTRIES AND WTO DISPUTE SETTLEMENT 10-21 (2009) (explaining how the GATT negotiation rounds were a precursor to the creation of the WTO).

48. HARRIS, *supra* note 7, at 6.

49. *The environment: a specific concern*, WORLD TRADE ORG., <https://perma.cc/7NMX-GGCJ> (archived July 13, 2019).

50. HARRIS, *supra* note 7, at 12.

51. *The environment: a specific concern*, *supra* note 49.

52. *Id.*

53. *Id.*



for insulating domestic industry from competition.<sup>54</sup> They have also employed the “specificity rule,” a theory that posits policy solutions should target problems as directly as possible, as a rationale for this attitude.<sup>55</sup> Unfortunately, this ignores the power of competitive pressure, the needs of developing countries, and the issues of transboundary externalities.<sup>56</sup> In applying Article XX, only products themselves are acceptable to ban; banning processes contributing to environmentally harmful outcomes is not an acceptable use of the Article, which severely limits its applicability as a mechanism for preventing environmental degradation as a side effect of trade liberalization.<sup>57</sup>

This issue first came into the spotlight in 1991 when the Mexican government challenged the United States under the WTO (technically under GATT rules at that time) for their law banning imports of tuna harvested by processes harming dolphins, though the dispute was not pressed at the time.<sup>58</sup> In 1999, a decision specifically affecting the NAFTA member states came out of a similar case, where it was ruled the United States could not ban imports of shrimp that were harvested in ways endangering sea turtles.<sup>59</sup> Since this decision, the WTO has slightly widened its interpretation of the Article as more friendly to environmental regulation.<sup>60</sup> Melissa Gabler, in *Norms, Institutions and Social Learning: An Explanation for Weak Policy Integration in the WTO’s Committee on Trade and the Environment*, asserts that the WTO, as an organization, operates under a framework where decision-making about trade agreements and transnational environmental cooperation are separated.<sup>61</sup> This causes decisions about transnational environmental cooperation to be subordinated.<sup>62</sup> The bureaucratic culture reinforces this framework, though it has improved over the years, after each subsequent GATT round.<sup>63</sup> Thus part of the barrier to integration of environmental policy with trade agreements in

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54. HARRIS, *supra* note 7, at 12.

55. *Id.*

56. *Id.*

57. *Id.*; see also Steve Charnovitz, *The Law of Environmental “PPMS” in the WTO: Debunking the Myth of Illegality*, 27 YALE J. INT’L L. 59, 64-75 (2002) (describing a detailed counter-argument as to why the WTO’s decisions can be interpreted as allowing them in certain limited circumstances).

58. HARRIS, *supra* note 7, at 1.

59. *Id.*

60. Richard Tarasofsky, *Commission Report on Trade, Environment, and the WTO Dispute Settlement Mechanism*, at 5-6 (June 2005), <https://perma.cc/9MDP-SG9D>.

61. Melissa Gabler, *Norms, Institutions and Social Learning: An Explanations for Weak Policy Integration in the WTO’s Committee on Trade and Environment*, GLOBAL ENVTL. POL., May 2010, at 80, 94-95.

62. *Id.*

63. *Id.*

the WTO is distinctly institutional; decision-making and info-sharing between different organizational levels and committees is sparse and often non-hierarchical, making learning about the scope of environmental issues difficult.<sup>64</sup> Additionally, environmental experts are often not consulted.<sup>65</sup> It is within this narrow, non-environmentally responsive international trade framework that NAFTA was created and continues to operate under.

#### IV. NAFTA

NAFTA's environmental impact can be understood within the theoretical and international framework outlined earlier in this note. In some ways it has followed the expected patterns of environmental impacts from liberalized trade, but so far it has also lagged or differed.

