Pace Environmental Law Review

Volume 29
Issue 1 *Fall 2011*

Article 7

1-11-2012

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Recommended Citation
Ilan W. Gutherz, *Cap and Trade Meets the Interstate Commerce Clause: Are Greenhouse Gas Regulations Constitutional after Lopez and Morrison?*, 29 Pace Envtl. L. Rev. 289 (2011)
Available at: http://digitalcommons.pace.edu/pelr/vol29/iss1/7

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COMMENT

Cap and Trade Meets the Interstate Commerce Clause: Are Greenhouse Gas Regulations Constitutional after *Lopez* and *Morrison*?

ILAN W. GUTHERZ*

The Supreme Court's decisions in *United States v. Lopez*[1] and *United States v. Morrison*[2] have caused legal scholars to question the enduring constitutionality of some of our nation's key environmental laws.[3] However, no one has yet examined the impact these decisions could have on federal proposals to address global climate change.[4]

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1. United States v. Lopez, 514 U.S. 549 (1995).

2. United States v. Morrison, 529 U.S. 598 (2000).

3. *See, e.g.,* Christine A. Klein, *The Environmental Commerce Clause*, 27 HARV. ENVTL. L. REV. 1, 28-29 (2003); Jonathan Cannon, *Environmentalism and the Supreme Court: A Cultural Analysis*, 33 ECOLOGY L.Q. 363, 387-89 (2006); Jonathan H. Adler, *Judicial Federalism and the Future of Federal Environmental Regulation*, 90 IOWA L. REV. 377, 405-06 (2005); Bradford C. Mank, *After* Gonzales v. Raich*: Is the Endangered Species Act Constitutional Under the Commerce Clause?*, 78 U. COLO. L. REV. 375 (2007); Matthew B. Baumgartner, SWANCC*'s Clear Statement: A Delimitation of Congress's Commerce Clause Authority to Regulate Water Pollution*, 103 MICH. L. REV. 2137 (2005).

4. As used in this Comment, "climate change" refers to a number of related changes to the earth's prevailing weather patterns that are caused by the buildup of heat-trapping ("greenhouse") gases in the atmosphere. These changes include: higher average temperatures and significant deviations from historical temperature norms across the globe; rising sea levels as a result of greater summer melt and lesser winter freezing of the ice pack at the poles;

This Comment attempts to answer that question. Part I of this Comment begins by sketching the history of American involvement in combating climate change. Part I also briefly explains the three leading policy options for regulating greenhouse gases in the U.S.: "cap-and-trade," "command-and-control" regulations, and a tax on carbon. In Part II, I discuss the significance of *Lopez* and *Morrison* to our present understanding of the Interstate Commerce Clause. In Part III, I apply the Court's current Commerce Clause framework to the leading options for limiting the emission of greenhouse gases. Part III lays out the main constitutional arguments against and in favor of these options, and draws on proposed legislation and Environmental Protection Agency (EPA) regulations for examples. In Part IV, I conclude that the Court's current approach to the Commerce Clause raises the possibility that comprehensive greenhouse gas regulations could be ruled unconstitutional, and that the answer will ultimately depend on how the Court characterizes the challenged law. I also offer a series of recommendations that will improve the chances that a greenhouse gas regulatory system will withstand constitutional scrutiny, even under the Court's post-*Lopez* Commerce Clause jurisprudence.

I. FEDERAL REGULATION OF GREENHOUSE GASES

Since the 1970s, the United States, along with the rest of the world, has committed itself (in theory, at least) to stabilizing the accumulation of greenhouse gases in the atmosphere at levels

increasing frequency of severe weather events such as storms, droughts, and floods; and changes (both increases and decreases) to prevailing levels of precipitation. *See* NAT'L ACAD. OF SCIENCES, UNDERSTANDING AND RESPONDING TO CLIMATE CHANGE 16-18 (2008), *available at* http://dels-old.nas.edu/dels/rpt_briefs/climate_change_2008_final.pdf. Although it is not among the effects of "climate change," the increase of carbon dioxide (CO_2) in the atmosphere has also been linked to increasing acidification of the oceans, as CO_2 is dissolved in seawater and converted to carbonic acid. *See generally* NAT'L ACAD. OF SCIENCES, OCEAN ACIDIFICATION: A NATIONAL STRATEGY TO MEET THE CHALLENGES OF A CHANGING OCEAN (2010).

that will prevent the worst consequences of climate change.[5] In the United States, legislation to limit the emission of greenhouse gases (GHGs)[6] from the industrial sector has been introduced in every Congress since at least 1988.[7] Starting in 2009, in response to *Massachusetts v. EPA*,[8] the EPA began to promulgate regulations to limit greenhouse gas emissions from both mobile[9] and stationary sources[10] under the authority of the Clean Air Act (CAA).[11] Around the same time, the U.S. House of

5. *See* National Climate Program Act of 1978, Pub. L. No. 95-367, 92 Stat. 601, §§ 3, 5 (1978) (requiring the President to establish a program to "assist the Nation and the world to understand and respond to natural and man-induced climate processes and their implications"). The United States is also a signatory to the United Nations Framework Convention on Climate Change, whose objective is "to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system." United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107 (1992), *available at* http://unfccc.int/resource /docs/convkp/conveng.pdf.

6. Generally, the greenhouse gases that legislators have sought to limit are: Carbon Dioxide (CO_2), Methane (CH_4), Nitrous Oxide (N_2O), and several other lesser-known industrial gases. *See*, *e.g.*, American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 711(a) (as passed by the House, June 26, 2009).

7. *See* Global Environmental Protection Act of 1988, S. 2666, 100th Cong. (1988) (introduced by Sen. Stafford) (regulating chlorofluorocarbons, carbon dioxide, ground level ozone, methane, and other pollutants); *see also* National Energy Policy Act of 1988, S. 2667, 100th Cong. (1988) (introduced by Sen. Wirth) (calling for national energy policy to reduce global warming); Global Warming Prevention Act of 1988, S. 2867, 100th Cong. (1988) (introduced by Sen. Chafee) (establishing national policies and promoting international efforts in resource conservation strategies appropriate to preventing greenhouse effect); Global Warming Prevention Act of 1988, H.R. 5460, 100th Cong. (1988) (introduced by Rep. Schneider) (putting forth House version of S. 2867).

8. Massachusetts v. EPA, 549 U.S. 497 (2007) (holding that the EPA must determine, pursuant to the Clean Air Act, whether greenhouse gases cause or contribute to air pollution that will endanger public health or welfare).

9. *See* Proposed Rulemaking to Establish Light-Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, 74 Fed. Reg. 49,454 (Sept. 28, 2009).

10. *See* Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule (Proposed Rule), 74 Fed. Reg. 55,292 (Oct. 27, 2009). This rule became finalized on June 3, 2010. *See* Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514 (June 3, 2010) (to be codified at 40 C.F.R. §§ 51, 52, 70, and 71).

11. 42 U.S.C. §§ 7401-7671(q) (2006).

Representatives debated and passed the American Clean Energy and Security Act,[12] which would have capped emissions of GHGs from most major sources and required regulated industries to obtain allowances for every ton of GHG emitted.[13]

These two types of policies represent the leading approaches to reducing emissions of GHGs in the United States. Under the first approach, which is known as "command-and-control,"[14] EPA or an authorized state agency issues permits to emitters of GHGs. These permits set a ceiling on the volume of specified GHGs that each source can emit.[15] EPA and the states monitor these emissions and impose penalties on sources that exceed their permits,[16] thereby inducing polluters to reduce their emissions. The second approach to regulating GHGs, "cap-and-trade," builds on the command-and-control model, but adds a market trading component to the regulatory scheme in order to reduce the costs of compliance.[17] Under a national cap-and-trade system, the federal government identifies an overall nation-wide target (a "cap") for emissions of GHGs, and divides that target into "emission allowances."[18] These allowances operate like permits under a command-and-control scheme — that is, an entity holding allowances for X tons of GHGs may emit only that amount of GHGs in one year, or suffer a penalty.[19]

The major distinction between cap-and-trade and command-and-control is that under cap-and-trade, the allowances can be

12. American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. (as passed by the House, Jun. 26, 2009).

13. The American Clean Energy and Security Act of 2009 was never brought to a vote in the Senate.

14. *See* Camille V. Otero-Phillips, *What's in the Forecast? A Look at the EPA's Use of Computer Models in Emissions Trading*, 24 RUTGERS COMPUTER & TECH. L.J. 187, 193 (1998).

15. *See, e.g.*, Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514-01 (June 3, 2010) (establishing phased-in schedule under which large emitters must obtain CAA permits to emit carbon dioxide).

16. *See* 42 U.S.C. § 7420(2)(A) (2006).

17. *See* Nathaniel O. Keohane, *Cap and Trade Rehabilitated: Using Tradable Permits to Control U.S. Greenhouse Gases*, 3 REV. ENVTL. ECON. & POL'Y 42, 43 (2009).

18. *Id.*

19. *Id.*

bought and sold (i.e., "traded") on the open market.[20] Thus, if a particular GHG emitter wishes to emit more GHGs in a given year than her existing allowances would permit, she can buy extra allowances from other emitters who do not plan on emitting all of the GHGs authorized by their own allowances. For this reason, cap-and-trade is, in theory, more efficient than a command-and-control system.[21]

A third approach to reducing GHG emissions, a "carbon tax," has also received significant attention.[22] Under a carbon tax approach, emitters of GHGs would pay a tax for each unit of GHG they release into the atmosphere.[23] The theory behind such an approach is that putting a price on GHG emissions will naturally drive polluters to reduce their emissions in order to improve their own bottom line. Notwithstanding the potential of a carbon tax to reduce GHG emissions, this Comment focuses exclusively on command-and-control regulation and cap-and-trade. These two options are far more interesting from a legal perspective than a carbon tax for two reasons. First, cap-and-trade and command-and-control regulations present greater constitutional difficulties than the relatively straightforward carbon tax.[24] Second, cap-and-trade and, to a lesser extent, command-and-control regulations, are both more popular and more likely to be implemented in our lifetimes. Therefore the constitutionality of these options is a much more pressing legal question than is the constitutionality of a carbon tax.

20. *Id.*

21. *See* Scott R. Milliman & Raymond Prince, *Firm Incentives to Promote Technological Change in Pollution Control*, 17 J. ENVTL. ECON. & MGMT. 247, 249 (1989).

22. *See generally* JONATHAN L. RAMSEUR & LARRY PARKER, CONG. RESEARCH SERV., R40242, CARBON TAX AND GREENHOUSE GAS CONTROL: OPTIONS AND CONSIDERATIONS FOR CONGRESS (2009), *available at* http://www.fas.org/sgp/crs/misc/R40242.pdf.

23. *See id.*

24. This is because, regardless of its constitutionality under the Commerce Clause, a carbon tax scheme will almost definitely be upheld as a proper exercise of Congress's Taxing Power. *See* U.S. CONST. art. I, § 8, cl. 1.

II. THE COMMERCE CLAUSE AFTER *UNITED STATES V. LOPEZ*

A. Background: the Commerce Clause from the 1940s to the 1990s

The Commerce Clause of the United States Constitution authorizes Congress to "regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes."[25] Since the 1940s, when the Court decided *United States v. Darby*[26] and *Wickard v. Filburn*,[27] the Supreme Court has held that this Clause, in combination with the Necessary and Proper Clause,[28] authorizes congressional regulation of, among other things, the wages private businesses pay their employees;[29] the small-scale, intrastate production of agricultural commodities for personal consumption;[30] the racially discriminatory practices of small businesses that engage in interstate commerce[31] or use products obtained through interstate commerce;[32] and even the wholly intrastate use of private land if it is used to mine coal.[33] Until recently, the Court construed Congress's ability to regulate all manner of intrastate activities under the authority of the Commerce Clause so liberally that then-Associate Justice William Rehnquist complained that "[a]lthough it is clear that the people, through the States, *delegated* authority to Congress to 'regulate Commerce . . . among the several States,' one could easily get the

25. U.S. CONST. art. I, § 8, cl. 3.

26. United States v. Darby, 312 U.S. 100 (1941).

27. Wickard v. Filburn, 317 U.S. 111 (1942).

28. The Necessary and Proper Clause gives Congress the power "[t]o make all Laws which shall be necessary and proper for carrying into Execution the foregoing Powers, and all other Powers vested by this Constitution in the Government of the United States, or in any Department or Officer thereof." U.S. CONST. art. I, § 8, cl. 18.

29. *See Darby*, 312 U.S. at 125.

30. *See Wickard*, 317 U.S. at 124-29.

31. *See* Heart of Atlanta Motel, Inc. v. United States, 379 U.S. 241, 258 (1964).

32. *See* Katzenbach v. McClung, 379 U.S. 294, 304 (1964).

33. *See* Hodel v. Virginia Surface Min. & Reclamation Ass'n, Inc., 452 U.S. 264, 282 (1981) (regulation of environmental effects of coal mining was constitutional because "[t]he prevention of . . . destructive interstate competition is a traditional role for congressional action under the Commerce Clause").

sense from this Court's opinions that the federal system exists only at the sufferance of Congress."[34]

However, beginning in 1995 with *United States v. Lopez*,[35] the present Court has retreated from its predecessors' expansive and highly deferential view of congressional power under the Commerce Clause.[36] In *Lopez*, the Court held that a federal statute criminalizing gun possession in schools exceeded the scope of the Commerce Clause.[37] Then, in *United States v. Morrison*, the Court ruled that a federal law establishing a cause of action for victims of gender-motivated violence also exceeded the scope of the Commerce Clause.[38] Most recently, in *Gonzalez v. Raich*, the Court narrowly upheld provisions of the Controlled Substances Act[39] as applied to petitioners who wished to possess or grow marijuana at home for personal medicinal purposes.[40]

B. The *Lopez-Morrison* Framework

Under the Court's new approach to the Commerce Power, Congress still possesses broad authority to regulate the "channels of interstate commerce" and "instrumentalities of interstate commerce, or persons or things in interstate commerce," even if

34. *Id.* at 307-08 (Rehnquist, J., concurring) (quoting U.S. CONST. art. I, § 8, cl. 3) (emphasis added).

35. United States v. Lopez, 514 U.S. 549 (1995).

36. *See id.* at 602 (Stevens, J., dissenting) (protesting "the radical character of the Court's holding" in *Lopez*); *id.* at 608 (Souter, J., dissenting) (arguing that "it seems fair to ask whether the step taken by the Court today does anything but portend a return to the untenable jurisprudence from which the Court extricated itself almost 60 years ago."); *id.* at 625 (Breyer, J., dissenting) (arguing that "the majority's holding runs contrary to modern Supreme Court cases that have upheld congressional actions despite connections to interstate or foreign commerce that are less significant than the effect of school violence."); United States v. Morrison, 529 U.S. 598, 628 (2000) (Souter, J., dissenting) (concluding that the majority departed from previous Commerce Clause jurisprudence in striking down the Violence Against Women Act); *id.* at 656 (Breyer, J., dissenting) (arguing that "history, precedent, and legal logic militate against the majority's approach").

37. *Lopez*, 514 U.S. at 567.

38. *Morrison*, 529 U.S. at 627.

39. Comprehensive Drug Abuse Prevention and Control Act of 1970 (CSA), Pub. L. No. 91–513, Title II (codified as amended in scattered sections of 21 U.S.C.).

40. Gonzales v. Raich, 545 U.S. 1, 22 (2005).

the object of regulation is found or takes place within a single state.[41] "Channels" are the conduits through which commerce moves, including "navigable rivers, lakes, and canals of the United States; the interstate railroad track system; the interstate highway system; . . . interstate telephone and telegraph lines; air traffic routes; [and] television and radio broadcast frequencies."[42] "Instrumentalities," in contrast, are the physical objects — automobiles, railroad cars, airplanes, barges — that move goods and people across state lines.[43] This category also includes goods that are transported across state lines.[44]

In addition to these well-defined categories, Congress may, under certain conditions, regulate intrastate activities that "substantially affect" interstate commerce.[45] Under the *Lopez-Morrison* framework, this third category is subject to three limitations: the regulated activities must be economic;[46] non-economic activities may not be regulated based on their aggregate impact on interstate commerce;[47] and the relationship between the regulated activity and its effect on interstate commerce must not be indirect or attenuated.[48]

i. Regulated Activities Must Be "Economic Endeavors"

First, and most importantly, a law regulating wholly intra-state activity may only reach activities that are "economic in nature."[49] An "economic activity," is one that relates to "commerce" or some form of "economic enterprise."[50]

41. *Lopez*, 514 U.S. at 558.
42. Gibbs v. Babbitt, 214 F.3d 483, 490-91 (4th Cir. 2000).
43. *See, e.g.*, Perez v. United States, 402 U.S. 146, 150 (1971) (aircraft is one example of an "instrumentalit[y] of interstate commerce").
44. *See Lopez*, 514 U.S. at 558.
45. *Id.* at 559.
46. *Id.* at 560.
47. *Id.* at 561; *Morrison*, 529 U.S. 598, 617 (2000).
48. *Morrison*, 529 U.S. at 612.
49. *Id.* at 613 (citing *Lopez*, 514 U.S. at 559-60).
50. *Lopez*, 514 U.S. at 561.