NAFTA is an RTA signed into effect in 1993, and was very controversial among environmental groups, who mostly opposed the agreement.<sup>66</sup> It entered into force in 1994 between Canada, Mexico, and the United States.<sup>67</sup> It ended up garnering more support as it was signed concurrently with the *North American Agreement on Environmental Cooperation*, which set up the Commission for Environmental Cooperation—a largely unprecedented move.<sup>68</sup>

NAFTA has already been associated with many of the environmental costs theoretically possible for an RTA to incur.<sup>69</sup> The opening of the agricultural sector has caused a migration of displaced small-time farmers, bringing greater urban environmental pressures.<sup>70</sup> As genetic diversity in crops has weakened due to the large-scale replacement of family-farming operations, there has been a loss of the “living seed bank,” which has important agricultural and environmental worth.<sup>71</sup> Concentrations of industrial activity have put strains on localized ecological and environmental systems.<sup>72</sup> Some of the concern over a race to the bottom in environmental regulations has been justified.<sup>73</sup> Corporations have challenged and

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64. *Id.* at 106.

65. *Id.* at 107.

66. HARRIS, *supra* note 7, at 12; *see* North American Free Trade Agreement, Can.-Mex.-U.S., Dec. 17, 1992, 32 I.L.M. 289.

67. *North American Free Trade Agreement (NAFTA)*, OFF. U.S. TRADE REPRESENTATIVE, <https://perma.cc/FCQ9-T8EQ> (archived July 13, 2019).

68. HARRIS, *supra* note 7, at 12.

69. *See id.*

70. *Id.* at 13.

71. *Id.*

72. *Id.*

73. *Id.* at 8.

threatened to challenge environmental regulations as barriers to trade.<sup>74</sup> Both a Canadian asbestos company and a United States pesticide company, among others, have engaged in complaints.<sup>75</sup> One successful example of such a phenomenon includes the American Ethyl Corporation, which challenged a Canadian ban on a particular chemical additive<sup>76</sup> to gasoline as a barrier to trade, and actually received a revocation of the law and a reward of \$10 million.<sup>77</sup> Overall, there has not been a significant difference in Mexican environmental policy enforcement. For example, Shanti Gamper-Rabindran, of the University of Pittsburgh, found “field researchers studying [the] polluting industries in Mexico, such as the leather industry, report no significant improvement in inspections on the ground by Mexican environmental authorities.”<sup>78</sup> The greatest growth—spurred by liberalized trade—occurred along the border, which is already congested from a pre-NAFTA free-trade zone status-known as the Maquiladoras.<sup>79</sup>

The signing of NAFTA had been accompanied by a promise to clean up these already heavily polluted border areas, but this has never been fulfilled; exacerbated instead by this trend in increased productivity.<sup>80</sup> This is somewhat balanced by lowered growth in the central region, which was also already quite congested, and more growth in the interior region which was better able to support it because of stronger infrastructure and lower population density.<sup>81</sup> In Mexico, the “composition of industry became less pollution-intensive,” but the economy grew, undoing this effect in overall environmental impact, with air pollution in manufacturing having almost doubled as of 2004 from pre-NAFTA levels.<sup>82</sup> A handful of industries, such as steel and cement, are actually cleaner than in the United States, but the share of such industries as a percentage of Mexican production is shrinking.<sup>83</sup> This outweighs the environmental comparative advantage of these industries. In sum, the existence of such environmental externality costs from NAFTA follows

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74. *Id.*

75. *Id.*

76. *EPA Comments on the Gasoline Additive MMT*, EPA, <https://perma.cc/87GS-97HQ> (archived July 13, 2019) (finding it inconclusive whether the MMT additive to gasoline is harmful to human health, although manganese is associated with a myriad of health issues at high exposure levels. “Methylcyclopentadienyl manganese tricarbonyl (MMT) is a gasoline octane enhancer . . .”).

77. HARRIS, *supra* note 7, at 8.

78. Shanti Gamper-Rabindran, *NAFTA and the Environment: What can the Data Tell Us?*, 54 *ECON. DEV. & CULTURAL CHANGE* 605, 614 (2006) (citation omitted).

79. HARRIS, *supra* note 7, at 12.

80. *Id.* at 12-13.

81. Gamper-Rabindran, *supra* note 78, at 607.

82. GALLAGHER, *supra* note 42, at 9.

83. *Id.*

the pattern suggested by general environmental economic theory. Overall, the impact of these costs is significant.

However, some of the fears of environmental costs NAFTA potentially could incur have not yet, and so far, seem likely not to come to fruition. There are also smaller but analytically significant environmental gains associated with NAFTA. Using regressions, one report found no significant statistical evidence to “support the claim that U.S. import intensity grew in the dirtier industries relative to cleaner industry during the NAFTA transition . . . .”<sup>84</sup> This suggests there has been no significant exportation of pollution. However, this also does not take into account how overall growth has made an impact, and may be slightly misleading. That Mexico has not become a pollution haven after NAFTA implementation can be theoretically linked to the observation that the marginal costs of continuing the other country’s “pollution abatement” requirements are too small for firms to take into account compared to other considerations, something supported by prior general research into this supposed phenomenon.<sup>85</sup> One environmental gain from technology spreading after NAFTA is the removal of tariffs in Mexico against imports of “pollution abatement equipment,” which has made manufacturing plant costs lower and greener.<sup>86</sup> It is theoretically likely other technological spreading and innovation will continue to occur that would not have otherwise, without liberalized North American trade.<sup>87</sup>

One perspective is that much of the environmental degradation following NAFTA is not a transboundary externality issue.<sup>88</sup> Instead, it is due to deficient domestic environmental policies and increased production.<sup>89</sup> Perhaps an oversimplification, considering the very nature of trade and its widespread economic impact, but one that does highlight the difficulty of separating domestic political developments and economic realities that might occur independent of trade liberalization from the aggregate effects of trade.

To help weigh these costs and benefits, as well as put them into a theoretical long term perspective, it is worth revisiting the concept of the Environmental Kuznet’s Curve.<sup>90</sup> If economic growth, in combination with other stabilizing and regulatory factors, spurs eventual environmental gains after initial costs—it follows

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84. Gamper-Rabindran, *supra* note 78, at 615-17.

85. GALLAGHER, *supra* note 42, at 8.

86. Gamper-Rabindran, *supra* note 78, at 625.

87. *See id.* at 630.

88. GALLAGHER, *supra* note 42, at 7.

89. *Id.*

90. *See id.* at 13.

logically to evaluate the overall economic impacts of NAFTA so far. Per *The Mexican and U.S. Economies after Twenty Years of NAFTA*:

Contrary to the promises of the leaders who promoted it, NAFTA did not make Mexico converge to the United States in per capita income, nor did it solve Mexico's employment problems or stem the flow of migration. NAFTA did foster greater U.S.-Mexican integration and helped transform Mexico into a major exporter of manufactured goods. The benefits for the Mexican economy were attenuated, however, by heavy dependence on imported intermediate inputs in export production, as well as by Chinese competition in the U.S. market and domestically. The long-run increase in manufacturing employment in Mexico (about 400,000 jobs) was small and disappointing, while U.S. manufacturing employment plummeted by 5 million—but more because of Chinese imports than imports from Mexico. In both Mexico and the United States, real wages have stagnated while productivity has continued to increase, leading to higher profit shares and a tendency toward greater inequality.<sup>91</sup>

Such anemic returns on what was projected help to explain why, especially in regards to Mexico, the shift along the curve has not occurred in the way general environmental economic theory projects.<sup>92</sup> In any event, there was always going to be larger environmental costs incurred at the inception of an RTA that included an LDC. According to the original mainstream understanding of the Environmental Kuznet's Curve, the \$5,000 gross domestic product (GDP) per capita turning point should have happened to Mexico in 1985, around the time they started integrating with the global economy, but instead little sign of this inverted-U relationship for most factors of environmental costs have appeared.<sup>93</sup> Emissions overall have continued to increase.<sup>94</sup> Greenhouse Gas (GHG)<sup>95</sup> emissions for example have continued to increase in both the United States and Mexico.<sup>96</sup> As of 2004, Mexican GDP rates suggested it could take up to 60 years to reach the turning point

91. Robert A. Blecker, *The Mexican and U.S. Economies After Twenty Years of NAFTA*, INT'L J. POL. ECON., Summer 2014, at 5, 5.

92. *See id.* at 25.

93. GALLAGHER, *supra* note 42, at 17.

94. *Id.* at 34.