"Economics," according to the Court, "refers to 'the production, distribution, and consumption of commodities.'"[51]

In judging whether the regulated activity is an "economic endeavor,"[52] the Court does not appear to care whether the activity *could* be undertaken for financial gain under certain circumstances. Instead, the Court requires the regulated activity to be, *by its nature*, "economic."[53] This approach requires the Court to view the object of regulation in a narrow, abstract way. For example, in *Lopez*, a majority of the Court determined that the mere possession of a gun in a school zone was not an "economic" activity,[54] despite the fact that Alfonso Lopez, the defendant, had carried his firearm to school as part of a business transaction.[55] Thus, in *Lopez*, the Court focused its analysis on the intrinsic nature of the regulated activity (possession of a gun in a school zone) in the abstract, without regard to the (apparently extrinsic) fact that the activity was, in reality, undertaken for "economic" reasons.[56]

Similarly, in *United States v. Morrison*, the Court held that "[t]he regulation and punishment of intrastate violence" could not be justified under the Commerce Clause because it was "*not directed at* the instrumentalities, channels, or goods involved in interstate commerce . . . ."[57] Thus, the *Morrison* Court, too, focused on whether the challenged law was explicitly "directed at"

51. Gonzales v. Raich, 545 U.S. 1, 25-26 (2005) (quoting WEBSTER'S THIRD NEW INT'L DICTIONARY 720 (1966)).

52. *Morrison*, 529 U.S. at 611.

53. *See id.* at 613; *Lopez*, 514 U.S. at 560.

54. *Lopez*, 514 U.S. at 567 ("The possession of a gun in a local school zone is in no sense an economic activity that might, through repetition elsewhere, substantially affect any sort of interstate commerce.").

55. Lopez had been promised forty dollars in exchange for delivering the gun to another student, who needed the weapon so he could participate in an after-school "gang war." *See* United States v. Lopez, 2 F.3d 1342, 1345 (5th Cir. 1993), *aff'd*, 514 U.S. 549 (1995).

56. The *Lopez* majority accepted that "depending on the level of generality, any activity can be looked upon as commercial." *Lopez*, 514 U.S. at 565. However, it explicitly rejected such an expansive view of the scope of Congress's Commerce Power because it would "bid fair to convert congressional authority under the Commerce Clause to a general police power of the sort retained by the States" and thereby erase the "distinction between what is truly national and what is truly local." *Id.* at 567-68.

57. *Morrison*, 529 U.S. at 618 (emphasis added).

economic activity, and rejected the government's argument that "the nationwide, aggregated impact" of the regulated activity would have "substantial effects on employment, production, transit, or consumption."[58]

Finally, in *Solid Waste Agency of Northern Cook County v. U.S. Army Corps of Engineers (SWANCC)*,[59] and again in *Rapanos v. United States* — two decisions involving Congress's power to regulate the filling of isolated wetlands under the Clean Water Act — the Court suggested that allowing the federal government to regulate the dumping of fill material in isolated, non-navigable wetlands would "stretch[] the outer limits of Congress's commerce power and raise[] difficult questions about the ultimate scope of that power."[60] The majority came to this conclusion in spite of the fact that the dumping in both cases was clearly "undertaken for economic reasons."[61] Thus, under the Court's post-*Lopez* understanding of the Commerce Clause, the mere fact that a regulated activity is motivated by economic incentives (in *Lopez*, financial gain from acting as a gun courier; in *SWANCC* and *Rapanos*, financial gain from developing and selling land) or might otherwise affect interstate commerce (as was the case in *Morrison*) is not sufficient to bring the activity itself into the ambit of federal regulation.

Chief Justice Roberts (who was serving on the D.C. Circuit when *Lopez*, *Morrison*, *SWANCC*, and *Rapanos* were decided) has also made clear that, in his view, Commerce Clause analysis must focus on the regulated activity itself and not the reason it is being done or the effect it has on other, unregulated economic activities. In *Rancho Viejo, LLC v. Norton*, then-Court of Appeals

58. *Id.* at 615.

59. Solid Waste Agency of N. Cook Cnty. v. U.S. Army Corps of Eng'rs (*SWANCC*), 531 U.S. 159 (2001).

60. Rapanos v. United States, 547 U.S. 715, 738 (2006) (Scalia, J., plurality opinion) (quoting *SWANCC*, 531 U.S. at 173); *see also id.* at 776 (Kennedy, J., concurring) (warning that federal regulation of wetlands that lack "a significant nexus [to navigable waters] . . . appear[s] likely, as a category, to raise constitutional difficulties and federalism concerns").

61. *SWANCC*, 531 U.S. at 193 (Stevens, J., dissenting). In *SWANCC*, the petitioners had sought to fill several isolated ponds in order to build a landfill to receive solid waste from a number of municipalities in the Chicago area. *See id.* at 162-63. In *Rapanos*, respondents had attempted to fill isolated wetlands in order to develop and sell their land for profit. *See Rapanos*, 547 U.S. at 719-20.

Judge Roberts dissented from a denial of rehearing *en banc* in a Commerce Clause challenge to the Endangered Species Act because, in his view, the majority's opinion "ask[ed] whether the challenged *regulation* substantially affects interstate commerce, rather than whether the *activity* being regulated does so."[62] Such a focus, according to Roberts, was "inconsistent with the Supreme Court's holdings in *United States v. Lopez* and *United States v. Morrison*."[63]

In sum, post-*Lopez*, the majority's approach to Commerce Clause analysis requires a court to focus only on whether the regulated activity is, intrinsically, "economic in nature."[64] Moreover, even regulations that curtail some activities which are clearly undertaken for financial gain, or regulations which themselves have a strong effect on interstate commerce, will not pass constitutional muster unless they are "directed at" economic activity.

ii. Unless They Are an Integral Part of a Larger Economic Regulation, Non-Economic Activities May Not Be Aggregated

The second limit on regulations that "substantially affect" interstate commerce is related to the first. Under *Lopez*, a law that broadly regulates both "economic" and "non-economic" activities together, without distinguishing between the two, will

62. Rancho Viejo, LLC v. Norton, 334 F.3d 1158, 1160 (D.C. Cir. 2003) (Roberts, J., dissenting) (emphasis in original); *accord id.* at 1159 (Sentelle, J., dissenting). *See also* GDF Realty Invs., Ltd. v. Norton, 326 F.3d 622, 634 (5th Cir. 2003) ("Neither the plain language of the Commerce Clause, nor judicial decisions construing it, suggest that . . . Congress may regulate activity (here, Cave Species takes) solely because non-regulated conduct (here, commercial development) by the actor engaged in the regulated activity will have some connection to interstate commerce. . . . To accept [such an] analysis would allow application of otherwise unconstitutional statutes to commercial actors, but not to non-commercial actors. There would be no limit to Congress' authority to regulate intrastate activities, so long as those subjected to the regulation were entities which had an otherwise substantial connection to interstate commerce.").

63. *Rancho Viejo*, 334 F.3d at 1160 (Roberts, J., dissenting).

64. United States v. Morrison, 529 U.S. 598, 613 (2000).

not pass constitutional muster under the Commerce Clause.[65] This is so even if the non-economic activity, in the aggregate, would substantially affect interstate commerce.[66] This limitation on Congressional power constitutes a significant change from the more liberal "aggregation principle" the Court adopted in *Wickard v. Filburn*.[67] In *Wickard*, the Supreme Court held that even activities which by themselves have only a trivial effect on interstate commerce — for example, the on-farm consumption of wheat grown for personal use — may be regulated if the aggregate effect of these activities taken together would impact interstate commerce.[68] To justify its departure from the *Wickard* rule, the *Morrison* and *Lopez* Courts explained previous Commerce Clause decisions this way: "[I]n every case where we have sustained federal regulation under the aggregation principle in *Wickard v. Filburn* the regulated activity was of an apparent commercial character."[69]

The *Lopez* Court, however, created an important exception to this rule. A law that regulates some non-economic behavior may still be considered constitutional if it comprises "an essential part of a larger regulation of economic activity, in which the regulatory scheme could be undercut unless the intrastate activity were regulated."[70] If such a larger statutory scheme exists, "the *de minimis* character of individual instances arising

65. *See* United States v. Lopez, 514 U.S. 549, 562 (1995) (taking issue with the fact that the challenged law did not explicitly limit its reach "to a discrete set of firearm possessions that additionally have an explicit connection with or effect on interstate commerce").