95. *See Overview of Greenhouse Gases*, EPA, <https://perma.cc/5SRD-8HQM> (archived July 13, 2019) (explaining and listing Greenhouse Gases (GHGs), their sources, and their effects).

96. Witsanu Attavanich et al., *Trade Liberalization, Climate Change Policies, and the Environment: The Growing Interaction and Impact: Discussion*, 93 AM. J. AGRIC. ECON. 558, 559 (2011).

for CO<sub>2</sub> emissions.<sup>97</sup> Mexico's GDP rate in the last few years has not risen significantly, and has actually seen a slowdown.<sup>98</sup> All of this data suggests the environmental costs of NAFTA have exceeded the gains, and most future net gains are extremely long term if materializing at all.

#### V. NAFTA, THE NAAEC, AND THE CEC

It is useful to examine the specific regional regulatory framework NAFTA itself sets up, in its text and alongside the previously mentioned NAAEC and CEC, to better understand and remedy its associated environmental costs. NAFTA's preamble includes language describing its goal to "[u]ndertake each of the preceding [agreement resolutions] in a manner consistent with environmental protection and conservation . . . ."<sup>99</sup> Its Investment Chapter includes a stipulation that investment should not be encouraged at an environmental or health cost and the agreement also lists three prior Multi-lateral Environmental Agreements superseding NAFTA to tie up any inconsistencies.<sup>100</sup> Additionally, the simultaneous signing of the NAAEC and creation of the CEC was supposed to address the environmental concerns about NAFTA.<sup>101</sup> The CEC can conduct fact-finding reports, includes a mechanism for public submissions and for NGO participation, state-to-state dispute resolution, cooperation and info-sharing across borders, and also cooperates with NAFTA's Free Trade Commission.<sup>102</sup> The public submissions function allows private parties to claim any of the NAAEC parties are deficient in upholding their own domestic environmental laws, and subsequently the Secretariat can author a factual record on the matter.<sup>103</sup> Before examining citizen submission, they must consider whether:

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97. GALLAGHER, *supra* note 42, at 20.

98. *GDP growth (annual %)*, WORLD BANK: DATA, <https://perma.cc/8BJP-9XM2> (archived July 13, 2019).

99. North American Free Trade Agreement, *supra* note 66, at 297.

100. Sikina Jinnah & Abby Lindsay, *Secretariat Influence on Overlap Management Politics in North America: NAFTA and the Commission for Environmental Cooperation*, 32 REV. POL'Y RES. 124, 126-27 (2015); see North American Free Trade Agreement, *supra* note 66, at 320.

101. See North American Agreement on Environmental Cooperation, Can.-Mex.-U.S., Dec. 17, 1992, 32 I.L.M. 1482, 1483 (for full access to the full text of the NAAEC. Article 1 Objectives explicitly includes the objective: "(d) support the environmental goals and objectives of the NAFTA").

102. Jinnah, *supra* note 100, at 127.

103. TIM STEPHENS, INTERNATIONAL COURTS AND ENVIRONMENTAL PROTECTION 113 (2009).

- a) the submission alleges harm to the person or organization making the submission;
- b) the submission, alone or in combination with other submissions, raises matters whose further study in this process would advance the goals of this Agreement;
- c) private remedies available under the Party's law have been pursued; and
- d) the submission is drawn exclusively from mass media reports.<sup>104</sup>

In its 2018 Report, the CEC highlighted in 2017-2018 it received three new citizen submissions, and was “finalizing its 23[rd] factual record.”<sup>105</sup> Active submissions alleging lax enforcement of environmental regulations at this point in 2019 are: A complaint about not following environmental regulations in construction of the “Metrobús” rapid transit system in Mexico, a complaint about “Oils Sands” pollution runoff in Canada, and a complaint about Hydraulic Fracturing in Mexico.<sup>106</sup>

Additionally, the CEC can consult, impose plans, and even impose penalties of up to .007% of total trade between parties, with penalties assessed to the offending party to improve enforcement.<sup>107</sup> However, no party has initiated consultations through the CEC yet.<sup>108</sup>

Recent projects of the CEC include the “North American Black Carbon Emissions Estimation Guidelines” project, the “Improving Conditions for Green Building Construction in North America” project, and the “Improving Indoor Air Quality in Indigenous Communities” project—among many others.<sup>109</sup> One project, “Enhancing North American Enforcement of IMO Maritime Fuel Sulfur Limits,” had a budget of \$250,000 over two years.<sup>110</sup>

104. North American Agreement on Environmental Cooperation, *supra* note 101, at 1488.

105. Press Release, Comm’n for Env’tl. Cooperation, CEC Council Statement - 2018 (June 27, 2018) (on file at <https://perma.cc/29KA-7JCN>).

106. *Registry of Submissions*, COMMISSION ENVTL. COOPERATION, <https://perma.cc/L7ZL-GBPK> (archived July 13, 2019).

107. Chris Wold, *Evaluating NAFTA and the Commissioner for Environmental Cooperation: Lessons for Integrating Trade and Environment in Free Trade Agreements*, 28 SAINT LOUIS U. PUB. L. REV. 201, 218 (2008).

108. *Id.* at 218.

109. COMM’N FOR ENVTL. COOPERATION, CEC SECRETARIAT REPORT: 2015 ACTIVITIES 4-5 (2015), <https://perma.cc/C7T5-HBND>.

110. COMM’N FOR ENVTL. COOPERATION, OPERATIONAL PLAN OF THE COMMISSION FOR ENVIRONMENTAL COOPERATION 2015-2016 at 85 (2015), <https://perma.cc/SUC3-EWV9> (“The project assists efforts to improve human health, particularly in vulnerable groups, and the environment by ensuring that international shipping complies with the sulfur limits established by the International Maritime Organization (IMO) for Emission Control Areas (ECAs). The

The CEC has also provided substantial training to Mexican officials and catalyzed the elimination of dangerous agricultural pesticides such as DDT and Chlor-dane.<sup>111</sup> Unfortunately, the CEC is extremely underfunded, greatly constricting its efficacy.<sup>112</sup> Its focus on the competitive effects of trade in creation of possible transboundary externalities (due to prior assumptions this is how much of the associated environmental costs would happen) has precluded its focus on other relevant issues, such as scale effects—including pollution from agriculture and increases in forestry.<sup>113</sup>

One small success by the CEC Secretariat's fact-finding was the discovery of a 20,000-30,000 bird die-off in Mexico in 1994-1995, and its recommendations resulting in the state of Guanajuato's first environmental council.<sup>114</sup> It also created a Migratory Birds Project, which identifies any important areas to migratory birds, and developed a plan to help conserve North American birds.<sup>115</sup> They have also conducted additional reports recognizing transboundary externalities affecting North American ecosystems.<sup>116</sup> Another small success has come through their citizen submission process, which in one case alleged failure in Mexico of a TNC to follow and enforce environmental regulations in construction of a pier in Cozumel, with positive effects after looking into the complaint.<sup>117</sup> Unfortunately, the CEC's Secretariat is weakened by its governing council, which has members from all three participating countries, with its purview shrinking considerably since inception.<sup>118</sup> The council has weakened the citizen submission process and had long, multi-year delays in giving permission for fact-finding and other projects.<sup>119</sup> Overall, the CEC has had minimal impact on governmental action or policies with many of the changes attributed to the CEC likely to have happened anyways according to officials inside and out of the CEC.<sup>120</sup> The CEC has been "moderately effective

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project will facilitate the implementation, coordination and, if appropriate, alignment of processes and policies utilized to assess compliance with the ECA sulfur limit in North America. The project will enhance the gathering, analysis and sharing of information pertinent to compliance monitoring and enforcement of the ECA sulfur limit.").

111. Wold, *supra* note 107, at 204.

112. *Id.*

113. *Id.* at 204-05.

114. Jinnah, *supra* note 100, at 136.

115. *Id.*

116. *Id.*

117. Wold, *supra* note 107, at 226.

118. *Id.* at 229-30.