66. *See Morrison*, 529 U.S. at 617 (rejecting "the argument that Congress may regulate noneconomic, violent criminal conduct based solely on that conduct's aggregate effect on interstate commerce").

67. *See* Wickard v. Filburn, 317 U.S. 111, 127-28 (1942).

68. *Id.*

69. *Morrison*, 529 U.S. at 611 n.4 (citation omitted). Unfortunately, the Court has declined to describe what makes an activity "apparently commercial." It is important to note that at least one circuit has argued that the new commercial-non-commercial dichotomy enunciated in *Lopez* is not as stark as that decision implies. United States v. Ho, 311 F.3d 589, 599-600 (5th Cir. 2002) (arguing that dicta in *Morrison* leaves open the possibility that non-economic activity may still be "aggregated" under the principles of *Wickard v. Filburn*).

70. *Lopez*, 514 U.S. at 561; Gonzales v. Raich, 545 U.S. 1, 25 (2005).

under that statute is of no consequence."[71] Relying on this exception, the Court in *Gonzales v. Raich* upheld a federal law banning marijuana possession (which, in some instances, was purely intra-state and non-economic) because the ban was an essential component of otherwise constitutional federal regulation of "quintessentially economic" activities.[72]

iii. The Link Between the Regulated Activity and its Effect on Commerce Must Not be Indirect or Attenuated

The third limitation on laws affecting interstate commerce is that the link between the regulated activity and its impact on interstate commerce must not be attenuated.[73] The Court has declared that Congress's power over commerce "may not be extended so as to embrace effects upon interstate commerce so indirect and remote that to embrace them, in view of our complex society, would effectually obliterate the distinction between what is national and what is local and create a completely centralized government."[74] For this reason, even extensive congressional findings describing the link between the regulated activity and its effect on interstate commerce will not save a statute if the Court determines that the link between the regulation and its commercial effect is too indirect.[75] As many observers have noted,[76] the motivating factor behind this heightened scrutiny over congressional decision-making appears to be concern for

71. *Raich*, 545 U.S. at 17 (citing *Lopez*, 514 U.S. at 558) (holding that a ban on marijuana possession under the Federal Controlled Substances Act was constitutional as applied to petitioners who grew marijuana at home for medicinal use or obtained it for free from neighbors).

72. *Id.* at 25-27.

73. United States v. Morrison, 529 U.S. 598, 612 (2000).

74. *Lopez*, 514 U.S. at 557 (quoting NLRB v. Jones & Laughlin Steel Corp., 301 U.S. 1, 37 (1937)); *see also Morrison*, 529 U.S. at 608.

75. *See Morrison*, 529 U.S. at 614-15.

76. *See e.g.,* Christine A. Klein, *The Environmental Commerce Clause*, 27 HARV. ENVTL. L. REV. 1, 29 (2003); Jonathan Cannon, *Environmentalism and the Supreme Court: A Cultural Analysis*, 33 ECOLOGY L.Q. 363, 388-394 (2006); Bradford C. Mank, *After* Gonzales v. Raich*: Is the Endangered Species Act Constitutional Under the Commerce Clause?*, 78 U. COLO. L. REV. 375, 397 (2007).

ensuring a more robust federalism — one that guarantees that the states will retain authority over their "traditional" areas of control, including criminal law,[77] family law,[78] education,[79] and land use.[80]

Whatever its motivation, the present Court appears to have discarded (in practice, if not in name) the highly deferential "rational basis" test it long adhered to in favor of a stricter standard.[81] Today, in evaluating whether an activity substantially affects interstate commerce, the Court will no longer "pile inference upon inference" in order to find that such a relationship exists.[82] Rather, "[w]hether particular operations affect interstate commerce sufficiently to come under the constitutional power of Congress to regulate them" is now a "judicial rather than a legislative question [that] can be settled finally only by [the Supreme] Court."[83]

III. THE EFFECT OF *LOPEZ* AND *MORRISON* ON GREENHOUSE GAS REGULATIONS

The Supreme Court has yet to take up a Commerce Clause challenge to federal regulations of greenhouse gases. However, the Court's recent Commerce Clause cases indicate several potential lines of attack for opponents of these regulations. In

77. *See Lopez*, 514 U.S. at 564.

78. *See id*.

79. *See id*.

80. *See* Solid Waste Agency of N. Cook Cnty. v. U.S. Army Corps of Eng'rs (*SWANCC*), 531 U.S. 159, 173-74 (2001) (holding that extending federal regulation over isolated wetlands may unconstitutionally impinge on the states' "traditional and primary power over land and water use."); *but see* Hodel v. Virginia Surface Min. & Reclamation Ass'n, Inc., 452 U.S. 264, 282-83 (1981) (rejecting respondents' argument that "because it regulates a particular land use, the Surface Mining Act is beyond congressional Commerce Clause authority.").

81. *See Lopez*, 514 U.S. at 608 (Souter, J., dissenting) (arguing that the majority's approach "treats deference under the rationality rule as subject to gradation according to the commercial or noncommercial nature of the immediate subject of the challenged regulation."); *Morrison*, 529 U.S. at 637 (Souter, J., dissenting) (arguing that the majority achieved its result by "supplanting rational basis scrutiny with a new criterion of review").

82. *Lopez*, 514 U.S. at 567.

83. *Morrison*, 529 U.S. at 614 (*quoting Lopez*, 514 U.S. at 557 n.2).

this section, I demonstrate that the constitutional fate of federal GHG regulations will depend in large part on four factors: (1) how the Court characterizes the challenged regulations; (2) whether the present Court continues to extend the "economic endeavor" litmus test to future challenges of environmental laws; (3) how rigorously the Court adheres to its more constrained interpretation of *Wickard*'s aggregation principle; and (4) how stringently the Court applies its requirement that the regulated activities have direct, rather than attenuated, effects on commerce.

A. Issue One: How Should the Court Characterize the "Object of Regulation"?

The first and most important step in any constitutional challenge will be to define the object of the regulation.[84] When it comes to environmental regulations in general, and climate change laws in particular, this seemingly straightforward step becomes considerably more difficult. Recent decisions in the courts of appeals make clear that, in the wake of *Lopez* and *Morrison*, courts continue to disagree about the proper approach to this essential question. For example, some courts have upheld federal environmental laws on the grounds that the statutes' real objects of regulation are natural resources that can generate or be traded in interstate commerce.[85] Courts have also upheld federal environmental laws by casting these laws as direct regulations of commercial activities that happen to be associated with negative

84. *SWANCC*, 531 U.S. at 173 (discussing that to decide whether a federal regulation is constitutional under the Commerce Clause, the Court "would have to evaluate the precise object or activity that, in the aggregate, substantially affects interstate commerce").

85. *See*, *e.g.*, Gibbs v. Babbitt, 214 F.3d 483, 492 (4th Cir. 2000) (upholding Endangered Species Act [hereinafter ESA] takings provision as applied to red wolves because "with no red wolves, there will be no red wolf related tourism, no scientific research, and no commercial trade in pelts"); Nat'l Ass'n of Home Builders v. Babbitt, 130 F.3d 1041, 1052 (D.C. Cir. 1997) (upholding ESA takings prohibition because it "prevents the destruction of biodiversity and thereby protects the current and future interstate commerce that relies upon it").

environmental impacts.[86] In addition, courts have upheld environmental laws under the theory that the laws' primary objectives are to protect the interstate market as a whole from a harmful "race to the bottom" among the states.[87] This third approach relies on the Supreme Court's analysis in *Hodel v. Virginia Surface Mining & Reclamation Association*, a case in which federal regulation of surface mining was upheld, in part, because the "prevention of . . . destructive interstate competition is a traditional role for congressional action under the Commerce Clause."[88] However, *Hodel* was decided fourteen years prior to *Lopez*, and so its precedential power is suspect in light of the Court's more recent departure from its traditional Commerce Clause analysis.[89]

86. *See*, *e.g.*, Rancho Viejo, LLC v. Norton, 323 F.3d 1062, 1068 (D.C. Cir. 2003) (holding that ESA takings prohibition is constitutional, in part, because "the regulated activity is the construction of a 202 acre commercial housing development" and such an activity is "plainly an economic enterprise"); United States v. Ho, 311 F.3d 589, 602 (5th Cir. 2002) (upholding application of the Clean Air Act [hereinafter CAA] to the defendant because his actions, in violation of the Act, "were driven by commercial considerations"); *Gibbs*, 214 F.3d at 492 (upholding ESA takings provision because "[t]he protection of commercial and economic assets [from predation by red wolves] is a primary reason for taking the wolves").