119. *Id.*

120. Linda J. Allen, *The North American Agreement on Environmental Cooperation: Has it Fulfilled its Promises and Potential? An Empirical Study of Policy Effectiveness*, 23 COLO.



at promoting environmental cooperation to improve domestic environmental programs, with greatest impact likely occurring in Mexico.”<sup>121</sup> The citizen-submission process has been useful on a limited case-by-case basis, but insignificant in general impact.<sup>122</sup> The increasingly lessened impact of the CEC can also be attributed to lessening external political pressure.<sup>123</sup>

The CEC has, however, contributed to the research and understanding of the environmental impact of NAFTA, itself finding “increased production, resource exploitation, transportation and everyday needs result from increased trade ‘[im]pose serious challenges to environmental infrastructures and policy implementation.’”<sup>124</sup> It has also found shifts to large-scale agriculture and subsequent scale effects have not been offset by improved technology or regulations.<sup>125</sup> One can understand the anemic efficacy of the CEC in the context of both its internal institutional dynamics and limits in the larger political context where member states are loath to cede sovereignty or give any appearance of such concession. This second context continues even more strongly in effect due to the Trump Administration’s “America First” foreign policy regime. There are also elements present of an International Governmental Organization unable to adequately internalize transboundary externalities and of typical domestic pressures not to give away potential short-term economic concessions for environmental reasons.

#### VI. FUTURE RECOMMENDATIONS

The data and analysis done so far discussed in this note is imperative in debating whether, and if so, what, policy and legal modifications need to be made to the North American trade system to better preserve its environment and sustainability. As mentioned in the Introduction, such modification could potentially take place within a variety of methods—which may, or may not, be politically viable.<sup>126</sup>

One option for a modification would help to internalize the environmental externalities created by NAFTA as an international trade agreement is implementation of a system of environmental Border Tax Adjustments (BTAs).<sup>127</sup> The most viable version of this proposal would focus on the real carbon footprint of products,

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J. INT’L ENVTL. L. & POL’Y 121, 191 (2012).

121. *Id.*

122. *Id.*

123. *Id.*

124. Wold, *supra* note 107, at 224.

125. *Id.*

126. *Id.* at 202-208.

127. Harry Clarke, *Trade Policy and the Global Environment*, SAPIENS, November 25, 2010, at 1, 3.

as a consumption tax when carbon-intensive products are imported.<sup>128</sup> This helps to internalize the actual cost of such products, and minimizes any increase in consumption that would occur from the ability to produce a product at lower costs non-domestically.<sup>129</sup> The breakdown of which sector's produce the most carbon is as follows: Energy, broken into subcategories of electricity and heat (24.9%), industry (14.7%), transportation (14.3%), other fuel combustion (8.6%), fugitive emissions (4%); as well as agriculture (13.8%); land use change (12.2%); industrial processes (4.3%); and waste (3.2%).<sup>130</sup> Thus, likely product targets for a BTA would include those related to fuel and transportation, such as petroleum imports or car manufacturing. Also, likely included are certain carbon-intensive agricultural products, such as some grain production,<sup>131</sup> as well as cattle and pork.<sup>132</sup> Logically, this also gives producers, such as farmers, a strong economic incentive to use carbon-reductive practices—including agricultural soil management, enteric fermentation, manure management, carbon sequestration, “substituting renewable fuels for gasoline, diesel fuel and natural gas used on the farm,” and other practices<sup>133</sup>—as well as to spur innovation of such practices.

Another proposal suggests one step which can be taken with a very modest impact but also without broad, politically unlikely exterior interference, is an overhaul of the CEC's citizen submission process.<sup>134</sup> This proposal suggests the CEC Secretariat should be given more autonomy, and they should require the mandatory record of any complaint made within the factual record so it can be fully investigated, something currently not guaranteed.<sup>135</sup> It also suggests making the process less formal or legalistic, as requirements to meet a strict substantive form are widely prohibitive for many potential plaintiffs, as parties can move for dismissal

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128. *Id.*

129. *Id.*

130. *Which industries and activities emit the most carbon*, GUARDIAN: ENV'T (Apr. 28, 2011), <https://perma.cc/C5SY-LFQC>.

131. See Chaoqun Lu et al., *Increasing Carbon Footprint of Grain Crop Production in the US Western Corn Belt*, ENVTL. RES. LETTERS, Nov. 27, 2018, at 1, 1.