87. *See*, *e.g.*, *Gibbs*, 214 F.3d at 501 ("Species conservation may unfortunately impose additional costs on private concerns. States may decide to forego or limit conservation efforts in order to lower these costs, and other states may be forced to follow suit in order to compete. The Supreme Court has held that Congress may take cognizance of this dynamic and arrest the 'race to the bottom' in order to prevent interstate competition whose overall effect would damage the quality of the national environment."); *Ho*, 311 F.3d at 603-04 (arguing that CAA asbestos standards are constitutional as applied to a defendant, because defendant's violation of the standards harmed the interstate market in asbestos removal by giving him a commercial advantage over companies that complied with the CAA); *Nat'l Ass'n of Home Builders*, 130 F.3d at 1054 (holding that "[t]he taking of the [Delhi Sands Flower-Loving] Fly and other endangered animals can also be regulated by Congress as an activity that substantially affects interstate commerce because it is the product of destructive interstate competition"); *Rancho Viejo*, 323 F.3d at 1079 (holding that the ESA is constitutional, in part, because it aims to prevent a "race to the bottom" among states that would "damage the quality of the national environment") (citing *Gibbs*, 214 F.3d at 501).

88. *See* Hodel v. Virginia Surface Min. & Reclamation Ass'n, Inc., 452 U.S. 264, 282 (1981).

89. *Cf. Hodel*, 452 U.S. 264 (1981) *with Lopez*, 514 U.S. 549 (1995). *See supra* Part II-B.

Other courts of appeals, as well as individual circuit court judges, have rejected the approaches described above.[90] Furthermore, the Court's decisions in *Lopez*, *Morrison*, *SWANCC*, and *Rapanos* appear to foreclose the argument that the Commerce Clause permits federal regulation of "non-economic" activities merely because the *regulation* of these activities would impact the decisions of economic actors or, alternatively, because the activities are undertaken for financial gain.[91]

In a constitutional challenge to either comprehensive cap-and-trade or piecemeal CAA regulation of greenhouse gases by the EPA, the Court will have relatively few options for characterizing the regulated behavior. The most plausible approach would be to characterize the regulated activity as the emission, by a person or corporation, of greenhouse gases. This approach would mirror the narrow "intrinsic nature" approach embodied in the *Lopez*, *Morrison*, *SWANCC*, and *Rapanos* decisions, rather than the more liberal approach relied upon by the Court in *Hodel*[92] and by the circuit court decisions discussed above.[93]

If the Court decides that a cap-and-trade law or the EPA's GHG rules regulate the emission of GHGs, it will then ask whether this activity falls into any of the traditional categories reached by the Interstate Commerce Clause.[94] Since a law that regulates the act of emitting GHGs cannot be said to directly regulate either channels, instrumentalities, or persons or things

90. *See* GDF Realty Invs., Ltd. v. Norton, 326 F.3d 622, 634 (5th Cir. 2003) ("Neither the plain language of the Commerce Clause, nor judicial decisions construing it, suggest that . . . Congress may regulate activity . . . solely because non-regulated conduct . . . by the actor engaged in the regulated activity will have some connection to interstate commerce."); *see also Rancho Viejo*, 334 F.3d at 1160 (Roberts, J., dissenting) (finding fault in the majority approach because it "asks whether the challenged *regulation* substantially affects interstate commerce, rather than whether the *activity* being regulated does so.") (emphasis in original); *accord id*. at 1159 (Sentelle, J., dissenting).

91. *See supra* Part II-B-i.

92. *See Hodel*, 452 U.S. at 282 (finding that "the Commerce Clause [is] broad enough to permit congressional regulation of activities causing air or water pollution, or other environmental hazards that may have effects in more than one State.").

93. *See supra* notes 86-87.

94. *See Lopez*, 514 U.S. at 558.

in commerce, the Court will be left with only one option: determining that this activity "substantially affect[s]" interstate commerce.[95]

Alternatively, the Court might treat GHG regulations as if their object of regulation was "the use of energy in the production of electricity, energy-intensive goods, and locomotion" or, more simply, "the production of energy for residential and industrial uses." Under either of these characterizations, the Court would construe federal climate change law as if it was directed at the economic activities of power plants, factories, and mobile sources of GHGs, or the market for goods and services in which these entities participate.

If supporters of GHG regulations prevail in convincing the Court that the latter characterization of the regulated activity is the most appropriate, their argument that these regulations are constitutional will be considerably easier. A law that regulates the production of electricity, or goods that are sold across state lines, would undoubtedly qualify as a regulation of "persons or things in interstate commerce."[96] Similarly, the cars, trucks, trains, boats, and airplanes whose burning of fossil fuels would constitute the regulated activity under the latter view of GHG regulations would undoubtedly fall within the traditional category of "instrumentalities of interstate commerce."[97] As discussed above, regulations that target the traditional categories of "instrumentalities" and "people or things" in interstate commerce are presumptively constitutional.[98] However, supporters of cap-and-trade cannot be sure that the Supreme Court will characterize the object of regulation as they do. Therefore, there is a chance that supporters of GHG regulations will have to defend the law as a direct regulation of the emission of GHGs.

95. *Id.* at 559.

96. *Id.* at 558.

97. *Id.*

98. *See supra* Part II-B. Thus far, the Court has not applied its post-*Lopez* "economic endeavor" test to these more well-defined components of interstate commerce.

B. Issue Two: Is the Regulated Activity an "Economic Endeavor"?

Assuming that the Court decides that the object of regulation is the emission of GHGs, and that this activity can only be regulated on the theory that it "substantially affects" interstate commerce,[99] the Court will then inquire into whether the emission of GHGs is an "economic endeavor."

In answer, opponents of GHG regulation will likely argue that the emission of greenhouse gases as industrial waste, when viewed in isolation, is not a "quintessentially economic" activity.[100] They could point out that although GHG emissions are unavoidable *byproducts* of burning fossil fuels for energy, the rationale of *Lopez*, *Morrison*, *SWANCC*, and *Rapanos* appears to foreclose the argument that all activities which may in some way be associated with or undertaken in furtherance of traditionally economic activities qualify as economic activities in their own right.[101] Opponents could also argue that emitting GHGs into the atmosphere does not constitute "production, distribution, [or] consumption of commodities," a definition the *Raich* Court relied upon to uphold a federal law banning marijuana possession.[102] Thus, if the regulated activity is characterized, in the first instance, as the emission of GHGs, opponents will be able to make a strong case that the challenged GHG regulations impermissibly target non-economic activities.

On the other hand, even if the Court decides that cap-and-trade or EPA-issued GHG rules regulate the emission of GHGs, supporters of federal climate change regulations could still put forth several arguments in support of the regulatory scheme's constitutionality. To begin with, supporters of cap-and-trade could argue that the *Raich* Court's definition of economics[103] should be viewed merely as a recitation of several activities that *traditionally* comprised the class of economic activities, rather

99. *Lopez*, 514 U.S. at 559.
100. Gonzales v. Raich, 545 U.S. 1, 25 (2005).
101. *See supra* Part II-B-ii.
102. *Raich*, 545 U.S. at 25 (*quoting* WEBSTER'S THIRD NEW INT'L DICTIONARY 720 (1966)).
103. *See supra* note 49 and accompanying text.

than a limitation on the *outer boundaries* of the class. Thus, supporters could argue that other types of activities — such as the emission of climate-altering pollutants — should be considered economic activities, even though they may not have been listed in the definition of "economics" that appeared in the 1966 edition of Webster's Dictionary.[104]

Next, supporters will likely argue that the emission of GHGs leads to climate change and ocean acidification — two phenomena that will undoubtedly impact economic activities in numerous ways.[105] Opponents, however, would most likely counter by pointing out that the mere fact that a regulated activity exerts secondary effects on the economy is not sufficient to render the regulated activity itself "economic." In support, they could point to both *Lopez* and *Morrison*, in which the Supreme Court struck down two federal laws because they regulated activities whose impact on the national economy was secondary and indirect.[106]

Supporters could respond, in the alternative, that the regulation of GHGs is a regulation of commerce because real, active, interstate markets already exist for each of the regulated greenhouse gases. In fact, carbon dioxide, methane, nitrous oxide, and the other greenhouse gases are already traded across state lines because they are useful inputs to a variety of chemical

104. *See Raich*, 545 U.S. at 25.

105. *See, e.g.*, Massachusetts v. E.P.A., 549 U.S. 497, 521-23 (2007) (discussing the "serious and well recognized" impacts of climate change on water availability, natural ecosystems, the spread of diseases, and sea levels and recounting that "[r]emediation costs alone . . . could run well into the hundreds of millions of dollars."). Importantly, unlike the other air pollutants regulated by the CAA (sulfur dioxide, nitrous oxides, ozone, mercury, and particulate matter), the emission of carbon dioxide, methane, or water vapor (the principal GHGs) do not necessarily impact the economy *directly* by increasing the risk of respiratory disease (as in the case of ozone and particulates), causing acid rain (sulfur dioxide and nitrogen oxides), or polluting the water (nitrogen oxides and mercury) in a given area. Rather, the impact of emitting carbon dioxide, methane, or water vapor is mediated through complicated atmospheric and biological interactions with aggregate long-term effects like sea level rise and increased storm severity that are more easily detectable at a global scale than in a local or regional economy.

106. *See* United States v. Lopez, 514 U.S. 549, 562 (1995); United States v. Morrison, 529 U.S. 598, 617 (2000). *See generally supra* Part II-B-ii.

and industrial processes.[107] In light of the fact that these gases have value in the interstate economy, supporters could argue that the act of emitting GHGs into the air, rather than capturing and selling them in the market, is an economic behavior because emitters would thus be forgoing the compensation they could receive if they captured and sold these gases in the market.

Even if the Court determines that the activities regulated by cap-and-trade or command-and-control regulations are not "economic," it may yet uphold these laws if they comprise "essential part[s] of a larger regulation of economic activity,"[108] such that the otherwise constitutional regulatory scheme would be undercut if the activities at issue were not regulated.[109] In order to decide this question, the Court will first determine what the larger regulatory scheme is; second, whether this larger scheme regulates interstate commerce; and third, whether excising the challenged portion of the law would undercut the larger scheme.[110] This question is largely irrelevant in the case of a comprehensive cap-and-trade bill, since a challenge to such a

107. Carbon dioxide, for example, is used in "refrigeration systems, . . . food packaging, beverages, welding systems, fire extinguishers, water treatment processes, horticulture, [and] precipitated calcium carbonate for the paper industry." Marco Mazzotti et al., *Mineral Carbonation and Industrial Uses of Carbon Dioxide*, *in* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CARBON DIOXIDE CAPTURE AND STORAGE 321, 332 (Bert Mertz et al., eds. 2005), *available at* http://www.ipcc-wg3.de/publications/special-reports/.files-images/SRCCS-Whole Report.pdf. It also serves as an input for the production of urea, a fertilizer, and is used to extract petroleum in a process known as "enhanced oil recovery." *Id.* Methane, which is the principal component of natural gas, is traded in large volumes across the United States. *See* ENERGY INFO. ADMIN., U.S. DEPT. OF ENERGY, NATURAL GAS EXPLAINED, http://www.eia.doe.gov/energyexplained/index.cfm?page=natural_gas_home (last visited Oct. 26, 2011); ENERGY INFO. ADMIN., U.S. DEPT. OF ENERGY, SUMMARY OF NATURAL GAS SUPPLY AND DISPOSITION IN THE UNITED STATES (2011), *available at* http://www.eia.gov/pub/oil_gas/natural_gas/data_publications/natural_gas_monthly/current/pdf/ table_01.pdf. Nitrous oxide (laughing gas) has long been regulated as an anesthetic by the FDA. Michael J. Murray & William J. Murray, *Nitrous Oxide Availability*, 20 J. CLIN. PHARMACOLOGY 202 (1980). It is also used by the food industry as a propellant in such popular items as whipped cream. *Id.* The other GHGs, meanwhile, only exist because industrial chemists have synthesized them for use in commercial and industrial applications.

108. *Lopez*, 514 U.S. at 561.

109. *See Raich*, 545 U.S. at 25-27.

110. *See id.* at 28-29.

law would most likely be framed as an attack upon the entire regulatory scheme. Accordingly, the *Raich* exception for non-economic activities would not save a cap-and-trade scheme if the Court determines that such a scheme is primarily directed at non-economic activity.[111]

However, a challenge to EPA's individual GHG rules would fit neatly into the rubric under which the *Raich* Court analyzed the marijuana possession ban contained in the Controlled Substances Act. As in *Raich*, the Court will likely treat federal GHG rules as a single element within a larger regulatory scheme — in this case, the Clean Air Act. Supporters could then argue that the CAA itself regulates interstate economic activity: the emission of pollutants into the air that can harm public health and disrupt natural resources.[112] Supporters will have a difficult time, however, convincing a court that without EPA's GHG regulations, the overall scheme to protect the economy from the effects of pollution would be undermined. In contrast to the possession ban at issue in *Gonzales v. Raich*, the elimination of GHG regulations would not make enforcement of the CAA's other provisions more difficult,[113] since none of the EPA's other enforcement programs would be affected if GHG regulations were struck down. For that reason, if the Court concludes that the emission of GHGs is not, by its nature, an economic endeavor, it is likely to rule that both cap-and-trade and GHG regulations under the CAA are unconstitutional.

111. The *Raich* exception would be relevant, however, to an "as-applied" challenge to a cap-and-trade bill. Such a challenge would if a single emitter challenged the constitutionality of a future cap-and-trade law as applied to its own wholly intra-state or non-economic activity.

112. The larger question of whether the CAA as a whole is constitutional after *Lopez* and *Morrison* is beyond the scope of this Comment. There are, however, other components of the CAA that, I believe, render it less susceptible to attack than are the GHG regulations considered here.

113. *See Raich*, 545 U.S. at 22 ("[W]e have no difficulty concluding that Congress had a rational basis for believing that failure to regulate the intrastate manufacture and possession of marijuana would leave a gaping hole in the CSA.").

C. Issue Three: Does the Regulated Activity, in the Aggregate, "Substantially Affect" Commerce in a Direct, Unattenuated Manner?

If the Court agrees with supporters that emitting GHGs is an economic activity, it will next inquire whether the activity, in the aggregate "substantially affects" interstate commerce in a way that is not "attenuated."[114] Opponents will likely point out that all U.S. emissions, in the aggregate, amount to less than twenty percent of the world's energy-related emissions.[115] Given that eighty percent of global GHG emissions would not be affected by even the most robust national regulations,[116] opponents may argue that regulating *only* U.S. emissions will not substantially affect commerce because even if aggregated, these emission reductions will not substantially reduce the rate at which our climate changes. Opponents could also argue that the uncertainty inherent in climate modeling renders our predictions about the effects of global climate change on weather, sea level, disease, or insurance costs too speculative and uncertain to satisfy *Morrison*'s requirement that any link to interstate commerce not be "attenuated,"[117] or the Court's admonition that the Commerce Clause should not be stretched to cover activities whose effects on interstate commerce are "so indirect and remote that to embrace them, in view of our complex society, would effectually obliterate the distinction between what is national and what is local and create a completely centralized government."[118]

In response, supporters of GHG regulations could argue that the Supreme Court has so far declined to "adopt a categorical rule

114. Note that if a court determines as an initial matter that the mere emission of GHGs by cars or power plants is *not* an economic activity, the court will not "aggregate" the effects of all these "non-economic" activities when assessing whether the regulated activity exerts a "substantial effect" on interstate commerce. *See supra* Part II-B-ii.

115. *See* U.S. ENERGY INFO. ADMIN., EMISSIONS OF GREENHOUSE GASES IN THE UNITED STATES 2008 7 (2009), http://www.eia.doe.gov/oiaf/1605/ggrpt/pdf/0573(2008).pdf.

116. *See id.*

117. United States v. Morrison, 529 U.S. 598, 612 (2000).

118. United States v. Lopez, 514 U.S. 549, 557 (1995) (*quoting* NLRB v. Jones & Laughlin Steel Corp., 301 U.S. 1, 37 (1937)); *accord Morrison*, 529 U.S. at 608.

against aggregating the effects of any noneconomic activity."[119] If the challenged cap-and-trade legislation is accompanied by congressional findings that the emission of GHGs affects interstate commerce,[120] supporters could cite these findings to support their case. However, as *Morrison* demonstrates, the presence of findings will not be sufficient to end the debate. Supporters may therefore have to defend the argument that the emission of GHGs from U.S. sources, if left unchanged, will directly affect the climate, alter weather patterns, raise sea level, and acidify the oceans. Each of these changes, supporters could argue, will have a substantial effect on interstate commerce by increasing the cost of insurance, causing industries and people to relocate away from the coasts, or destroying commercial fisheries. Throughout, supporters will have to overcome their opponents' allegations that climate science is too uncertain to justify anything more than an attenuated or postulated effect on interstate commerce by presenting extensive scientific and economic evidence to support their contentions.