132. See *Key facts and findings*, FOOD & AGRIC. ORG. UNITED NATIONS, <https://perma.cc/8E69-MBFP> (archived July 13, 2019).

133. Eugene Takle & Don Hofstrand, *Global warming – agriculture's impact on greenhouse gas emissions*, IOWA STAT UNIV.: EXTENSION & OUTREACH (Apr. 2008), <https://perma.cc/Z8V4-J7MU>.

134. Tracy D. Hester, *Designed for Distrust: Revitalizing NAFTA's Environmental Submissions Process*, 28 GEO. ENVTL. L. REV. 65-73 (2015).

135. *Id.* at 67-68.

on purely procedural grounds that smaller parties might not have the time, experience, or resources to comply with.<sup>136</sup> Ultimately, this proposal recommends that a politically unpalatable formal renegotiation is necessary to maximize the potential of the CEC.<sup>137</sup>

The International Institute for Sustainable Development sees several potential broad proposals holding varying levels of viability.<sup>138</sup> The first proposal is that the United States will maintain its current intractability, as manifested in the Trump administration, and Mexico and Canada should strengthen the “Canada-Mexico Environmental Cooperation Memorandum of Understanding signed between the Mexican president and Canadian prime minister in June 2016 . . . .”<sup>139</sup> This is to serve as a counterweight to United States inaction and stonewalling, with Canada and Mexico jointly working together towards realization of the Paris Accords each signed in support of.<sup>140</sup> A second option is embedding the environmental chapter of the Trans-Pacific Partnership Agreement (TPP)<sup>141</sup> into the text of NAFTA (or any replacement):

The draft TPP Environment chapter sets out an impressive range of objectives and priority areas. These include supporting the implementation of two international treaties—the Montreal Protocol to safeguard stratospheric ozone and the International Convention for the Prevention of Pollution from Ships (MARPOL). It references the role of corporate social responsibility standards in traded goods, and the importance of trade in relation to biodiversity, alien invasive species and low-emission economies. Since these are integrated within the legal text, there is no role for either a parallel environmental agreement or an independent commission.

While the TPP’s breadth is impressive, few of its environmental and conservation provisions are binding, aside from procedural issues. Like the many other regional and bilateral trade agreements that contain environmental provisions, parties focus on internal procedural steps to build coherence.<sup>142</sup>

Use of the TPP’s text in this way provides convenience as well as a broad

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136. *Id.* at 69-70.

137. *Id.* at 74.

138. SCOTT VAUGHAN, INT’L INST. FOR SUSTAINABLE DEV., NAFTA’S ENVIRONMENTAL RECORD: HISTORY, OUTCOMES, IMPACTS AND OPTIONS 10-11 (June 2017), <https://perma.cc/8X6A-4FC9>.

139. *Id.* at 10.

140. *Id.*

141. OFFICE OF THE U.S. TRADE REPRESENTATIVE, THE TRANS-PACIFIC PARTNERSHIP AGREEMENT 20-1-20-26 (Feb. 4, 2016), <https://perma.cc/KP83-TKZ5>.

142. VAUGHAN, *supra* note 138.

range of policy objectives. That it lacks authority to bind on many of its provisions, however, is concerning. Another option also incorporates the terms and text involving the environment and sustainability from another agreement:

[P]rovisions contained in the Comprehensive Economic and Trade Agreement (CETA) signed between the EU [(European Union)] and Canada in 2017. There are a number of welcome provisions in Chapter 24 of CETA, including explicit provisions regarding the right of countries to regulate within their jurisdictions; supporting “trade-favouring environmental protection,” including removing trade and investment barriers to climate-related actions such as ramping up renewable energy; promoting the Convention on International Trade in Endangered Species of *[sic]* Wild Fauna and Flora (CITES) as well as encouraging trade in sustainably managed forest products. CETA also marks a significant improvement of NAFTA Chapter 11’s investment provisions, particularly the investor–state dispute settlement (ISDS) provisions.<sup>143</sup>

Use of CETA may carry less political baggage than attached to use of the controversial TPP’s provisions, though they are less ambitious. Lastly, there is a recommendation for a proposal that would:

[S]ee a new kind of cooperation take shape within NAFTA. This would see trade and economic cooperation as an important mechanism to create a new, sustainable economic vision. A new NAFTA could align infrastructure investments among Mexico, Canada and the United States to build 21st century sustainable trade corridors based on sustainable infrastructure; to use NAFTA to accelerate trade in integrated, low-carbon energy and electricity systems; and harness green innovation through information technology platforms.

This last option seems the least likely. Yet as one of the largest trading blocs in the world, NAFTA’s trade policy can and should be used as a key engine of innovation and job creation at the continental scale.

This vision of international cooperation in which infrastructure, trade, finance and investment work together are at the heart of China’s Belt and Road Initiative. That vision is supported by a commitment to a green, low-carbon and circular economy.

It’s too early to see how the Belt and Road Initiative will be implemented. I hope it’s not too late for NAFTA.<sup>144</sup>

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143. *Id.* at 11.

144. *Id.*

NAFTA, or a similar replacement, actively reshaped to at least partly concentrate on environmental objectives, while likely not politically viable in the current political zeitgeist, would hold environmental policy significance far beyond the narrow perimeters a mere trade agreement commonly is considered to hold the potential for.

Ultimately, any future replacements or modifications to the NAFTA environmental system will have to grapple with the current political climate's reticence to provide international environmental regulations some independent "teeth"; worried this comes with the price of economic losses or loss of sovereignty. Canada and Mexico may need to sacrifice some of their own short-term gains to counterbalance the United States' refusal to recognize the full long-term weight of environmental costs due to agricultural practices, global warming, etc.

## VII. CONCLUSION

The growth of international trade through liberalized international trade agreements holds much theoretical promise in terms of long-term environmental gains. However, while some of these potential positive effects have been realized, with the case at hand in this note of NAFTA, the environmental costs have continued to outweigh the benefits in actuality. Reference to the environment within its text has remained more ideational than effective, perhaps due to lack of strong constituting legal language, mechanisms, or regional political will to utilize or enforce it.

NAFTA exists within the worldwide legal framework of the World Trade Organization. The WTO largely refrains from, and lacks the political or ideological will, or mandate, regulating trade disputes in terms of their environmental transboundary externalities. Within the regional legal framework, the concurrent creation and existence of the NAAEC and its CEC have not lived up to their promise or potential. While the CEC has engaged in some projects and research that have been beneficial within their limited scope, the lack of resources, political backing, and real independent legal regulatory authority have rendered its power minimal at best.

The data gained in terms of analyzing NAFTA, NAAEC, and the CEC strongly suggests that to safeguard the North American environment in the long run, while still being able to benefit from any economic benefits from international trade, there needs to be a serious renovation of the North American trade system in environmental terms. The creation of a system or body that can effectively internalize these transboundary environmental externalities is needed. Mechanisms to improve this would include an environmental BTA, a widely used environmental dispute resolution system, and a body with the power to actively regulate in

terms of environmental trade and its externalities. These recommendations are relevant whether in terms of supplementing NAFTA, replacing it with a version of USMCA, or replacing it with some other as yet unnamed international trade agreement.

The environmental economics lessons learned from the NAFTA experiment are not only relevant between its three member states. It is a valuable case study in terms of environmental economics worldwide. The data that studying it offers can also deliver guidance in understanding other international trade agreements in environmental terms, whether already in existence or not. It provides a starting point for understanding how agreements such as the ASEAN<sup>145</sup> trade agreement or the European Union's trade agreements<sup>146</sup> can be improved. It can also provide guidance for better analysis of potential entrance into other trade agreements. It suggests the WTO needs to firmly add the environment into the factors it can act upon. Increased and updated studies of the environmental effects of RTAs such as NAFTA are necessary to better tailor our environmental and economic policies moving forward. For the sake of long term environmental and agricultural sustainability, states must actively address transboundary environmental externalities in relation to international trade agreements.

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145. See generally *The ASEAN Free Trade Area (AFTA)*, ASEAN, <https://perma.cc/Y67Y-SA3D> (archived July 13, 2019).

146. See generally *EU Trade Agreements*, *supra* note 1.