It is important to note that supporters' arguments will be more difficult to make with a piecemeal regulatory scheme like EPA's GHG "Tailoring Rule"[121] than with a comprehensive, aggressive, economy-wide scheme for GHG regulation. If the share of world GHG emissions reached by the challenged legislation or regulation falls to ten percent or less of global emissions because the challenged law contains generous exemptions for specific industries or sources, opponents' argument that the regulated activities will not substantially affect the global climate — and through it, interstate commerce — will become even stronger.

119. *Morrison*, 529 U.S. at 613.

120. *See, e.g.,* American Clean Energy and Security Act of 2009, H.R. 2454, 111th Cong. § 701 (as passed by the House, June 26, 2009).

121. Prevention of Significant Deterioration and Title V Greenhouse Gas Tailoring Rule, 75 Fed. Reg. 31,514-01 (June 3, 2010) (to be codified at 40 C.F.R. §§ 51, 52, 70, and 71). The rule limits GHG requirements under the Title V and the Prevention of Significant Deterioration programs of the CAA to entities emitting over 100,000 tons per year of CO_2e (carbon dioxide equivalents) or 250,000 tons per year (tpy) of GHGs, leaving smaller emitters effectively unregulated.

Supporters may, ironically, find a better argument for regulating U.S. greenhouse gas emissions by resorting to the international trade component of Congress's commerce power. In addition to granting Congress the power to regulate interstate commerce, the Commerce Clause also grants Congress the authority "to regulate commerce with foreign nations."[122] As a general rule, predictions about the net *global* effect of greenhouse gas emissions on weather patterns, sea level rise, and ocean acidification are more dependable and less speculative than predictions about local or regional effects.[123] Therefore, although present climate science may not be able to predict with enough certainty the effects of a given quantity of GHG emissions upon the United States, it may be able to predict, with sufficient certainty to pass even a more conservative Supreme Court Justice's sniff test, the likely effect on *global* trade that will result from a given quantity of emissions. Thus, supporters may wish to argue that regulating GHG emissions will affect not only inter*state* commerce, but also inter*national* commerce.

Another counterintuitive argument to buttress supporters' position would focus on some of the positive consequences of increasing levels of GHGs in the atmosphere. For example, carbon dioxide (CO_2) — the principal GHG — can act as a fertilizer for many crops, stimulating faster growth and greater yields.[124] Many of these crops, such as wheat and barley, are themselves commodities that are heavily traded in interstate commerce. Consequently, supporters could argue that any increases to CO_2 concentrations in the atmosphere which result from industrial emissions will directly, and somewhat more

122. U.S. CONST. art. I, § 8, cl. 3.

123. *See* David A. Randall et al., *Models and their Evaluation*, *in* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE 589, 601 (Susan Solomon et al. eds., 2007), *available at* http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-chapter8.pdf ("confidence in the changes projected by global models decreases at smaller scales").

124. *See generally* B.A. Kimball & S.B. Idso, *Increasing Atmospheric CO_2: Effects on Crop Yield, Water Use and Climate*, 7 AGRIC. WATER MGMT. 55 (1983) (finding that increases in atmospheric carbon dioxide levels will increase agricultural yields for some food crops).

predictably, affect the supply of these commodities in national and international markets.

Finally, supporters could argue that the failure to regulate industrial emissions of GHGs at the federal level will set off a regulatory "race to the bottom" in which states (and the rest of the world) will compete for GHG-intensive industries by cutting existing GHG requirements or refusing to implement more stringent regulations. This "destructive interstate competition,"[125] supporters could argue, will impact the interstate and international markets for nearly every consumer and industrial product that requires energy to produce. Although this kind of argument appears to have fallen out of favor in the Supreme Court in recent years, it has never officially been overruled. Indeed, even after *Lopez*, several courts of appeals have relied on this argument to uphold existing environmental laws.[126]

IV. CONCLUSION AND RECOMMENDATIONS

As the previous sections demonstrate, the Supreme Court's decisions in *Lopez* and *Morrison* have opened several new lines of attack for opponents of a cap-and-trade bill or of EPA's GHG rules. Although it is not clear that these attacks will, in the end, carry the day, it is no longer a foregone conclusion that GHG regulations will survive a challenge under the Commerce Clause. In light of the Court's post-*Lopez* shift in Commerce Clause

125. *Hodel*, 452 U.S. at 282.

126. *See*, *e.g.*, Gibbs v. Babbitt, 214 F.3d 483, 501 (4th Cir. 2000) ("Congress may . . . arrest the 'race to the bottom' in order to prevent interstate competition whose overall effect would damage the quality of the national environment."); United States v. Ho, 311 F.3d 589, 603-04 (5th Cir. 2002) (arguing that CAA asbestos standards are constitutional as applied to a defendant, because defendant's violation of the standards harmed the interstate market in asbestos removal by giving him a commercial advantage over companies that complied with the CAA); Nat'l Ass'n of Home Builders v. Babbitt, 130 F.3d 1041, 1054 (D.C. Cir. 1997) (Congress may regulate "the product of destructive interstate competition . . . ."); Rancho Viejo, LLC v. Norton, 323 F.3d 1062, 1079 (D.C. Cir. 2003) (ESA is constitutional, in part, because it aims to prevent a "race to the bottom" among states that would "damage the quality of the national environment") (*citing Gibbs*, 214 F.3d at 501).

analysis, supporters of federal GHG regulations would do well to keep the following recommendations in mind.

First, supporters should pay careful attention to how the law or regulation describes what it regulates. After *Lopez* and *Morrison*, a court is much more likely to uphold a measure that regulates the production of electricity or goods *directly* and *explicitly* than it is to uphold one that regulates "quintessentially economic" activities[127] only indirectly or secondarily — for example, by placing limits on the emission of GHGs into the atmosphere. In other words, the law or regulation should make clear that its goal is to change the way that electricity or energy-intensive goods are produced, rather than to alter the concentration of GHGs in the atmosphere.

Second, authors of cap-and-trade legislation or GHG regulations should make detailed findings to support the argument that the object of regulation is "economic in nature."[128] These findings should address the effect of GHG emissions on the climate and the resulting impact of climate change and ocean acidification on interstate and foreign commerce. Congressional findings should also explicitly link the causes of climate change to interstate commercial activities. In addition, they should highlight the existing commodity markets in carbon dioxide, methane, nitrous oxide, and other regulated gases, and the opportunity costs of emitting those GHGs as wastes instead of capturing them and supplying them to the market. These findings should also explain how a regulatory "race to the bottom" in GHG regulations will have a destructive impact on interstate or international commerce. Although such findings will not substitute for the Court's independent analysis as to whether the regulated activities fall within the Commerce Power,[129] they will certainly add weight to supporters' arguments and make a Commerce Clause challenge less likely.

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127. *Cf.* Gonzales v. Raich, 545 U.S. 1, 25 (2005).

128. United States v. Morrison, 529 U.S. 598, 613 (2000) (*citing* United States v. Lopez, 514 U.S. 549, 559-60 (1995)).

129. *See Morrison*, 529 U.S. at 614-15 (*quoting Lopez*, 514 U.S. at 557 n.2) (whether a challenged law constitutionally regulates interstate commerce is a "judicial rather than a legislative question [that] can be settled finally only by" the Court).

Third, the authors of climate legislation or regulations should explicitly limit the scope of the regulations to actors who sell goods or services into interstate commerce, use inputs obtained through interstate commerce, employ individuals who can move in interstate commerce, or otherwise substantially affect interstate commerce. Alternatively, they could explicitly exempt from regulation any activities that are not undertaken for "economic" purposes. Although such a "jurisdictional element" will not necessarily save an otherwise unconstitutional statute, the presence of a jurisdictional element could "lend support to the argument that [the challenged statute] is sufficiently tied to interstate commerce."[130]

Fourth, supporters should push for the greatest possible scope of regulation, and avoid exempting large sources of GHGs. The only statutes the Court has struck down thus far on Commerce Clause grounds have been narrow, single-issue regulations that were not integral components of larger regulatory schemes. In contrast, the Court recently upheld a law that regulated non-economic activity because it was "an essential part of a larger regulation of economic activity."[131] The implication for both legislation and the EPA rules is that the broader and more comprehensive the GHG regulatory scheme, the more likely it is to be upheld. Therefore, supporters should be wary of piecemeal regulations or schemes that only regulate a small subset of interstate economic activities that lead to GHG emissions. Such schemes will be harder to defend as being "larger regulation[s] of economic activities"[132] for two reasons: first, because the Court may perceive their scope as more akin to the narrow gun possession and gender-motivated crime statutes that were struck down in *Lopez* and *Morrison* than to the comprehensive and wide-ranging Controlled Substances Act that was upheld in *Raich*; and second, because the argument that the

130. *Id.* at 613; *See also Lopez*, 514 U.S. at 562 (questioning the constitutionality of the challenged statute because it "has no express jurisdictional element which might limit its reach to a discrete set of firearm possessions that additionally have an explicit connection with or effect on interstate commerce").

131. *See Raich*, 545 U.S. at 30-32.

132. *Id.* at 24.

emissions of GHGs from individual regulated entities will have a substantial effect on interstate (or international) commerce will be more difficult if only a small percent of total emissions is actually regulated.[133]

As a last resort, advocates may wish to challenge two of the Court's assumptions in *Lopez* and *Morrison*. First, supporters could argue that environmental laws — especially those that address nationwide or global-scale problems — should be exempted from the *Lopez-Morrison* framework because federal regulation in this area does not invade the traditional regulatory sphere of the states[134] and cannot be remedied through state-by-state regulation. Although it is true that states have typically retained control over the water and natural resources contained within their borders, it is equally true that this power has yielded to federal regulation where intrastate activities could impair (or improve) the economies of other states.[135] In addition, neither climate change nor other regional pollution problems can ever be abated by purely local actions or regulations. Therefore, regardless of whether the Founders anticipated the danger that climate change, the depletion of the stratospheric ozone, ocean acidification, or global habitat destruction would pose to the health and livelihoods of Americans (and surely they did not), supporters of federal regulation in these areas could argue that the essence of the Commerce Clause is the power of the federal government to coordinate state actions when intrastate regulations alone will not protect the national economy.[136]

133. *See supra* Part III-C.

134. *Lopez*, 514 U.S. at 577 (Kennedy, J., concurring); *see also Morrison*, 529 U.S. 611 (citing *Lopez*, 514 U.S. at 577, for the proposition that "[w]ere the Federal Government to take over the regulation of entire areas of traditional state concern, areas having nothing to do with the regulation of commercial activities, the boundaries between the spheres of federal and state authority would blur.").

135. *See, e.g.,* Clean Air Act, 42 U.S.C. §§ 7401—7671(q) (2006); Clean Water Act, 33 U.S.C. §§ 1251—1376 (2006).

136. This idea is not unheard of in Commerce Clause jurisprudence. In *Hodel*, the Court pointed out that state-by-state regulations can often have a detrimental effect on the national environment because of the tendency of states to reduce their environmental regulations in order to attract polluting businesses away from neighboring states. *See Hodel*, 452 U.S. at 282. The costs of anthropogenic climate change and other global pollution problems are often

Supporters could argue that a new category — "regulations designed to protect the national or international environment against destructive interstate competition" — should supplement the trilogy of well-established Commerce Clause categories[137] whose regulation the Court treats as presumptively reasonable under the Commerce Clause.[138]

Second, supporters could point out that the Court's definition of economics is woefully narrow and outdated. The authors of the Constitution could not possibly have anticipated the full impact that intrastate activities — even those that fall within "areas of traditional state concern"[139] — could have on interstate commerce. Moreover, supporters could argue, following Justice Breyer's dissent in *Morrison*, that the distinction between "economic" and "non-economic" behavior is too elusive and unworkable a basis for limiting the power of the federal government.[140] As modern social scientists have painstakingly pointed out, numerous "areas of traditional state concern," such as crime, education, or family law, exert significant and quantifiable effects on interstate commercial outcomes.[141] Thus,

realized thousands of miles away or dispersed across the country, while the economic benefits of the industries that cause these problems is felt directly within the state. Therefore, nearly every state has the perverse incentive to maintain lax regulations on the emission of these global pollutants. In such a scenario only federal preemption can overcome states' self-interested economic incentives to doing nothing about these problems.

137. These categories are "instrumentalities," "channels," and "persons or things" in interstate commerce. *See supra* Part II-A.

138. *Cf.* Nat'l Ass'n of Home Builders v. Babbitt, 130 F.3d 1041, 1057 (D.C. Cir. 1997) ("Congress has the power to prevent interstate competition that will result in the destruction of endangered species just as it has the power to prevent interstate competition that will result in harm to the environment").

139. *Lopez*, 514 U.S. at 577 (Kennedy, J., concurring); *see also Morrison*, 529 U.S. at 611 (citing *Lopez*, 514 U.S. at 577).

140. *See Morrison*, 529 U.S. at 656-61 (Breyer, J., dissenting).

141. *See, e.g.*, *Lopez*, 514 U.S. at 618-19 (Breyer, J., dissenting) (citing numerous studies documenting a tie between education, gun violence, and economic prosperity); *Morrison*, 529 U.S. at 656 (Breyer, J., dissenting) (discussing report by the Government Accountability Office detailing economic motivations for gender-motivated crimes); *see generally* Wesley Skogan, *Fear of Crime and Neighborhood Change*, 8 CRIME & JUSTICE 203 (1986) (documenting adverse economic effects of crime on neighborhood business development); David Card, *The Causal Effect of Education on Earnings*, 3 HANDBOOK OF LABOR ECON. 1801 (1999) (estimating the effects of education on personal income for specific

supporters of GHG regulation could argue that the Court's narrow view of what constitutes "commerce" or an "economic endeavor"[142] ignores the reality that nearly all of the activities traditionally regulated by the states — marriage, childbearing, education, crime, et cetera — can have profound, predictable, and non-trivial impacts on interstate commerce. Given that this is so, supporters could make a strong case for discarding *Lopez*'s "economic endeavor" test as unworkable in light of our modern understanding of economics.

Ultimately, the constitutional fate of federal GHG regulations has yet to be determined. As the previous section demonstrates, their fate will depend in large part on the Court's answers to four questions: how to characterize the challenged regulations; whether to extend the "economic endeavor" litmus test to future challenges of environmental laws; how rigorously to adhere to a constrained interpretation of *Wickard*'s aggregation principle; and how stringently to apply the requirement that regulated activities must have direct, rather than attenuated, effects on commerce.[143] However, no matter how the Supreme Court's Commerce Clause jurisprudence evolves in the future,[144]

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subgroups of the population); Paul R. Amato, *The Consequences of Divorce for Adults and Children*, 62 J. MARRIAGE & FAMILY 1269 (2000) (documenting impacts of divorce on economic well-being of adults and children); Jane Waldfogel, *The Effect of Children on Women's Wages*, 62 AM. SOCIOLOGICAL REV. 209 (1997) (exploring different explanations for the observed impact of children on women's income); Marieka M. Klawitter & Victor Flatt, *The Effects of State and Local Antidiscrimination Policies on Earnings for Gays and Lesbians*, 17 J. POL'Y ANALYSIS & MGMT. 658 (1998) (documenting the effects of laws banning discrimination based on sexual orientation on individual earnings and household income); M.V. Lee Badgett, *The Wage Effects of Sexual Orientation Discrimination*, 48 INDUS. & LAB. REL. REV. 726 (1995) (finding significant effects on income from discrimination based on sexual orientation); Robert J. Sampson, John H. Laub, & Christopher Wimer, *Does Marriage Reduce Crime? A Counterfactual Approach to Within-Individual Causal Effects*, 44 CRIMINOLOGY 465 (2006) (documenting the link between marriage and propensity to commit crimes).

142. *See Morrison*, 529 U.S. at 611.

143. *See supra* Part III.

144. In the six years since the Court last granted *certiorari* to a Commerce Clause challenge it truly could not avoid (Gonzales v. Raich, 545 U.S. 1, decided on June 6, 2005), four new justices have joined the Court. Therefore, even the most assiduous Court-watchers can only speculate as to how Chief Justice John Roberts and Associate Justices Samuel Alito, Sonia Sotomayor, and Elena

supporters can dramatically improve the likelihood that the Court will uphold a cap-and-trade law or EPA-issued GHG rule by attending seriously to the issues raised in this Comment.

Kagan will address the thorny questions created by the Court's decisions in *Lopez* and *Morrison*.